THE CORPORATION OF THE TOWNSHIP OF PUSLINCH
September 4, 2019 COUNCIL MEETING

A G E N D A

DATE: Wednesday September 4, 2019
REGULAR MEETING: 1:00 P.M.

≠ Denotes resolution prepared

1. Call the Meeting to Order

2. Disclosure of Pecuniary Interest & the General Nature Thereof.

3. **CLOSED ITEMS ≠**

4. Adoption and Receipt of Minutes of the Previous Meeting.≠

   (a) August 14, 2019 Council Meeting
   (b) August 14, 2019 Closed Council Meeting
   (c) August 14, 2019 Public Information Meeting D14/SUN Sunrise Therapeutic Riding Centre

5. Business Arising Out of the Minutes.

6. **PUBLIC MEETINGS**

1. **Proposed User Fees and Charges By-law**

   ***note this Public Information Meeting will be held on Thursday September 12, 2019 at 7:00 p.m. at the Municipal Complex – 7404 Wellington Rd. 34. The By-law for this matter will be considered at the September 18, 2019 Council Meeting.**

7. **COMMUNICATIONS**

1. (a) Roswell Road Pit Licence No. 625189 2018 Groundwater Monitoring Report prepared by Groundwater Science Corp. dated March 2018.
   (b) Roswell Road Pit Licence No. 625189 2018 Groundwater Monitoring Review prepared by Harden Environmental dated August 28, 2019.

2. Correspondence from the Puslinch Historical Society with respect to the Killean School Bell dated August 27, 2019.

3. Mill Creek Coordinated Monitoring Report January 1 to December 21, 2018 prepared by LRG Environmental dated March 26, 2019.

(a) Technical Appendix A of the Mill Creek Coordinated Monitoring Report: 2018 Surface Water Monitoring Report prepared by Stantec Consulting Ltd. Dated March 28, 2019.
(b) Mill Creek Aggregates Pit Hydrogeology Appendix B of the 2018 Coordinated Monitoring Report dated March 29, 2019.
(c) Technical Appendix C 2018 Annual Fisheries Report of the Mill Creek Coordinated Monitoring Report prepared by LRG Environmental dated March 25, 2019.
(d) Mill Creek Pit Hydrogeological Monitoring Review prepared by Harden Environmental dated August 28, 2019.

4. Correspondence from Robert Cummings, Lafarge Canada Inc. with respect to the Site Plan Amendment for the Mill Creek Pit Licence #5738.

4. **Intergovernmental Affairs≠**

(a) Various correspondence for review.

8. DELEGATIONS / PRESENTATIONS ≠

1:05 p.m. – Mike Schreiner, Leader of the Green Party of Ontario, with respect to the Paris Galt Moraine Conservation Act.

1:35 p.m. - Todd White, Executive Director CRINS (Canadian Radiocommunications Information and Notification Services), with respect to information surrounding membership and services provided.

9. REPORTS ≠

1. **Puslinch Fire and Rescue Services**

(a) None

2. **Finance Department**

   (a) FIN-2019-028 First Quarter Financial report 2019
   (b) Addendum to the Feasibility Study for Water and Sewage Servicing Prepared by CIMA Canada Inc. dated August 26, 2019

3. **Administration Department**

   (a) ADM-2019-023 Council and Budget Meeting Schedule for 2020

4. **Planning and Building**

   (a) BLDG-2019-007 Building Monthly Update June 2019
   (b) PD-2019-011 Temporary Residence Agreement L04/MAR
   (c) PD-2019-012 WVLCC No 172 Bus Pad Agreement
   (d) PD-2019-013 Canadian Radiocommunications Information and Notification Services (CRINS-SINRC)
   (e) Planning Recommendation Report from the County of Wellington with respect to Zoning By-law Amendment Application D14/SUN Sunrise Therapeutic Riding and Learning Centre
   (f) Amanda Pepping, GM BluePlan, with respect to the Municipal Development Standards Policy adoption

5. **Roads & Parks Department**

   (a) PW-2019-003 Intersection Review

6. **Recreation Department**

   None

7. **Mayor's Updates**

   (a) AMO updates:
      a. Letter to the Honourable Caroline Mulroney, Minister of Transportation
      b. Letter to the Honourable Jeff Yurek, Minister of the Environment, Conservation and Parks
      c. Letter to the Honourable Rod Phillips, Ministry of Finance

d. Letter to the Honourable Steve Clark, Minister of Municipal Affairs and Housing

10. **NOTICES OF MOTION**

None

11. **COMMITTEE MINUTES**

(a) July 9, 2019 Committee of Adjustment Meeting Minutes
(b) July 9, 2019 Planning and Development Advisory Committee Meeting Minutes

12. **MUNICIPAL ANNOUNCEMENTS**

13. **UNFINISHED BUSINESS**

14. **BY-LAWS ≠**

None

15. **CONFIRMING BY-LAW ≠**

(a) By-law to confirm the proceedings of Council for the Corporation of the Township of Puslinch.

16. **ADJOURNMENT ≠**

M I N U T E S

DATE: August 14, 2019
CLOSED MEETING: 5:00 P.M.
REGULAR MEETING: 7:00 P.M.
CLOSED MEETING: Immediately after the meeting

The August 14, 2019 Regular Council Meeting was held on the above date and called to order at 7:00 p.m. in the Council Chambers, Aberfoyle.

1. **ATTENDANCE:**

Mayor James Seeley
Councillor Matthew Bulmer
Councillor Jessica Goyda
Councillor Ken Roth
Councillor John Sepulis

STAFF IN ATTENDANCE:

1. Patrick Moyle, Acting CAO
2. Mary Hasan, Director of Finance/Treasurer
3. Mike Fowler, Supervisor of Public Works and Parks
4. Nina Lecic, Acting Clerk
5. Courtenay Hoytfox, Development and Legislative Coordinator

2. **DISCLOSURE OF PECUNIARY INTEREST & THE GENERAL NATURE THEREOF:**

None

3. **CLOSED MEETING**

Council was in closed session from 5:00 p.m. to 5:55 p.m.

Resolution No. 2019-290: Moved by Councillor Roth and Seconded by Councillor Bulmer

(a) **That Council shall go into closed session under Section 239 of the Municipal Act for the purpose of: Confidential Verbal Report from Peter Pickfield, Garrod Pickfield LLP regarding litigation or potential litigation, including matters before administrative tribunals, affecting the municipality or local board, and advice that is subject to solicitor-client privilege, including communications necessary for that purpose and personal matters about an identifiable individual, including municipal or local board employees with respect to 4002 Highway 6.**

CARRIED

Resolution No. 2019-291: Moved by Councillor Bulmer and Seconded by Councillor Roth

THAT Council moves into open session.

CARRIED

Council resumed into open session at 7:00 p.m.

Resolution No. 2019-292: Moved by Councillor Roth and Seconded by Councillor Bulmer

THAT Council receives the:

(a) **Confidential Verbal Report from Peter Pickfield, Garrod Pickfield LLP regarding litigation or potential litigation, including matters before administrative tribunals, affecting the municipality or local board, and advice that is subject to solicitor-client privilege, including communications necessary for that purpose and personal matters about an identifiable individual, including municipal or local board employees with respect to 4002 Highway 6.**

And that Council directs legal counsel to proceed as recommended under "Potential Next Steps" in the August 8th, 2019 confidential legal report on this matter and report back to Council on outcomes.

CARRIED

4. **ADOPTION OF THE MINUTES:**

(a) July 16, 2019 Special Council Meeting
(b) July 17, 2019 Council Meeting
(c) July 22, 2019 Fox Run Park Trail Public Meeting

Resolution No. 2019-293: Moved by Councillor Bulmer and Seconded by Councillor Roth

That the minutes of the following meetings be adopted as written and distributed:

(a) **July 16, 2019 Special Council Meeting**
(b) **July 17, 2019 Council Meeting**
(c) **July 22, 2019 Fox Run Park Trail Public Meeting**

CARRIED

5. **BUSINESS ARISING OUT OF THE MINUTES:**

(a) July 17, 2019 Council Meeting: Council directed staff to have Lafarge come in to make a delegation with respect to the potential site plan amendment.

(b) July 17, 2019 Council Meeting: Council directed staff to have CRINS make a delegation to Council with respect to their services and that staff report back on these services.

6. **PUBLIC MEETINGS:**

1. Notice of Complete Application D14/SUN and Public Meeting

*note this Public Information Session was held on Wednesday August 14, 2019 at 6:00 pm at the Municipal Complex – 7404 Wellington Rd. 34.

7. **COMMUNICATIONS:**

(1) Correspondence from the Hon. Ted Arnott, MPP, Wellington-Halton Hills with respect to the Highway 6 Morriston Bypass dated July 25, 2019.

(2) Correspondence from Watson & Associates dated July 25, 2019 and Municipal Finance Officers' Association of Ontario dated August 4, 2019 with respect to Bill 108 Draft Regulations for the Development Charges Act and Planning Act (Community Benefits Charges Related).

Resolution No. 2019-294: Moved by Councillor Roth and

Seconded by Councillor Bulmer

THAT Council receives the ccorrespondence from Watson & Associates dated July 25, 2019 and the Municipal Finance Officers' Association of Ontario dated August 4, 2019 with respect to Bill 108 Draft Regulations for the Development Charges Act and Planning Act (Community Benefits Charges Related);

And that Council supports the comments outlined in the correspondence from Watson & Associates and Municipal Finance Officers' Association of Ontario;

And that staff forward a copy of this resolution to the Ministry of Municipal Affairs and Housing.

CARRIED

(3) Correspondence from the Ministry of Natural resources and Forestry with respect to the Major Site Plan Amendment under the Aggregate Resources Act, License No. 5738 University of Guelph DFA Mill Creek Pit dated June 19, 2019 (full site plans available for viewing in the Township office).

(4) Correspondence from Hon. Ted Arnott, MPP Wellington-Halton Hills, with respect to the County of Wellington's submission to the Ministry of Natural Resources and Forestry regarding the reform of the laws and regulations governing Ontario's Aggregate Industry dated July 25, 2019.

7. Intergovernmental Affairs

Resolution No. 2019-295: Moved by Councillor Bulmer and Seconded by Councillor Roth

That the Intergovernmental Affairs correspondence items listed on the Council Agenda for August 14, 2019 Council meeting be received.

CARRIED

8. DELEGATIONS/PRESENTATIONS

None

9. REPORTS:

1. **Puslinch Fire and Rescue Services**

(a) FIR-2019-007 - Jenny's Heroes Canada - Execution of Funding Agreement

Resolution No. 2019-296: Moved by Councillor Roth and Seconded by Councillor Bulmer

That Report FIR-2019-007 regarding the Jenny's Heroes Canada – Execution of Funding Agreement be received; and

That Council enact a By-law authorizing the entering into a Funding Agreement with the Ontario Association of Fire Chiefs for the Jenny's Heroes Canada Grant, for high visible, lightweight fire rated coveralls; and

That as a part of the 2020 budget, comparator information be provided to determine which other lower tiers in the County provide coveralls and include the replacement of the coveralls in the Capital Forecast to be approved by Council as part of the budget process.

CARRIED

(b) FIR-2019-008 Emergency Reporting Records Management Software

Resolution No. 2019-297: Moved by Councillor Bulmer and
Seconded by Councillor Roth

That Report FIR-2019-008 regarding Emergency Reporting Records Management Software be received; and

That Council authorizes the Fire Chief to enter into a Purchase Order Agreement with Emergency Reporting for the acquisition of the Emergency Reporting Records Management Software in the amount of $4,218.30 USD in year 1 and $3,402.00 USD per year thereafter for a total of five years.

CARRIED

2. **Finance Department**

(a) FIN-2019-027 – 2020 Proposed User Fees and Charges

Resolution No. 2019-298: Moved by Councillor Roth and
Seconded by Councillor Bulmer

THAT Report FIN-2019-027 regarding the 2020 Proposed User Fees and Charges by received; and

That staff be given delegated authority to automatically adjust the User Fees and Charges Bylaw annually based on the Consumer Price Index inflation rate as outlined in the Ontario Budget; and

That Council directs staff to proceed with holding a Public Meeting on September 12, 2019 at 7:00 p.m. to obtain public input on the proposed User Fees and Charges By-law as outlined in Schedule A to Report FIN-2019-027; and

That staff report back to Council with the results of the public meeting.

CARRIED

3. **Administration Department**

(a) ADM-2019-022 Health and Safety Policies

Resolution No. 2019-299: Moved by Councillor Bulmer and
Seconded by Councillor Roth

That Council receives Report ADM-2019-022 regarding the Health and Safety Update and Policies.

CARRIED

4. **Planning and Building Department**

a. PD-2019-009 Extension of Use Amending Agreement – Garden Suite L04/ELL

Resolution No. 2019-300: Moved by Councillor Goyda and
Seconded by Councillor Sepulis

That Report PD-2019-009 regarding an Extension of Use Amending Agreement (the "Amending Agreement") between the Township and Donald John Ivan Elliot for the land described as Part Lot 32, Concession 8, designated as Parts 1, 2 and 3 on Reference Plan 61R-11816 and known municipally as 4188 Victoria Road S, Puslinch, be received; and

That staff be given delegated authority to enter into and amend Garden Suite Agreements and an annual report be provided outlining such agreements. As amended.

CARRIED

b. PD-2019-010 TC-02-19 Concurrence Report to Industry Canada

Resolution No. 2019-301: Moved by Councillor Sepulis and
Seconded by Councillor Goyda

That Report PD-2019-010 regarding Telecommunication Application File TC-01-2019 (A12/XPL) – Xplornet Site ON7105, Concession 9, Part Lot municipally known as 935 Watson Road South, be received; and

That Council authorize the release of the Concurrence Report to Industry Canada regarding the proposed 45 metre Xplornet Communications Telecommunication Antenna.

CARRIED

c. BLDG-2019-008 Building Monthly Update July 2019

Resolution No. 2019-302: Moved by Councillor Goyda and
Seconded by Councillor Sepulis

That Report BLDG-2019-008 with respect to the Building Department Monthly Update – July 2019 be received for information.

CARRIED

5. **Roads & Parks Department**

(a) GM BluePlan Engineering report prepared by Amanda Pepping, P. Eng. With respect to Fox Run Park Trail dated August 7, 2019.

Resolution No. 2019-303: Moved by Councillor Sepulis and
Seconded by Councillor Goyda

That Council receive the report from GM BluePlan Engineering report prepared by Amanda Pepping, P. Eng. with respect to Fox Run Park Trail dated August 7, 2019.

CARRIED

6. **Recreation Department**

None

7. **Mayor's Updates**

10. NOTICE OF MOTION:

11. COMMITTEE MINUTES

None

12. MUNICIPAL ANNOUNCEMENTS

(a)

13. UNFINISHED BUSINESS

14. CLOSED MEETING

Council was in closed session from 8:01 p.m. to 8:31 p.m

Resolution No. 2019-304: Moved by Councillor Goyda and
Seconded by Councillor Sepulis

(a) That Council shall go into closed session under Section 239 of the Municipal Act for the purpose of: Confidential Verbal Report from Mary Hasan, Director of Finance, regarding advice that is subject to solicitor-client privilege including communications necessary for that purpose with respect to a request for an extension of time to pay property taxes.

(b) That Council shall go into closed session under Section 239 of the Municipal Act for the purpose of: Confidential Verbal Report from Patrick Moyle, Acting CAO, regarding labor relations or employee negotiations with respect to the Chief Administrative Officer recruitment.

CARRIED

Resolution No. 2019-305: Moved by Councillor Sepulis and
Seconded by Councillor Goyda

THAT Council moves into open session.

CARRIED

Council resumed into open session at 8:31 p.m.

Resolution No. 2019-306: Moved by Councillor Sepulis and
Seconded by Councillor Goyda

THAT Council receives the:

(a) Confidential Verbal Report from Mary Hasan, Director of Finance, regarding advice that is subject to solicitor-client privilege including communications necessary for that purpose with respect to a request for an extension of time to pay property taxes.

(b) Confidential Verbal Report from Patrick Moyle, Acting CAO, regarding labor relations or employee negotiations with respect to the Chief Administrative Officer recruitment.

And that staff proceed as directed, with respect to both items.

CARRIED

15. BY-LAWS:

(a) BL2019-049 Being a By-law to authorize the entering into for an extension of use amending agreement with Donald John Elliot – 4188 Victoria Road South.

(b) BL2019-050 Being a By-law to appoint Patrick Moyle as Municipal Clerk

(c) BL2019-051 Being a By-law to authorize the entering into a Funding Agreement with the Ontario Association of Fire Chiefs for the Jenny's Heroes Canada Grant for high visible, lightweight, fire rated coveralls.

Resolution No. 2019-307: Moved by Councillor Goyda and
Seconded by Councillor Sepulis

That the following By-laws be taken as read three times and finally passed in open Council:

(a) BL2019-049 Being a By-law to authorize the entering into for an extension of use amending agreement with Donald John Elliot – 4188 Victoria Road South.

(b) BL2019-050 Being a By-law to appoint Patrick Moyle as Municipal Clerk

(c) BL2019-051 Being a By-law to authorize the entering into a Funding Agreement with the Ontario Association of Fire Chiefs for the Jenny's Heroes Canada Grant for high visible, lightweight, fire rated coveralls.

CARRIED

16. CONFIRMING BY-LAW

(a) By-Law to confirm the proceedings of Council for the Corporation of the Township of Puslinch

Resolution No. 2019-308: Moved by Councillor Sepulis and
Seconded by Councillor Goyda

That the following By-law be taken as read three times and finally passed in open Council:

By-Law BL2019-052 being a by-law to confirm the proceedings of Council for the Corporation of the Township of Puslinch at its meeting held on the 14 day of August 2019

CARRIED

17. ADJOURNMENT:

Resolution No. 2019-309: Moved by Councillor Goyda and
Seconded by Councillor Sepulis

That Council hereby adjourns at 8:35 p.m.

CARRIED

_____
James Seeley, Mayor

_____
Patrick Moyle, CAO/Clerk

DATE:	**Wednesday August 14, 2019**
TIME:	**6:00 p.m.**
PLACE:	**Municipal Complex, 7404 Wellington Rd 34**
FILE:	**D14/SUN**
MEMBERS:	**Mayor James Seeley - Chair** **Councillor Matthew Bulmer** **Councillor Ken Roth** **Councillor Jessica Goyda** **Councillor John Sepulis**

The Chair called the meeting to order at 6:04 p.m.

Presentations:

Sunrise Therapeutic Limited. Riding Centre agent Megan Gareghty GSP Group with respect to the re-zoning application.

Questions/Comments:

The Chair asked the agent to make their presentation.

The Chair, requested if there was anyone in attendance that wished to express their views on the proposed zoning amendment and development proposals.

Gwen Paddock 4227 Wellington Rd 35: Can you please elaborate on Type A land use and the MDS setbacks and the impacts of those requirements?

Agent explained MDS 1and MDS 2 and when and how they are implemented. The agent added the MDS component to the application to protect the development for future neighbouring properties.

Gwen Paddock 4227 Wellington Rd 35: What would be required for a neighbouring property owner to build and what are the restrictions?

The Agent explained that restrictions are based on the Minimum Distance Separation (MDS) requirements set out by the Ministry of Agriculture, Food and Rural Affairs.

Councilor Bulmer: How flexible is the location of the new facility with respect to the MDS calculation?

The agent explained the current location of the buildings are strategically located but can be assessed.

The Chair requested the public in attendance to submit any further comments by July 29, 2019.

Adjournment:
The meeting adjourned at 6:19 p.m.

TOWNSHIP OF
PUSLINCH
EST. 1850

THE CORPORATION OF THE TOWNSHIP OF PUSLINCH

NOTICE OF PUBLIC MEETING

Proposed 2020 User Fees and Charges By-Law

You are invited to attend a Public Information Meeting on Thursday September 12, 2019 as the Township of Puslinch is seeking your input and comments on a proposed by-law for 2020 User Fees and Charges.

Your attendance and comments at this meeting are welcome as it is your opportunity to learn more about the proposed by-law and express any opinions that you may have.

Date: Thursday, September 12, 2019

Time: 7:00pm

Place: Municipal Complex, 7404 Wellington Road 34, Puslinch, ON

For further information or to obtain a copy of the proposed 2020 User Fees and Charges By-law, please visit the Township's website at www.puslinch.ca or contact the Township at (519)-763-1226 ext. 222.

REPORT FIN-2019-027

TO: Mayor and Members of Council

FROM: Mary Hasan, Director of Finance/Treasurer

MEETING DATE: August 14, 2019

SUBJECT: 2020 Proposed User Fees and Charges
File No. C01 FEE

RECOMMENDATIONS

THAT Report FIN-2019-027 regarding the 2020 Proposed User Fees and Charges by received; and

That staff be given delegated authority to automatically adjust the User Fees and Charges By-law annually based on the Consumer Price Index inflation rate as outlined in the Ontario Budget; and

That Council directs staff to proceed with holding a Public Meeting on September 12, 2019 at 7:00 p.m. to obtain public input on the proposed User Fees and Charges By-law as outlined in Schedule A to Report FIN-2019-027; and

That staff report back to Council with the results of the public meeting.

DISCUSSION

Purpose

The purpose of this report is to provide Council with the proposed changes to the User Fees and Charges By-law and to obtain direction from Council to proceed with holding a public meeting to solicit input on the proposed User Fees and Charges.

Staff will publish notice in the Puslinch Pioneer, Wellington Advertiser and Township website to advise of the Public Meeting.

Background

In addition to property tax revenues, municipalities may charge for goods and services, such as recreational rentals, development applications, building permits, etc. through authority which is set and approved by a By-law adopted by Council.

Changes to Fee Structure

The proposed fees outlined in Schedule A to Report FIN-2019-027 have been established or amended to better reflect cost recovery for the services provided taking into consideration the following:

- Costs for providing the service;
- fees charged by comparator municipalities; and
- 2020 projected Consumer Price Index (CPI) inflation rate of 2.0%[1]

Future User Fees and Charges By-law and Public Meeting Process:

It is recommended that staff be given delegated authority to automatically adjust the User Fees and Charges By-law annually based on the CPI inflation rate as outlined in the Ontario Budget. For any changes above CPI, it is recommended that Township staff report on these changes to Council.

Outlined below are the proposed changes to the fees by department (excluding those fees that have been automatically increased by the CPI inflation rate of 2.0%).

Corporate

Canadian Flag and Township Flag

It is recommended that the Township no longer sell Canadian flags and Township flags:

- The price from the Township's vendor for Canadian flags has increased to $47.99 (net of HST and shipping costs). The previous user fee by-law incorporated a fee of $22.12 (net of HST) for Canadian flags. Canadian flag sales are infrequent (on average there have been two sales annually over the last three years). It is recommended that Canadian flags no longer be sold.
- Township flags that are currently in stock are printed with the previous Township crest. Township flag sales are rare (last sale was made in 2011). It is recommended that Township flags no longer be sold.

[1] http://budget.ontario.ca/2019/brief.html#section-1

Public Works

Entrance Permit

Outlined below are the comparator municipality fees for entrance permits:

- Cambridge – Highway Occupancy Permit - $85; New Culvert Installation Application Fee-Time & Materials + 20% + Highway Occupancy Permit Fee
- Centre Wellington – Entrance Permit – Inspection Fee - $271.95; Road Occupancy and Access Permit - $55.45
- Erin - Residential, Farm, Field, Bush lot - $100; Commercial, Institutional, Recreational - $300; Road Damage/Non-Completion Deposit - $900
- Guelph/Eramosa – Residential Inspection Fee - $150; Commercial/Industrial Inspection Fee - $250; each additional or repeat inspection for failed first inspection - $50; Residential Deposit - $1,000; Commercial/Industrial Deposit - $2,000
- Guelph - Culvert Inspection - $400; Street Occupancy Permits - $100
- Hamilton – Culvert Installation - Inspection Only – Priced per job at Cost; Culvert Installation – Priced per job at Cost
- Mapleton –Entrance Permit Inspection Fee - $325; Deposit - $1,000
- Milton – Entrance Culvert Installation Rates - $811/metre; Entrance Permit – Non-Residential - $794; Entrance Permit – Residential - $414; Inspection Fee - $199
- Minto - Inspection Fee - $100; Permit Fee - $50; Urban/Rural Damage Deposit - $2,000; Hidden Driveway signs installed - $240
- Wellington North - Inspection Fee - $100; Damage Deposit for an entrance requiring a 9m culvert (up to and including 600mm) - $1,600; Damage Deposit for an entrance that does not require a culvert - $1,100; cost of hidden driveway sign installed - $100

It is recommended that the Township incorporate the following categories for entrance permit fees for cost recovery purposes and based on the varying requirements for the various types of entrance permits:

- Entrance Permit - Commercial/Industrial - $400
- Entrance Permit - Farm Field - $200
- Entrance Permit – Residential - $240

Fire and Rescue Services

Standard Ministry of Transportation (MTO) Rate

The Standard MTO rate has increased to $477 effective November 1, 2018. It is recommended that the Fire & Rescue Services fees in Schedule B to this Report which are based on a per hour per truck rate be increased from $465.42 per hour per truck to $477 per hour per truck.

Smoke Alarms

It is recommended that a fee be established in the amount of $7.30 (net of HST) in order to recover the costs associated with the purchase of smoke alarms for properties that are not in compliance with the Fire Protection and Prevention Act, 1997 after a Township inspection. Outlined below are the comparator municipality fees for smoke alarms:

- Cambridge - $7.50
- Milton - $8.85

Carbon Monoxide Alarms

It is recommended that a fee be established in the amount of $19.75 (net of HST) in order to recover the costs associated with the purchase of carbon monoxide alarms for properties that are not in compliance with the Fire Protection and Prevention Act, 1997 after a Township inspection. Outlined below are the comparator municipality fees for carbon monoxide alarms:

- Cambridge - $ 22.52
- Milton - $44.25

Building

The Building Code Act requires that the total amount of building permit fees meets the total costs for the municipality to administer and enforce the Building Code Act and Regulations. Building permit fees were established to fully recover the Township's cost of providing building permit services, including an allocation of administrative overhead/indirect costs. Any surplus revenue from building permit fees is transferred to a restricted reserve, to be drawn upon in years of declining building activity.

The Township's Building Surplus reserve balance from 2015 to 2018 is outlined below:

	2015	2016	2017	2018
Building Restricted Reserve	$499,099	$573,096	$793,502	$727,299

In 2018, Building expenses were higher than revenues (including overhead allocation), therefore, funds from the Building Surplus reserve were utilized to fund this deficit. Based on the above, it is recommended that the fees in the Building department appendices be increased by the CPI inflation rate of 2.0% for cost recovery purposes.

Shed and Boathouse Permit Fee

Sheds and boathouses were previously a flat fee of $156. It is recommended that the permit fee for sheds and boathouses be calculated in the same manner as garages/carports at a fee of $0.79 per square foot based on its size similar to other fees in the Building department.

Planning and Development

Refund Schedule

It is recommended that a refund schedule be incorporated in the planning and development department similar to the refund schedule noted in the Township's Building By-law No. 057-2018 as outlined below:

> *In the case of a withdrawal or abandonment of an application, staff shall determine the amount of paid fees that may be refunded to the applicant, if any, in accordance with the following:*
>
> *a.) 80 percent (80%) if administrative functions have only been performed;*
> *b.) 70 percent (70%) if administrative and zoning functions have only been performed;*
> *c.) 45 percent (45%) if administrative, zoning, and a completed application has been circulated with comments;*
> *d.) 35 percent (35%) if application has been sent for second submission and comments have been received;*
> *e.) no refund shall be made if the application has been approved by Committee and/or Council*

Pre-Consultation Fee

Many municipalities require a mandatory pre-consultation meeting with proposed applicants and/or their authorized representatives prior to the submission of a planning application. The pre-consultation meeting ensures that both the proposed applicant and the municipality have a clear understanding of the purpose of the proposed application and, where required, the appropriate studies, information, and materials required to support the application. Pre-consultation also provides an opportunity for the applicant to gain an understanding of the administration of the planning process in the municipality.

The Township's current practice is to hold monthly development review meetings which are scheduled at the beginning of each year. These meetings are scheduled with Township staff, Township consultants and/or external agencies, and proposed applicants in order to address planning inquiries. When there are no general inquiries that require coordination and review by Township staff and the Township's external consultants, the meetings are cancelled. The Township obtains invoices from its external consultants for their attendance at these meetings. The Township currently fully absorbs these costs. The inquiries received from interested parties which are discussed at development review meetings often do not result in the submission of a development application. In addition, Township consultants are typically notified one week prior to the scheduled development review meeting that there were no inquiries and the meeting is subsequently cancelled for that specific month. As of August 2019, the Township has only conducted three of its eight scheduled development review meetings for 2019.

It is recommended that development review meetings be restructured to pre-consultation meetings which are scheduled on an as needed basis with the specific external Township consultant(s) and/or external agencies that are needed for commenting on the specific proposed development.

Proposed applicants will be strongly encouraged to engage in pre-consultation with the Township prior to the submission of a planning application as it provides the following benefits:

- Increased efficiencies and less delays in the longer term as many of the Township's planning applications require wide circulation to Township consultants and external agencies;
- Enables applicants and/or their authorized representatives to provide a complete application (with the required studies, etc.) at the onset of their submission;
- Enables staff to respond to non-complex inquiries that are in the preliminary stage at the counter or over the phone prior to the pre-consultation meeting. Currently, the development review meetings are being utilized as a general inquiry meeting by interested parties.

It is recommended that the Township establish a pre-consultation fee of $615.00 which is credited from the future application fee (ie. when a formal complete application is submitted) for the following:

- Zoning By-law Amendment Applications
- Site Plan Applications
- Plan of Subdivision or Condominium Applications

Outlined below are the comparator municipality pre-consultation fees:

- Cambridge –$500

- Centre Wellington - $615.00
- Guelph - $400 (mandatory – deducted from application fee if formal application submitted).
- Hamilton - $1,200 (fee will be credited to any required future application with the exception of Minor Variance or Consent Applications).

Ownership List Confirmation

It is recommended that a fee of $70 be established for providing ownership list confirmations for applicants and/or their authorized representatives in order to better reflect cost recovery for this service. In the past, applicants or their authorized representatives have requested this information for severance applications. Outlined below are the comparator municipality ownership list confirmation fees:

- Guelph Eramosa - $30
- Mapleton - $100
- Minto - $100
- Wellington North - $50 per hour per employee (fee for services provided by Municipal employees for planning matters)

<u>Parks, Optimist Recreation Centre and Puslinch Community Centre</u>

Puslinch Community Centre - Commercial Rentals

It is recommended that the Township implement a surcharge of 10% on commercial rentals (ie. auctions, sale of merchandise) at the Puslinch Community Centre. The previous user fee by-law incorporated a fee of $781.85 (net of HST) for commercial rentals.

Implementing a surcharge of 10% is more in line with comparator municipalities as outlined below:

- Milton – Surcharge of 10%
- Guelph – Surcharge of 12.5%
- Hamilton – Surcharges ranging from 50% to 67%

Puslinch Community Centre - Non-Resident Rentals

Of the Township's 1,210 customers within the Facility Scheduler Module of Keystone, 844 or 70% of the renters have a non-Puslinch mailing address.

It is recommended that the Township implement a surcharge of 10% for non-resident rentals at the Puslinch Community Centre. This enables the Township to obtain a sustainable source of

funding as it relates to required staffing resources, ongoing upkeep and maintenance of the facility, and future asset replacement/restoration.

Implementing a surcharge of 10% is more in line with comparator municipalities as outlined below:

- Milton – Surcharge of 10%
- Guelph – Surcharge of 15%
- Hamilton – Surcharges ranging from 50% to 67% for commercial and non-resident facility rentals

Cancellation and Payment Terms

Council at its meeting held on October 3, 2018 directed staff to report back on payment options for Parks and Recreation bookings.

Township staff obtained information from the comparator municipalities regarding the payment structure for facility bookings. This information is summarized below:

- Cambridge
    - Collection of a 50 percent deposit for banquet hall bookings with the balance due two weeks prior to the event.
- Centre Wellington
    - Deposits ranging from $150.00 to $1,000.00 depending on the size of the event (ie. Small, medium, and large events).
    - Deposits collected at the time of booking with the remainder of the rental fee due 21 days prior to the event.
- Erin
    - 20% deposit collected at the time of booking with the remainder of the rental fee due 30 days prior to the event. 2 weeks' notice is required for a full refund.
- Guelph
    - Deposits are not collected for one-time bookings. Full payment is required for a contract to be finalized.
- Guelph/Eramosa
    - Deposits are not collected. Full payment is required for a contract to be finalized. 30 days' notice is required for a full refund.
- Hamilton
    - Deposits are not collected. Full payment is required for a contract to be finalized. 14 days' notice is required for a full refund on a smaller event. 30 days' notice is required for a full refund on a larger event.
- Mapleton

    - Collection of a 50 percent deposit at the time of booking. 60 days' notice is required for a full refund.
- Milton
    - Deposits are not collected. Full payment is required for a contract to be finalized. 14 days' notice is required for an 80 percent refund.
- Minto
    - For hall rentals, $100.00 is collected in advance to hold the date and space. If the renter honours the terms of the facility rental agreement, this deposit is applied as a credit against their invoice after the event.
- Wellington North
    - Collection of a 50 percent deposit at the time of booking with the balance due two weeks prior to the event.

Council through the 2017 User Fee By-law No. 087-2016 approved obtaining full payment at the time of booking and that a refund of 80 percent be provided where 30 days' notice of cancellation is given.

Council through the 2018 User Fee By-law No. 075-2017 approved the following payment terms for Parks, Optimist Recreation Centre, and Puslinch Community Centre rentals:

- One-Time Rentals - Payment is required within seven days of contract creation.
- Recurring Rentals Throughout the Year - Payment is required on a quarterly basis. The first payment is required within seven days of contract creation. Future payments are required quarterly.
- Recurring Seasonal Bookings - Payment is required in two instalments. The first payment is required within seven days of contract creation. The second payment is required halfway through the season.

Renters have adjusted positively to the Township's current payment structure and there have been limited complaints. It is recommended that the payment terms described above remain unchanged. The current process and payment terms are efficient and facilitate more effective utilization of staff resources.

FINANCIAL IMPLICATIONS

The fees approved as part of the User Fees and Charges By-law will be incorporated in the 2020 Operating Budget.

APPLICABLE LEGISLATION AND REQUIREMENTS

Section 391(1) of the Municipal Act

Section 7(1) of the Building Code Act

Section 69 of the Planning Act

Fire Protection and Prevention Act, 1997, Ontario Regulation 194/14: Fire Code Section 2.13 Installation of Smoke Alarms

Fire Protection and Prevention Act, 1997, Ontario Regulation 194/14: Fire Code Section 2.16 Installation of Carbon Monoxide Alarms

ATTACHMENTS

Schedule A: Proposed User Fees and Charges By-law

THE CORPORATION OF THE TOWNSHIP OF PUSLINCH

BY-LAW NO XXX-2019

A by-law to permit the Municipality to impose fees or charges with respect to services or activities provided, related costs payable, and for the use of its property, and to repeal By-law 056-2018.

WHEREAS Section 391(1) of the Municipal Act, 2001, S.O. 2001, c. 25, as amended, a municipality may pass By-laws imposing fees or charges for services or activities provided or done by or on behalf of it, for costs payable by it for services or activities provided or done by or on behalf of any other municipality or any local board, and for the use of its property including property under its control; and

WHEREAS Section 7(1) of the Building Code Act, 1992, S.O. 1992, c. 23, as amended, provides that a municipality may pass By-laws imposing fees and charges; and

WHEREAS Section 69 of the Planning Act, R.S.O. 1990, c.P.13, as amended provides that the Council of a municipality may by By-law establish a tariff of fees for the processing of applications made in respect of planning matters; and

WHEREAS The Council of the Corporation of the Township of Puslinch deems it appropriate to update the Township's User Fees and Charges By-law.

NOW THEREFORE the Council of the Corporation of the Township of Puslinch enacts as follows:

1. For the purpose of this By-law:

a.) **"Cost(s)"** means any and all disbursements incurred by the municipality, and includes, but is not restricted to, any registration costs, title search costs, corporate search costs, survey costs, reference plan costs, advertising costs, outside counsel fees, paralegal fees, site inspection costs and any applicable taxes;

b.) **"Property Owner(s)"** include the registered owner(s) of property or any person, firm or corporation having control over or possession of the property or any portion thereof, including a property manager, mortgagee in possession, receiver and manager, trustee and trustee in bankruptcy;

c.) **"Township"** means the Corporation of the Township of Puslinch.

2. Any person requesting, applying or utilizing the services, applications or approvals listed in the attached schedules and forming part of this By-law shall pay the fees listed for that service, application or approval as set out in the attached schedules.

3. These fees, **costs**, and charges are applicable to residents and non-residents at the rates noted unless there is a specified exemption in the attached schedules.

4. No request by any person for a service, application or approval listed in the attached schedules shall be acknowledged or performed by the **Township** unless and until the person requesting the service, application or approval has paid the fees, **costs** or charges as set out in the attached schedules, unless noted otherwise.

5. All **Township** accounts and invoices are due and payable when rendered.

6. All unpaid fees, **costs** or charges imposed by this By-law on a person constitute a debt of the person to the **Township**.

7. The Treasurer shall add the fees, **costs** and charges imposed pursuant to this By-law to the tax roll for any property in the **Township** for which all of the **property owners** are responsible for paying the fees, **costs** and charges under

this By-law and collect them in the same manner as municipal taxes in accordance with Section 398 of the Municipal Act, 2001, S.O. 2001, c. 25 as amended.

8. If peer or legal review **costs** are incurred by the **Township** in the processing of an application or approval by the **Township**, the applicant is required to pay these **costs** to the **Township**.

9. The **Township** is not obligated to further process an application or approval until all outstanding third party **costs**, fees and other disbursements have been paid by the applicant.

10. The fees, **costs** and charges listed in the schedules to this By-law shall, where applicable, be subject to any applicable provincial and federal taxes.

11. Any fee, **cost** or charge:

    a. authorized by a by-law that comes into effect on the same or a later date than this By-law; or

    b. included in a valid agreement entered into by the **Township** and one or more other parties,

    shall be the approved and imposed fee, **cost** or charge for the service, activity or use of property specified.

12. The payment of any fee**, cost** or charge in this By-law shall be in Canadian currency.

13. The following Schedules form part of this By-law:

Schedule	Department
A	Administration
B	Finance
C	Corporate
D	Public Works
E	Fire and Rescue Services
F	Building
G	Planning and Development
H	By-law
I	Parks
J	Optimist Recreation Centre
K	Puslinch Community Centre

14. The fees, **costs** and charges, as outlined in the schedules attached hereto and forming part of this By-law, shall be implemented and take effect on January 1, 2020.

Cancellation Terms – Parks, Optimist Recreation Centre, Puslinch Community Centre

15. A refund of 80 percent will be provided where 30 days' notice of cancellation is given for Puslinch Community Centre rentals.

16. A full refund will be provided where 72 hours or 3 days' notice of cancellation is given for Parks and Optimist Recreation Centre rentals.

Payment Terms – Parks, Optimist Recreation Centre, Puslinch Community Centre

17. One-Time Rentals - Payment is required within seven days of contract creation.

18. Recurring Rentals Throughout the Year - Payment is required on a quarterly basis. The first payment is required within seven days of contract creation. Future payments are required quarterly.

19. Recurring Seasonal Bookings - Payment is required in two instalments. The first payment is required within seven days of contract creation. The second payment is required halfway through the season.

Exemptions, Fee Waivers, Fee Reductions

20. Government organizations are exempt from the agreement fees imposed by this By-law.

21. The Optimist Club of Puslinch is exempt from the photocopy fees imposed by this By-law for **Township** Clean-up and Remembrance Day.

22. The following events are exempt from the rental fees imposed by this By-law:

    a. Fall Fair
    b. Santa Claus Parade
    c. Canada Day
    d. Family Day
    e. Remembrance Day

23. The Winter Classic Tournament held during the Family Day Long Weekend is exempt from the payment of rental fees with the exception of part-time staffing **costs** including bartenders.

24. The following requests are not eligible for a fee reduction or waiver:

    a. Religious services
    b. Licences, development charges, cash in lieu of parkland, building permits, inspections, insurance, personnel costs

25. Eligible organizations can obtain one complimentary two-hour room rental for one meeting during non-prime times in the Meeting Room.

26. Usage of **Township** property must comply with the **Township**'s requirements including necessary insurance, permits and approvals within the required timelines.

27. Reduced rates are not offered during prime-time for facilities or parks that have a prime-time and non-prime time rate.

28. A 75% reduced rate shall apply to organizations that meet the eligibility criteria.

29. A 90% reduced rate shall apply to Seniors' Events or Programs.

30. A 90% reduced rate shall apply to Whistle Stop Co-operative Pre-school and Guelph Community Health Centre (Playgroup).

Reduced Rate Eligibility Criteria

31. Organizations applying for a reduced rate must meet the following eligibility criteria:

    a. Be in existence for at least one year; and
    b. have its principal address in the **Township**; and
    c. be a not-for-profit organization or an unincorporated community group; and
    d. offer services that benefit the **Township** and its residents; and
    e. be in good financial standing with the **Township** and not in litigation with the **Township**; and
    f. be in compliance with any other **Township** by-laws and policies.

For the purposes of this By-law, Puslinch Minor Sports Organizations, Puslinch Religious Organizations, Guelph Community Health Centre (The Playgroup), YMCA/YWCA of Guelph, and the Aberfoyle Agricultural Society are deemed to meet the eligibility criteria.

32. For the purposes of this By-law, services that benefit the **Township** and its residents include:

    a. Charitable community services
    b. Artistic endeavours, including literature, dance, music, theatre, painting, sculpture, movies, photography and live performances
    c. Specific cultural and heritage activities
    d. Programs that improve the health and well-being of the community
    e. Programs that encourage participation in organized athletic activities
    f. Services or events directed for youth and older adults
    g. Public safety enhancement services

33. The following organizations are not eligible for a reduced rate:

    a. Adult sports organizations ie. Old Timers, Puslinch Kodiak's, Morriston Men's League, The Aberfoyle Dukes.
    b. County, Provincial and Federal organizations.
    c. Groups or organizations affiliated with any political party or event.
    d. Individuals, commercial organizations, and coalitions such as ratepayer associations.
    e. Hospitals, hospital foundations and hospital auxiliary groups or agencies.
    f. Educational institutions including universities, colleges, schools and associated auxiliary groups.

34. The following information will be required to review an organization's eligibility:

    a. A copy of the letters patent or articles of incorporation, if applicable.
    b. A copy of its Notification of Charitable Registration letter from the Canada Revenue Agency with any supporting documentation indicating the organization's status and terms of registration, if applicable.
    c. A copy of mandate, constitution and by-laws, as applicable.

35. Should any part of this By-law including any part of the schedules, be determined by a Court of competent jurisdiction to be invalid or of no force and effect, such invalid part of the By-law shall be severable and that the remainder of this By-law including the remainder of the Schedules, as applicable, shall continue to operate and to be in force and effect.

36. This By-law shall be known as the "User Fees and Charges By-law".

37. That By-law No. 056/18 is hereby repealed, effective January 1, 2020.

READ A FIRST, SECOND AND THIRD TIME AND FINALLY PASSED THIS Xth DAY OF OCTOBER 2019.

_____
James Seeley, Mayor

_____
Patrick Moyle, CAO/Clerk

SCHEDULE A: ADMINISTRATION REVIEW OF MUNICIPAL RATES AND SERVICE CHARGES
EFFECTIVE 2020

TYPE OF REVENUE/USER	Unit/Descr	2019 RATE (NO TAX)	2020 RATE (NO TAX)	13% HST	RATE INCL HST	% CHANGE	HST STATUS	COMMENTS
Agreements - Major - Not Registered	Flat Fee	$500.00	**$510.00**	$0.00	$510.00	2%	E	For recovery of the costs of facilitating and preparing agreements, ie. a lease agreement on Township lands.
Agreements - Minor - Not Registered	Flat Fee	$250.00	**$255.00**	$0.00	$255.00	2%	E	For recovery of the costs of facilitating and preparing agreements, ie. miscellaneous agreements.
Agreements - Registered	Flat Fee	$765.00	**$780.00**	$0.00	$780.00	2%	E	For recovery of the costs of facilitating and preparing agreements, ie. an encroachment agreement or a conditional building permit.
Freedom of Information	Charged at the rate permitted per the legislation.						E	Regulated by Statute - See Report FIN-2017-024.
Signature of Commissioner	Per Document	$20.00	**$20.40**	$2.65	$23.05	2%	T	

SCHEDULE B: FINANCE REVIEW OF MUNICIPAL RATES AND SERVICE CHARGES
EFFECTIVE 2020

TYPE OF REVENUE/USER	Unit/Descr	2019 RATE (NO TAX)	2020 RATE (NO TAX)	13% HST	RATE INCL HST	% CHANGE	HST STATUS	COMMENTS
NSF Cheque	Per NSF	$40.00	**$40.00**	$0.00	$40.00	0%	E	
Tax Certificate	Per Certificate	$60.00	**$60.00**	$0.00	$60.00	0%	E	
Tax Sale Charges		Actual costs incurred	**Actual costs incurred**			0%	T	Cost recovery of fees and disbursements as charged by consultants and solicitors.
Tender Fees	Per Package	$40.00	**$40.80**	$0.00	$40.80	2%	E	Tender fees applicable for projects administered by the Township's consultants.
Service Fee - Debit Card Transactions - Online	Total Transaction Amount	0.75 Percent	**0.75 Percent**			0%	E	In accordance with Visa and Mastercard merchant rules.
Service Fee - Credit Card Transactions - Online	Total Transaction Amount	1.75 Percent	**1.75 Percent**			0%	E	In accordance with Visa and Mastercard merchant rules.
Tile Drainage Loan Application and Inspection Fee	Flat Fee	$200.00	**$204.00**	$0.00	$204.00	2%	E	See Report FIN-2018-028

SCHEDULE C: CORPORATE REVIEW OF MUNICIPAL RATES AND SERVICE CHARGES
EFFECTIVE 2020

TYPE OF REVENUE/USER	Unit/Descr	2019 RATE (NO TAX)	2020 RATE (NO TAX)	13% HST	RATE INCL HST	% CHANGE	HST STATUS	COMMENTS
Canadian Flag	Per Flag	$22.12	**N/A**					See Report FIN-2019-027
Photocopy	Per Page	$0.25	**$0.26**	$0.03	$0.29	4%	T	Photocopy fees are exempt for Township Clean-up and Remembrance Day in accordance with Council Resolution No. 2017-363.
Township Flag	Per Flag	$44.25	**N/A**					See Report FIN-2019-027

SCHEDULE D: PUBLIC WORKS REVIEW OF MUNICIPAL RATES AND SERVICE CHARGES
EFFECTIVE 2020

TYPE OF REVENUE/USER	Unit/Descr	2019 RATE (NO TAX)	2020 RATE (NO TAX)	13% HST	RATE INCL HST	% CHANGE	HST STATUS	COMMENTS
Entrance Permit - Commercial/Industrial	Flat Fee	**See below**	**$400.00**	$0.00	$400.00	67%		See Report FIN-2019-027
Entrance Permit - Farm Field	Flat Fee	**See below**	**$200.00**	$0.00	$200.00	-17%		See Report FIN-2019-027
Entrance Permit - Residential	Flat Fee	$235.00	**$240.00**	$0.00	$240.00	2%	E	See Report FIN-2019-027
Oversize-Overweight Load Permits	Per Trip	$100.00	**$102.00**	$0.00	$102.00	2%	E	
Third Party Cost Recovery	Actual costs incurred + $100.00 administration fee						T	Material, equipment, labour/benefits, and administration costs.

SCHEDULE E: FIRE AND RESCUE SERVICES REVIEW OF MUNICIPAL RATES AND SERVICE CHARGES
EFFECTIVE 2020

TYPE OF REVENUE/USER	Unit/Descr	2019 RATE (NO TAX)	2020 RATE (NO TAX)	13% HST	RATE INCL HST	% CHANGE	HST STATUS	COMMENTS
Boarding or Barricading Plus Materials	Per Hour Per Truck	$465.42	**$477.00**	$0.00	$477.00	2%	E	Fee is in accordance with the Standard MTO Rate.
Burning Permit Violations or Unauthorized Open Air Burning	Per Hour Per Truck	$465.42	**$477.00**	$0.00	$477.00	2%	E	Emergency responses to illegal burning or burning without a permit. Fee is in accordance with the Standard MTO Rate.
Carbon Monoxide Alarms	Per Alarm	N/A	**$19.75**	$2.57	$22.32	100%	T	See Report FIN-2019-027
Daycare & Home Daycare Inspections	Per Inspection	$100.00	**$102.00**	$13.26	$115.26	2%	T	As mandated in the Fire Code.
Emergency Responses to Incidents such as Collisions/Fires/Hazardous Material Releases on Roadways	Per Hour Per Truck	$465.42	**$477.00**	$0.00	$477.00	2%	E	Township residents are exempt from payment of fee for emergency responses where emergency occurs on a Township of Puslinch or County of Wellington Road. Fee is in accordance with the Standard MTO Rate.
Fire Alarm False Alarm Calls	Per Hour Per Truck	$465.42	**$477.00**	$0.00	$477.00	2%	E	A false alarm call after the second false alarm in any calendar year. Fee is in accordance with the Standard MTO Rate.
Fire Extinguisher Training	Per Person	$15.00	**$15.30**	$1.99	$17.29	2%	T	
Fire Safety Plan Review	Per Plan	$120.00	**$122.00**	$15.86	$137.86	2%	T	
Industrial/Commercial/Institutional/Assembly/Apartment	Base Inspection	$100.00	**$102.00**	$13.26	$115.26	2%	T	Any inspections completed by the fire department that are new, complaint driven, requested or mandated.
Industrial/Commercial/Institutional/Assembly/Apartment	Plus each tenant/occupant/ apartment unit	$25.00	**$25.50**	$3.32	$28.82	2%	T	Any inspections completed by the fire department that are new, complaint driven, requested or mandated.
Information or Fire Reports	Per Report	$75.00	**$76.50**	$0.00	$76.50	2%	E	Requested for emergency incidents.
Key Boxes	Per Box	$100.00	**$102.00**	$13.26	$115.26	2%	T	For rapid entry for firefighters.
Occupancy Load	Flat Fee	$100.00	**$102.00**	$0.00	$102.00	2%	E	
Open Air Burning Permit Inspection Fee	Per Inspection	$40.00	**$40.80**	$5.30	$46.10	2%	T	As a result of a request to modify the terms and conditions of the Open Air Burning Permit.
Open Air Burning Permit	Per Permit	$20.00	**$20.40**	$0.00	$20.40	2%	E	Permit must be renewed annually.
Post Fire Watch	Per Hour per Truck	$465.42	**$477.00**	$0.00	$477.00	2%	E	Fee is in accordance with the Standard MTO Rate.

SCHEDULE E: FIRE AND RESCUE SERVICES REVIEW OF MUNICIPAL RATES AND SERVICE CHARGES
EFFECTIVE 2020

TYPE OF REVENUE/USER	Unit/Descr	2019 RATE (NO TAX)	2020 RATE (NO TAX)	13% HST	RATE INCL HST	% CHANGE	HST STATUS	COMMENTS
Replacement of Equipment and Resources Used	Actual costs incurred	Actual costs incurred	**Actual costs incurred**			0%	T	Materials used in emergency responses.
Sale of Fireworks Permit	Per Permit	$100.00	**$102.00**	$0.00	$102.00	2%	E	
Setting Off or Discharge of High Hazard Fireworks Permit	Per Permit	$100.00	**$102.00**	$0.00	$102.00	2%	E	
Smoke Alarms	Per Alarm	N/A	**$7.30**	$0.95	$8.25	100%	T	See Report FIN-2019-027
Water Tank Locks	Per Lock	$17.80	**$18.16**	$2.36	$20.52	2%	T	For locking water tank lids closed.
Special Events	No fee at this time							Requests for Attendance.
Authorized Requester Agreement - Search Fee	No fee at this time							Standard information product per record search fee - See Report FIN-2017-024.

SCHEDULE F: BUILDING REVIEW OF MUNICIPAL RATES AND SERVICE CHARGES
EFFECTIVE 2020

Schedule A to Report FIN-2019-027

TYPE OF REVENUE/USER	Unit/Descr	2019 RATE (NO TAX)	2020 RATE (NO TAX)	13% HST	RATE INCL HST	% CHANGE	HST STATUS	COMMENTS
Minimum Permit Fee	Flat Fee	$156.00	**$159.00**	$0.00	$159.00	2%	E	For all work unless otherwise noted
NEW BUILDING, ADDITIONS, MEZZANINES								
Group A & B: Assembly & Care and Detention Buildings								
Shell	Per Sq. Foot	$2.40	**$2.45**	$0.00	$2.45	2%	E	See Report FIN-2017-024
Finished	Per Sq. Foot	$2.71	**$2.77**	$0.00	$2.77	2%	E	See Report FIN-2017-024
Group C: Residential Buildings								
Houses, Townhouses, and Apartments	Per Sq. Foot	$1.92	**$1.97**	$0.00	$1.97	2%	E	
Manufactured Home	Per Sq. Foot	$1.46	**$1.49**	$0.00	$1.49	2%	E	
Garage/carport/shed/boathouse	Per Sq. Foot	$0.78	**$0.79**	$0.00	$0.79	1%	E	See Report FIN-2018-028
Deck, porch, dock	Flat Fee	$156.00	**$159.00**	$0.00	$159.00	2%	E	
Group D & E: Business and Personal Service and Mercantile Buildings								
Shell	Per Sq. Foot	$1.85	**$1.89**	$0.00	$1.89	2%	E	See Report FIN-2017-024
Finished	Per Sq. Foot	$2.15	**$2.20**	$0.00	$2.20	2%	E	See Report FIN-2017-024
Group F: Industrial Buildings								
Shell	Per Sq. Foot	$0.75	**$0.76**	$0.00	$0.76	1%	E	See Report FIN-2017-024
Finished	Per Sq. Foot	$0.95	**$0.97**	$0.00	$0.97	2%	E	See Report FIN-2017-024
Farm Buildings								
New Building	Per Sq. Foot	$0.30	**$0.31**	$0.00	$0.31	3%	E	See Report FIN-2017-024
INTERIOR FINISHES AND ALTERATIONS - ALL CLASSIFICATIONS								
Finishes to all areas	Per Sq. Foot	$0.52	**$0.53**	$0.00	$0.53	2%	E	
SEWAGE SYSTEMS								
New Installation	Flat Fee	$624.00	**$636.00**	$0.00	$636.00	2%	E	
Replacement or alteration	Flat Fee	$468.00	**$477.00**	$0.00	$477.00	2%	E	
ALTERNATIVE SOLUTIONS								
All buildings/systems within scope of Part 9	Flat Fee	$500.00	**$510.00**	$0.00	$510.00	2%	E	See Report FIN-2017-024
All buildings/systems within scope of Part 3	Flat Fee	$1,000.00	**$1,020.00**	$0.00	$1,020.00	2%	E	See Report FIN-2017-024
SPECIAL CATEGORIES AND MISCELLANEOUS								
Change of Use Permit (No Construction)	Flat Fee	$200.00	**$204.00**	$0.00	$204.00	2%	E	See Report FIN-2017-024
Construction prior to issuance of a permit	100% of permit fee	100% of permit fee	**100% of permit fee**			0%	E	Fee is in addition to all other required permit fees.
Conditional Permits	20% of permit fee	20% of permit fee	**20% of permit fee**			0%	E	Fee is in addition to all other required permit fees.
Demolition Permit	Flat Fee	$156.00	**$159.00**	$0.00	$159.00	2%	E	
Designated Structure Permit	Flat Fee	$416.00	**$424.00**	$0.00	$424.00	2%	E	Listed per Div.A, 1.3.1.1 Solar installation
Fireplace/Woodstove	Flat Fee	$156.00	**$159.00**	$0.00	$159.00	2%	E	

SCHEDULE F: BUILDING REVIEW OF MUNICIPAL RATES AND SERVICE CHARGES
EFFECTIVE 2020

TYPE OF REVENUE/USER	Unit/Descr	2019 RATE (NO TAX)	2020 RATE (NO TAX)	13% HST	RATE INCL HST	% CHANGE	HST STATUS	COMMENTS
Inspection of works not ready	Flat Fee	$156.00	**$159.00**	$0.00	$159.00	2%	E	At the discretion of the Chief Building Official. Includes code violations and deficiencies.
Occupancy Permit	Flat Fee	$156.00	**$159.00**	$0.00	$159.00	2%	E	
Occupancy without an Occupancy Permit	Flat Fee	$250.00	**$255.00**	$0.00	$255.00	2%	E	At the discretion of the Chief Building Official. This fee is not imposed as it relates to the current initiative of closing old open building permits as approved by Council in the 2018 Budget.
Portables	Flat Fee	$200.00	**$204.00**	$0.00	$204.00	2%	E	
Reproduction of Drawings	Flat Fee	$50.00	**$51.00**	$6.63	$57.63	2%	T	Current rate covers costs for the reproduction of black and white drawings.
Revision to Approved Plans	Flat Fee	$312.00	**$318.00**	$0.00	$318.00	2%	E	Before or after a permit is issued - significant changes to approved plans requiring further review. Minor revisions which result in no fee include eliminating a closet, finishing a three-piece bathroom, cosmetic changes, layout changes, removing non-load bearing walls, etc.
Sign Permits	Flat Fee	$260.00	**$265.00**	$0.00	$265.00	2%	E	With building permit
Storefront replacement	Flat Fee	$200.00	**$204.00**	$0.00	$204.00	2%	E	
Tents	Flat Fee	$260.00	**$265.00**	$0.00	$265.00	2%	E	Tents and air-supported structures shall be in conformance with the Building Code and Section 2.9 of the Fire Code.
Transfer of Permit	Flat Fee	$156.00	**$159.00**	$0.00	$159.00	2%	E	

INTERPRETATION

The following requirements are to be applied in the calculation of permit fees:

- Floor area of the proposed work is to be measured to the outer face of exterior walls and to the centre line of party walls or demising walls.
- Unfinished loft space, habitable attics, mezzanines and interior balconies are to be included in all floor area calculations.
- Unfinished basement space and attached residential garages are not included in floor area calculations.
- The occupancy categories in this Schedule correspond with the major occupancy classifications in the Ontario Building Code. For multiple occupancy floor areas, the permit fees for each of the applicable occupancy categories may be used.
- In the case of interior alterations or renovations, area of proposed work is the actual space receiving the work, e.g. tenant suite.
- Additional permit fees are not required for an attached deck to a residential dwelling, when the deck is shown on the approved residential building plans.
- For classes of permits not described in this Schedule, a reasonable permit fee shall be determined by the Chief Building Official.

SCHEDULE G: PLANNING AND DEVELOPMENT REVIEW OF MUNICIPAL RATES AND SERVICE CHARGES
EFFECTIVE 2020

Schedule A to Report FIN-2019-027

TYPE OF REVENUE/USER	Unit/Descr	2019 RATE (NO TAX)	2020 RATE (NO TAX)	13% HST	RATE INCL HST	% CHANGE	HST STATUS	COMMENTS
Agreements - Minor - Not Registered	Flat Fee	$250.00	**$255.00**	$0.00	$255.00	2%	E	For recovery of the costs of facilitating and preparing agreements, ie. permission to have a second dwelling while another is being built.
Agreements - Registered	Flat Fee	$765.00	**$780.00**	$0.00	$780.00	2%	E	For recovery of the costs of facilitating and preparing agreements, ie. garden suite agreements, maintenance and operations agreement, an amendment to a site plan or subdivision or condominium agreement. Excludes new site plan, subdivision or condominium agreements.
Compliance Letter	Flat Fee	$75.00	**$76.50**	$0.00	$76.50	2%	E	Fee charged is consistent for all Township departments.
Consent Review and Condition Clearance *	Flat Fee	$134.00	**$137.00**	$0.00	$137.00	2%	E	
Lifting of Holding Designation (Zoning)	Flat Fee	$586.00	**$598.00**	$0.00	$598.00	2%	E	
Minor Variance *	Flat Fee	$706.00	**$721.00**	$0.00	$721.00	2%	E	
Ownership List Confirmation	Flat Fee	N/A	**$70.00**	$0.00	$70.00	100%	E	See Report FIN-2019-027
Part Lot Control Exemption By-law	Flat Fee	$585.00	**$597.00**	$0.00	$597.00	2%	E	
Plan of Subdivision or Condominium Agreement or Pre-Servicing Agreement *	Administration fee	$765.00	**$780.00**	$0.00	$780.00	2%	E	For recovery of the costs of facilitating and preparing agreements.
Pre-Consultation Fee	Flat Fee	N/A	**$615.00**	$0.00	$615.00	100%	E	This fee will be credited from the future application fee (ie. when a formal complete application is submitted) for a Zoning By-law Amendment, Site Plan, or Plan of Subdivision or Condominium.
Site Plan Application and Agreement - Minor	Flat Fee	$10,850.00	**$11,067.00**	$0.00	$11,067.00	2%	E	Note 1
Site Plan Application and Agreement - Standard	Flat Fee	$20,600.00	**$21,012.00**	$0.00	$21,012.00	2%	E	Note 2
Telecommunication Tower Proposals	Flat Fee	$532.00	**$543.00**	$0.00	$543.00	2%	E	
Zoning By-law - Copy	Flat Fee	$40.00	**$40.80**	$5.30	$46.10	2%	T	
Zoning By-Law Amendment - Aggregate *	Administration fee	$15,000.00	**$15,300.00**	$0.00	$15,300.00	2%	E	
Zoning By-Law Amendment - Minor	Flat Fee	$5,000.00	**$5,100.00**	$0.00	$5,100.00	2%	E	Note 3
Zoning By-Law Amendment - Standard	Flat Fee	$11,200.00	**$11,424.00**	$0.00	$11,424.00	2%	E	Note 4

SCHEDULE G: PLANNING AND DEVELOPMENT REVIEW OF MUNICIPAL RATES AND SERVICE CHARGES EFFECTIVE 2020

INTERPRETATION

* the fees denoted with an asterisk are also subject to the Township's disbursements and third party consultant fees incurred for the processing of the application.

Note 1: Minor Site Plan

A Minor Site Plan may include, but is not limited, to the following:

- Site works associated with the change of use of an existing building;
- Parking lot modifications, outdoor patios, landscape works and the placement of accessory buildings and structures;
- Minor revisions or building additions to existing commercial, industrial or residential developments

Township staff have the discretion to determine whether a site plan application is classified as minor.

Note 2: Standard Site Plan

A Standard Site Plan may include, but is not limited, to the following:

- Requirement of technical studies (ie. storm water management, geotechnical, hydrological, environmental impact assessment, etc.)
- Relates to a new development or major additions/alterations to an existing development or site design

Note 3: Minor Zoning By-law Amendment

A Minor Zoning By-law Amendment may include, but is not limited, to the following:

- The change in use is compatible with the current zoning designation and does not require the submission of any technical studies;
- Adding a low impact use to an existing zone;
- Temporary use;
- Low impact zone changes involving single or semi-detached dwellings;
- No change in zoning category

Township staff have the discretion to determine whether a zoning by-law amendment application is classified as minor.

Note 4: Standard Zoning By-law Amendment

A Standard Zoning By-law Amendment may include, but is not limited, to the following:

- Change in zoning category;
- Larger commercial/industrial/residential applications;
- A major change of use to an existing building or structure;
- Requirement of technical studies (ie. storm water management, geotechnical, hydrological, environmental impact assessment, etc.)

Refund of Application Fees

In the case of a withdrawal or abandonment of an application, staff shall determine the amount of paid fees that may be refunded to the applicant, if any, in accordance with the following:

a.) 80 percent (80%) if administrative functions have only been performed;
b.) 70 percent (70%) if administrative and zoning functions have only been performed;
c.) 45 percent (45%) if administrative, zoning, and a completed application has been circulated with comments;
d.) 35 percent (35%) if application has been sent for second submission and comments have been received;
e.) no refund shall be made if the application has been approved by Committee and/or Council

SCHEDULE H: BY-LAW REVIEW OF MUNICIPAL RATES AND SERVICE CHARGES
EFFECTIVE 2020

TYPE OF REVENUE/USER	Unit/Descr	2019 RATE (NO TAX)	2020 RATE (NO TAX)	13% HST	RATE INCL HST	% CHANGE	HST STATUS	COMMENTS
Dog Tags	Per Tag	$25.00	**$25.50**	$0.00	$25.50	2%	E	Maximum of 3 dogs
Fence Viewer's Application	Per Application	$300.00	**$306.00**	$0.00	$306.00	2%	E	
Filming Permit Fee	Flat Fee	$500.00	**$510.00**	$0.00	$510.00	2%	E	Filming of special events on Township lands/roads.
Kennel Licence	Per Licence	$187.00	**$190.00**	$0.00	$190.00	2%	E	More than 3 dogs
Liquor License Letter	Per Inspection	$156.00	**$159.00**	$0.00	$159.00	2%	E	Requested or required inspection of licensed sales establishments (as defined by the Liquor Licence Establishment Board of Ontario) that requires an inspection and/or a letter.
Lottery Licence	3% of prize value	3% of prize value	**3% of prize value**	$0.00	3% of prize value	0%	E	Fee regulated by AGCO (Nevada, Raffle, Bazaar, etc.).
Municipal Addressing Sign	Flat Fee	$20.00	**$20.40**	$2.65	$23.05	2%	T	
Municipal Addressing Post	Flat Fee	$20.00	**$20.40**	$2.65	$23.05	2%	T	
Septic Compliance Letter	Flat Fee	$75.00	**$76.50**	$0.00	$76.50	2%	E	Fee charged is consistent for all Township departments.
Sign Permits	Flat Fee	$100.00	**$102.00**	$0.00	$102.00	2%	E	Without building permit.
Site Alteration Permit Application *	Administration fee	$1,800 plus $75 per hectare (rounded to the greater whole aggregate).	**$1,800 plus $75 per hectare (rounded to the greater whole aggregate).**	$0.00	$1,800 plus $75 per hectare (rounded to the greater whole aggregate).	0%	E	
Site Alteration Permit Service Fee	Per m^3	$0.06	**$0.06**	$0.00	$0.06	0%	E	Paid at time of application.
Special Occasion Permit	Per Letter	$75.00	**$76.50**	$0.00	$76.50	2%	E	
Swimming Pool Enclosure Permit	Flat Fee	$215.00	**$219.00**	$0.00	$219.00	2%	E	

* the fees denoted with an asterisk are also subject to the Township's disbursements and third party consultant fees incurred for the processing of the application.

SCHEDULE I: PARKS REVIEW OF MUNICIPAL RATES AND SERVICE CHARGES
EFFECTIVE 2020

TYPE OF REVENUE/USER	Unit/Descr	2019 RATE (NO TAX)	2020 RATE (NO TAX)	13% HST	RATE INCL HST	% CHANGE	HST STATUS	COMMENTS
Ball Diamonds - No Lights	Per Hour	$20.85	**$21.27**	$2.77	$24.04	2%	T	
75% Reduced Rate - Ball Diamonds - No Lights	Per Hour	$5.20	**$5.31**	$0.69	$6.00	2%	T	
Ball Diamonds - Lights	Per Hour	$31.25	**$31.88**	$4.14	$36.02	2%	T	after 8:30 p.m.
75% Reduced Rate - Ball Diamonds - Lights	Per Hour	$7.80	**$7.96**	$1.03	$8.99	2%	T	after 8:30 p.m.
All Ball Diamonds	Per Day	$156.35	**$159.48**	$20.73	$180.21	2%	T	
75% Reduced Rate - All Ball Diamonds	Per Day	$39.10	**$39.88**	$5.18	$45.06	2%	T	
Ball Diamonds - Dragging	Per Occurrence	$40.00	**$40.80**	$5.30	$46.10	2%	T	Upon request and approval - June 15, 2016 Special Council Meeting.
Soccer Field	Per Hour	$26.55	**$27.09**	$3.52	$30.61	2%	T	Development of a fee - Report FIN-2017-012
75% Reduced Rate - Soccer Field	Per Hour	$6.65	**$6.79**	$0.88	$7.67	2%		
Soccer Field	Per Day	$269.80	**$275.20**	$35.78	$310.98	2%	T	Development of a fee - Report FIN-2017-012
75% Reduced Rate - Soccer Field	Per Day	$67.45	**$68.80**	$8.94	$77.74	2%		
Ball Diamond Advertising	Per Season	$175.00	**$178.50**	$23.21	$201.71	2%	T	Available from May to October
75% Reduced Rate - Ball Diamond Advertising	Per Season	$43.75	**$44.63**	$5.80	$50.43	2%	T	
Horse Paddock	Per Day	$200.00	**$204.00**	$26.52	$230.52	2%	T	Rental restricted to horse paddock and tractor pull area.
75% Reduced Rate - Horse Paddock	Per Day	$50.00	**$51.00**	$6.63	$57.63	2%	T	
Picnic Shelter	Per Hour	$20.00	**$20.40**	$2.65	$23.05	2%	T	
Picnic Shelter	Per Day	$80.00	**$81.60**	$10.61	$92.21	2%	T	
Sports Facility User Fees - Tennis	Per Resident	$10.00	**$10.00**	$0.00	$10.00	0%	E	Staff to bring forward a use/cost sharing agreement with the Puslinch Tennis Club in 2019.
Sports Facility User Fees - Tennis	Per Non-Resident	$25.00	**$25.00**	$0.00	$25.00	0%	E	Staff to bring forward a use/cost sharing agreement with the Puslinch Tennis Club in 2019.
Fireworks Security Deposit	Per Display	$500.00	**$500.00**	$0.00	$500.00	0%	E	Clean up of Township lands after fireworks display.
Baseball Equipment and Lights Security Deposit	Per Season	$50.00	**$50.00**	$0.00	$50.00	0%	E	Lights key provided to ball diamond rentals with light use. Equipment key provided to leagues with a minimum of an eight week rental commitment.
Picnic Shelter Washroom Key Security Deposit	Per Rental	$50.00	**$50.00**	$0.00	$50.00	0%	E	
Horse Paddock Security Deposit	Per Rental	$300.00	**$300.00**	$0.00	$300.00	0%	E	
Note 1: Booking availability of Township fields are dependent on field conditions.								

SCHEDULE J: OPTIMIST RECREATION CENTRE REVIEW OF MUNICIPAL RATES AND SERVICE CHARGES
EFFECTIVE 2020

TYPE OF REVENUE/USER	Unit/Descr	2019 RATE (NO TAX)	2020 RATE (NO TAX)	13% HST	RATE INCL HST	% CHANGE	HST STATUS	COMMENTS
Arena Floor	Per Hour	$67.45	**$68.81**	$8.95	$77.76	2%	T	Includes use of change rooms
75% Reduced Rate - Arena Floor	Per Hour	$16.85	**$17.20**	$2.24	$19.44	2%	T	
Ice - Non - Prime	Per Hour	$56.20	**$57.33**	$7.45	$64.78	2%	T	
75% Reduced Rate - Ice - Non-Prime	Per Hour	$14.05	**$14.34**	$1.86	$16.20	2%	T	
Ice - Prime	Per Hour	$161.50	**$164.73**	$21.41	$186.14	2%	T	
Gymnasium	Per Hour	$30.65	**$31.27**	$4.07	$35.34	2%	T	
75% Reduced Rate - Gymnasium	Per Hour	$7.65	**$7.81**	$1.02	$8.83	2%	T	
90% Reduced Rate - Gymnasium	Per Hour	$3.05	**$3.11**	$0.40	$3.51	2%	T	Applicable for Seniors' Events/Programs, Whistle Stop Co-operative Pre-school and Guelph Community Health Centre (Playgroup).
Rink Board Advertising	Per Year	$350.00	**$357.00**	$46.41	$403.41	2%	T	
75% Reduced Rate - Rink Board Advertising	Per Year	$87.50	**$89.25**	$11.60	$100.85	2%	T	

Note 1:

- Ice - Non-Prime: Weekdays from 9:00 am to 5:00 pm
- Ice - Prime: Weekdays from 5:00 pm to 10:00 pm, Saturdays, Sundays

SCHEDULE K: PUSLINCH COMMUNITY CENTRE REVIEW OF MUNICIPAL RATES AND SERVICE CHARGES
EFFECTIVE 2020

TYPE OF REVENUE/USER	Unit/Descr	2019 RATE (NO TAX)	2020 RATE (NO TAX)	13% HST	RATE INCL HST	% CHANGE	HST STATUS	COMMENTS
Meeting Room	Per Hour	$26.05	**$26.58**	$3.46	$30.04	2%	T	
75% Reduced Rate - Meeting Room	Per Hour	$6.50	**$6.64**	$0.86	$7.50	2%	T	
90% Reduced Rate - Meeting Room	Per Hour	$2.60	**$2.65**	$0.34	$2.99	2%	T	Applicable for Seniors' Events/Programs, Whistle Stop Co-operative Pre-school and Guelph Community Health Centre (Playgroup).
Hall - Non-Prime	Per Hour	$55.95	**$57.08**	$7.42	$64.50	2%	T	Minimum of a 3 hour booking required.
75% Reduced Rate - Hall - Non-Prime	Per Hour	$14.00	**$14.28**	$1.86	$16.14	2%	T	Minimum of a 3 hour booking required.
90% Reduced Rate - Hall - Non-Prime	Per Hour	$5.60	**$5.71**	$0.74	$6.45	2%	T	Minimum of a 3 hour booking required. Applicable for Seniors' Events/Programs, Whistle Stop Co-operative Pre-school and Guelph Community Health Centre (Playgroup).
Hall - Non-Prime	Full Day Rental	$380.20	**$387.81**	$50.42	$438.23	2%	T	
75% Reduced Rate - Hall - Non-Prime	Full Day Rental	$95.05	**$96.96**	$12.60	$109.56	2%	T	
90% Reduced Rate - Hall - Non-Prime	Full Day Rental	$38.00	**$38.77**	$5.04	$43.81	2%	T	Applicable for Seniors' Events/Programs, Whistle Stop Co-operative Pre-school and Guelph Community Health Centre (Playgroup).
Hall - Prime	Full Day Rental	$498.75	**$508.73**	$66.13	$574.86	2%	T	
Commercial Rental	Surcharge	$781.85	**10% Surcharge**				T	Example - Auctions, Sale of Merchandise See Report FIN-2019-027
Non Resident Rental	Surcharge	N/A	**10% Surcharge**				T	See Report FIN-2019-027
Hall - Set-up Fee	Per Hour	$55.95	**$57.08**	$7.42	$64.50	2%	T	Set-up is after 5:00 p.m. on Friday only and must include a Saturday rental. This service is only available if the hall is not booked 7 days prior to the event date.
Use of Kitchen Facilities - Non Prime	Per Hour	$27.35	**$27.90**	$3.63	$31.53	2%	T	Minimum of a 3 hour booking required.
Licenced Events Using Patio	Flat Rate	$57.25	**$58.40**	$7.59	$65.99	2%	T	Patio Fencing
Microphone	Flat Rate	$25.00	**$25.50**	$3.32	$28.82	2%	T	See Report FIN-2018-030
Projector	Flat Rate	$25.00	**$25.50**	$3.32	$28.82	2%	T	See Report FIN-2016-029
Facility Rental Security Deposit	Per Booking	$365.00	**$365.00**	$0.00	$365.00	0%	E	Deposit is fully refundable after function if there are no damages and key is returned.
Bartenders	Per Bartender	$130.00	**$132.60**	$17.24	$149.84	2%	T	Smart Serve Certified
Electronic Sign Advertising	Per Week	$33.35	**$34.02**	$4.42	$38.44	2%	T	No charge for Puslinch Community Centre rentals.
75% Reduced Rate - Electronic Sign Advertising	Per Week	$8.35	**$8.52**	$1.11	$9.63	2%	T	
90% Reduced Rate - Electronic Sign Advertising	Per Week	$3.33	**$3.41**	$0.44	$3.85	2%	T	Applicable for Seniors' Events/Programs, Whistle Stop Co-operative Pre-school and Guelph Community Health Centre (Playgroup).

Note 1: Hall rentals include the use of the kitchen facility (dishes, silverware, cooking utensils, dishwasher, coffee maker, etc. included)

Note 2: **Hall - Non-Prime:** Monday to Thursday and Sunday Rentals; **Hall - Prime:** Friday and Saturday

Groundwater Science Corp.

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Phone: (519) 746-6916
groundwaterscience.ca

Roszell Road Pit, Licence No. 625189
2018 Groundwater Monitoring Report

Prepared For:

St. Mary's Cement Inc. (Canada)
CBM Aggregates – Roszell Pit
55 Industrial Street
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M4G 3W9

Prepared By:

Andrew Pentney, P.Geo.
Groundwater Science Corp.

March 2018

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Figures

Appendices

1.0 INTRODUCTION

This report summarizes the results of the 2018 Roszell Road Pit groundwater monitoring program as per conditions shown under the *Hydrogeological Recommendations (Monitoring, Triggers and Mitigation)* of the approved Site Plan. The Roszell Road Pit is operated by CBM Aggregates.

The monitoring program is summarized in **Section 1.1** of this report. Information regarding Items listed on the Site Plan under *General Controls, Part D below water extraction* is provided in **Section 2.0** of this report. Site details; test and extraction pond locations; and, monitoring locations are shown on **Figure 1**.

1.1 MONITORING PROGRAM

The groundwater monitoring program requirements for the Roszell Road Pit are outlined in the document: *Groundwater Monitoring Program, Preston Sand & Gravel Company Limited, Roszell Pit, Part Lots 1 and 2, Concessions 3 and 4, Township of Puslinch*; Blackport Hydrogeology Inc. (and Groundwater Science Corp.), December 2009. Please refer to that report for specific additional details (e.g. Trigger Mechanisms, Mitigation Measures, Contingency Plans and Response Protocol, etc.).

The monitoring and reporting requirements for the site are summarized as follows:

1. Manual groundwater level measurements will be obtained on a monthly basis at the following existing on-site locations as accessible:

   BH1, BH2-S, BH2-D, BH3-S, BH3-D, BH4-S, BH4-D, BH5 (and/or replacement well), BH6-S, BH6-D, BH7-S, BH7-D, BH8, BH9-S, BH9-D, BH10-S, BH10-D, DP1, DP2, DP3, DP4, DP5, DP6, DP7 and DP8.

   And at the following new on-site locations as accessible:

   BH14, BH15; and,
   Monitors installed for the thermal assessment (see item #14).

   And at the following off-site locations as accessible:

   BH11, BH12 and BH13.

2. Monitors BH6-S and BH6-D will be removed as extraction or site preparation proceeds into that area and will not be replaced.
3. Monitor BH5 may be abandoned as extraction or site preparation proceeds into that area and if abandoned will be replaced by another water table monitor in the same general area.
4. Manual and/or datalogger groundwater level measurements will be obtained on a regular basis (frequency to be determined in conjunction with the landowner) at the following off-site private wells as accessible and at landowner request:

   PW1, PW2 and other private wells where access has been granted.

   Monitoring at private wells can include datalogger measurements as access permits. Where dataloggers are installed the monitoring frequency will be every

hour (on the hour, Eastern Standard Time) and data downloaded quarterly as accessible.

5. Dataloggers will be installed to collect groundwater level measurements and/or groundwater temperature within the screened interval every hour (on the hour, Eastern Standard Time) and data downloaded quarterly at the following existing on-site monitoring wells as accessible:

   BH1, BH3-S, BH3-D, BH4-D, BH5 (and/or replacement well), BH7-S, BH7-D, BH8, BH9-S, BH9-D, BH10-S and BH10-D

   And at the following new on-site locations as accessible:

   BH14, BH15, and,
   Monitors installed for the thermal assessment (see item #14).

6. Manual groundwater temperature profiles will be obtained on a monthly basis by measuring the temperature within the monitors at one metre intervals starting at ground surface and proceeding to the bottom of the well at the following existing locations as accessible:

   BH1, BH2-D, BH3-D, BH4-D, BH5 (and/or replacement well), BH7-D, BH8, BH9-D, BH10-D, DP1, DP2, DP3, DP7, DP8

   And at the following new locations as accessible:

   BH14, BH15, and,
   Monitors installed for the thermal assessment (see item #14).

7. Staff gauges and/or stilling wells will be installed at the following off-site ponds along Roszell Road to the immediate east of the extraction area, if accessible, prior to below water table extraction at the site:

   PG1, PG2, PG3, PG4, PG5 and PG6

   Manual pond level measurements will be obtained on a monthly basis as accessible.

   In addition, dataloggers will be installed at these pond gauges, if accessible, and pond level measurements will be obtained every hour (on the hour, Eastern Standard Time). Datalogger data will be downloaded quarterly.

8. Staff gauges and/or stilling wells will be installed on-site to measure the water level in the wash pond (LG1) and extraction lake(s) (LG2, LG3, LG4, etc.) as soon as possible after the lakes are developed. Manual pond and lake level measurements will be obtained on a monthly basis as accessible. Water level dataloggers will be installed at the wash pond and lake gauges to collect water level measurements every hour (on the hour, Eastern Standard Time). Datalogger data will be downloaded quarterly.

9. Manual surface water level and temperature measurements will be obtained on a monthly basis at the following locations as accessible:

   DP1, DP2, DP3, DP4, DP5, DP6, DP7 and DP8.

10. A stilling well and datalogger will be installed prior to below water extraction at the site within the Roszell Wetland (between DP4 and DP5) to measure surface water

(pond) level every hour (on the hour, Eastern Standard Time), data will be downloaded quarterly.

11. Dataloggers will be installed to collect surface water temperature measurements every hour (on the hour, Eastern Standard Time) and data downloaded quarterly at the following locations as accessible:

    SW1, SW2, SW3, SW4, SW5, SW6, SW8, SW10, SW12, DP3, DP7, DP8 and extraction lakes at depths of 1 m and 5 m.

12. Manual stream-flow measurements will be obtained as conditions allow and under baseflow conditions (if possible) on a monthly basis during extraction periods at the following locations as accessible:

    SW1, SW2, SW3 and SW4.

13. Water quality samples will be obtained for major anions, metals, pH, nutrients, and total petroleum hydrocarbons (F1 to F3) on an annual basis at the end of the extraction season at the following locations as accessible:

    BH1, BH5 (and/or replacement well), BH7-S, BH7-D, BH8, BH10-S, BH10-D, active extraction lake, SW2, SW3, SW6, SW8 and SW10.

14. For the three years after the "test pond" is in place thermal monitoring will be completed in the vicinity of the "test pond" to monitor the extent and magnitude of downgradient temperature changes in the groundwater system. Temperature profiles will be obtained on a monthly basis and/or temperature dataloggers will be installed at the lake, within 20 m downgradient of the lake edge and at approximately 60 m distance downgradient of the lake edge. The results of the monitoring will be summarized in a separate report completed to the satisfaction of the MNR discussing the development and extent of any thermal impact and making appropriate recommendations regarding final setback distances between the lake(s) and the west Licence boundary.

15. After excavation of both Lakes A and B are complete (or near complete) the available monitoring data will be reviewed to the satisfaction of the MNR to determine if excavation of Lake C and/or development of a single lake is feasible. A separate report will be prepared at that time, and could include a computer groundwater model update, and submitted to MNR.

16. Threshold exceedance or Incident Response reporting will be completed as specified in the Action Response Plan

17. Annual Monitoring Reports summarizing the results of all of the monitoring specified by the monitoring program for the period January 1 to December 31 will be provided to the MNR, the MOE, the GRCA and the Township of Puslinch by March 31 following each year of operation, and will include the following:
    - description of monitoring methodology and locations,
    - all monitoring data, including tables of manual measurements and graphs of both manual and datalogger data,
    - figures showing extraction locations and extents,
    - description of operational activities,

- a summary and discussion of monitoring results (including thermal impacts and water quality),
- documentation of any threshold exceedances and resulting action and results, as per the incident response protocol,
- documentation of any remedial or contingency actions that are implemented, rationale for implementation and evaluation of success (if available at that time).

2.0 MONITORING COMPLETED

2.1 OPERATIONS SUMMARY

In 2018 site operations included continued above and below water table extraction. The current working area (as of March 2019), extraction Lake outline, and, Silt Barrier are shown on **Figure 1**.

CBM reports below water extraction at Lake 2 in 2018 occurred between January 3rd and December 20th. Lake 1 extraction was fully completed in 2017.

2.2 LOCATIONS MONITORED

In 2018 the following locations were monitored:

On-Site

Monitoring wells (groundwater level and temperature) BH1, BH2-S, BH2-D, BH3-S, BH3-D, BH4-S, BH4-D, BH5, BH6-S, BH6-D, BH7-S, BH7-D, BH8, BH9-S, BH9-D, BH10-S, BH10-D, BH14, BH15, BH16 and BH17.

Pond and Wetland Gauges (surface water level and temperature), LG3 (Lake 1), LG4 (Lake 2) and PG7 (Roszell Wetland).

Drive-Points (groundwater and surface water level and temperature) DP1, DP2, DP3, DP4, DP5, DP6, DP7 and DP8.

Surface Water monitoring (streamflow and/or temperature) sites SW2, SW3, SW4, SW5, SW6, SW7, SW8, SW9, SW10, and SW12.

Off-Site

Monitoring wells (groundwater level) BH11, BH12 and BH13.

Surface water monitoring (streamflow and temperature) site SW1.

Private wells (groundwater level) PW1 and PW2.

Private Pond Gauges (surface water level) PG1, PG2, PG3, PG4, PG5 and PG6.

Water quality samples were obtained in November 2018 at the locations specified by the monitoring program. The water level monitoring locations and current extent of extraction is shown on **Figure 1**.

2.3 METHODOLOGY

Monitoring conducted for this program includes: manual water level measurements or observations; manual temperature measurements; manual streamflow measurements; automated continuous (datalogger) water level or barometric measurements; and, automated continuous temperature measurements. All manual measurements are recorded in the field as they are collected. Datalogger data is downloaded and saved onto a field laptop computer. Water level elevations are calculated based on the elevation of the reference point from which the measurement is made.

The manual water level measurements are obtained from an established reference point (typically top of well) using a Heron Instruments® electronic graduated water level tape according to manufacturer's instructions. Water level observations are also obtained

visually at staff gauges (Water Survey of Canada type) installed in private ponds (reference point is bottom, or zero mark, of gauge).

The manual water temperature measurements are obtained using electronic thermistor type instruments (Heron Instruments® temperature option included with the water level tape or Oakton Acorn Series Temp 4 ® meter) according to manufacturer's instructions.

The manual streamflow measurements are obtained using the area-velocity method. Stream width and depth is measured using commercially available fiberglass measuring tape and aluminum meter-stick. Historical water velocity was measured using a Swoffer Instruments Inc. Model 2100 ® current meter according to manufacturer's instructions. Current water velocity measurements are obtained using an OTT Hydromet MF Pro ® current meter according to manufacturer's instructions.

Automated water level measurements are obtained using commercially available non-vented water level dataloggers according to the manufacturer's instructions. All of the dataloggers are currently programmed to take hourly measurements as specified by the Monitoring Program. Historical measurements have varied from 0.5 hour to 4 hour frequency, depending on location and according to the baseline data requirements at the time of installation. Water level dataloggers currently in use at the site include Schlumberger Diver®, and, In-Situ RT® or LT® series units. Barometric pressure is measured on-site using an In-Situ® dedicated barometric datalogger.

Automated temperature measurements within monitoring wells are obtained using: temperature sensors integrated into the water level dataloggers; Onset Tidbit® dataloggers (sealed integrated datalogger/temperature probe); or, Onset Hobo U12 Outdoor® units (enclosed weatherproof datalogger with up to 4 external temperature probes), and, according to the manufacturer's instructions. Automated temperature measurements within surface water locations are also obtained using the Tidbit® or Hobo® series temperature dataloggers. All of the temperature dataloggers are currently programmed to take hourly measurements as specified by the Monitoring Program. Historical measurements have varied from 0.5 hour to 4 hour frequency, depending on location and according to the baseline data requirements at the time of installation.

3.0 DATA SUMMARY

Monitoring data available at the site includes measurements beginning in March 2004, obtained as part of the original site characterization. Over the impact assessment and Licence application process the series of monitoring wells, private wells or surface water locations in use was expanded to the current network. Historical data was presented in the 2011 Annual Monitoring Report. Additional data was presented in the 2012 to 2017 annual reports. This report provides the manual data collected in 2018, in addition to hydrographs illustrating historical data.

3.1 WATER LEVEL MEASUREMENTS

A summary table of manual water level measurements obtained in 2018, and hydrographs illustrating overall historical trends, are included in **Appendix A**. Hydrographs illustrating datalogger data available for the site are included in **Appendix B**. Note that datalogger data was downloaded last in late November or early December 2018 at most locations. Overall, a detailed set of baseline data defining annual and seasonal groundwater and surface water level fluctuation has been established at most locations. Occasional issues with datalogger operations continue to occur, however given the frequency of manual measurements and historical record, datalogger data losses that have occurred have not affected the ability to monitor and assess groundwater conditions and/or impact.

Monitoring and datalogger installation at private wells and ponds has been implemented according to access permissions with respective residents. Location PG4 is instrumented with a datalogger and locations PG2, PG3 and PG5 are each instrumented with a Staff Gauge and monitored (manually) on a quarterly basis.

3.2 TEMPERATURE MEASUREMENTS

Tables summarizing manual temperature measurements collected in 2018 included in **Appendix A**. Manual measurements include temperature profiles at monitoring wells and drive-points, and, surface water temperatures.

Graphs illustrating temperature measurement results available for surface water locations at the site are included in **Appendix C**. Continuous temperature measurements have been collected at some locations since 2005. Although some of the historical data is “missing” due to previous intermittent datalogger problems, overall a detailed record (manual and continuous) has been established at most locations.

3.3 STREAMFLOW MEASUREMENTS

A summary table of streamflow calculated from measurements obtained in 2018 is included in **Appendix A**. Streamflow measurements are available since 2004.

3.4 WATER QUALITY SAMPLING

Water quality samples were obtained at locations SW2, SW3, SW6, SW8, SW10, BH1, BH5, BH7-S, BH7-D, BH8, BH10-S, BH10-D and Extraction Pond on November 27th and 29th. The 2018 water quality sampling results are summarized in **Appendix D**.

4.0 DISCUSSION

Above water extraction at the site is complete. Below water table extraction was initiated at Lake 1 and Lake 2 in March 2014. From 2015 to 2017 most below water extraction occurred at Lake 1. In May 2017 extraction at Lake 1 was fully completed. Since that time all below water extraction has occurred at Lake 2.

4.1 PRECIPITATION

Water level variation at and near the site is influenced by seasonal and annual precipitation. Groundwater recharge in southern Ontario typically follows a pattern that includes significant infiltration in response to spring snowmelt and rainfall which results in high water table conditions; a subsequent reduction in infiltration through the summer/fall growing period (as plants use much of the rainfall that does occur) which results in a water table decline; and, moderate rainfall infiltration during late fall and early winter periods which can result in some water table recovery. Critical periods are spring and fall seasons, if snowmelt and precipitation volumes are low during these periods then groundwater recharge can be significantly reduced. This would result in lower than average seasonal or annual water table levels. Extended dry periods can lead to overall seasonal or annual water table declines.

For comparison to the hydrographs, a plot of the monthly precipitation and current 30-year monthly precipitation normal (1981-2010) reported by Environment Canada for the weather station location closest to the site (at the Region of Waterloo International Airport) for the years 2001 to 2018 is included in **Appendix A**. The data is provided by Golder Associates as part of a coordinated approach to monthly and annual precipitation analysis for the Township of Puslinch (at the request of the Township) is consistent with other annual monitoring reporting for the area (e.g. Nestlé Waters Canada).

The graph indicates seasonal and annual variation, and a comparison to “average” values as represented by the Environment Canada reported 30-year Climate Normal. As indicated, on an annual basis the reported total precipitation in 2018 of 807.1 mm was below “average” (916.5 mm). Relatively “dry” conditions occurred in “winter” 2017/2018, “normal” conditions occurred during “spring” and “summer”, and relatively “dry” conditions occurred again later in “fall” 2018. The dry fall in 2017 likely reduced the seasonal water table recovery. In addition, the dry 2017/2018 winter likely reduced potential for snowmelt related spring recharge. Combined with average precipitation levels through the spring and summer of 2018 and a dry fall, water tables in the area would naturally be expected to be low in 2018.

4.2 NATURAL WATER TABLE FLUCTUATION

The “natural” water table response at the site to seasonal and annual conditions appears to be represented by BH8, based on a comparison of hydrographs and the location of the monitor relative to site activities (cross-gradient and most distant). As illustrated by the BH8 hydrograph, from the relatively low water table conditions in fall 2017, seasonal recovery through early 2018 was moderate. Late spring recharge resulted in moderately high water table conditions at that time, however as a result of dry conditions the water table declined steadily through the summer to relatively low levels, similar to those

observed in 2007, 2012 and 2016. A small rebound occurred as usual toward the end of the year. Water levels in 2018 were generally within the historical range at this location.

4.3 WATER TABLE RESPONSE

4.3.1 Potential Groundwater Changes Due To Extraction

Potential water table response to the below water extraction can be associated with two separate "mechanisms", temporary changes due to the removal of aggregate (gravel), and, longer term changes due to the creation of a pond.

The first factor is related to the removal of the gravel and corresponding immediate inflow of water into the resulting "hole" to form a pond. The gravel is piled beside the pond and allowed to drain. Water flowing into the pond is a combination of water drained from the gravel pile, any direct precipitation on the pond, any surface water (runoff) that occurs from the pit floor surrounding the pond and groundwater from the surrounding aquifer. The inflow of groundwater can result in water table changes in the area surrounding the excavation, primarily within the upgradient flow system. These changes are temporary because once aggregate removal stops (either at the end of each day, at the end of the extraction season, and, once site extraction is complete), the groundwater system begins to recover. Over time normal seasonal recharge will mitigate the temporary effect and the overall system will return to a natural condition.

The second factor is related to the formation of the extraction pond (or Lake) within the water table flow system. The open water body created will have no resistance to flow. However the Roszell Lakes have no direct "outlet", therefore will not result in a significant increase in the volume of groundwater flow from east to west in the overall area. The total rate and volume of groundwater flow toward the Speed River valley will be controlled by the material left in place between the lake and the valley. Water level changes associated with the lake will also not be large enough to change the amount of water flowing toward the site from the east within the regional system. The lake will focus local flow, resulting in a water table decline immediately upgradient of the lake and a corresponding rise in water table downgradient of the lake. The Silt Barrier along the south edge of the extraction area is designed to limit water level change south of the site.

4.3.2 Water Table Response

In general, the seasonal water table low at most locations across the site (as an indicator of potential extraction related effects) in 2018 was similar to that observed in 2015 to 2018 period.

No discernable significant short-term "drawdown" response is noted either adjacent to the extraction pond or in the general area.

Current water table effects on the order of 40 cm (or less) are observed immediately adjacent to the extraction ponds (see BH5). Some declines in 2018, likely related to dry conditions, are observed at Lake 1 and surrounding monitors. The potential up-gradient effect near the southeast corner of the site, at BH10-S and BH15, remains than 10 cm. With distance from the pond the potential effect decreases, such that no overall change in water table elevations is observed at BH11, BH12 or BH13.

The capture and recharge of water within the pit appears to have resulted in an increase in water table elevations at BH7S and BH7D. Water levels at the north end of the site, along the creek (e.g. BH2 and BH3), also remain within historical levels.

Water levels measured within the Roszell Wetland at PG7 showed no response to the extraction. Seasonal low water levels observed in 2018 were similar to pre-extraction conditions in 2012. This wetland interacts with the water table, however also relies on local runoff. It is likely that surface water inputs help to maintain conditions within the wetland, and may have more influence on the hydrology of the feature as compared to direct groundwater inputs.

No water level threshold exceedances were observed on-site.

4.3.3 Conditions Off-Site

As noted above, no water level response is observed at BH11, BH12 or BH13. In addition, no response was noted at the private wells monitored, PW1 and PW2.

Water levels in 2018 at PG1, which is a pond located across the road from BH5, were within the historical range for this location, with spring pond levels higher than observed since extraction began. Similarly, seasonal low levels at PG4 in 2018 were within the historical range.

Pond levels at PG6 levels in 2018 similar to those since 2015, with the seasonal low level slightly lower, likely due to the dry conditions this summer.

Off-site monitoring results indicate that precipitation is a major factor in controlling seasonal groundwater and surface water levels in the area. No specific threshold exceedances were noted.

4.4 TEMPERATURE

A detailed record of seasonal temperatures at various depths within monitoring wells, drive-points and surface water locations continues to be collected. An analysis of relevant temperature data was provided in the Thermal Impact Assessment (Monitoring Recommendation item #14) report submitted in March 2018. Please refer to that report for the specific summary, discussion and recommendations related to thermal influences and monitoring.

Overall the temperature monitoring results confirm conditions as outlined in the Thermal Impact Assessment report. Results observed in 2018 are similar to those assessed in the impact assessment.

Continued problems with accessing dataloggers were encountered at lake 1 gauge LG3. The dataloggers remain in place and we expect they continue to collect data. However to access the dataloggers the entire stilling well must be removed. We are expecting to remove and replace this gauge in 2019.

The temperature monitoring results at LG4 provide the shallow pond temperature for comparison to adjacent groundwater temperatures. In 2018 the seasonal range in pond temperature was between 1 and 26 degrees Celsius. The temperature results from BH16 indicate that similar temperatures occur immediately downgradient of the pond.

At BH17 the temperature monitoring results indicates that within 20 m of BH16 seasonal maximum temperatures are moderated by 5 to 8 degrees Celsius, and remain below 18 degrees. This represents a temperature change of approximately 5 degrees Celsius since the pond extraction occurred. Seasonal minimum temperatures are also moderated somewhat and remain above approximately 5 degrees Celsius. This represents a decrease on the order of 2 degrees Celsius.

At BH1 seasonal maximum temperatures remain within historical ranges. A slight increase in seasonal minimum (on the order of 1.5 degree Celsius) is observed.

No changes in stream temperature within the main creek channel are observed. Some changes in spot discharge temperatures have been observed, however as discussed in the Thermal Impact Assessment, temperature changes observed at the site have not resulted in any negative influences on fish habitat within the Main Creek, Trib #7 or Trib #8. In addition, no groundwater or surface water temperature changes are observed within spawning areas of the Main Creek (including the primary spawning area between SW1 and SW2) or Tributary #7.

4.5 STREAMFLOW

Overall, streamflow monitoring results to date indicate that flow within the creek system reflects seasonal variations in precipitation, in addition to baseflow contribution from the shallow groundwater system. Typical high flows occur in spring as a result of snowmelt runoff, or, at other times of the year in response to major precipitation events. Streamflow at SW1 represents the outflow of two inline ponds located immediately east of Roszell Road, and will be partially controlled by the outlet structures.

Most streamflow observed in 2018 was within previously observed rates and typical seasonal fluctuation. The April 2018 flow measurements represent the highest streamflow measured to date (e.g. 195 L/s at SW1), and are likely related to spring runoff and factors related to the controlled outflow of water from the upstream ponds.

4.6 WATER QUALITY

The water quality results from 2018 continue to reflect agricultural activities in the area (e.g. elevated Nitrate-N concentrations) in addition to some road salt effects (e.g. some elevated sodium and chloride concentrations). Based on the overall sampling results no evidence of petroleum hydrocarbon impact is found at within the groundwater or surface water system.

4.7 THRESHOLD RESPONSE

No Trigger Mechanisms have been exceeded or Threshold Response has occurred according to the existing threshold definitions. No active Mitigation Measures or Contingency Plans (Response Protocol) required or implemented.

5.0 CONCLUSIONS AND RECOMMENDATIONS

5.1 CONCLUSIONS

The following conclusions are based on the monitoring program results to date.

1. The current monitoring program implementation is in accordance with the requirements of the Site Plan.
2. The historical and ongoing monitoring program results provide a detailed characterization of baseline conditions at the site.
3. Extraction to date has had limited effect on groundwater and surface water conditions observed at the site.
4. No water level threshold exceedances occurred in 2018. Temperature thresholds are under review and proposed revisions were presented in the March 2018 Thermal Impact Assessment Report, submitted separately.
5. To date no Mitigation Measures have been required or taken; and no Contingency Plans and/or Response Protocol have been required or implemented.

5.2 RECOMMENDATIONS

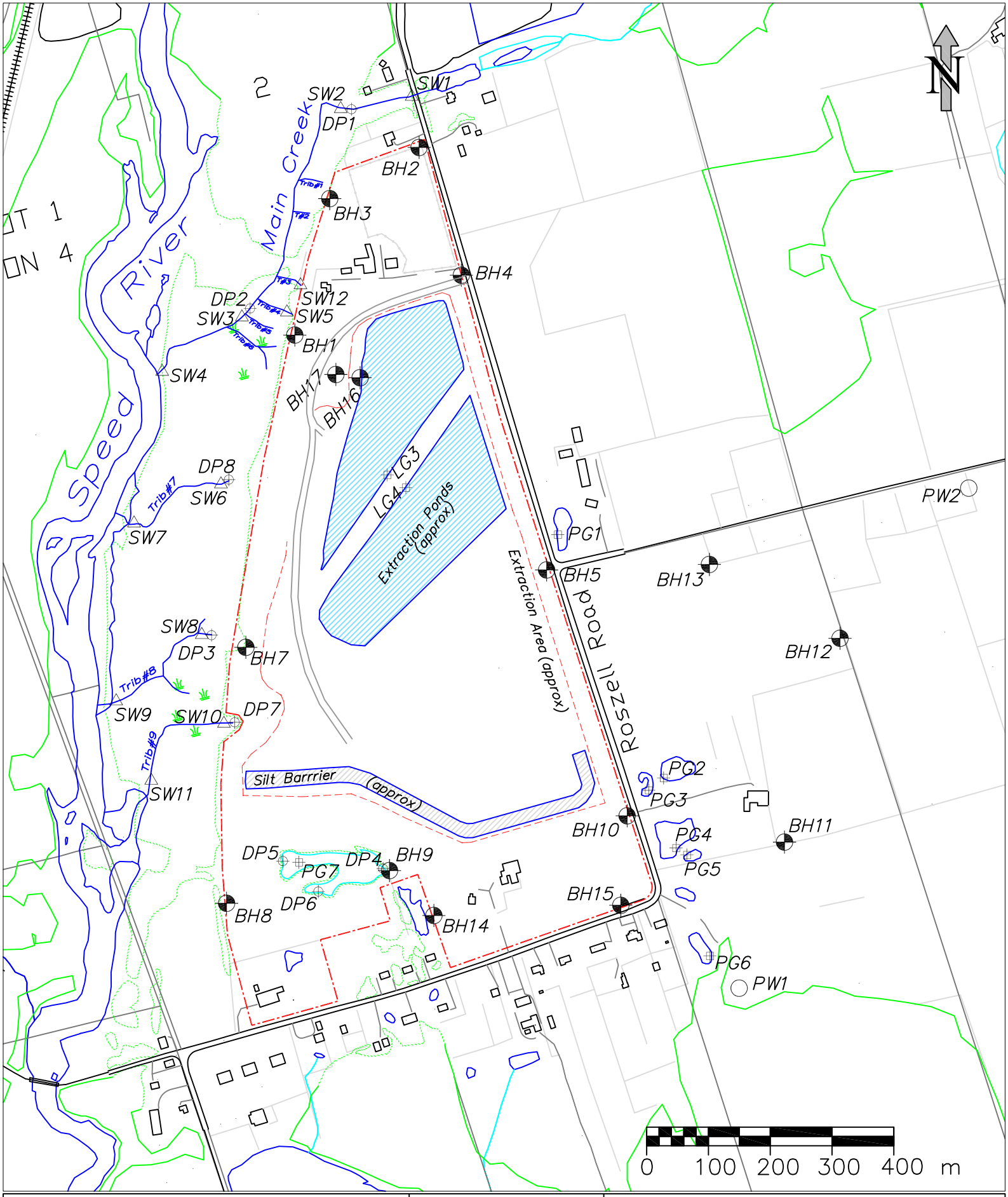
The following recommendations are based on the monitoring program results to date.

1. The monitoring program should be implemented in 2019 according to the requirements of the Site Plan and recommendations of the Thermal Impact Assessment.

All of which is respectfully submitted,

Andrew Pentney, P.Geo.
Senior Hydrogeologist
Groundwater Science Corp.

Figures



existing monitoring well (or well nest)

drive-point piezometer

surface water flow/temperature

pond/Lake gauge

private well

Groundwater Science Corp.

Figure 1: Site Details (2018), Monitor Locations

March 2019 Scale: as shown modified from: 1:10,000 OBM	Groundwater Monitoring Program	CBM Aggregates Roszell Pit	Part Lots 1 & 2, Concessions 3 & 4 Township of Puslinch, County of Wellington

Appendix A
Manual Monitoring Results

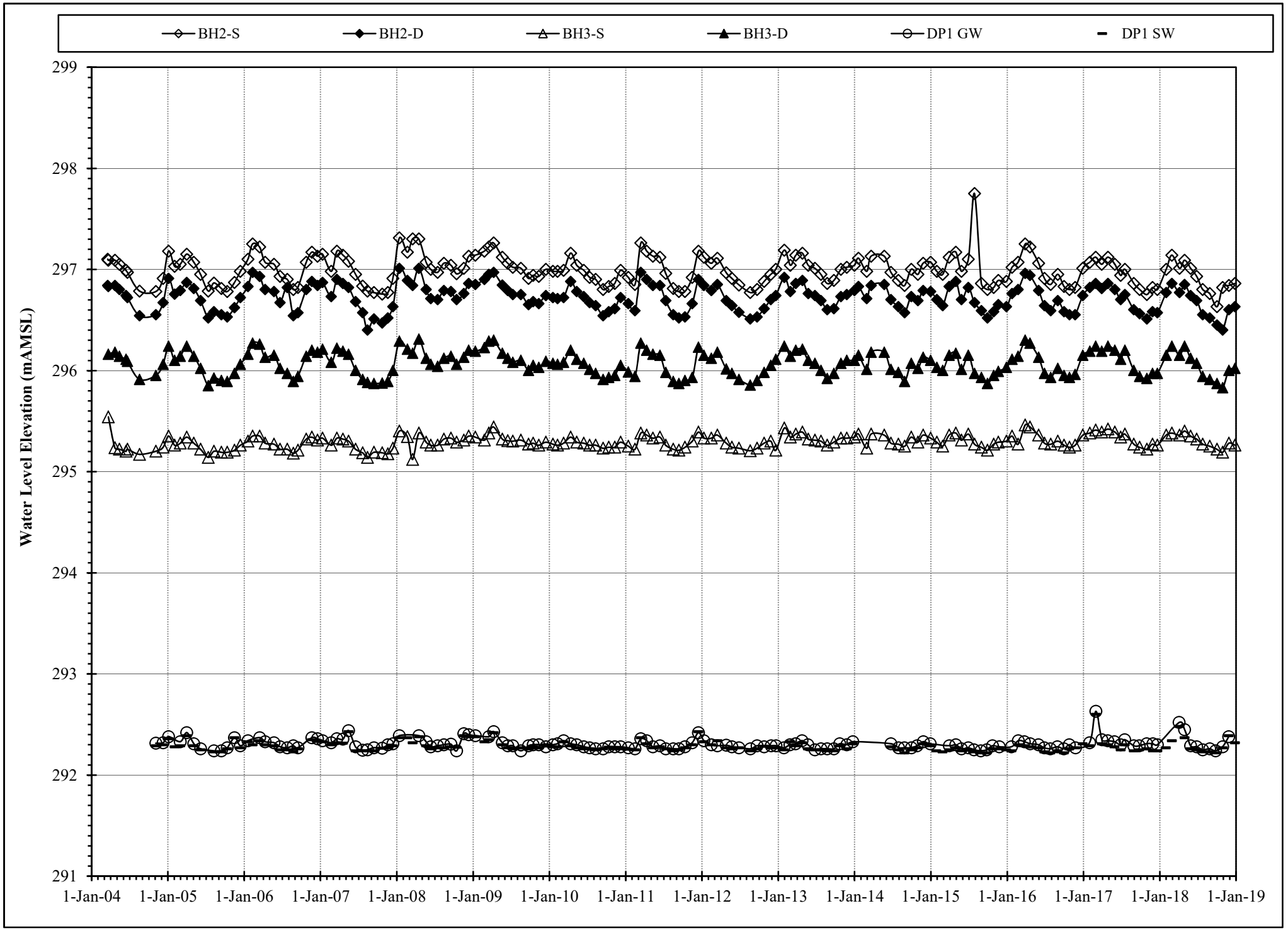
Date	Groundwater Elevation Summary - Monitoring Wells (mAMSL)																							
	BH1	BH2-S	BH2-D	BH3-S	BH3-D	BH4-S	BH4-D	BH5	BH6-S	BH6-D	BH7-S	BH7-D	BH8	BH9-S	BH9-D	BH10-S	BH10-D	BH11	BH12	BH13	BH14	BH15	BH16	BH17
25-Jan-16	297.48	297.02	296.76	295.35	296.11	297.99	297.99	298.93	298.58	298.58	296.91	294.65	297.33	298.97	298.98	299.57	299.64	303.40	302.94	302.11	299.16	299.56	298.13	298.03
23-Feb-16	297.58	297.07	296.80	295.27	296.14	298.13	298.13	299.01	298.65	298.65	296.87	294.60	297.32	299.07	299.07	299.65	299.74	303.29	302.89	302.21	299.26	299.66	298.27	298.16
28-Mar-16	297.78	297.25	296.96	295.46	296.30	298.33	298.34	299.29	298.93	298.93	297.13	294.77	297.79	299.40	299.38	300.01	300.12	303.50	303.02	302.43	299.59	300.07	298.52	298.42
20-Apr-16	297.84	297.22	296.94	295.44	296.27	298.47	298.47	299.24	298.91	298.91	297.32	294.84	297.65	299.24	299.24	299.89	299.95	303.54	303.31	302.60	299.38	299.80	298.69	298.56
31-May-16	297.61	297.06	296.79	295.36	296.13	298.12	298.13	299.05	298.75	298.75	297.05	294.67	297.27	299.08	299.08	299.73	299.79	303.53	303.22	302.47	299.25	299.66	298.32	298.22
28-Jun-16	297.40	296.91	296.64	295.28	295.97	297.83	297.83	298.79	298.48	298.48	296.77	294.47	296.97	298.86	298.86	299.49	299.57	303.40	303.13	302.36	299.03	299.43	298.04	297.95
28-Jul-16	297.36	296.85	296.59	295.27	295.93	297.75	297.75	298.70	298.40	298.40	296.81	294.51	296.94	298.79	298.78	299.39	299.49	303.36	303.10	302.26	298.94	299.37	297.97	297.87
31-Aug-16	297.43	296.95	296.69	295.30	296.02	297.83	297.83	298.82	298.46	298.47	297.03	294.67	297.27	299.00	299.00	299.60	299.68	303.40	303.12	302.30	299.16	299.57	298.03	297.95
30-Sep-16	297.29	296.83	296.58	295.26	295.95	297.69	297.67	298.65	298.28	298.29	296.67	294.48	297.07	298.78	298.78	299.37	299.45	303.17	302.80	302.15	298.93	299.35	297.89	297.79
26-Oct-16	297.30	296.80	296.55	295.24	295.93	297.66	297.65	298.70	298.34	298.34	296.68	294.53	297.09	298.84	298.85	299.35	299.48	303.21	302.85	302.10	298.96	299.36	297.94	297.84
22-Nov-16	297.34	296.82	296.55	295.26	295.96	297.69	297.68	298.74	298.41	298.42	296.67	294.56	297.14	298.89	298.87	299.45	299.52	303.23	302.88	302.08	299.04	299.44	298.02	297.91
29-Dec-16	297.53	297.01	296.74	295.36	296.15	297.91	297.90	299.04	298.68	298.68	296.92	294.77	#N/A	#N/A	#N/A	299.79	299.88	303.38	303.02	302.23	#N/A	299.81	298.25	298.13
31-Jan-17	297.57	297.07	296.82	295.38	296.19	298.03	298.02	299.05	298.69	298.69	297.22	294.95	297.65	299.19	299.19	299.78	299.82	303.36	303.01	302.44	299.35	299.74	298.36	298.23
28-Feb-17	297.60	297.12	296.86	295.41	296.24	298.07	298.09	299.11	298.73	298.74	297.20	294.91	297.79	299.31	299.29	299.88	299.94	303.52	303.17	302.50	299.43	299.85	298.38	298.24
29-Mar-17	297.60	297.05	296.81	295.39	296.19	298.08	298.08	299.06	298.68	298.69	297.20	294.86	297.49	299.16	299.15	299.70	299.80	303.55	303.21	302.57	299.28	299.69	298.44	298.28
28-Apr-17	297.65	297.12	296.86	295.42	296.24	298.12	298.13	299.12	298.69	298.70	297.22	294.83	297.67	299.23	299.21	299.80	299.89	303.58	303.28	302.69	299.36	299.78	298.45	298.34
31-May-17	297.59	297.05	296.80	295.39	296.20	298.05	298.04	299.04	298.65	298.64	297.17	294.80	297.47	299.20	299.19	299.82	299.93	303.76	303.46	302.74	299.36	299.80	298.36	298.24
28-Jun-17	297.52	296.94	296.70	295.34	296.11	297.94	297.94	298.97	298.61	298.61	296.96	294.63	297.25	299.06	299.07	299.71	299.80	303.61	303.31	302.64	299.17	299.66	298.26	298.15
18-Jul-17	297.57	297.00	296.75	295.37	296.20	297.98	297.98	299.10	298.75	298.74	296.97	294.67	297.30	299.10	299.11	299.81	299.91	303.70	303.38	302.67	299.20	299.68	298.30	298.19
30-Aug-17	297.39	296.86	296.60	295.27	296.00	297.76	297.76	298.88	298.49	298.49	296.80	294.59	297.09	298.92	298.91	299.57	299.66	303.90	303.61	302.91	299.08	299.52	298.06	297.96
27-Sep-17	297.30	296.80	296.56	295.24	295.94	297.66	297.66	298.62	298.27	298.26	296.65	294.50	297.00	298.77	298.77	299.38	299.46	303.51	303.22	302.42	298.90	299.36	297.94	297.86
31-Oct-17	297.26	296.75	296.51	295.22	295.92	297.59	297.58	298.64	298.29	298.29	296.62	294.54	297.12	298.80	298.80	299.43	299.53	303.46	303.15	302.34	298.96	299.42	297.90	297.81
27-Nov-17	297.29	296.82	296.58	295.27	295.97	297.67	297.67	298.87	298.52	298.52	296.63	294.56	297.25	299.03	299.03	299.62	299.70	303.44	303.16	302.34	299.18	299.59	298.01	297.89
21-Dec-17	297.25	296.80	296.57	295.26	295.97	297.62	297.62	298.82	298.45	298.45	296.58	294.55	297.16	299.00	298.98	299.57	299.66	303.38	303.09	302.31	299.14	299.55	297.96	297.85
01-Feb-18	297.44	297.00	296.77	295.36	296.15	297.89	297.88	299.01	298.64	298.64	296.82	294.71	297.46	299.17	299.16	299.72	299.81	303.53	303.19	302.44	299.31	299.69	298.19	298.06
28-Feb-18	297.59	297.14	296.86	295.38	296.24	298.08	298.08	299.13	298.75	298.74	296.97	294.66	297.57	299.28	299.28	299.87	299.79	303.64	303.36	302.61	299.43	299.84	298.28	298.18
06-Apr-18	297.45	297.01	296.77	295.36	296.15	297.89	297.90	299.06	298.67	298.68	296.92	294.72	297.54	299.25	299.26	299.83	299.93	303.68	303.39	302.57	299.38	299.84	298.16	298.05
30-Apr-18	297.55	297.09	296.85	295.40	296.24	298.04	298.05	299.15	#N/A	#N/A	297.18	294.86	297.74	299.25	299.27	299.86	299.94	303.70	303.35	302.69	299.35	299.81	298.30	298.19
29-May-18	297.48	297.01	296.74	295.35	296.12	297.86	297.85	299.03	#N/A	#N/A	296.98	294.70	297.40	299.09	299.07	299.72	299.84	303.67	303.38	302.64	299.18	299.64	298.21	298.09
27-Jun-18	297.40	296.93	296.69	295.32	296.07	297.86	297.84	298.94	#N/A	#N/A	296.91	294.62	297.18	299.01	299.01	299.70	299.78	303.60	303.29	302.52	299.18	299.64	298.16	298.06
26-Jul-18	297.28	296.80	296.55	295.27	295.94	297.64	297.64	298.69	#N/A	#N/A	296.74	294.53	297.03	298.77	298.78	299.45	299.56	303.52	303.18	302.37	298.93	299.40	297.92	297.92
28-Aug-18	297.25	296.76	296.52	295.25	295.91	297.60	297.61	298.77	#N/A	#N/A	296.73	294.56	297.00	298.84	298.86	299.49	299.58	303.44	303.13	302.27	299.02	299.46	297.89	297.80
25-Sep-18	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	298.69	298.70	#N/A	#N/A	303.36	303.04	302.20	298.86	299.32	#N/A	#N/A
02-Oct-18	297.13	296.63	296.45	295.22	295.87	297.45	297.45	298.70	#N/A	#N/A	296.68	294.55	296.98	#N/A	#N/A	299.46	299.55	#N/A	#N/A	#N/A	#N/A	#N/A	297.73	297.65
29-Oct-18	297.06	296.82	296.40	295.19	295.83	297.38	297.35	298.68	#N/A	#N/A	296.55	294.47	297.03	298.81	298.79	299.40	299.50	303.33	302.99	302.13	298.99	299.42	297.66	297.58
28-Nov-18	297.18	296.84	296.60	295.28	296.00	297.54	297.54	298.91	#N/A	#N/A	296.72	294.63	297.48	299.18	299.13	299.74	299.80	303.45	303.11	302.25	299.31	299.75	297.79	297.71
27-Dec-18	297.19	296.86	296.63	295.26	296.02	297.59	297.58	298.89	#N/A	#N/A	296.82	294.73	297.34	299.05	299.03	299.57	299.61	303.38	303.06	302.21	299.20	299.60	297.84	297.73

Notes: mAMSL = metres above mean sea level; #NA = not available (no access or not measured)

	Groundwater and Surface Water Elevation Summary - LG, PG and DP Locations On-Site (mAMSL)																			
Well No.:	LG2	LG3	LG4	PG7	DP1		DP2		DP3		DP4		DP5		DP6		DP7		DP8	
	SW	SW	SW	SW	GW	SW	GW	SW	GW	SW	GW	SW	GW	SW	GW	SW	GW	SW	GW	SW
22-Jan-16	#N/A	298.15	#N/A	#N/A	292.28	292.24	#N/A	291.95	292.30	292.20	299.16	#N/A	298.93	#N/A	299.11	#N/A	#N/A	#N/A	292.07	292.05
24-Feb-16	#N/A	298.37	298.58	#N/A	292.34	292.30	292.11	291.98	292.31	292.19	299.26	#N/A	299.03	#N/A	299.30	#N/A	#N/A	297.54	292.06	292.04
24-Mar-16	#N/A	298.45	298.69	#N/A	292.33	292.29	292.09	291.98	292.31	292.19	299.56	299.64	299.31	299.24	299.57	299.50	#N/A	297.59	292.07	292.04
21-Apr-16	#N/A	298.73	298.82	#N/A	292.31	292.28	292.07	291.96	292.30	292.18	299.45	299.67	299.22	299.25	299.46	299.52	298.07	297.57	292.06	292.04
30-May-16	#N/A	298.41	298.62	299.31	292.30	292.27	292.06	291.96	292.29	292.19	299.25	#N/A	299.01	#N/A	299.29	#N/A	297.93	297.54	292.05	292.04
27-Jun-16	#N/A	298.12	298.36	299.00	292.27	292.23	291.97	291.95	292.28	292.18	299.19	#N/A	298.96	#N/A	299.15	#N/A	297.76	297.55	292.05	292.04
26-Jul-16	#N/A	298.01	298.26	298.66	292.26	292.22	291.96	291.94	292.28	292.20	298.93	#N/A	298.73	#N/A	298.96	#N/A	297.85	#N/A	292.05	292.04
29-Aug-16	#N/A	298.09	298.27	299.15	292.28	292.24	292.06	291.93	292.29	292.18	299.14	#N/A	298.99	#N/A	299.21	#N/A	297.94	297.53	292.06	292.03
29-Sep-16	#N/A	297.88	298.10	298.89	292.26	292.22	292.03	291.93	292.28	292.18	298.91	#N/A	298.71	#N/A	298.95	#N/A	297.72	#N/A	292.06	292.04
25-Oct-16	#N/A	297.95	298.21	#N/A	292.30	292.26	292.05	291.93	292.29	292.20	298.95	#N/A	298.76	#N/A	299.02	#N/A	297.73	297.50	292.07	292.04
24-Nov-16	#N/A	298.05	298.28	299.07	292.27	292.27	292.08	291.95	292.30	292.20	299.03	#N/A	298.81	#N/A	299.09	#N/A	297.73	297.52	292.08	292.06
28-Dec-16	#N/A	#N/A	#N/A	#N/A	#N/A	292.31	#N/A	292.02	292.31	292.20	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	297.92	297.53	292.07	292.04
30-Jan-17	#N/A	#N/A	#N/A	######	292.32	292.29	#N/A	292.00	292.32	292.20	299.43	#N/A	299.18	#N/A	#N/A	#N/A	#N/A	297.56	292.05	292.04
01-Mar-17	#N/A	298.47	298.67	######	292.63	292.60	292.24	292.23	292.33	292.20	299.51	299.65	299.24	299.25	#N/A	#N/A	298.10	297.56	292.07	292.04
30-Mar-17	#N/A	298.45	298.61	#N/A	292.35	292.31	292.10	291.97	292.31	292.19	299.36	299.64	299.14	299.24	#N/A	#N/A	297.93	297.56	292.07	292.05
27-Apr-17	#N/A	298.49	298.69	#N/A	292.34	292.30	292.09	291.97	292.30	292.21	299.42	299.63	299.19	299.23	#N/A	#N/A	297.84	297.56	292.07	292.05
29-May-17	#N/A	298.39	298.57	#N/A	292.33	292.28	292.08	291.96	292.28	292.19	299.37	#N/A	299.20	#N/A	299.44	299.47	297.82	297.55	292.05	292.04
28-Jun-17	#N/A	298.27	298.52	299.26	292.30	292.25	292.05	291.92	292.27	292.19	299.18	#N/A	299.01	#N/A	299.25	#N/A	297.73	297.51	292.05	292.04
17-Jul-17	#N/A	298.31	298.60	#N/A	292.35	292.30	292.16	292.00	292.28	292.18	299.19	#N/A	298.99	#N/A	299.21	#N/A	297.70	297.50	292.06	292.04
30-Aug-17	#N/A	298.08	298.43	298.80	292.29	292.24	292.01	291.93	292.28	292.18	299.05	#N/A	298.86	#N/A	299.08	#N/A	297.68	#N/A	292.06	292.03
25-Sep-17	#N/A	298.00	298.19	298.82	292.29	292.25	291.99	291.93	292.27	292.19	298.95	#N/A	298.76	#N/A	299.02	#N/A	297.64	#N/A	292.06	292.03
30-Oct-17	#N/A	297.96	298.18	298.88	292.31	292.26	292.06	291.95	292.29	292.20	298.93	#N/A	298.73	#N/A	299.00	#N/A	297.64	#N/A	292.07	292.04
29-Nov-17	#N/A	298.06	298.41	299.21	292.31	292.24	292.05	291.93	292.28	292.19	299.16	#N/A	298.97	#N/A	299.23	#N/A	297.65	297.49	292.07	292.04
21-Dec-17	#N/A	#N/A	#N/A	#N/A	292.30	292.24	292.04	291.93	292.28	292.18	299.13	#N/A	298.92	#N/A	299.19	#N/A	#N/A	#N/A	292.06	292.03
30-Jan-18	#N/A	#N/A	#N/A	#N/A	#N/A	292.27	#N/A	291.92	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	297.51	#N/A	#N/A
28-Feb-18	#N/A	#N/A	#N/A	#N/A	#N/A	292.34	#N/A	291.96	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
04-Apr-18	#N/A	298.21	298.62	#N/A	292.52	292.48	292.16	292.10	292.28	#N/A	299.41	#N/A	299.23	#N/A	299.46	299.45	297.91	297.49	292.05	292.03
30-Apr-18	#N/A	298.38	298.74	#N/A	292.45	292.37	292.12	292.03	292.30	292.18	299.47	299.68	299.25	299.27	299.50	299.54	297.83	297.54	292.06	292.04
29-May-18	#N/A	298.25	298.68	#N/A	292.29	292.26	291.99	291.93	292.28	#N/A	299.26	#N/A	299.05	#N/A	299.27	#N/A	297.71	#N/A	292.03	292.03
27-Jun-18	#N/A	298.18	298.60	#N/A	292.28	292.25	292.11	291.95	292.27	#N/A	299.18	#N/A	298.99	#N/A	299.18	#N/A	297.67	#N/A	292.05	292.02
26-Jul-18	#N/A	297.93	298.35	298.68	292.25	292.23	292.03	291.91	292.27	#N/A	298.92	#N/A	298.73	#N/A	298.97	#N/A	297.64	#N/A	292.05	292.07
28-Aug-18	#N/A	297.89	298.50	298.70	292.26	292.23	292.06	291.92	292.27	#N/A	298.98	#N/A	298.79	#N/A	299.02	#N/A	297.66	#N/A	292.06	292.05
25-Sep-18	#N/A	297.71	298.29	298.43	292.24	292.22	291.99	291.93	292.27	#N/A	298.82	#N/A	298.62	#N/A	298.84	#N/A	297.63	#N/A	292.06	292.05
29-Oct-18	#N/A	297.65	298.40	298.82	292.28	292.27	292.01	291.94	292.27	#N/A	299.13	#N/A	298.94	#N/A	298.99	#N/A	297.64	#N/A	292.04	292.04
27-Nov-18	#N/A	#N/A	298.60	#N/A	292.38	292.39	292.01	292.04	292.27	#N/A	299.24	#N/A	299.07	#N/A	299.22	#N/A	297.67	297.50	292.03	292.03
27-Dec-18	#N/A	#N/A	#N/A	#N/A	#N/A	292.32	#N/A	291.94	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	297.68	297.51	#N/A	#N/A

Notes: mAMSL = metres above mean sea level; #NA = not available (dry, frozen, no access, or not measured); SW = surface water; GW = groundwater

	Groundwater and Surface Water Elevation Summary - Off-Site (mAMSL)							
Well No.:	PG1	PG2	PG3	PG4	PG5	PG6	PW1	PW2
30-Jan-15	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
27-Feb-15	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
30-Mar-15	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
01-May-15	301.22	301.77	301.62	301.84	301.57	#N/A	#N/A	#N/A
28-May-15	301.00	301.19	301.76	301.66	301.57	#N/A	#N/A	#N/A
05-Jun-15	#N/A	#N/A	#N/A	#N/A	#N/A	300.95	302.04	303.75
30-Jun-15	301.06	301.21	301.84	301.71	301.58	#N/A	#N/A	#N/A
29-Jul-15	300.87	300.99	301.67	301.58	301.56	#N/A	#N/A	#N/A
31-Aug-15	300.78	300.85	301.61	301.49	301.54	#N/A	#N/A	#N/A
14-Sep-15	#N/A	#N/A	#N/A	#N/A	#N/A	300.65	301.82	303.58
29-Sep-15	300.74	#N/A	301.51	301.36	301.44	#N/A	#N/A	#N/A
29-Oct-15	#N/A	#N/A	301.51	301.37	301.46	#N/A	#N/A	#N/A
25-Nov-15	#N/A	#N/A	301.54	301.42	301.48	#N/A	#N/A	#N/A
15-Dec-15	#N/A	#N/A	#N/A	#N/A	#N/A	300.64	301.75	303.49
28-Dec-15	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
28-Mar-16	301.17	301.58	301.78	301.77	301.57	#N/A	#N/A	#N/A
20-Apr-16	301.45	301.56	301.77	301.85	301.58	#N/A	#N/A	#N/A
31-May-16	301.14	301.51	301.72	301.72	301.55	#N/A	#N/A	#N/A
28-Jun-16	300.94	301.16	301.65	301.56	301.54	#N/A	#N/A	#N/A
28-Jul-16	300.80	300.79	301.63	301.46	301.52	#N/A	#N/A	#N/A
31-Aug-16	300.88	300.86	301.58	301.51	301.47	#N/A	#N/A	#N/A
30-Sep-16	#N/A	#N/A	301.60	301.43	301.49	#N/A	#N/A	#N/A
26-Oct-16	#N/A	#N/A	301.56	301.37	301.47	#N/A	#N/A	#N/A
22-Nov-16	#N/A	#N/A	301.59	301.41	#N/A	#N/A	#N/A	#N/A
29-Dec-16	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
31-Jan-17	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
28-Feb-17	#N/A	#N/A	301.88	#N/A	301.54	#N/A	#N/A	#N/A
29-Mar-17	301.18	#N/A	301.98	301.77	301.55	#N/A	#N/A	#N/A
10-Apr-17	#N/A	#N/A	#N/A	#N/A	#N/A	301.12	302.22	303.95
28-Apr-17	301.38	#N/A	302.10	301.85	301.56	#N/A	#N/A	#N/A
31-May-17	301.33	#N/A	302.13	301.87	301.55	#N/A	#N/A	#N/A
28-Jun-17	301.16	#N/A	302.07	301.76	301.55	#N/A	#N/A	#N/A
13-Jul-17	#N/A	#N/A	#N/A	#N/A	#N/A	300.85	302.14	304.11
18-Jul-17	301.16	#N/A	302.08	301.88	301.54	#N/A	#N/A	#N/A
30-Aug-17	301.06	#N/A	301.92	301.65	301.54	#N/A	#N/A	#N/A
27-Sep-17	300.79	#N/A	301.79	301.55	301.50	#N/A	#N/A	#N/A
31-Oct-17	300.76	#N/A	301.70	301.56	301.47	#N/A	#N/A	#N/A
27-Nov-17	300.84	#N/A	301.74	301.64	301.47	#N/A	#N/A	#N/A
06-Dec-17	#N/A	#N/A	#N/A	#N/A	#N/A	300.83	302.04	303.91
21-Dec-17	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
01-Feb-18	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
28-Feb-18	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
04-Apr-18	300.99	301.94	302.00	301.79	301.44	#N/A	#N/A	#N/A
30-Apr-18	301.23	302.09	302.12	301.90	301.44	#N/A	#N/A	#N/A
27-Jun-18	300.94	301.69	301.76	301.66	301.57	#N/A	#N/A	#N/A
26-Jul-18	300.72	301.43	301.74	301.51	301.41	#N/A	#N/A	#N/A
03-Aug-18	#N/A	#N/A	#N/A	#N/A	#N/A	300.56	301.93	303.95
28-Aug-18	300.63	301.49	301.67	301.46	301.49	#N/A	#N/A	#N/A
25-Sep-18	#N/A	301.26	301.59	301.40	301.37	#N/A	#N/A	#N/A
29-Oct-18	#N/A	301.34	301.62	301.42	301.41	#N/A	#N/A	#N/A
26-Nov-18	300.64	301.26	#N/A	301.55	#N/A	300.75	302.04	303.82
28-Nov-18	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
27-Dec-18	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
Notes	mAMSL = metres above mean sea level			#NA = not available (no access, frozen, or not measured)				



CBM Aggregates
Roszell Road Pit

Hydrograph - North of Extraction Area

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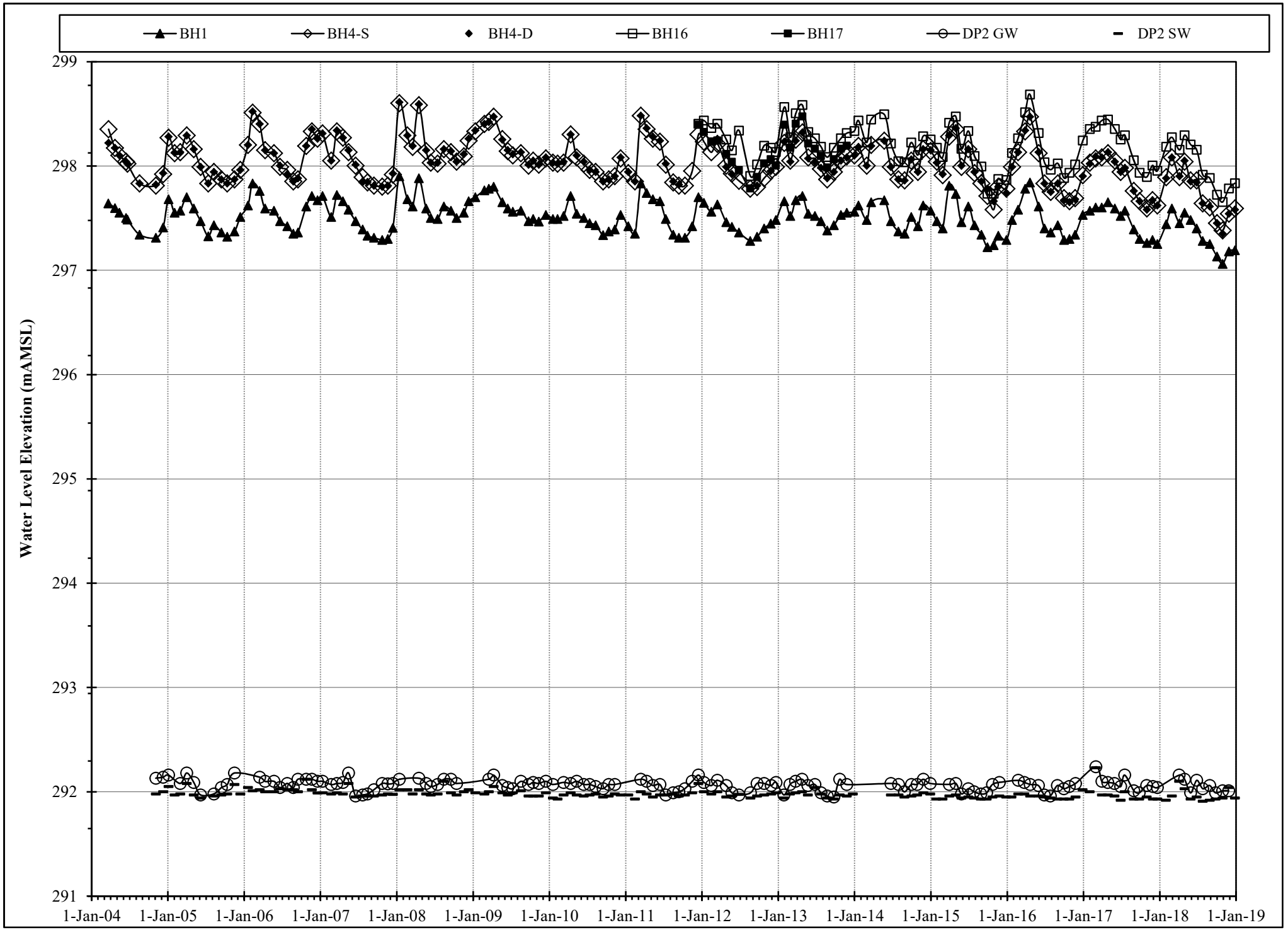
BH1
BH4-S
BH4-D
BH16
BH17
DP2 GW
DP2 SW
Water Level Elevation (mAMSL)
299
298
297
296
295
294
293
292
291
1-Jan-04
1-Jan-05
1-Jan-06
1-Jan-07
1-Jan-08
1-Jan-09
1-Jan-10
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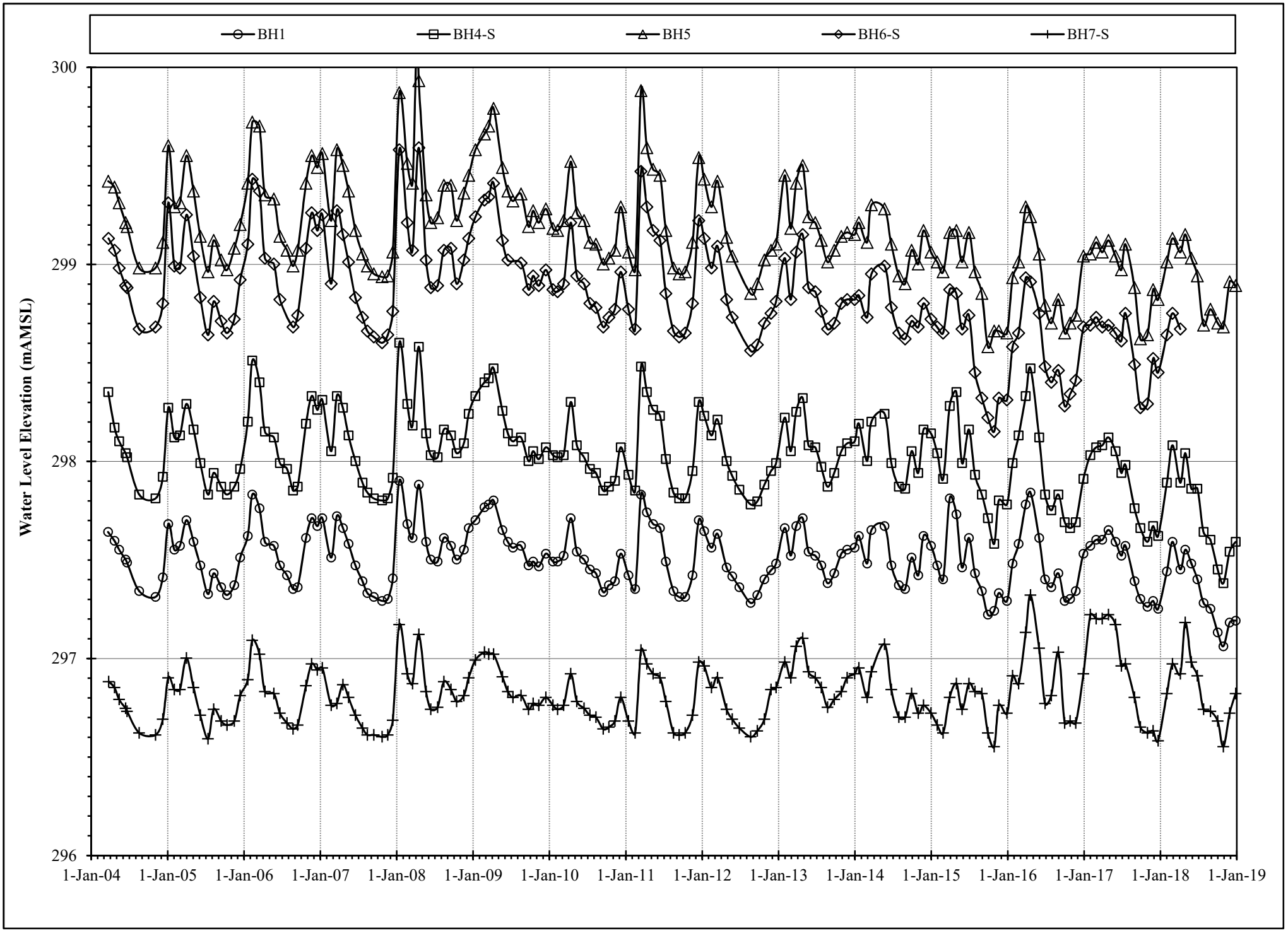
1-Jan-18
1-Jan-19



CBM Aggregates
Roszell Road Pit

Hydrograph - Monitors Surrounding Extraction Area

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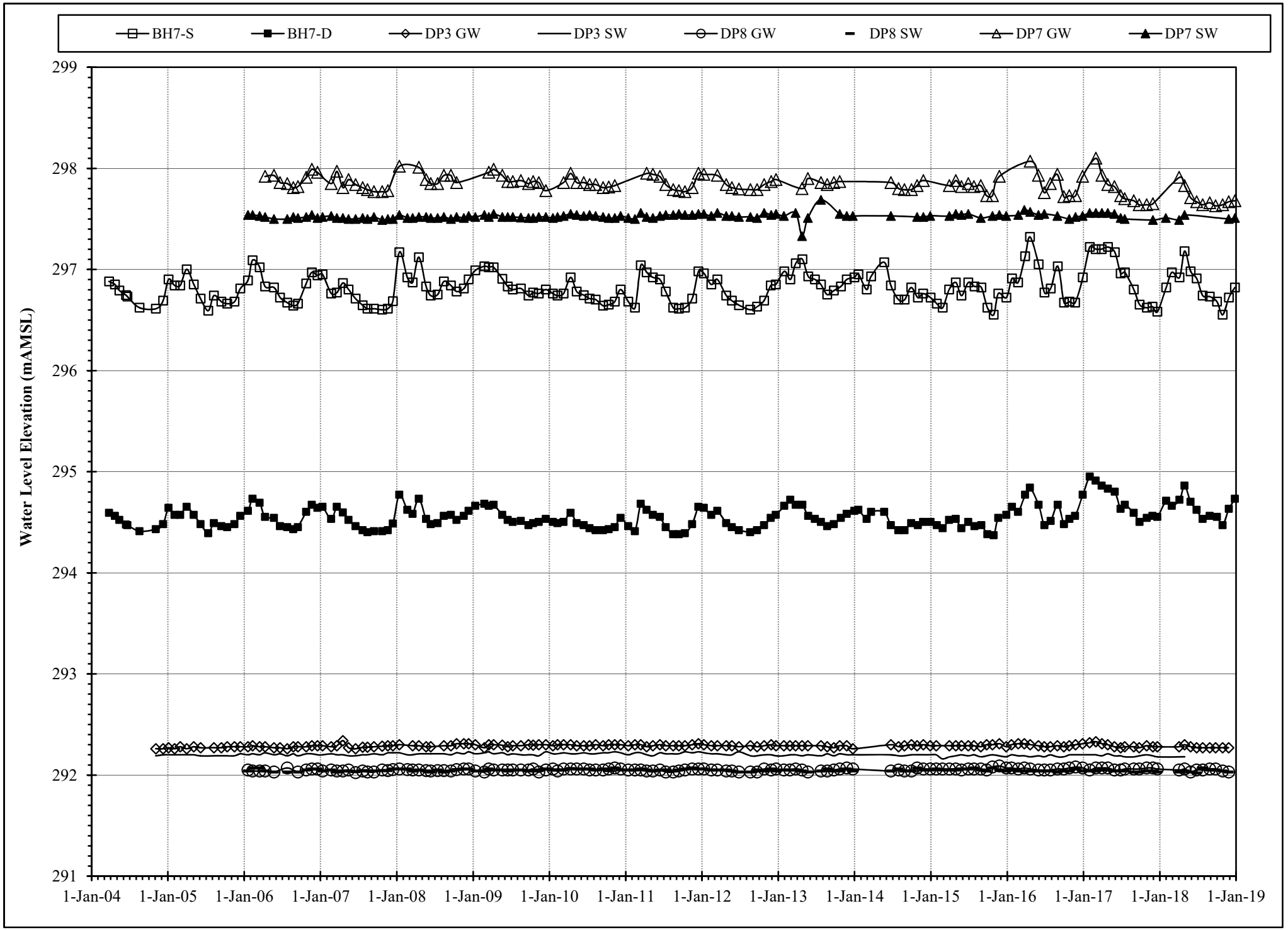
BH7-S
BH7-D
DP3 GW
DP3 SW
DP8 GW
DP8 SW
DP7 GW
DP7 SW
Water Level Elevation (mAMSL)
299
298
297
296
295
294
293
292
291
1-Jan-04
1-Jan-05
1-Jan-06
1-Jan-07
1-Jan-08
1-Jan-09
1-Jan-10
1-Jan-11
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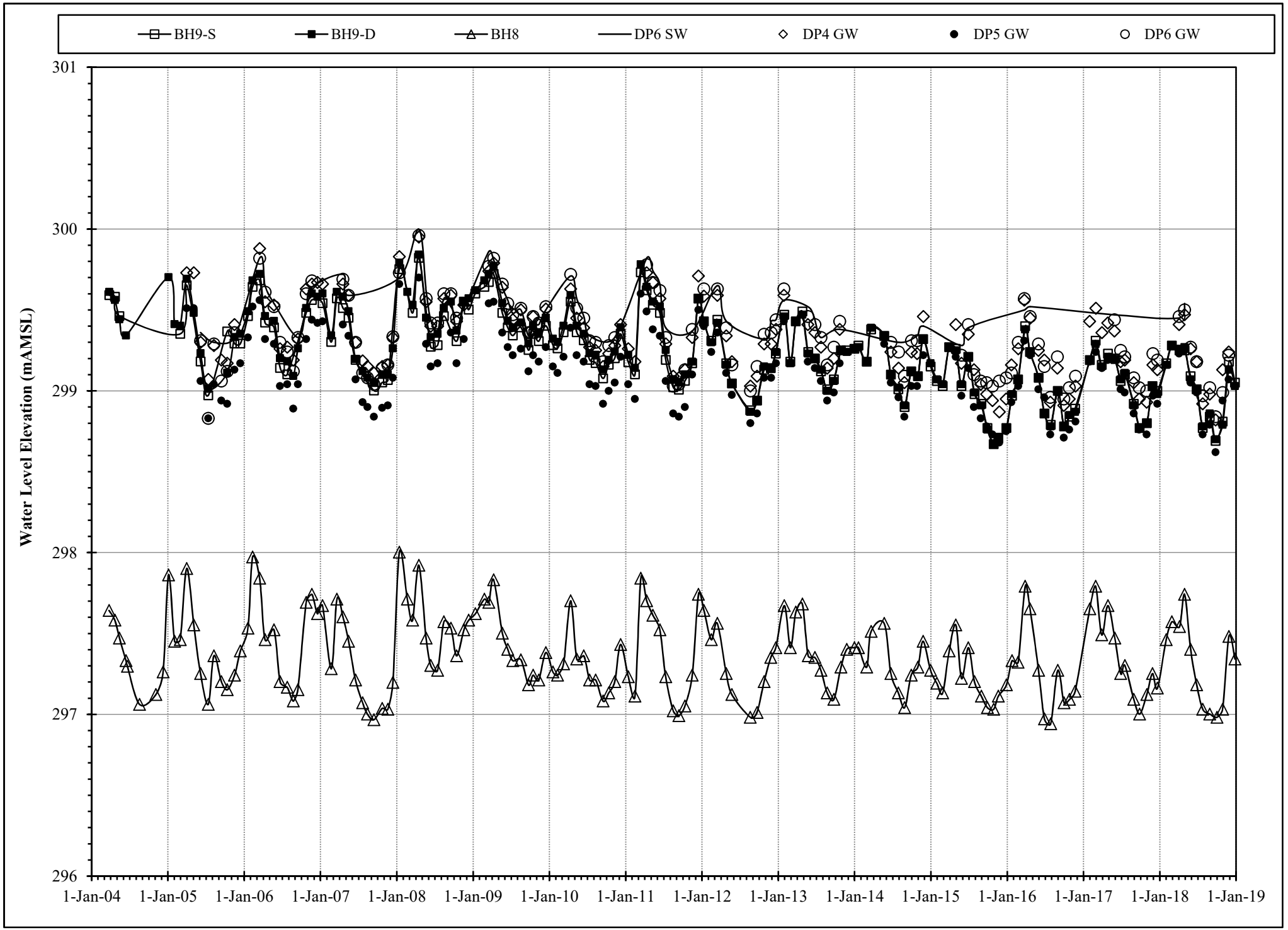
1-Jan-17
1-Jan-18
1-Jan-19



CBM Aggregates
Roszell Road Pit

Hydrograph - Roszell Wetland Area

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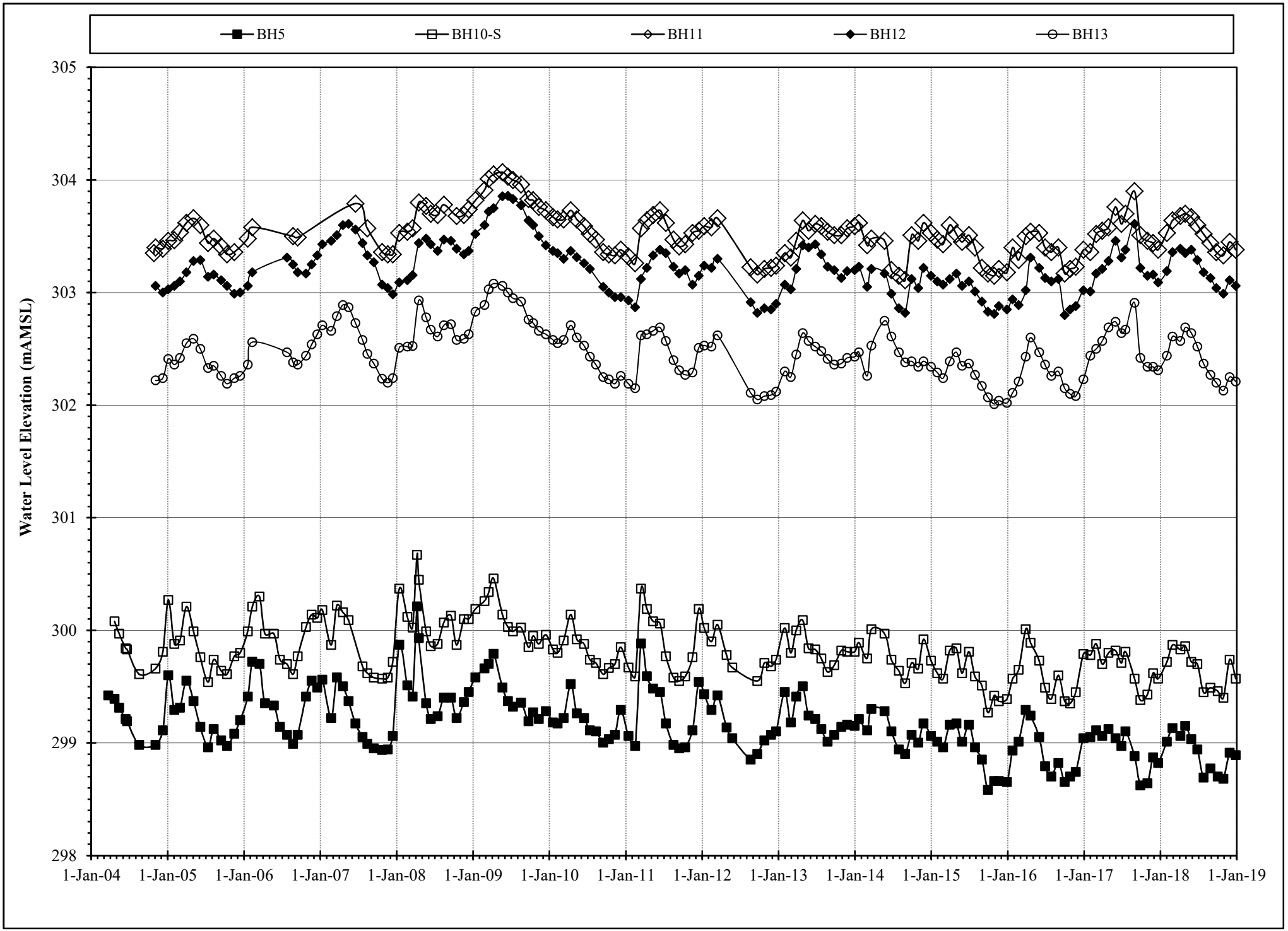
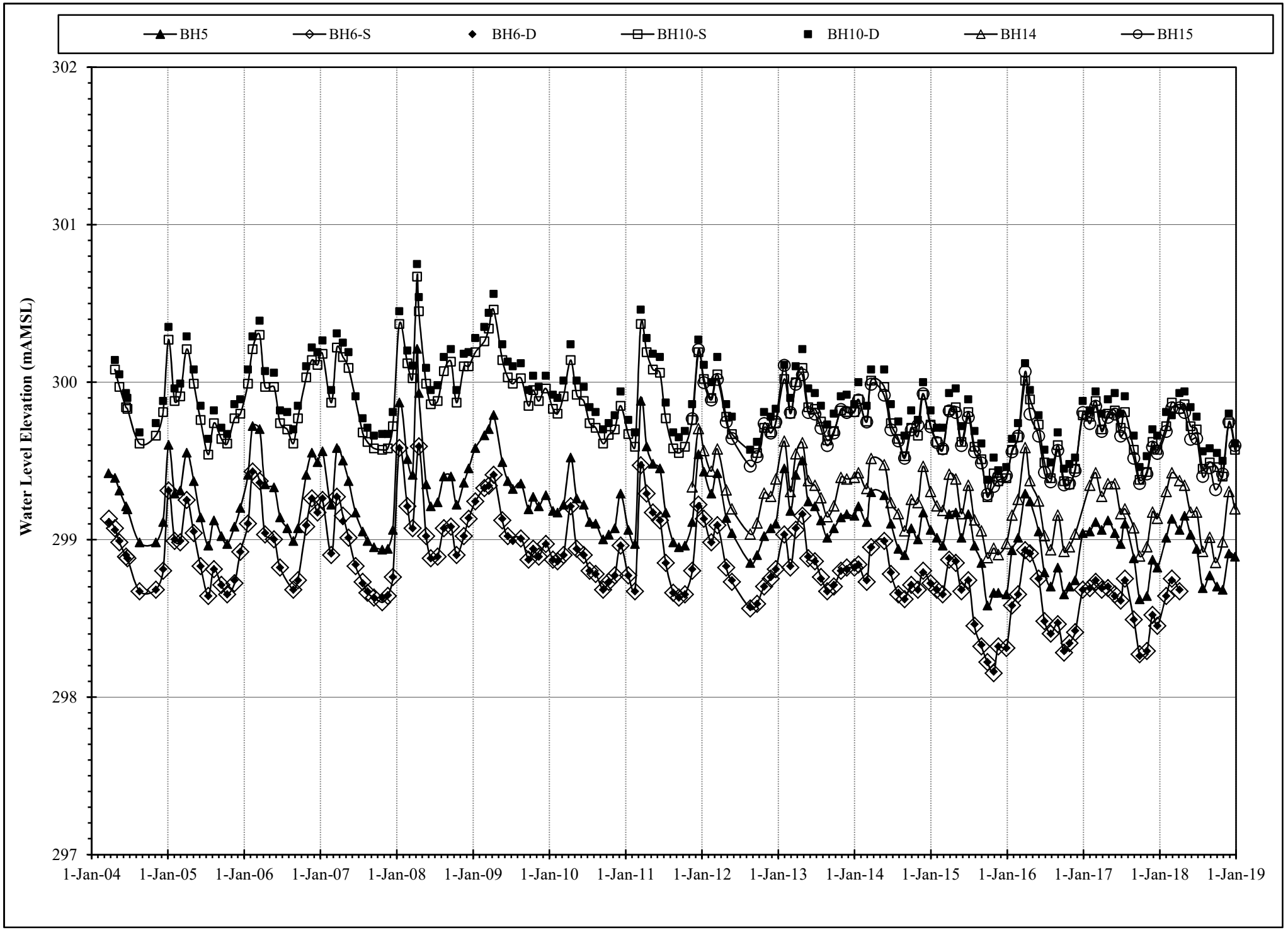
Annual Monitoring Report



CBM Aggregates
Roszell Road Pit

Hydrograph - East and Off-Site

Groundwater Science Corp.
Annual Monitoring Report



CBM Aggregates
Roszell Road Pit

Hydrograph - Southeast Portion of Site

Groundwater Science Corp.
Annual Monitoring Report

Monitor:	BH1	Temperature (C) at **Depth (mBGS)**							
Date	Air	**1.0**	**2.0**	**3.0**	**4.0**	**5.0**	**6.0**	**7.0**	**8.0**
01-Feb-18	0.4	6.3	5.9	6.3	9.0	9.9	10.9	11.5	11.5
28-Feb-18	temperature probe malfunction								
06-Apr-18	0.6	2.8	3.1	3.6	10.3	11.5	12.7	13.4	13.1
30-Apr-18	15.1	12.1	10.9	10.6	10.1	10.0	10.6	11.0	10.6
29-May-18	28.3	18.9	17.7	16.8	14.6	12.1	12.5	12.7	12.6
27-Jun-18	21.6	17.1	16.9	16.7	11.3	10.3	9.7	9.3	9.1
26-Jul-18	20.9	18.8	18.7	12.3	12.1	11.2	10.4	9.9	9.7
28-Aug-18	21.1	18.5	18.4	18.2	13.3	12.2	11.1	10.6	10.4
02-Oct-18	temperature probe malfunction								
29-Oct-18	4.5	8.4	8.4	8.8	11.2	12.1	12.1	11.9	11.8
28-Nov-18	-1.3	5.2	5.2	5.4	9.6	10.6	11.1	11.3	11.4
27-Dec-18	temperature probe malfunction								

Monitor:	BH2-D	Temperature (C) at **Depth (mBGS)**																		
Date	Air	**1.0**	**2.0**	**3.0**	**4.0**	**5.0**	**6.0**	**7.0**	**8.0**	**9.0**	**10.0**	**11.0**	**12.0**	**13.0**	**14.0**	**15.0**	**16.0**	**17.0**	**18.0**	**18.8**
01-Feb-18	0.4	4.7	4.5	4.5	5.9	8.7	9.8	10.5	11.2	12.0	12.8	12.7	12.7	12.5	12.2	12.0	11.7	11.7	11.8	11.2
28-Feb-18	temperature probe malfunction																			
06-Apr-18	0.6	3.8	3.9	4.0	5.6	8.6	10.1	11.5	13.1	14.6	15.7	16.3	16.5	16.4	16.3	16.3	16.1	15.8	15.8	15.7
30-Apr-18	15.1	8.7	8.6	8.4	7.6	9.7	10.3	10.6	11.2	11.7	12.4	12.7	12.8	12.9	12.8	12.8	12.6	12.4	13.6	12.4
29-May-18	28.3	21.9	21.4	19.9	12.3	12.6	12.1	11.8	11.7	12.2	12.7	12.8	13.0	13.2	13.2	13.3	13.3	13.3	14.8	
27-Jun-18	21.6	15.6	15.9	14.6	13.1	11.0	10.1	9.7	9.4	9.1	9.1	9.3	9.5	9.7	9.9	9.9	9.9	9.9	9.8	9.8
26-Jul-18	20.9	17.4	17.6	17.5	14.5	12.9	11.7	11.0	10.2	9.3	9.0	9.0	9.1	9.2	9.4	9.5	9.6	9.6	9.6	9.6
28-Aug-18	21.1	19.4	19.4	19.2	17.3	14.9	13.3	12.2	11.2	10.2	9.6	9.3	9.2	9.2	9.2	9.3	9.4	9.5	9.5	9.5
02-Oct-18	temperature probe malfunction																			
29-Oct-18	4.5	11.9	11.6	11.8	12.1	13.4	13.0	12.8	12.7	12.5	12.0	11.4	10.8	10.4	10.1	9.9	9.8	9.8	9.7	9.7
28-Nov-18	-1.3	5.9	6.4	6.7	10.1	10.7	10.6	10.5	10.4	10.2	10.1	10.0	9.9	9.8	9.7	9.6	9.5	9.5	9.4	9.4
27-Dec-18	temperature probe malfunction																			

Monitor:	BH3-D	Temperature (C) at **Depth (mBGS)**																	
Date	Air	**1.0**	**2.0**	**3.0**	**4.0**	**5.0**	**6.0**	**7.0**	**8.0**	**9.0**	**10.0**	**11.0**	**12.0**	**13.0**	**14.0**	**15.0**	**16.0**	**17.0**	**18.0**
01-Feb-18	0.4	4.0	3.8	7.7	8.8	10.1	11.1	11.5	11.5	11.5	11.4	11.4	11.3	11.3	11.2	11.1	11.0	10.9	10.9
28-Feb-18	temperature probe malfunction																		
06-Apr-18	0.6	4.9	5.1	11.0	13.5	14.7	15.3	15.6	15.6	15.4	15.3	15.2	15.1	15.1	14.9	14.3	14.2	13.6	14.4
30-Apr-18	15.1	10.0	9.7	11.9	12.8	14.1	14.0	14.0	13.9	13.9	13.8	13.5	13.1	13.2	12.9	12.5	12.3	11.9	12.4
29-May-18	28.3	21.4	20.9	14.6	14.8	14.3	14.1	13.7	13.6	13.1	13.0	12.9	12.7	12.8	12.9	12.6	12.8	12.2	12.5
27-Jun-18	21.6	16.0	16.1	14.6	13.0	11.7	11.0	10.6	10.2	10.0	9.9	9.8	9.8	9.7	9.6	9.5	9.4	9.3	9.2
26-Jul-18	20.9	19.1	19.0	15.6	13.5	11.6	10.9	10.5	10.2	10.1	9.9	9.7	9.6	9.5	9.4	9.2	9.1	9.0	9.0
28-Aug-18	21.1	18.1	17.9	15.6	13.9	12.3	11.4	10.8	10.4	10.2	10.0	9.8	9.6	9.5	9.4	9.3	9.2	9.1	9.0
02-Oct-18	temperature probe malfunction																		
29-Oct-18	4.5	7.8	7.9	9.5	10.8	11.3	11.4	11.2	11.0	10.9	10.7	10.4	10.2	10.1	10.1	9.8	9.7	9.6	9.4
28-Nov-18	-1.3	2.9	3.1	6.7	8.5	9.7	10.6	10.9	10.9	10.8	10.7	10.5	10.3	10.2	10.1	9.9	9.7	9.6	9.4
27-Dec-18	temperature probe malfunction																		

Monitor:	BH5	Temperature (C) at **Depth (mBGS)**							
Date	Air	**1.0**	**2.0**	**3.0**	**4.0**	**5.0**	**6.0**	**7.0**	**7.8**
01-Feb-18	0.4	2.1	2.4	3.0	3.5	9.1	10.3	10.9	
28-Feb-18	temperature probe malfunction								
06-Apr-18	0.6	2.3	2.5	2.7	3.2	8.7	8.9	8.9	
30-Apr-18	15.1	10.1	9.2	8.9	8.4	11.3	12.0	11.8	12.0
29-May-18	28.3	23.3	20.9	17.8	16.5	13.3	24.0	23.9	21.9
27-Jun-18	21.6	13.3	13.2	13.1	9.1	9.0	8.5	8.4	
26-Jul-18	20.9	19.0	18.7	18.1	11.4	10.6	10.3	9.8	
28-Aug-18	21.1	20.3	19.8	19.3	18.7	13.2	12.6	12.4	11.9
02-Oct-18	temperature probe malfunction								
29-Oct-18	4.5	9.4	9.3	9.5	9.8	12.9	13.7	14.0	
28-Nov-18	-1.3	4.4	4.7	5.2	6.0	11.9	12.8	13.1	
27-Dec-18	temperature probe malfunction								

Monitor:	BH8	Temperature (C) at **Depth (mBGS)**					
Date	Air	**1.0**	**2.0**	**3.0**	**4.0**	**5.0**	**6.0**
01-Feb-18	0.4	5.5	8.2	5.6	7.4	8.7	9.4
28-Feb-18	temperature probe malfunction						
06-Apr-18	0.6	5.3	5.4	5.4	6.4	8.6	9.6
30-Apr-18	15.1	12.2	11.3	10.6	9.5	9.9	10.1
29-May-18	28.3	19.3	17.8	16.7	10.2	12.7	12.6
27-Jun-18	21.6	17.0	16.5	15.7	15.4	9.8	8.8
26-Jul-18	20.9	20.2	19.9	19.4	18.9	10.5	9.6
28-Aug-18	21.1	18.7	18.5	18.3	18.1	13.2	10.8
02-Oct-18	temperature probe malfunction						
29-Oct-18	4.5	11.9	11.6	11.8	11.9	12.1	11.7
28-Nov-18	-1.3	5.6	5.7	6.1	8.6	10.0	10.6
27-Dec-18	temperature probe malfunction						

Monitor:	BH7-D	Temperature (C) at **Depth (mBGS)**											
Date	Air	**1.0**	**2.0**	**3.0**	**4.0**	**5.0**	**6.0**	**7.0**	**8.0**	**9.0**	**10.0**	**11.0**	**12.0**
01-Feb-18	0.4	6.0	5.6	5.6	5.7	7.0	8.1	8.4	10.0	13.1	15.1	15.3	15.5
28-Feb-18	temperature probe malfunction												
06-Apr-18	0.6	5.3	5.4	5.4	5.8	6.1	6.2	6.3	6.5	8.7	10.4	12.2	14.3
30-Apr-18	15.1	11.9	11.5	11.2	11.2	11.3	11.4	11.5	10.8	11.1	11.1	10.3	11.3
29-May-18	28.3	17.0	16.7	17.3	15.9	13.1	12.2	11.6	11.1	10.3	10.6	11.0	12.5
27-Jun-18	21.6	14.4	14.7	14.5	14.0	12.9	12.8	12.5	11.9	7.3	6.3	6.2	6.5
26-Jul-18	20.9	18.9	18.5	18.1	17.6	16.3	16.0	15.9	15.8	11.3	13.2	12.6	12.2
28-Aug-18	21.1	17.7	18.0	18.0	17.8	17.4	17.0	16.7	16.1	12.2	11.4	10.8	9.9
02-Oct-18	temperature probe malfunction												
29-Oct-18	4.5	11.6	11.5	11.7	11.9	12.2	12.6	12.9	13.1	14.5	14.6	14.2	13.5
28-Nov-18	-1.3	5.6	6.2	6.9	7.5	8.6	9.8	10.8	11.3	14.9	15.4	15.1	14.5
27-Dec-18	temperature probe malfunction												

Monitor:	BH9-D	Temperature (C) at **Depth (mBGS)**														
Date	Air	**1.0**	**2.0**	**3.0**	**4.0**	**5.0**	**6.0**	**7.0**	**8.0**	**9.0**	**10.0**	**11.0**	**12.0**	**13.0**	**14.0**	**15.0**
01-Feb-18	0.4	4.8	5.0	6.0	7.0	8.1	9.0	9.7	10.0	10.2	10.4	10.5	10.5	10.4	10.3	10.4
28-Feb-18	temperature probe malfunction															
06-Apr-18	0.6	4.3	4.5	7.0	7.3	8.0	8.3	9.1	9.5	10.1	10.6	10.7	10.8	10.7	10.8	11.1
30-Apr-18	15.1	11.9	11.3	8.2	7.4	7.3	8.2	9.0	9.8	10.6	11.1	11.4	11.6	12.0	11.8	12.1
29-May-18	28.3	18.9	20.3	11.6	10.8	9.8	9.4	9.6	10.9	11.8	12.1	12.2	12.2	12.5	12.6	12.9
27-Jun-18	21.6	14.1	14.0	10.7	9.4	8.4	7.8	7.6	7.7	8.0	8.2	8.4	8.7	8.8	8.9	9.0
26-Jul-18	20.9	17.7	14.5	12.4	10.9	9.8	9.1	8.5	8.3	8.2	8.3	8.4	8.5	8.6	8.7	8.6
28-Aug-18	21.1	17.6	17.5	13.5	12.4	11.4	10.5	9.8	9.1	8.7	9.8	8.5	8.6	8.6	8.7	8.7
02-Oct-18	temperature probe malfunction															
29-Oct-18	4.5	8.4	8.3	10.2	11.3	11.6	11.4	11.0	10.5	9.9	9.4	9.2	9.0	9.0	9.0	9.0
28-Nov-18	-1.3	4.7	4.8	7.3	8.8	9.8	10.3	10.4	10.3	10.0	9.7	9.5	9.3	9.2	9.1	9.1
27-Dec-18	temperature probe malfunction															

Monitor:	BH10-D	Temperature (C) at **Depth (mBGS)**								
Date	Air	**1.0**	**2.0**	**3.0**	**4.0**	**5.0**	**6.0**	**7.0**	**8.0**	**9.0**
01-Feb-18	0.4	3.7	3.6	5.5	7.1	8.0	8.6	9.1	9.9	10.6
28-Feb-18	temperature probe malfunction									
06-Apr-18	0.6	4.1	4.1	6.0	6.8	7.4	7.8	8.3	9.7	10.4
30-Apr-18	15.1	12.8	12.0	9.7	7.6	7.9	8.4	9.0	10.1	11.2
29-May-18	28.3	19.8	17.1	12.3	12.2					
27-Jun-18	21.6	14.1	14.0	10.6	9.0	8.5	8.2	8.0	7.8	7.8
26-Jul-18	20.9	19.3	19.1	14.3	12.2	10.9	10.1	9.4	8.6	8.2
28-Aug-18	21.1	18.5	18.4	14.5	13.5	12.4	11.5	10.3	9.1	9.0
02-Oct-18	temperature probe malfunction									
29-Oct-18	4.5	10.7	10.5	10.8	12.2	12.3	11.9	11.3	10.4	9.8
28-Nov-18	-1.3	6.0	6.1	8.2	9.6	10.5	10.6	10.4	9.9	9.7
27-Dec-18	temperature probe malfunction									

Monitor:	BH14	Temperature (C) at **Depth (mBGS)**					
Date	Air	**1.0**	**2.0**	**3.0**	**4.0**	**5.0**	**6.0**
01-Feb-18	0.4	5.9	6.3	7.0	7.9	8.7	9.5
28-Feb-18	temperature probe malfunction						
06-Apr-18	0.6	3.7	5.3	5.9	7.3	8.3	8.6
30-Apr-18	15.1	10.5	8.3	7.8	8.4	9.0	9.2
29-May-18	28.3	20.3	13.4	10.6	8.8	7.7	7.3
27-Jun-18	21.6	16.3	14.9	13.1	11.2	9.5	8.5
26-Jul-18	20.9	18.6	18.5	14.3	12.4	10.6	9.4
28-Aug-18	21.1	20.7	20.3	15.2	13.8	11.6	10.4
02-Oct-18	temperature probe malfunction						
29-Oct-18	4.5	8.6	8.7	10.9	11.8	11.8	11.4
28-Nov-18	-1.3	4.4	6.8	8.0	9.1	9.9	10.4
27-Dec-18	temperature probe malfunction						

Monitor:	BH15	Temperature (C) at **Depth (mBGS)**					
Date	Air	**1.0**	**2.0**	**3.0**	**4.0**	**5.0**	**6.0**
01-Feb-18	0.4	4.0	4.3	7.0	8.3	8.8	9.5
28-Feb-18	temperature probe malfunction						
06-Apr-18	0.6	3.9	4.0	5.5	7.2	8.4	9.2
30-Apr-18	15.1	8.9	8.6	9.5	12.1	12.7	13.4
29-May-18	28.3	19.8	17.9	9.7	7.3	6.5	6.2
27-Jun-18	21.6	14.9	14.8	10.8	9.6	8.7	7.8
26-Jul-18	20.9	18.1	18.0	12.9	11.6	10.4	9.3
28-Aug-18	21.1	18.8	18.6	14.7	13.3	12.0	10.8
02-Oct-18	temperature probe malfunction						
29-Oct-18	4.5	10.9	12.1	11.9	11.2	10.3	9.7
28-Nov-18	-1.3	5.6	5.7	8.1	9.3	10.0	10.4
27-Dec-18	temperature probe malfunction						

Monitor:	BH16	Temperature (C) at **Depth (mBGS)**									
Date	Air	**1.0**	**2.0**	**3.0**	**4.0**	**5.0**	**6.0**	**7.0**	**8.0**	**9.0**	**10.0**
01-Feb-18	0.4	3.5	3.1	2.9	2.9	1.9	2.4	2.7	3.0	4.7	6.2
28-Feb-18	temperature probe malfunction										
06-Apr-18	0.6	2.8	2.9	2.7	2.7	3.1	5.9	6.0	6.3	7.0	8.0
30-Apr-18	15.1	7.1	6.9	6.8	6.5	7.0	6.7	6.7	6.6	7.6	8.9
29-May-18	28.3	29.8	21.6	19.6	18.1	17.5	19.1	18.5	16.9	15.6	18.1
27-Jun-18	21.6	19.6	19.6	19.8	19.9	20.2	20.3	19.8	19.1	17.5	16.1
26-Jul-18	20.9	21.3	21.5	21.8	22.1	23.5	24.0	22.9	21.8	20.3	20.2
28-Aug-18	21.1	24.1	24.1	24.1	24.1	24.3	24.7	24.5	24.2	23.4	22.2
02-Oct-18	temperature probe malfunction										
29-Oct-18	4.5	11.2	10.9	11.0	11.2	11.6	14.2	15.2	15.8	16.3	15.7
28-Nov-18	-1.3	6.7	6.3	6.1	6.4	6.5	6.7	6.9	7.6	8.2	8.7
27-Dec-18	temperature probe malfunction										

Monitor:	BH17	Temperature (C) at **Depth (mBGS)**								
Date	Air	**1.0**	**2.0**	**3.0**	**4.0**	**5.0**	**6.0**	**7.0**	**8.0**	**9.0**
01-Feb-18	0.4	6.6	6.4	6.5	7.3	11.8	12.6	13.0	13.3	13.4
28-Feb-18	temperature probe malfunction									
06-Apr-18	0.6	3.7	3.7	3.9	4.2	8.1	8.6	8.7	9.4	9.5
30-Apr-18	15.1	8.1	8.0	7.5	7.4	7.6	7.3	7.5	8.1	8.6
29-May-18	28.3	21.5	19.7	17.9	15.9	10.7	9.3	8.9	9.0	10.1
27-Jun-18	21.6	17.4	17.6	17.5	17.2	8.8	7.5	6.7	6.2	6.2
26-Jul-18	20.9	19.4	19.5	19.0	11.0	9.7	8.5	7.7	7.4	7.3
28-Aug-18	21.1	21.5	21.5	21.4	21.0	14.3	12.8	11.7	11.0	10.4
02-Oct-18	temperature probe malfunction									
29-Oct-18	4.5	8.5	8.5	8.8	9.5	15.3	16.7	17.1	17.1	16.7
28-Nov-18	-1.3	6.7	6.3	6.4	6.8	15.1	16.6	17.1	17.4	17.3
27-Dec-18	temperature probe malfunction									

Monitor: DP1/SW2			
Date:	Air	SW	1.2 m
30-Jan-18	-12.0	2.8	1.5
04-Apr-18	5.1	8.7	7.9
26-Apr-18	12.3	6.4	9.1
29-May-18	28.3	17.6	16.4
27-Jun-18	21.6	17.8	17.4
26-Jul-18	20.9	24.5	21.0
28-Aug-18	20.9	21.3	24.8
29-Oct-18	7.3	7.1	8.2
27-Nov-18	1.3	1.9	3.8

Monitor: DP2/SW3			
Date:	Air	SW	1.2m
30-Jan-18	-12.0	1.6	fr
04-Apr-18	5.1	8.5	3.7
26-Apr-18	12.3	21.6	11.7
29-May-18	28.3	16.2	15.1
27-Jun-18	21.6	16.8	16.3
26-Jul-18	20.9	22.9	16.9
28-Aug-18	20.9	20.3	20.6
29-Oct-18	7.3	7.7	8.2
27-Nov-18	1.3	2.7	3.1

Monitor: DP3/SW8			
Date:	Air	SW	1.2m
30-Jan-18	-12.0	11.9	10.7
04-Apr-18	5.1	10.4	11.1
26-Apr-18	12.3	10.0	10.9
29-May-18	28.3	9.0	10.4
27-Jun-18	21.6	13.7	12.6
26-Jul-18	20.9	10.2	12.4
28-Aug-18	20.9	10.5	12.7
29-Oct-18	7.3	10.6	10.4
27-Nov-18	1.3	11.3	10.1

Monitor: DP7/SW10			
Date:	Air	SW	1.0m
30-Jan-18	-12.0	7.0	fr
04-Apr-18	5.1	3.9	9.3
26-Apr-18	12.3	6.2	9.0
29-May-18	28.3	dry	10.2
27-Jun-18	21.6	dry	14.7
26-Jul-18	20.9	dry	13.2
28-Aug-18	20.9	dry	13.6
29-Oct-18	7.3	dry	10.8
27-Nov-18	1.3	6.8	10.7

Monitor: DP8/SW6			
Date:	Air	SW	1.9m
30-Jan-18	-12.0	12.0	8.4
04-Apr-18	5.1	17.7	8.5
26-Apr-18	12.3	9.9	8.9
29-May-18	28.3	8.8	10.3
27-Jun-18	21.6	12.8	12.9
26-Jul-18	20.9	13.5	13.6
28-Aug-18	20.9	13.6	13.6
29-Oct-18	7.3	10.9	10.6
27-Nov-18	1.3	11.2	10.4

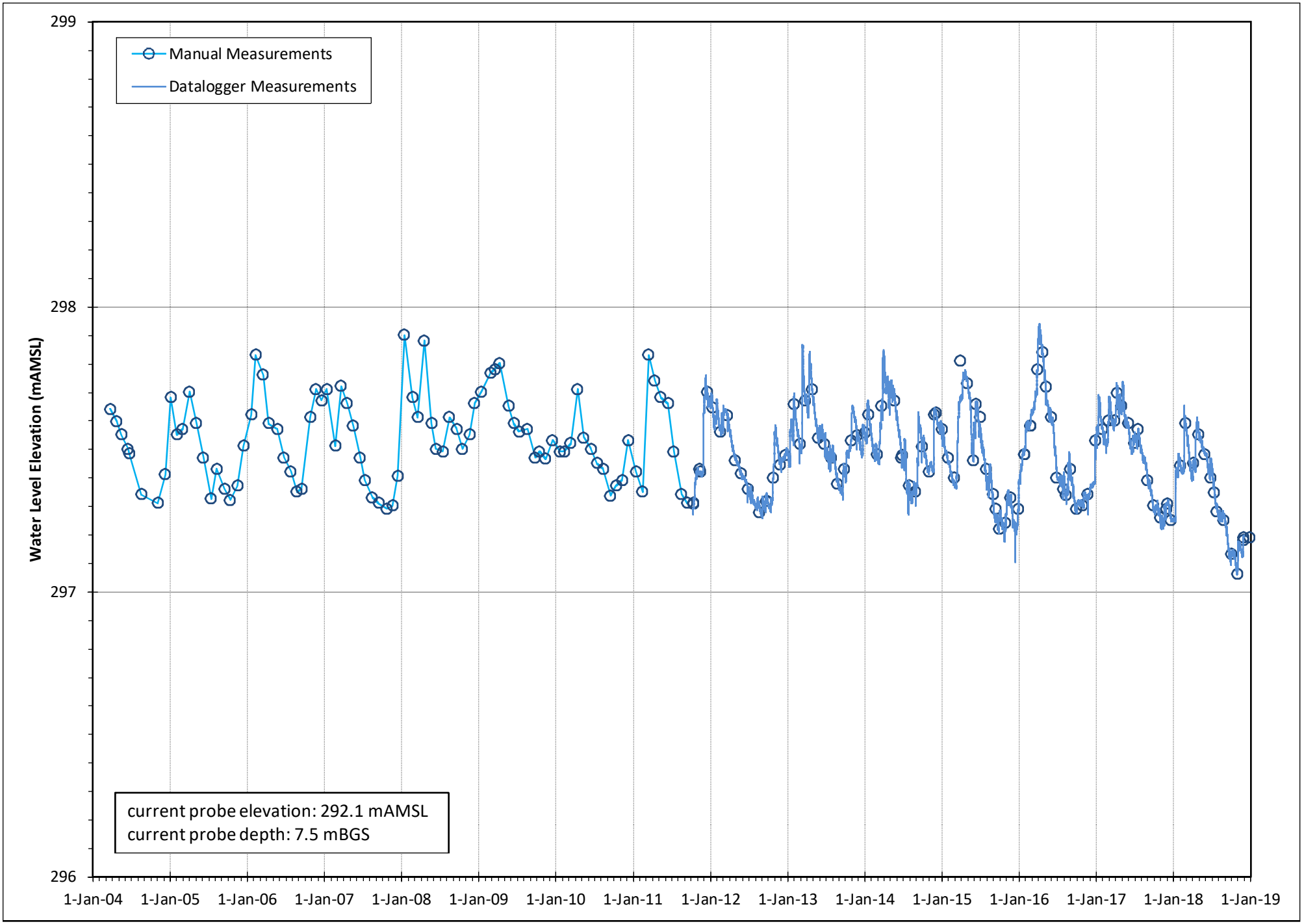
Monitor: SW5		
Date:	Air	SW
30-Jan-18	-12.0	10.7
04-Apr-18	5.1	9.5
26-Apr-18	12.3	10.0
29-May-18	28.3	9.7
27-Jun-18	21.6	10.3
26-Jul-18	20.9	12.5
28-Aug-18	20.9	13.7
29-Oct-18	7.3	10.9
27-Nov-18	1.3	10.2

Monitor: SW12		
Date:	Air	SW
30-Jan-18	-12.0	12.4
04-Apr-18	5.1	9.2
26-Apr-18	12.3	8.1
29-May-18	28.3	8.9
27-Jun-18	21.6	9.8
26-Jul-18	20.9	10.1
28-Aug-18	20.9	12.8
29-Oct-18	7.3	14.2
27-Nov-18	1.3	14.6

Date	SW1		SW2		SW3		SW4	
	Flow (L/s)	Temp. (°C)	Flow (L/s)	Temp. (°C)	Flow (L/s)	Temp. (°C)	Flow (L/s)	Temp. (°C)
27-Jan-15	24.6	1.1	38.6	1.9	50.8	1.4	36.8	1.4
26-Feb-15	19.7	0.8	35.5	1.1	42.8	1.2	38.5	1.1
31-Mar-15	32.0	2.5	58.6	2.9	84.0	3.2	86.4	3.0
01-May-15	23.7	11.6	47.8	11.4	58.9	11.4	69.9	11.3
27-May-15	13.4	27.3	19.1	15.8	26.2	14.8	26.8	15.1
25-Jun-15	11.9	20.2	41.8	15.3	49.8	15.4	68.3	15.4
27-Jul-15	12.3	20.9	37.3	18.1	39.4	15.6	47.0	15.5
28-Aug-15	13.5	15.3	22.3	17.0	27.3	12.9	35.1	12.8
25-Sep-15	10.7	16.3	18.2	16.1	38.9	13.5	29.0	13.4
23-Oct-15	12.7	9.6	13.4	9.2	27.0	7.9	34.7	7.3
25-Nov-15	20.2	4.3	33.0	5.1	37.2	5.4	59.9	5.0
28-Dec-15	26.4	3.6	35.7	3.5	44.7	3.4	51.9	3.7
22-Jan-16	14.2	1.1	22.7	2.3	38.5	1.6	36.9	1.5
24-Feb-16	50.0	1.3	33.5	1.9	62.4	2.6	85.3	2.1
24-Mar-16	24.6	2.6	47.1	3.2	91.0	3.1	72.2	2.7
21-Apr-16	28.9	10.9	45.1	9.7	70.7	9.7	76.2	8.8
30-May-16	17.4	19.5	20.9	16.4	36.3	16.5	49.9	17.0
27-Jun-16	11.6	n/a	19.6	n/a	22.7	n/a	42.9	n/a
26-Jul-16	12.1	22.2	25.3	14.8	32.6	15.0	54.7	16.5
29-Aug-16	15.2	20.8	48.8	19.3	55.1	17.0	53.2	16.9
29-Sep-16	11.3	14.4	26.7	12.8	33.2	13.2	43.4	13.1
25-Oct-16	13.1	9.8	16.1	9.6	28.2	9.2	30.5	9.2
24-Nov-16	15.6	3.4	27.6	4.8	30.4	5.7	24.1	5.0
28-Dec-16	57.5	0.7	67.0	1.7	73.8	1.9	84.1	1.7
30-Jan-17	n/a	1.7	n/a	1.8	n/a	2.1	n/a	2.3
01-Mar-17	n/a	3.1	n/a	3.4	n/a	5.2	n/a	3.7
30-Mar-17	n/a	3.3	n/a	3.3	n/a	3.1	n/a	4.8
27-Apr-17	n/a	12.4	n/a	11.7	n/a	11.1	n/a	11.0
29-May-17	n/a	13.8	n/a	13.6	n/a	14.5	n/a	14.6
28-Jun-17	n/a	16.5	n/a	16.5	n/a	14.9	n/a	14.7
17-Jul-17	n/a	18.1	n/a	18.2	n/a	17.1	n/a	16.8
30-Aug-17	16.6	17.7	26.3	17.3	53.3	14.3	48.7	13.6
25-Sep-17	11.2	19.3	14.9	17.5	81.2	15.7	38.6	16.3
30-Oct-17	12.0	8.4	26.6	8.7	38.0	8.7	44.9	8.8
29-Nov-17	12.0	6.9	33.9	6.5	34.2	6.7	38.1	6.2
21-Dec-17	18.9	4.8	40.2	6.2	42.1	6.5	45.7	9.4
30-Jan-18	16.9	1.4	37.8	1.5	40.7	1.6	40.5	2.0
04-Apr-18	195.0	7.1	133.0	8.7	156.7	8.5	151.4	3.5
26-Apr-18	48.7	6.1	67.4	9.1	105.2	21.6	82.9	12.3
28-May-18	13.9	21.2	19.8	17.6	53.3	16.2	41.7	16.3
27-Jun-18	33.7	19.0	63.9	17.8	88.3	16.8	60.3	27.2
26-Jul-18	14.7	28.1	16.1	24.5	42.0	22.9	22.4	18.7
28-Aug-18	12.0	25.3	25.7	21.3	39.7	20.3	33.6	19.4
25-Sep-18	14.0	n/a	28.5	n/a	46.3	n/a	36.3	n/a
29-Oct-18	9.5	6.5	17.5	7.1	36.5	7.7	31.2	7.3
27-Nov-18	61.9	1.3	87.5	1.9	87.3	2.7	63.6	2.6
27-Dec-18	17.3	n/a	32.1	n/a	40.5	n/a	37.2	n/a

Notes: n/a = not available, no measurement obtained

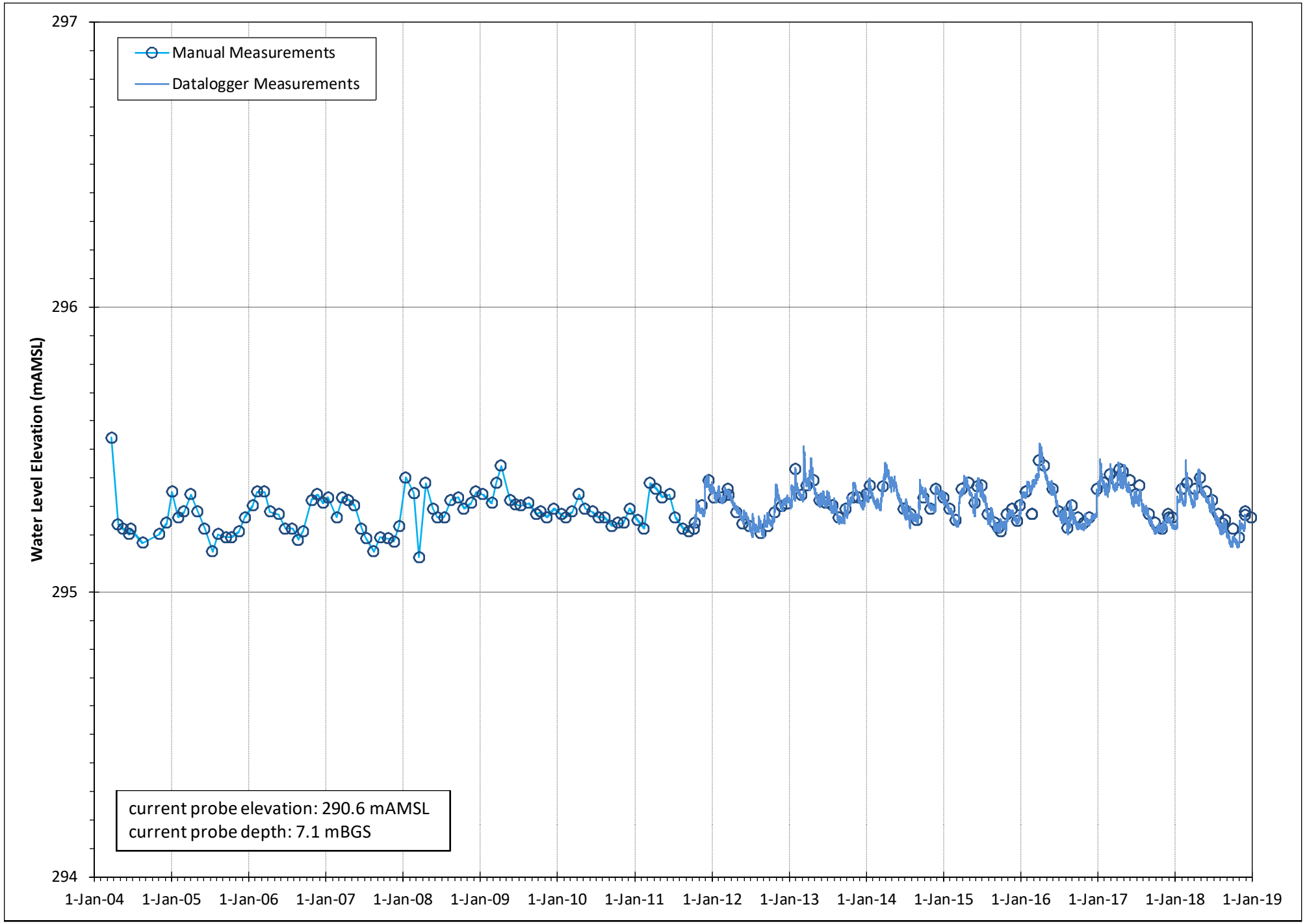
Appendix B
Hydrographs of Datalogger Data



CBM Aggregates
Roszell Road Pit

BH1 Hydrograph

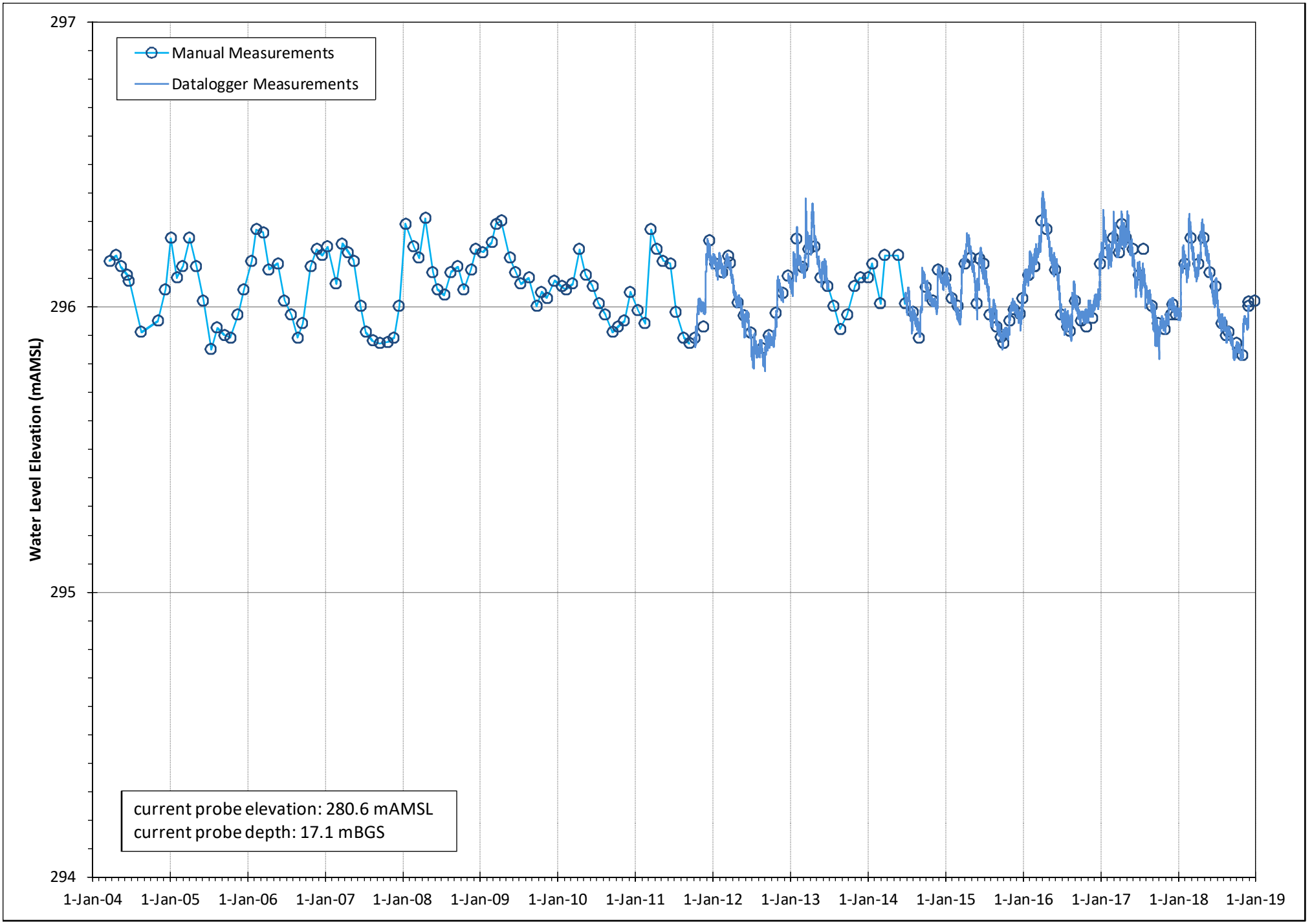
Groundwater Science Corp.
Monitoring Program



CBM Aggregates
Roszell Road Pit

BH3-S Hydrograph

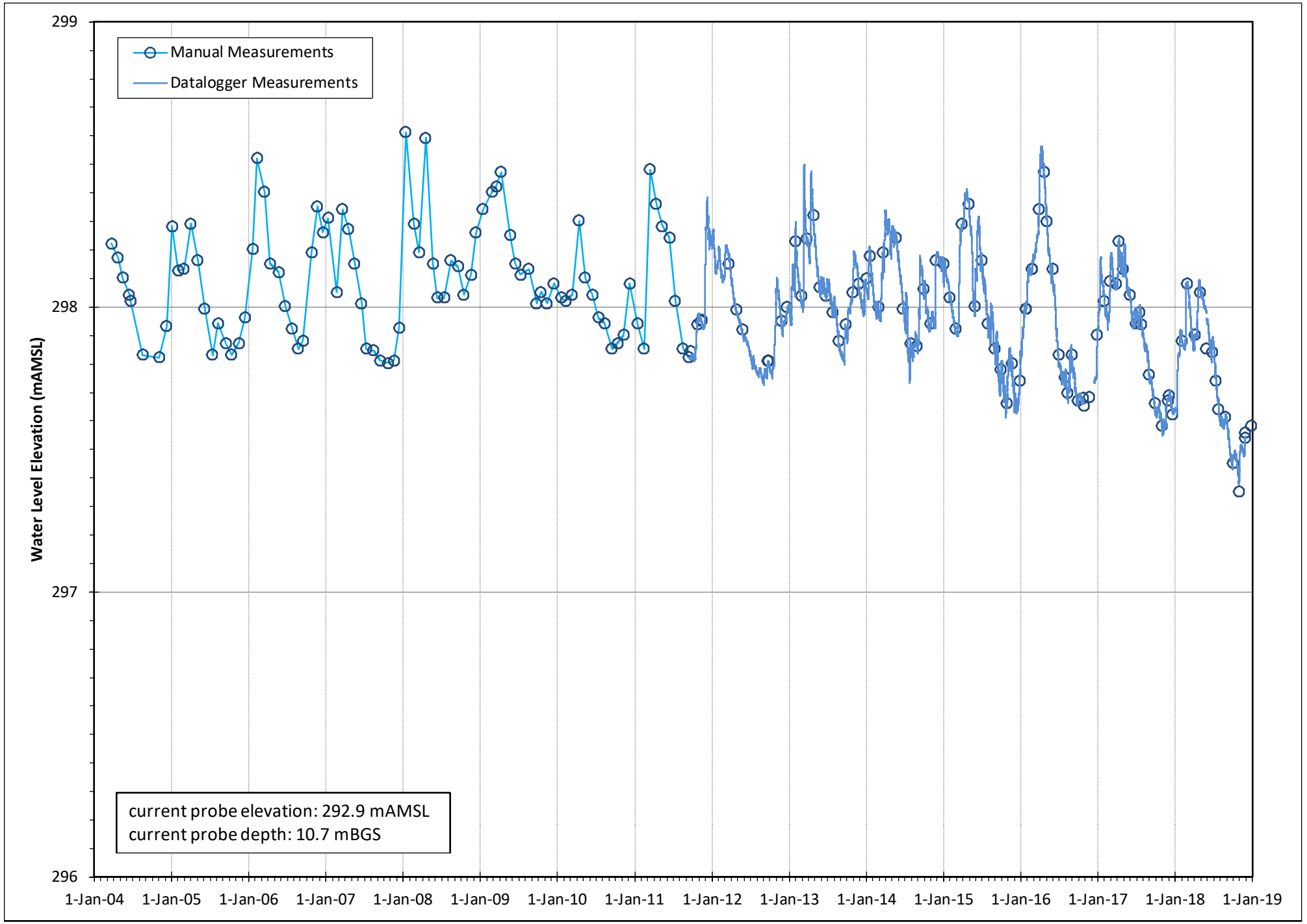
Groundwater Science Corp.
Monitoring Program



CBM Aggregates
Roszell Road Pit

BH3-D Hydrograph

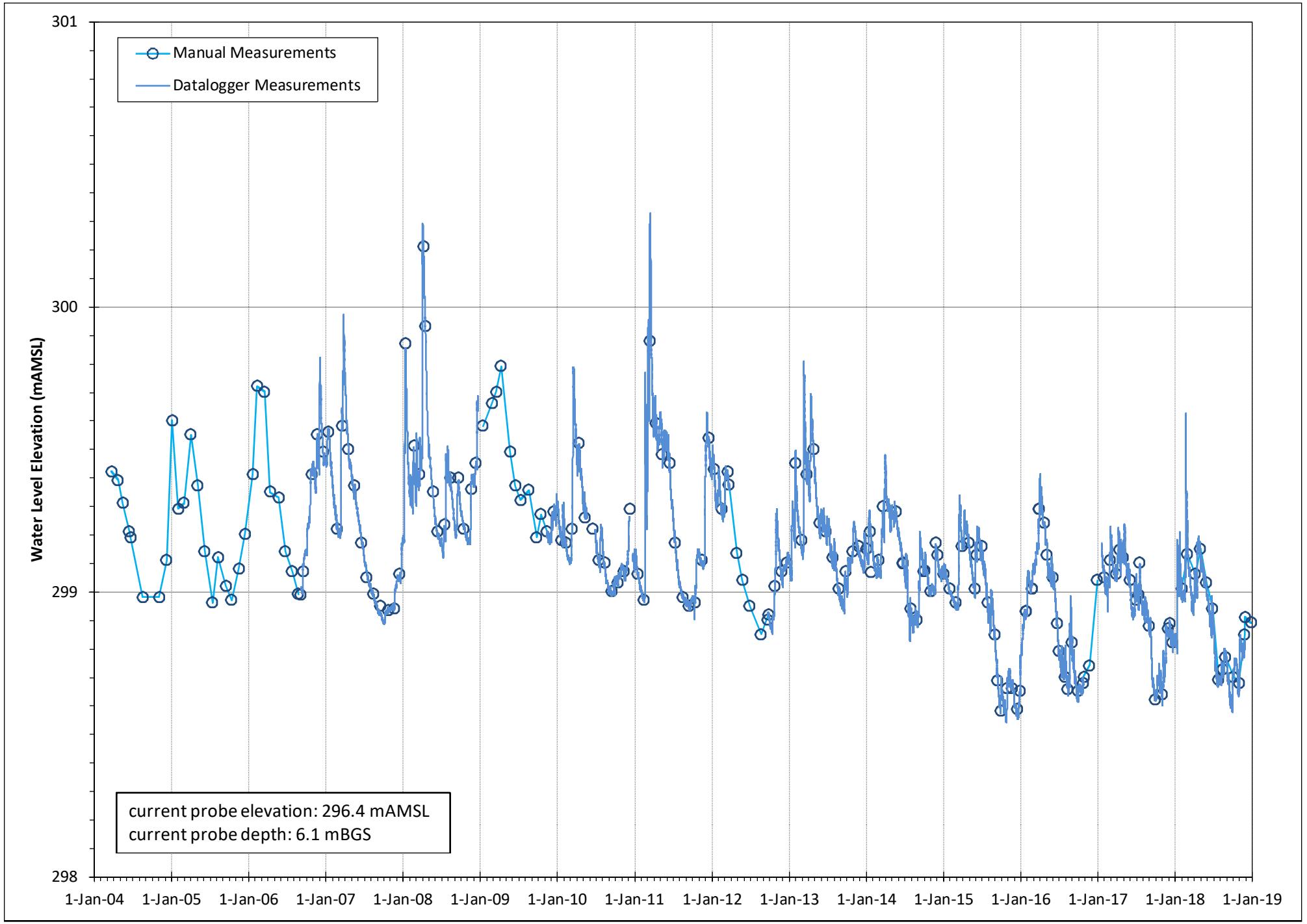
Groundwater Science Corp.
Monitoring Program



CBM Aggregates
Roszell Road Pit

BH4-D Hydrograph

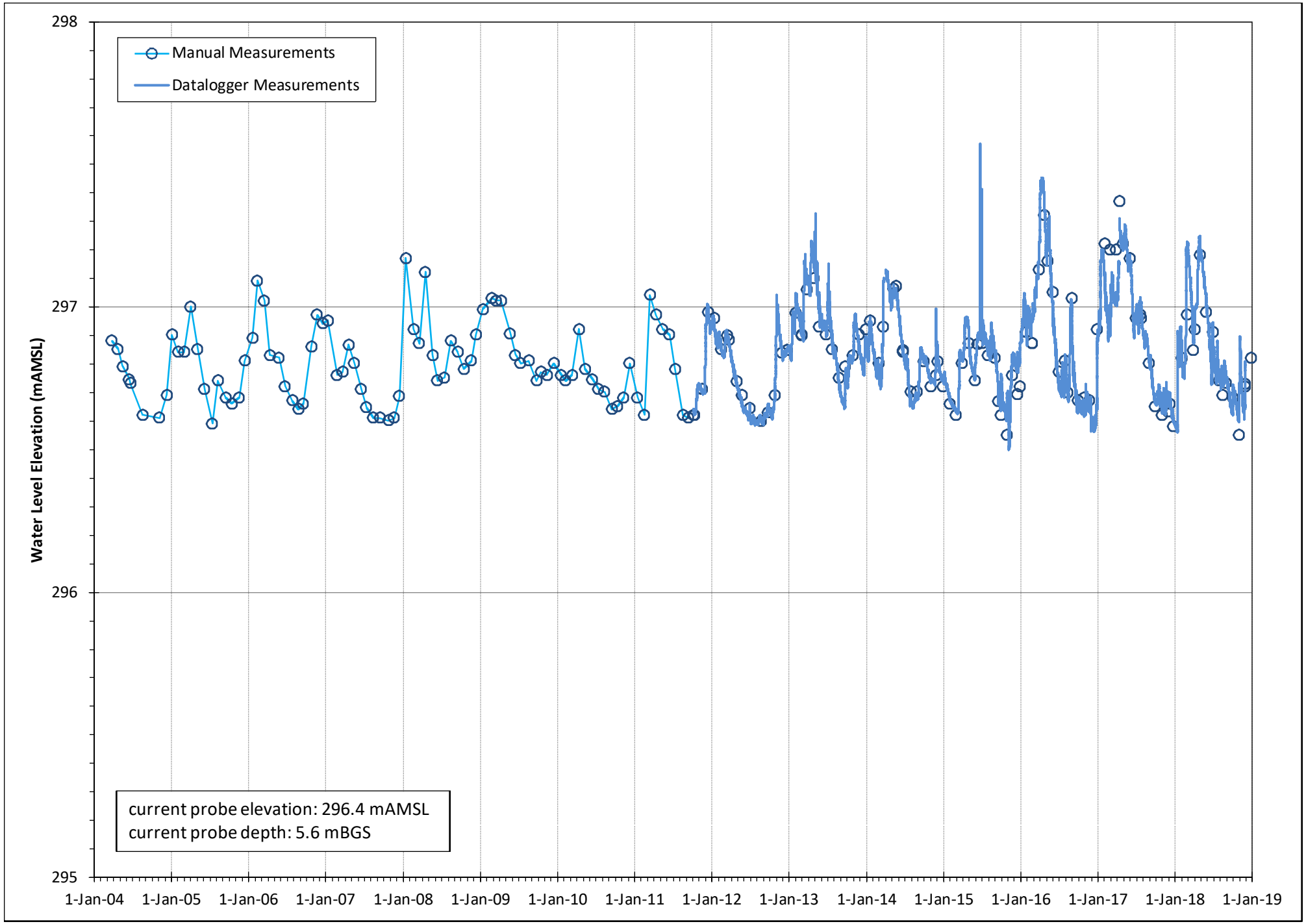
Groundwater Science Corp.
Monitoring Program



CBM Aggregates
Roszell Road Pit

BH5 Hydrograph

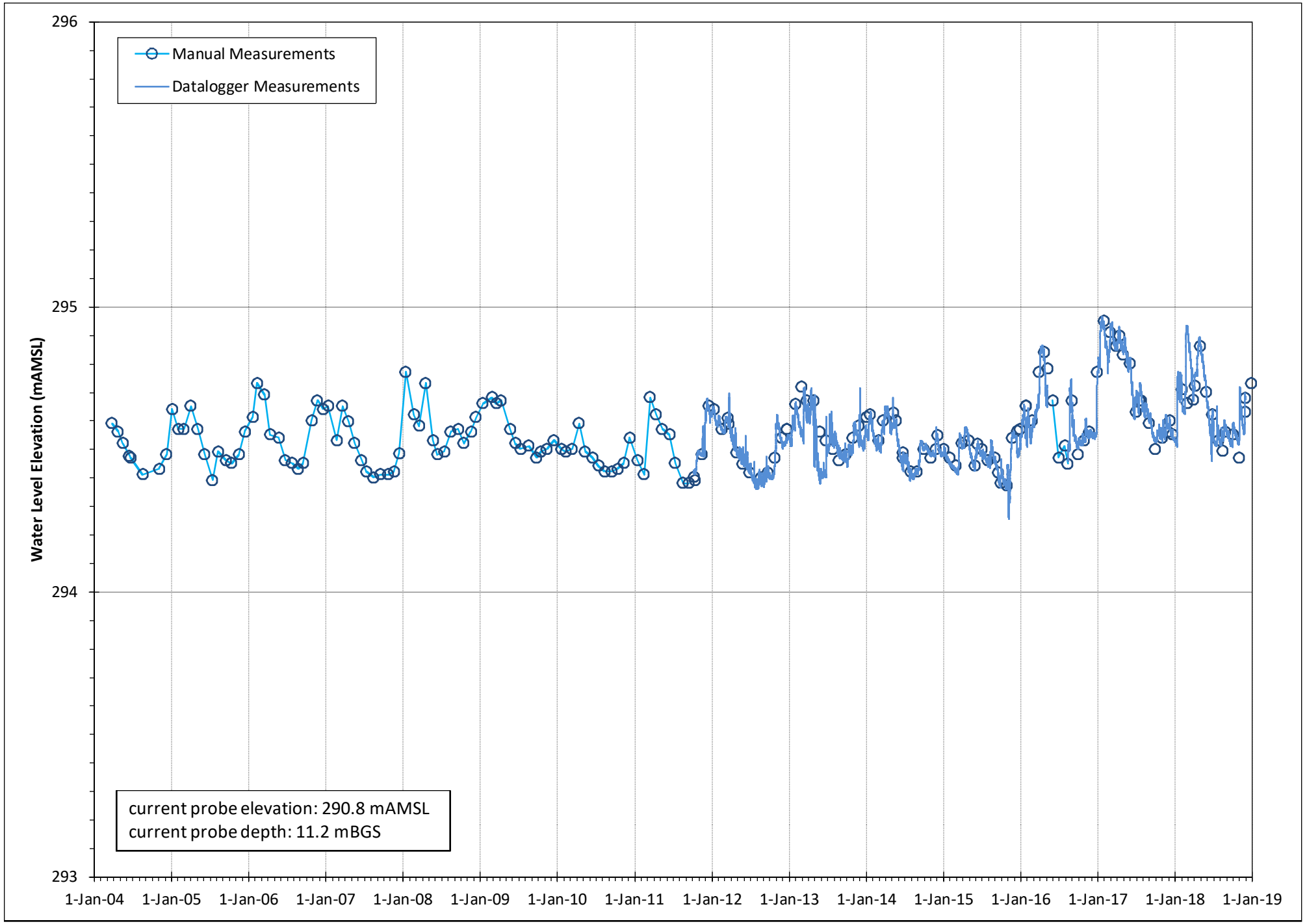
Groundwater Science Corp.
Monitoring Program



CBM Aggregates
Roszell Road Pit

BH7-S Hydrograph

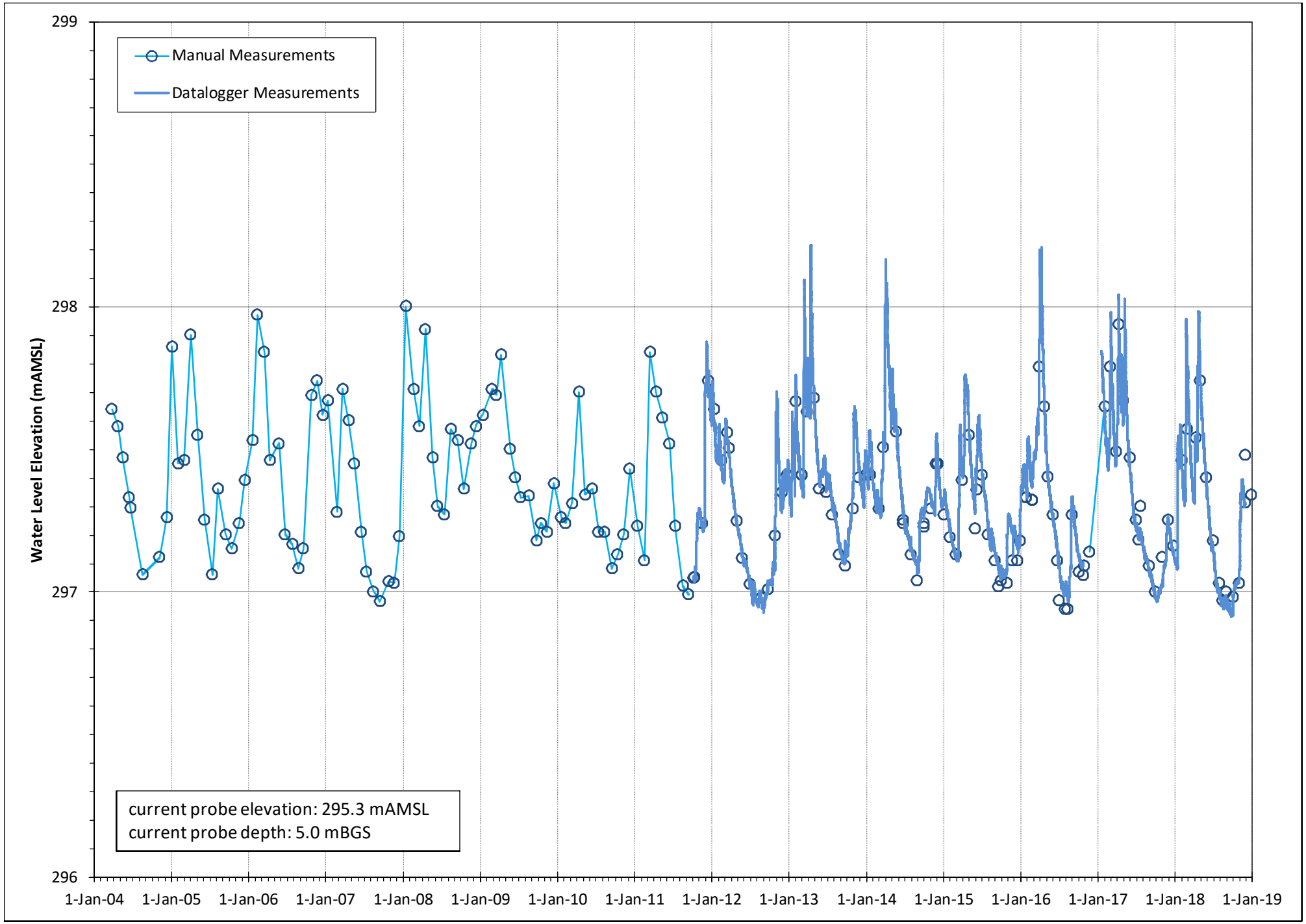
Groundwater Science Corp.
Monitoring Program



CBM Aggregates
Roszell Road Pit

BH7-D Hydrograph

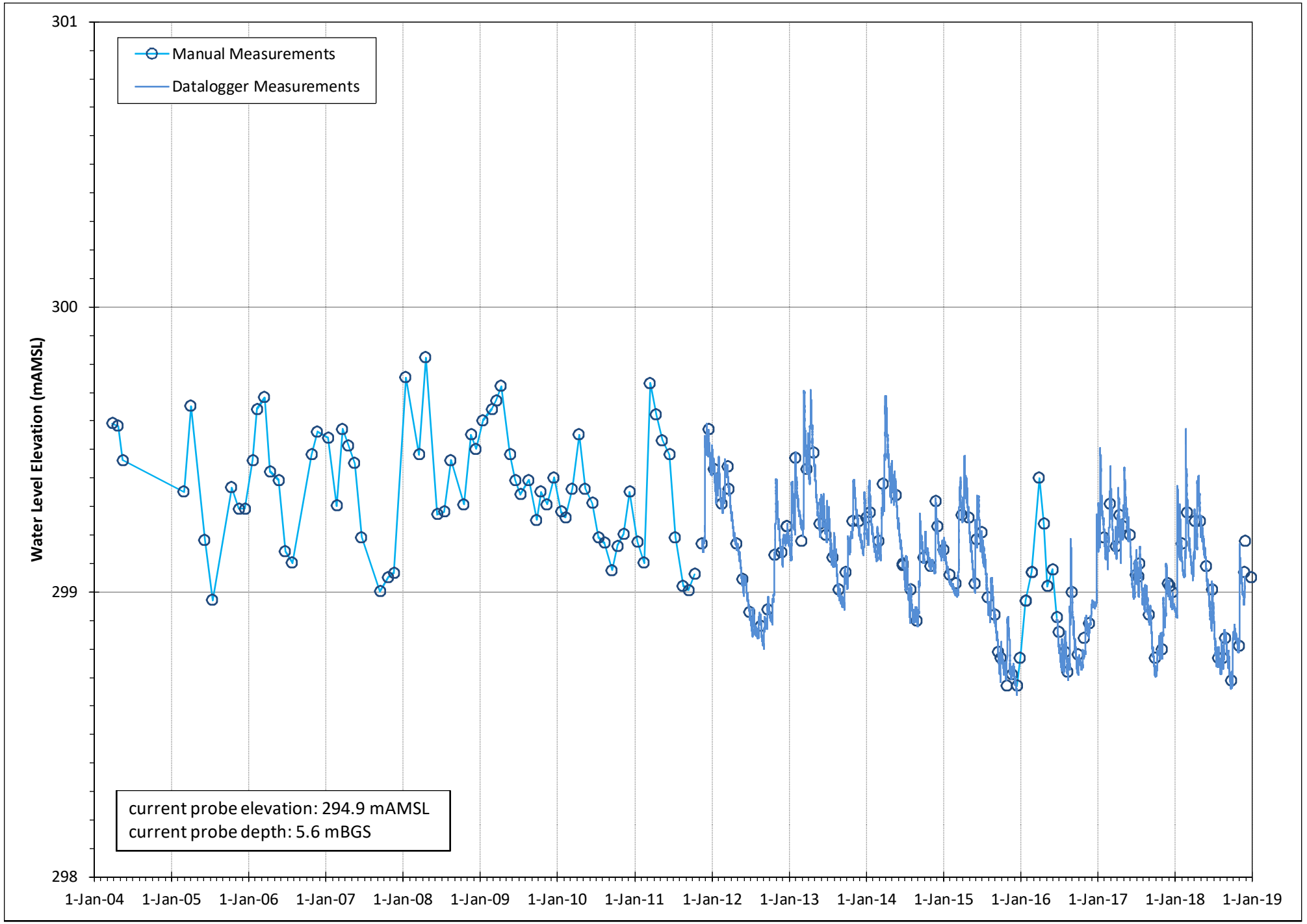
Groundwater Science Corp.
Monitoring Program



CBM Aggregates
Roszell Road Pit

BH8 Hydrograph

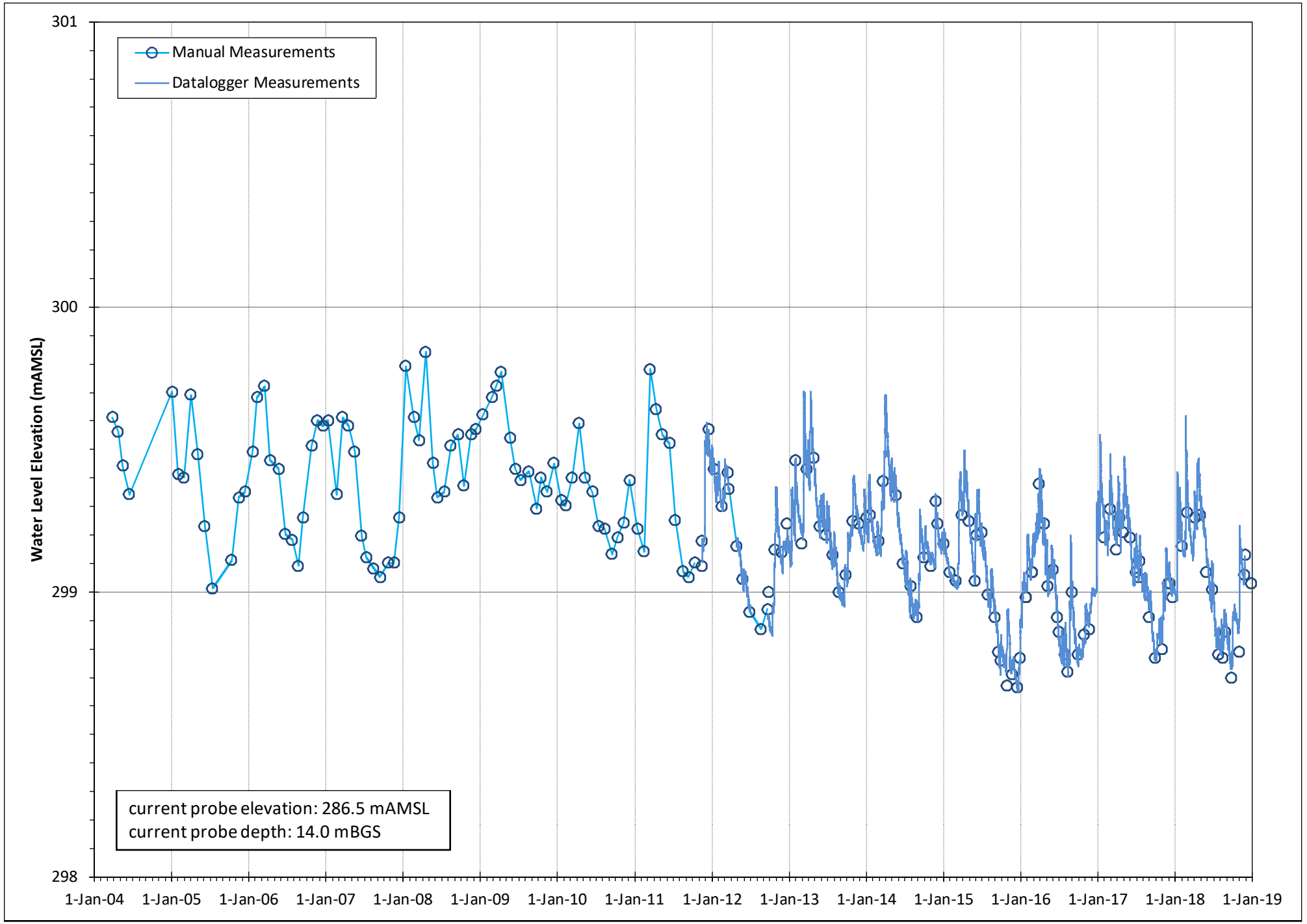
Groundwater Science Corp.
Monitoring Program



CBM Aggregates
Roszell Road Pit

BH9-S Hydrograph

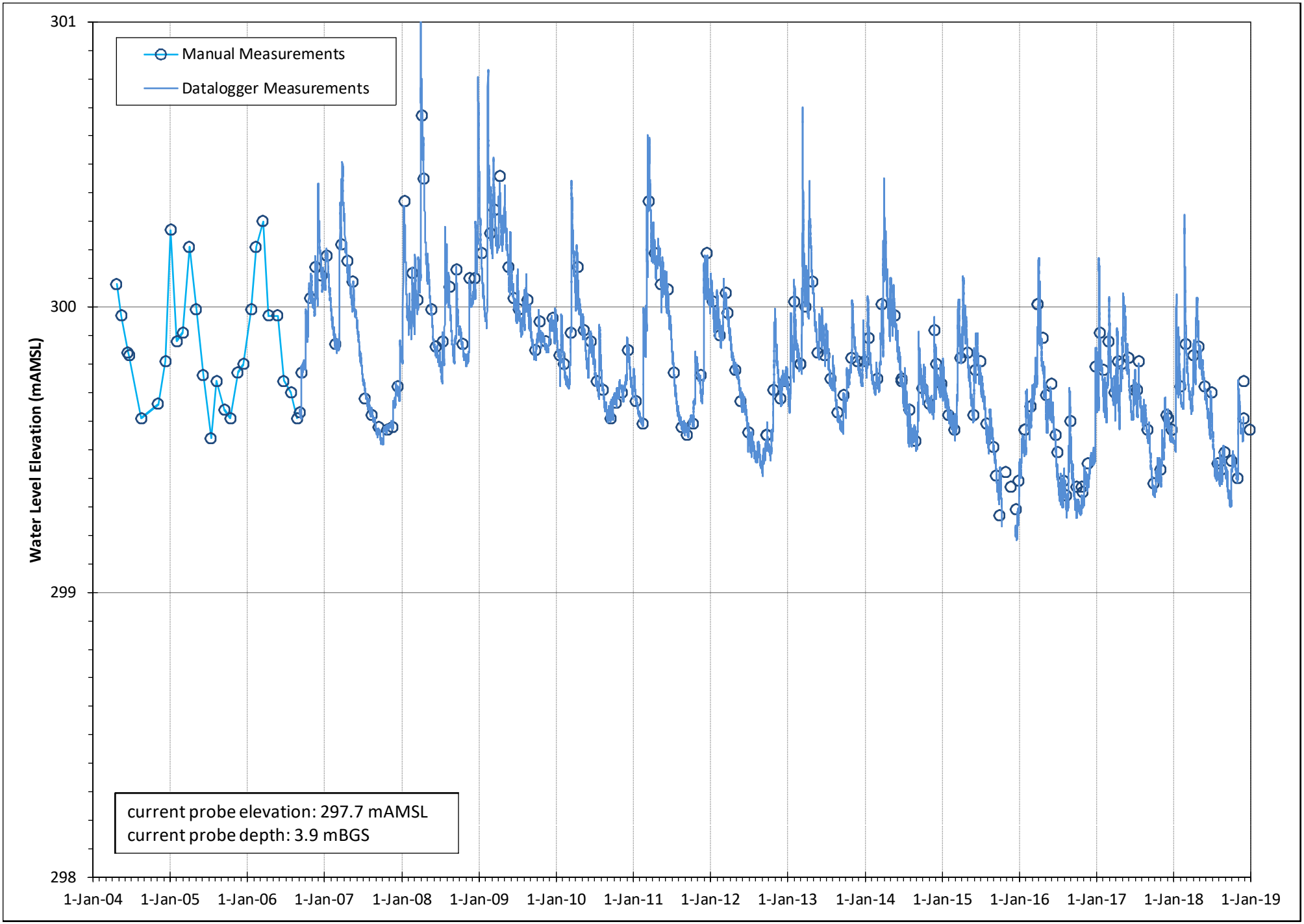
Groundwater Science Corp.
Monitoring Program



CBM Aggregates
Roszell Road Pit

BH9-D Hydrograph

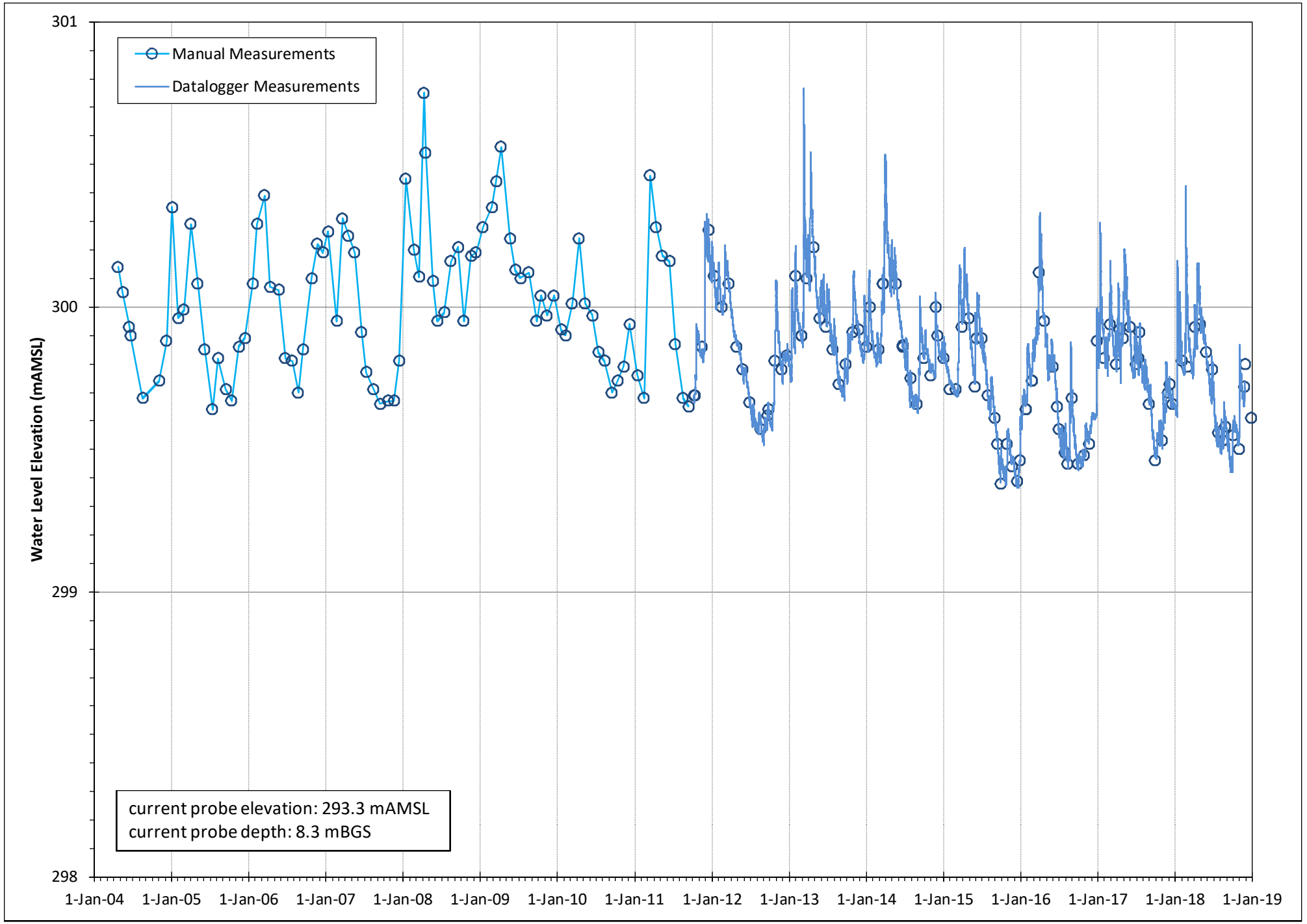
Groundwater Science Corp.
Monitoring Program



CBM Aggregates
Roszell Road Pit

BH10-S Hydrograph

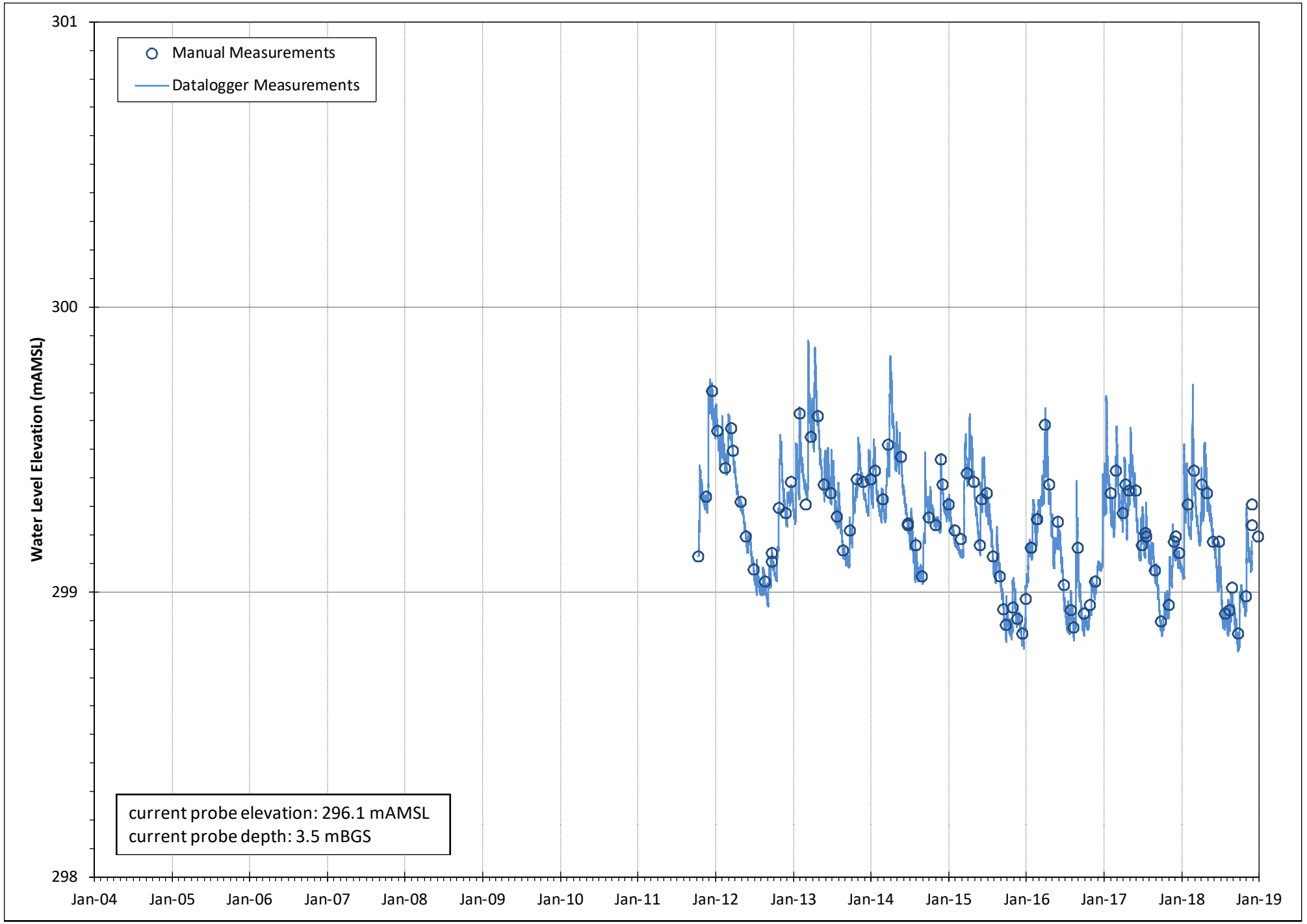
Groundwater Science Corp.
Monitoring Program



CBM Aggregates
Roszell Road Pit

BH10-D Hydrograph

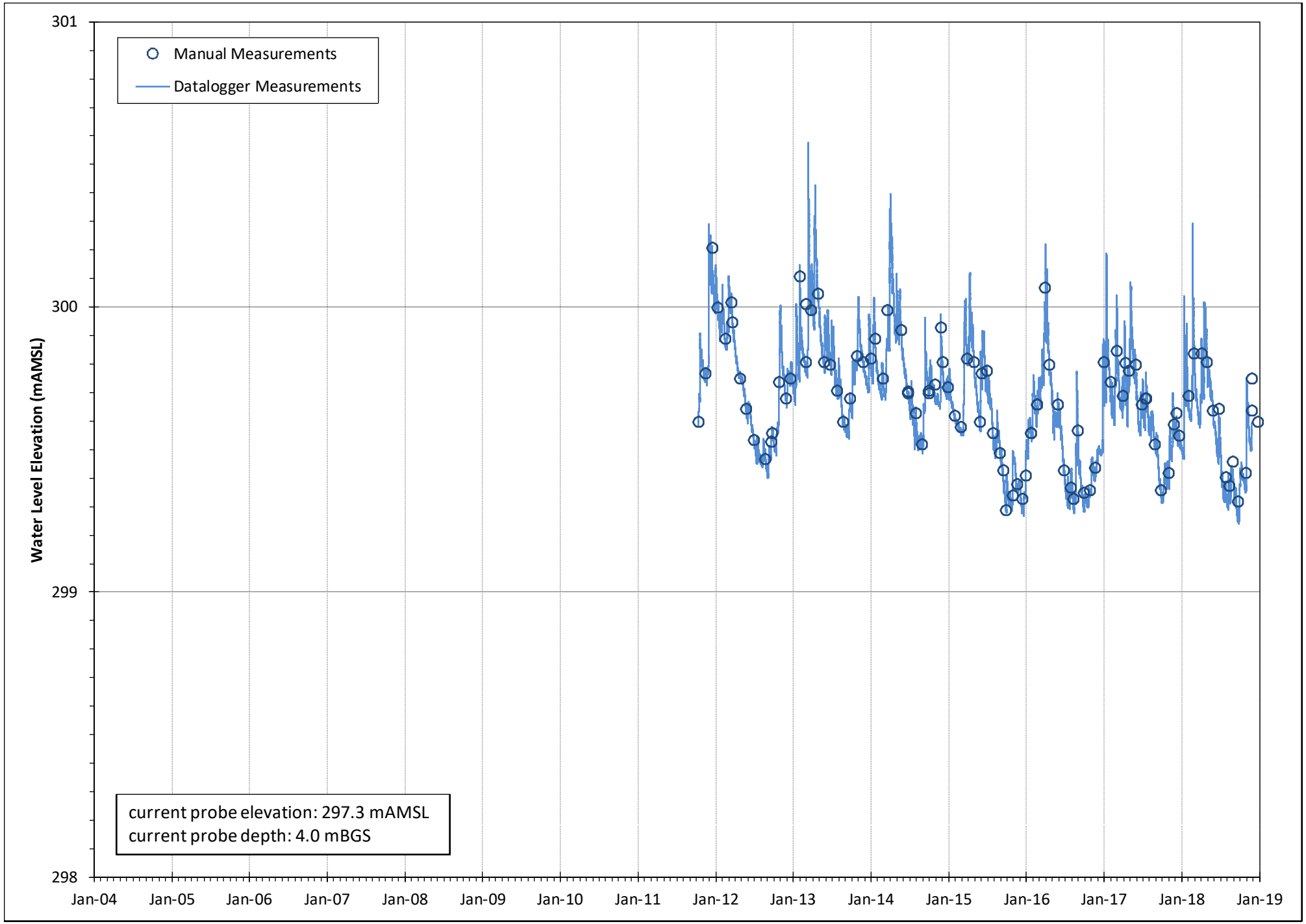
Groundwater Science Corp.
Monitoring Program



CBM Aggregates
Roszell Road Pit

BH14 Hydrograph

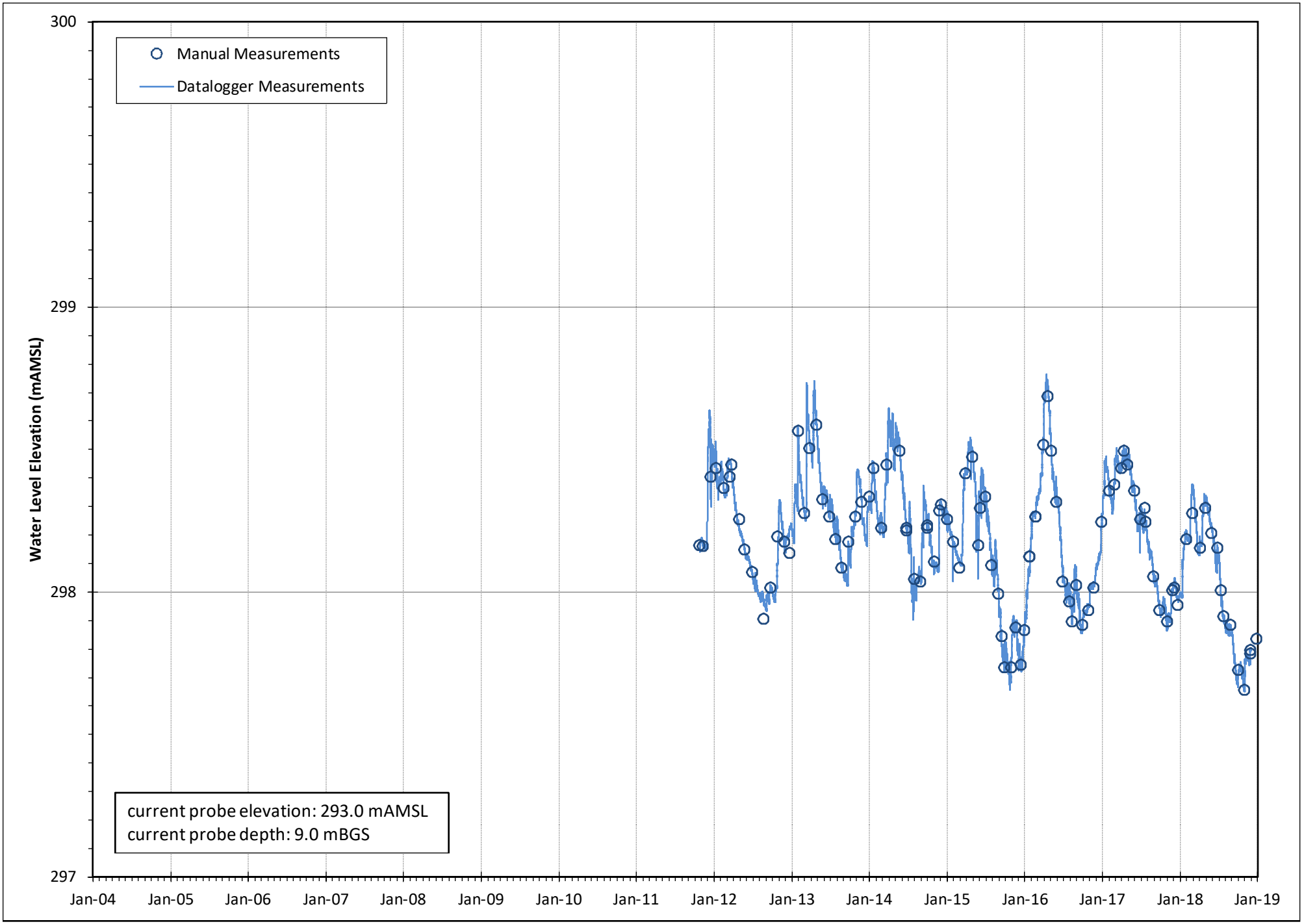
Groundwater Science Corp.
Monitoring Program



CBM Aggregates
Roszell Road Pit

BH15 Hydrograph

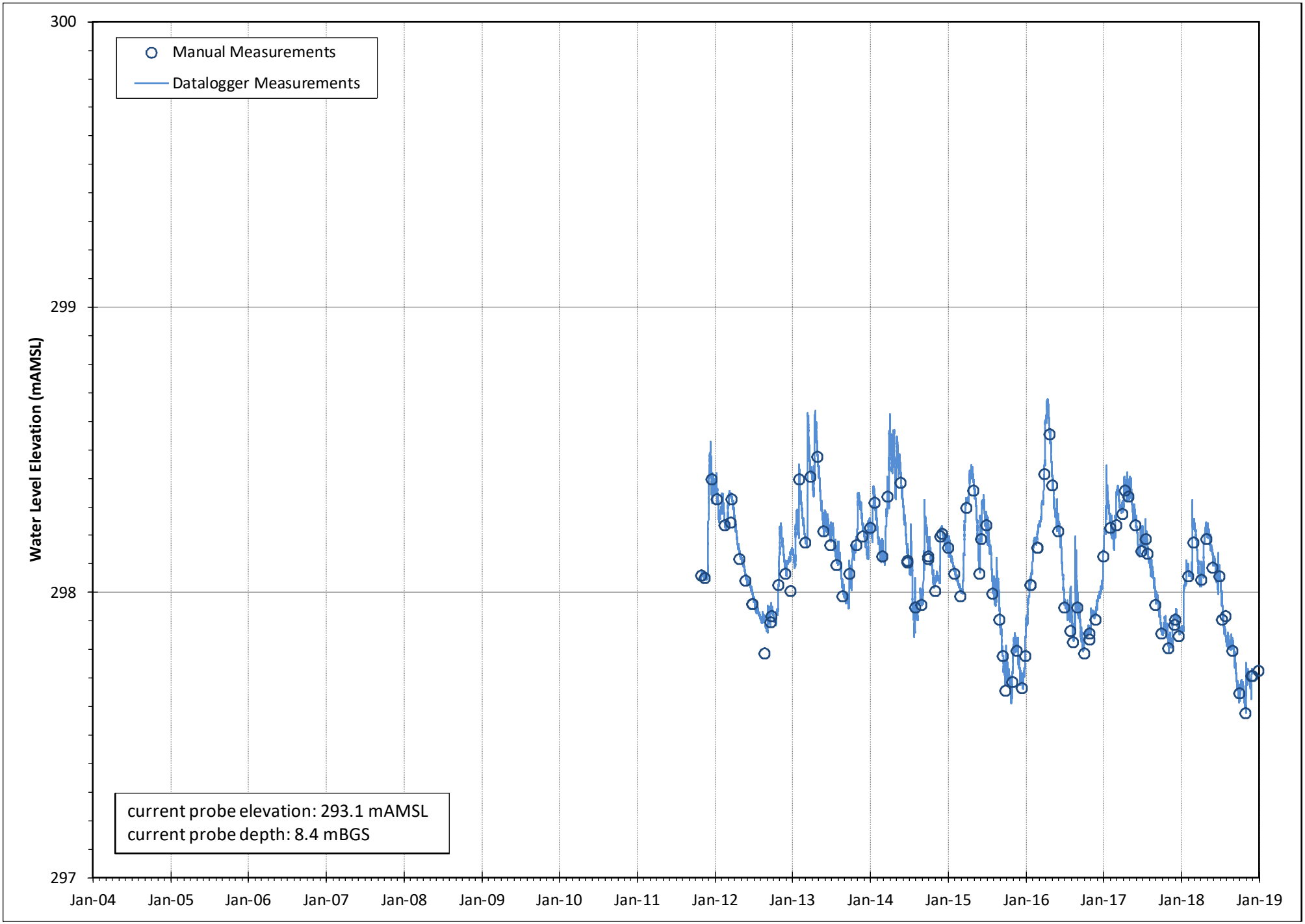
Groundwater Science Corp.
Monitoring Program



CBM Aggregates
Roszell Road Pit

BH16 Hydrograph

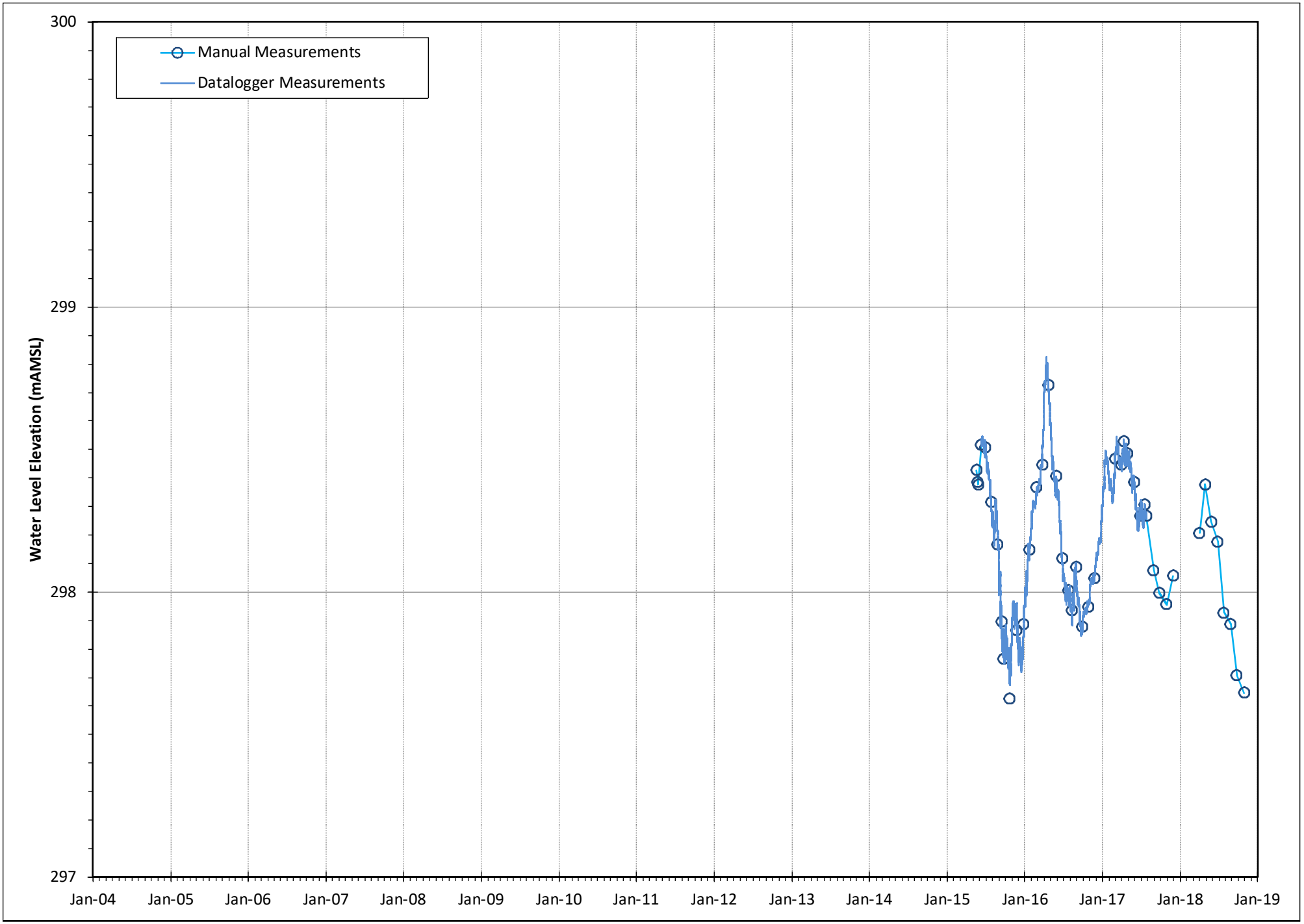
Groundwater Science Corp.
Monitoring Program



CBM Aggregates
Roszell Road Pit

BH17 Hydrograph

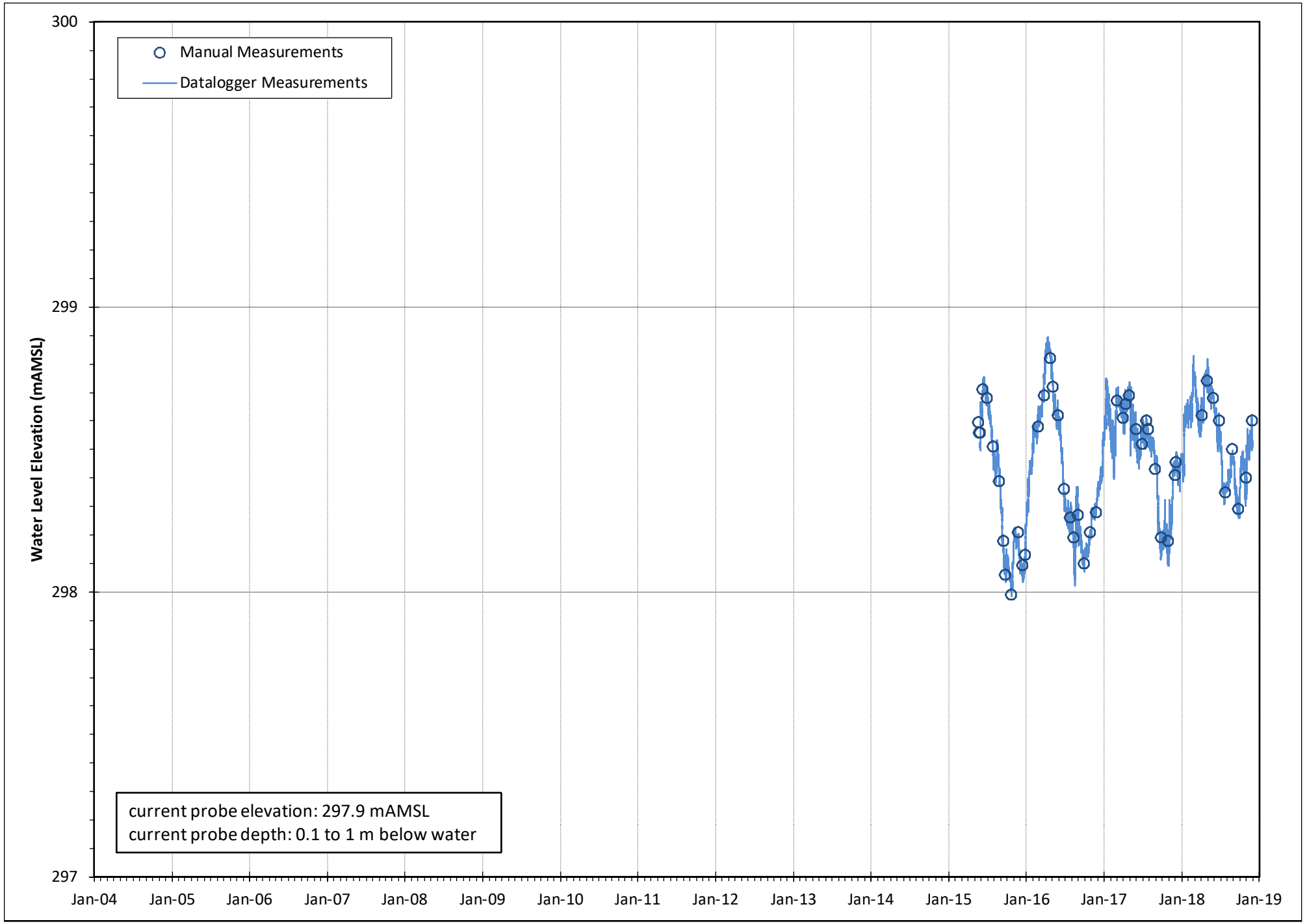
Groundwater Science Corp.
Monitoring Program



CBM Aggregates
Roszell Road Pit

LG3 Hydrograph

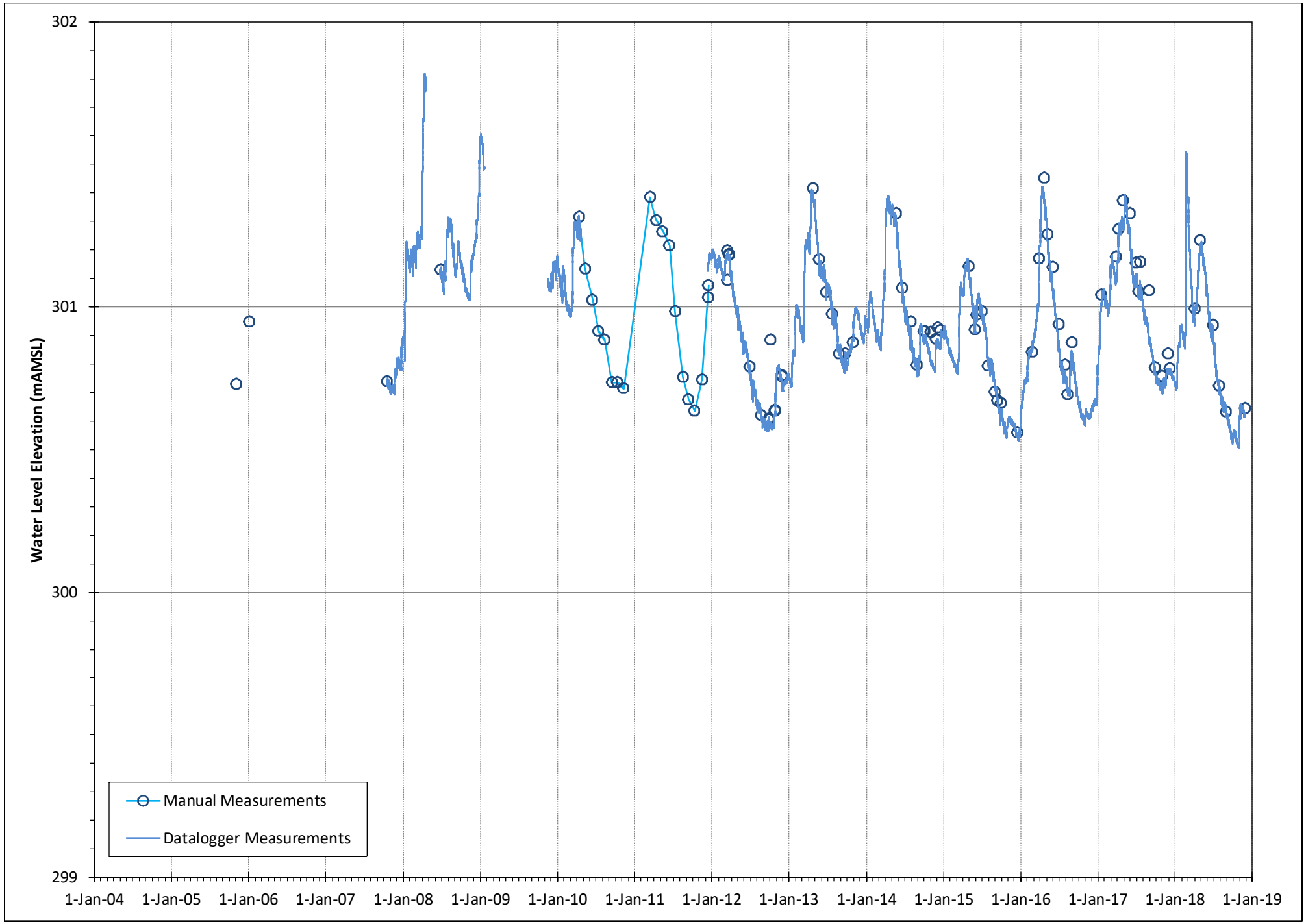
Groundwater Science Corp.
Monitoring Program



CBM Aggregates
Roszell Road Pit

LG4 (Lake 2) Hydrograph

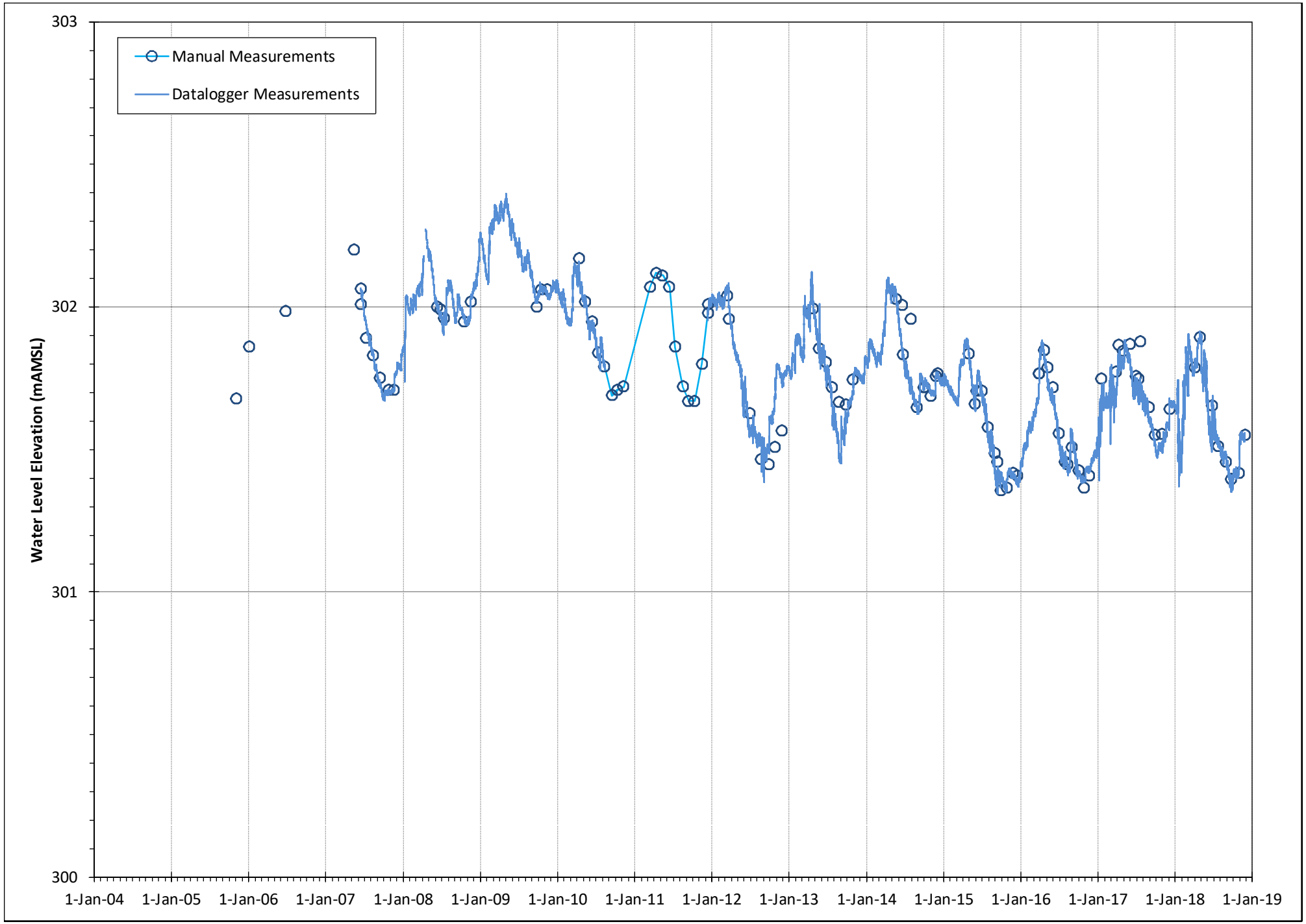
Groundwater Science Corp.
Monitoring Program



CBM Aggregates
Roszell Road Pit

PG1 Hydrograph

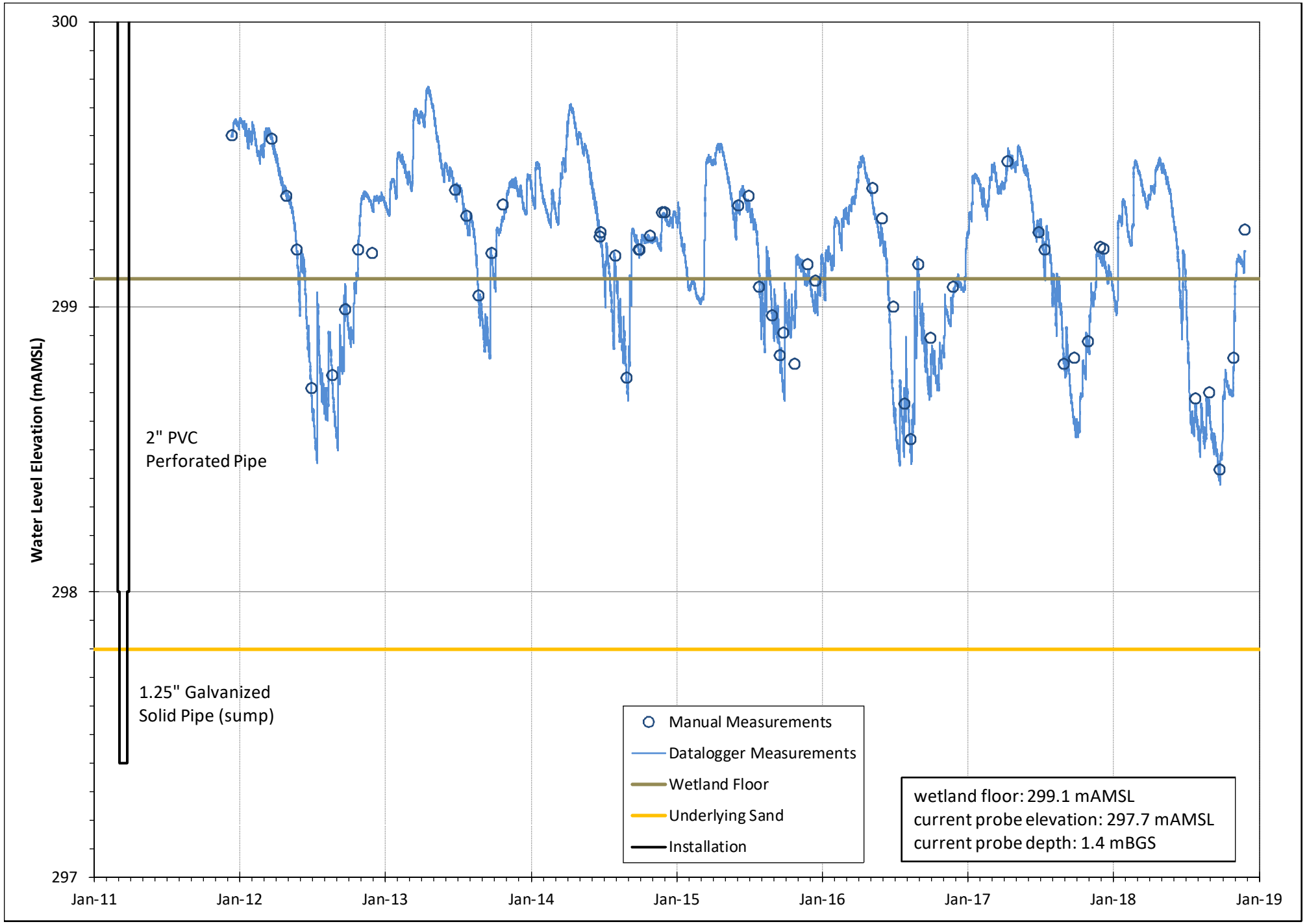
Groundwater Science Corp.
Monitoring Program



Preston Sand and Gravel Company Limited
Roszell Road Pit

PG4 Hydrograph

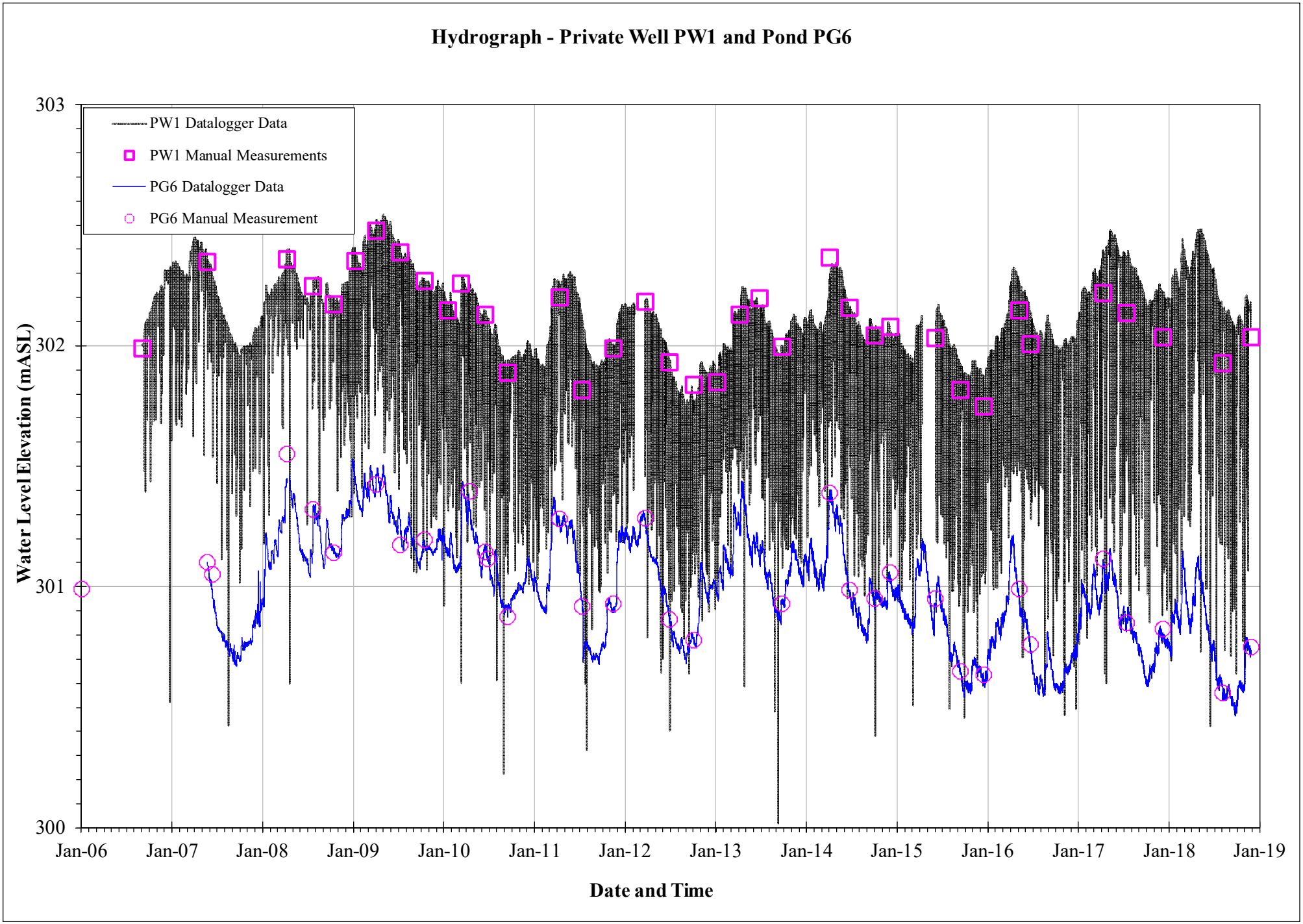
Groundwater Science Corp.
Monitoring Program



CBM Aggregates
Roszell Road Pit

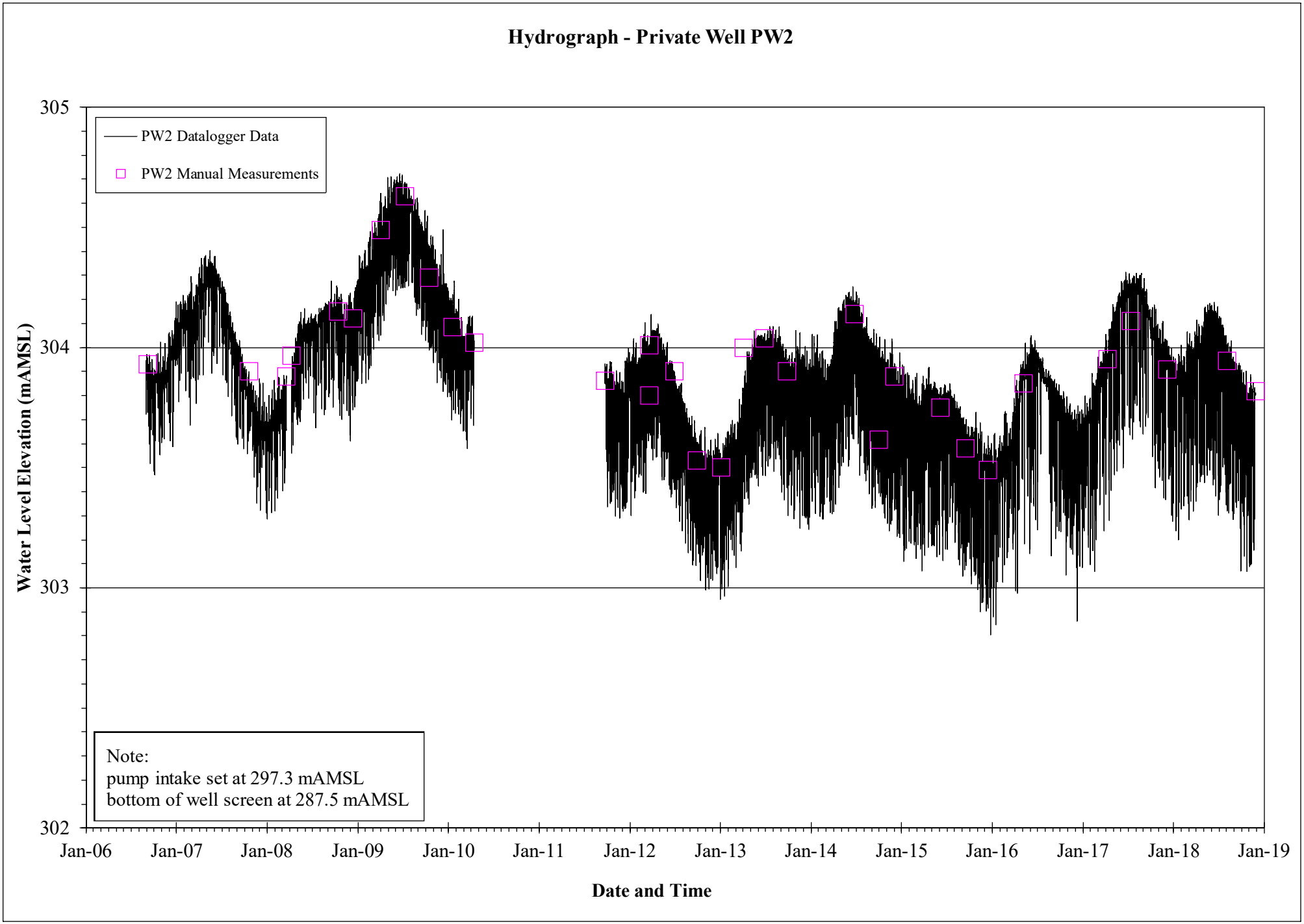
PG7 (Roszell Wetland) Hydrograph

Groundwater Science Corp.
Monitoring Program



CBM Aggregates
Roszell Road Pit

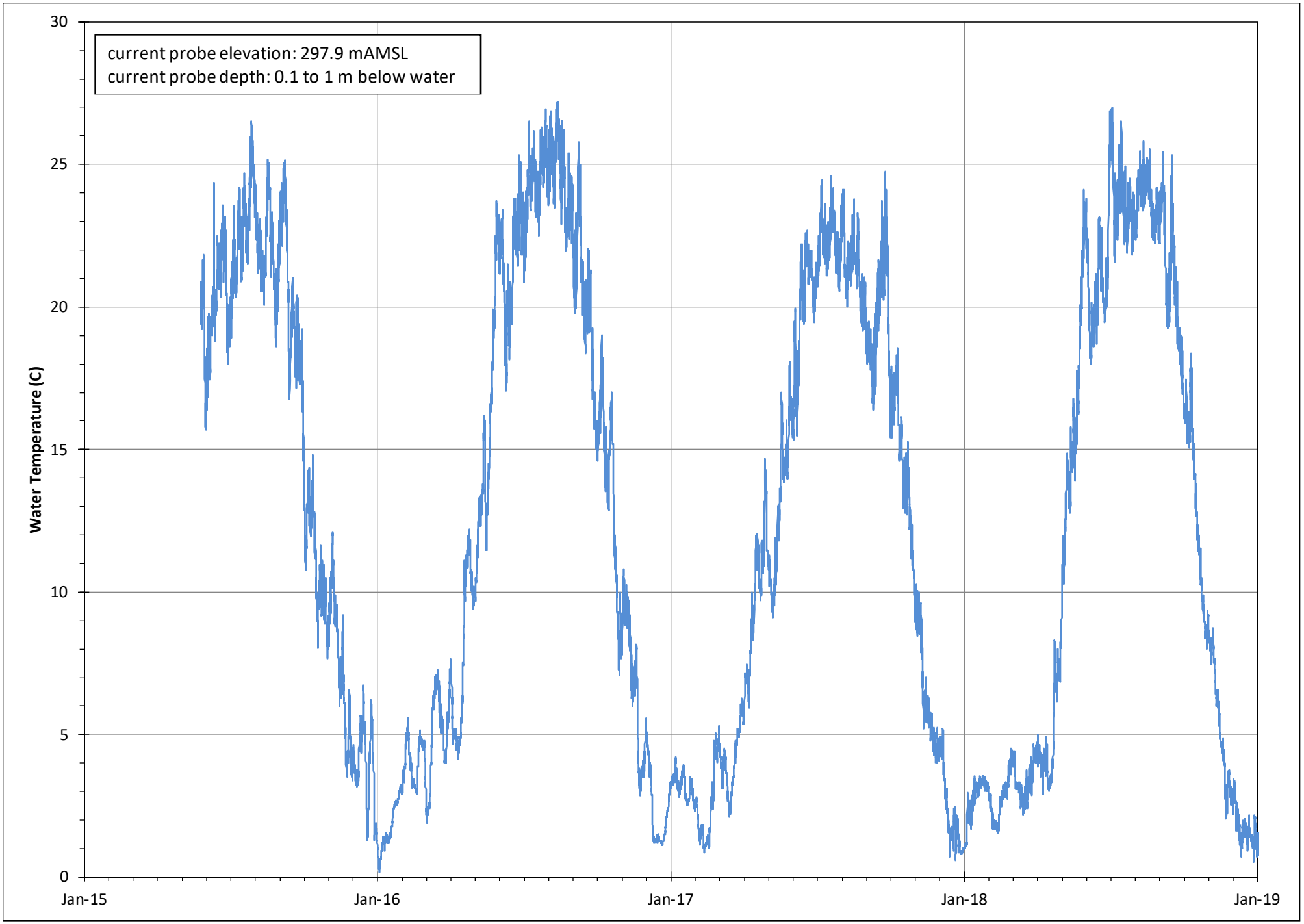
Groundwater Science Corp.
Monitoring Program



CBM Aggregates
Roszell Road Pit

Groundwater Science Corp.
Monitoring Program

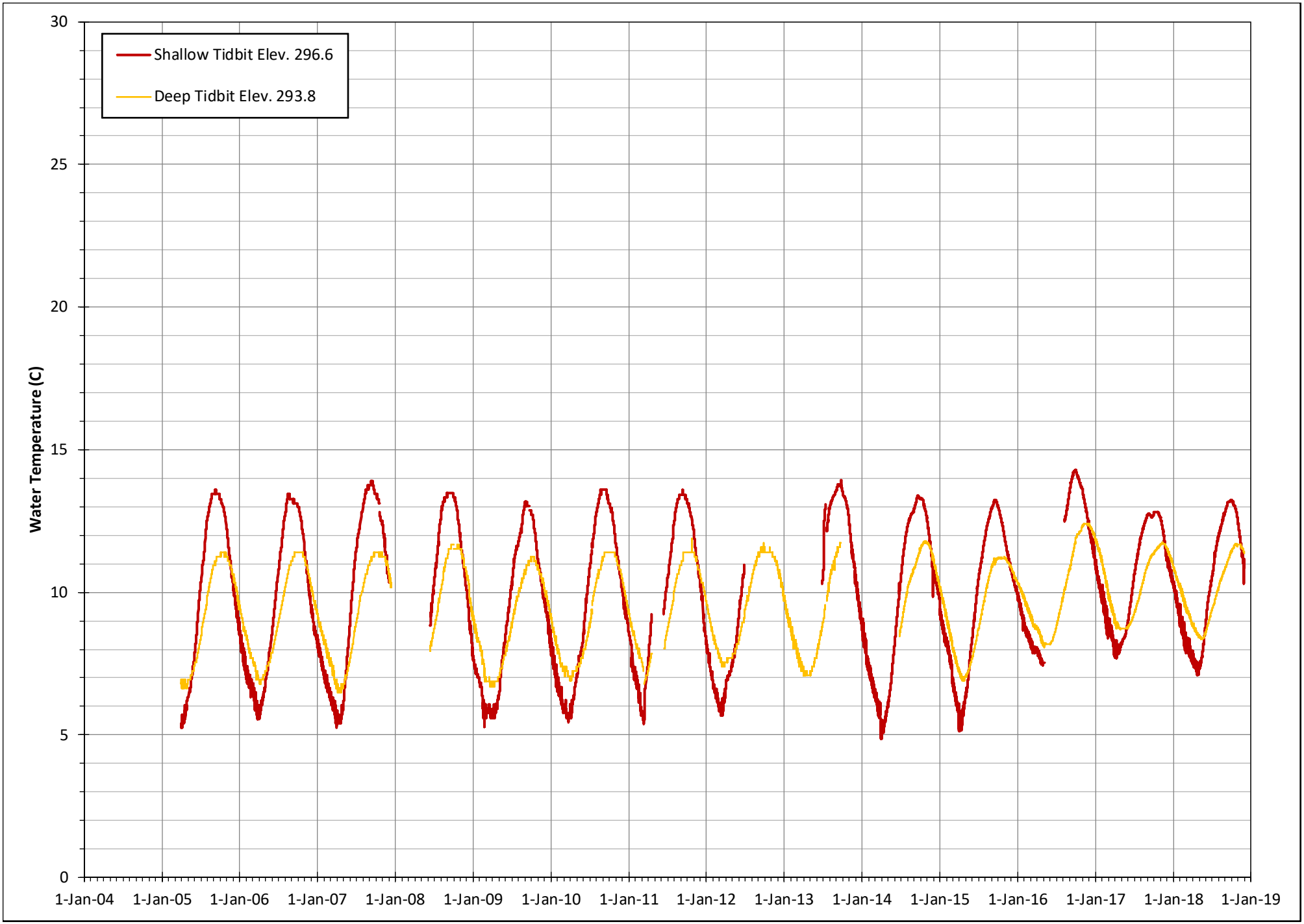
Appendix C
Temperature Plots



CBM Aggregates
Roszell Road Pit

LG4 (Lake 2) Temperature Plot

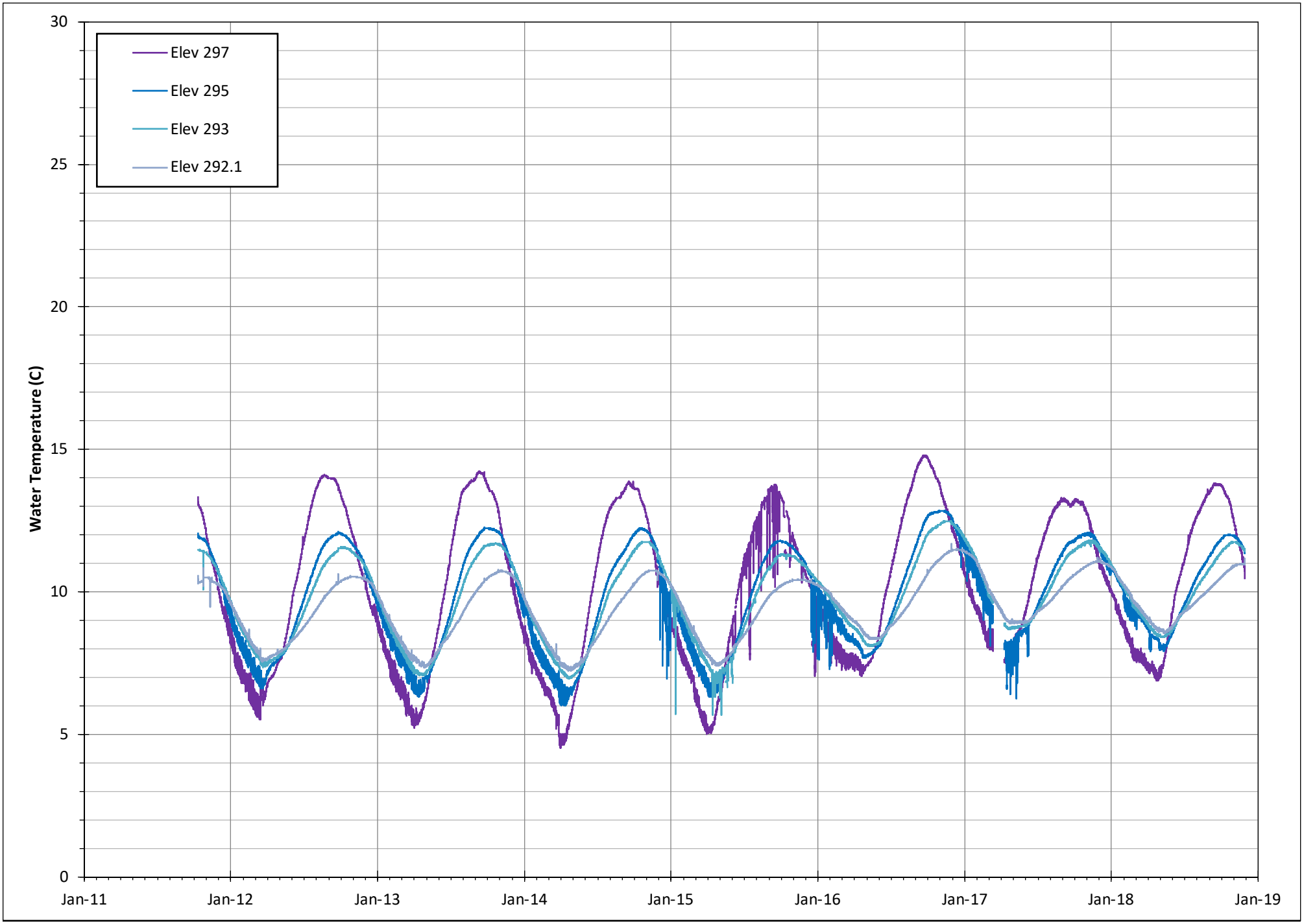
Groundwater Science Corp.
Monitoring Program



CBM Aggregates
Roszell Road Pit

BH1 Long-Term Groundwater Temperature Plot

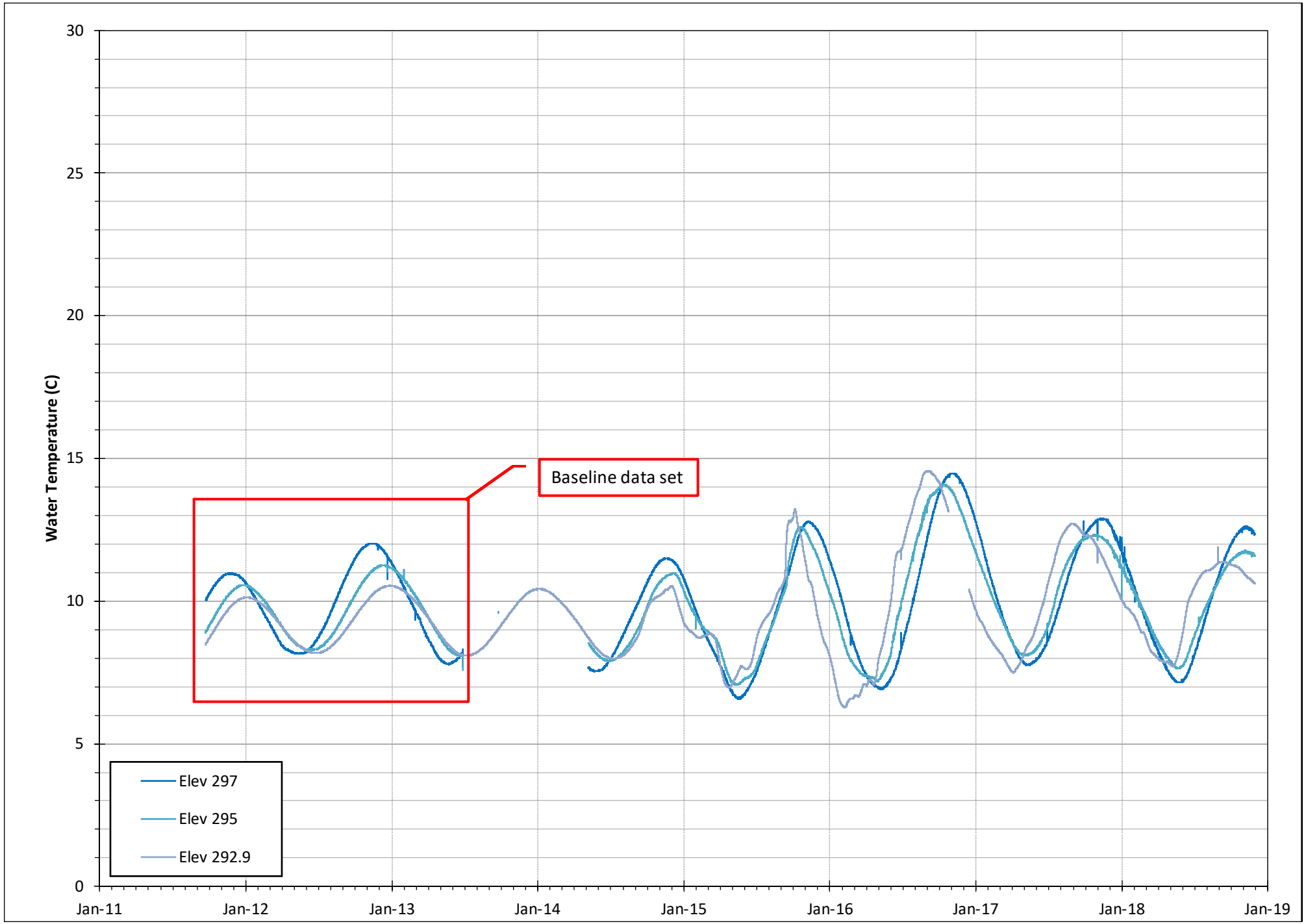
Groundwater Science Corp.
Monitoring Program



CBM Aggregates
Roszell Road Pit

BH1 Groundwater Temperature Plot

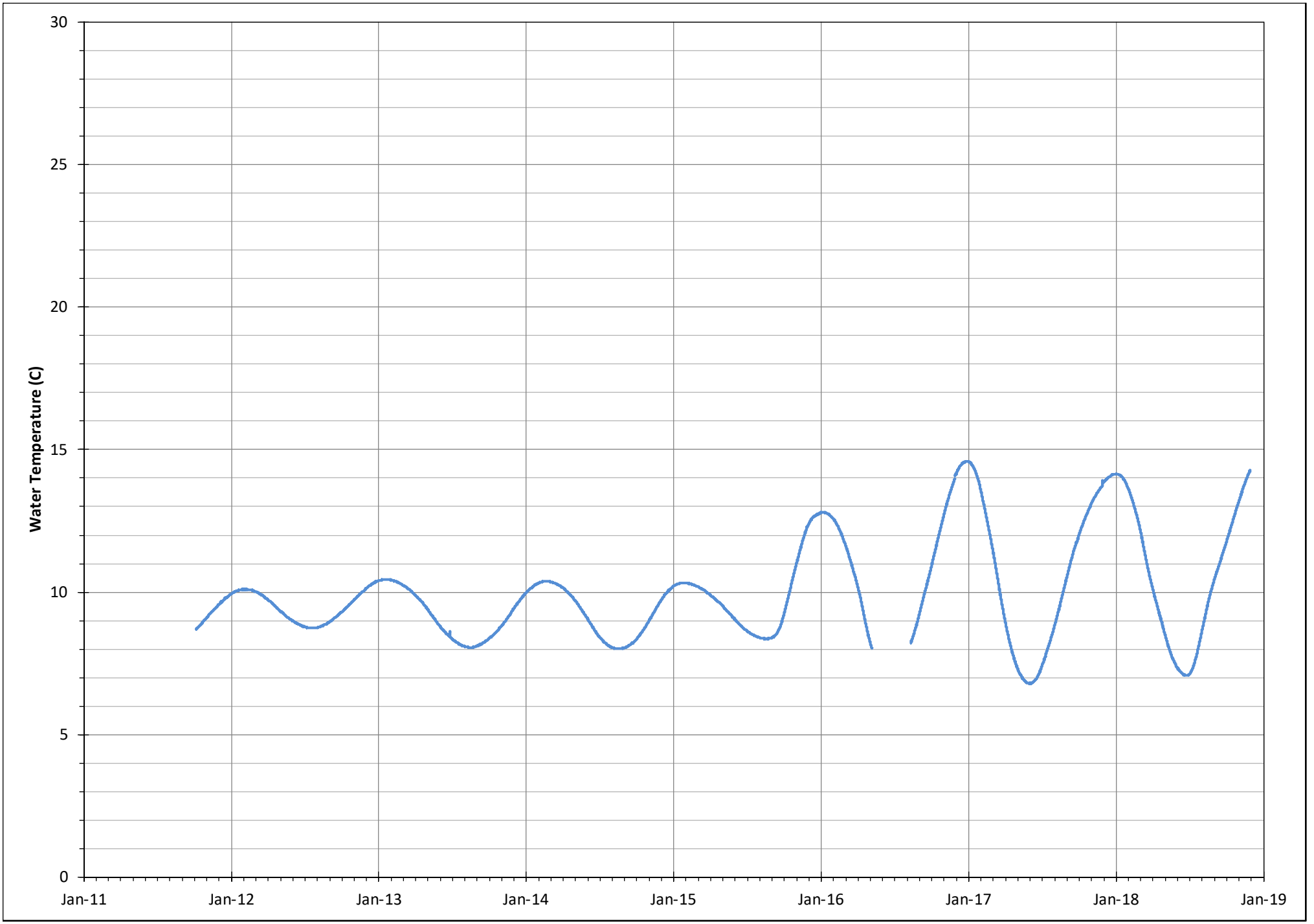
Groundwater Science Corp.
Monitoring Program



CBM Aggregates
Roszell Road Pit

BH4-D Groundwater Temperature Plot

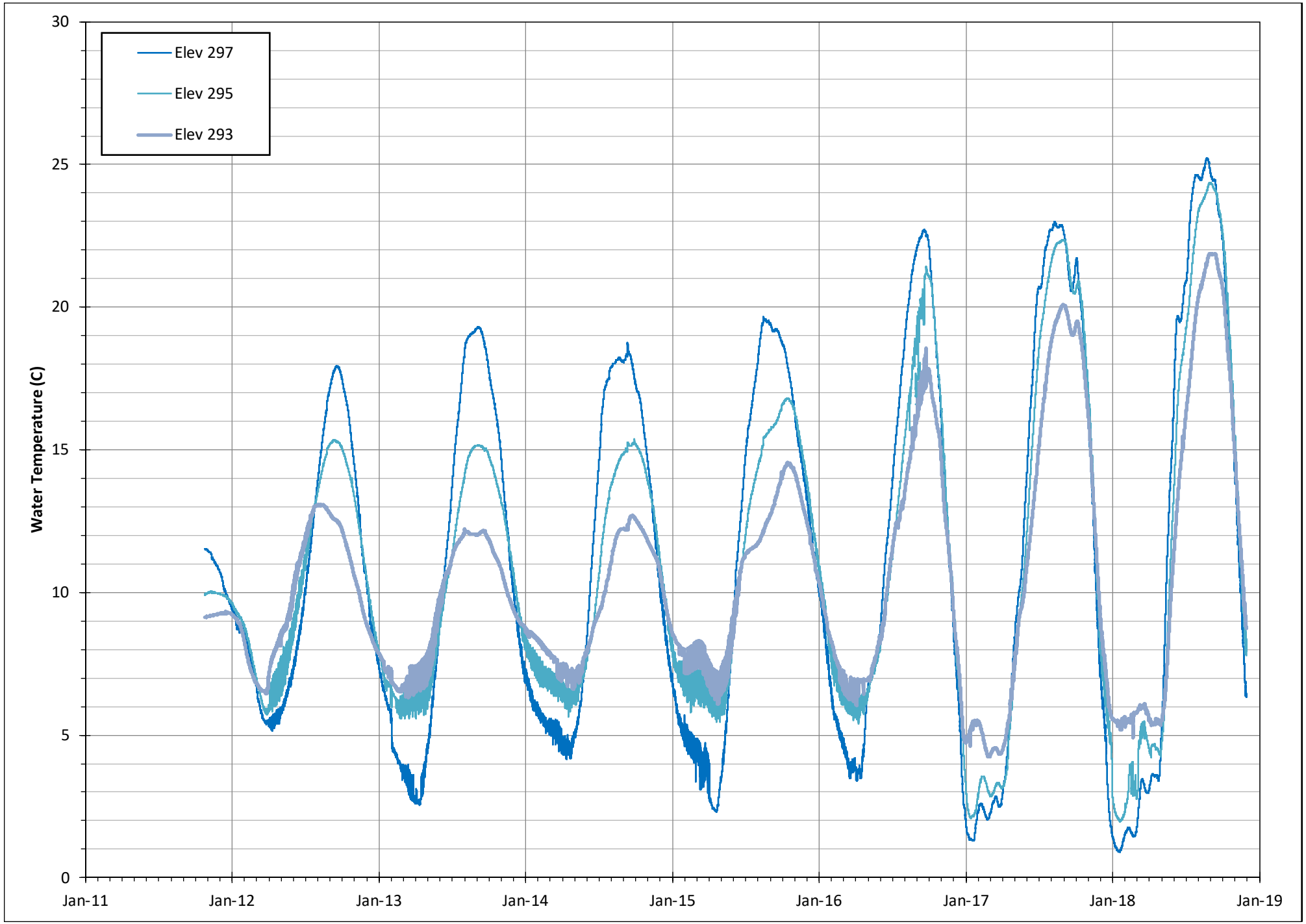
Groundwater Science Corp.
Monitoring Program



CBM Aggregates
Roszell Road Pit

BH7-D Groundwater Temperature Within Well Screen

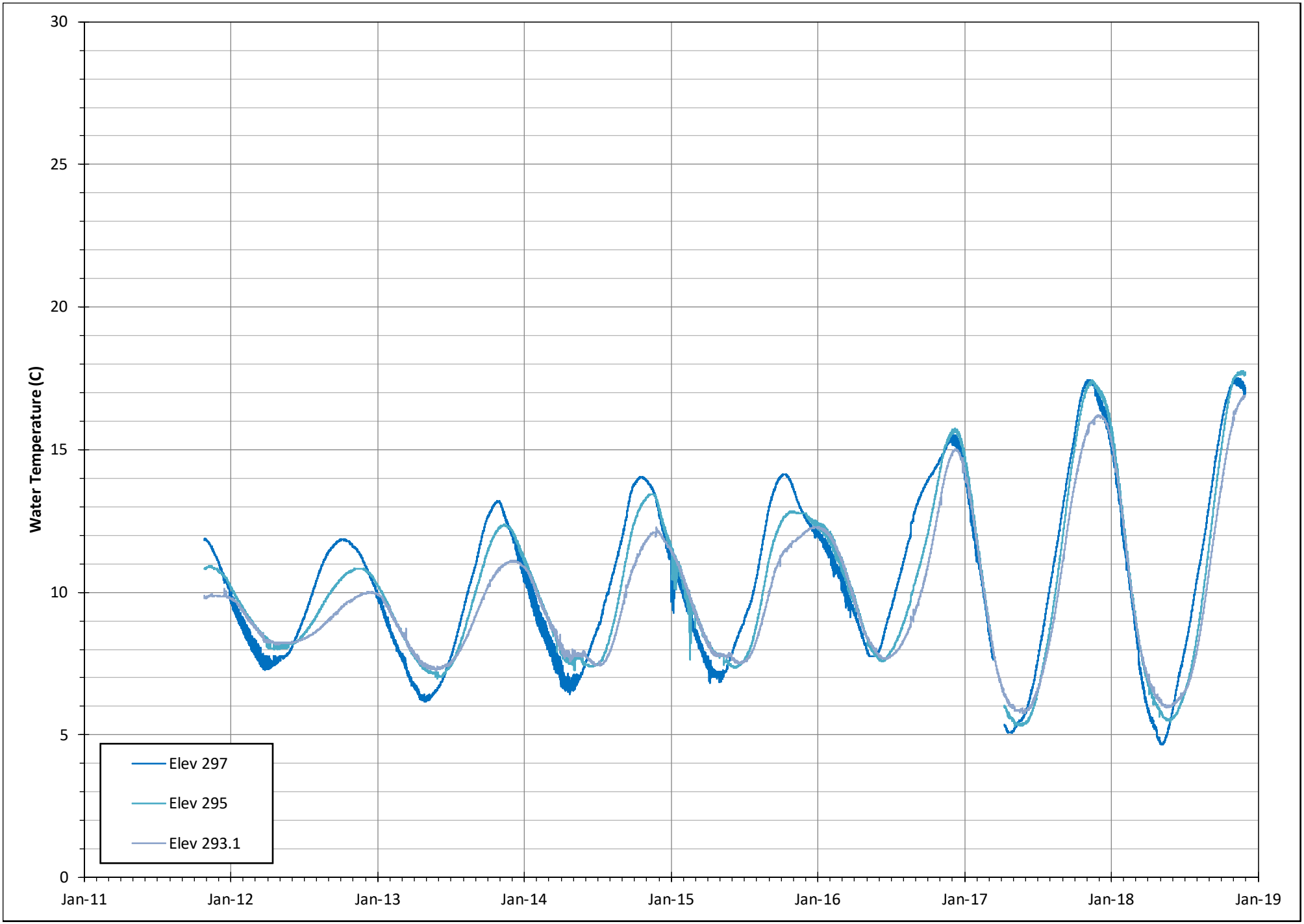
Groundwater Science Corp.
Monitoring Program



CBM Aggregates
Roszell Road Pit

BH16 Groundwater Temperature Plot

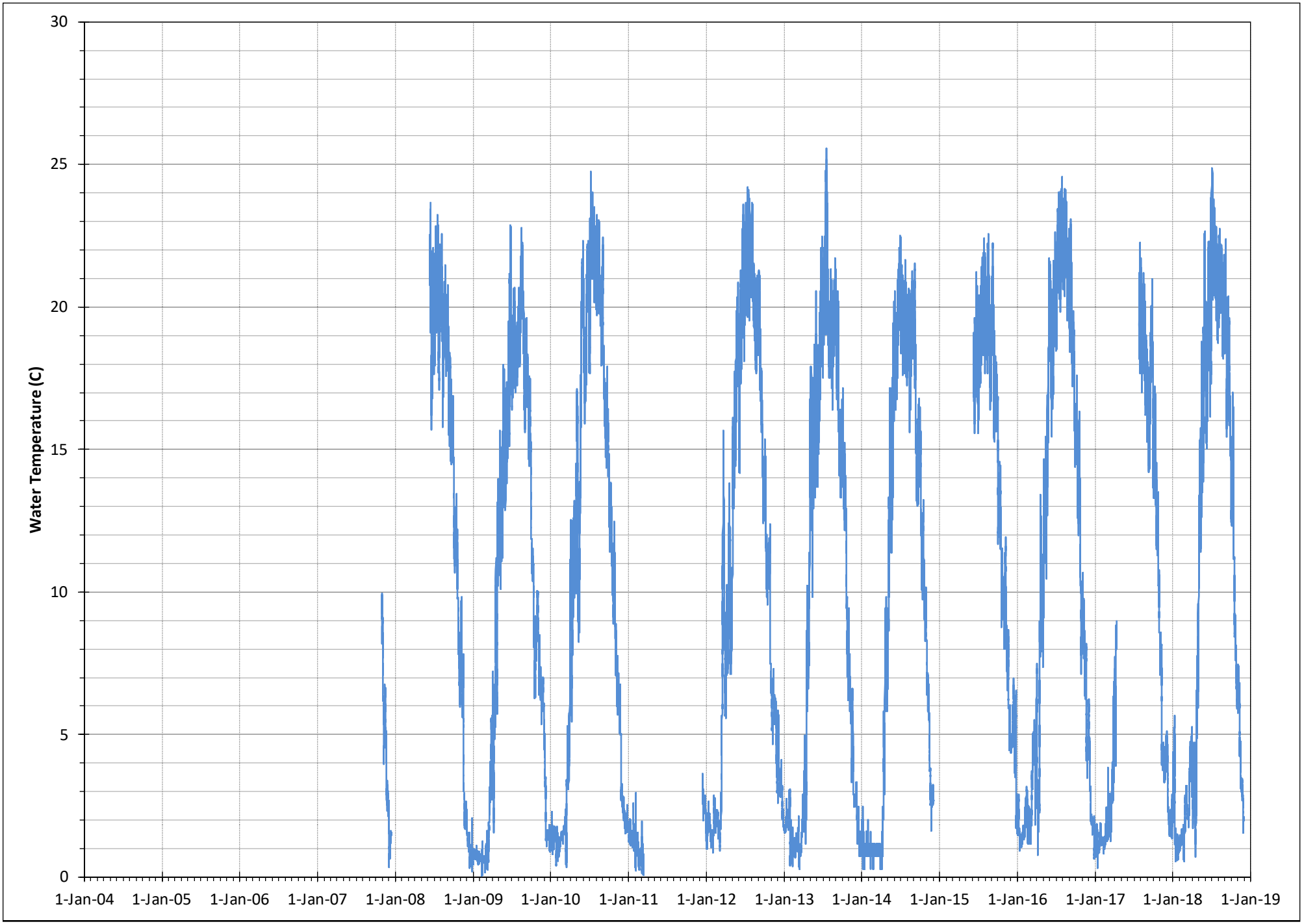
Groundwater Science Corp.
Monitoring Program



CBM Aggregates
Roszell Road Pit

BH17 Groundwater Temperature Plot

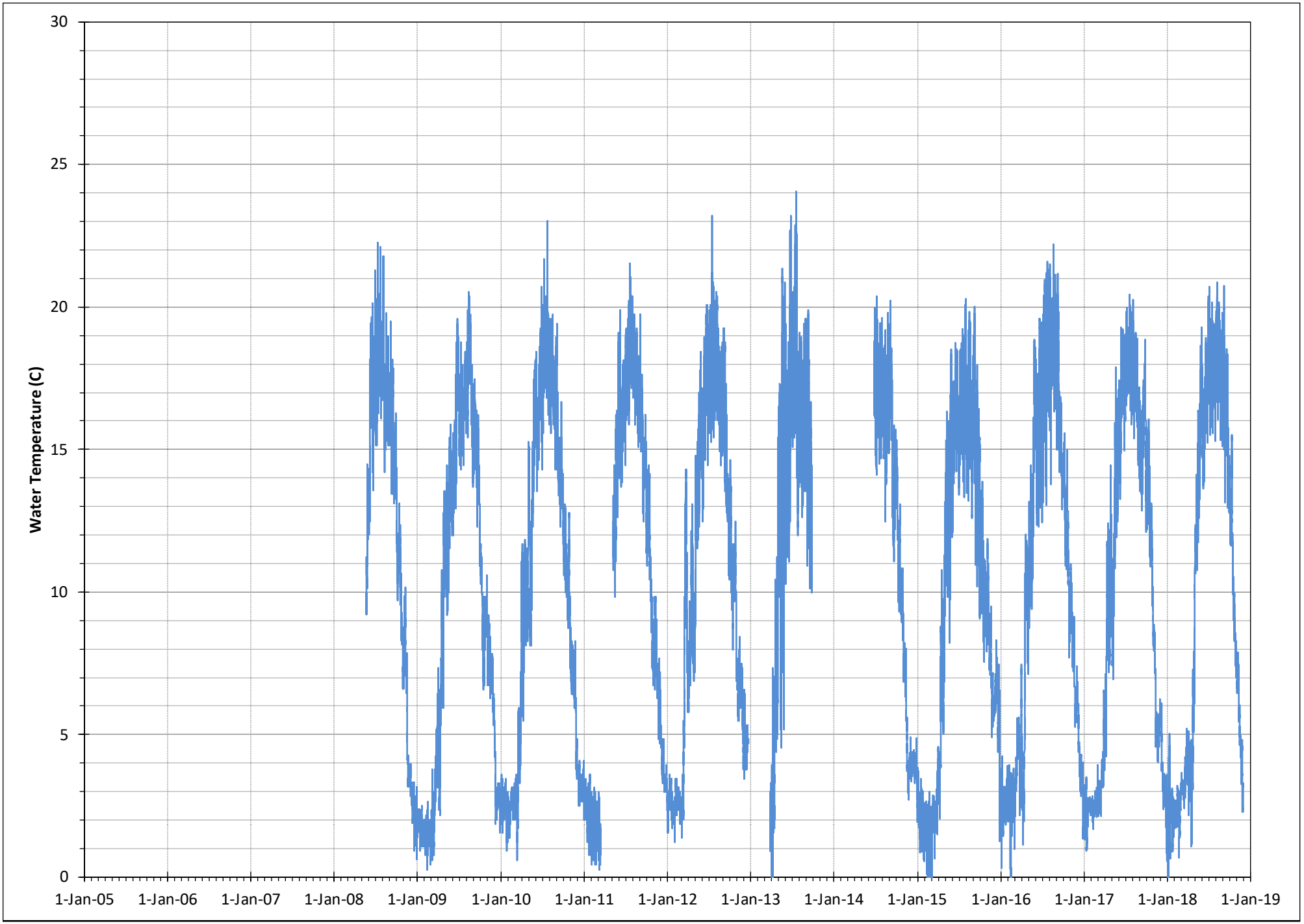
Groundwater Science Corp.
Monitoring Program



CBM Aggregates
Roszell Road Pit

SW1 Temperature Plot

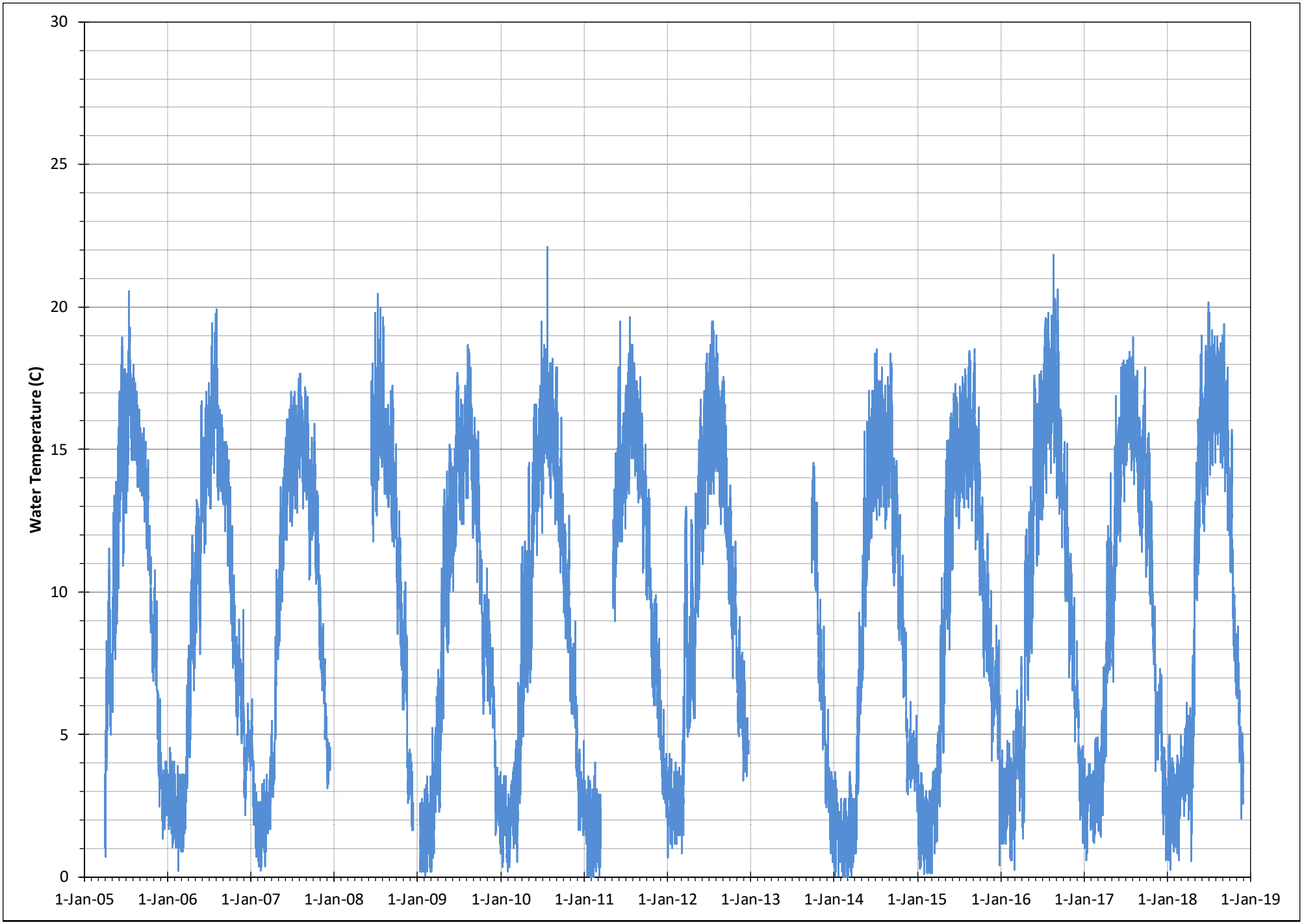
Groundwater Science Corp.
Monitoring Program



CBM Aggregates
Roszell Road Pit

SW2 Temperature Plot

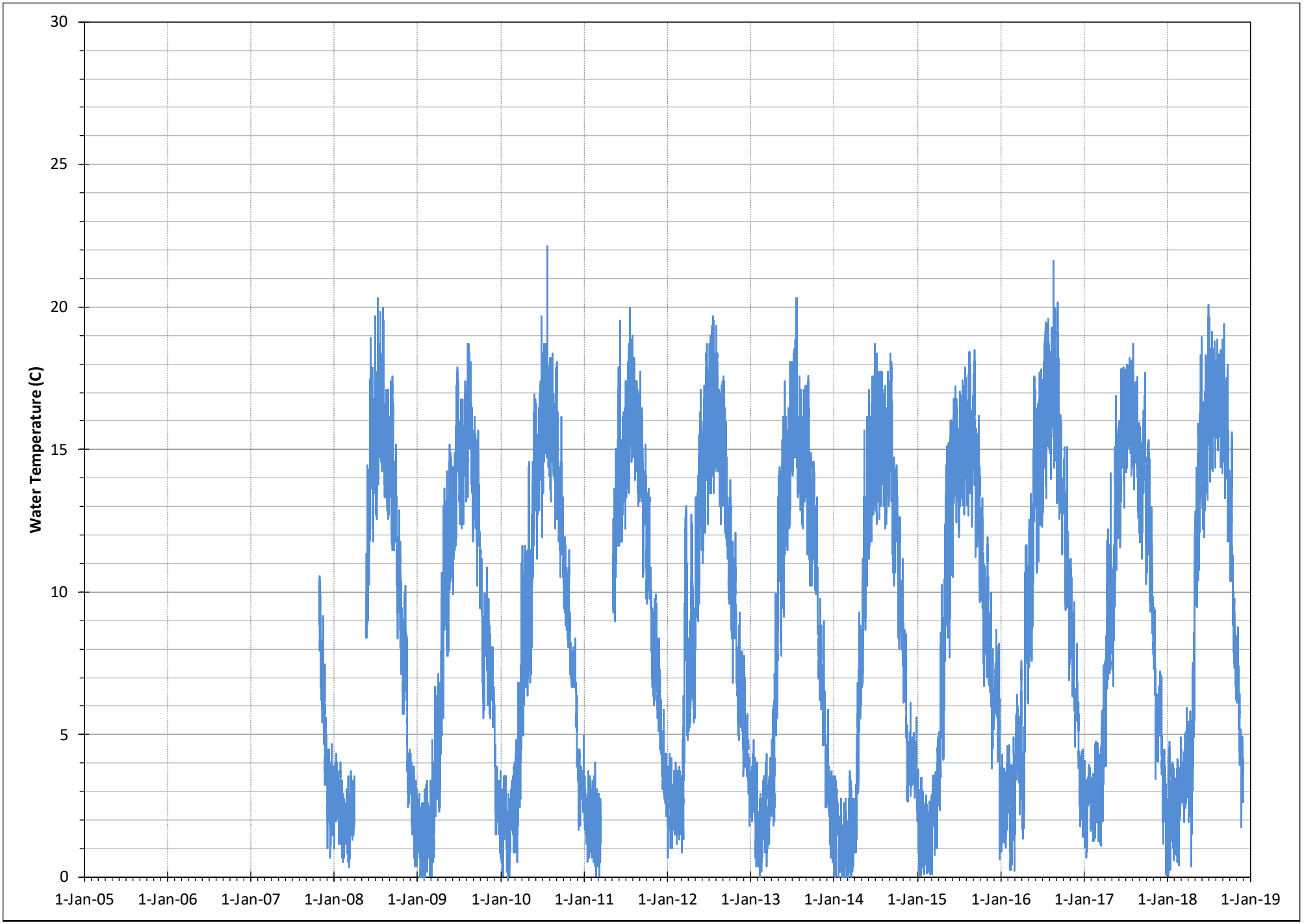
Groundwater Science Corp.
Monitoring Program



CBM Aggregates
Roszell Road Pit

SW3 Temperature Plot

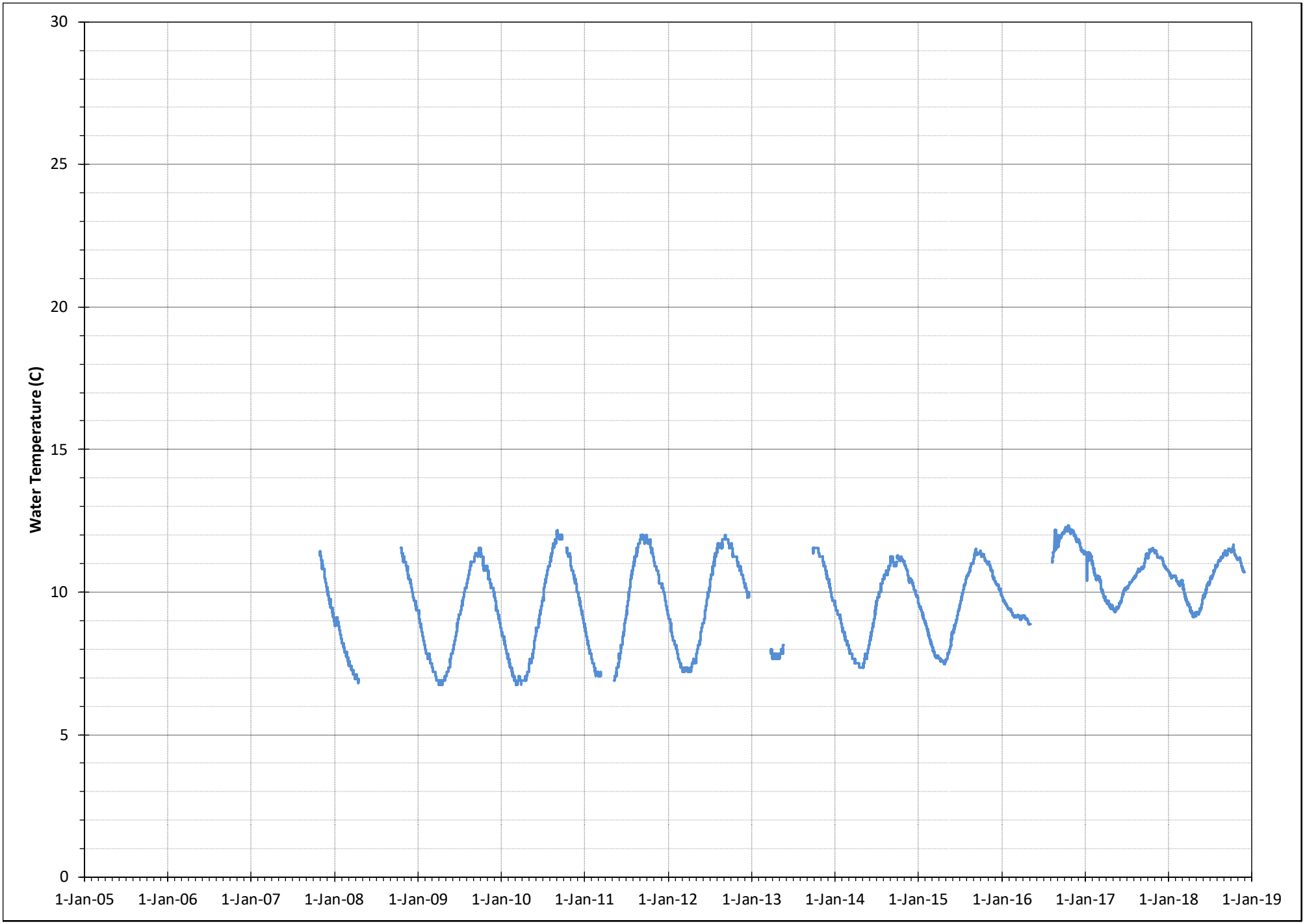
Groundwater Science Corp.
Monitoring Program



CBM Aggregates
Roszell Road Pit

SW4 Temperature Plot

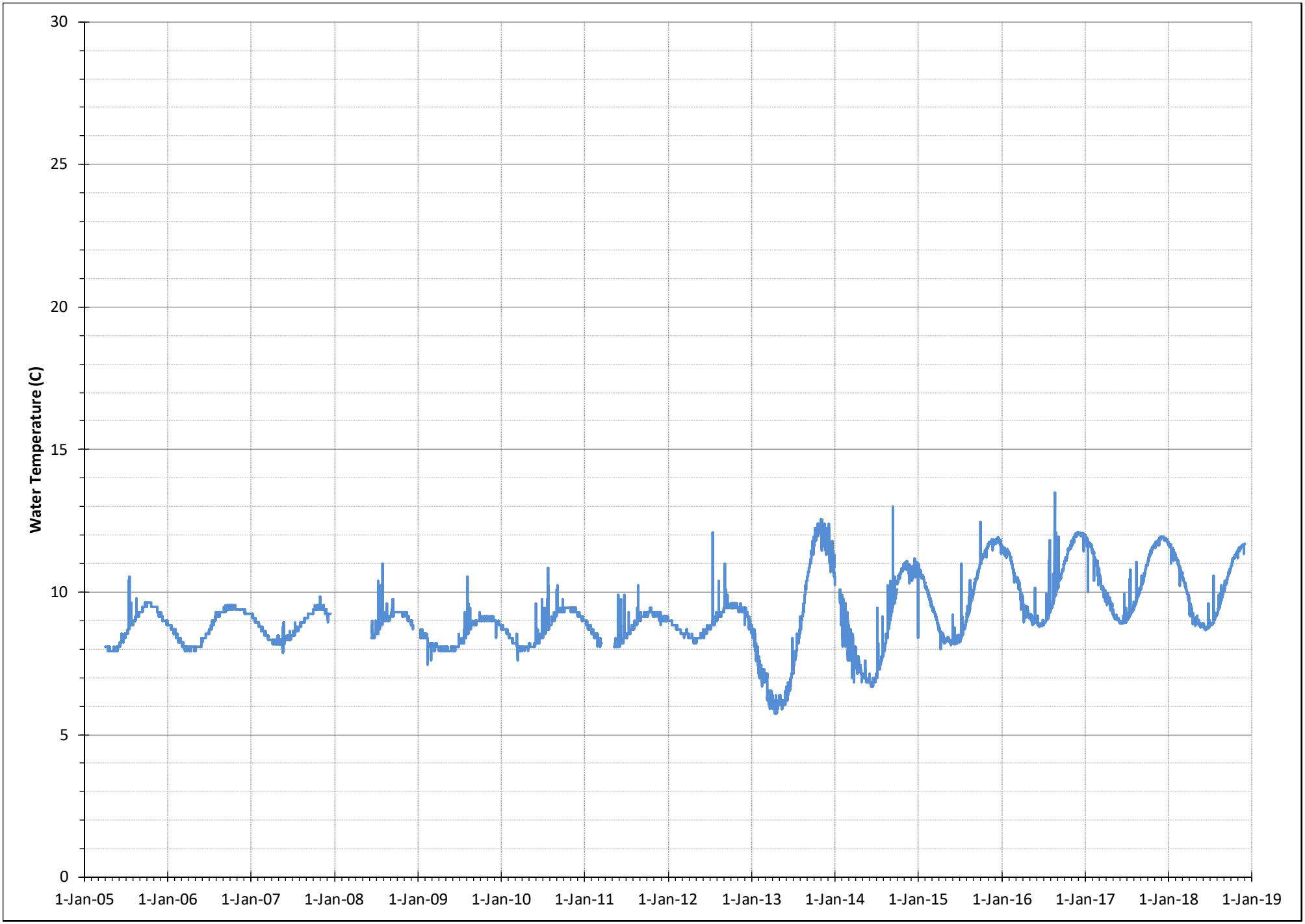
Groundwater Science Corp.
Monitoring Program



CBM Aggregates
Roszell Road Pit

SW5 Temperature Plot

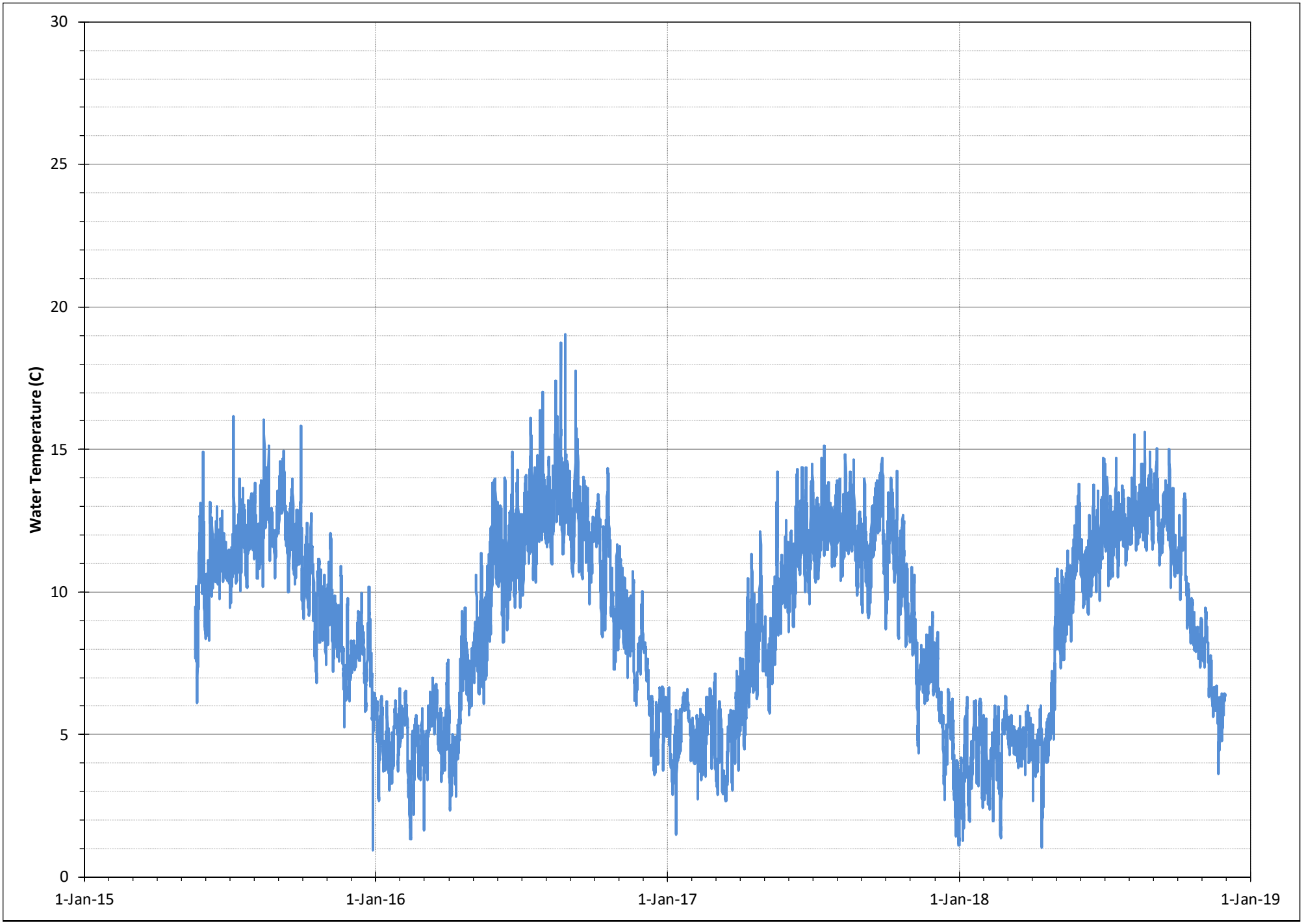
Groundwater Science Corp.
Monitoring Program



CBM Aggregates
Roszell Road Pit

SW6 Temperature Plot

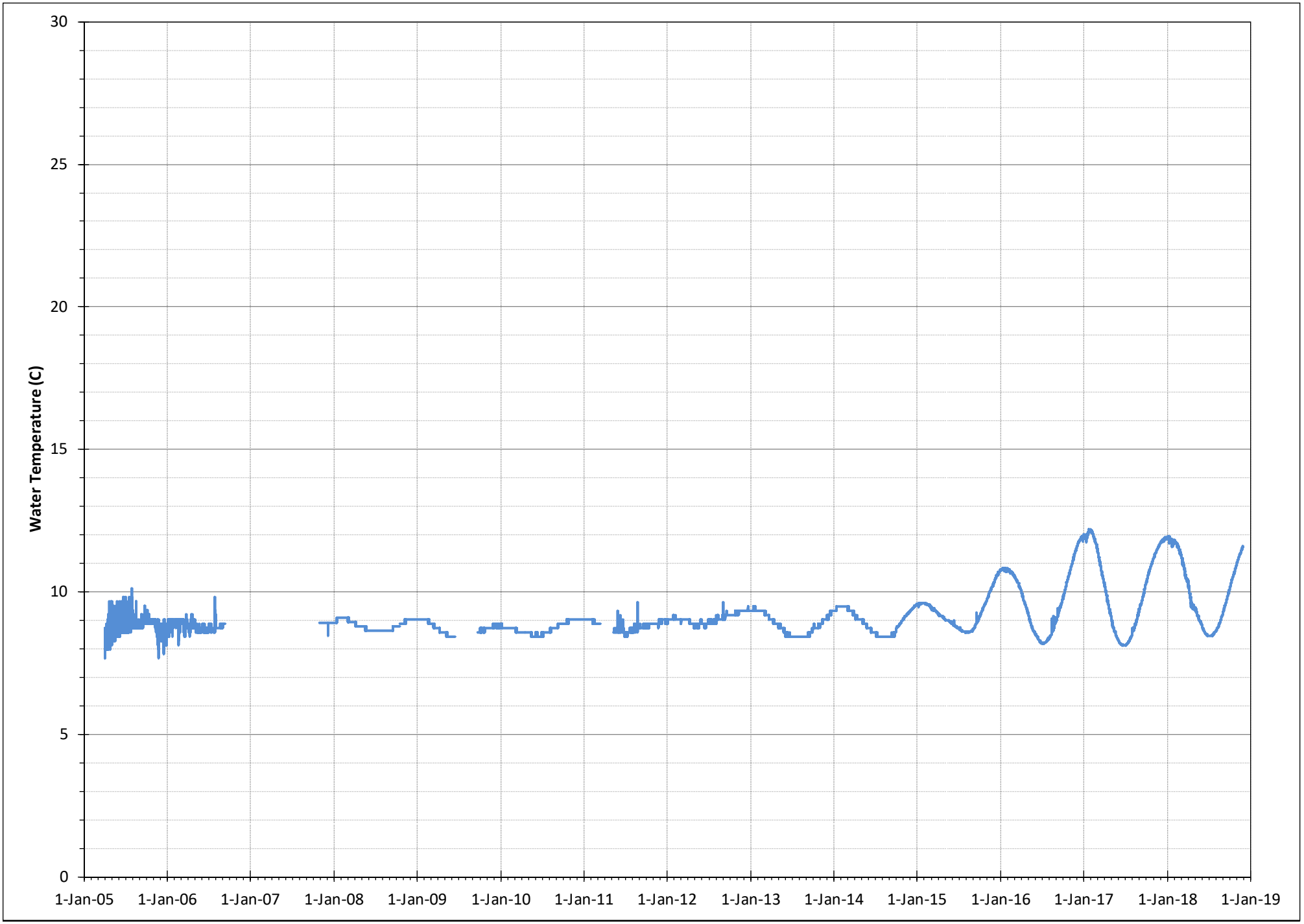
Groundwater Science Corp.
Monitoring Program



CBM Aggregates
Roszell Road Pit

SW7 Temperature Plot

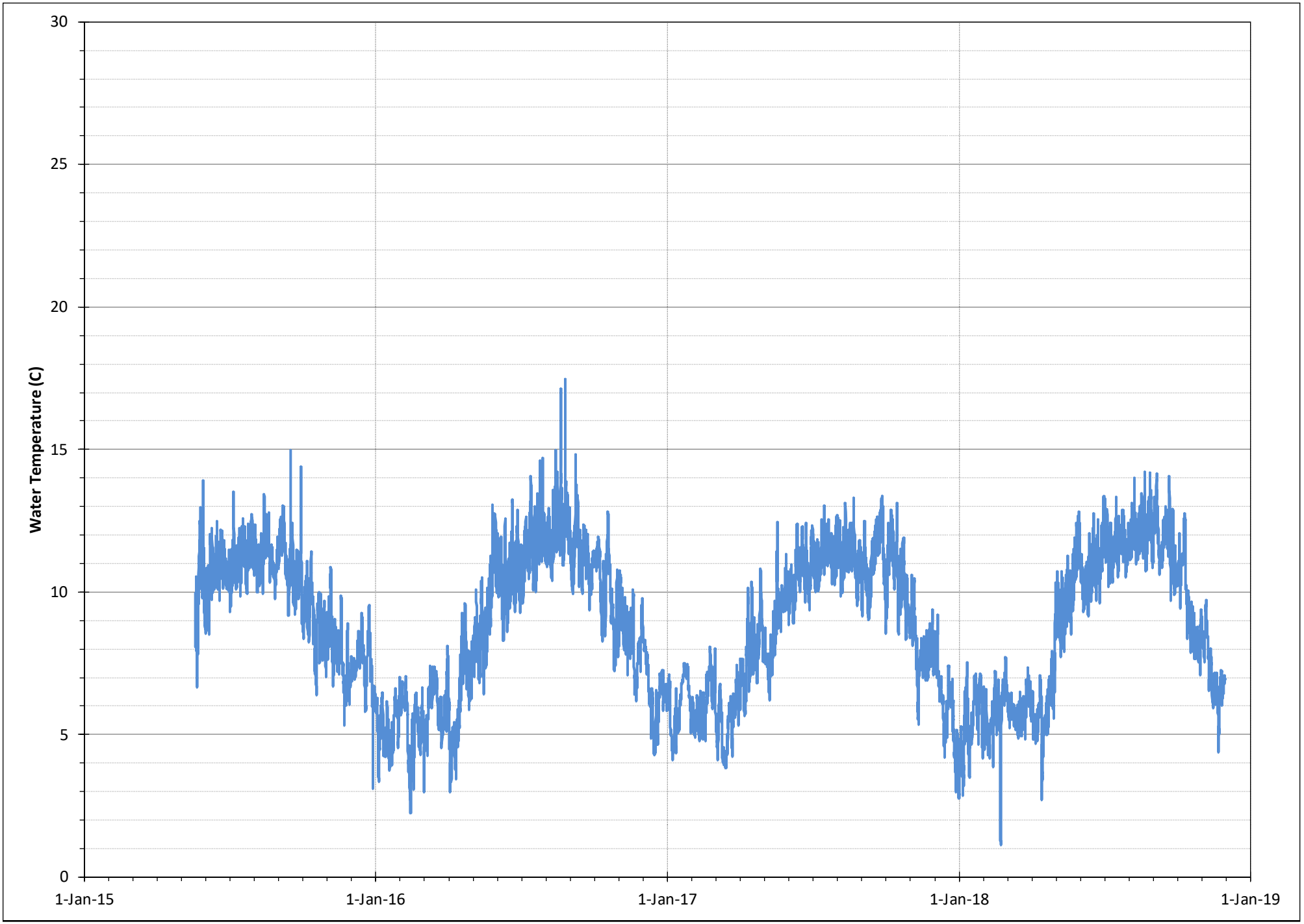
Groundwater Science Corp.
Monitoring Program



CBM Aggregates
Roszell Road Pit

SW8 Temperature Plot

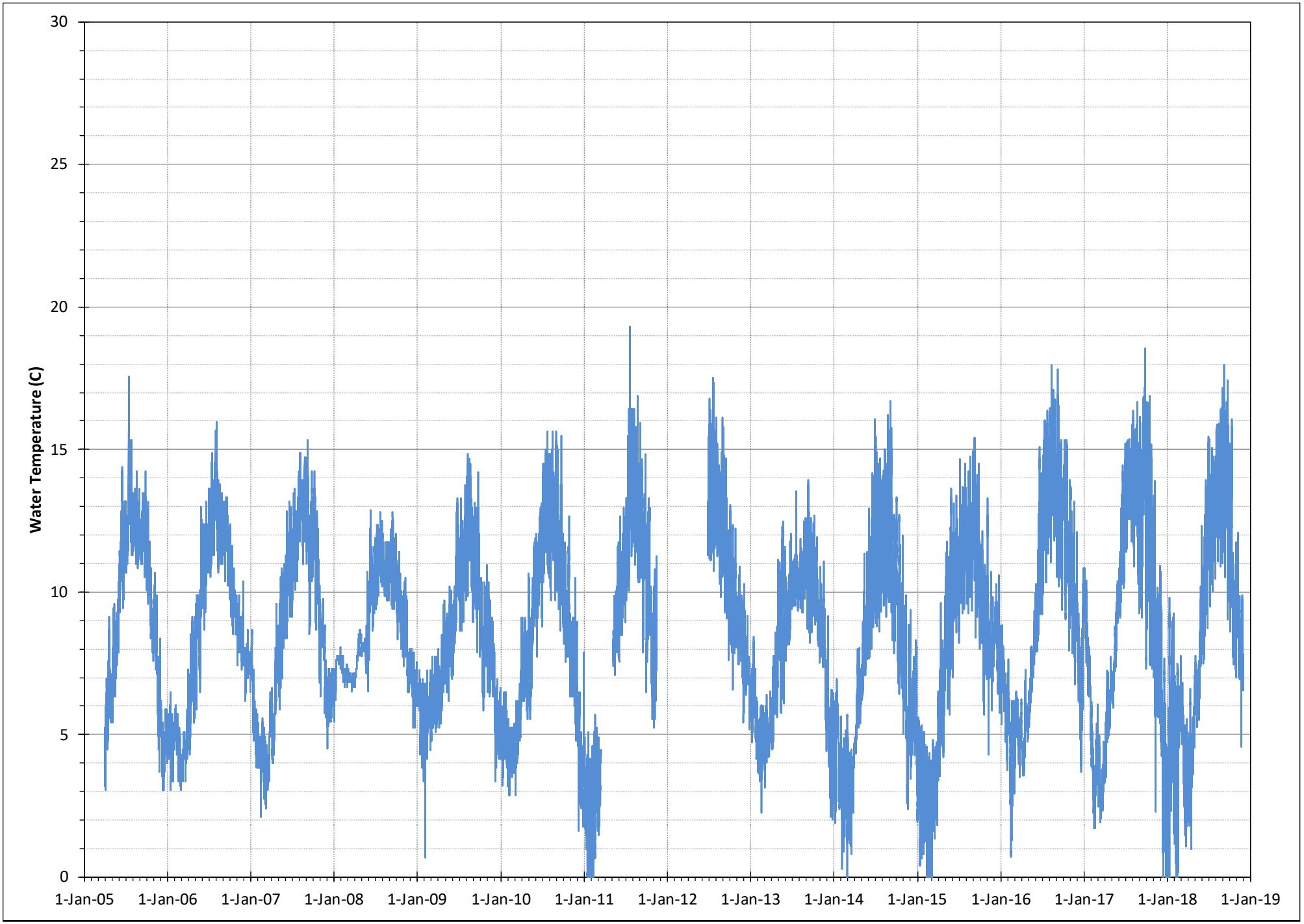
Groundwater Science Corp.
Monitoring Program



CBM Aggregates
Roszell Road Pit

SW9 Temperature Plot

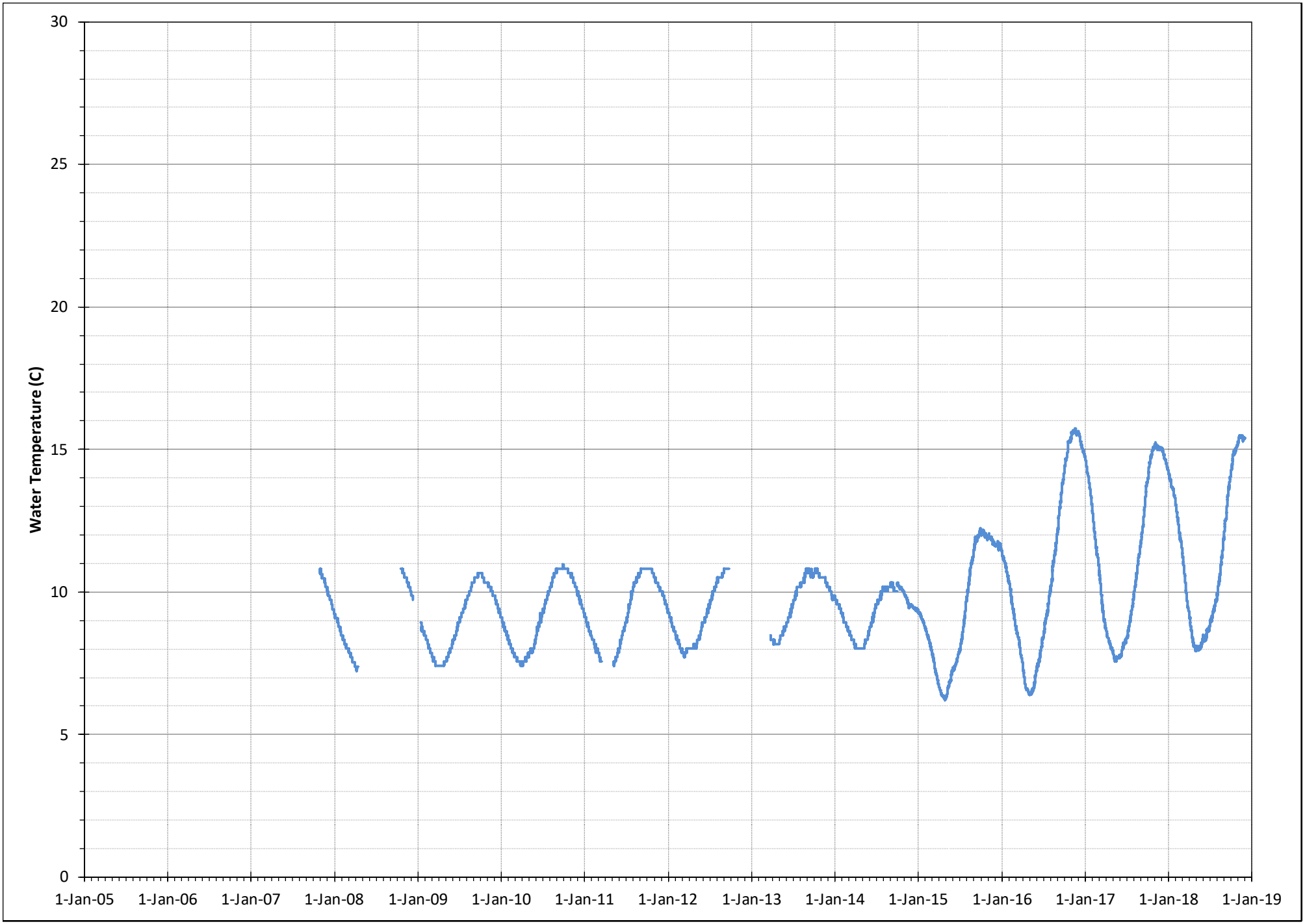
Groundwater Science Corp.
Monitoring Program



CBM Aggregates
Roszell Road Pit

SW10 Temperature Plot

Groundwater Science Corp.
Monitoring Program



CBM Aggregates
Roszell Road Pit

SW12 Temperature Plot

Groundwater Science Corp.
Monitoring Program

Appendix D
Water Quality Results

GROUNDWATER SCIENCE CORP. (Waterloo)
ATTN: ANDREW PENTNEY
465 Kingscourt Drive
UNIT 2
WATERLOO ON N2K 3R5

Date Received: 29-NOV-18
Report Date: 06-DEC-18 14:03 (MT)
Version: FINAL

Client Phone: 519-746-6916

Certificate of Analysis

Lab Work Order #: L2203513

Project P.O. #: NOT SUBMITTED
Job Reference: ROSZELL RD PIT
C of C Numbers: 17-728933
Legal Site Desc:

Nellie Gudzak
Account Manager

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2203513-1 BH1 Sampled By: D.NAHRGANG on 29-NOV-18 @ 10:30 Matrix: WATER							
Physical Tests							
pH	7.86		0.10	pH units		30-NOV-18	R4367024
Anions and Nutrients							
Ammonia, Total (as N)	<0.020		0.020	mg/L		03-DEC-18	R4369208
Bromide (Br)	0.33		0.10	mg/L		03-DEC-18	R4372591
Chloride (Cl)	65.7		0.50	mg/L		03-DEC-18	R4372591
Fluoride (F)	0.110		0.020	mg/L		03-DEC-18	R4372591
Nitrate (as N)	6.82		0.020	mg/L		03-DEC-18	R4372591
Nitrite (as N)	<0.010		0.010	mg/L		03-DEC-18	R4372591
Total Kjeldahl Nitrogen	0.23	TKNI	0.15	mg/L	04-DEC-18	05-DEC-18	R4375969
Phosphorus, Total	0.0057		0.0030	mg/L	04-DEC-18	05-DEC-18	R4373501
Sulfate (SO4)	19.9		0.30	mg/L		03-DEC-18	R4372591
Dissolved Metals							
Dissolved Metals Filtration Location	FIELD					30-NOV-18	R4366175
Aluminum (Al)-Dissolved	<0.0050		0.0050	mg/L	30-NOV-18	30-NOV-18	R4367650
Antimony (Sb)-Dissolved	<0.00010		0.00010	mg/L	30-NOV-18	30-NOV-18	R4367650
Arsenic (As)-Dissolved	0.00013		0.00010	mg/L	30-NOV-18	30-NOV-18	R4367650
Barium (Ba)-Dissolved	0.0479		0.00010	mg/L	30-NOV-18	30-NOV-18	R4367650
Beryllium (Be)-Dissolved	<0.00010		0.00010	mg/L	30-NOV-18	30-NOV-18	R4367650
Bismuth (Bi)-Dissolved	<0.000050		0.000050	mg/L	30-NOV-18	30-NOV-18	R4367650
Boron (B)-Dissolved	0.014		0.010	mg/L	30-NOV-18	30-NOV-18	R4367650
Cadmium (Cd)-Dissolved	0.0000508		0.0000050	mg/L	30-NOV-18	30-NOV-18	R4367650
Calcium (Ca)-Dissolved	65.7		0.050	mg/L	30-NOV-18	30-NOV-18	R4367650
Cesium (Cs)-Dissolved	<0.000010		0.000010	mg/L	30-NOV-18	30-NOV-18	R4367650
Chromium (Cr)-Dissolved	<0.00050		0.00050	mg/L	30-NOV-18	30-NOV-18	R4367650
Cobalt (Co)-Dissolved	<0.00010		0.00010	mg/L	30-NOV-18	30-NOV-18	R4367650
Copper (Cu)-Dissolved	0.00068		0.00020	mg/L	30-NOV-18	30-NOV-18	R4367650
Iron (Fe)-Dissolved	<0.010		0.010	mg/L	30-NOV-18	30-NOV-18	R4367650
Lead (Pb)-Dissolved	0.000058		0.000050	mg/L	30-NOV-18	30-NOV-18	R4367650
Lithium (Li)-Dissolved	0.0018		0.0010	mg/L	30-NOV-18	30-NOV-18	R4367650
Magnesium (Mg)-Dissolved	22.6		0.0050	mg/L	30-NOV-18	30-NOV-18	R4367650
Manganese (Mn)-Dissolved	<0.00050		0.00050	mg/L	30-NOV-18	30-NOV-18	R4367650
Molybdenum (Mo)-Dissolved	0.000335		0.000050	mg/L	30-NOV-18	30-NOV-18	R4367650
Nickel (Ni)-Dissolved	<0.00050		0.00050	mg/L	30-NOV-18	30-NOV-18	R4367650
Phosphorus (P)-Dissolved	<0.050		0.050	mg/L	30-NOV-18	30-NOV-18	R4367650
Potassium (K)-Dissolved	1.52		0.050	mg/L	30-NOV-18	30-NOV-18	R4367650
Rubidium (Rb)-Dissolved	0.00143		0.00020	mg/L	30-NOV-18	30-NOV-18	R4367650
Selenium (Se)-Dissolved	<0.000050		0.000050	mg/L	30-NOV-18	30-NOV-18	R4367650
Silicon (Si)-Dissolved	4.60		0.050	mg/L	30-NOV-18	30-NOV-18	R4367650
Silver (Ag)-Dissolved	<0.000050		0.000050	mg/L	30-NOV-18	30-NOV-18	R4367650
Sodium (Na)-Dissolved	18.0		0.050	mg/L	30-NOV-18	30-NOV-18	R4367650
Strontium (Sr)-Dissolved	0.0898		0.0010	mg/L	30-NOV-18	30-NOV-18	R4367650

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2203513-1 BH1 Sampled By: D.NAHRGANG on 29-NOV-18 @ 10:30 Matrix: WATER							
Dissolved Metals							
Sulfur (S)-Dissolved	6.88		0.50	mg/L	30-NOV-18	30-NOV-18	R4367650
Tellurium (Te)-Dissolved	<0.00020		0.00020	mg/L	30-NOV-18	30-NOV-18	R4367650
Thallium (Tl)-Dissolved	<0.000010		0.000010	mg/L	30-NOV-18	30-NOV-18	R4367650
Thorium (Th)-Dissolved	<0.00010		0.00010	mg/L	30-NOV-18	30-NOV-18	R4367650
Tin (Sn)-Dissolved	<0.00010		0.00010	mg/L	30-NOV-18	30-NOV-18	R4367650
Titanium (Ti)-Dissolved	<0.00030		0.00030	mg/L	30-NOV-18	30-NOV-18	R4367650
Tungsten (W)-Dissolved	0.00035		0.00010	mg/L	30-NOV-18	30-NOV-18	R4367650
Uranium (U)-Dissolved	0.000250		0.000010	mg/L	30-NOV-18	30-NOV-18	R4367650
Vanadium (V)-Dissolved	<0.00050		0.00050	mg/L	30-NOV-18	30-NOV-18	R4367650
Zinc (Zn)-Dissolved	0.0104		0.0010	mg/L	30-NOV-18	30-NOV-18	R4367650
Zirconium (Zr)-Dissolved	<0.00030		0.00030	mg/L	30-NOV-18	30-NOV-18	R4367650
Hydrocarbons							
F1 (C6-C10)	<25		25	ug/L		03-DEC-18	R4369115
F2 (C10-C16)	<100		100	ug/L	30-NOV-18	30-NOV-18	R4367810
F3 (C16-C34)	<250		250	ug/L	30-NOV-18	30-NOV-18	R4367810
F4 (C34-C50)	<250		250	ug/L	30-NOV-18	30-NOV-18	R4367810
Total Hydrocarbons (C6-C50)	<370		370	ug/L		03-DEC-18	
Chrom. to baseline at nC50	YES				30-NOV-18	30-NOV-18	R4367810
Surrogate: 2-Bromobenzotrifluoride	81.2		60-140	%	30-NOV-18	30-NOV-18	R4367810
Surrogate: 3,4-Dichlorotoluene	108.6		60-140	%		03-DEC-18	R4369115
L2203513-2 BH5 Sampled By: D.NAHRGANG on 29-NOV-18 @ 12:15 Matrix: WATER							
Physical Tests							
pH	7.23		0.10	pH units		03-DEC-18	R4368274
Anions and Nutrients							
Ammonia, Total (as N)	<0.020		0.020	mg/L		03-DEC-18	R4369208
Bromide (Br)	<0.10		0.10	mg/L		03-DEC-18	R4372591
Chloride (Cl)	196		0.50	mg/L		03-DEC-18	R4372591
Fluoride (F)	0.094		0.020	mg/L		03-DEC-18	R4372591
Nitrate (as N)	8.51		0.020	mg/L		03-DEC-18	R4372591
Nitrite (as N)	<0.010		0.010	mg/L		03-DEC-18	R4372591
Total Kjeldahl Nitrogen	0.26	TKNI	0.15	mg/L	04-DEC-18	05-DEC-18	R4375969
Phosphorus, Total	0.0089		0.0030	mg/L	04-DEC-18	05-DEC-18	R4373501
Sulfate (SO4)	22.2		0.30	mg/L		03-DEC-18	R4372591
Dissolved Metals							
Dissolved Metals Filtration Location	FIELD					30-NOV-18	R4366175
Aluminum (Al)-Dissolved	<0.0050		0.0050	mg/L	30-NOV-18	30-NOV-18	R4367650
Antimony (Sb)-Dissolved	<0.00010		0.00010	mg/L	30-NOV-18	30-NOV-18	R4367650
Arsenic (As)-Dissolved	0.00012		0.00010	mg/L	30-NOV-18	30-NOV-18	R4367650
Barium (Ba)-Dissolved	0.0937		0.00010	mg/L	30-NOV-18	30-NOV-18	R4367650
Beryllium (Be)-Dissolved	<0.00010		0.00010	mg/L	30-NOV-18	30-NOV-18	R4367650

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2203513-2 BH5 Sampled By: D.NAHRGANG on 29-NOV-18 @ 12:15 Matrix: WATER							
Dissolved Metals							
Bismuth (Bi)-Dissolved	<0.000050		0.000050	mg/L	30-NOV-18	30-NOV-18	R4367650
Boron (B)-Dissolved	0.015		0.010	mg/L	30-NOV-18	30-NOV-18	R4367650
Cadmium (Cd)-Dissolved	0.0000943		0.0000050	mg/L	30-NOV-18	30-NOV-18	R4367650
Calcium (Ca)-Dissolved	107		0.050	mg/L	30-NOV-18	30-NOV-18	R4367650
Cesium (Cs)-Dissolved	<0.000010		0.000010	mg/L	30-NOV-18	30-NOV-18	R4367650
Chromium (Cr)-Dissolved	<0.00050		0.00050	mg/L	30-NOV-18	30-NOV-18	R4367650
Cobalt (Co)-Dissolved	<0.00010		0.00010	mg/L	30-NOV-18	30-NOV-18	R4367650
Copper (Cu)-Dissolved	0.00088		0.00020	mg/L	30-NOV-18	30-NOV-18	R4367650
Iron (Fe)-Dissolved	<0.010		0.010	mg/L	30-NOV-18	30-NOV-18	R4367650
Lead (Pb)-Dissolved	<0.000050		0.000050	mg/L	30-NOV-18	30-NOV-18	R4367650
Lithium (Li)-Dissolved	0.0017		0.0010	mg/L	30-NOV-18	30-NOV-18	R4367650
Magnesium (Mg)-Dissolved	29.8		0.0050	mg/L	30-NOV-18	30-NOV-18	R4367650
Manganese (Mn)-Dissolved	<0.00050		0.00050	mg/L	30-NOV-18	30-NOV-18	R4367650
Molybdenum (Mo)-Dissolved	0.000138		0.000050	mg/L	30-NOV-18	30-NOV-18	R4367650
Nickel (Ni)-Dissolved	<0.00050		0.00050	mg/L	30-NOV-18	30-NOV-18	R4367650
Phosphorus (P)-Dissolved	<0.050		0.050	mg/L	30-NOV-18	30-NOV-18	R4367650
Potassium (K)-Dissolved	1.68		0.050	mg/L	30-NOV-18	30-NOV-18	R4367650
Rubidium (Rb)-Dissolved	0.00161		0.00020	mg/L	30-NOV-18	30-NOV-18	R4367650
Selenium (Se)-Dissolved	0.000444		0.000050	mg/L	30-NOV-18	30-NOV-18	R4367650
Silicon (Si)-Dissolved	6.32		0.050	mg/L	30-NOV-18	30-NOV-18	R4367650
Silver (Ag)-Dissolved	<0.000050		0.000050	mg/L	30-NOV-18	30-NOV-18	R4367650
Sodium (Na)-Dissolved	102		0.050	mg/L	30-NOV-18	30-NOV-18	R4367650
Strontium (Sr)-Dissolved	0.158		0.0010	mg/L	30-NOV-18	30-NOV-18	R4367650
Sulfur (S)-Dissolved	8.10		0.50	mg/L	30-NOV-18	30-NOV-18	R4367650
Tellurium (Te)-Dissolved	<0.00020		0.00020	mg/L	30-NOV-18	30-NOV-18	R4367650
Thallium (Tl)-Dissolved	<0.000010		0.000010	mg/L	30-NOV-18	30-NOV-18	R4367650
Thorium (Th)-Dissolved	<0.00010		0.00010	mg/L	30-NOV-18	30-NOV-18	R4367650
Tin (Sn)-Dissolved	<0.00010		0.00010	mg/L	30-NOV-18	30-NOV-18	R4367650
Titanium (Ti)-Dissolved	<0.00030		0.00030	mg/L	30-NOV-18	30-NOV-18	R4367650
Tungsten (W)-Dissolved	<0.00010		0.00010	mg/L	30-NOV-18	30-NOV-18	R4367650
Uranium (U)-Dissolved	0.000456		0.000010	mg/L	30-NOV-18	30-NOV-18	R4367650
Vanadium (V)-Dissolved	<0.00050		0.00050	mg/L	30-NOV-18	30-NOV-18	R4367650
Zinc (Zn)-Dissolved	0.0239		0.0010	mg/L	30-NOV-18	30-NOV-18	R4367650
Zirconium (Zr)-Dissolved	<0.00030		0.00030	mg/L	30-NOV-18	30-NOV-18	R4367650
Hydrocarbons							
F1 (C6-C10)	<25		25	ug/L		03-DEC-18	R4369115
F2 (C10-C16)	<100		100	ug/L	30-NOV-18	30-NOV-18	R4367810
F3 (C16-C34)	<250		250	ug/L	30-NOV-18	30-NOV-18	R4367810
F4 (C34-C50)	<250		250	ug/L	30-NOV-18	30-NOV-18	R4367810
Total Hydrocarbons (C6-C50)	<370		370	ug/L		03-DEC-18	
Chrom. to baseline at nC50	YES				30-NOV-18	30-NOV-18	R4367810

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2203513-2 BH5 Sampled By: D.NAHRGANG on 29-NOV-18 @ 12:15 Matrix: WATER							
Hydrocarbons							
Surrogate: 2-Bromobenzotrifluoride	88.3		60-140	%	30-NOV-18	30-NOV-18	R4367810
Surrogate: 3,4-Dichlorotoluene	99.6		60-140	%		03-DEC-18	R4369115
L2203513-3 BH8 Sampled By: D.NAHRGANG on 29-NOV-18 @ 13:30 Matrix: WATER							
Physical Tests							
pH	7.75		0.10	pH units		30-NOV-18	R4367024
Anions and Nutrients							
Ammonia, Total (as N)	0.063		0.020	mg/L		03-DEC-18	R4369208
Bromide (Br)	<0.10		0.10	mg/L		03-DEC-18	R4372591
Chloride (Cl)	50.1		0.50	mg/L		03-DEC-18	R4372591
Fluoride (F)	0.098		0.020	mg/L		03-DEC-18	R4372591
Nitrate (as N)	5.77		0.020	mg/L		03-DEC-18	R4372591
Nitrite (as N)	<0.010		0.010	mg/L		03-DEC-18	R4372591
Total Kjeldahl Nitrogen	0.30	TKNI	0.15	mg/L	04-DEC-18	05-DEC-18	R4375969
Phosphorus, Total	0.0035		0.0030	mg/L	04-DEC-18	05-DEC-18	R4373501
Sulfate (SO4)	36.0		0.30	mg/L		03-DEC-18	R4372591
Dissolved Metals							
Dissolved Metals Filtration Location	FIELD					30-NOV-18	R4366175
Aluminum (Al)-Dissolved	<0.0050		0.0050	mg/L	30-NOV-18	30-NOV-18	R4367650
Antimony (Sb)-Dissolved	<0.00010		0.00010	mg/L	30-NOV-18	30-NOV-18	R4367650
Arsenic (As)-Dissolved	0.00017		0.00010	mg/L	30-NOV-18	30-NOV-18	R4367650
Barium (Ba)-Dissolved	0.0648		0.00010	mg/L	30-NOV-18	30-NOV-18	R4367650
Beryllium (Be)-Dissolved	<0.00010		0.00010	mg/L	30-NOV-18	30-NOV-18	R4367650
Bismuth (Bi)-Dissolved	<0.000050		0.000050	mg/L	30-NOV-18	30-NOV-18	R4367650
Boron (B)-Dissolved	0.017		0.010	mg/L	30-NOV-18	30-NOV-18	R4367650
Cadmium (Cd)-Dissolved	0.0000455		0.0000050	mg/L	30-NOV-18	30-NOV-18	R4367650
Calcium (Ca)-Dissolved	86.2		0.050	mg/L	30-NOV-18	30-NOV-18	R4367650
Cesium (Cs)-Dissolved	<0.000010		0.000010	mg/L	30-NOV-18	30-NOV-18	R4367650
Chromium (Cr)-Dissolved	<0.00050		0.00050	mg/L	30-NOV-18	30-NOV-18	R4367650
Cobalt (Co)-Dissolved	<0.00010		0.00010	mg/L	30-NOV-18	30-NOV-18	R4367650
Copper (Cu)-Dissolved	0.00083		0.00020	mg/L	30-NOV-18	30-NOV-18	R4367650
Iron (Fe)-Dissolved	<0.010		0.010	mg/L	30-NOV-18	30-NOV-18	R4367650
Lead (Pb)-Dissolved	<0.000050		0.000050	mg/L	30-NOV-18	30-NOV-18	R4367650
Lithium (Li)-Dissolved	0.0030		0.0010	mg/L	30-NOV-18	30-NOV-18	R4367650
Magnesium (Mg)-Dissolved	29.6		0.0050	mg/L	30-NOV-18	30-NOV-18	R4367650
Manganese (Mn)-Dissolved	0.0145		0.00050	mg/L	30-NOV-18	30-NOV-18	R4367650
Molybdenum (Mo)-Dissolved	0.000401		0.000050	mg/L	30-NOV-18	30-NOV-18	R4367650
Nickel (Ni)-Dissolved	<0.00050		0.00050	mg/L	30-NOV-18	30-NOV-18	R4367650
Phosphorus (P)-Dissolved	<0.050		0.050	mg/L	30-NOV-18	30-NOV-18	R4367650
Potassium (K)-Dissolved	1.62		0.050	mg/L	30-NOV-18	30-NOV-18	R4367650
Rubidium (Rb)-Dissolved	0.00196		0.00020	mg/L	30-NOV-18	30-NOV-18	R4367650

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2203513-3 BH8 Sampled By: D.NAHRGANG on 29-NOV-18 @ 13:30 Matrix: WATER							
Dissolved Metals							
Selenium (Se)-Dissolved	0.000149		0.000050	mg/L	30-NOV-18	30-NOV-18	R4367650
Silicon (Si)-Dissolved	5.26		0.050	mg/L	30-NOV-18	30-NOV-18	R4367650
Silver (Ag)-Dissolved	<0.000050		0.000050	mg/L	30-NOV-18	30-NOV-18	R4367650
Sodium (Na)-Dissolved	19.0		0.050	mg/L	30-NOV-18	30-NOV-18	R4367650
Strontium (Sr)-Dissolved	0.111		0.0010	mg/L	30-NOV-18	30-NOV-18	R4367650
Sulfur (S)-Dissolved	12.4		0.50	mg/L	30-NOV-18	30-NOV-18	R4367650
Tellurium (Te)-Dissolved	<0.00020		0.00020	mg/L	30-NOV-18	30-NOV-18	R4367650
Thallium (Tl)-Dissolved	0.000022		0.000010	mg/L	30-NOV-18	30-NOV-18	R4367650
Thorium (Th)-Dissolved	<0.00010		0.00010	mg/L	30-NOV-18	30-NOV-18	R4367650
Tin (Sn)-Dissolved	<0.00010		0.00010	mg/L	30-NOV-18	30-NOV-18	R4367650
Titanium (Ti)-Dissolved	<0.00030		0.00030	mg/L	30-NOV-18	30-NOV-18	R4367650
Tungsten (W)-Dissolved	<0.00010		0.00010	mg/L	30-NOV-18	30-NOV-18	R4367650
Uranium (U)-Dissolved	0.000958		0.000010	mg/L	30-NOV-18	30-NOV-18	R4367650
Vanadium (V)-Dissolved	<0.00050		0.00050	mg/L	30-NOV-18	30-NOV-18	R4367650
Zinc (Zn)-Dissolved	0.0109		0.0010	mg/L	30-NOV-18	30-NOV-18	R4367650
Zirconium (Zr)-Dissolved	<0.00030		0.00030	mg/L	30-NOV-18	30-NOV-18	R4367650
Hydrocarbons							
F1 (C6-C10)	<25		25	ug/L		03-DEC-18	R4369115
F2 (C10-C16)	<100		100	ug/L	30-NOV-18	30-NOV-18	R4367810
F3 (C16-C34)	<250		250	ug/L	30-NOV-18	30-NOV-18	R4367810
F4 (C34-C50)	<250		250	ug/L	30-NOV-18	30-NOV-18	R4367810
Total Hydrocarbons (C6-C50)	<370		370	ug/L		03-DEC-18	
Chrom. to baseline at nC50	YES				30-NOV-18	30-NOV-18	R4367810
Surrogate: 2-Bromobenzotrifluoride	79.8		60-140	%	30-NOV-18	30-NOV-18	R4367810
Surrogate: 3,4-Dichlorotoluene	94.6		60-140	%		03-DEC-18	R4369115
L2203513-4 BH7S Sampled By: D.NAHRGANG on 29-NOV-18 @ 11:30 Matrix: WATER							
Physical Tests							
pH	7.79		0.10	pH units		30-NOV-18	R4367024
Anions and Nutrients							
Ammonia, Total (as N)	<0.020		0.020	mg/L		03-DEC-18	R4369208
Bromide (Br)	0.40		0.10	mg/L		03-DEC-18	R4372591
Chloride (Cl)	57.4		0.50	mg/L		03-DEC-18	R4372591
Fluoride (F)	0.117		0.020	mg/L		03-DEC-18	R4372591
Nitrate (as N)	3.16		0.020	mg/L		03-DEC-18	R4372591
Nitrite (as N)	<0.010		0.010	mg/L		03-DEC-18	R4372591
Total Kjeldahl Nitrogen	0.27	TKNI	0.15	mg/L	04-DEC-18	05-DEC-18	R4375969
Phosphorus, Total	0.0296		0.0030	mg/L	04-DEC-18	05-DEC-18	R4373501
Sulfate (SO4)	16.5		0.30	mg/L		03-DEC-18	R4372591
Dissolved Metals							
Dissolved Metals Filtration Location	FIELD					30-NOV-18	R4366175

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2203513-4 BH7S Sampled By: D.NAHRGANG on 29-NOV-18 @ 11:30 Matrix: WATER							
Dissolved Metals							
Aluminum (Al)-Dissolved	0.0197		0.0050	mg/L	30-NOV-18	30-NOV-18	R4367650
Antimony (Sb)-Dissolved	<0.00010		0.00010	mg/L	30-NOV-18	30-NOV-18	R4367650
Arsenic (As)-Dissolved	0.00029		0.00010	mg/L	30-NOV-18	30-NOV-18	R4367650
Barium (Ba)-Dissolved	0.0481		0.00010	mg/L	30-NOV-18	30-NOV-18	R4367650
Beryllium (Be)-Dissolved	<0.00010		0.00010	mg/L	30-NOV-18	30-NOV-18	R4367650
Bismuth (Bi)-Dissolved	<0.000050		0.000050	mg/L	30-NOV-18	30-NOV-18	R4367650
Boron (B)-Dissolved	0.018		0.010	mg/L	30-NOV-18	30-NOV-18	R4367650
Cadmium (Cd)-Dissolved	0.000111		0.0000050	mg/L	30-NOV-18	30-NOV-18	R4367650
Calcium (Ca)-Dissolved	65.8		0.050	mg/L	30-NOV-18	30-NOV-18	R4367650
Cesium (Cs)-Dissolved	<0.000010		0.000010	mg/L	30-NOV-18	30-NOV-18	R4367650
Chromium (Cr)-Dissolved	<0.00050		0.00050	mg/L	30-NOV-18	30-NOV-18	R4367650
Cobalt (Co)-Dissolved	0.00016		0.00010	mg/L	30-NOV-18	30-NOV-18	R4367650
Copper (Cu)-Dissolved	0.00576		0.00020	mg/L	30-NOV-18	30-NOV-18	R4367650
Iron (Fe)-Dissolved	0.814		0.010	mg/L	30-NOV-18	30-NOV-18	R4367650
Lead (Pb)-Dissolved	0.000067		0.000050	mg/L	30-NOV-18	30-NOV-18	R4367650
Lithium (Li)-Dissolved	0.0020		0.0010	mg/L	30-NOV-18	30-NOV-18	R4367650
Magnesium (Mg)-Dissolved	24.7		0.0050	mg/L	30-NOV-18	30-NOV-18	R4367650
Manganese (Mn)-Dissolved	0.0331		0.00050	mg/L	30-NOV-18	30-NOV-18	R4367650
Molybdenum (Mo)-Dissolved	0.000487		0.000050	mg/L	30-NOV-18	30-NOV-18	R4367650
Nickel (Ni)-Dissolved	<0.00050		0.00050	mg/L	30-NOV-18	30-NOV-18	R4367650
Phosphorus (P)-Dissolved	0.159		0.050	mg/L	30-NOV-18	30-NOV-18	R4367650
Potassium (K)-Dissolved	2.51		0.050	mg/L	30-NOV-18	30-NOV-18	R4367650
Rubidium (Rb)-Dissolved	0.00305		0.00020	mg/L	30-NOV-18	30-NOV-18	R4367650
Selenium (Se)-Dissolved	0.000149		0.000050	mg/L	30-NOV-18	30-NOV-18	R4367650
Silicon (Si)-Dissolved	4.48		0.050	mg/L	30-NOV-18	30-NOV-18	R4367650
Silver (Ag)-Dissolved	<0.000050		0.000050	mg/L	30-NOV-18	30-NOV-18	R4367650
Sodium (Na)-Dissolved	15.7		0.050	mg/L	30-NOV-18	30-NOV-18	R4367650
Strontium (Sr)-Dissolved	0.105		0.0010	mg/L	30-NOV-18	30-NOV-18	R4367650
Sulfur (S)-Dissolved	6.59		0.50	mg/L	30-NOV-18	30-NOV-18	R4367650
Tellurium (Te)-Dissolved	<0.00020		0.00020	mg/L	30-NOV-18	30-NOV-18	R4367650
Thallium (Tl)-Dissolved	<0.000010		0.000010	mg/L	30-NOV-18	30-NOV-18	R4367650
Thorium (Th)-Dissolved	<0.00010		0.00010	mg/L	30-NOV-18	30-NOV-18	R4367650
Tin (Sn)-Dissolved	<0.00010		0.00010	mg/L	30-NOV-18	30-NOV-18	R4367650
Titanium (Ti)-Dissolved	<0.00030		0.00030	mg/L	30-NOV-18	30-NOV-18	R4367650
Tungsten (W)-Dissolved	<0.00010		0.00010	mg/L	30-NOV-18	30-NOV-18	R4367650
Uranium (U)-Dissolved	0.000348		0.000010	mg/L	30-NOV-18	30-NOV-18	R4367650
Vanadium (V)-Dissolved	<0.00050		0.00050	mg/L	30-NOV-18	30-NOV-18	R4367650
Zinc (Zn)-Dissolved	0.0224		0.0010	mg/L	30-NOV-18	30-NOV-18	R4367650
Zirconium (Zr)-Dissolved	<0.00030		0.00030	mg/L	30-NOV-18	30-NOV-18	R4367650
Hydrocarbons							
F1 (C6-C10)	<25		25	ug/L		03-DEC-18	R4369115

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2203513-4 BH7S Sampled By: D.NAHRGANG on 29-NOV-18 @ 11:30 Matrix: WATER							
Hydrocarbons							
F2 (C10-C16)	<100		100	ug/L	30-NOV-18	30-NOV-18	R4367810
F3 (C16-C34)	<250		250	ug/L	30-NOV-18	30-NOV-18	R4367810
F4 (C34-C50)	<250		250	ug/L	30-NOV-18	30-NOV-18	R4367810
Total Hydrocarbons (C6-C50)	<370		370	ug/L		03-DEC-18	
Chrom. to baseline at nC50	YES				30-NOV-18	30-NOV-18	R4367810
Surrogate: 2-Bromobenzotrifluoride	89.3		60-140	%	30-NOV-18	30-NOV-18	R4367810
Surrogate: 3,4-Dichlorotoluene	97.9		60-140	%		03-DEC-18	R4369115
L2203513-5 BH7D Sampled By: D.NAHRGANG on 29-NOV-18 @ 11:15 Matrix: WATER							
Physical Tests							
pH	7.96		0.10	pH units		30-NOV-18	R4367024
Anions and Nutrients							
Ammonia, Total (as N)	0.051		0.020	mg/L		03-DEC-18	R4369208
Bromide (Br)	0.14		0.10	mg/L		03-DEC-18	R4372591
Chloride (Cl)	44.6		0.50	mg/L		03-DEC-18	R4372591
Fluoride (F)	0.132		0.020	mg/L		03-DEC-18	R4372591
Nitrate (as N)	8.71		0.020	mg/L		03-DEC-18	R4372591
Nitrite (as N)	<0.010		0.010	mg/L		03-DEC-18	R4372591
Total Kjeldahl Nitrogen	0.52	TKNI	0.15	mg/L	04-DEC-18	05-DEC-18	R4375969
Phosphorus, Total	3.74	DLHC	0.30	mg/L	04-DEC-18	05-DEC-18	R4373501
Sulfate (SO4)	21.6		0.30	mg/L		03-DEC-18	R4372591
Dissolved Metals							
Dissolved Metals Filtration Location	FIELD					30-NOV-18	R4366175
Aluminum (Al)-Dissolved	<0.0050		0.0050	mg/L	30-NOV-18	30-NOV-18	R4367650
Antimony (Sb)-Dissolved	<0.00010		0.00010	mg/L	30-NOV-18	30-NOV-18	R4367650
Arsenic (As)-Dissolved	0.00019		0.00010	mg/L	30-NOV-18	30-NOV-18	R4367650
Barium (Ba)-Dissolved	0.0456		0.00010	mg/L	30-NOV-18	30-NOV-18	R4367650
Beryllium (Be)-Dissolved	<0.00010		0.00010	mg/L	30-NOV-18	30-NOV-18	R4367650
Bismuth (Bi)-Dissolved	<0.000050		0.000050	mg/L	30-NOV-18	30-NOV-18	R4367650
Boron (B)-Dissolved	0.015		0.010	mg/L	30-NOV-18	30-NOV-18	R4367650
Cadmium (Cd)-Dissolved	0.0000377		0.0000050	mg/L	30-NOV-18	30-NOV-18	R4367650
Calcium (Ca)-Dissolved	57.7		0.050	mg/L	30-NOV-18	30-NOV-18	R4367650
Cesium (Cs)-Dissolved	<0.000010		0.000010	mg/L	30-NOV-18	30-NOV-18	R4367650
Chromium (Cr)-Dissolved	<0.00050		0.00050	mg/L	30-NOV-18	30-NOV-18	R4367650
Cobalt (Co)-Dissolved	<0.00010		0.00010	mg/L	30-NOV-18	30-NOV-18	R4367650
Copper (Cu)-Dissolved	0.00153		0.00020	mg/L	30-NOV-18	30-NOV-18	R4367650
Iron (Fe)-Dissolved	<0.010		0.010	mg/L	30-NOV-18	30-NOV-18	R4367650
Lead (Pb)-Dissolved	<0.000050		0.000050	mg/L	30-NOV-18	30-NOV-18	R4367650
Lithium (Li)-Dissolved	0.0020		0.0010	mg/L	30-NOV-18	30-NOV-18	R4367650
Magnesium (Mg)-Dissolved	22.1		0.0050	mg/L	30-NOV-18	30-NOV-18	R4367650
Manganese (Mn)-Dissolved	<0.00050		0.00050	mg/L	30-NOV-18	30-NOV-18	R4367650

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2203513-5 BH7D Sampled By: D.NAHRGANG on 29-NOV-18 @ 11:15 Matrix: WATER							
Dissolved Metals							
Molybdenum (Mo)-Dissolved	0.000479		0.000050	mg/L	30-NOV-18	30-NOV-18	R4367650
Nickel (Ni)-Dissolved	<0.00050		0.00050	mg/L	30-NOV-18	30-NOV-18	R4367650
Phosphorus (P)-Dissolved	<0.050		0.050	mg/L	30-NOV-18	30-NOV-18	R4367650
Potassium (K)-Dissolved	1.41		0.050	mg/L	30-NOV-18	30-NOV-18	R4367650
Rubidium (Rb)-Dissolved	0.00203		0.00020	mg/L	30-NOV-18	30-NOV-18	R4367650
Selenium (Se)-Dissolved	0.000192		0.000050	mg/L	30-NOV-18	30-NOV-18	R4367650
Silicon (Si)-Dissolved	4.71		0.050	mg/L	30-NOV-18	30-NOV-18	R4367650
Silver (Ag)-Dissolved	<0.000050		0.000050	mg/L	30-NOV-18	30-NOV-18	R4367650
Sodium (Na)-Dissolved	16.5		0.050	mg/L	30-NOV-18	30-NOV-18	R4367650
Strontium (Sr)-Dissolved	0.0870		0.0010	mg/L	30-NOV-18	30-NOV-18	R4367650
Sulfur (S)-Dissolved	7.53		0.50	mg/L	30-NOV-18	30-NOV-18	R4367650
Tellurium (Te)-Dissolved	<0.00020		0.00020	mg/L	30-NOV-18	30-NOV-18	R4367650
Thallium (Tl)-Dissolved	<0.000010		0.000010	mg/L	30-NOV-18	30-NOV-18	R4367650
Thorium (Th)-Dissolved	<0.00010		0.00010	mg/L	30-NOV-18	30-NOV-18	R4367650
Tin (Sn)-Dissolved	<0.00010		0.00010	mg/L	30-NOV-18	30-NOV-18	R4367650
Titanium (Ti)-Dissolved	<0.00030		0.00030	mg/L	30-NOV-18	30-NOV-18	R4367650
Tungsten (W)-Dissolved	<0.00010		0.00010	mg/L	30-NOV-18	30-NOV-18	R4367650
Uranium (U)-Dissolved	0.000373		0.000010	mg/L	30-NOV-18	30-NOV-18	R4367650
Vanadium (V)-Dissolved	<0.00050		0.00050	mg/L	30-NOV-18	30-NOV-18	R4367650
Zinc (Zn)-Dissolved	0.0103		0.0010	mg/L	30-NOV-18	30-NOV-18	R4367650
Zirconium (Zr)-Dissolved	<0.00030		0.00030	mg/L	30-NOV-18	30-NOV-18	R4367650
Hydrocarbons							
F1 (C6-C10)	<25	OWP	25	ug/L		03-DEC-18	R4369115
F2 (C10-C16)	<100		100	ug/L	30-NOV-18	30-NOV-18	R4368068
F3 (C16-C34)	<250		250	ug/L	30-NOV-18	30-NOV-18	R4368068
F4 (C34-C50)	<250		250	ug/L	30-NOV-18	30-NOV-18	R4368068
Total Hydrocarbons (C6-C50)	<370		370	ug/L		03-DEC-18	
Chrom. to baseline at nC50	YES				30-NOV-18	30-NOV-18	R4368068
Surrogate: 2-Bromobenzotrifluoride	85.0		60-140	%	30-NOV-18	30-NOV-18	R4368068
Surrogate: 3,4-Dichlorotoluene	80.9		60-140	%		03-DEC-18	R4369115
L2203513-6 BH10S Sampled By: D.NAHRGANG on 29-NOV-18 @ 13:15 Matrix: WATER							
Physical Tests							
pH	7.72		0.10	pH units		30-NOV-18	R4367024
Anions and Nutrients							
Ammonia, Total (as N)	<0.020		0.020	mg/L		03-DEC-18	R4369208
Bromide (Br)	<0.10		0.10	mg/L		03-DEC-18	R4372591
Chloride (Cl)	55.1		0.50	mg/L		03-DEC-18	R4372591
Fluoride (F)	0.084		0.020	mg/L		03-DEC-18	R4372591
Nitrate (as N)	14.5		0.020	mg/L		03-DEC-18	R4372591
Nitrite (as N)	<0.010		0.010	mg/L		03-DEC-18	R4372591

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2203513-6 BH10S Sampled By: D.NAHRGANG on 29-NOV-18 @ 13:15 Matrix: WATER							
Anions and Nutrients							
Total Kjeldahl Nitrogen	2.6	DLM	1.5	mg/L	04-DEC-18	05-DEC-18	R4375969
Phosphorus, Total	26.8	DLHC	0.30	mg/L	04-DEC-18	05-DEC-18	R4373501
Sulfate (SO4)	25.3		0.30	mg/L		03-DEC-18	R4372591
Dissolved Metals							
Dissolved Metals Filtration Location	FIELD					30-NOV-18	R4366175
Aluminum (Al)-Dissolved	<0.0050		0.0050	mg/L	30-NOV-18	30-NOV-18	R4367650
Antimony (Sb)-Dissolved	<0.00010		0.00010	mg/L	30-NOV-18	30-NOV-18	R4367650
Arsenic (As)-Dissolved	0.00025		0.00010	mg/L	30-NOV-18	30-NOV-18	R4367650
Barium (Ba)-Dissolved	0.0623		0.00010	mg/L	30-NOV-18	30-NOV-18	R4367650
Beryllium (Be)-Dissolved	<0.00010		0.00010	mg/L	30-NOV-18	30-NOV-18	R4367650
Bismuth (Bi)-Dissolved	<0.000050		0.000050	mg/L	30-NOV-18	30-NOV-18	R4367650
Boron (B)-Dissolved	0.019		0.010	mg/L	30-NOV-18	30-NOV-18	R4367650
Cadmium (Cd)-Dissolved	0.0000501		0.0000050	mg/L	30-NOV-18	30-NOV-18	R4367650
Calcium (Ca)-Dissolved	94.5		0.050	mg/L	30-NOV-18	30-NOV-18	R4367650
Cesium (Cs)-Dissolved	<0.000010		0.000010	mg/L	30-NOV-18	30-NOV-18	R4367650
Chromium (Cr)-Dissolved	<0.00050		0.00050	mg/L	30-NOV-18	30-NOV-18	R4367650
Cobalt (Co)-Dissolved	<0.00010		0.00010	mg/L	30-NOV-18	30-NOV-18	R4367650
Copper (Cu)-Dissolved	0.00321		0.00020	mg/L	30-NOV-18	30-NOV-18	R4367650
Iron (Fe)-Dissolved	<0.010		0.010	mg/L	30-NOV-18	30-NOV-18	R4367650
Lead (Pb)-Dissolved	0.000073		0.000050	mg/L	30-NOV-18	30-NOV-18	R4367650
Lithium (Li)-Dissolved	0.0016		0.0010	mg/L	30-NOV-18	30-NOV-18	R4367650
Magnesium (Mg)-Dissolved	27.6		0.0050	mg/L	30-NOV-18	30-NOV-18	R4367650
Manganese (Mn)-Dissolved	<0.00050		0.00050	mg/L	30-NOV-18	30-NOV-18	R4367650
Molybdenum (Mo)-Dissolved	0.000234		0.000050	mg/L	30-NOV-18	30-NOV-18	R4367650
Nickel (Ni)-Dissolved	<0.00050		0.00050	mg/L	30-NOV-18	30-NOV-18	R4367650
Phosphorus (P)-Dissolved	<0.050		0.050	mg/L	30-NOV-18	30-NOV-18	R4367650
Potassium (K)-Dissolved	2.57		0.050	mg/L	30-NOV-18	30-NOV-18	R4367650
Rubidium (Rb)-Dissolved	0.00036		0.00020	mg/L	30-NOV-18	30-NOV-18	R4367650
Selenium (Se)-Dissolved	0.000400		0.000050	mg/L	30-NOV-18	30-NOV-18	R4367650
Silicon (Si)-Dissolved	5.36		0.050	mg/L	30-NOV-18	30-NOV-18	R4367650
Silver (Ag)-Dissolved	<0.000050		0.000050	mg/L	30-NOV-18	30-NOV-18	R4367650
Sodium (Na)-Dissolved	25.9		0.050	mg/L	30-NOV-18	30-NOV-18	R4367650
Strontium (Sr)-Dissolved	0.128		0.0010	mg/L	30-NOV-18	30-NOV-18	R4367650
Sulfur (S)-Dissolved	8.69		0.50	mg/L	30-NOV-18	30-NOV-18	R4367650
Tellurium (Te)-Dissolved	<0.00020		0.00020	mg/L	30-NOV-18	30-NOV-18	R4367650
Thallium (Tl)-Dissolved	<0.000010		0.000010	mg/L	30-NOV-18	30-NOV-18	R4367650
Thorium (Th)-Dissolved	<0.00010		0.00010	mg/L	30-NOV-18	30-NOV-18	R4367650
Tin (Sn)-Dissolved	0.00012		0.00010	mg/L	30-NOV-18	30-NOV-18	R4367650
Titanium (Ti)-Dissolved	<0.00030		0.00030	mg/L	30-NOV-18	30-NOV-18	R4367650
Tungsten (W)-Dissolved	<0.00010		0.00010	mg/L	30-NOV-18	30-NOV-18	R4367650
Uranium (U)-Dissolved	0.000369		0.000010	mg/L	30-NOV-18	30-NOV-18	R4367650

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2203513-6 BH10S Sampled By: D.NAHRGANG on 29-NOV-18 @ 13:15 Matrix: WATER							
Dissolved Metals							
Vanadium (V)-Dissolved	<0.00050		0.00050	mg/L	30-NOV-18	30-NOV-18	R4367650
Zinc (Zn)-Dissolved	0.0150		0.0010	mg/L	30-NOV-18	30-NOV-18	R4367650
Zirconium (Zr)-Dissolved	<0.00030		0.00030	mg/L	30-NOV-18	30-NOV-18	R4367650
Hydrocarbons							
F1 (C6-C10)	<25	OWP	25	ug/L		03-DEC-18	R4369115
F2 (C10-C16)	<100	OWP	100	ug/L	30-NOV-18	30-NOV-18	R4368068
F3 (C16-C34)	<250	OWP	250	ug/L	30-NOV-18	30-NOV-18	R4368068
F4 (C34-C50)	<250	OWP	250	ug/L	30-NOV-18	30-NOV-18	R4368068
Total Hydrocarbons (C6-C50)	<370		370	ug/L		03-DEC-18	
Chrom. to baseline at nC50	YES				30-NOV-18	30-NOV-18	R4368068
Surrogate: 2-Bromobenzotrifluoride	92.2		60-140	%	30-NOV-18	30-NOV-18	R4368068
Surrogate: 3,4-Dichlorotoluene	90.4		60-140	%		03-DEC-18	R4369115
L2203513-7 BH10D Sampled By: D.NAHRGANG on 29-NOV-18 @ 12:45 Matrix: WATER							
Physical Tests							
pH	7.77		0.10	pH units		30-NOV-18	R4367024
Anions and Nutrients							
Ammonia, Total (as N)	<0.020		0.020	mg/L		03-DEC-18	R4369208
Bromide (Br)	<0.10		0.10	mg/L		03-DEC-18	R4372591
Chloride (Cl)	21.2		0.50	mg/L		03-DEC-18	R4372591
Fluoride (F)	0.082		0.020	mg/L		03-DEC-18	R4372591
Nitrate (as N)	15.8		0.020	mg/L		03-DEC-18	R4372591
Nitrite (as N)	<0.010		0.010	mg/L		03-DEC-18	R4372591
Total Kjeldahl Nitrogen	0.59	TKNI	0.15	mg/L	04-DEC-18	05-DEC-18	R4375969
Phosphorus, Total	0.563	DLHC	0.030	mg/L	04-DEC-18	05-DEC-18	R4373501
Sulfate (SO4)	25.1		0.30	mg/L		03-DEC-18	R4372591
Dissolved Metals							
Dissolved Metals Filtration Location	FIELD					30-NOV-18	R4366175
Aluminum (Al)-Dissolved	0.0057		0.0050	mg/L	30-NOV-18	30-NOV-18	R4367650
Antimony (Sb)-Dissolved	0.00012		0.00010	mg/L	30-NOV-18	30-NOV-18	R4367650
Arsenic (As)-Dissolved	0.00028		0.00010	mg/L	30-NOV-18	30-NOV-18	R4367650
Barium (Ba)-Dissolved	0.0560		0.00010	mg/L	30-NOV-18	30-NOV-18	R4367650
Beryllium (Be)-Dissolved	<0.00010		0.00010	mg/L	30-NOV-18	30-NOV-18	R4367650
Bismuth (Bi)-Dissolved	<0.000050		0.000050	mg/L	30-NOV-18	30-NOV-18	R4367650
Boron (B)-Dissolved	0.013		0.010	mg/L	30-NOV-18	30-NOV-18	R4367650
Cadmium (Cd)-Dissolved	0.0000335		0.0000050	mg/L	30-NOV-18	30-NOV-18	R4367650
Calcium (Ca)-Dissolved	89.1		0.050	mg/L	30-NOV-18	30-NOV-18	R4367650
Cesium (Cs)-Dissolved	<0.000010		0.000010	mg/L	30-NOV-18	30-NOV-18	R4367650
Chromium (Cr)-Dissolved	0.00087		0.00050	mg/L	30-NOV-18	30-NOV-18	R4367650
Cobalt (Co)-Dissolved	<0.00010		0.00010	mg/L	30-NOV-18	30-NOV-18	R4367650
Copper (Cu)-Dissolved	0.00298		0.00020	mg/L	30-NOV-18	30-NOV-18	R4367650

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2203513-7 BH10D Sampled By: D.NAHRGANG on 29-NOV-18 @ 12:45 Matrix: WATER							
Dissolved Metals							
Iron (Fe)-Dissolved	<0.010		0.010	mg/L	30-NOV-18	30-NOV-18	R4367650
Lead (Pb)-Dissolved	<0.000050		0.000050	mg/L	30-NOV-18	30-NOV-18	R4367650
Lithium (Li)-Dissolved	0.0019		0.0010	mg/L	30-NOV-18	30-NOV-18	R4367650
Magnesium (Mg)-Dissolved	27.2		0.0050	mg/L	30-NOV-18	30-NOV-18	R4367650
Manganese (Mn)-Dissolved	0.00156		0.00050	mg/L	30-NOV-18	30-NOV-18	R4367650
Molybdenum (Mo)-Dissolved	0.000231		0.000050	mg/L	30-NOV-18	30-NOV-18	R4367650
Nickel (Ni)-Dissolved	0.00113		0.00050	mg/L	30-NOV-18	30-NOV-18	R4367650
Phosphorus (P)-Dissolved	<0.050		0.050	mg/L	30-NOV-18	30-NOV-18	R4367650
Potassium (K)-Dissolved	2.21		0.050	mg/L	30-NOV-18	30-NOV-18	R4367650
Rubidium (Rb)-Dissolved	0.00150		0.00020	mg/L	30-NOV-18	30-NOV-18	R4367650
Selenium (Se)-Dissolved	0.000293		0.000050	mg/L	30-NOV-18	30-NOV-18	R4367650
Silicon (Si)-Dissolved	6.17		0.050	mg/L	30-NOV-18	30-NOV-18	R4367650
Silver (Ag)-Dissolved	<0.000050		0.000050	mg/L	30-NOV-18	30-NOV-18	R4367650
Sodium (Na)-Dissolved	9.42		0.050	mg/L	30-NOV-18	30-NOV-18	R4367650
Strontium (Sr)-Dissolved	0.115		0.0010	mg/L	30-NOV-18	30-NOV-18	R4367650
Sulfur (S)-Dissolved	8.56		0.50	mg/L	30-NOV-18	30-NOV-18	R4367650
Tellurium (Te)-Dissolved	<0.00020		0.00020	mg/L	30-NOV-18	30-NOV-18	R4367650
Thallium (Tl)-Dissolved	<0.000010		0.000010	mg/L	30-NOV-18	30-NOV-18	R4367650
Thorium (Th)-Dissolved	<0.00010		0.00010	mg/L	30-NOV-18	30-NOV-18	R4367650
Tin (Sn)-Dissolved	<0.00010		0.00010	mg/L	30-NOV-18	30-NOV-18	R4367650
Titanium (Ti)-Dissolved	<0.00030		0.00030	mg/L	30-NOV-18	30-NOV-18	R4367650
Tungsten (W)-Dissolved	<0.00010		0.00010	mg/L	30-NOV-18	30-NOV-18	R4367650
Uranium (U)-Dissolved	0.000370		0.000010	mg/L	30-NOV-18	30-NOV-18	R4367650
Vanadium (V)-Dissolved	<0.00050		0.00050	mg/L	30-NOV-18	30-NOV-18	R4367650
Zinc (Zn)-Dissolved	0.0135		0.0010	mg/L	30-NOV-18	30-NOV-18	R4367650
Zirconium (Zr)-Dissolved	<0.00030		0.00030	mg/L	30-NOV-18	30-NOV-18	R4367650
Hydrocarbons							
F1 (C6-C10)	<25	OWP	25	ug/L		03-DEC-18	R4369115
F2 (C10-C16)	<100		100	ug/L	30-NOV-18	30-NOV-18	R4368068
F3 (C16-C34)	<250		250	ug/L	30-NOV-18	30-NOV-18	R4368068
F4 (C34-C50)	<250		250	ug/L	30-NOV-18	30-NOV-18	R4368068
Total Hydrocarbons (C6-C50)	<370		370	ug/L		03-DEC-18	
Chrom. to baseline at nC50	YES				30-NOV-18	30-NOV-18	R4368068
Surrogate: 2-Bromobenzotrifluoride	85.5		60-140	%	30-NOV-18	30-NOV-18	R4368068
Surrogate: 3,4-Dichlorotoluene	78.4		60-140	%		03-DEC-18	R4369115

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

Reference Information

QC Samples with Qualifiers & Comments:

QC Type Description	Parameter	Qualifier	Applies to Sample Number(s)
Matrix Spike	Chloride (Cl)	MS-B	L2203513-1, -2, -3, -4, -5, -6, -7
Matrix Spike	Chloride (Cl)	MS-B	L2203513-1, -2, -3, -4, -5, -6, -7
Matrix Spike	Barium (Ba)-Dissolved	MS-B	L2203513-1, -2, -3, -4, -5, -6, -7
Matrix Spike	Boron (B)-Dissolved	MS-B	L2203513-1, -2, -3, -4, -5, -6, -7
Matrix Spike	Calcium (Ca)-Dissolved	MS-B	L2203513-1, -2, -3, -4, -5, -6, -7
Matrix Spike	Copper (Cu)-Dissolved	MS-B	L2203513-1, -2, -3, -4, -5, -6, -7
Matrix Spike	Magnesium (Mg)-Dissolved	MS-B	L2203513-1, -2, -3, -4, -5, -6, -7
Matrix Spike	Manganese (Mn)-Dissolved	MS-B	L2203513-1, -2, -3, -4, -5, -6, -7
Matrix Spike	Potassium (K)-Dissolved	MS-B	L2203513-1, -2, -3, -4, -5, -6, -7
Matrix Spike	Silicon (Si)-Dissolved	MS-B	L2203513-1, -2, -3, -4, -5, -6, -7
Matrix Spike	Sodium (Na)-Dissolved	MS-B	L2203513-1, -2, -3, -4, -5, -6, -7
Matrix Spike	Strontium (Sr)-Dissolved	MS-B	L2203513-1, -2, -3, -4, -5, -6, -7
Matrix Spike	Sulfur (S)-Dissolved	MS-B	L2203513-1, -2, -3, -4, -5, -6, -7
Matrix Spike	Uranium (U)-Dissolved	MS-B	L2203513-1, -2, -3, -4, -5, -6, -7
Matrix Spike	Nitrate (as N)	MS-B	L2203513-1, -2, -3, -4, -5, -6, -7
Matrix Spike	Phosphorus, Total	MS-B	L2203513-1, -2, -3, -4, -5, -6, -7
Matrix Spike	Total Kjeldahl Nitrogen	MS-B	L2203513-1, -2, -3, -4, -5, -6, -7

Sample Parameter Qualifier key listed:

Qualifier	Description
DLHC	Detection Limit Raised: Dilution required due to high concentration of test analyte(s).
DLM	Detection Limit Adjusted due to sample matrix effects (e.g. chemical interference, colour, turbidity).
MS-B	Matrix Spike recovery could not be accurately calculated due to high analyte background in sample.
OWP	Organic water sample contained visible sediment (must be included as part of analysis). Measured concentrations of organic substances in water can be biased high due to presence of sediment.
TKNI	TKN result may be biased low due to Nitrate interference. Nitrate-N is > 10x TKN.

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
BR-IC-N-WT	Water	Bromide in Water by IC	EPA 300.1 (mod)

Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.

CL-IC-N-WT	Water	Chloride by IC	EPA 300.1 (mod)

Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.

Analysis conducted in accordance with the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act (July 1, 2011).

F-IC-N-WT	Water	Fluoride in Water by IC	EPA 300.1 (mod)

Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.

F1-F4-511-CALC-WT	Water	F1-F4 Hydrocarbon Calculated Parameters	CCME CWS-PHC, Pub #1310, Dec 2001-L

Analytical methods used for analysis of CCME Petroleum Hydrocarbons have been validated and comply with the Reference Method for the CWS PHC.

In cases where results for both F4 and F4G are reported, the greater of the two results must be used in any application of the CWS PHC guidelines and the gravimetric heavy hydrocarbons cannot be added to the C6 to C50 hydrocarbons.
In samples where BTEX and F1 were analyzed , F1-BTEX represents a value where the sum of Benzene, Toluene, Ethylbenzene and total Xylenes has been subtracted from F1.

In samples where PAHs, F2 and F3 were analyzed, F2-Naphth represents the result where Naphthalene has been subtracted from F2. F3-PAH represents a result where the sum of Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Dibenzo(a,h)anthracene, Fluoranthene, Indeno(1,2,3-cd)pyrene, Phenanthrene, and Pyrene has been subtracted from F3.

Unless otherwise qualified, the following quality control criteria have been met for the F1 hydrocarbon range:
1. All extraction and analysis holding times were met.
2. Instrument performance showing response factors for C6 and C10 within 30% of the response factor for toluene.
3. Linearity of gasoline response within 15% throughout the calibration range.

Unless otherwise qualified, the following quality control criteria have been met for the F2-F4 hydrocarbon ranges:
1. All extraction and analysis holding times were met.
2. Instrument performance showing C10, C16 and C34 response factors within 10% of their average.
3. Instrument performance showing the C50 response factor within 30% of the average of the C10, C16 and C34 response factors.
4. Linearity of diesel or motor oil response within 15% throughout the calibration range.

Reference Information

F1-HS-511-WT	Water	F1-O.Reg 153/04 (July 2011)	E3398/CCME TIER 1-HS

Fraction F1 is determined by analyzing by headspace-GC/FID.

Analysis conducted in accordance with the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act (July 1, 2011), unless a subset of the Analytical Test Group (ATG) has been requested (the Protocol states that all analytes in an ATG must be reported).

F2-F4-511-WT	Water	F2-F4-O.Reg 153/04 (July 2011)	EPA 3511/CCME Tier 1

Petroleum Hydrocarbons (F2-F4 fractions) are extracted from water using a hexane micro-extraction technique. Instrumental analysis is by GC-FID, as per the Reference Method for the Canada-Wide Standard for Petroleum Hydrocarbons in Soil Tier 1 Method, CCME, 2001.

Analysis conducted in accordance with the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act (July 1, 2011), unless a subset of the Analytical Test Group (ATG) has been requested (the Protocol states that all analytes in an ATG must be reported).

MET-D-CCMS-WT	Water	Dissolved Metals in Water by CRC ICPMS	APHA 3030B/6020A (mod)

Water samples are filtered (0.45 um), preserved with nitric acid, and analyzed by CRC ICPMS.

Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method.

Analysis conducted in accordance with the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act (July 1, 2011).

NH3-WT	Water	Ammonia, Total as N	EPA 350.1

Sample is measured colorimetrically. When sample is turbid a distillation step is required, sample is distilled into a solution of boric acid and measured colorimetrically.

NO2-IC-WT	Water	Nitrite in Water by IC	EPA 300.1 (mod)

Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.

NO3-IC-WT	Water	Nitrate in Water by IC	EPA 300.1 (mod)

Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.

P-T-COL-WT	Water	Total P in Water by Colour	APHA 4500-P PHOSPHORUS

This analysis is carried out using procedures adapted from APHA Method 4500-P "Phosphorus". Total Phosphorus is deteremined colourimetrically after persulphate digestion of the sample.

PH-WT	Water	pH	APHA 4500 H-Electrode

Water samples are analyzed directly by a calibrated pH meter.

Analysis conducted in accordance with the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act (July 1, 2011). Holdtime for samples under this regulation is 28 days

SO4-IC-N-WT	Water	Sulfate in Water by IC	EPA 300.1 (mod)

Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.

TKN-WT	Water	Total Kjeldahl Nitrogen	APHA 4500-Norg D

This analysis is carried out using procedures adapted from APHA Method 4500-Norg "Nitrogen (Organic)". Total Kjeldahl Nitrogen is determined by sample digestion at 380 Celsius with analysis using an automated colorimetric method.

** ALS test methods may incorporate modifications from specified reference methods to improve performance.

The last two letters of the above test code(s) indicate the laboratory that performed analytical analysis for that test. Refer to the list below:

Laboratory Definition Code	Laboratory Location
WT	ALS ENVIRONMENTAL - WATERLOO, ONTARIO, CANADA

Chain of Custody Numbers:

17-728933

Reference Information

GLOSSARY OF REPORT TERMS

Surrogates are compounds that are similar in behaviour to target analyte(s), but that do not normally occur in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery. In reports that display the D.L. column, laboratory objectives for surrogates are listed there.
mg/kg - milligrams per kilogram based on dry weight of sample
mg/kg wwt - milligrams per kilogram based on wet weight of sample
mg/kg lwt - milligrams per kilogram based on lipid weight of sample
mg/L - unit of concentration based on volume, parts per million.
< - Less than.
D.L. - The reporting limit.
N/A - Result not available. Refer to qualifier code and definition for explanation.

Test results reported relate only to the samples as received by the laboratory.
UNLESS OTHERWISE STATED, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.
Analytical results in unsigned test reports with the DRAFT watermark are subject to change, pending final QC review.

GROUNDWATER SCIENCE CORP. (Waterloo)
ATTN: ANDREW PENTNEY
465 Kingscourt Drive
UNIT 2
WATERLOO ON N2K 3R5

Date Received: 27-NOV-18
Report Date: 03-DEC-18 14:37 (MT)
Version: FINAL

Client Phone: 519-746-6916

Certificate of Analysis

Lab Work Order #: L2202241

Project P.O. #: NOT SUBMITTED
Job Reference: ROSZELL PIT
C of C Numbers: 17-728538
Legal Site Desc:

Nellie Gudzak
Account Manager

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2202241-1 SW2 Sampled By: DN on 27-NOV-18 @ 10:35 Matrix: SW							
Physical Tests							
pH	8.06		0.10	pH units		28-NOV-18	R4364554
Anions and Nutrients							
Ammonia, Total (as N)	0.031		0.020	mg/L		29-NOV-18	R4365605
Bromide (Br)	<0.10		0.10	mg/L		29-NOV-18	R4366562
Chloride (Cl)	44.0		0.50	mg/L		29-NOV-18	R4366562
Fluoride (F)	0.044		0.020	mg/L		29-NOV-18	R4366562
Nitrate (as N)	8.46		0.020	mg/L		29-NOV-18	R4366562
Nitrite (as N)	<0.010		0.010	mg/L		29-NOV-18	R4366562
Total Kjeldahl Nitrogen	0.60		0.15	mg/L	29-NOV-18	29-NOV-18	R4365896
Phosphorus, Total	0.0141		0.0030	mg/L	29-NOV-18	30-NOV-18	R4366101
Sulfate (SO4)	22.1		0.30	mg/L		29-NOV-18	R4366562
Total Metals							
Aluminum (Al)-Total	0.0189		0.0050	mg/L	28-NOV-18	28-NOV-18	R4365280
Antimony (Sb)-Total	<0.00010		0.00010	mg/L	28-NOV-18	28-NOV-18	R4365280
Arsenic (As)-Total	0.00029		0.00010	mg/L	28-NOV-18	28-NOV-18	R4365280
Barium (Ba)-Total	0.0321		0.00010	mg/L	28-NOV-18	28-NOV-18	R4365280
Beryllium (Be)-Total	<0.00010		0.00010	mg/L	28-NOV-18	28-NOV-18	R4365280
Bismuth (Bi)-Total	<0.000050		0.000050	mg/L	28-NOV-18	28-NOV-18	R4365280
Boron (B)-Total	<0.010		0.010	mg/L	28-NOV-18	28-NOV-18	R4365280
Cadmium (Cd)-Total	0.0000177		0.0000050	mg/L	28-NOV-18	28-NOV-18	R4365280
Calcium (Ca)-Total	79.8		0.050	mg/L	28-NOV-18	28-NOV-18	R4365280
Cesium (Cs)-Total	<0.000010		0.000010	mg/L	28-NOV-18	28-NOV-18	R4365280
Chromium (Cr)-Total	<0.00050		0.00050	mg/L	28-NOV-18	28-NOV-18	R4365280
Cobalt (Co)-Total	<0.00010		0.00010	mg/L	28-NOV-18	28-NOV-18	R4365280
Copper (Cu)-Total	<0.0010		0.0010	mg/L	28-NOV-18	28-NOV-18	R4365280
Iron (Fe)-Total	0.027		0.010	mg/L	28-NOV-18	28-NOV-18	R4365280
Lead (Pb)-Total	0.000121		0.000050	mg/L	28-NOV-18	28-NOV-18	R4365280
Lithium (Li)-Total	<0.0010		0.0010	mg/L	28-NOV-18	28-NOV-18	R4365280
Magnesium (Mg)-Total	23.9		0.0050	mg/L	28-NOV-18	28-NOV-18	R4365280
Manganese (Mn)-Total	0.00711		0.00050	mg/L	28-NOV-18	28-NOV-18	R4365280
Molybdenum (Mo)-Total	0.000220		0.000050	mg/L	28-NOV-18	28-NOV-18	R4365280
Nickel (Ni)-Total	<0.00050		0.00050	mg/L	28-NOV-18	28-NOV-18	R4365280
Phosphorus (P)-Total	<0.050		0.050	mg/L	28-NOV-18	28-NOV-18	R4365280
Potassium (K)-Total	2.17		0.050	mg/L	28-NOV-18	28-NOV-18	R4365280
Rubidium (Rb)-Total	0.00092		0.00020	mg/L	28-NOV-18	28-NOV-18	R4365280
Selenium (Se)-Total	0.000155		0.000050	mg/L	28-NOV-18	28-NOV-18	R4365280
Silicon (Si)-Total	3.99		0.10	mg/L	28-NOV-18	28-NOV-18	R4365280
Silver (Ag)-Total	<0.000050		0.000050	mg/L	28-NOV-18	28-NOV-18	R4365280
Sodium (Na)-Total	20.7		0.050	mg/L	28-NOV-18	28-NOV-18	R4365280
Strontium (Sr)-Total	0.102		0.0010	mg/L	28-NOV-18	28-NOV-18	R4365280
Sulfur (S)-Total	7.41		0.50	mg/L	28-NOV-18	28-NOV-18	R4365280

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2202241-1 SW2 Sampled By: DN on 27-NOV-18 @ 10:35 Matrix: SW							
Total Metals							
Tellurium (Te)-Total	<0.00020		0.00020	mg/L	28-NOV-18	28-NOV-18	R4365280
Thallium (Tl)-Total	<0.000010		0.000010	mg/L	28-NOV-18	29-NOV-18	R4365280
Thorium (Th)-Total	<0.00010		0.00010	mg/L	28-NOV-18	28-NOV-18	R4365280
Tin (Sn)-Total	<0.00010		0.00010	mg/L	28-NOV-18	28-NOV-18	R4365280
Titanium (Ti)-Total	0.00064		0.00030	mg/L	28-NOV-18	28-NOV-18	R4365280
Tungsten (W)-Total	<0.00010		0.00010	mg/L	28-NOV-18	28-NOV-18	R4365280
Uranium (U)-Total	0.000601		0.000010	mg/L	28-NOV-18	28-NOV-18	R4365280
Vanadium (V)-Total	<0.00050		0.00050	mg/L	28-NOV-18	28-NOV-18	R4365280
Zinc (Zn)-Total	0.0052		0.0030	mg/L	28-NOV-18	28-NOV-18	R4365280
Zirconium (Zr)-Total	<0.00030		0.00030	mg/L	28-NOV-18	28-NOV-18	R4365280
Hydrocarbons							
F1 (C6-C10)	<25		25	ug/L		03-DEC-18	R4367916
F2 (C10-C16)	<100		100	ug/L	27-NOV-18	28-NOV-18	R4365057
F3 (C16-C34)	<250		250	ug/L	27-NOV-18	28-NOV-18	R4365057
F4 (C34-C50)	<250		250	ug/L	27-NOV-18	28-NOV-18	R4365057
Total Hydrocarbons (C6-C50)	<370		370	ug/L		03-DEC-18	
Chrom. to baseline at nC50	YES				27-NOV-18	28-NOV-18	R4365057
Surrogate: 2-Bromobenzotrifluoride	105.0		60-140	%	27-NOV-18	28-NOV-18	R4365057
Surrogate: 3,4-Dichlorotoluene	102.5		60-140	%		03-DEC-18	R4367916
L2202241-2 SW3 Sampled By: DN on 27-NOV-18 @ 11:00 Matrix: SW							
Physical Tests							
pH	8.06		0.10	pH units		28-NOV-18	R4364554
Anions and Nutrients							
Ammonia, Total (as N)	0.081		0.020	mg/L		29-NOV-18	R4365605
Bromide (Br)	<0.10		0.10	mg/L		29-NOV-18	R4366562
Chloride (Cl)	43.5		0.50	mg/L		29-NOV-18	R4366562
Fluoride (F)	0.067		0.020	mg/L		29-NOV-18	R4366562
Nitrate (as N)	7.98		0.020	mg/L		29-NOV-18	R4366562
Nitrite (as N)	<0.010		0.010	mg/L		29-NOV-18	R4366562
Total Kjeldahl Nitrogen	0.59		0.15	mg/L	29-NOV-18	29-NOV-18	R4365896
Phosphorus, Total	0.0309		0.0030	mg/L	29-NOV-18	30-NOV-18	R4366101
Sulfate (SO4)	22.2		0.30	mg/L		29-NOV-18	R4366562
Total Metals							
Aluminum (Al)-Total	0.0597		0.0050	mg/L	28-NOV-18	28-NOV-18	R4365280
Antimony (Sb)-Total	<0.00010		0.00010	mg/L	28-NOV-18	28-NOV-18	R4365280
Arsenic (As)-Total	0.00032		0.00010	mg/L	28-NOV-18	28-NOV-18	R4365280
Barium (Ba)-Total	0.0371		0.00010	mg/L	28-NOV-18	28-NOV-18	R4365280
Beryllium (Be)-Total	<0.00010		0.00010	mg/L	28-NOV-18	28-NOV-18	R4365280
Bismuth (Bi)-Total	<0.000050		0.000050	mg/L	28-NOV-18	28-NOV-18	R4365280
Boron (B)-Total	<0.010		0.010	mg/L	28-NOV-18	28-NOV-18	R4365280

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2202241-2 SW3 Sampled By: DN on 27-NOV-18 @ 11:00 Matrix: SW							
Total Metals							
Cadmium (Cd)-Total	0.0000291		0.0000050	mg/L	28-NOV-18	28-NOV-18	R4365280
Calcium (Ca)-Total	78.1		0.050	mg/L	28-NOV-18	28-NOV-18	R4365280
Cesium (Cs)-Total	<0.000010		0.000010	mg/L	28-NOV-18	28-NOV-18	R4365280
Chromium (Cr)-Total	<0.00050		0.00050	mg/L	28-NOV-18	28-NOV-18	R4365280
Cobalt (Co)-Total	<0.00010		0.00010	mg/L	28-NOV-18	28-NOV-18	R4365280
Copper (Cu)-Total	0.0013		0.0010	mg/L	28-NOV-18	28-NOV-18	R4365280
Iron (Fe)-Total	0.089		0.010	mg/L	28-NOV-18	28-NOV-18	R4365280
Lead (Pb)-Total	0.000554		0.000050	mg/L	28-NOV-18	28-NOV-18	R4365280
Lithium (Li)-Total	<0.0010		0.0010	mg/L	28-NOV-18	28-NOV-18	R4365280
Magnesium (Mg)-Total	24.4		0.0050	mg/L	28-NOV-18	28-NOV-18	R4365280
Manganese (Mn)-Total	0.0124		0.00050	mg/L	28-NOV-18	28-NOV-18	R4365280
Molybdenum (Mo)-Total	0.000278		0.000050	mg/L	28-NOV-18	28-NOV-18	R4365280
Nickel (Ni)-Total	<0.00050		0.00050	mg/L	28-NOV-18	28-NOV-18	R4365280
Phosphorus (P)-Total	<0.050		0.050	mg/L	28-NOV-18	28-NOV-18	R4365280
Potassium (K)-Total	2.31		0.050	mg/L	28-NOV-18	28-NOV-18	R4365280
Rubidium (Rb)-Total	0.00111		0.00020	mg/L	28-NOV-18	28-NOV-18	R4365280
Selenium (Se)-Total	0.000150		0.000050	mg/L	28-NOV-18	28-NOV-18	R4365280
Silicon (Si)-Total	4.21		0.10	mg/L	28-NOV-18	28-NOV-18	R4365280
Silver (Ag)-Total	<0.000050		0.000050	mg/L	28-NOV-18	28-NOV-18	R4365280
Sodium (Na)-Total	20.3		0.050	mg/L	28-NOV-18	28-NOV-18	R4365280
Strontium (Sr)-Total	0.103		0.0010	mg/L	28-NOV-18	28-NOV-18	R4365280
Sulfur (S)-Total	7.80		0.50	mg/L	28-NOV-18	28-NOV-18	R4365280
Tellurium (Te)-Total	<0.00020		0.00020	mg/L	28-NOV-18	28-NOV-18	R4365280
Thallium (Tl)-Total	<0.000010		0.000010	mg/L	28-NOV-18	29-NOV-18	R4365280
Thorium (Th)-Total	<0.00010		0.00010	mg/L	28-NOV-18	28-NOV-18	R4365280
Tin (Sn)-Total	<0.00010		0.00010	mg/L	28-NOV-18	28-NOV-18	R4365280
Titanium (Ti)-Total	0.00188		0.00030	mg/L	28-NOV-18	28-NOV-18	R4365280
Tungsten (W)-Total	<0.00010		0.00010	mg/L	28-NOV-18	28-NOV-18	R4365280
Uranium (U)-Total	0.000571		0.000010	mg/L	28-NOV-18	28-NOV-18	R4365280
Vanadium (V)-Total	<0.00050		0.00050	mg/L	28-NOV-18	28-NOV-18	R4365280
Zinc (Zn)-Total	0.0092		0.0030	mg/L	28-NOV-18	28-NOV-18	R4365280
Zirconium (Zr)-Total	<0.00030		0.00030	mg/L	28-NOV-18	28-NOV-18	R4365280
Hydrocarbons							
F1 (C6-C10)	<25		25	ug/L		03-DEC-18	R4367916
F2 (C10-C16)	<100		100	ug/L	27-NOV-18	28-NOV-18	R4365057
F3 (C16-C34)	<250		250	ug/L	27-NOV-18	28-NOV-18	R4365057
F4 (C34-C50)	<250		250	ug/L	27-NOV-18	28-NOV-18	R4365057
Total Hydrocarbons (C6-C50)	<370		370	ug/L		03-DEC-18	
Chrom. to baseline at nC50	YES				27-NOV-18	28-NOV-18	R4365057
Surrogate: 2-Bromobenzotrifluoride	103.6		60-140	%	27-NOV-18	28-NOV-18	R4365057
Surrogate: 3,4-Dichlorotoluene	108.7		60-140	%		03-DEC-18	R4367916

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2202241-3 SW6 Sampled By: DN on 27-NOV-18 @ 12:20 Matrix: SW							
Physical Tests							
pH	7.91		0.10	pH units		28-NOV-18	R4364554
Anions and Nutrients							
Ammonia, Total (as N)	<0.020		0.020	mg/L		29-NOV-18	R4365605
Bromide (Br)	0.11		0.10	mg/L		29-NOV-18	R4366562
Chloride (Cl)	47.6		0.50	mg/L		29-NOV-18	R4366562
Fluoride (F)	0.107		0.020	mg/L		29-NOV-18	R4366562
Nitrate (as N)	7.97		0.020	mg/L		29-NOV-18	R4366562
Nitrite (as N)	<0.010		0.010	mg/L		29-NOV-18	R4366562
Total Kjeldahl Nitrogen	0.38		0.15	mg/L	29-NOV-18	29-NOV-18	R4366152
Phosphorus, Total	0.0104		0.0030	mg/L	29-NOV-18	30-NOV-18	R4366101
Sulfate (SO4)	22.1		0.30	mg/L		29-NOV-18	R4366562
Total Metals							
Aluminum (Al)-Total	0.0847		0.0050	mg/L	28-NOV-18	28-NOV-18	R4365280
Antimony (Sb)-Total	<0.00010		0.00010	mg/L	28-NOV-18	28-NOV-18	R4365280
Arsenic (As)-Total	0.00018		0.00010	mg/L	28-NOV-18	28-NOV-18	R4365280
Barium (Ba)-Total	0.0459		0.00010	mg/L	28-NOV-18	28-NOV-18	R4365280
Beryllium (Be)-Total	<0.00010		0.00010	mg/L	28-NOV-18	28-NOV-18	R4365280
Bismuth (Bi)-Total	<0.000050		0.000050	mg/L	28-NOV-18	28-NOV-18	R4365280
Boron (B)-Total	0.013		0.010	mg/L	28-NOV-18	28-NOV-18	R4365280
Cadmium (Cd)-Total	0.0000753		0.0000050	mg/L	28-NOV-18	28-NOV-18	R4365280
Calcium (Ca)-Total	61.9		0.050	mg/L	28-NOV-18	28-NOV-18	R4365280
Cesium (Cs)-Total	0.000013		0.000010	mg/L	28-NOV-18	28-NOV-18	R4365280
Chromium (Cr)-Total	<0.00050		0.00050	mg/L	28-NOV-18	28-NOV-18	R4365280
Cobalt (Co)-Total	<0.00010		0.00010	mg/L	28-NOV-18	28-NOV-18	R4365280
Copper (Cu)-Total	0.0013		0.0010	mg/L	28-NOV-18	28-NOV-18	R4365280
Iron (Fe)-Total	0.096		0.010	mg/L	28-NOV-18	28-NOV-18	R4365280
Lead (Pb)-Total	0.000946		0.000050	mg/L	28-NOV-18	28-NOV-18	R4365280
Lithium (Li)-Total	<0.0010		0.0010	mg/L	28-NOV-18	28-NOV-18	R4365280
Magnesium (Mg)-Total	23.9		0.0050	mg/L	28-NOV-18	28-NOV-18	R4365280
Manganese (Mn)-Total	0.00661		0.00050	mg/L	28-NOV-18	28-NOV-18	R4365280
Molybdenum (Mo)-Total	0.000471		0.000050	mg/L	28-NOV-18	28-NOV-18	R4365280
Nickel (Ni)-Total	<0.00050		0.00050	mg/L	28-NOV-18	28-NOV-18	R4365280
Phosphorus (P)-Total	<0.050		0.050	mg/L	28-NOV-18	28-NOV-18	R4365280
Potassium (K)-Total	1.72		0.050	mg/L	28-NOV-18	28-NOV-18	R4365280
Rubidium (Rb)-Total	0.00178		0.00020	mg/L	28-NOV-18	28-NOV-18	R4365280
Selenium (Se)-Total	0.000122		0.000050	mg/L	28-NOV-18	28-NOV-18	R4365280
Silicon (Si)-Total	4.74		0.10	mg/L	28-NOV-18	28-NOV-18	R4365280
Silver (Ag)-Total	<0.000050		0.000050	mg/L	28-NOV-18	28-NOV-18	R4365280
Sodium (Na)-Total	17.5		0.050	mg/L	28-NOV-18	28-NOV-18	R4365280
Strontium (Sr)-Total	0.0984		0.0010	mg/L	28-NOV-18	28-NOV-18	R4365280
Sulfur (S)-Total	7.35		0.50	mg/L	28-NOV-18	28-NOV-18	R4365280

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2202241-3 SW6 Sampled By: DN on 27-NOV-18 @ 12:20 Matrix: SW							
Total Metals							
Tellurium (Te)-Total	<0.00020		0.00020	mg/L	28-NOV-18	28-NOV-18	R4365280
Thallium (Tl)-Total	<0.000010		0.000010	mg/L	28-NOV-18	29-NOV-18	R4365280
Thorium (Th)-Total	<0.00010		0.00010	mg/L	28-NOV-18	28-NOV-18	R4365280
Tin (Sn)-Total	<0.00010		0.00010	mg/L	28-NOV-18	28-NOV-18	R4365280
Titanium (Ti)-Total	0.00219		0.00030	mg/L	28-NOV-18	28-NOV-18	R4365280
Tungsten (W)-Total	<0.00010		0.00010	mg/L	28-NOV-18	28-NOV-18	R4365280
Uranium (U)-Total	0.000379		0.000010	mg/L	28-NOV-18	28-NOV-18	R4365280
Vanadium (V)-Total	<0.00050		0.00050	mg/L	28-NOV-18	28-NOV-18	R4365280
Zinc (Zn)-Total	0.0165		0.0030	mg/L	28-NOV-18	28-NOV-18	R4365280
Zirconium (Zr)-Total	<0.00030		0.00030	mg/L	28-NOV-18	28-NOV-18	R4365280
Hydrocarbons							
F1 (C6-C10)	<25		25	ug/L		03-DEC-18	R4367916
F2 (C10-C16)	<100		100	ug/L	27-NOV-18	28-NOV-18	R4365057
F3 (C16-C34)	<250		250	ug/L	27-NOV-18	28-NOV-18	R4365057
F4 (C34-C50)	<250		250	ug/L	27-NOV-18	28-NOV-18	R4365057
Total Hydrocarbons (C6-C50)	<370		370	ug/L		03-DEC-18	
Chrom. to baseline at nC50	YES				27-NOV-18	28-NOV-18	R4365057
Surrogate: 2-Bromobenzotrifluoride	96.0		60-140	%	27-NOV-18	28-NOV-18	R4365057
Surrogate: 3,4-Dichlorotoluene	105.8		60-140	%		03-DEC-18	R4367916
L2202241-4 SW8 Sampled By: DN on 27-NOV-18 @ 12:05 Matrix: SW							
Physical Tests							
pH	7.76		0.10	pH units		28-NOV-18	R4364554
Anions and Nutrients							
Ammonia, Total (as N)	<0.020		0.020	mg/L		29-NOV-18	R4365605
Bromide (Br)	<0.10		0.10	mg/L		29-NOV-18	R4366562
Chloride (Cl)	40.4		0.50	mg/L		29-NOV-18	R4366562
Fluoride (F)	0.109		0.020	mg/L		29-NOV-18	R4366562
Nitrate (as N)	9.41		0.020	mg/L		29-NOV-18	R4366562
Nitrite (as N)	<0.010		0.010	mg/L		29-NOV-18	R4366562
Total Kjeldahl Nitrogen	<1.5	DLM	1.5	mg/L	29-NOV-18	29-NOV-18	R4366152
Phosphorus, Total	0.174		0.0030	mg/L	29-NOV-18	30-NOV-18	R4366101
Sulfate (SO4)	24.2		0.30	mg/L		29-NOV-18	R4366562
Total Metals							
Aluminum (Al)-Total	0.0772		0.0050	mg/L	28-NOV-18	28-NOV-18	R4365280
Antimony (Sb)-Total	<0.00010		0.00010	mg/L	28-NOV-18	28-NOV-18	R4365280
Arsenic (As)-Total	0.00021		0.00010	mg/L	28-NOV-18	28-NOV-18	R4365280
Barium (Ba)-Total	0.0457		0.00010	mg/L	28-NOV-18	28-NOV-18	R4365280
Beryllium (Be)-Total	<0.00010		0.00010	mg/L	28-NOV-18	28-NOV-18	R4365280
Bismuth (Bi)-Total	<0.000050		0.000050	mg/L	28-NOV-18	28-NOV-18	R4365280
Boron (B)-Total	0.013		0.010	mg/L	28-NOV-18	28-NOV-18	R4365280

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2202241-4 SW8 Sampled By: DN on 27-NOV-18 @ 12:05 Matrix: SW							
Total Metals							
Cadmium (Cd)-Total	0.0000961		0.0000050	mg/L	28-NOV-18	28-NOV-18	R4365280
Calcium (Ca)-Total	68.2		0.050	mg/L	28-NOV-18	28-NOV-18	R4365280
Cesium (Cs)-Total	0.000012		0.000010	mg/L	28-NOV-18	28-NOV-18	R4365280
Chromium (Cr)-Total	<0.00050		0.00050	mg/L	28-NOV-18	28-NOV-18	R4365280
Cobalt (Co)-Total	<0.00010		0.00010	mg/L	28-NOV-18	28-NOV-18	R4365280
Copper (Cu)-Total	0.0021		0.0010	mg/L	28-NOV-18	28-NOV-18	R4365280
Iron (Fe)-Total	0.086		0.010	mg/L	28-NOV-18	28-NOV-18	R4365280
Lead (Pb)-Total	0.000996		0.000050	mg/L	28-NOV-18	28-NOV-18	R4365280
Lithium (Li)-Total	<0.0010		0.0010	mg/L	28-NOV-18	28-NOV-18	R4365280
Magnesium (Mg)-Total	24.1		0.0050	mg/L	28-NOV-18	28-NOV-18	R4365280
Manganese (Mn)-Total	0.00590		0.00050	mg/L	28-NOV-18	28-NOV-18	R4365280
Molybdenum (Mo)-Total	0.000393		0.000050	mg/L	28-NOV-18	28-NOV-18	R4365280
Nickel (Ni)-Total	<0.00050		0.00050	mg/L	28-NOV-18	28-NOV-18	R4365280
Phosphorus (P)-Total	<0.050		0.050	mg/L	28-NOV-18	28-NOV-18	R4365280
Potassium (K)-Total	1.45		0.050	mg/L	28-NOV-18	28-NOV-18	R4365280
Rubidium (Rb)-Total	0.00189		0.00020	mg/L	28-NOV-18	28-NOV-18	R4365280
Selenium (Se)-Total	0.000279		0.000050	mg/L	28-NOV-18	28-NOV-18	R4365280
Silicon (Si)-Total	5.00		0.10	mg/L	28-NOV-18	28-NOV-18	R4365280
Silver (Ag)-Total	<0.000050		0.000050	mg/L	28-NOV-18	28-NOV-18	R4365280
Sodium (Na)-Total	15.2		0.050	mg/L	28-NOV-18	28-NOV-18	R4365280
Strontium (Sr)-Total	0.0956		0.0010	mg/L	28-NOV-18	28-NOV-18	R4365280
Sulfur (S)-Total	8.31		0.50	mg/L	28-NOV-18	28-NOV-18	R4365280
Tellurium (Te)-Total	<0.00020		0.00020	mg/L	28-NOV-18	28-NOV-18	R4365280
Thallium (Tl)-Total	<0.000010		0.000010	mg/L	28-NOV-18	29-NOV-18	R4365280
Thorium (Th)-Total	<0.00010		0.00010	mg/L	28-NOV-18	28-NOV-18	R4365280
Tin (Sn)-Total	<0.00010		0.00010	mg/L	28-NOV-18	28-NOV-18	R4365280
Titanium (Ti)-Total	0.00206		0.00030	mg/L	28-NOV-18	28-NOV-18	R4365280
Tungsten (W)-Total	<0.00010		0.00010	mg/L	28-NOV-18	28-NOV-18	R4365280
Uranium (U)-Total	0.000433		0.000010	mg/L	28-NOV-18	28-NOV-18	R4365280
Vanadium (V)-Total	<0.00050		0.00050	mg/L	28-NOV-18	28-NOV-18	R4365280
Zinc (Zn)-Total	0.0176		0.0030	mg/L	28-NOV-18	28-NOV-18	R4365280
Zirconium (Zr)-Total	<0.00030		0.00030	mg/L	28-NOV-18	28-NOV-18	R4365280
Hydrocarbons							
F1 (C6-C10)	<25		25	ug/L		03-DEC-18	R4367916
F2 (C10-C16)	<100	OWP	100	ug/L	27-NOV-18	28-NOV-18	R4365057
F3 (C16-C34)	<250	OWP	250	ug/L	27-NOV-18	28-NOV-18	R4365057
F4 (C34-C50)	<250	OWP	250	ug/L	27-NOV-18	28-NOV-18	R4365057
Total Hydrocarbons (C6-C50)	<370		370	ug/L		03-DEC-18	
Chrom. to baseline at nC50	YES				27-NOV-18	28-NOV-18	R4365057
Surrogate: 2-Bromobenzotrifluoride	106.2		60-140	%	27-NOV-18	28-NOV-18	R4365057
Surrogate: 3,4-Dichlorotoluene	105.8		60-140	%		03-DEC-18	R4367916

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2202241-5 SW10 Sampled By: DN on 27-NOV-18 @ 11:45 Matrix: SW							
Physical Tests							
pH	7.70		0.10	pH units		28-NOV-18	R4364554
Anions and Nutrients							
Ammonia, Total (as N)	0.031		0.020	mg/L		29-NOV-18	R4365605
Bromide (Br)	<0.10		0.10	mg/L		29-NOV-18	R4366562
Chloride (Cl)	35.1		0.50	mg/L		29-NOV-18	R4366562
Fluoride (F)	0.098		0.020	mg/L		29-NOV-18	R4366562
Nitrate (as N)	5.86		0.020	mg/L		29-NOV-18	R4366562
Nitrite (as N)	<0.010		0.010	mg/L		29-NOV-18	R4366562
Total Kjeldahl Nitrogen	<15	DLM	15	mg/L	29-NOV-18	29-NOV-18	R4366152
Phosphorus, Total	1.34	DLHC	0.030	mg/L	29-NOV-18	30-NOV-18	R4366101
Sulfate (SO4)	43.4		0.30	mg/L		29-NOV-18	R4366562
Total Metals							
Aluminum (Al)-Total	4.06	DLHC	0.050	mg/L	28-NOV-18	28-NOV-18	R4365280
Antimony (Sb)-Total	<0.0010	DLHC	0.0010	mg/L	28-NOV-18	28-NOV-18	R4365280
Arsenic (As)-Total	0.0029	DLHC	0.0010	mg/L	28-NOV-18	28-NOV-18	R4365280
Barium (Ba)-Total	0.141	DLHC	0.0010	mg/L	28-NOV-18	28-NOV-18	R4365280
Beryllium (Be)-Total	<0.0010	DLHC	0.0010	mg/L	28-NOV-18	28-NOV-18	R4365280
Bismuth (Bi)-Total	<0.00050	DLHC	0.00050	mg/L	28-NOV-18	28-NOV-18	R4365280
Boron (B)-Total	<0.10	DLHC	0.10	mg/L	28-NOV-18	28-NOV-18	R4365280
Cadmium (Cd)-Total	0.00215	DLHC	0.000050	mg/L	28-NOV-18	28-NOV-18	R4365280
Calcium (Ca)-Total	102	DLHC	0.50	mg/L	28-NOV-18	28-NOV-18	R4365280
Cesium (Cs)-Total	0.00033	DLHC	0.00010	mg/L	28-NOV-18	28-NOV-18	R4365280
Chromium (Cr)-Total	0.0057	DLHC	0.0050	mg/L	28-NOV-18	28-NOV-18	R4365280
Cobalt (Co)-Total	0.0030	DLHC	0.0010	mg/L	28-NOV-18	28-NOV-18	R4365280
Copper (Cu)-Total	0.025	DLHC	0.010	mg/L	28-NOV-18	28-NOV-18	R4365280
Iron (Fe)-Total	6.52	DLHC	0.10	mg/L	28-NOV-18	28-NOV-18	R4365280
Lead (Pb)-Total	0.0433	DLHC	0.00050	mg/L	28-NOV-18	28-NOV-18	R4365280
Lithium (Li)-Total	<0.010	DLHC	0.010	mg/L	28-NOV-18	28-NOV-18	R4365280
Magnesium (Mg)-Total	35.5	DLHC	0.050	mg/L	28-NOV-18	28-NOV-18	R4365280
Manganese (Mn)-Total	1.69	DLHC	0.0050	mg/L	28-NOV-18	28-NOV-18	R4365280
Molybdenum (Mo)-Total	0.00078	DLHC	0.00050	mg/L	28-NOV-18	28-NOV-18	R4365280
Nickel (Ni)-Total	0.0057	DLHC	0.0050	mg/L	28-NOV-18	28-NOV-18	R4365280
Phosphorus (P)-Total	<0.50	DLHC	0.50	mg/L	28-NOV-18	28-NOV-18	R4365280
Potassium (K)-Total	2.10	DLHC	0.50	mg/L	28-NOV-18	28-NOV-18	R4365280
Rubidium (Rb)-Total	0.0076	DLHC	0.0020	mg/L	28-NOV-18	28-NOV-18	R4365280
Selenium (Se)-Total	0.00105	DLHC	0.00050	mg/L	28-NOV-18	28-NOV-18	R4365280
Silicon (Si)-Total	9.2	DLHC	1.0	mg/L	28-NOV-18	28-NOV-18	R4365280
Silver (Ag)-Total	<0.00050	DLHC	0.00050	mg/L	28-NOV-18	28-NOV-18	R4365280
Sodium (Na)-Total	11.0	DLHC	0.50	mg/L	28-NOV-18	28-NOV-18	R4365280
Strontium (Sr)-Total	0.145	DLHC	0.010	mg/L	28-NOV-18	28-NOV-18	R4365280
Sulfur (S)-Total	20.4	DLHC	5.0	mg/L	28-NOV-18	28-NOV-18	R4365280

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2202241-5 SW10 Sampled By: DN on 27-NOV-18 @ 11:45 Matrix: SW							
Total Metals							
Tellurium (Te)-Total	<0.0020	DLHC	0.0020	mg/L	28-NOV-18	28-NOV-18	R4365280
Thallium (Tl)-Total	0.00013	DLHC	0.00010	mg/L	28-NOV-18	29-NOV-18	R4365280
Thorium (Th)-Total	<0.0010	DLHC	0.0010	mg/L	28-NOV-18	28-NOV-18	R4365280
Tin (Sn)-Total	<0.0010	DLHC	0.0010	mg/L	28-NOV-18	28-NOV-18	R4365280
Titanium (Ti)-Total	0.0956	DLHC	0.0030	mg/L	28-NOV-18	28-NOV-18	R4365280
Tungsten (W)-Total	<0.0010	DLHC	0.0010	mg/L	28-NOV-18	28-NOV-18	R4365280
Uranium (U)-Total	0.00172	DLHC	0.00010	mg/L	28-NOV-18	28-NOV-18	R4365280
Vanadium (V)-Total	0.0082	DLHC	0.0050	mg/L	28-NOV-18	28-NOV-18	R4365280
Zinc (Zn)-Total	0.399	DLHC	0.030	mg/L	28-NOV-18	28-NOV-18	R4365280
Zirconium (Zr)-Total	<0.0030	DLHC	0.0030	mg/L	28-NOV-18	28-NOV-18	R4365280
Hydrocarbons							
F1 (C6-C10)	<25	OWP	25	ug/L		03-DEC-18	R4367916
F2 (C10-C16)	<100		100	ug/L	27-NOV-18	28-NOV-18	R4365057
F3 (C16-C34)	<250		250	ug/L	27-NOV-18	28-NOV-18	R4365057
F4 (C34-C50)	<250		250	ug/L	27-NOV-18	28-NOV-18	R4365057
Total Hydrocarbons (C6-C50)	<370		370	ug/L		03-DEC-18	
Chrom. to baseline at nC50	YES				27-NOV-18	28-NOV-18	R4365057
Surrogate: 2-Bromobenzotrifluoride	94.2		60-140	%	27-NOV-18	28-NOV-18	R4365057
Surrogate: 3,4-Dichlorotoluene	100.5		60-140	%		03-DEC-18	R4367916
L2202241-6 EXTRACTION POND Sampled By: DN on 27-NOV-18 @ 12:45 Matrix: SW							
Physical Tests							
pH	8.13		0.10	pH units		28-NOV-18	R4364554
Anions and Nutrients							
Ammonia, Total (as N)	<0.020		0.020	mg/L		29-NOV-18	R4365605
Bromide (Br)	<0.10		0.10	mg/L		29-NOV-18	R4366562
Chloride (Cl)	38.9		0.50	mg/L		29-NOV-18	R4366562
Fluoride (F)	0.085		0.020	mg/L		29-NOV-18	R4366562
Nitrate (as N)	10.9		0.020	mg/L		29-NOV-18	R4366562
Nitrite (as N)	0.021		0.010	mg/L		29-NOV-18	R4366562
Total Kjeldahl Nitrogen	0.30		0.15	mg/L	29-NOV-18	29-NOV-18	R4366152
Phosphorus, Total	0.0252		0.0030	mg/L	29-NOV-18	30-NOV-18	R4366101
Sulfate (SO4)	22.8		0.30	mg/L		29-NOV-18	R4366562
Total Metals							
Aluminum (Al)-Total	0.632		0.0050	mg/L	28-NOV-18	28-NOV-18	R4365280
Antimony (Sb)-Total	<0.00010		0.00010	mg/L	28-NOV-18	28-NOV-18	R4365280
Arsenic (As)-Total	0.00088		0.00010	mg/L	28-NOV-18	28-NOV-18	R4365280
Barium (Ba)-Total	0.0419		0.00010	mg/L	28-NOV-18	28-NOV-18	R4365280
Beryllium (Be)-Total	<0.00010		0.00010	mg/L	28-NOV-18	28-NOV-18	R4365280
Bismuth (Bi)-Total	<0.000050		0.000050	mg/L	28-NOV-18	28-NOV-18	R4365280
Boron (B)-Total	0.011		0.010	mg/L	28-NOV-18	28-NOV-18	R4365280

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2202241-6 EXTRACTION POND Sampled By: DN on 27-NOV-18 @ 12:45 Matrix: SW							
Total Metals							
Cadmium (Cd)-Total	0.000124		0.0000050	mg/L	28-NOV-18	28-NOV-18	R4365280
Calcium (Ca)-Total	67.1		0.050	mg/L	28-NOV-18	28-NOV-18	R4365280
Cesium (Cs)-Total	0.000068		0.000010	mg/L	28-NOV-18	28-NOV-18	R4365280
Chromium (Cr)-Total	0.00106		0.00050	mg/L	28-NOV-18	28-NOV-18	R4365280
Cobalt (Co)-Total	0.00073		0.00010	mg/L	28-NOV-18	28-NOV-18	R4365280
Copper (Cu)-Total	0.0047		0.0010	mg/L	28-NOV-18	28-NOV-18	R4365280
Iron (Fe)-Total	0.928		0.010	mg/L	28-NOV-18	28-NOV-18	R4365280
Lead (Pb)-Total	0.00389		0.000050	mg/L	28-NOV-18	28-NOV-18	R4365280
Lithium (Li)-Total	<0.0010		0.0010	mg/L	28-NOV-18	28-NOV-18	R4365280
Magnesium (Mg)-Total	26.3		0.0050	mg/L	28-NOV-18	28-NOV-18	R4365280
Manganese (Mn)-Total	0.0480		0.00050	mg/L	28-NOV-18	28-NOV-18	R4365280
Molybdenum (Mo)-Total	0.000327		0.000050	mg/L	28-NOV-18	28-NOV-18	R4365280
Nickel (Ni)-Total	0.00113		0.00050	mg/L	28-NOV-18	28-NOV-18	R4365280
Phosphorus (P)-Total	<0.050		0.050	mg/L	28-NOV-18	28-NOV-18	R4365280
Potassium (K)-Total	1.97		0.050	mg/L	28-NOV-18	28-NOV-18	R4365280
Rubidium (Rb)-Total	0.00246		0.00020	mg/L	28-NOV-18	28-NOV-18	R4365280
Selenium (Se)-Total	0.000253		0.000050	mg/L	28-NOV-18	28-NOV-18	R4365280
Silicon (Si)-Total	5.82		0.10	mg/L	28-NOV-18	28-NOV-18	R4365280
Silver (Ag)-Total	<0.000050		0.000050	mg/L	28-NOV-18	28-NOV-18	R4365280
Sodium (Na)-Total	17.0		0.050	mg/L	28-NOV-18	28-NOV-18	R4365280
Strontium (Sr)-Total	0.116		0.0010	mg/L	28-NOV-18	28-NOV-18	R4365280
Sulfur (S)-Total	7.73		0.50	mg/L	28-NOV-18	28-NOV-18	R4365280
Tellurium (Te)-Total	<0.00020		0.00020	mg/L	28-NOV-18	28-NOV-18	R4365280
Thallium (Tl)-Total	0.000021		0.000010	mg/L	28-NOV-18	29-NOV-18	R4365280
Thorium (Th)-Total	0.00014		0.00010	mg/L	28-NOV-18	28-NOV-18	R4365280
Tin (Sn)-Total	<0.00010		0.00010	mg/L	28-NOV-18	28-NOV-18	R4365280
Titanium (Ti)-Total	0.0256		0.00030	mg/L	28-NOV-18	28-NOV-18	R4365280
Tungsten (W)-Total	<0.00010		0.00010	mg/L	28-NOV-18	28-NOV-18	R4365280
Uranium (U)-Total	0.000431		0.000010	mg/L	28-NOV-18	28-NOV-18	R4365280
Vanadium (V)-Total	0.00130		0.00050	mg/L	28-NOV-18	28-NOV-18	R4365280
Zinc (Zn)-Total	0.0444		0.0030	mg/L	28-NOV-18	28-NOV-18	R4365280
Zirconium (Zr)-Total	0.00031		0.00030	mg/L	28-NOV-18	28-NOV-18	R4365280
Hydrocarbons							
F1 (C6-C10)	<25		25	ug/L		03-DEC-18	R4367916
F2 (C10-C16)	<100		100	ug/L	27-NOV-18	28-NOV-18	R4365057
F3 (C16-C34)	<250		250	ug/L	27-NOV-18	28-NOV-18	R4365057
F4 (C34-C50)	<250		250	ug/L	27-NOV-18	28-NOV-18	R4365057
Total Hydrocarbons (C6-C50)	<370		370	ug/L		03-DEC-18	
Chrom. to baseline at nC50	YES				27-NOV-18	28-NOV-18	R4365057
Surrogate: 2-Bromobenzotrifluoride	81.6		60-140	%	27-NOV-18	28-NOV-18	R4365057
Surrogate: 3,4-Dichlorotoluene	111.4		60-140	%		03-DEC-18	R4367916

* Refer to Referenced Information for Qualifiers (if any) and Methodology.

Reference Information

QC Samples with Qualifiers & Comments:

QC Type Description	Parameter	Qualifier	Applies to Sample Number(s)
Matrix Spike	Chloride (Cl)	MS-B	L2202241-1, -2, -3, -4, -5, -6
Matrix Spike	Aluminum (Al)-Total	MS-B	L2202241-1, -2, -3, -4, -5, -6
Matrix Spike	Boron (B)-Total	MS-B	L2202241-1, -2, -3, -4, -5, -6
Matrix Spike	Calcium (Ca)-Total	MS-B	L2202241-1, -2, -3, -4, -5, -6
Matrix Spike	Iron (Fe)-Total	MS-B	L2202241-1, -2, -3, -4, -5, -6
Matrix Spike	Potassium (K)-Total	MS-B	L2202241-1, -2, -3, -4, -5, -6
Matrix Spike	Sodium (Na)-Total	MS-B	L2202241-1, -2, -3, -4, -5, -6
Matrix Spike	Strontium (Sr)-Total	MS-B	L2202241-1, -2, -3, -4, -5, -6
Matrix Spike	Sulfur (S)-Total	MS-B	L2202241-1, -2, -3, -4, -5, -6
Matrix Spike	Zinc (Zn)-Total	MS-B	L2202241-1, -2, -3, -4, -5, -6
Matrix Spike	Nitrate (as N)	MS-B	L2202241-1, -2, -3, -4, -5, -6
Matrix Spike	Nitrate (as N)	MS-B	L2202241-1, -2, -3, -4, -5, -6
Matrix Spike	Total Kjeldahl Nitrogen	MS-B	L2202241-1, -2

Sample Parameter Qualifier key listed:

Qualifier	Description
DLHC	Detection Limit Raised: Dilution required due to high concentration of test analyte(s).
DLM	Detection Limit Adjusted due to sample matrix effects (e.g. chemical interference, colour, turbidity).
MS-B	Matrix Spike recovery could not be accurately calculated due to high analyte background in sample.
OWP	Organic water sample contained visible sediment (must be included as part of analysis). Measured concentrations of organic substances in water can be biased high due to presence of sediment.

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
BR-IC-N-WT	Water	Bromide in Water by IC	EPA 300.1 (mod)

Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.

CL-IC-N-WT	Water	Chloride by IC	EPA 300.1 (mod)

Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.

Analysis conducted in accordance with the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act (July 1, 2011).

F-IC-N-WT	Water	Fluoride in Water by IC	EPA 300.1 (mod)

Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.

F1-F4-511-CALC-WT	Water	F1-F4 Hydrocarbon Calculated Parameters	CCME CWS-PHC, Pub #1310, Dec 2001-L

Analytical methods used for analysis of CCME Petroleum Hydrocarbons have been validated and comply with the Reference Method for the CWS PHC.

In cases where results for both F4 and F4G are reported, the greater of the two results must be used in any application of the CWS PHC guidelines and the gravimetric heavy hydrocarbons cannot be added to the C6 to C50 hydrocarbons.
In samples where BTEX and F1 were analyzed , F1-BTEX represents a value where the sum of Benzene, Toluene, Ethylbenzene and total Xylenes has been subtracted from F1.

In samples where PAHs, F2 and F3 were analyzed, F2-Naphth represents the result where Naphthalene has been subtracted from F2. F3-PAH represents a result where the sum of Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Dibenzo(a,h)anthracene, Fluoranthene, Indeno(1,2,3-cd)pyrene, Phenanthrene, and Pyrene has been subtracted from F3.

Unless otherwise qualified, the following quality control criteria have been met for the F1 hydrocarbon range:
1. All extraction and analysis holding times were met.
2. Instrument performance showing response factors for C6 and C10 within 30% of the response factor for toluene.
3. Linearity of gasoline response within 15% throughout the calibration range.

Unless otherwise qualified, the following quality control criteria have been met for the F2-F4 hydrocarbon ranges:
1. All extraction and analysis holding times were met.
2. Instrument performance showing C10, C16 and C34 response factors within 10% of their average.
3. Instrument performance showing the C50 response factor within 30% of the average of the C10, C16 and C34 response factors.
4. Linearity of diesel or motor oil response within 15% throughout the calibration range.

F1-HS-511-WT	Water	F1-O.Reg 153/04 (July 2011)	E3398/CCME TIER 1-HS

Fraction F1 is determined by analyzing by headspace-GC/FID.

Analysis conducted in accordance with the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act (July 1, 2011), unless a subset of the Analytical Test Group (ATG) has been requested (the Protocol states that all analytes in an ATG must be reported).

Reference Information

F2-F4-511-WT Water F2-F4-O.Reg 153/04 (July 2011) EPA 3511/CCME Tier 1

Petroleum Hydrocarbons (F2-F4 fractions) are extracted from water using a hexane micro-extraction technique. Instrumental analysis is by GC-FID, as per the Reference Method for the Canada-Wide Standard for Petroleum Hydrocarbons in Soil Tier 1 Method, CCME, 2001.

Analysis conducted in accordance with the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act (July 1, 2011), unless a subset of the Analytical Test Group (ATG) has been requested (the Protocol states that all analytes in an ATG must be reported).

MET-T-CCMS-WT Water Total Metals in Water by CRC ICPMS EPA 200.2/6020A (mod)

Water samples are digested with nitric and hydrochloric acids, and analyzed by CRC ICPMS.

Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method.

Analysis conducted in accordance with the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act (July 1, 2011).

NH3-WT Water Ammonia, Total as N EPA 350.1

Sample is measured colorimetrically. When sample is turbid a distillation step is required, sample is distilled into a solution of boric acid and measured colorimetrically.

NO2-IC-WT Water Nitrite in Water by IC EPA 300.1 (mod)

Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.

NO3-IC-WT Water Nitrate in Water by IC EPA 300.1 (mod)

Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.

P-T-COL-WT Water Total P in Water by Colour APHA 4500-P PHOSPHORUS

This analysis is carried out using procedures adapted from APHA Method 4500-P "Phosphorus". Total Phosphorus is deteremined colourimetrically after persulphate digestion of the sample.

PH-WT Water pH APHA 4500 H-Electrode

Water samples are analyzed directly by a calibrated pH meter.

Analysis conducted in accordance with the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act (July 1, 2011). Holdtime for samples under this regulation is 28 days

SO4-IC-N-WT Water Sulfate in Water by IC EPA 300.1 (mod)

Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.

TKN-WT Water Total Kjeldahl Nitrogen APHA 4500-Norg D

This analysis is carried out using procedures adapted from APHA Method 4500-Norg "Nitrogen (Organic)". Total Kjeldahl Nitrogen is determined by sample digestion at 380 Celsius with analysis using an automated colorimetric method.

** ALS test methods may incorporate modifications from specified reference methods to improve performance.

The last two letters of the above test code(s) indicate the laboratory that performed analytical analysis for that test. Refer to the list below:

Laboratory Definition Code	Laboratory Location
WT	ALS ENVIRONMENTAL - WATERLOO, ONTARIO, CANADA

Chain of Custody Numbers:

17-728538

GLOSSARY OF REPORT TERMS

Surrogates are compounds that are similar in behaviour to target analyte(s), but that do not normally occur in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery. In reports that display the D.L. column, laboratory objectives for surrogates are listed there.
mg/kg - milligrams per kilogram based on dry weight of sample
mg/kg wwt - milligrams per kilogram based on wet weight of sample
mg/kg lwt - milligrams per kilogram based on lipid weight of sample
mg/L - unit of concentration based on volume, parts per million.
< - Less than.
D.L. - The reporting limit.
N/A - Result not available. Refer to qualifier code and definition for explanation.

Test results reported relate only to the samples as received by the laboratory.
UNLESS OTHERWISE STATED, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.
Analytical results in unsigned test reports with the DRAFT watermark are subject to change, pending final QC review.

Quality Control Report

Workorder: L2202241 Report Date: 03-DEC-18

Client: GROUNDWATER SCIENCE CORP. (Waterloo)
465 Kingscourt Drive UNIT 2
WATERLOO ON N2K 3R5
Contact: ANDREW PENTNEY

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
BR-IC-N-WT	**Water**							
Batch R4366562								
WG2942839-4 DUP		**WG2942839-3**						
Bromide (Br)		<0.10	<0.10	RPD-NA	mg/L	N/A	20	29-NOV-18
WG2942839-9 DUP		**L2202241-3**						
Bromide (Br)		0.11	0.11		mg/L	0.2	20	29-NOV-18
WG2942839-2 LCS								
Bromide (Br)			101.2		%		85-115	29-NOV-18
WG2942839-7 LCS								
Bromide (Br)			104.3		%		85-115	29-NOV-18
WG2942839-1 MB								
Bromide (Br)			<0.10		mg/L		0.1	29-NOV-18
WG2942839-6 MB								
Bromide (Br)			<0.10		mg/L		0.1	29-NOV-18
WG2942839-10 MS		**L2202241-3**						
Bromide (Br)			89.1		%		75-125	29-NOV-18
WG2942839-5 MS		**WG2942839-3**						
Bromide (Br)			95.6		%		75-125	29-NOV-18
CL-IC-N-WT	**Water**							
Batch R4366562								
WG2942839-4 DUP		**WG2942839-3**						
Chloride (Cl)		232	232		mg/L	0.0	20	29-NOV-18
WG2942839-9 DUP		**L2202241-3**						
Chloride (Cl)		47.6	47.6		mg/L	0.0	20	29-NOV-18
WG2942839-2 LCS								
Chloride (Cl)			102.0		%		90-110	29-NOV-18
WG2942839-7 LCS								
Chloride (Cl)			102.1		%		90-110	29-NOV-18
WG2942839-1 MB								
Chloride (Cl)			<0.50		mg/L		0.5	29-NOV-18
WG2942839-6 MB								
Chloride (Cl)			<0.50		mg/L		0.5	29-NOV-18
WG2942839-10 MS		**L2202241-3**						
Chloride (Cl)			103.2		%		75-125	29-NOV-18
WG2942839-5 MS		**WG2942839-3**						
Chloride (Cl)			N/A	MS-B	%		-	29-NOV-18
F-IC-N-WT	**Water**							

Quality Control Report

Client: GROUNDWATER SCIENCE CORP. (Waterloo)
465 Kingscourt Drive UNIT 2
WATERLOO ON N2K 3R5
Contact: ANDREW PENTNEY

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
F-IC-N-WT	**Water**							
Batch R4366562								
WG2942839-4 DUP		**WG2942839-3**						
Fluoride (F)		0.082	0.083		mg/L	1.7	20	29-NOV-18
WG2942839-9 DUP		**L2202241-3**						
Fluoride (F)		0.107	0.106		mg/L	1.0	20	29-NOV-18
WG2942839-2 LCS								
Fluoride (F)			100.4		%		90-110	29-NOV-18
WG2942839-7 LCS								
Fluoride (F)			100.8		%		90-110	29-NOV-18
WG2942839-1 MB								
Fluoride (F)			<0.020		mg/L		0.02	29-NOV-18
WG2942839-6 MB								
Fluoride (F)			<0.020		mg/L		0.02	29-NOV-18
WG2942839-10 MS		**L2202241-3**						
Fluoride (F)			101.8		%		75-125	29-NOV-18
WG2942839-5 MS		**WG2942839-3**						
Fluoride (F)			98.7		%		75-125	29-NOV-18
F1-HS-511-WT	**Water**							
Batch R4367916								
WG2943385-4 DUP		**WG2943385-3**						
F1 (C6-C10)		<25	<25	RPD-NA	ug/L	N/A	30	03-DEC-18
WG2943385-1 LCS								
F1 (C6-C10)			110.1		%		80-120	30-NOV-18
WG2943385-2 MB								
F1 (C6-C10)			<25		ug/L		25	30-NOV-18
Surrogate: 3,4-Dichlorotoluene			115.9		%		60-140	30-NOV-18
WG2943385-5 MS		**WG2943385-3**						
F1 (C6-C10)			93.9		%		60-140	03-DEC-18
F2-F4-511-WT	**Water**							
Batch R4365057								
WG2940964-2 LCS								
F2 (C10-C16)			109.6		%		70-130	28-NOV-18
F3 (C16-C34)			117.4		%		70-130	28-NOV-18
F4 (C34-C50)			115.1		%		70-130	28-NOV-18
WG2940964-3 LCSD		**WG2940964-2**						
F2 (C10-C16)		109.6	92.5		%	17	50	28-NOV-18
F3 (C16-C34)		117.4	102.5		%	14	50	28-NOV-18
F4 (C34-C50)		115.1	97.6		%	16	50	28-NOV-18

Quality Control Report

Client: GROUNDWATER SCIENCE CORP. (Waterloo)
465 Kingscourt Drive UNIT 2
WATERLOO ON N2K 3R5
Contact: ANDREW PENTNEY

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
F2-F4-511-WT	**Water**							
Batch R4365057								
WG2940964-1 MB								
F2 (C10-C16)			<100		ug/L		100	28-NOV-18
F3 (C16-C34)			<250		ug/L		250	28-NOV-18
F4 (C34-C50)			<250		ug/L		250	28-NOV-18
Surrogate: 2-Bromobenzotrifluoride			104.2		%		60-140	28-NOV-18
MET-T-CCMS-WT	**Water**							
Batch R4365280								
WG2940987-4 DUP		**WG2940987-3**						
Aluminum (Al)-Total		0.0182	0.0174		mg/L	4.3	20	28-NOV-18
Antimony (Sb)-Total		0.00015	0.00015		mg/L	1.2	20	28-NOV-18
Arsenic (As)-Total		0.00073	0.00076		mg/L	3.6	20	28-NOV-18
Barium (Ba)-Total		0.00026	0.00024		mg/L	5.6	20	28-NOV-18
Beryllium (Be)-Total		<0.00010	<0.00010	RPD-NA	mg/L	N/A	20	28-NOV-18
Bismuth (Bi)-Total		<0.000050	<0.000050	RPD-NA	mg/L	N/A	20	28-NOV-18
Boron (B)-Total		0.021	0.022		mg/L	4.0	20	28-NOV-18
Cadmium (Cd)-Total		<0.0000050	<0.000005(	RPD-NA	mg/L	N/A	20	28-NOV-18
Calcium (Ca)-Total		0.066	0.057		mg/L	15	20	28-NOV-18
Chromium (Cr)-Total		<0.00050	<0.00050	RPD-NA	mg/L	N/A	20	28-NOV-18
Cesium (Cs)-Total		<0.000010	<0.000010	RPD-NA	mg/L	N/A	20	28-NOV-18
Cobalt (Co)-Total		<0.00010	<0.00010	RPD-NA	mg/L	N/A	20	28-NOV-18
Copper (Cu)-Total		0.0027	0.0026		mg/L	1.1	20	28-NOV-18
Iron (Fe)-Total		0.011	0.010		mg/L	2.7	20	28-NOV-18
Lead (Pb)-Total		<0.000050	<0.000050	RPD-NA	mg/L	N/A	20	28-NOV-18
Lithium (Li)-Total		<0.0010	<0.0010	RPD-NA	mg/L	N/A	20	28-NOV-18
Magnesium (Mg)-Total		0.0058	0.0056		mg/L	3.8	20	28-NOV-18
Manganese (Mn)-Total		<0.00050	<0.00050	RPD-NA	mg/L	N/A	20	28-NOV-18
Molybdenum (Mo)-Total		0.00133	0.00133		mg/L	0.3	20	28-NOV-18
Nickel (Ni)-Total		<0.00050	<0.00050	RPD-NA	mg/L	N/A	20	28-NOV-18
Phosphorus (P)-Total		0.676	0.651		mg/L	3.8	20	28-NOV-18
Potassium (K)-Total		<0.050	<0.050	RPD-NA	mg/L	N/A	20	28-NOV-18
Rubidium (Rb)-Total		<0.00020	<0.00020	RPD-NA	mg/L	N/A	20	28-NOV-18
Selenium (Se)-Total		0.000144	0.000128		mg/L	12	20	28-NOV-18
Silicon (Si)-Total		0.60	0.60		mg/L	0.7	20	28-NOV-18
Silver (Ag)-Total		<0.000050	<0.000050	RPD-NA	mg/L	N/A	20	28-NOV-18

Quality Control Report

Client: GROUNDWATER SCIENCE CORP. (Waterloo)
465 Kingscourt Drive UNIT 2
WATERLOO ON N2K 3R5
Contact: ANDREW PENTNEY

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-CCMS-WT	**Water**							
Batch R4365280								
WG2940987-4 DUP		**WG2940987-3**						
Sodium (Na)-Total		73.7	74.9		mg/L	1.5	20	28-NOV-18
Strontium (Sr)-Total		<0.0010	<0.0010	RPD-NA	mg/L	N/A	20	28-NOV-18
Sulfur (S)-Total		8.81	9.03		mg/L	2.5	25	28-NOV-18
Thallium (Tl)-Total		<0.000010	<0.000010	RPD-NA	mg/L	N/A	20	29-NOV-18
Tellurium (Te)-Total		<0.00020	<0.00020	RPD-NA	mg/L	N/A	20	28-NOV-18
Thorium (Th)-Total		<0.00010	<0.00010	RPD-NA	mg/L	N/A	25	28-NOV-18
Tin (Sn)-Total		<0.00010	<0.00010	RPD-NA	mg/L	N/A	20	28-NOV-18
Titanium (Ti)-Total		<0.00030	<0.00030	RPD-NA	mg/L	N/A	20	28-NOV-18
Tungsten (W)-Total		<0.00010	<0.00010	RPD-NA	mg/L	N/A	20	28-NOV-18
Uranium (U)-Total		0.000076	0.000077		mg/L	1.5	20	28-NOV-18
Vanadium (V)-Total		<0.00050	<0.00050	RPD-NA	mg/L	N/A	20	28-NOV-18
Zinc (Zn)-Total		0.0034	0.0033		mg/L	3.4	20	28-NOV-18
Zirconium (Zr)-Total		<0.00030	<0.00030	RPD-NA	mg/L	N/A	20	28-NOV-18
WG2940987-2 LCS								
Aluminum (Al)-Total			105.2		%		80-120	28-NOV-18
Antimony (Sb)-Total			108.2		%		80-120	28-NOV-18
Arsenic (As)-Total			105.5		%		80-120	28-NOV-18
Barium (Ba)-Total			104.6		%		80-120	28-NOV-18
Beryllium (Be)-Total			100.8		%		80-120	28-NOV-18
Bismuth (Bi)-Total			101.7		%		80-120	28-NOV-18
Boron (B)-Total			102.2		%		80-120	28-NOV-18
Cadmium (Cd)-Total			104.4		%		80-120	28-NOV-18
Calcium (Ca)-Total			103.5		%		80-120	28-NOV-18
Chromium (Cr)-Total			105.1		%		80-120	28-NOV-18
Cesium (Cs)-Total			106.2		%		80-120	28-NOV-18
Cobalt (Co)-Total			103.9		%		80-120	28-NOV-18
Copper (Cu)-Total			102.5		%		80-120	28-NOV-18
Iron (Fe)-Total			102.6		%		80-120	28-NOV-18
Lead (Pb)-Total			106.3		%		80-120	28-NOV-18
Lithium (Li)-Total			95.5		%		80-120	28-NOV-18
Magnesium (Mg)-Total			102.7		%		80-120	28-NOV-18
Manganese (Mn)-Total			104.6		%		80-120	28-NOV-18
Molybdenum (Mo)-Total			104.3		%		80-120	28-NOV-18

Quality Control Report

Client: GROUNDWATER SCIENCE CORP. (Waterloo)
465 Kingscourt Drive UNIT 2
WATERLOO ON N2K 3R5
Contact: ANDREW PENTNEY

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-CCMS-WT	**Water**							
Batch R4365280								
WG2940987-2 LCS								
Nickel (Ni)-Total			103.8		%		80-120	28-NOV-18
Phosphorus (P)-Total			105.6		%		70-130	28-NOV-18
Potassium (K)-Total			105.2		%		80-120	28-NOV-18
Rubidium (Rb)-Total			102.1		%		80-120	28-NOV-18
Selenium (Se)-Total			108.7		%		80-120	28-NOV-18
Silicon (Si)-Total			107.0		%		60-140	28-NOV-18
Silver (Ag)-Total			106.2		%		80-120	28-NOV-18
Sodium (Na)-Total			103.7		%		80-120	28-NOV-18
Strontium (Sr)-Total			103.7		%		80-120	28-NOV-18
Sulfur (S)-Total			103.7		%		80-120	28-NOV-18
Thallium (Tl)-Total			103.4		%		80-120	29-NOV-18
Tellurium (Te)-Total			103.1		%		80-120	28-NOV-18
Thorium (Th)-Total			99.7		%		70-130	28-NOV-18
Tin (Sn)-Total			104.1		%		80-120	28-NOV-18
Titanium (Ti)-Total			104.3		%		80-120	28-NOV-18
Tungsten (W)-Total			105.2		%		80-120	28-NOV-18
Uranium (U)-Total			104.1		%		80-120	28-NOV-18
Vanadium (V)-Total			106.2		%		80-120	28-NOV-18
Zinc (Zn)-Total			103.3		%		80-120	28-NOV-18
Zirconium (Zr)-Total			103.4		%		80-120	28-NOV-18
WG2940987-1 MB								
Aluminum (Al)-Total			<0.0050		mg/L		0.005	28-NOV-18
Antimony (Sb)-Total			<0.00010		mg/L		0.0001	28-NOV-18
Arsenic (As)-Total			<0.00010		mg/L		0.0001	28-NOV-18
Barium (Ba)-Total			<0.00010		mg/L		0.0001	28-NOV-18
Beryllium (Be)-Total			<0.00010		mg/L		0.0001	28-NOV-18
Bismuth (Bi)-Total			<0.000050		mg/L		0.00005	28-NOV-18
Boron (B)-Total			<0.010		mg/L		0.01	28-NOV-18
Cadmium (Cd)-Total			<0.000005(		mg/L		0.000005	28-NOV-18
Calcium (Ca)-Total			<0.050		mg/L		0.05	28-NOV-18
Chromium (Cr)-Total			<0.00050		mg/L		0.0005	28-NOV-18
Cesium (Cs)-Total			<0.000010		mg/L		0.00001	28-NOV-18
Cobalt (Co)-Total			<0.00010		mg/L		0.0001	28-NOV-18
Copper (Cu)-Total			<0.0010		mg/L		0.001	28-NOV-18

Quality Control Report

Client: GROUNDWATER SCIENCE CORP. (Waterloo)
465 Kingscourt Drive UNIT 2
WATERLOO ON N2K 3R5
Contact: ANDREW PENTNEY

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-CCMS-WT	**Water**							
Batch R4365280								
WG2940987-1 MB								
Iron (Fe)-Total			<0.010		mg/L		0.01	28-NOV-18
Lead (Pb)-Total			<0.000050		mg/L		0.00005	28-NOV-18
Lithium (Li)-Total			<0.0010		mg/L		0.001	28-NOV-18
Magnesium (Mg)-Total			<0.0050		mg/L		0.005	28-NOV-18
Manganese (Mn)-Total			<0.00050		mg/L		0.0005	28-NOV-18
Molybdenum (Mo)-Total			<0.000050		mg/L		0.00005	28-NOV-18
Nickel (Ni)-Total			<0.00050		mg/L		0.0005	28-NOV-18
Phosphorus (P)-Total			<0.050		mg/L		0.05	28-NOV-18
Potassium (K)-Total			<0.050		mg/L		0.05	28-NOV-18
Rubidium (Rb)-Total			<0.00020		mg/L		0.0002	28-NOV-18
Selenium (Se)-Total			<0.000050		mg/L		0.00005	28-NOV-18
Silicon (Si)-Total			<0.10		mg/L		0.1	28-NOV-18
Silver (Ag)-Total			<0.000050		mg/L		0.00005	28-NOV-18
Sodium (Na)-Total			<0.050		mg/L		0.05	28-NOV-18
Strontium (Sr)-Total			<0.0010		mg/L		0.001	28-NOV-18
Sulfur (S)-Total			<0.50		mg/L		0.5	28-NOV-18
Thallium (Tl)-Total			<0.000010		mg/L		0.00001	29-NOV-18
Tellurium (Te)-Total			<0.00020		mg/L		0.0002	28-NOV-18
Thorium (Th)-Total			<0.00010		mg/L		0.0001	28-NOV-18
Tin (Sn)-Total			<0.00010		mg/L		0.0001	28-NOV-18
Titanium (Ti)-Total			<0.00030		mg/L		0.0003	28-NOV-18
Tungsten (W)-Total			<0.00010		mg/L		0.0001	28-NOV-18
Uranium (U)-Total			<0.000010		mg/L		0.00001	28-NOV-18
Vanadium (V)-Total			<0.00050		mg/L		0.0005	28-NOV-18
Zinc (Zn)-Total			<0.0030		mg/L		0.003	28-NOV-18
Zirconium (Zr)-Total			<0.00030		mg/L		0.0003	28-NOV-18
WG2940987-5 MS		**WG2940987-6**						
Aluminum (Al)-Total			N/A	MS-B	%		-	28-NOV-18
Antimony (Sb)-Total			104.6		%		70-130	28-NOV-18
Arsenic (As)-Total			101.9		%		70-130	28-NOV-18
Barium (Ba)-Total			115.8		%		70-130	28-NOV-18
Beryllium (Be)-Total			98.7		%		70-130	28-NOV-18
Bismuth (Bi)-Total			99.8		%		70-130	28-NOV-18
Boron (B)-Total			N/A	MS-B	%		-	28-NOV-18

Quality Control Report

Client: GROUNDWATER SCIENCE CORP. (Waterloo)
465 Kingscourt Drive UNIT 2
WATERLOO ON N2K 3R5
Contact: ANDREW PENTNEY

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-T-CCMS-WT	**Water**							
Batch R4365280								
WG2940987-5 MS		**WG2940987-6**						
Cadmium (Cd)-Total			104.3		%		70-130	28-NOV-18
Calcium (Ca)-Total			N/A	MS-B	%		-	28-NOV-18
Chromium (Cr)-Total			96.9		%		70-130	28-NOV-18
Cesium (Cs)-Total			100.9		%		70-130	28-NOV-18
Cobalt (Co)-Total			92.1		%		70-130	28-NOV-18
Copper (Cu)-Total			98.7		%		70-130	28-NOV-18
Iron (Fe)-Total			N/A	MS-B	%		-	28-NOV-18
Lead (Pb)-Total			102.5		%		70-130	28-NOV-18
Magnesium (Mg)-Total			99.4		%		70-130	28-NOV-18
Manganese (Mn)-Total			96.8		%		70-130	28-NOV-18
Molybdenum (Mo)-Total			101.7		%		70-130	28-NOV-18
Nickel (Ni)-Total			98.5		%		70-130	28-NOV-18
Phosphorus (P)-Total			106.7		%		70-130	28-NOV-18
Potassium (K)-Total			N/A	MS-B	%		-	28-NOV-18
Rubidium (Rb)-Total			100.9		%		70-130	28-NOV-18
Selenium (Se)-Total			103.1		%		70-130	28-NOV-18
Silicon (Si)-Total			87.6		%		70-130	28-NOV-18
Silver (Ag)-Total			102.7		%		70-130	28-NOV-18
Sodium (Na)-Total			N/A	MS-B	%		-	28-NOV-18
Strontium (Sr)-Total			N/A	MS-B	%		-	28-NOV-18
Sulfur (S)-Total			N/A	MS-B	%		-	28-NOV-18
Thallium (Tl)-Total			95.8		%		70-130	28-NOV-18
Tellurium (Te)-Total			101.0		%		70-130	28-NOV-18
Thorium (Th)-Total			83.9		%		70-130	28-NOV-18
Tin (Sn)-Total			102.5		%		70-130	28-NOV-18
Titanium (Ti)-Total			99.4		%		70-130	28-NOV-18
Tungsten (W)-Total			101.0		%		70-130	28-NOV-18
Uranium (U)-Total			94.7		%		70-130	28-NOV-18
Vanadium (V)-Total			103.5		%		70-130	28-NOV-18
Zinc (Zn)-Total			N/A	MS-B	%		-	28-NOV-18
Zirconium (Zr)-Total			103.7		%		70-130	28-NOV-18
NH3-WT	**Water**							

Quality Control Report

Client: GROUNDWATER SCIENCE CORP. (Waterloo)
465 Kingscourt Drive UNIT 2
WATERLOO ON N2K 3R5
Contact: ANDREW PENTNEY

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
NH3-WT	**Water**							
Batch R4365605								
WG2942373-11 DUP		**L2202241-3**						
Ammonia, Total (as N)		<0.020	<0.020	RPD-NA	mg/L	N/A	20	29-NOV-18
WG2942373-10 LCS								
Ammonia, Total (as N)			110.2		%		85-115	29-NOV-18
WG2942373-9 MB								
Ammonia, Total (as N)			<0.020		mg/L		0.02	29-NOV-18
WG2942373-12 MS		**L2202241-3**						
Ammonia, Total (as N)			94.7		%		75-125	29-NOV-18
NO2-IC-WT	**Water**							
Batch R4366562								
WG2942839-4 DUP		**WG2942839-3**						
Nitrite (as N)		<0.010	<0.010	RPD-NA	mg/L	N/A	25	29-NOV-18
WG2942839-9 DUP		**L2202241-3**						
Nitrite (as N)		<0.010	<0.010	RPD-NA	mg/L	N/A	25	29-NOV-18
WG2942839-2 LCS								
Nitrite (as N)			102.3		%		70-130	29-NOV-18
WG2942839-7 LCS								
Nitrite (as N)			101.9		%		70-130	29-NOV-18
WG2942839-1 MB								
Nitrite (as N)			<0.010		mg/L		0.01	29-NOV-18
WG2942839-6 MB								
Nitrite (as N)			<0.010		mg/L		0.01	29-NOV-18
WG2942839-10 MS		**L2202241-3**						
Nitrite (as N)			99.9		%		70-130	29-NOV-18
WG2942839-5 MS		**WG2942839-3**						
Nitrite (as N)			102.5		%		70-130	29-NOV-18
NO3-IC-WT	**Water**							
Batch R4366562								
WG2942839-4 DUP		**WG2942839-3**						
Nitrate (as N)		2.65	2.65		mg/L	0.2	25	29-NOV-18
WG2942839-9 DUP		**L2202241-3**						
Nitrate (as N)		7.97	7.98		mg/L	0.2	25	29-NOV-18
WG2942839-2 LCS								
Nitrate (as N)			102.2		%		70-130	29-NOV-18
WG2942839-7 LCS								
Nitrate (as N)			102.1		%		70-130	29-NOV-18
WG2942839-1 MB								
Nitrate (as N)			<0.020		mg/L		0.02	29-NOV-18

Quality Control Report

Client: GROUNDWATER SCIENCE CORP. (Waterloo)
465 Kingscourt Drive UNIT 2
WATERLOO ON N2K 3R5
Contact: ANDREW PENTNEY

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
NO3-IC-WT	**Water**							
Batch R4366562								
WG2942839-6 MB								
Nitrate (as N)			<0.020		mg/L		0.02	29-NOV-18
WG2942839-10 MS		**L2202241-3**						
Nitrate (as N)			N/A	MS-B	%		-	29-NOV-18
WG2942839-5 MS		**WG2942839-3**						
Nitrate (as N)			N/A	MS-B	%		-	29-NOV-18
P-T-COL-WT	**Water**							
Batch R4366101								
WG2942904-3 DUP		**L2202366-1**						
Phosphorus, Total		0.0032	0.0033		mg/L	1.9	20	30-NOV-18
WG2942904-2 LCS								
Phosphorus, Total			86.4		%		80-120	30-NOV-18
WG2942904-1 MB								
Phosphorus, Total			<0.0030		mg/L		0.003	30-NOV-18
WG2942904-4 MS		**L2202366-1**						
Phosphorus, Total			93.7		%		70-130	30-NOV-18
PH-WT	**Water**							
Batch R4364554								
WG2941099-8 DUP		**WG2941099-7**						
pH		7.19	7.15	J	pH units	0.04	0.2	28-NOV-18
WG2941099-6 LCS								
pH			6.99		pH units		6.9-7.1	28-NOV-18
SO4-IC-N-WT	**Water**							
Batch R4366562								
WG2942839-4 DUP		**WG2942839-3**						
Sulfate (SO4)		43.1	43.1		mg/L	0.1	20	29-NOV-18
WG2942839-9 DUP		**L2202241-3**						
Sulfate (SO4)		22.1	22.1		mg/L	0.0	20	29-NOV-18
WG2942839-2 LCS								
Sulfate (SO4)			102.5		%		90-110	29-NOV-18
WG2942839-7 LCS								
Sulfate (SO4)			102.6		%		90-110	29-NOV-18
WG2942839-1 MB								
Sulfate (SO4)			<0.30		mg/L		0.3	29-NOV-18
WG2942839-6 MB								
Sulfate (SO4)			<0.30		mg/L		0.3	29-NOV-18
WG2942839-10 MS		**L2202241-3**						

Quality Control Report

Client: GROUNDWATER SCIENCE CORP. (Waterloo)
465 Kingscourt Drive UNIT 2
WATERLOO ON N2K 3R5
Contact: ANDREW PENTNEY

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
SO4-IC-N-WT	**Water**							
Batch R4366562								
WG2942839-10 MS		**L2202241-3**						
Sulfate (SO4)			104.4		%		75-125	29-NOV-18
WG2942839-5 MS		**WG2942839-3**						
Sulfate (SO4)			107.5		%		75-125	29-NOV-18
TKN-WT	**Water**							
Batch R4365896								
WG2942127-3 DUP		**L2201803-1**						
Total Kjeldahl Nitrogen		5.80	5.88		mg/L	1.4	20	29-NOV-18
WG2942127-2 LCS								
Total Kjeldahl Nitrogen			99.3		%		75-125	29-NOV-18
WG2942127-1 MB								
Total Kjeldahl Nitrogen			<0.15		mg/L		0.15	29-NOV-18
WG2942127-4 MS		**L2201803-1**						
Total Kjeldahl Nitrogen			N/A	MS-B	%		-	29-NOV-18
Batch R4366152								
WG2942271-3 DUP		**L2202137-1**						
Total Kjeldahl Nitrogen		0.89	0.87		mg/L	2.1	20	29-NOV-18
WG2942271-2 LCS								
Total Kjeldahl Nitrogen			98.9		%		75-125	29-NOV-18
WG2942271-1 MB								
Total Kjeldahl Nitrogen			<0.15		mg/L		0.15	29-NOV-18
WG2942271-4 MS		**L2202137-1**						
Total Kjeldahl Nitrogen			103.7		%		70-130	29-NOV-18

Quality Control Report

Workorder: L2202241 Report Date: 03-DEC-18

Client: GROUNDWATER SCIENCE CORP. (Waterloo)
465 Kingscourt Drive UNIT 2
WATERLOO ON N2K 3R5
Contact: ANDREW PENTNEY

Legend:

Limit	ALS Control Limit (Data Quality Objectives)
DUP	Duplicate
RPD	Relative Percent Difference
N/A	Not Available
LCS	Laboratory Control Sample
SRM	Standard Reference Material
MS	Matrix Spike
MSD	Matrix Spike Duplicate
ADE	Average Desorption Efficiency
MB	Method Blank
IRM	Internal Reference Material
CRM	Certified Reference Material
CCV	Continuing Calibration Verification
CVS	Calibration Verification Standard
LCSD	Laboratory Control Sample Duplicate

Sample Parameter Qualifier Definitions:

Qualifier	Description
J	Duplicate results and limits are expressed in terms of absolute difference.
MS-B	Matrix Spike recovery could not be accurately calculated due to high analyte background in sample.
RPD-NA	Relative Percent Difference Not Available due to result(s) being less than detection limit.

Hold Time Exceedances:

All test results reported with this submission were conducted within ALS recommended hold times.

ALS recommended hold times may vary by province. They are assigned to meet known provincial and/or federal government requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by the US EPA, APHA Standard Methods, or Environment Canada (where available). For more information, please contact ALS.

The ALS Quality Control Report is provided to ALS clients upon request. ALS includes comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against pre-determined data quality objectives to provide confidence in the accuracy of associated test results.

Please note that this report may contain QC results from anonymous Sample Duplicates and Matrix Spikes that do not originate from this Work Order.

Harden Environmental

4622 Nassagaweya-Puslinch Townline R.R. 1 Moffat Ontario Canada L0P 1J0
Phone: 519.826.0099 fax: 519.826.9099 www.hardenv.com

Groundwater Studies

Geochemistry

Phase I / II

Regional Flow Studies

Contaminant Investigations

OMB Hearings

Water Quality Sampling

Monitoring

Groundwater Protection Studies

Groundwater Modelling

Groundwater Mapping

Our File: 0521

August 28, 2019

Township of Puslinch
7404 Wellington Road 34
Guelph, ON, N1H 6H9

Attention: Nina Lecic
Clerk

Dear Mrs. Lecic:

Regarding: 2018 Groundwater Monitoring Report, CBM, Roszell Road Pit

We have conducted a review of the following monitoring reports for the Roszell Pit in Puslinch Township.

2018 Groundwater Monitoring Summary, License No. 625189, Groundwater Science Corporation, March 2019

Between 2017 and 2018 there was a significant increase in the size of the southern extraction pond.

Groundwater Elevations

All of the groundwater monitors surrounding this site are completed in the overburden. This is the same formation within which the active aggregate extraction is occurring. Water levels have been obtained since 2004. Our comments on the water levels are as follows;

Monitors North of Extraction Area

The water levels north of the extraction area have remained similar to pre extraction levels. There is no indication of upward or downward trend.

Monitors on North Edge of Extraction Area

Historical low water levels were observed in 2018 in both BH4S/D, BH1 and BH16.

Monitors West Edge Middle of Site

Small increasing water levels in BH7S/D, DP7 GW and DP7 SW.

Roszell Wetland Area

Between 2008 and 2015 there has been a decreasing trend in water levels at BH9, DP5 GW, DP6 GW, since then stabilized.

Monitors East Side and Off-site

BH11 no trend, BH12 no trend, BH13 no trend, BH10S and BH5S, decreasing trend 2008 to 2015 and stabilized since then.

Monitors South East Portion of Site

General decreasing trend from 2008 to 2015, stabilized since then.

In general terms the water levels upgradient of the site to the east and south (near Roszell Wetland) have exhibited the greatest decrease. This decrease is less than 0.5 metres. Private ponds monitored by PG4 and PG6 are also lower than in 2008. Private well PW2 also shows a 0.3 to 0.5 metre decline since 2008, however this well is located more distant from the pit than BH13 which does not show any change and water levels have been stable since 2012.

There is no decrease in water levels downgradient of the site in the direction of the Speed River tributaries.

Surface Water / Upwelling Temperatures

The natural range in temperature in the Main Creek is between 0 and 25 ℃ at SW1, 0 and 24 ℃ at SW2, 0 and 22 ℃ at SW3 and 0 and 22 ℃ at SW4. Main Creek is identified as a brook trout fishery and the work done by Dance Environmental confirms that spawning activity occurs in this creek.

The temperature of groundwater upwelling into Main Creek is measured at SW12 and SW5. The water temperature of the upwellings is showing an effect of the extractive operation manifest as increased seasonal high temperatures and decreased seasonal low temperatures. At SW12 where the temperature change is more pronounced, the seasonal

high is 4.5 ℃ higher and occurs approximately one month later (November vs October). The seasonal low temperatures at SW12 have been 1.5 ℃ cooler and occur approximately 40 days later.

SW6 is located at a groundwater upwelling into Tributary 7 and temperatures have shifted from a seasonal range of between 8 and 9.5 ℃ to between 9 and 12 ℃. This condition has stabilized in the last three years.

The surface water temperatures of Tributary 7 are measured at SW 7 and are found to range between 1 and 19 ℃. No change has occurred in the past four years.

SW8 is located at a groundwater upwelling into Trib. 8 and the seasonal range of temperatures has changed from 8.5 to 9 ℃ to 8 to 12 ℃. This condition has stabilized in the last two years.

The temperature in a small tributary downgradient of the site is measured at station SW12 and the temperature has increased from a seasonal high of 11 C to a seasonal high of 16 C. This condition has stabilized in since 2016.

Groundwater Temperatures

There are readily identifiable changes occurring to groundwater temperatures between the extractive operation and the Speed River. The newly formed pit ponds have a surface water temperature range between 3 ℃ and 25 ℃. This water moves into the sand and gravel aquifer thus transporting the heat accumulated in the pond. A thermal impact is obvious at 5metres(BH16) and 45 metres(BH17) distant from the pond. At a distance of 45 metres the seasonal low temperature has decreased by 2.4 ℃ and season high temperatures have increased by as much as 6 ℃. The seasonal high temperature in 2018 increased in BH16 to 25 ℃. A smaller increase occurring at BH17 where a seasonal high of less than 18 ℃ occurred.

Groundwater temperatures at BH1 located 115 m downgradient of the lake have not been significantly affected to date.

Summary of Review

There are no significant changes in water levels or water temperature in 2018. Changes in water levels upgradient of the pit have stabilized and temperature changes downgradient of the pit have also stabilized in the last three years.

Sincerely,

Harden Environmental Services Ltd.

Stan Denhoed, M.Sc.,P.Eng.

Senior Hydrogeologist

August 27, 2019

To: **Mayor James Seeley**
Councillor Matthew Bulmer
Councillor Jessica Goyda
Councillor Ken Roth
Councillor John Sepulis
Chief Executive Officer Patrick Moyle

From: The Puslinch Historical Society

Re: The Killean School Bell

Dear Mayor Seeley and Councillors:

After the one-room Killean School was closed in the mid-1960's and students sent to the amalgamated school in Aberfoyle, Glenn Frosch of Killean obtained the school bell. Glenn kept the bell, until he relocated away from Puslinch. It was purchased at his sale by our former mayor, Brad Whitcombe, who hoped to have it displayed in a public setting. Sadly, Brad Whitcombe died before this could be accomplished.

Now, his brother, Kevin Whitcombe, wishes to donate this heritage artefact to Puslinch and the Puslinch Historical Society has decided to take on this project.

The Society believes that the Killean School bell ought be placed in a spot, accessible to the public. Would the Township Council look favourably upon putting it on township property? Our group feels that the green space situated between the Millennial Garden and the Library would be ideal for the purpose.

The PHS plans to have a cairn erected, similar to that which supports the Morriston School bell in the Historic Corner Block in Morriston.

The Puslinch Historical Society will bear any and all costs involved.

Upon completion of the project, the Puslinch Historical Society and Puslinch Township Council could hold a dedication ceremony, with an open invitation to all residents of the township.

Would Council please consider an approval of this endeavour to exhibit this gift and grant permission for the bell to be placed on Township property?

cc. Mary Tivy, Chair
Puslinch Heritage Committee

Sincerely yours,
Marjorie Clark
On behalf of the PHS

Dufferin Aggregates, a division of CRH Canada Group Inc.

Mill Creek Coordinated Monitoring Report
January 1 to December 31, 2018

Project Number:

10-001

Date:

March 26, 2019

Prepared by:

LRG Environmental
RR 1, Markdale, ON, Canada N0C 1H0
T 519.986.2970 F 519.986.3127

in association with

Hims GeoEnvironmental Ltd.

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1	Township of Puslinch	✓	✓
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Signature Page

Report Prepared By:

Lisa Guenther-Wren, M.Sc.
Aquatic Biologist

Report Reviewed By:

Christopher Wren, Ph.D.
Senior Scientist

Forward

This report provides an overview of the operations and results of environmental monitoring programs for the period January 1 to December 31, 2018 for the University of Guelph Mill Creek pit, operated by Dufferin Aggregates, a division of CRH Canada Group Inc. A discussion of compliance with the groundwater threshold values is also provided. Detailed monitoring data for hydrology, hydrogeology and fisheries are provided in separate Appendices.

Terrestrial biology and wetland monitoring is undertaken annually but only reported prior to the start of each new extraction phase. A Pre-Phase 3 terrestrial report was prepared and submitted to the Ministry of Natural Resources (MNR) in 2005 (Paul F.J. Eagles Planning Ltd. 2005). In addition, a comprehensive Pre-Phase 3 Monitoring Plan was submitted in January 2006 (C. Wren & Associates Inc. and Jagger Hims Ltd. A Pre-Phase 4 terrestrial report was prepared and submitted to the MNR July 6 2011 (Paul F.J. Eagles Planning Ltd. 2011).

This is the twenty fourth annual coordinated monitoring report for the Mill Creek program.

Data, text and figures have been integrated into this coordinated report from the following separate Technical Appendices:

Appendix A - Surface Water (prepared by Stantec)

Appendix B - Hydrogeology (prepared by WSP Canada Inc.)

Appendix C - Fisheries (prepared by LRG Environmental)

An FTP site will be set up to access the individual Technical Appendices. Each stakeholder receiving a hard copy of this Coordinated Report will be sent an email with the FTP site access information.

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Executive Summary

General Site Conditions and Operations

- Extraction in 2018 occurred below the water table in the Phase 1 pond to access material remaining in the pond as per the site plans. Extraction also occurred above the water table at the east and south boundaries of the Phase 1 pond within the setback areas as approved by MNRF;
- The silt barrier separating the Phase 3 pond from the Phase 4 pond continued to be widened in 2018 as per the Site Plans;
- The silt barrier continued to reduce groundwater flow from Phase 4 pond to Phase 3 pond as designed;
- Silt Pond 3 (SP3) extension / Phase 4 pond was used to deposit silt in 2018;
- Silt Pond (SP3) / Phase 4 pond operated within the minimum/maximum water level thresholds;
- In 2018 the Ontario Ministry of Transportation (MTO) expropriated a portion of the University property that included parts of Mill Creek for the construction of a new Highway 401 off-ramp and Morriston by-pass;
- The potential effects of the proposed construction on Mill Creek physical features are not known at this time;
- In January of 2019, a tanker truck accident occurred on Highway 401 that resulted in a quantity of Jet Fuel A directly entering Mill Creek within the Dufferin monitoring area; and
- The biological effects of the spill are not known at this time.

Climate

- February, May, July, August, September and December had temperatures higher than the 30-year normal for those months, while other months had temperatures similar to or below the 30-year normal;
- Mean monthly air temperature in 2018 was 9.0^{o}C, which is 0.8^{o}C higher than the 30-year average of 8.2^{o}C;
- Total Precipitation in June and July were similar to the 30-year normal for those months, while August had considerably more precipitation (166 mm) than the 30-year normal (77 mm); and
- Total precipitation in 2018 was 1042 mm, which is 11.9 % greater than the 30-year normal of 925 mm, but lower than the 1092 mm in 2017.

Hydrology

- Calculated minimum and maximum discharge at SWM1 and SWM2 were within the historical range observed since 2000;
- The 2018 minimum and maximum instantaneous flow rates at SWM2 were 0.182 and 7.11 m^3/sec, respectively;
- The 7-day low flow at SWM2 (0.267 m^3/s) occurred from July 15 to July 21 and was above the historical average;
- Beaver dams in the upper part of the Hanlon reach interfered with water level readings at SWM1 in the fall of 2018;
- Stream flow in Mill Creek responded to climatic conditions including precipitation events, periods of snow melt and periods of low precipitation;

- There is no indication that aggregate extraction has affected stream flow in Mill Creek; and
- No changes to the surface water monitoring program are recommended for 2019.

Groundwater

- Interim groundwater thresholds were developed in 2001 after extensive agency discussions and were updated as conditions change or monitoring points become no longer available; the groundwater monitoring program was revised in 2002, 2004, and 2006 with only minor revisions since then;
- There were no exceedances in 2018 of the Action Threshold Values established for the monitoring pairs located adjacent to Mill Creek around the site, with two exceptions;
    - There were two exceedances at the OW5-84 to DP5C/CR pair in June. It is noted that DP5C was vandalised in Spring 2017, and DP5CR was installed to replace DP5C. The exceedances are attributed to the observed elevated hydraulic head in the groundwater and hydrogeological variability at this location;
    - The existing OW5-84 to DP5C early warning and threshold values do not appear to be representative of the actual conditions observed at DP5CR;
- Water levels in the Phase 1 pond, Phase 2 pond, Phase 3 pond, and Phase 4 pond did not exceed their respective low-water level threshold values in 2018;
- The estimated groundwater contribution from the Mill Creek Aggregates Pit property located north of Township Road 2 was higher in 2018 compared to the historic average, and is attributed to the higher than normal precipitation received in 2018;
- The hydraulic gradient in drive points north of Highway 401 (DP18, DP19, and DP20) displayed upward vertical gradients (discharge) for most of 2018, with the exception of downward gradients at DP19 in September to December. Downward gradients have been observed historically at DP19;
- Groundwater temperatures at the monitoring stations closest to the Phase 1 and 3 Extraction Ponds were influenced by temperatures in the ponds; however, temperatures rapidly moderated away from the ponds;
- Groundwater patterns at the Mill Creek site have been influenced by climatic conditions in recent years;
- Groundwater quality has generally remained consistent over the years. Some Ontario Drinking Water Quality Standards are exceeded due to natural conditions in the area not related to the aggregate extraction operation; and
- No changes to the groundwater monitoring program are recommended for 2019.

Mill Creek Water Quality and Temperature

- Surface water quality has remained stable over the past decade. However, in recent years there have been signs of increasing conductivity and chloride levels which are assumed to be attributed to road salting activities and unrelated to pit operations as there is no salt storage at the site;
- The maximum stream temperature in 2018 (26.34ºC) recorded at SWM1 on July 1st was within the range of historic maximum temperatures; and,

- During the spring, summer and fall months, stream temperatures decrease across the University property due to a combination of inflowing coldwater tributaries, ground water input, and shading which continue to enhance the coldwater fish habitat attributes of the stream.

Fisheries

- There is no indication that aggregate extraction has affected the local brown trout population;
- The upper tolerable temperature for brown trout was not exceeded at any of the monitoring stations during the summer of 2018;
- The upper tolerable temperature for brook trout was exceeded on multiple occasions at SWM1 and on one occasion at SWM2;
- There was no electrofishing trout survey in 2018 as per the approved monitoring plan;
- In 2018, brown trout spawning activity was lower in both the University and Hanlon reaches compared to recent years. The most likely cause of the lower red numbers is the high level of beaver activity and dams that were created on both reaches of the creek during 2018;
- The beaver dams and numerous trees across the creek felled by the beavers directly covered good spawning substrate, caused sediment deposition over spawning habitat and changed stream velocity in some areas causing scouring of spawning habitat;
- Beavers were trapped in autumn 2018 and it is recommended that the beaver dams be removed in summer 2019. However, due to a spill of Jet Fuel into Mill Creek in January of 2019, any in-stream activities (including the 2019 electrofishing and redd survey) may be prohibited by the Ontario Ministry of Environment, Conservation and Parks (MECP). This decision will not be made until the results of remediation efforts are known later in 2019; and
- Previous monitoring reports have recommended habitat restoration be undertaken within the Hanlon reach to improve fish habitat. However, due to the uncertainty surrounding the impact of the proposed Morriston by-pass and possible habitat off-setting that may be required for that project, no habitat restoration in the Hanlon reach is recommended at this time.

General Conclusions

- Based on the extensive monitoring data there is no indication that aggregate extraction on the Mill Creek Property has negatively affected water flow in Mill Creek or trout populations in the study area; brown trout populations have been consistent and/or increased since below-water table extraction began in 1995;
- No operational mitigation actions are required or recommended at this time;
- The current interim ground water thresholds can be maintained; and
- The environmental monitoring program will continue in 2019, including the brown trout electrofishing survey as per the approved monitoring schedule,
- It is noted that a significant spill of jet fuel by a third party occurred on January 13, 2019, with an unknown volume of jet fuel entering Mill Creek within our study area in the area of brown trout spawning. Remediation efforts by third parties continue at the time of writing of this report. The ecological impacts of the spill have not yet been assessed but the spill could have an effect on brown trout recruitment and populations.
- Study team members should continue to monitor remediation activities related to the jet fuel spill and collect information related to the dispersal and impacts of the fuel spill to assist with interpretation of upcoming electrofishing results.

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1. Introduction

1.1 The Site

The Mill Creek Property is owned by the University of Guelph and encompasses approximately 189 ha, situated on Part Lot 24 Concession 1 and Part Lots 21-24 Concession 2, Township of Puslinch, in the County of Wellington (Figure 1-1). The land includes vacant and abutting wetlands that are part of the provincially significant Mill Creek Wetland Complex.

The northwest corner of the property is traversed by Mill Creek and by two tributaries, Galt Creek and Pond Creek. These waters support a naturally sustaining brown trout (*Salmo trutta*) and brook trout *(Salvelinus fontinalis)* population. The aggregate extraction operation is designed to limit the impacts on both Mill Creek and its tributaries, and the wetland area adjacent to the creek.

The aggregate extraction is operated by Dufferin Aggregates. Extraction is occurring above and below the water table, and will eventually create a number of small lakes. The operation is licensed to extract aggregate from 115.6 ha of the property as per MNRF approved Site Plans.

1.2 Monitoring Requirements

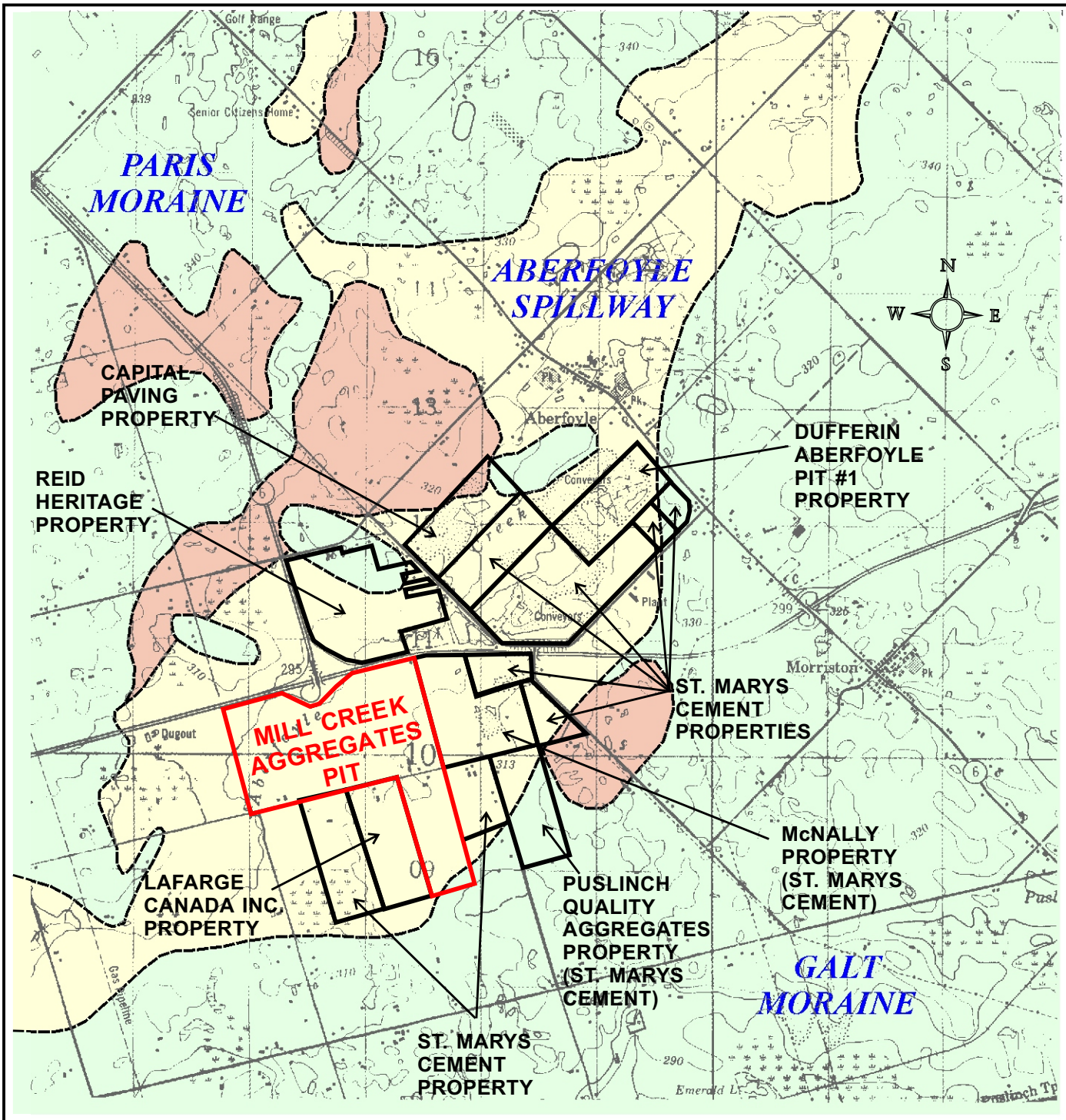
Approval for aggregate extraction on this property followed an Ontario Municipal Board Hearing in 1988 and 1989, with a decision in 1990. The Ministry of Natural Resources (MNR) issued a licence to the University of Guelph under the Aggregate Resources Act in September, 1991. The licence (#5738) has 42 conditions.

The original monitoring programs and specific licence conditions were included in the Coordinated Report on Monitoring Programs (Planning Initiatives 1993). The monitoring program was revised in 2006 as part of the Pre-Phase 3 application (C. Wren & Associates Inc. and Jagger Hims Ltd. 2006). That program was followed up to 2012 when additional program changes were recommended and implemented beginning in 2013 (see Coordinated Monitoring report for 2013 and 2014 for description of changes).

Licence conditions 19 to 23, and 25 required the development of approved monitoring plans before extraction could proceed. This included: surface water (including Mill Creek and its tributaries), ground water, fisheries and ecology of the wetland (vegetation). The vegetation monitoring plan was approved in 1992 and the others in December 1993. Licence conditions 19 - 25 are provided in Table 1.1. Threshold values for groundwater were first developed in 2001 and are periodically updated or revised as discussed in detail in Section 3 of this report.

Table 1.1 Conditions of License

Conditions Of Licence	Related Discipline (1993 Document)
19. The licensee shall, prior to the start of excavation operations, provide the District Manager, Ministry of Natural Resources, with a comprehensive groundwater monitoring report which shall include a description of monitoring equipment, monitoring locations, methods of data collection and recording, action, thresholds, calculations to be carried out (e.g. base flow calculations), frequency of data collection, a proposed reporting schedule, and any other details required by the District Manager. The reporting schedule shall include the requirement to provide a comprehensive interim monitoring report for review and District Manager approval prior to commencement of excavation in each phase of the pit operation. The licensee shall maintain the monitoring programs described above, throughout the operating life of the extraction and during the site rehabilitation period and beyond, until such time that the Ministry of Natural Resources agrees to the termination of, or reduction in, the monitoring program.	Hydrogeology – refer to Appendix B, Groundwater Monitoring Program – Jagger Hims Limited (November, 1993)
20. The licensee shall, prior to the start of excavation operations, provide the District Manager, Ministry of Natural Resources, with a detailed wetland habitat monitoring report which will outline a program designed to measure ecological changes in those parts of the Mill Creek wetland adjacent to extraction operations carried out under this licence. The reporting schedule shall include the requirement to provide a comprehensive interim monitoring report for review and District Manager approval prior to commencement of excavation in each phase of the pit operation.	Terrestrial Ecology – refer to Appendix D, Habitat Monitoring Manual, Paul F.J. Eagles Planning Ltd. (November, 1992)
21. (a) The licensee shall, prior to the start of excavation operations, provide the District Manager, Ministry of Natural Resources, with a comprehensive hydrological and biological monitoring report for Mill Creek and its tributaries, and this report shall include a description of monitoring equipment, monitoring locations, methods of data collection and reporting, action thresholds, a proposed reporting schedule, and any other details required by the District Manager. The reporting schedule shall include the requirement to provide a comprehensive interim monitoring report for review and District Manager approval prior to commencement of excavation in each phase of the pit operation.	Surface Water and Fisheries – refer to Appendices A and C, Surface Water Monitoring Program and Fish Habitat Monitoring Program. M.M. Dillon Limited and ESG International Inc. respectively (November, 1993).
(b) The licensee shall provide the District Manager, Ministry of Natural Resources, with a detailed surface water drainage plan which will describe the existing surface water in and surrounding the site and the proposed water diversion, storage, and drainage facilities on the site, and points of discharge to surface waters.	Refer to Drainage Plan prepared by Planning Initiatives Ltd. in conjunction with M.M. Dillon. (November, 1992)
(c) The monitoring report described in this licence condition shall include a description of those tests and analytical methods to be used to determine whether there is or is likely to be either a net gain or a net loss in fish habitat as a consequence of pit operations.	Fisheries, Surface Water and Ground Water – refer to Appendix C, Fish Habitat Monitoring Program. (November, 1993)
22. The licensee shall, prior to the start of excavation operations obtain the written approval of the District Manager, Ministry of Natural Resources, for the reports required under licence condition nos. 19, 20, and 21 and, upon approval of the reports, the licensee shall carry out the monitoring programs as described in the monitoring reports.	
23. Pit operations shall not result in a net loss of the productive capacity of fish habitat in Mill Creek or its tributaries.	Fisheries, Surface Water and Ground Water - refer to Appendix C, Fish Habitat Monitoring Program. (November, 1993).
25. Prior to the start of excavation operations, the licensee shall provide, to the satisfaction of the District Manager, Ministry of Natural Resources, a contingency plan that will describe the actions proposed to be taken by the licensee to ensure compliance to condition of 23 of this licence.	Fisheries, Surface Water and Ground Water – refer to Section 5.0 of original program.



Legend

- SANDY SILT TILL
- ICE-CONTACT STRATIFIED DRIFT SAND, SILT, GRAVEL
- OUTWASH SAND AND GRAVEL

SOURCE:
GENERALIZED AFTER KARROW, 1987.

500 0 1000 metres

LOCATION AND PHYSICAL SETTING

2018 ANNUAL GROUNDWATER MONITORING REPORT
MILL CREEK AGGREGATES PIT
Township of Puslinch
for Dufferin Aggregates

Dufferin Aggregates
A division of Holcim (Canada) Inc.

DATE: MARCH 2019	SCALE: 1:50000
PROJECT: 111-52958-02 100	REF. NO.: 111-52958-02 100 F1_1 2018

wsp

FIGURE
1-1

1.3 Program Contact Names

The names and addresses of the primary contact people involved with the Mill Creek monitoring program are provided in the following table:

List of Personnel		
	Names	**Role**
Licence Holder	Mr. Don O'Leary, Vice President (Finance. Administration and Risk) University of Guelph 25 University Avenue, Guelph, Ontario Phone: (519) 767-5051 Fax: (519) 763-4974	Licence Holder
Aggregate Operator	Mr. Ron Van Ooteghem Dufferin Aggregates 2300 Steeles Avenue West, 4th Floor Concord Ontario L4K 5X6 Phone: (905) 761-7500 Fax: (905) 761-7505	Project Coordination
Ground Water Monitoring Program	Mr. Greg Siiskonen, P. Eng. WSP Canada Inc. 55 King Street, Suite 600 | St. Catharines, ON L2R 3H5 Phone: (905) 687-1771 ext. 245	Ground Water (Technical Appendix B) Input to Coordinated Report
Surface Water Monitoring Program	Mr. Mike Johns Stantec Southgate Drive, Guelph, Ontario Phone: (519) 836-6050 Fax: (519) 836-2493	Surface Water (Technical Appendix A)
Fisheries Monitoring Program	Dr. Chris Wren and Lisa Wren, LRG Environmental R.R. #1, Markdale, Ont. N0C 1H0 Phone: (519) 986-3233, Fax: (519) 986-3127	Fisheries Monitoring (Technical Appendix C)
Coordinated Report		Preparation of Annual Coordinated Report
Terrestrial Monitoring	Dr. Paul F.J. Eagles Paul F.J. Eagles Planning Ltd. 37 Hughson Street, Branchton, Ontario N0B 1L0 Phone: (519) 740-1590 or (519) 885-1211 ex.2716 Fax: (519) 746-6776	Terrestrial Biology Investigations Report submitted in August 2005.

1.4 Coordinated Monitoring Report

The first coordinated monitoring report filed for the Mill Creek Property was submitted March 31, 1995 (ESP *et al.* 1995). That report included background information and monitoring data collected in 1994. The purpose of the Coordinated Report is to summarize and integrate monitoring data collected for the previous year from the three different, but inter-related, disciplines: hydrology, hydrogeology and fisheries. This year represents the twenty-fourthCoordinated report and summarizes the monitoring data collected in 2018. Details of individual monitoring programs are included in the separate Technical Appendices to this report.

The current monitoring program includes an annual report for each monitoring component, except for terrestrial vegetation monitoring which is filed prior to the start of each new phase of extraction. The Pre-Phase Two Biological Monitoring Report was submitted to the MNR in February of 2002 (Eagles Planning 2002). The Pre-Phase Three Environmental Monitoring Report was submitted to the MNR in January 2006 (C. Wren & Associates Inc. and Jagger Hims Limited, 2006). Both reports were approved by the MNR. In March 2002, Fisheries and Oceans Canada (DFO)

released a report that reviewed the fisheries, hydrology and hydrogeology data collected to date for the Mill Creek Property and the Reid Heritage Pit (Blackport and Portt 2002). In addition to the data analysis and review, that report also evaluated the adequacy of the monitoring programs, and an assessment of impacts of the two gravel pits on the local water table, surface flow and the fisheries of Mill Creek. That report supported our conclusions that there had been no "sustained or significant changes in brown trout abundance" since aggregate extraction began at the University of Guelph property.

In mid-2004, the MNR, supported by the aggregate operators, the Grand River Conservation Authority (GRCA) and the Township of Puslinch, initiated a cumulative impact assessment of the Mill Creek aggregate extraction area by Golder Associates Ltd. The first (of two) reports was finalized in November 2005. A draft of the second report was issued in November 2006 though it is our understanding that this report was never finalized. Both external peer reviews agreed that the Mill Creek Aggregates Pit operation had no discernible effect on the fisheries or water flow of Mill Creek.

The specific objectives of this report are as follows:

1. Summarize 2018 data collected on hydrogeology and surface water hydrology, and integrate it with fisheries biology data;
2. Compare 2018 groundwater levels with action thresholds to evaluate compliance;
3. Review monitoring results and make recommendations to revise the monitoring program if necessary; and
4. Review monitoring results and determine if mitigation or other actions are required.

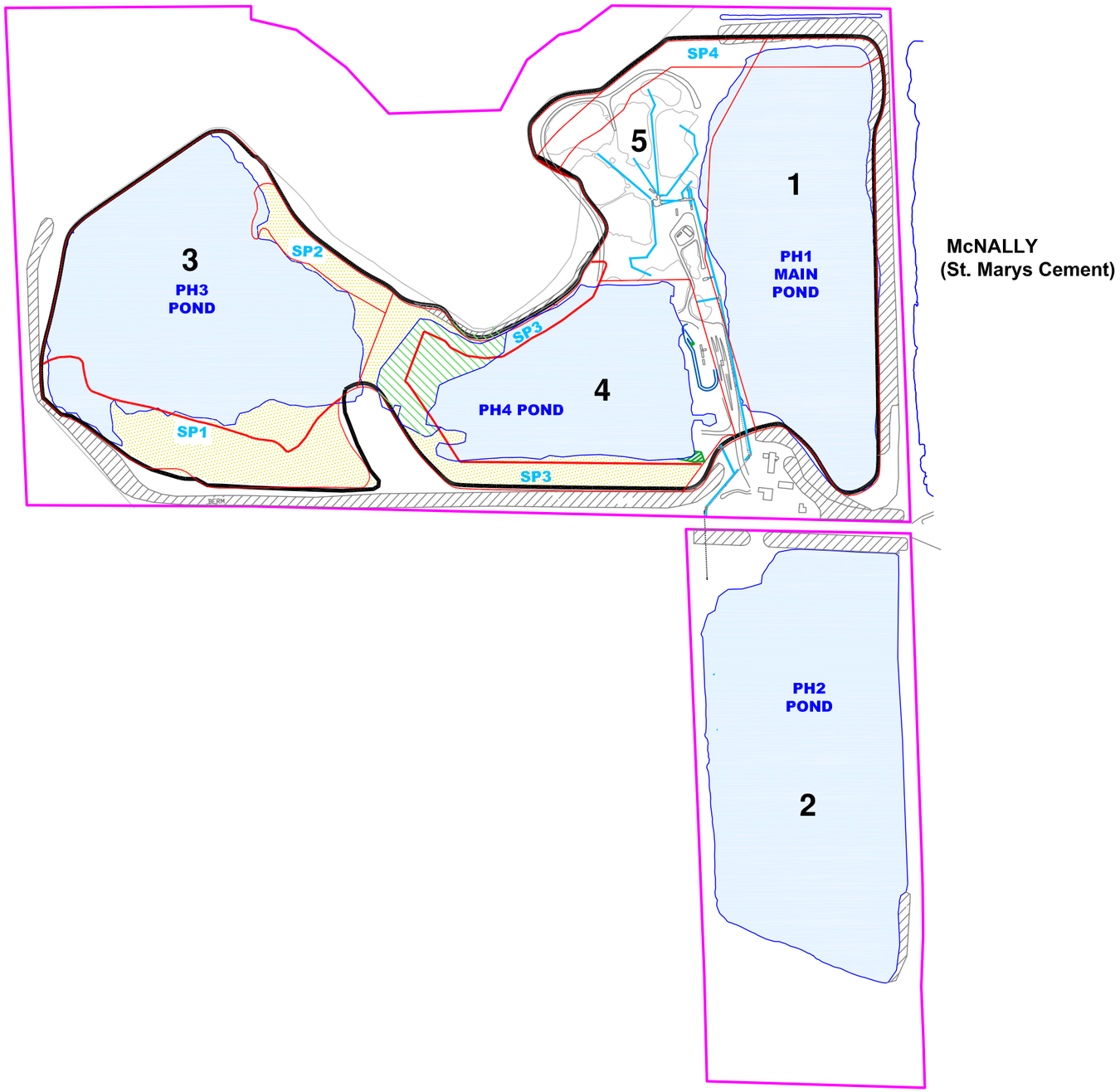
1.5 Watershed Activities

1.5.1 Mill Creek Extraction Operations

The Mill Creek Pit is surrounded by other aggregate operations (Figure 1-1). Significant aggregate extraction has occurred within the properties immediately to the north, east, and west of this site, and until 2007 at the property to the north of Highway 401. The design of the Mill Creek Aggregates pit and the associated monitoring program were developed and approved prior to other operations north and east of the site being approved and beginning extraction.

Pit Operation

Figure 1-2 shows the site details based on the most current (2016) approved extraction areas. The Phase 1 extraction area is located in the extreme eastern portion of the north section of the property. Aggregate extraction in the southern portion of Phase 1 began in 1994, and below-water table extraction started in the spring of 1995. Previous phases of extraction are detailed in past monitoring reports.



McNALLY
(St. Marys Cement)

LEGEND

- BOUNDARY OF LICENSED PROPERTY
- LICENCED LIMIT OF EXTRACTION PER SITE PLANS
- BOUNDARY OF EXTRACTION AREA PER G.R.C.A. FILL PERMIT APPLICATION
- 3 — PHASE DESIGNATION
- SP3 — SILT POND DESIGNATION
- BERM
- INFILLED SILT POND
- PARTIALLY INFILLED SILT POND
- EXTRACTED AREA TO BE SLOPED

SITE PLAN SEQUENCING

2018 ANNUAL GROUNDWATER
MONITORING REPORT
MILL CREEK AGGREGATES PIT
Township Of Puslinch
for Dufferin Aggregates

Dufferin Aggregates
A division of Holcim (Canada) Inc.

SCALE: NOT TO SCALE
PROJECT: 111-52958-02 100
DATE: MARCH 2019
REF. NO.: 111-52958-02 100 F1_2 2018

FIGURE
1-2

Extraction in 2018 occurred below the water table in existing ponds as per the site plans. Extraction also occurred above the water table at the east and south boundaries of the Phase 1 pond within the setback areas as approved by MNRF. Also, the silt barrier separating the Phase 3 pond from the Phase 4 pond continued to be widened in 2018 as per the Site Plans.

Silt Ponds

As part of routine operations, water is taken from the on-site pond in Phase 1 and used for aggregate washing (Figure 1-2). The wash water is directed to a silt pond where the suspended solids settle. The Ministry of the Environment (now the Ministry of Environment and Climate Change (MOECC)) issued a Permit To Take Water (PTTW) to permit aggregate washing at the site. The current PTTW #8520-A48LDY was issued on November 16th 2015 which included the company name change to CRH Canada Group Inc. The PTTW was to expire in March 2019, therefore, an application for a renewal was submitted in December 2018 and the renewal of the PTTW was issued on February 7, 2019, PTTW No. 5557-B93NZ5.

Similar to previous years, water was taken from the Phase 1 pond for aggregate washing during 2018. The silty wash water was pumped into the extension of silt pond SP3/Phase 4 pond for settlement of the suspended silt. From a separate location in the Phase 4 pond, clean water was pumped back into the Phase 1 pond.

Minimum/maximum water levels were established for silt pond SP3/Phase 4 pond and they were operated within these limits in 2018.

1.5.2 Other Extraction Operations

Other aggregate operators within the Mill Creek watershed near the Dufferin Aggregates Mill Creek pit include:

- CBM (St. Marys) Main Pit (Upstream);
- CBM McNally Pit (Upstream);
- CBM (formerly Puslinch Quality Aggregates) Mast Pit;
- Warren Pit (Lafarge);
- CBM McMillan Pit (no extraction since 2007, depleted);
- CBM Lanci Pit;
- CBM Hohle Pit, and
- Reid's Heritage Homes (Upstream) (no extraction since 2007).

1.5.3 Other Activities in Mill Creek

Habitat restoration in the University of Guelph and Hanlon stream reaches was undertaken in the mid- to late-1980's by the agencies before the Mill Creek property was licensed. The trout population in the University reach responded favourably to these initiatives. However, restoration within the Hanlon reach was less successful, and the physical works have largely disappeared or fallen into disrepair.

Trout productivity and carrying capacity remains lower in the Hanlon reach compared with the University reach. Dufferin Aggregates and their biologists have previously recommended that fish habitat restoration again be undertaken within the Hanlon reach. However, the Ministry of Transportation (MTO) has now proposed construction of a new Highway 401 off ramp and Morriston bypass. In fact, some land in the study area was expropriated from the University of Guelph by the MTO in 2018 which possibly includes sections of Mill Creek. Therefore, it is appropriate to wait to determine what construction activities will be taking place, and if MTO will be required to undertake any fish habitat remediation activities related to the project.

A spill of jet fuel by a third party occurred on the east bound Hwy 401 during the early morning of January 13, 2019. Although this event did not occur in 2018, it is noted here as a potential factor that could possibly impact the ecology of Mill Creek, as well as affect the ability to carry out some of the planned monitoring activities in 2019. Remediation efforts have been extensive in the area and continue at the time of this report. An unknown, but potentially significant, quantity of jet fuel entered Mill Creek directly in the Hanlon reach in the vicinity of Drive Point 17 (DP17). An earthen berm was later installed across the drainage swale that was allowing fuel to enter Mill Creek, but fuel was seen visibly penetrating the berm by members of LRG Environmental several weeks after the berm was constructed. Fuel was trapped under the ice and absorbed onto the stream banks throughout the winter months. The biological impacts, if any, of the spill are not yet known.

The Friends of Mill Creek (FOMC) was established in the fall of 1997 and is a working group with the primary objective of habitat rehabilitation and protection of the fisheries in Mill Creek. It is a unique partnership including representatives from industry, various levels of government including the Township of Puslinch, the GRCA, MNRF, University of Guelph, Wellington County Stewardship Council, as well as residents and interest groups. Dufferin Aggregates personnel are active in the FOMC.

The FOMC established a Stewardship Ranger program in 2003 with the purpose of hiring summer students to carry out the stream rehabilitation under the supervision of a trained fisheries biologist. During the past sixteen summers the Mill Creek Stewardship Rangers have carried out numerous projects in the watershed ranging from habitat improvement to stream temperature monitoring. General habitat enhancement and debris removal at various locations along Mill Creek were completed by the crew in 2018. It is expected that the Stewardship Rangers will again be active in 2019, but it is not known if they will be permitted to undertake any in-stream work downstream of where the spill of jet fuel occurred.

Occasionally, beaver dam activity occurs within the study area. A beaver dam was removed in July 2015 by the Mill Creek Rangers. Beaver activity was evident in 2017 and increased significantly in 2018. At least three beaver dams were present in the Hanlon reach in 2018 which interrupted water flow and water levels and likely interfered with brown trout spawning activity which is discussed further in Section 5.2. Trappers were retained by Dufferin in Autumn 2018 and at least five beavers were removed. Removal of the multiple beaver dams is recommended by the Stewardship Rangers in July 2019 during the appropriate in-water work timing window. However, due to the fuel remediation activities and possible long-term presence of the jet fuel in Mill Creek, the Ontario Ministry of the Environment Conservation and Parks (MECP) may prohibit any in-stream work in 2019.

2. Surface Water Hydrology

2.1 Methods

Surface water hydrology is monitored to assess potential impacts of aggregate extraction on Mill Creek and involves the collection of water level, stream discharge, water temperatures and climatic data. Most of the surface water flow in Mill Creek within the Study Area originates upstream of the site. However, within the Study Area, additional water contributions include: a) ground water discharge, b) local surface runoff and c) input from two tributaries (Galt Creek, Pond Creek).

Station SWM1 is located where Mill Creek flows onto the University Property and SWM2 is located where Mill Creek flows off the University Property (Figure 2-1). Stations SWM3 and SWM4 are in Pond Creek and Galt Creek, respectively. A summary of the 2018 monitoring methods is as follows.

- Water levels were logged hourly at stations SWM1 and SWM2, using model 3001 Solinst Leveloggers,
- Stream discharge was measured manually at stations SWM1 and SWM2 monthly, if wading conditions were safe to do so,
- Water temperatures were logged hourly at stations SWM1, SWM2, SWM3 and SWM4 using model 3001 Solinst Leveloggers,
- Air temperature and atmospheric pressure were logged hourly at Air Temperature Station 1 and Air Temperature Station 2 using Solinst Barologgers,
- Climate data (air temperature and precipitation) were obtained from the Grand River Conservation Authority (GRCA) Climate Station at Shade's Mills Conservation Area in Cambridge, Ontario (located in the lower Mill Creek watershed, approximately 10 km southwest of the Mill Creek property).

Atmospheric pressure data were used to correct the data from the in-stream loggers for changes in atmospheric pressure. All on-site data loggers were pre-programmed to record data 'on the hour', at the same time.

To estimate a stream discharge at each station, water levels (m) were converted to flow (m^3/sec) using rating curves. The equation of the best fitting stage-discharge curve at SWM1 and SWM2 was used to convert water level data (m above logger) into stream discharge rates (m^3/s).

Greater details on monitoring methods and rating curves development are provided in Technical Appendix A (Surface Water).

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565750 566000 566250 566500 566750 567000 567250 567500 567750

4811000 4810750 4810500 4810250 4810000 4809750

Highway 6

Sideroad 20 North

Galt Creek

Highway 401

SWM 1

Air Temperature Station 1

Pond Creek

SWM 4

Mill Creek

SWM 3

Air Temperature Station 2

Concession Road 2

Concession 2

SWM 2

Mill Creek

Sideroad 20 South

N

Stantec

Legend

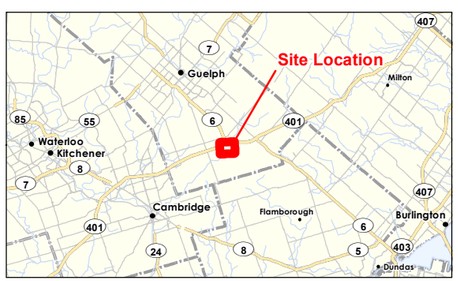
- Mill Creek Pit Property Limits (Study Area)
- Air Temperature Monitoring Station
- Surface Water Monitoring (SWM) Station
- Flow Direction
- Watercourse

0 200 400 metres

1:7,000 (At original document size of 11x17)

Notes

1. Coordinate System: NAD 1983 UTM Zone 17N
2. Base features produced under license with the Ontario Ministry of Natural Resources and Forestry © Queen's Printer for Ontario, 2017.
3. Orthoimagery provided by © Dufferin Aggregates, 2017. Imagery taken in 2017.



Project Location
Wellington County

160960549 REVA
Prepared by PW on 2018-03-23

Client/Project
DUFFERIN AGGREGATES
MILL CREEK SURFACE WATER MONITORING PROGRAM

Figure No.
2-1

Title
Location of Surface Water and Air Temperature Monitoring Stations at Dufferin Aggregates Mill Creek Pit Property

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2.2 Surface Hydrology Results

2.2.1 Climate Data

Air Temperature

Figure 2-2 shows the monthly average air temperatures observed in 2018 compared to the 30-year normal. In 2018, the mean monthly air temperature was warmer than the 30-year average for 7 of the 12 months.

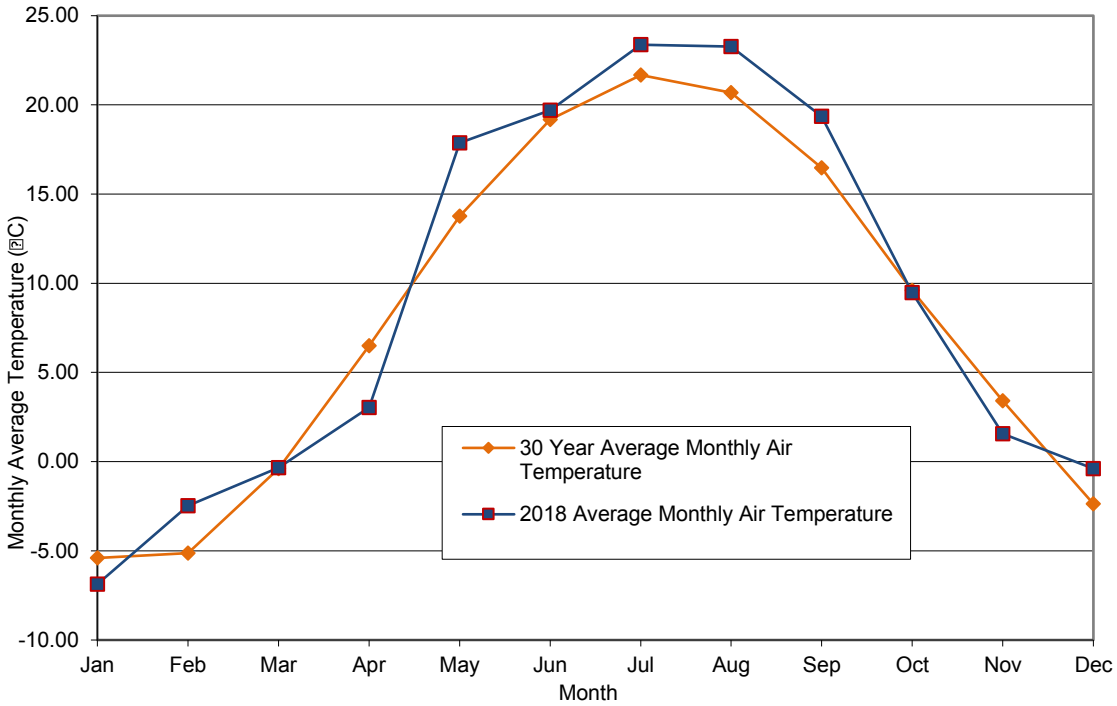

Figure 2-2 2018 GRCA Shade's Mills Mean Monthly Air Temperatures Compared to 30-year Normal Temperatures

Precipitation

Monthly precipitation for 2018 is illustrated in Figure 2-3 along with the 30-year normal. In 2018, total monthly precipitation was greater than the 30-year average in seven of twelve months. Total precipitation in 2018 was 1042 mm, which is 11.9 % greater than the 30-year normal of 925 mm.

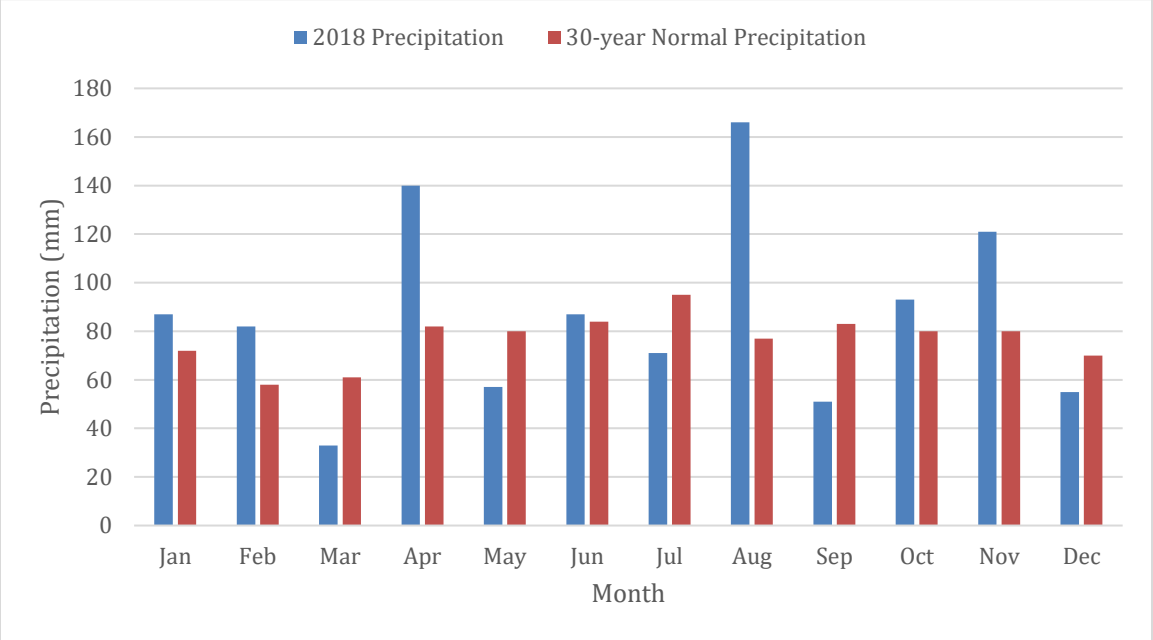

Figure 2-3 Total 2018 Monthly Precipitation (mm) at GRCA Shade's Mills Climate Station Compared to the 30-Year Normal

2.2.2 Quality Assurance and Quality Control of Monitoring Data

Manual flow measurements and logged water level data for each station were plotted to identify potential outliers in the dataset. Data that were erroneous were removed from the dataset, such as unexplained or anomalous increases or decreases in water level. This can occur when leveloggers record readings while a download is in progress, or during maintenance.

Water level data were successfully collected from SWM1 and SWM2 every 60 minutes over the 2018 calendar year. In total (both stations), 98.85 % of the 17,520 hourly water level measurements were successfully recorded and downloaded in 2018.

Water temperature was logged successfully every 60 minutes over the 2018 calendar year at all four stations (SWM1, SWM2, SWM3, and SWM4). With all stations combined, 99.28 % of 35,040 hourly temperature measurements were successfully recorded and downloaded.

Air temperature was logged successfully from Air Temperature 1 and Air Temperature 2 every 60 minutes over the 2018 calendar year. In total (both stations), 99.7 % of the 17,520 hourly air temperature measurements were successfully recorded and downloaded in 2018.

2.2.3 Annual Stream Flow Trends

Detailed stream flow data are presented in Technical Appendix A and summarized below. Calculated flows at station SWM1 and SWM2 are presented in Figure 2-4 and Figure 2-5. Flow at SWM1 is typically less than at SWM2, however the presence of a beaver dam near SWM1 in the fall of 2018 interfered with the logger readings such that flow at SWM1 incorrectly appears higher (Figure 2-4) than at SWM2 (Figure 2-5).

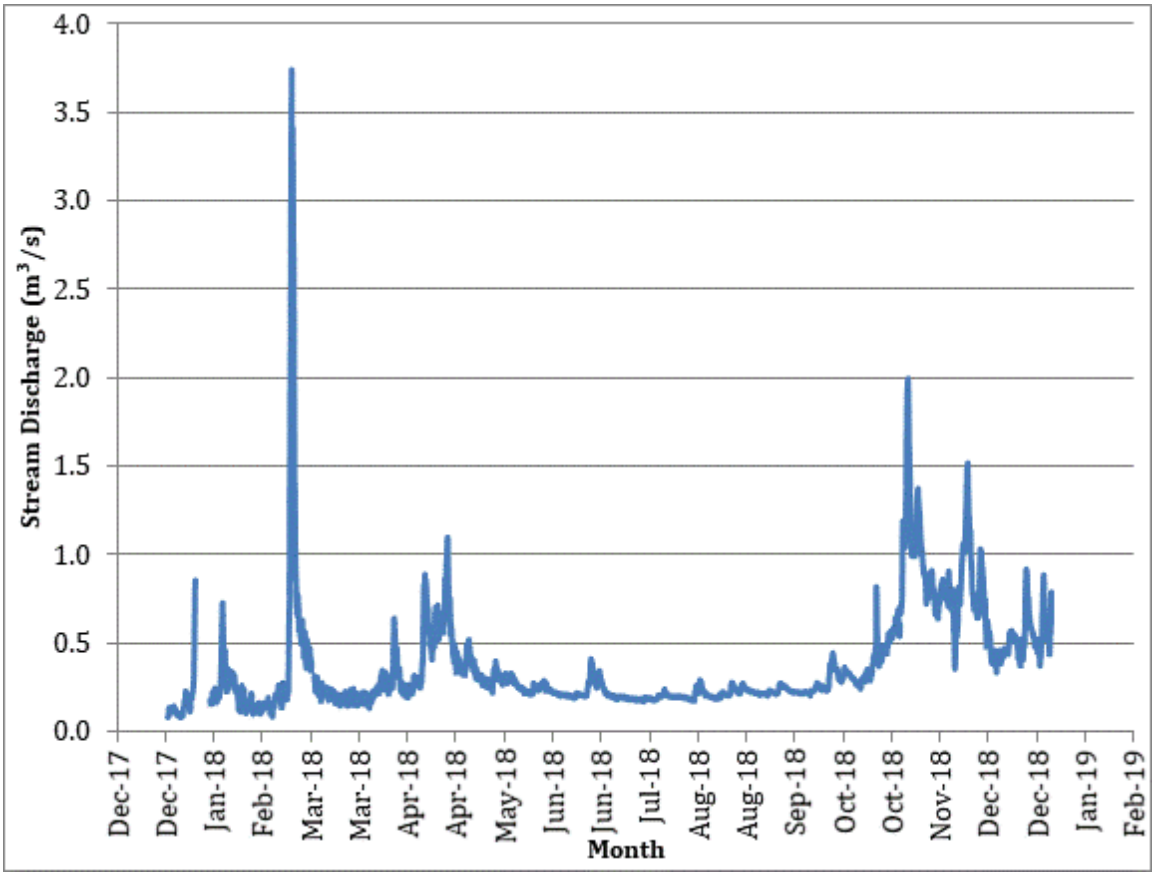

Figure 2-4 2018 Mill Creek Discharge at Surface Water Monitoring Station SWM1

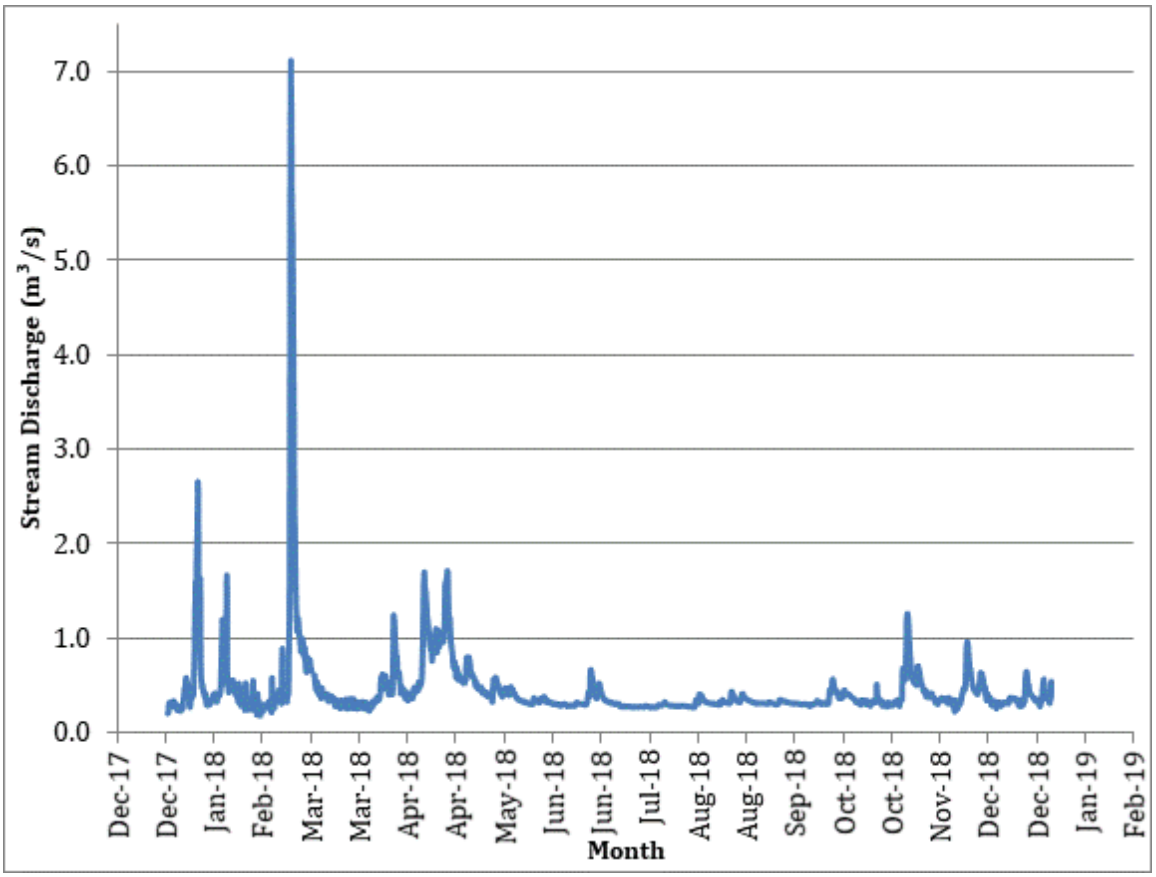

Figure 2-5 2018 Mill Creek Discharge at Surface Water Monitoring Station SWM2

Relationship between Precipitation and Stream Flow

Precipitation events recorded at the GRCA's Shade's Mills climate station are illustrated with calculated average daily stream discharge at SWM1 and SWM2 in Figure 2-6 and Figure 2-7. Plotting rainfall data with flow data shows that stream flow generally responds to precipitation. Specifically, increased flows were observed shortly after precipitation events. Rainfall events did not always result in increases in discharge in the drier months, which may be attributable to lower surface runoff and higher soil infiltration, as well as higher evapotranspiration, and/or the nature of isolated rainfall events that may occur in specific locations within the watershed.

The maximum daily average flow at SWM1 occurred on February 21, 2018 (Figure 2-6). The estimated maximum daily average flow at SWM2 also occurred on this date and was 5.44 m^3/s (Figure 2-7). These flows occurred after approximately 32.0 mm of rain fell and air temperatures were 13.0-16.0 ^{o}C between February 20 and February 21, 2018. The high flows were a result of the combination of new precipitation and melting snow.

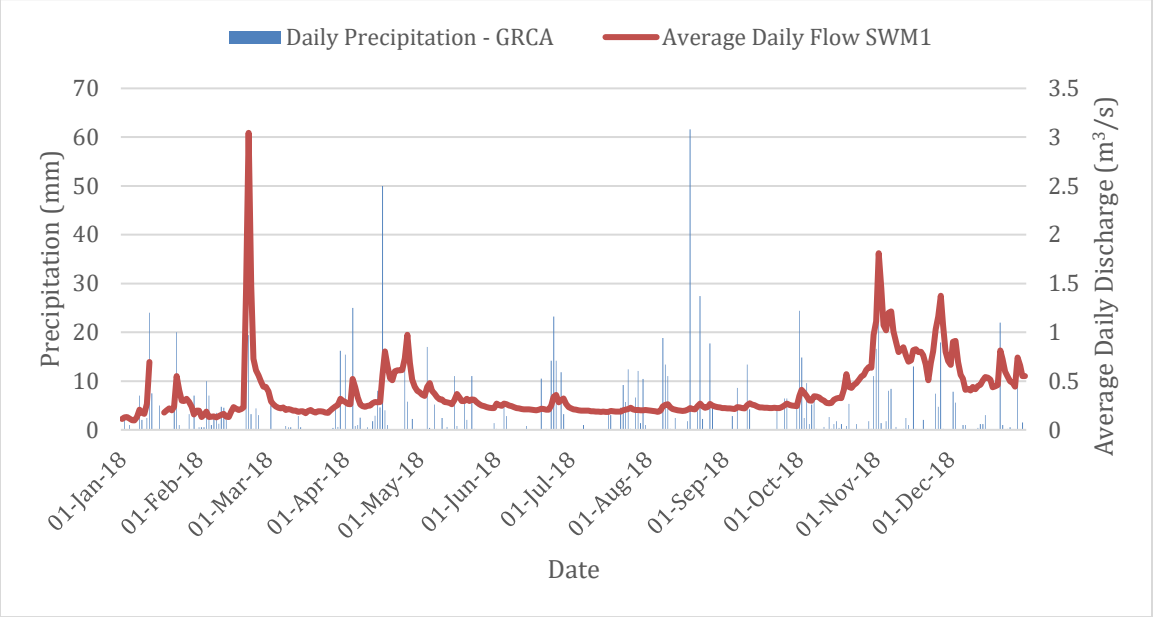

Figure 2-6 Daily Average Flow in 2018 at SMW1 Compared to Precipitation Events

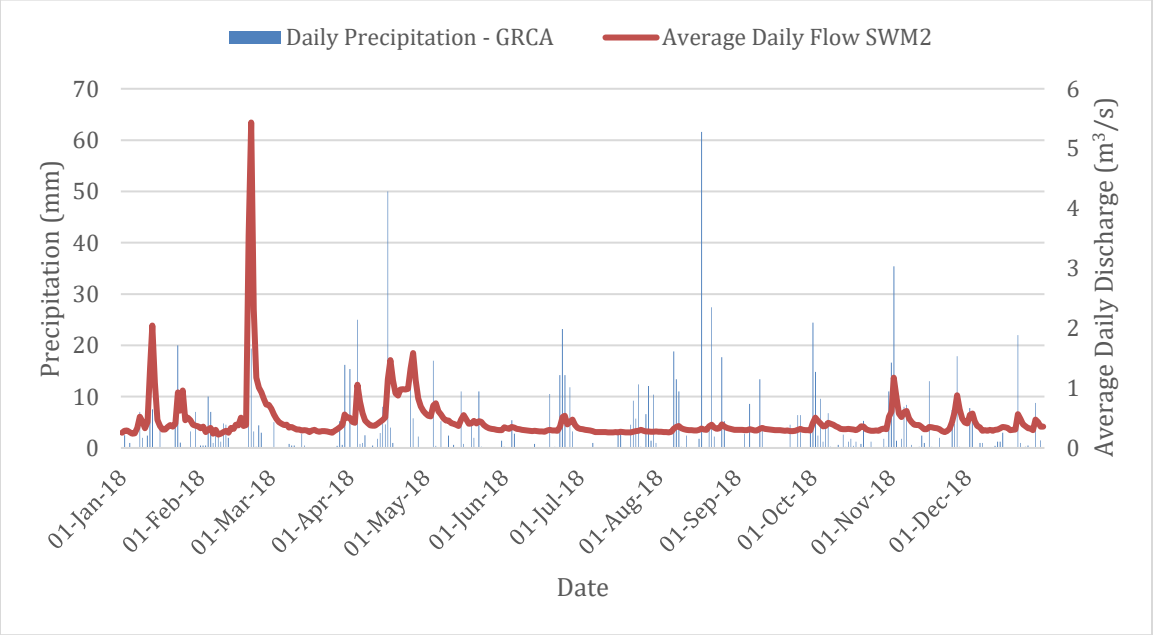

Figure 2-7 Daily Average Flow in 2018 at SMW2 Compared to Precipitation Events

Maximum and Minimum Flows

The minimum and maximum instantaneous flows recorded at stations SWM1 and SWM2, as well as corresponding dates when these flow events occurred are provided in Table 2.1.

Table 2.1 2018 Minimum and Maximum Instantaneous Discharge Flows at Station SWM1 and SWM2

	SWM1		SWM2	
	Discharge (m3/s)	Date	Discharge (m3/s)	Date
Minimum Stream Discharge	0.084	6-Jan	0.182	8-Feb
Maximum Stream Discharge	3.73	21-Feb	7.11	20-Feb

Minimum and maximum instantaneous flows from are presented for stations SWM1 and SWM2 in Figure 2-8 and Figure 2-9, respectively, for the past nineteen years. Minimum flows at both stations in 2018 were within historical ranges.

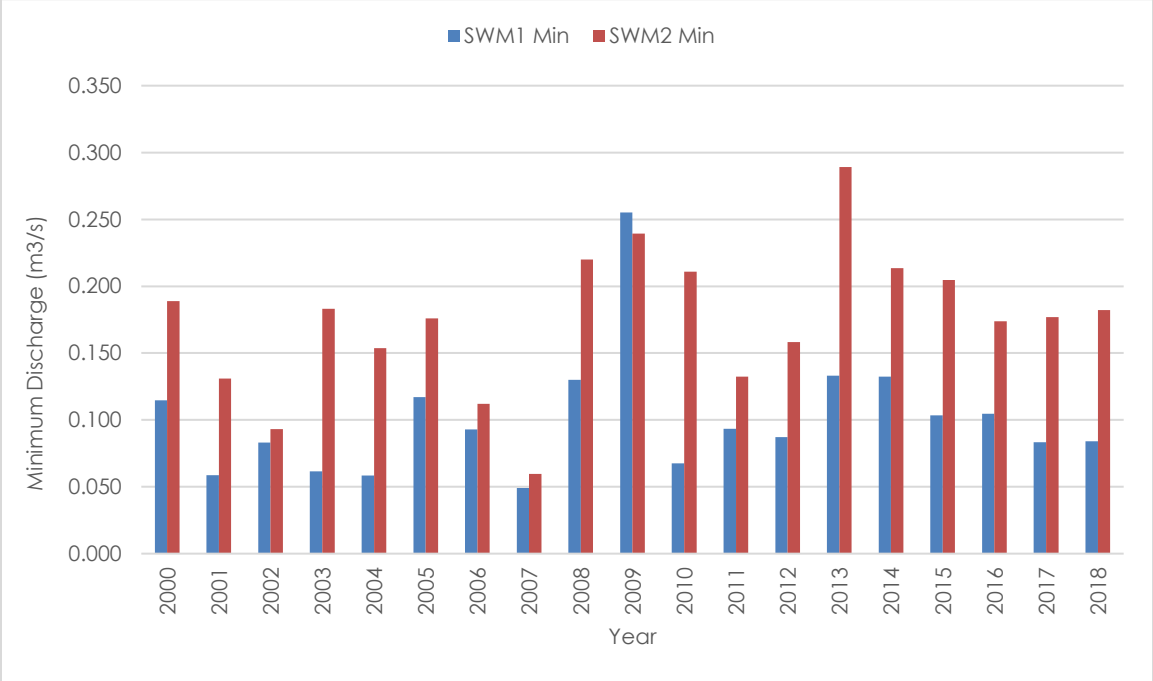

Figure 2-8 Instantaneous Minimum Stream Discharge at SWM1 and SWM2, 2000 through 2018

Similarly, estimates of peak flows at both stations in 2018 were within historic ranges (Figure 2-9). Estimates of peak flows may be less accurate than low flow estimates since the higher flow rates

are well above manual measurements used for the rating curves. It is not safe to attempt manual flow measurements during periods of peak runoff.

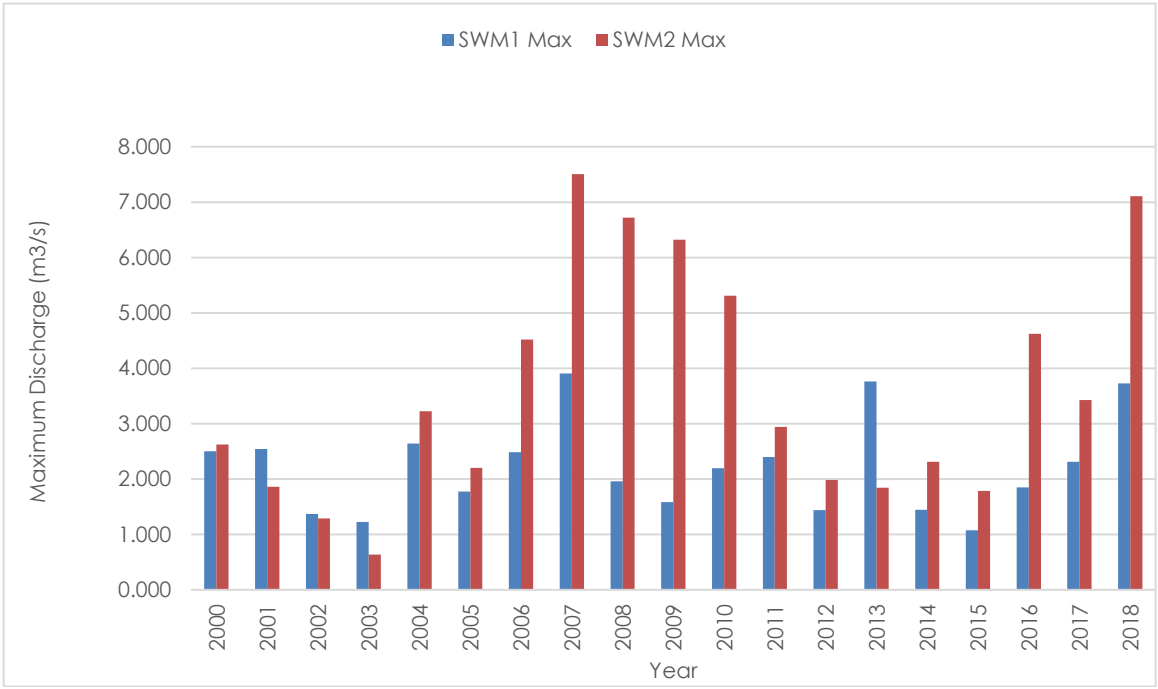

Figure 2-9 Instantaneous Maximum Stream Discharge at SWM1 and SWM2, 2000 through 2018

2.2.4 Historical Stream Flow Trends

The 7-day low flow is a standard hydrological value representing the average flow rate over the 7-day period of lowest flow for each year. The 7-day low flow at SWM2 is used to compare low flows over time. In 2018, the 7-day low flow of 0.235 m³/s occurred from February 5 to February 12. From January 29 to February 12, precipitation was recorded as snow (GRCA data) and overland runoff was unlikely, due to the average air temperature of -7.2 ° C.

The 7-day low flow observed in 2018 at SWM2 is comparable to the 7-day low flow recorded in previous years (Figure 2-10). The average of the SWM2 7-day low flow values from 2000 to 2018 is 0.217 m³/s and the 7-day low flow observed in 2018 was 0.235 m³/s, which was 7.9 % higher than the 30 year average, which is consistent with the higher than average precipitation in 2018.

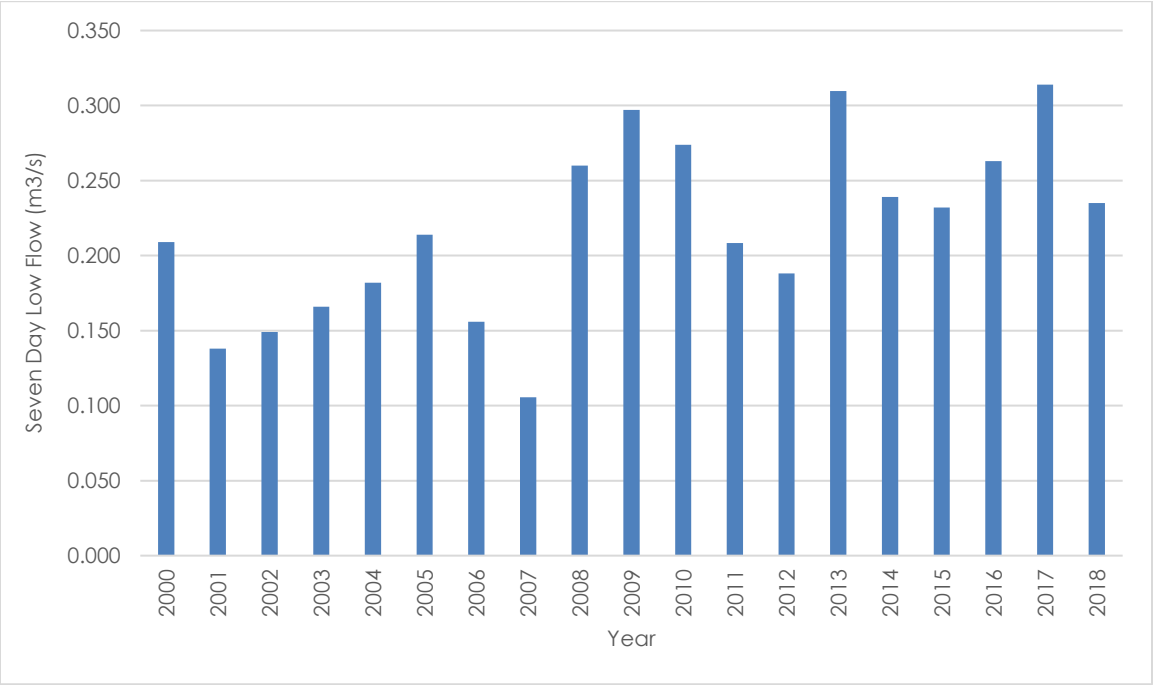

Figure 2-10 Seven Day Annual Low Flow Values at SWM2, 2000 through 2018

The daily average stream flow at SWM2 in summer months (June 21 to September 22 inclusive) is illustrated in Figure 2-11 to further examine if there are have been any changes in stream flow over time. The data are presented as log transformed, in a box and whisker plot (boxplot). Boxplots are useful when comparing two or more datasets and provides good visualization for examining flow data between years. The data were log transformed because variability in flow was high and the data did not have a normal distribution. With a log transfer, the data have a greater normal distribution and therefore, flow rate differences are more readily observed.

For the box & whisker plot, data within the box represents 50% of the summer daily average flows and data outside the box represent those daily average flows in the upper and lower quartiles (maximum and minimum calculated flows). The horizontal line within the box represents the median flow for the summer months.

For 2018, the boxplot implies the daily average flow was often closer to the minimum flow recorded for the year. The graph shows that there is not a decreasing trend in daily average summer flows in Mill Creek since 2003.

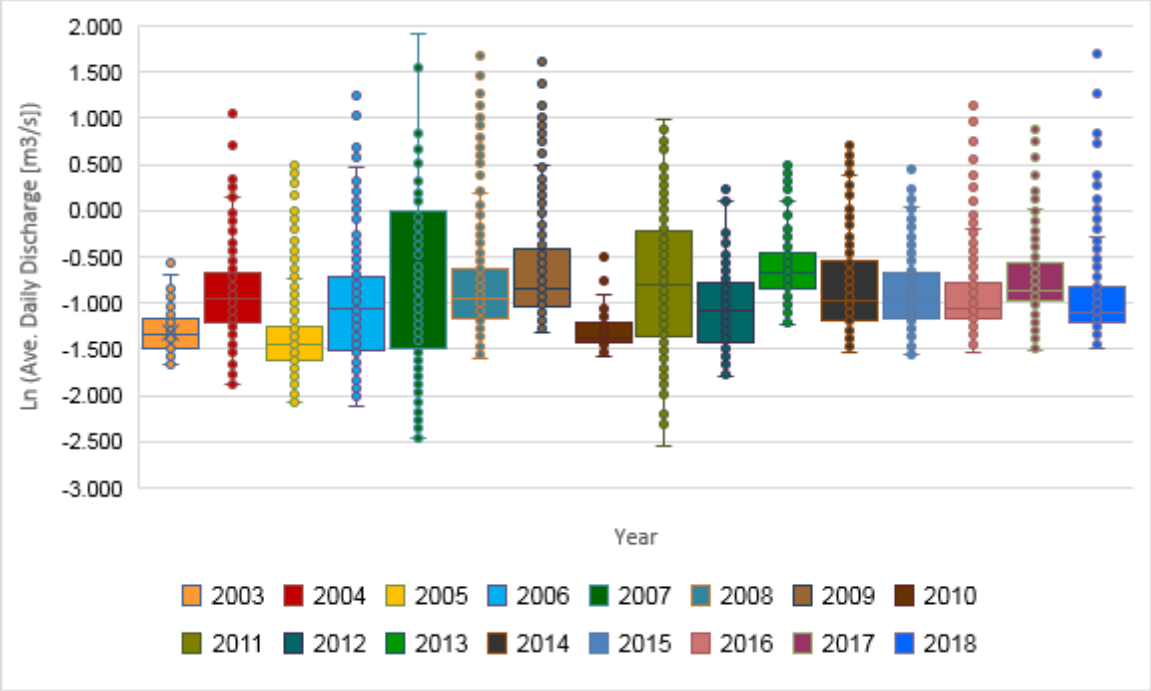

Figure 2-11 Boxplot of Mean Daily Average Summer (June-September) Stream Flow at SWM2 – 2003 to 2018

2.3 Surface Hydrology Summary

The mean air temperature in 2018 was 0.8 °C warmer than the 30-year average. February, May, July, August, September and December had temperatures higher than the 30-year normal for those months, while other months had temperatures similar to or below the 30-year normal.

Total precipitation in 2018 was 1042 mm, which is 11.9 % greater than the 30-year normal of 925 mm. Total Precipitation in June and July were similar to the 30-year normal for those months, while August had considerably more precipitation (166 mm) than the 30-year normal (77 mm).

Overall, changes in discharge in Mill Creek were related to precipitation or snow melt periods. The 2018 minimum and maximum instantaneous flow rates at SWM2 were 0.182 and 7.11 m3/sec, respectively. These values are within the historical range observed since 2000.

The 7-day low flow observed in 2018 at SWM2 is comparable to the 7-day low flow recorded in previous years (Figure 2-10). The average of the SWM2 7-day low flow values from 2000 to 2018 is 0.217 m^3/s and the 7-day low flow observed in 2018 was 0.235 m^3/s, which was 7.9 % higher than the average.

Based on the available data, there is no indication that aggregate extraction is affecting stream flow in Mill Creek on the University of Guelph property.

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3. Hydrogeology

Groundwater monitoring has been conducted at the Mill Creek Property since late-1986. The principal objectives of the 2018 Annual Monitoring Program were as follows.

- To comply with the pertinent terms of the 2018 groundwater monitoring program;
- To provide an assessment of the effects of on-site aggregate extraction activities on the local groundwater and surface water setting;
- To determine and assess any changes in the groundwater quality;
- To document results in an annual monitoring report as part of a coordinated report; and
- To recommend any changes to the monitoring program for implementation in 2019.

Detailed results of the groundwater monitoring program are provided in Technical Appendix B (WSP Canada Inc., 2019).

3.1 Methods

The methods and results of the hydrogeology program have been separated into a) Routine or historical procedures, and b) Groundwater thresholds, which were introduced in 2001. These are described in detail in Technical Appendix B.

The Ministry of Natural Resources and Forestry (MNRF) requires that Dufferin Aggregates submit a monthly summary checklist report, which is to be issued within 10 business days of the last day of the preceding month. The summary includes groundwater level data corresponding to threshold monitoring pairs, threshold values, and pond levels. Below-water table extraction (wet tonnes extracted/day), water pumped from the Phase 1 pond, water pumped from the Phase 4 pond, and monthly precipitation totals are also reported in the summary report. In the event that a threshold value/level is exceeded for any period, this would be included in the summary with appropriate comments attached. The monthly reports are included with the correspondence (Sub Appendix F) in Technical Appendix B.

3.1.1 Routine Monitoring

At the request of the MNRF, a new monitor, designated BH14, was installed in June 2015 between monitor 92-12 and Mill Creek. A data logger was installed in BH14 to record automatic groundwater level and temperature data. The purpose of monitor BH14 is to detect any groundwater temperature changes caused by future extraction activities in Phase 5. It is noted that it is not anticipated that extraction activities in Phase 5 will impact the water temperature in Mill Creek.

There are various types of groundwater monitoring stations established on, and adjacent to, the property. Monitor types are described below and summarized in Table 3.1. Locations of the groundwater monitoring stations are shown in Figure 3-1.

Table 3.1 Groundwater Monitor Groupings at the Mill Creek Property

Bedrock	Sand and Gravel		Wetland	Creek
TW16-78 Well 4794	Boreholes 1 2* 3 4 5 6 7-I* 7-II* 11 12* 13 14 92-1* 92-5 92-8 92-12 92-26 92-27	Multi-level 92-13 92-14* 92-15* 92-28 92-29 92-32 92-33 Observation and Test Wells TW16-79 OW1-84 OW2-84 OW4-84 OW5-84 OW16A-78	Drive points DP6 DP7 DP8 DP9 DP10 DP11 DP12 DP16 DP113	Drive Points DP1 DP2 DP3 DP4 DP5A** DP5B*** DP5C*** DP5CR DP17 DP18 DP19 DP20 DP21 DP22

1. Drilled stratigraphic boreholes within the property. These are instrumented with standpipes to measure the elevation of the water table in the shallow soil sequence.

   Monitors (manual):
   - Borehole Monitors at BH1, BH3 to BH6, BH11, BH13, and BH14
   - the OW (observation well) and TW (test well) monitors adjacent to Mill Creek near the southwest corner of the site
   - monitors that were installed at selected locations in the 1992 resource boreholes across the property (92- series of stations)

   Frequency:
   - monthly
   - more frequently at BH13, OW5-84, 92-12, 92-27, and 92-29, which are included in a threshold pair

It is noted that monitor 92-1 was removed during extraction activities in September 2018. To provide shallow ground water levels east of the south end of the Phase 1 pond, which is what the 92-1 previously provided, St. Mary's Cement allowed Dufferin to establish a Staff Gauge (SG on Figure 3-1) in November 2018 at the south end of the McNally Pond on the adjacent St. Marys Cement property. It is noted that a replacement monitor for 92-1 will be installed on site in 2019.

GROUNDWATER MONITOR LOCATIONS

FIGURE 3-1

2018 ANNUAL GROUNDWATER MONITORING REPORT
MILL CREEK AGGREGATES PIT
Township Of Puslinch
for Dufferin Aggregates

REIDS HERITAGE HOMES PROPERTY PIT (AGGREGATE EXTRACTION)

POND

DP18 AT CONCESSION ROAD

FROM 401 EXIT RD 34 (R) TO CON 7 (R) PASSED S.S. 25

SLOVENSKI PARK

POND

2327

HANLON EXPRESSWAY (Hwy No. 6)

HIGHWAY 401

MacDONALD CARTIER FREEWAY

GALT CREEK

POND CREEK

MILL CREEK

LOT 20 LOT 21 LOT 22 LOT 23 LOT 24 LOT 25

CONCESSION II

CONCESSION I

TOWNSHIP ROAD No. 2 (CONCESSION ROAD)

SIDE ROAD 20

PROCESSING AREA AND STOCKPILES

TEMPORARY SILT POND FOR START UP STAGE

BERM

NORTH WELL

NEW BERM

SMITH WELL

E. LAKE (SWAMP/WOODLAND)

A. AND L. NAGEL (SWAMP/WOODLAND)

ST. MARYS CEMENT (AGGREGATE EXTRACTION)

LAFARGE CANADA INC. PROPERTY (AGGREGATE EXTRACTION)

PIT

McNALLY PROPERTY (ST. MARYS CEMENT) (AGGREGATE EXTRACTION)

OLECHOWSKI RESIDENCE

TRUSTEES PRESBYTERIAN CHURCH IN CANADA (CRIEFF HILLS CHRISTIAN RETREAT)

MILL (Aberfoyle) CREEK

6724

2325

4794

SM1 SM2 SM3 SM4 SM5 SM6 SM7 SWM1 SWM2 SWM3 SWM4

DP1 DP2 DP3 DP4 DP5A DP5CR DP6 DP7 DP8 DP9 DP10 DP11 DP12 DP16 DP17 DP18 DP19 DP20 DP21 DP22 DP113

BH14

SG4 SG

92-1 92-5 92-8 92-12 92-13 92-27 92-28 92-29 92-32 92-33

OW16A-78 TW16-78 (Flowing) OW1-84 OW2-84 OW4-84 OW5-84 TW16-79

SP1 SP2 SP3 SP4

POND 1 POND 2 POND 3 POND 4 POND 5

LEGEND

- B.H'A' BOREHOLE
- HYDRO/TELEPHONE LINE
- POST AND WIRE FENCE
- BUILDING
- TEST WELLS
- 1 GROUNDWATER MONITOR INSTALLATION
- SWM4 SURFACE WATER MONITORING STATION
- 92-1 RESOURCE BOREHOLE (1992)
- 11 GROUNDWATER MONITOR (2002)
- DENOTES STANDPIPE MONITOR INSTALLED
- DENOTES DATALOGGER INSTALLED
- SM5 STREAM QUALITY AND FISHERIES MONITORING STATIONS (WATER QUALITY BIOLOGICAL/FISHERIES AS PER FAUN AQUATICS REPORT)
- DP8 DRIVE POINT
- SG STAFF GAUGE AND DESIGNATION
- SP1 SILT POND AND DESIGNATION
- WETLANDS
- POND
- NATURAL DRAINAGE
- 3692 WATER WELL WITH MOE IDENTIFICATION NUMBER
- CREEK
- GATE
- WOODLANDS/FOREST (MIXED)
- BOUNDARY OF LICENCED PROPERTY
- SM2 SEEPAGE METER DESIGNATION AND APPROXIMATE LOCATION (BY J. FITZGIBBON) (NO LONGER OPERATIVE)
- RECHARGE TRENCH
- 5b APPROVED PHASING

SCALE 1:8000

0 100 200 metres

NOTES:

BASE MAPPING BY PLANNING INITIATIVES LTD., DATED AUGUST 1987, DRAWING NUMBERS 1A AND 1B OF 4.

PROJECT: 111-52958-02 100
DATE: MARCH 2019
REF. NO.: 111-52958-02 100 F3_1 2018

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2. Shallow water table drive point monitors

   Monitors (manual):

   - DP6 to DP12 and DP16 in the wetland areas (Mill Creek Property)
   - DP113 north of Highway 401 (Reid Heritage Property)

   Frequency:

   - monthly
   - more frequently at DP6, which is included in a threshold pair

3. In-stream drive point monitors.

   Monitors (manual):

   - In-stream drive point monitors DP1 to DP5CR, and DP17 to DP22. Measurements at the Mill Creek drive point monitors included groundwater levels and temperatures, and surface water levels and temperatures. In Spring 2017, drive point DP5C was found to be removed from Mill Creek by a vandal. Replacement drive point DP5CR was installed at the location of DP5C. In addition, surface water levels are monitored at stations SW1 and SW2, both of which are located in Mill Creek.

   Frequency:

   - Monthly,
   - More frequently at DP1, DP2, DP3, DP5CR, DP17, DP21, which are included in a threshold pair.

4. Multi-level nests equipped with data loggers. These monitors have combination water level pressure transducers and temperature probes (installed in Nov. 2006).

   Monitors:

   - 92-28, 92-29, and 92-32 – west side of property adjacent to Mill Creek – installed in November 2006 as part of extraction monitoring in Phase 3.
   - 92-27 (a data logger was installed in December 2011 for the purpose of collecting groundwater level and temperature data from the shallow part of the aquifer) - west side of property adjacent to Mill Creek.
   - 92-33 (a data logger was installed in March 2012 for the purpose of collecting groundwater level and temperature data from the shallow part of the aquifer. The previous permanent, non-removable multi-level pressure transducer and thermistor instrumentation malfunctioned at monitor nest 92-33 in 2010. A second shallow data logger was installed at 92-33 in October 2017 at a depth similar to the previous (i.e. pre-2012) shallow data logger.) - west side of property adjacent to Mill Creek.
   - 92-12 (a data logger was installed in June 2012 for the purpose of collecting groundwater level and temperature data from the shallow part of the aquifer) – centre of property adjacent to Phase 4 operations
   - 92-13 (a data logger was installed in May 2013 for the purpose of collecting groundwater level and temperature data from the shallow part of the aquifer) – east side of property adjacent to Phase 1.

- BH4, DP7, DP8, DP9 and DP16 – centre of property adjacent to Phase 4 operations. These are single level data logger installations.
- A data logger was installed in BH14, located between Monitor 92-12 and Mill Creek, in June 2015.

Frequency:

- Readings of water level (pressure) and temperature were recorded by data loggers once per day. The data were downloaded monthly for review.

5. Water Wells
    - As in previous years, and although not part of the 1993 "official" monitoring program, water wells located on the property, and a well supplying a local resident in the vicinity of the property, were monitored monthly. Water level monitoring began in the summer of 1994 at select locations.

6. Pond Staff Gauges

    - Surveyed staff gauges were maintained in the Phase 1 pond, Phase 2 pond, Phase 3 pond, and silt pond SP3/Phase 4 pond. Starting in 2013, a new staff gauge was installed at the east end of the silt pond SP3 northerly extension, which represents water levels in both silt pond SP3 and the Phase 4 pond, since they are hydraulically connected. Measurements of pond water levels were completed daily during the ice-free period through 2018. Pond temperatures were measured monthly during the ice-free period.
    - As indicated above, a monitoring location was established at the south end of the adjacent McNally Pond in November 2018 following the removal of monitor 92-1 during extraction activities. Monthly water level measurements are completed at the McNally Pond.

The results of the routine ground water monitoring program are summarized in Section 3.2 in the following order.

- Bedrock Aquifer (Section 3.2.1)
- Sand and Gravel Aquifer (Section 3.2.2)
- Wetland Monitors (Section 3.2.3)
- Mill Creek Drive Points (Section 3.2.4)

3.1.2 Threshold Monitoring

On June 27, 2001, and following detailed negotiations with MNR and other regulatory agencies, Dufferin Aggregates issued a document entitled Mill Creek Aggregates Interim Groundwater Threshold and Action Response Plan. Interim thresholds and early warning values were set at six locations across the site, and each location includes a pair of groundwater monitors (Figure 3-2). The thresholds are based on maintaining positive seasonal hydraulic head differences on the water table between the monitor pairs, such that a hydraulic gradient will continue to exist from the site toward Mill Creek.

LOCATIONS OF GROUNDWATER THRESHOLD MONITORING PAIRS

FIGURE **3-2**

2018 ANNUAL GROUNDWATER MONITORING REPORT
MILL CREEK AGGREGATES PIT
Township Of Puslinch
for Dufferin Aggregates

LEGEND

- GROUNDWATER THRESHOLD PAIRS
- B.H'A' BOREHOLE
- HYDRO/TELEPHONE LINE
- POST AND WIRE FENCE
- BUILDING
- TEST WELLS
- 1 GROUNDWATER MONITOR INSTALLATION
- SWM4 SURFACE WATER MONITORING STATION
- 92–1 RESOURCE BOREHOLE (1992)
- 11 GROUNDWATER MONITOR (2002)
- DENOTES STANDPIPE MONITOR INSTALLED
- DENOTES DATALOGGER INSTALLED
- SM5 STREAM QUALITY AND FISHERIES MONITORING STATIONS (WATER QUALITY BIOLOGICAL/FISHERIES AS PER FAUN AQUATICS REPORT)
- DP8 DRIVE POINT
- SG STAFF GAUGE AND DESIGNATION
- SP1 SILT POND AND DESIGNATION
- WETLANDS
- POND
- NATURAL DRAINAGE
- 3692 WATER WELL WITH MOE IDENTIFICATION NUMBER
- CREEK
- GATE
- WOODLANDS/FOREST (MIXED)
- BOUNDARY OF LICENCED PROPERTY
- SM2 SEEPAGE METER DESIGNATION AND APPROXIMATE LOCATION (BY J. FITZGIBBON) (NO LONGER OPERATIVE)
- RECHARGE TRENCH
- 5b APPROVED PHASING

SCALE 1:8000
0 100 200 metres

NOTES:
BASE MAPPING BY PLANNING INITIATIVES LTD., DATED AUGUST 1987, DRAWING NUMBERS 1A AND 1B OF 4.

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The thresholds and early warning values were developed to ensure that the quantity of groundwater that discharges to Mill Creek does not decline below a minimum level, and they are based on seasonal historic low water level data. A summary of thresholds for groundwater monitoring pairs and the on-site ponds is provided in Table 3.2. The monitoring program and development of threshold monitoring pairs has undergone refinement, with MNRF approval, since 2001.

Table 3.2 Summary of Thresholds for Groundwater Monitoring Pairs and the On-Site Ponds

Monitor Pair/Location	Threshold Values	Early Warning Values
(1) BH13 to $DP21_{in}$ – East of Hanlon Interchange to Creek	Spring: 0.11 m head difference (305.60mASL) Summer: 0.10 m head difference (305.49mASL) Fall: 0.09 m head difference (305.58mASL) Winter: 0.11 m head difference (305.66mASL)	0.13 m head difference 0.12 m head difference 0.11 m head difference 0.13 m head difference
(2) BH92-12 to $DP17_{in}$ – East of Hanlon interchange to Creek	Spring: 0.14m head difference (305.17mASL) Summer: 0.06 head difference (305.17mASL) Fall: 0.04 m head difference (305.17mASL) Winter: 0.07 m head difference (305.17mASL)	0.19 m head difference 0.12 m head difference 0.09 m head difference 0.13 m head difference
(3) $DP6_{in}$ to $DP3_{in}$ – South of Hanlon Interchange to Creek	Spring: 0.73 m head difference (304.54mASL) Summer: 0.58 m head difference (304.54mASL) Fall: 0.55 m head difference (304.54mASL) Winter: 0.57 m head difference (304.54mASL)	0.84 m head difference 0.76 m head difference 0.73 m head difference 0.69 m head difference
(4) BH92-29 to $DP1_{in}$ - Northwest corner of site; west of approved Phase 3 extraction area	Spring: 0.17 m head difference (303.97mASL) Summer: 0.23 m head difference (303.91mASL) Fall: 0.19 m head difference (303.96mASL) Winter: 0.29 m head difference (303.88mASL)	0.22 m head difference 0.28 m head difference 0.24 m head difference 0.34 m head difference
(5) BH92-27 to $DP2_{in}$ -West of approved Phase 3 extraction area	Spring: 0.34 m head difference (303.69 mASL) Summer: 0.32 m head difference (303.50 mASL) Fall: 0.34 m head difference (303.55 mASL) Winter: 0.43 m head difference (303.65 mASL)	0.39 m head difference 0.37 m head difference 0.39 m head difference 0.48 m head difference
(6) OW5-84 to $DP5C_{in}$ – Southwest corner of site downgradient from SP1 to Creek	Spring: 0.30 m head difference (302.86mASL) Summer: 0.25 m head difference (302.79mASL) Fall: 0.25 m head difference (302.84mASL) Winter: 0.30 m head difference (302.88mASL)	0.34 m head difference 0.28 m head difference 0.28 m head difference 0.34 m head difference
(7) Phase 1 Pond	305.5 mASL – All seasons	305.75 mASL – All seasons
(8) Phase 2 Pond	305.0 mASL – All seasons	305.30 mASL – All seasons
(9) Phase 3 Pond	303.85 mASL – All seasons	304.10 mASL – All seasons
(10) Phase 4 Pond	304.50 mASL – All seasons	305.10 mASL – All seasons
(11) Silt Pond SP3	Maximum: 307.1 mASL Minimum: 304.85 mASL	Maximum: 306.85 mASL Minimum: 305.10 mASL

Thresholds and action response plan came into effect on June 30, 2001.
Values in brackets refer to minimum water level elevations at monitors DP21, DP17, DP1, DP2, DP3, DP5C/CR.
Seasons are as follows: WINTER = Jan. to Mar. inclusive, SPRING = Apr. to Jun. inclusive
SUMMER = Jul. to Sep. inclusive, FALL = Oct. to Dec. inclusive

3.2 Results of Groundwater Monitoring

3.2.1 Bedrock Aquifer

As noted in Table 3.1, there are two water wells on the property that were developed within the bedrock aquifer: TW16-78 and North Farmhouse Well 4794. Water level data for these wells are provided in Technical Appendix B. It is noted that water levels were not measured from January, February, April and May owing to well-head accessibility issues.

The water levels (as far as could be monitored) recorded in the bedrock aquifer wells exhibited normal seasonal trends that reflected prevailing climatic conditions and were not affected by pit operations.

3.2.2 Sand and Gravel Aquifer

The following section describes both groundwater levels and temperature.

Groundwater Levels

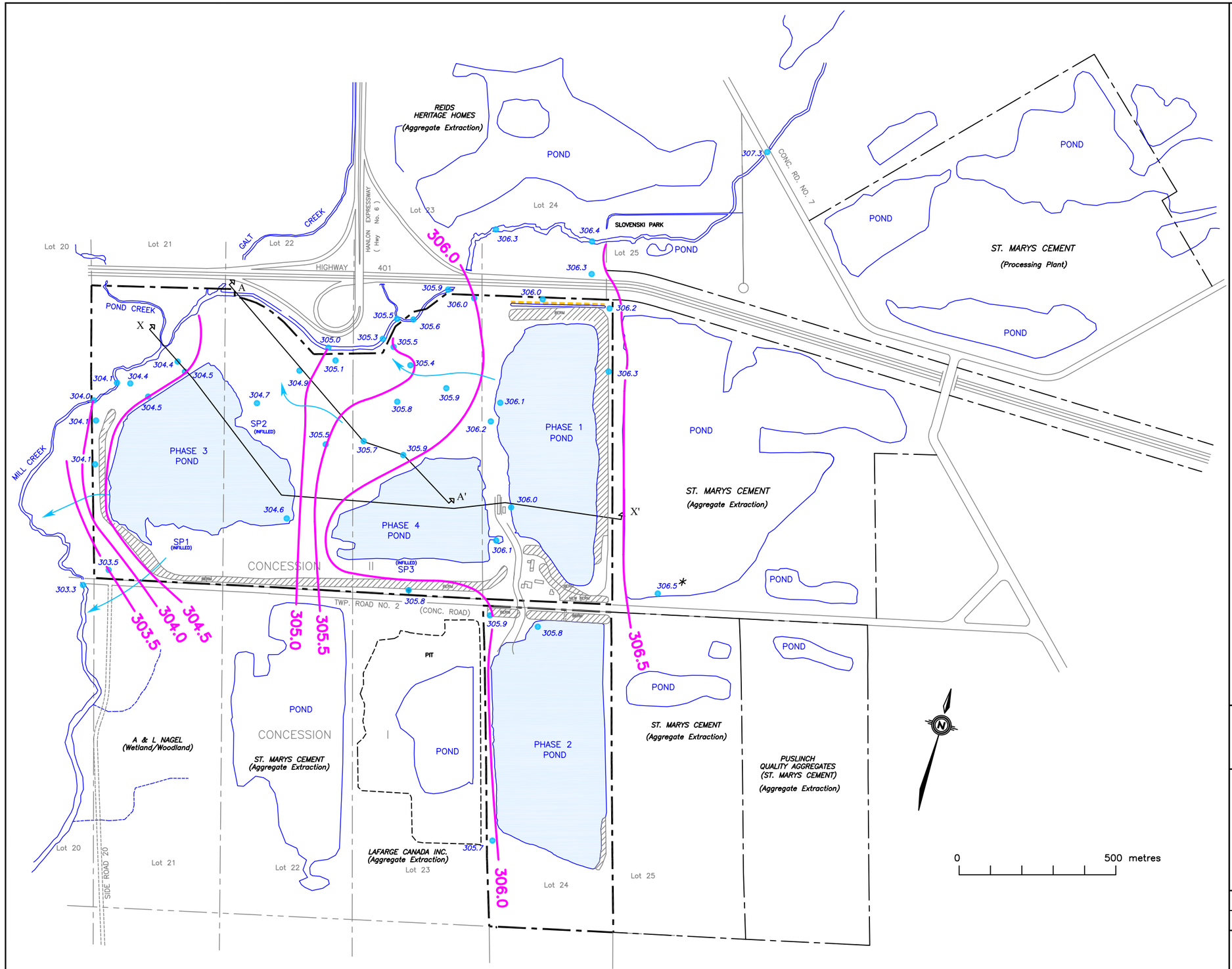
The monitors that are screened in the sand and gravel aquifer are noted in Table 3.1.

Compared to 2017, water levels in the representative monitors were, on average, 0.02 m (92-32) to 0.22 m (1-I) lower in 2018 which is attributed to the lower water surplus that occurred in 2018 compared to 2017.

In 2018 the average water levels at the individual monitors ranged from approximately 0.2 m above ground surface to 7.9 m below ground surface across the site, and fluctuations ranging from 0.3 m to 0.9 m occurred during 2018. In 2018, the maximum and minimum water levels at the monitors were within their historic ranges.

The 2018 average water levels were lower compared to 2017 values at monitors BH92-27, BH92-28, BH92-29, and BH92-33, which is attributed to the lower seasonal water levels observed in the Phase 3 pond in 2018 compared to 2017. The lower water levels in the Phase 3 pond indicate that the silt barrier between Ponds 3 and 4 is functioning as designed. Continued monitoring, however, is required to ensure that threshold values related to the Phase 3 pond and threshold pairs downgradient from the pond continue to be maintained. In 2018, the maximum and minimum water levels at the monitors were within their historic ranges.

The interpreted low water table configuration illustrated in Figure 3-3 indicates that groundwater continues to move from east to west across the northern property. The water table contours south of Highway 401 tend to “bend back” toward the creek, indicating that the creek receives groundwater discharge from the subject property along the reach south of Highway 401. Typically, water table contours bend back further (i.e. more strongly) under high flow water table conditions, indicating an increased component of groundwater flow northwestward toward the creek near the Hanlon interchange and to the west.



LEGEND

- BOUNDARY OF LICENCED PROPERTY
- 305.7 WATER TABLE ELEVATION (mASL) OCTOBER 30, 2018
- 306.5* WATER TABLE ELEVATION (mASL) NOVEMBER1, 2018
- 306.0 INTERPRETED WATER TABLE CONTOUR (mASL)
- INFERRED DIRECTION OF GROUNDWATER FLOW
- A GEOLOGIC CROSS SECTION LOCATION

2018 'LOW FLOW' WATER TABLE CONFIGURATION (OCTOBER)

2018 ANNUAL GROUNDWATER MONITORING REPORT
MILL CREEK AGGREGATES PIT
Township of Puslinch
for Dufferin Aggregates

Dufferin Aggregates
A division of Holcim (Canada) Inc.

DATE: MARCH 2019	SCALE: 1:12500
PROJECT: 111-52958-02 100	FILE NO.: 111-52958-02 100 F3_3 2018

wsp

FIGURE 3-3

Groundwater Temperature

Shallow groundwater monitoring immediately downgradient of the pit ponds show the influence of the ponds on groundwater temperatures, but these temperatures quickly dissipate with distance from the ponds. For example, Figure 3-4 shows the effect of pond development on groundwater temperatures at Monitor 92-13 located about 20m from the Phase 1 pond. The data loggers at this location failed in 2012 and only the shallow temperature transducer was replaced. Monitor 92-12 is further (at least 250m) from the Phase 1 pond, and the groundwater temperature fluctuations here are less than at 92-13. It is also noted that the logger is hung shallower at 92-12 compared to 92-13 which does result in some natural temperature fluctuations (Figure 3-5).

At the west side of the site, shallow groundwater temperatures at Monitor 92-29 have increased by up to 14ºC, which is attributed to the monitor's close proximity to the Phase 3 pond. Figure B-44 (Sub Appendix B) illustrates temperature fluctuations at 92-29 relative to the Phase 3 pond development beginning in 2012.

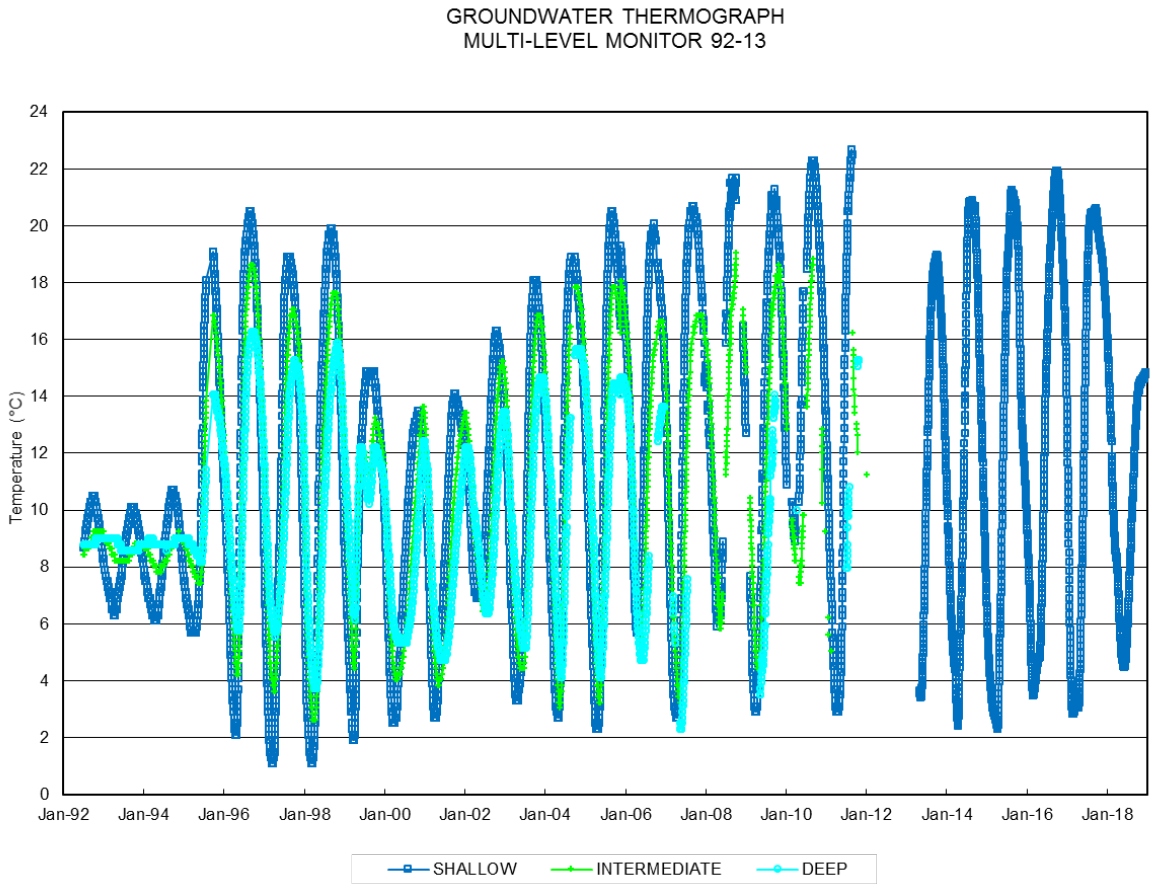


Figure 3-4 Groundwater thermograph of multi-level monitor 92-13.

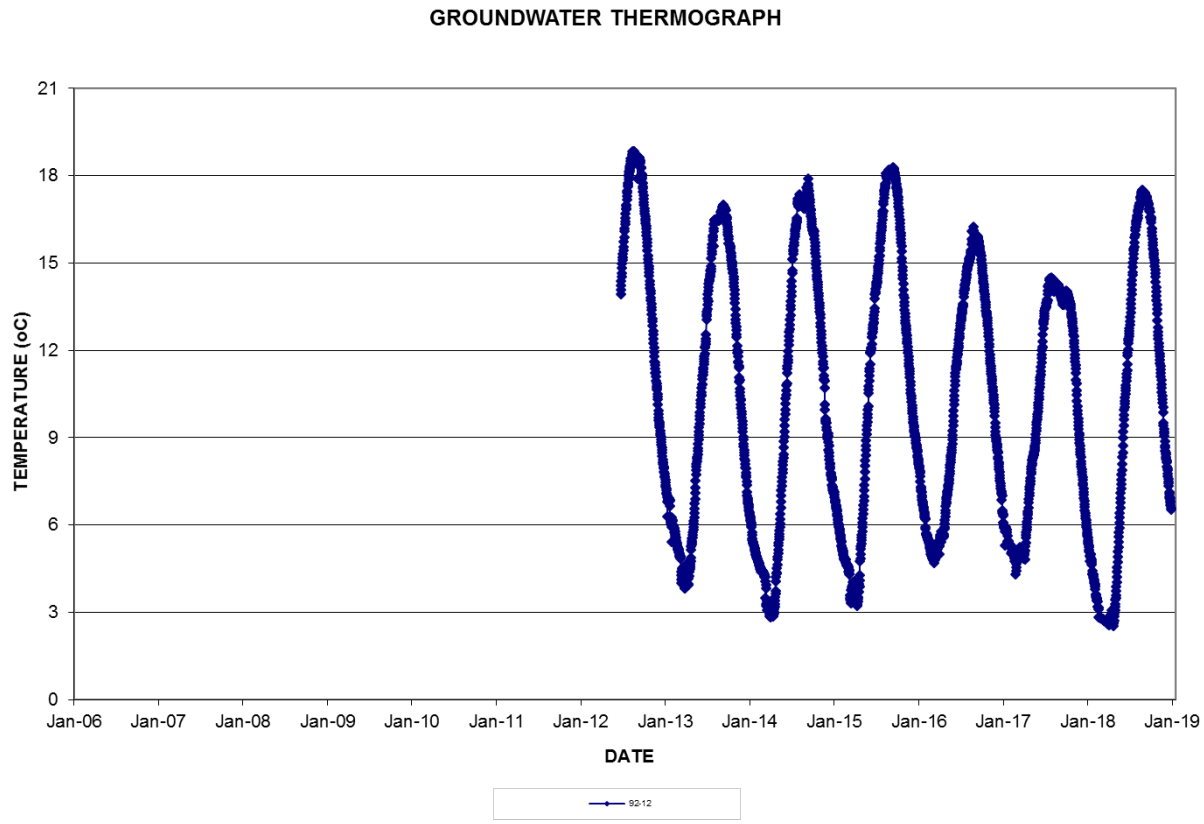


Figure 3-5 Groundwater thermograph of monitor 92-12.

Further downgradient of 92-29 is DP1, located in Mill Creek. 92-29 and DP1 represent a monitoring pair for Threshold pair monitoring (see Section 3.2.5). The thermograph for DP1 (Figure 3-6) suggests that development of the Phase 3 pond in 2012 has not influenced groundwater temperatures in Mill Creek to any notable degree.

Monitor 92-27 is also adjacent to the Phase 3 pond, and with DP2 represents a threshold monitoring pair. This threshold pair exhibits a similar groundwater temperature relationship as the 92-29 to DP1 threshold pair. Similar to DP1, the thermograph for DP2 (Figure 3-7) suggests that development of the Phase 3 pond in 2012 has not influenced groundwater temperatures in Mill Creek to any notable degree, however, there does appear to be a subtle almost 2 ^{o} C increase in ground water temperature at DP1 and DP2 that began prior to extraction activities in this area which may be a regional phenomenon.

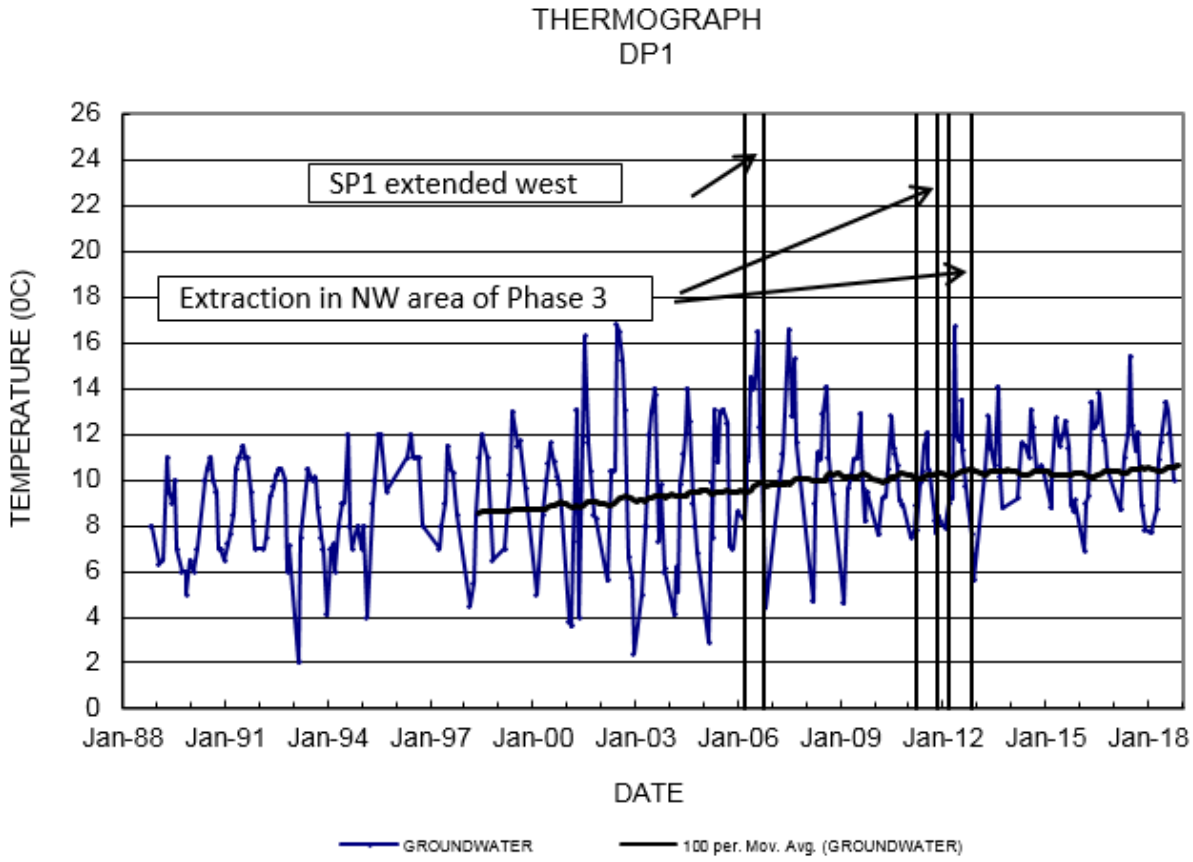


Figure 3-6 Groundwater thermograph of drive point DP1.

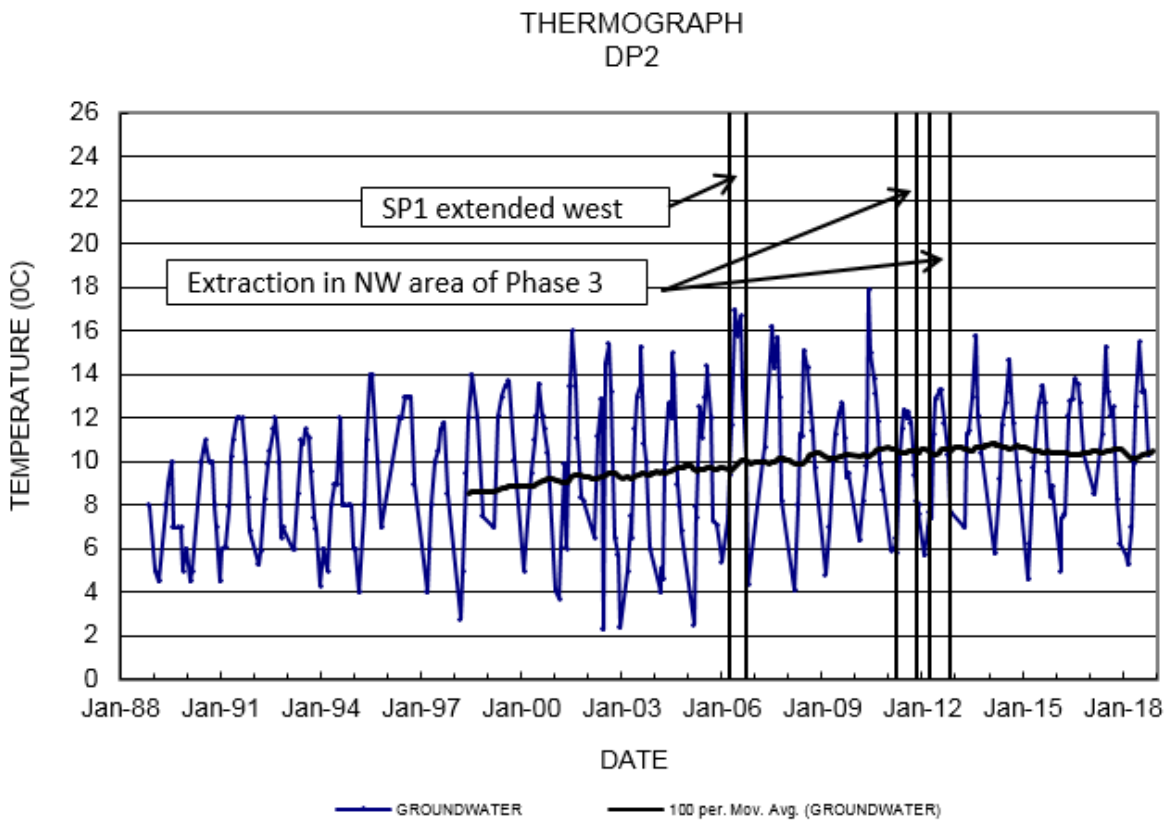


Figure 3-7 Groundwater thermograph of drive point DP2.

3.2.3 Wetland Water Levels

The drive point monitors that are located in the wetland are noted in Table 3.1. Monitors DP6 to DP12 are located in the large wetland area in the north-central part of the property. DP15 was located in a wetland pocket in the northwestern part of the property and was removed due to extraction after August 2011, and DP16 is located in the wetland along the western side of the property. A groundwater hydrograph of three representative drive points in the wetland is presented in Figure 3-8. As shown in the hydrograph, of the three representative drive points, the groundwater elevation at DP7 is typically highest, and the lowest elevations occur at DP11. This is expected, as DP7 is located furthest from Mill Creek and DP11 is closest, and groundwater flow is toward Mill Creek at the site. Hydrographs for all wetland drive points are provided in Technical Appendix B.

Monitoring of wetland drive points on the Reid Heritage property adjacent to Mill Creek north of Highway 401 commenced in August 2000, and those monitors were incorporated into the routine monitoring program. Each of these drive points has been removed except for DP113, located immediately north of Hwy 401.

Historically, the groundwater levels within the wetland remained reasonably close to ground surface throughout the year. The water levels are nearest to ground surface, and in some instances above ground surface, mostly during the spring melt. The groundwater levels then show a progressive decline to their maximum depth below ground surface during the summer to early fall months. The fluctuations between the spring high water levels to the summer low water levels usually range from 0.1 m to 1.0 m, depending on the location.

The groundwater level recorded within the wetland in 2018 averaged about 0.03 m above the historical average, and about 0.02 m below the 2017 average for the site. The lower levels compared to 2017 are attributed to the lower water surplus that occurred at the site in 2018 compared to 2017. The increase in water levels within the wetland areas generally is less than the increase experienced at other locations across the site. This is primarily due to the proximity of the wetland areas to Mill Creek, which acts as a buffer, or hinge point, for the water table that reduces the magnitude of seasonal variations. The wetland groundwater levels recorded in 2018 were within the historical maximum and minimum groundwater levels. There is no apparent influence of aggregate extraction on ground water levels in the wetland.

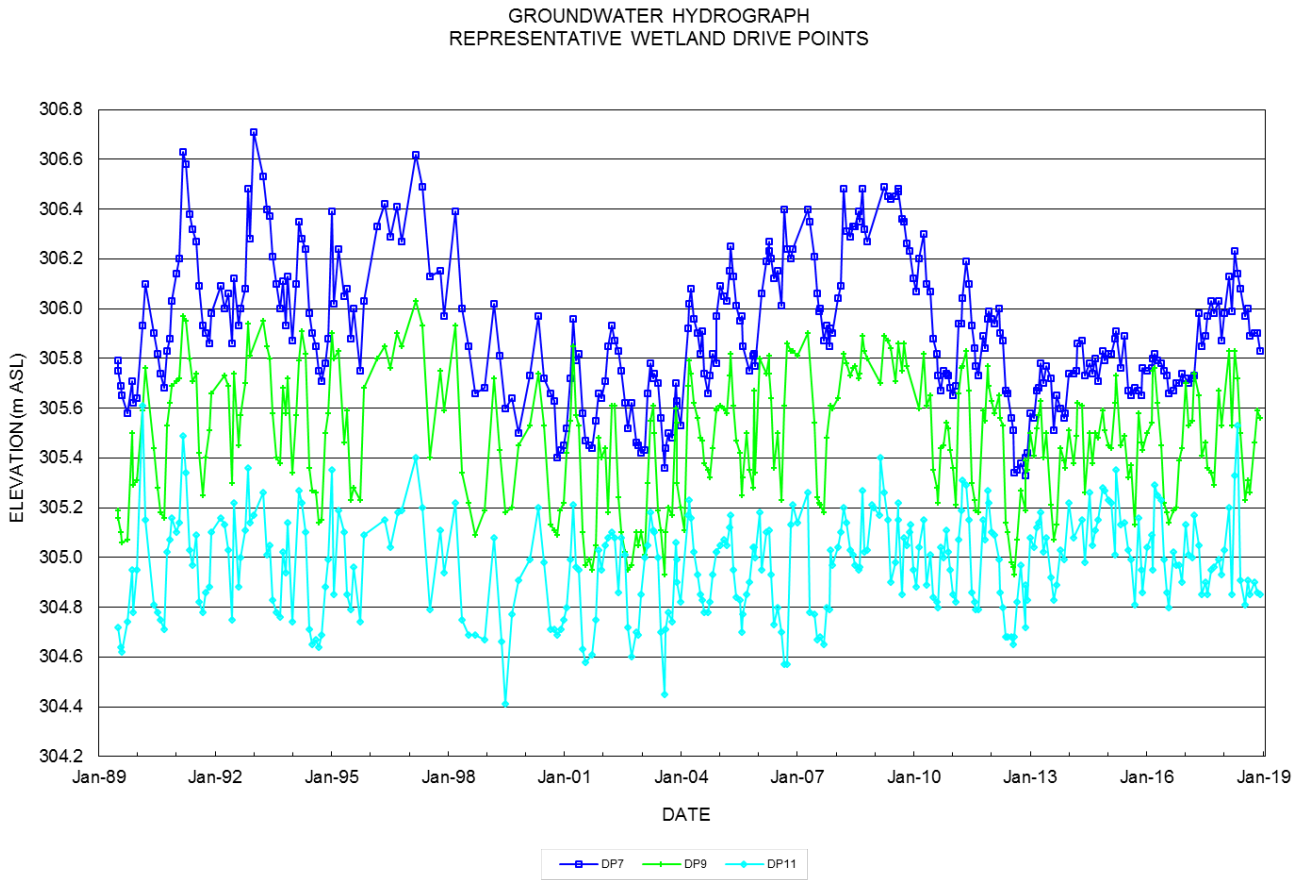


Figure 3-8 Groundwater hydrograph of three representative drive points in the wetland.

3.2.4 Mill Creek Drive Points

Groundwater Level

The drive point monitors in the creek bed are listed in Table 3.1 with their locations shown on Figure 3-1. Detailed data for hydraulic head and groundwater flux for the in-stream drive points are provided in Technical Appendix B.

The yearly average vertical hydraulic gradients for the in-stream drive points from 2018 to 2005, are shown in Table 3.3 as well as the annual average from the start of data collection (1988 to 1993) to 2005.

Table 3.3 Average Vertical Hydraulic Gradient

Drive Point	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005	Historic Average (up to 2005)
DP5A/B/C/D/CR	0.54	0.47	0.18	0.21	0.28	0.18	0.40	0.19	0.18	0.12	0.12	0.09	0.09	0.11	0.09
DP2	0.26	0.25	0.33	0.34	0.29	0.33	0.32	0.30	0.30	0.24	0.22	0.22	0.21	0.14	0.17
DP1	0.27	0.25	0.33	0.33	0.37	0.37	0.30	0.31	0.27	0.21	0.22	0.19	0.21	0.23	0.22
DP3	0.07	0.04	0.06	0.05	0.05	0.05	0.06	0.06	0.07	0.06	0.06	0.06	0.06	0.05	0.04
DP17	0.07	0.06	0.04	0.05	0.03	0.03	0.03	0.04	0.06	0.05	0.06	0.04	0.04	0.04	0.02
DP22	0.07	0.08	0.05	0.05	0.08	0.05	0.04	0.06	0.06	0.09	0.09	0.06	0.07	0.06	0.03
DP4	0.13	0.16	0.10	0.14	0.17	0.11	0.08	0.12	0.15	0.22	0.20	0.12	0.12	0.09	0.04
DP21	0.06	0.11	0.03	0.06	0.08	0.07	0.05	0.09	0.10	0.14	0.16	0.11	0.11	0.08	0.06
DP20	0.08	0.14	0.10	0.12	0.12	0.14	0.08	0.10	0.11	0.19	0.15	0.14	0.14	0.12	0.00
DP19	0.02	0.01	-0.03	-0.01	0.06	0.03	0.00	0.04	0.04	0.12	0.09	0.04	0.05	0.07	-0.06
DP18	0.06	0.12	0.08	0.11	0.09	0.10	0.07	0.08	0.07	0.13	0.12	0.06	0.07	0.08	0.03

NOTES:
1) (-) = downward vertical gradient
2) 2012 and 2013 gradient at DP5C interpreted with caution.

The hydrographs for the drive point monitors show the seasonal changes in elevation of the groundwater at each monitor, together with the surface water elevation data for the creek. Hydraulic gradients for select drive points (DP2, DP3, DP17, DP19 and DP21) are shown in Figures 3-9 to 3-13. The following patterns and trends were observed in 2018:

- Based on the average condition through 2018, upward gradients between the groundwater and the creek occurred from DP18 downstream to DP5C/D/CR. Groundwater discharge continues to provide base flow to these reaches of Mill Creek.
- As shown in the preceding table, the magnitude of the average vertical hydraulic gradient is variable from DP18 downstream to DP5A/B/C/D/CR, with the strongest upward gradients being observed at DP1, DP2, and DP5A/B/C/D/CR, and the weakest

upward gradients in the creek between DP3 and DP22, at DP21, and between DP19 and DP18.

- Between 1998 and 2005, downward vertical gradients persisted in the reach north of Highway 401, from DP18 down to about DP20, for much of each year. Since 2005 the vertical gradients at these drive points have remained upward, with the exception of neutral and downward vertical gradient conditions on average over the course of the year at DP19 in 2012 and in 2015 and 2016, respectively (varied between downward and upward gradient conditions).
- In 2018 a downward vertical gradient was observed at DP3 in December; DP4 in February; DP19 from September to December; and DP21 in October and November. The February 2018 downward vertical gradient at DP4 is attributed to the surface water level increasing more rapidly than the groundwater level in response to the
- 43 mm of precipitation received as rain at the site between February 20 and 25. Similarly, 18 mm of rain was received between September 10 and 11, which likely contributed to the downward gradient at DP19 in September. The cause of the October and November downward gradients is not apparent. The lower than normal water surplus at the site in December likely contributed to the downward vertical gradients in December. Downward gradients have occurred regularly historically at DP19, with average downward gradients occurring in 2015 and 2016. Downward gradients have occasionally been observed historically at DP3, DP4, and DP21.
- In 2018, the average vertical hydraulic gradients were higher than the 2017 values at DP1, DP2, DP3, DP5CR, DP17, and DP19, and lower than the 2017 values at the remaining in-stream drive points. The difference between the 2018 average and the 2017 average ranged between -0.06 at DP18 and DP20 and 0.07 at DP5CR. The lower average vertical hydraulic gradients observed at several drive points are attributed to the lower water surplus at the site in 2018 compared to 2017.
- The 2018 average vertical hydraulic gradients at the creek drive points were generally higher than the pre-2005 averages. This overall increase in hydraulic gradients likely reflects a buffering effect due to the presence of the Phase 1, Phase 3, and Phase 4 ponds, and translates into a proportional increase in the groundwater discharge to Mill Creek. This is discussed in further detail later in this section.
- Generally, the seasonal fluctuation of the surface water elevation in Mill Creek at the drive point monitors was similar to the variation of the groundwater elevation in 2018.
- Historically, greater seasonal groundwater fluctuations have been observed compared to surface water fluctuations.

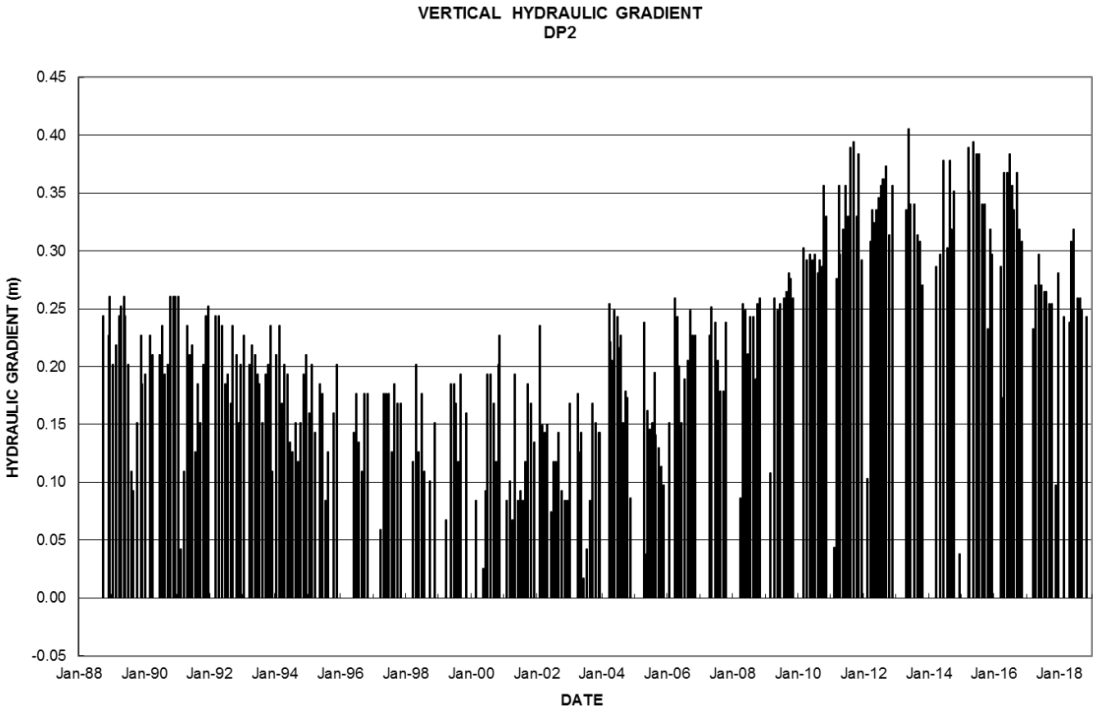


Figure 3-9 Hydraulic gradient at stream drive point station DP2.

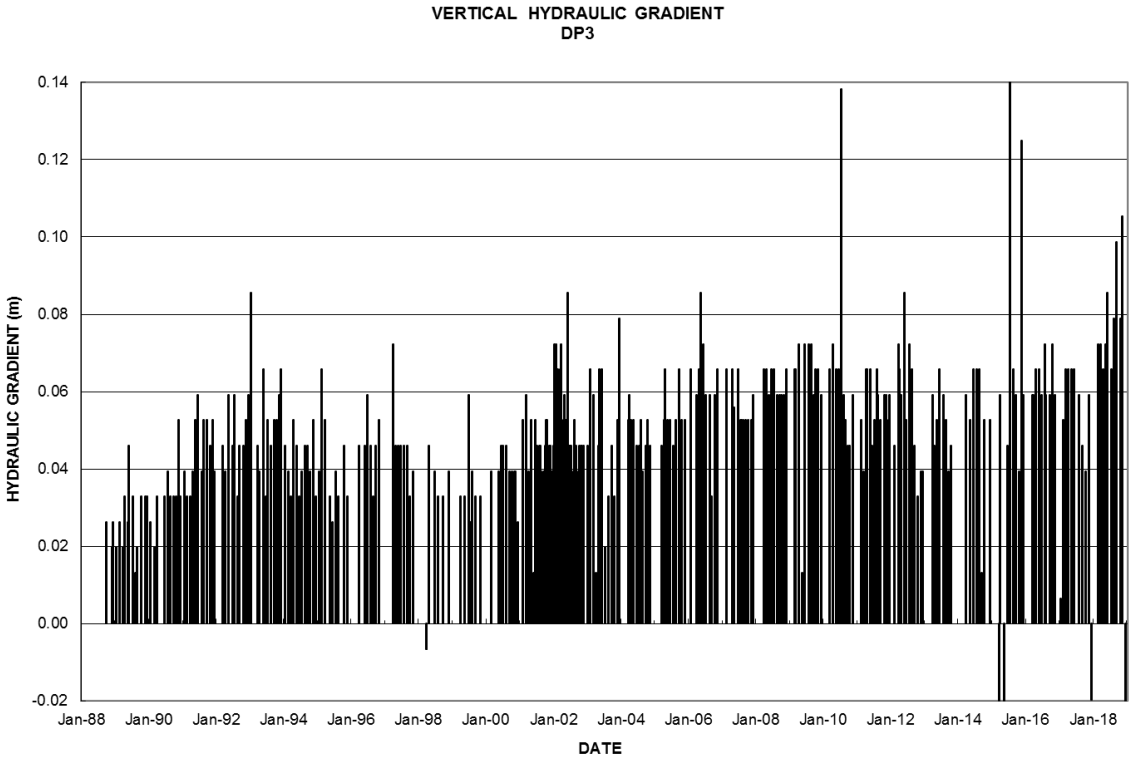


Figure 3-10 Hydraulic gradient at stream drive point station DP3.

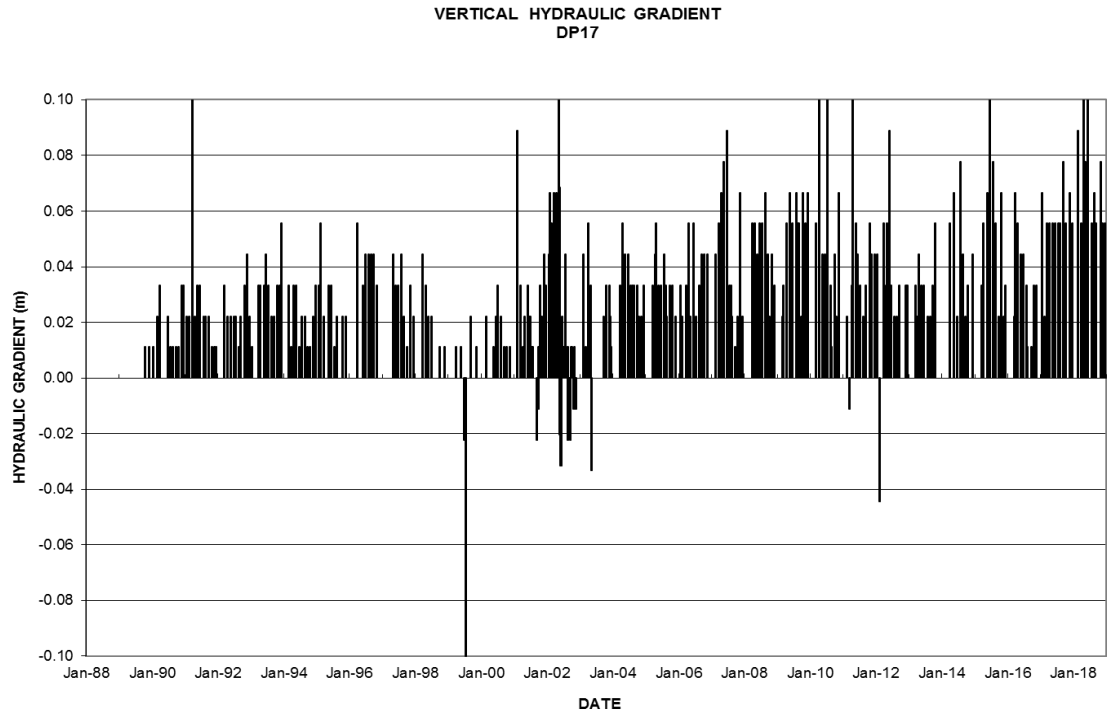


Figure 3-11 Hydraulic gradient at stream drive point station DP17.

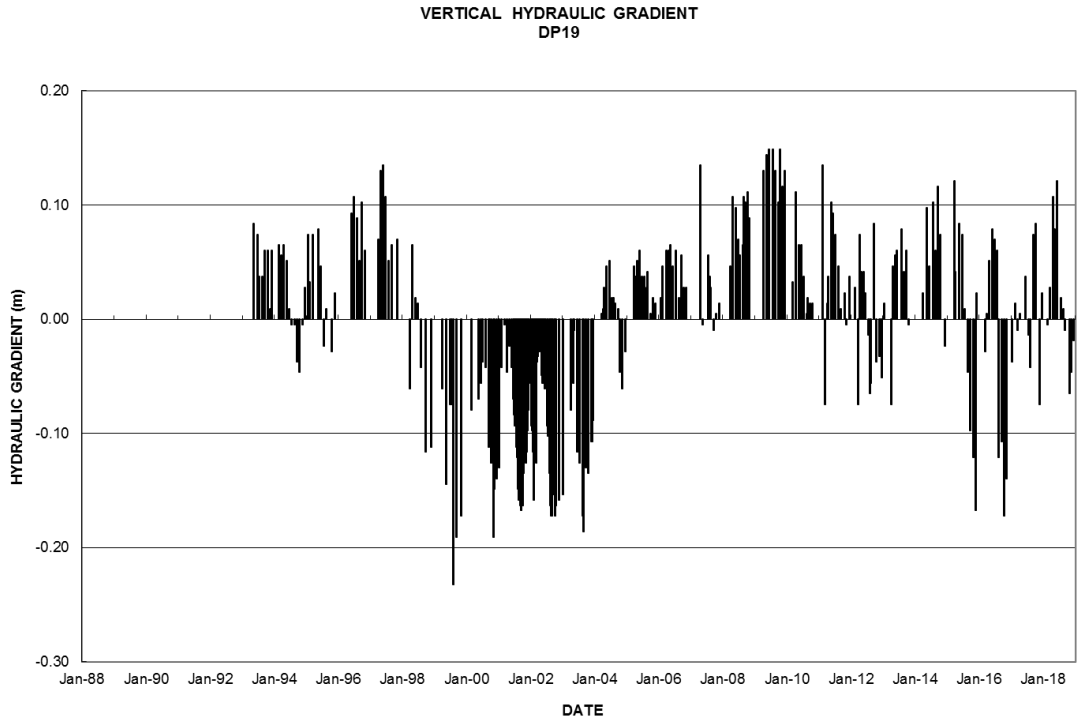


Figure 3-12 Hydraulic gradient at stream drive point station DP19.

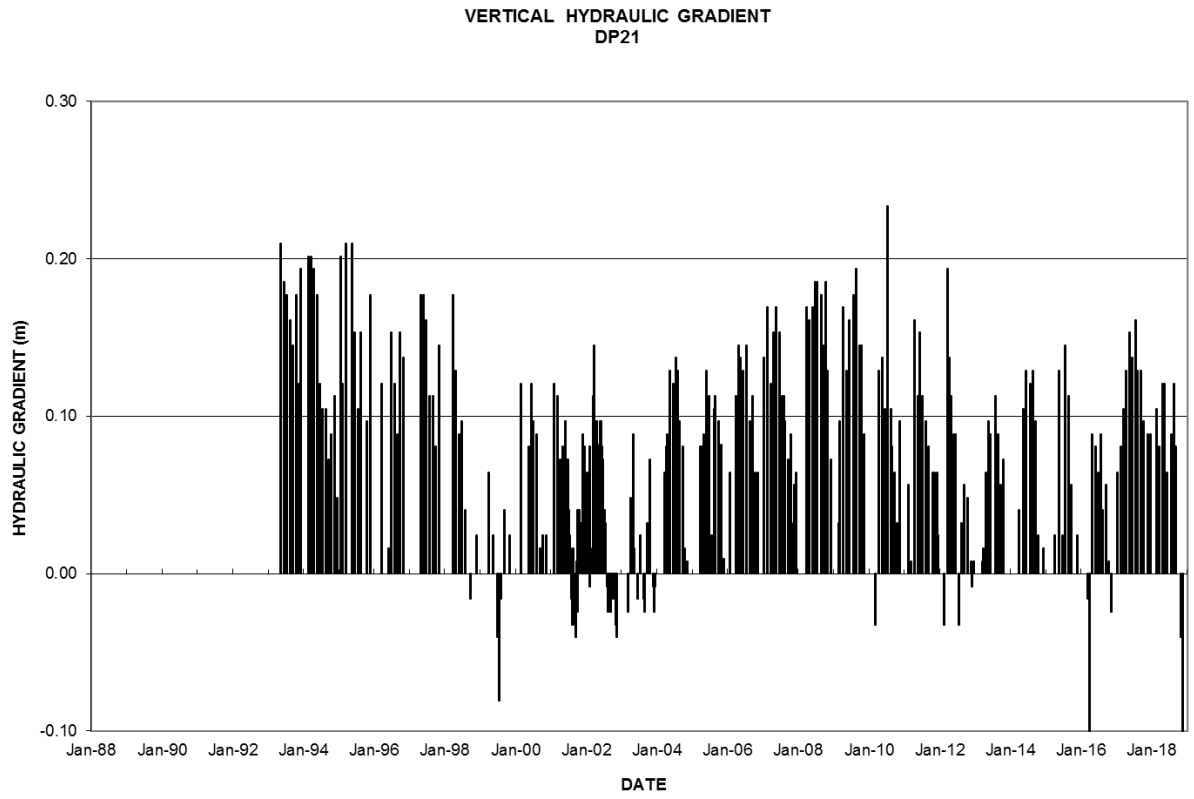


Figure 3-13 Hydraulic gradient at stream drive point station DP21.

Groundwater Temperature for In-stream Drive Points

An example of a thermograph from one in-stream drive point (DP2) is provided in Figure 3-14. This figure illustrates the relationship between surface water and groundwater temperatures. The water temperatures at the Mill Creek drive points show the following general seasonal patterns:

- A wide seasonal variation in the surface water temperatures, which are low in the winter and high in the summer. In 2018, the surface water temperature ranged from 0.2°C to 20.8°C, which was within the historical range.
- Whereas there is a somewhat smaller seasonal variation in groundwater temperatures as recorded (historically between 2°C and 21°C when all drive point monitors are considered), this is still considered to be a wide seasonal variation for "normal" groundwater. It is noted, however, that thermal transfer from the creek surface water will affect the shallow groundwater temperatures at the drive points. In addition, the amount of monitor development that is completed before a groundwater temperature

reading is taken can affect the value. The groundwater temperature in 2018 ranged from 1.5ºC to 20.0ºC.

- Along Mill Creek in 2018, vertical gradients were generally upward, and groundwater discharge provided a cooling influence on creek temperatures during the warm summer months, and a warming influence during the cold winter months.
- The temperature patterns for 2018 shown on the thermographs are generally consistent with historic patterns. At the Mill Creek drive points, average 2018 groundwater temperatures were generally slightly higher than the historic averages and the surface water temperatures were slightly lower than the historic averages. Exceptions were drive points DP18, DP19, DP21, and DP22, at which groundwater temperatures were slightly lower than the historic averages. Compared to the historic averages, the 2018 groundwater temperature averages differed by between -1.2ºC and 1.2ºC, and the surface water temperature averages differed by between -1.4ºC and -0.5ºC.
- For example, in 2018, the average groundwater temperatures at DP1, DP2, DP3, DP4, and DP20 exceeded the historic average by 0.4ºC to 1.2ºC.
- If pit extraction activities have affected groundwater temperatures at drive points DP1, DP2, and DP5A/B/C/D/CR, the effect has been subtle. Since a long-term increasing temperature trend is also observed at upstream (background) drive point DP18, regional influences in addition to development at the Mill Creek Pit may be occurring.

Thermographs for all creek drive points are included in Technical Appendix B.

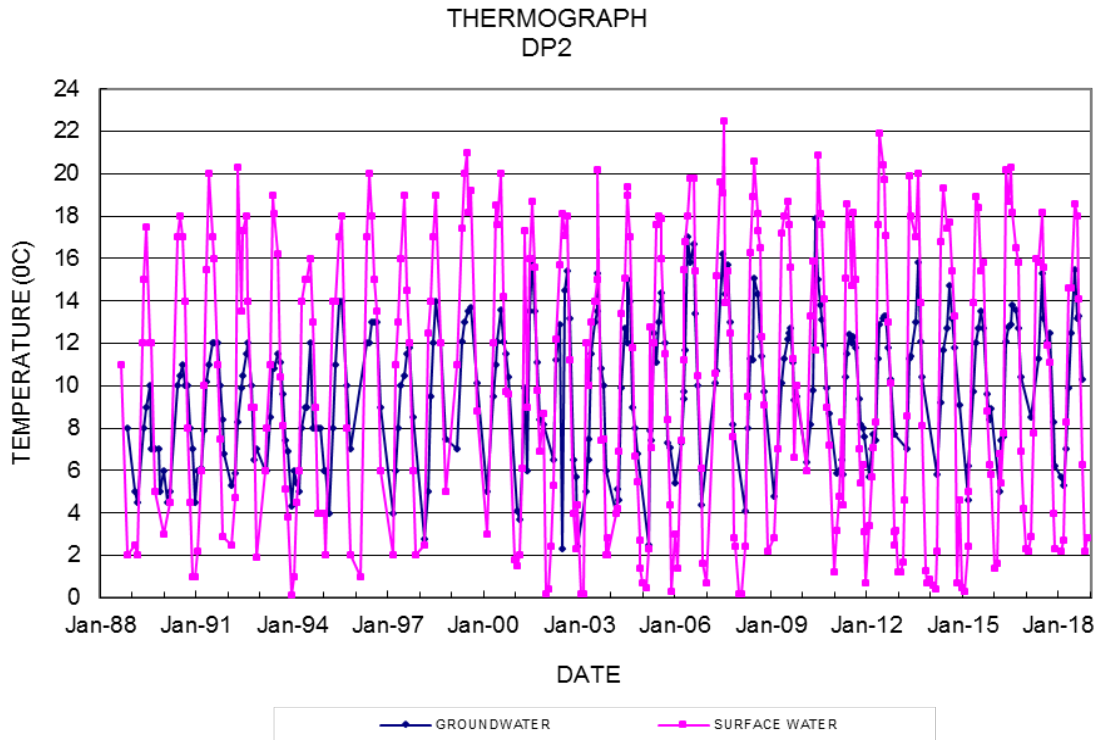


Figure 3-14 Thermograph for DP2

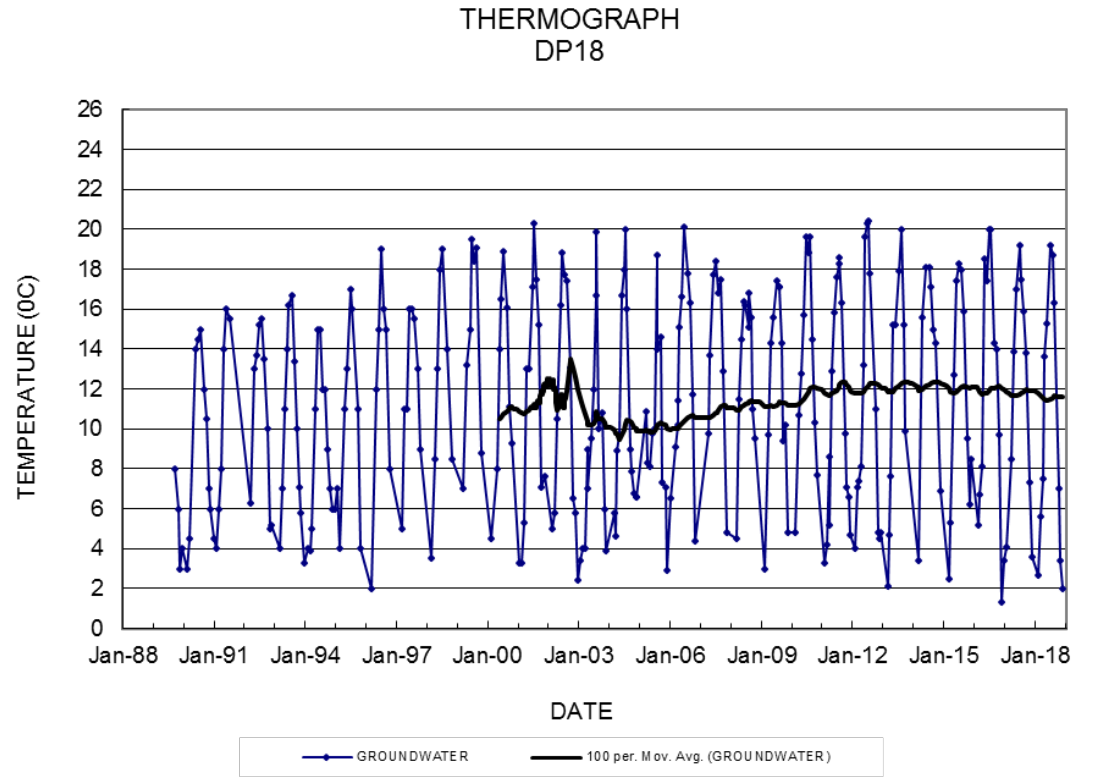


Figure 3-15 Thermograph for DP18

3.2.5 Compliance with Interim Threshold Values

The early warning and interim threshold values, which came into effect on June 30, 2001, are based on maintaining positive seasonal hydraulic head gradients across the water table between specific monitor pairs, such that a positive hydraulic gradient continues to exist from the site toward Mill Creek. In other words, the groundwater levels should be lower at locations closer to Mill Creek.

Maximum and minimum elevations with associated early warning values are defined for each pond. The interim threshold and early warning values generally are based on a review of historic pre-extraction low water level data (where available) and are defined seasonally; pond threshold water level values do not change seasonally. Where necessary, threshold pairs have been modified over time to reflect current extraction conditions and the removal of individual monitor locations.

It is noted that the groundwater levels in the in-stream drive points typically respond more rapidly to precipitation and snowmelt events than the deeper groundwater monitors. As such, occasionally, early warning and threshold value exceedances can occur due to these natural events.

A summary of the head differences for the monitor pair locations and pond elevations are illustrated in the following Figures 3-16 to 3-25. Where available, historical data are shown in the figures for comparison purposes. The seven monitor pairs and the six ponds are briefly described below.

Overall, groundwater conditions remained within threshold limits in 2018, with the exception of two exceedances at the OW5-84 to DP5C/CR pair in June. The exceedances are attributed to the observed elevated hydraulic head in the groundwater and hydrogeological variability at this location. The existing OW5-84 to DP5C early warning and threshold values do not appear to be representative of the actual conditions observed at DP5CR, and it is recommended they be reviewed further in 2019 to determine if new threshold values should be applied to the new pair.

BH92-29 to DP1 (Figure 3-16)

This monitor pair replaced the BH92-30 to BH92-28 threshold pair in May 2012, as BH92-30 was removed during extraction activities in April 2012. This pair is located in the northwest corner of the site, south of the confluence between the Pond Creek tributary and Mill Creek. The early warning and threshold values were not exceeded in 2018.

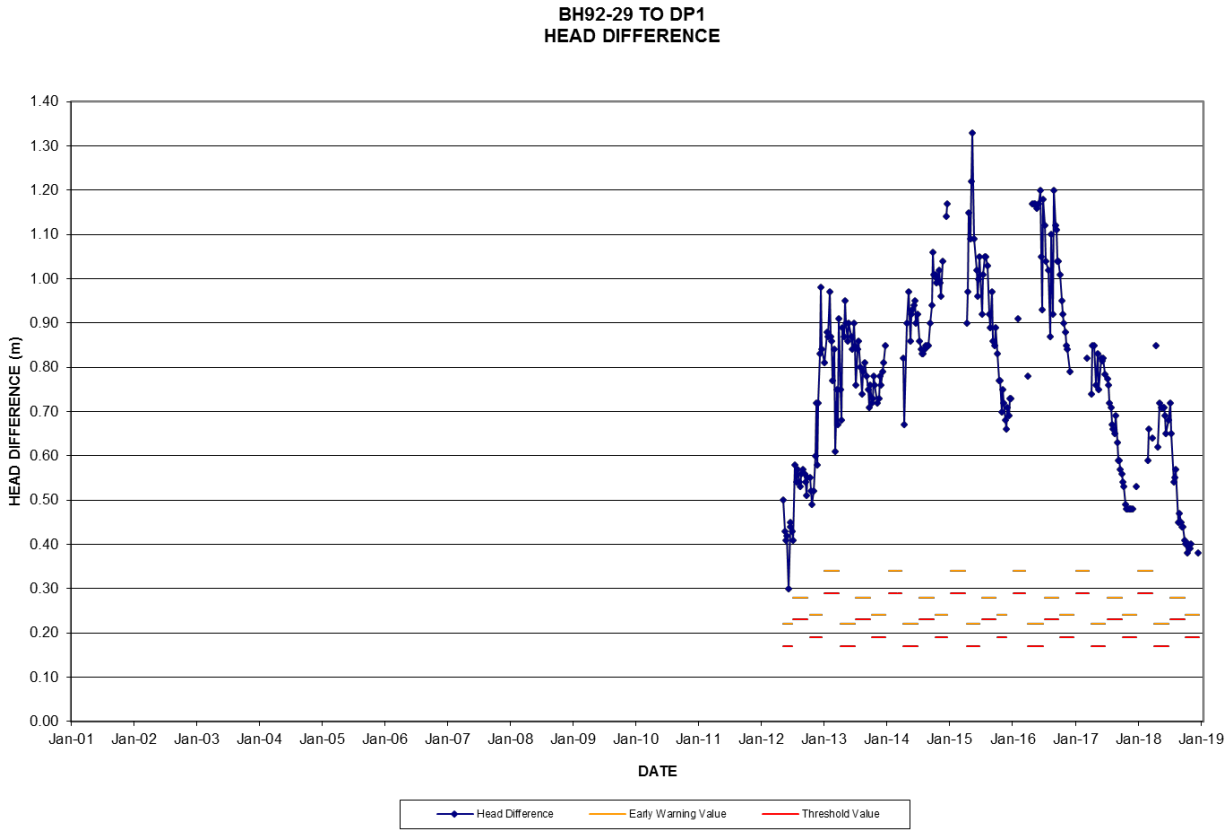


Figure 3-16 Hydraulic head difference for monitoring pair BH92-29/DP1; May 2012 to December 2018

BH92-27 to DP2 (Figure 3-17)

This pair of monitors is located in the western part of the site, west of the Phase 3 extraction area, and replaced BH92-26 to DP2 after November 2011 when BH92-26 became inaccessible due to its proximity to the extraction area. DP2 is an in-creek drive point located in Mill Creek at the western property boundary. The early warning values and threshold values were not exceeded in 2018.

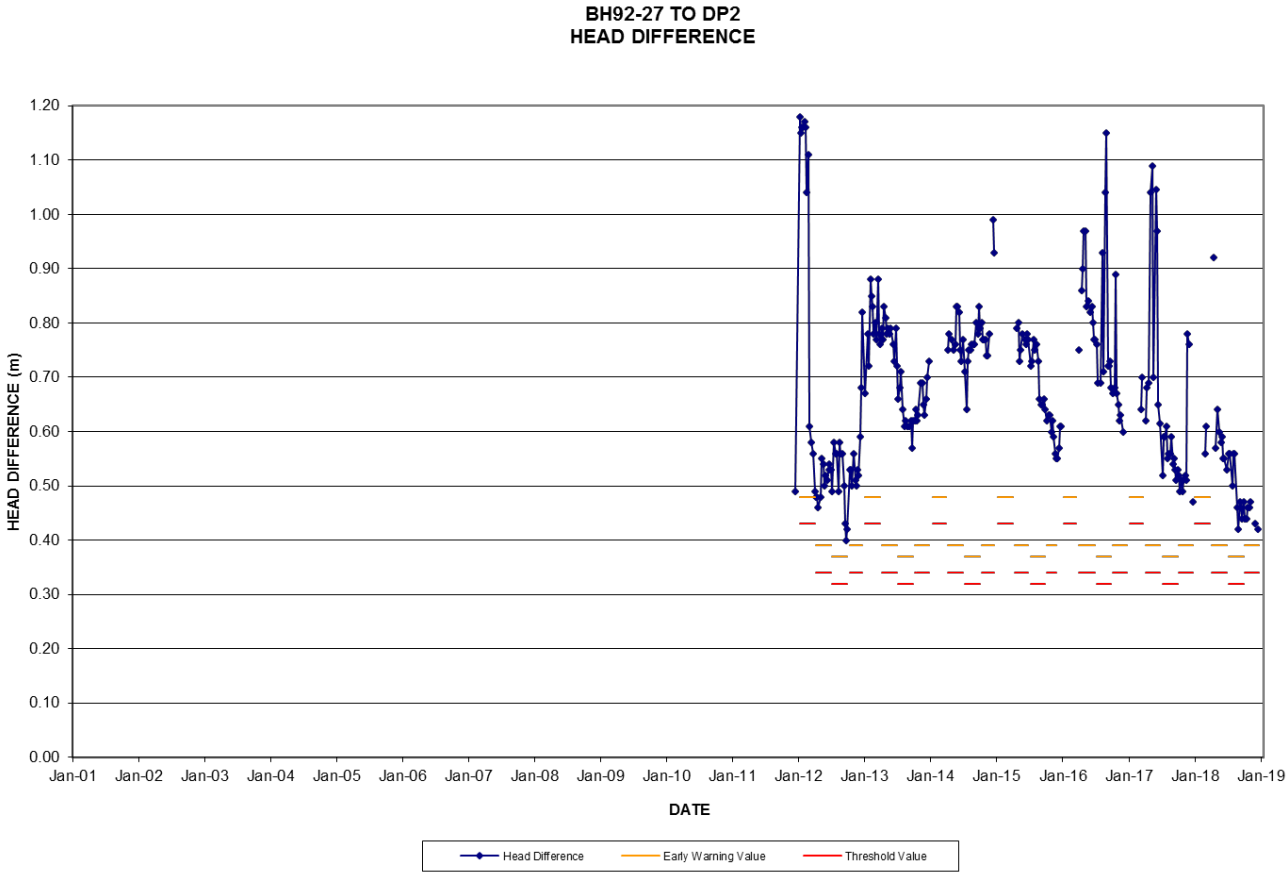


Figure 3-17 Hydraulic head difference for monitoring pair BH92-27/DP2; December 2011 to December 2018

OW5-84 to DP5C/CR (Figure 3-18)

This pair of monitors was located in the southwest corner of the site, adjacent to Mill Creek. OW5-84 is a groundwater monitor screened to about full depth in the aquifer, and is situated just inside the property line. DP5C was vandalised in Spring 2017 and replaced with DP5CR, which was installed at the location of DP5C. The early warning and threshold values were not exceeded at DP5C prior to the vandalism. At DP5CR, at which we continue to apply the threshold values developed for DP5C, and similar to 2017, the early warning values were exceeded several times between May and December, and the threshold values were exceeded during two monitoring events in June. The exceedances are the result of elevated groundwater heads / strong upward vertical gradients measured at DP5CR, which are attributed to the observed hydrogeological variability at this location. It is recommended that revised early warning and threshold values be established for the OW5-84 to DP5CR pair, following the collection of a sufficient amount of monitoring data at DP5CR, to better reflect the hydrogeological conditions at DP5CR. The existing OW5-84 to DP5C early warning and threshold values do not appear to be representative of the actual conditions at DP5CR.

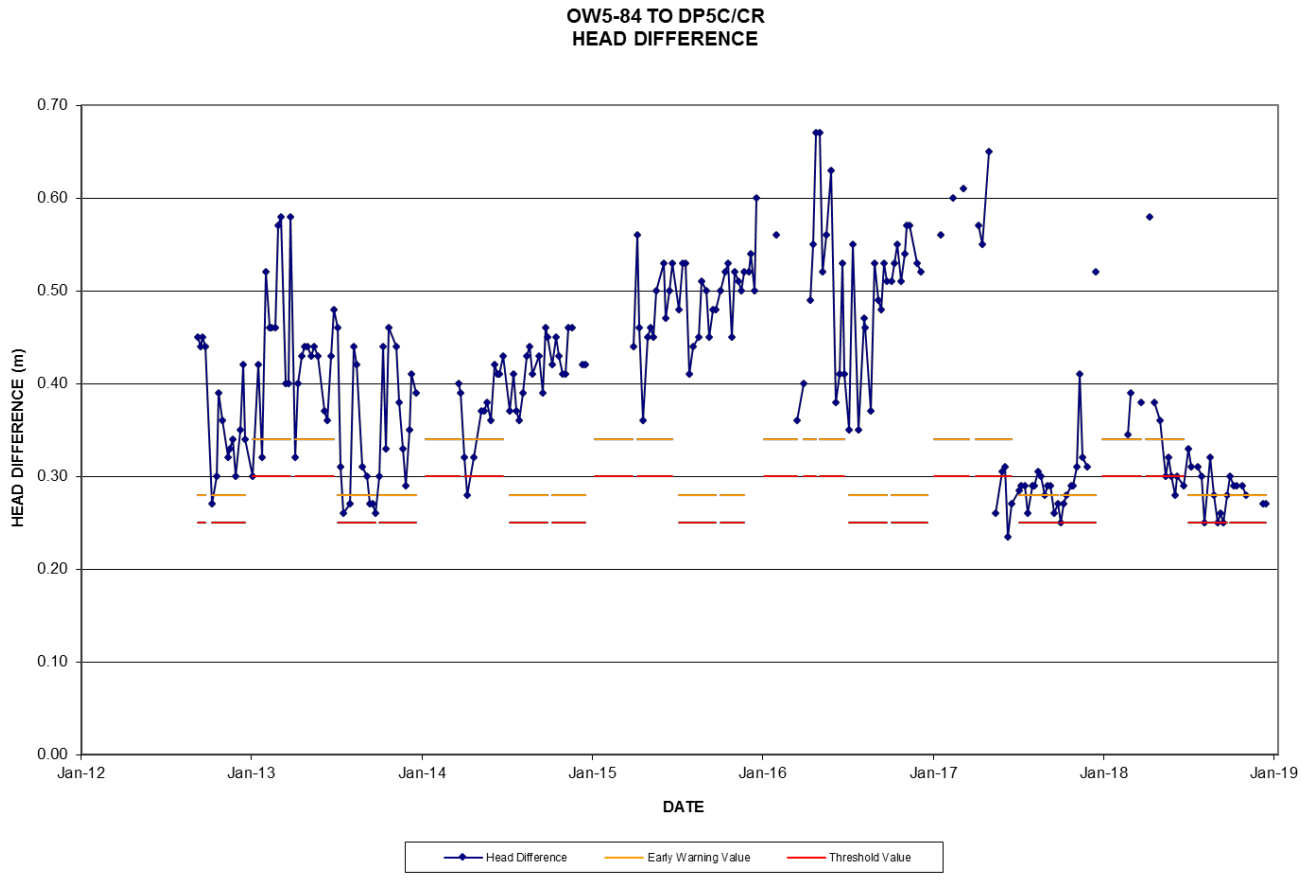


Figure 3-18 Hydraulic head difference for monitoring pair OW5-84/DP5C/CR; September 2012 to December 2018

BH92-12 to DP17 (Figure 3-19)

BH92-12 was established in 2001 just outside the licensed area of extraction, west of Phase 5 (extraction has not yet occurred in Phase 5). Monitor DP17 is an in-creek drive point located at the Hanlon interchange, upstream from DP3. The threshold values have not been exceeded since its implementation on June 30, 2001. The early warning and threshold values were not exceeded at this pair in 2018.

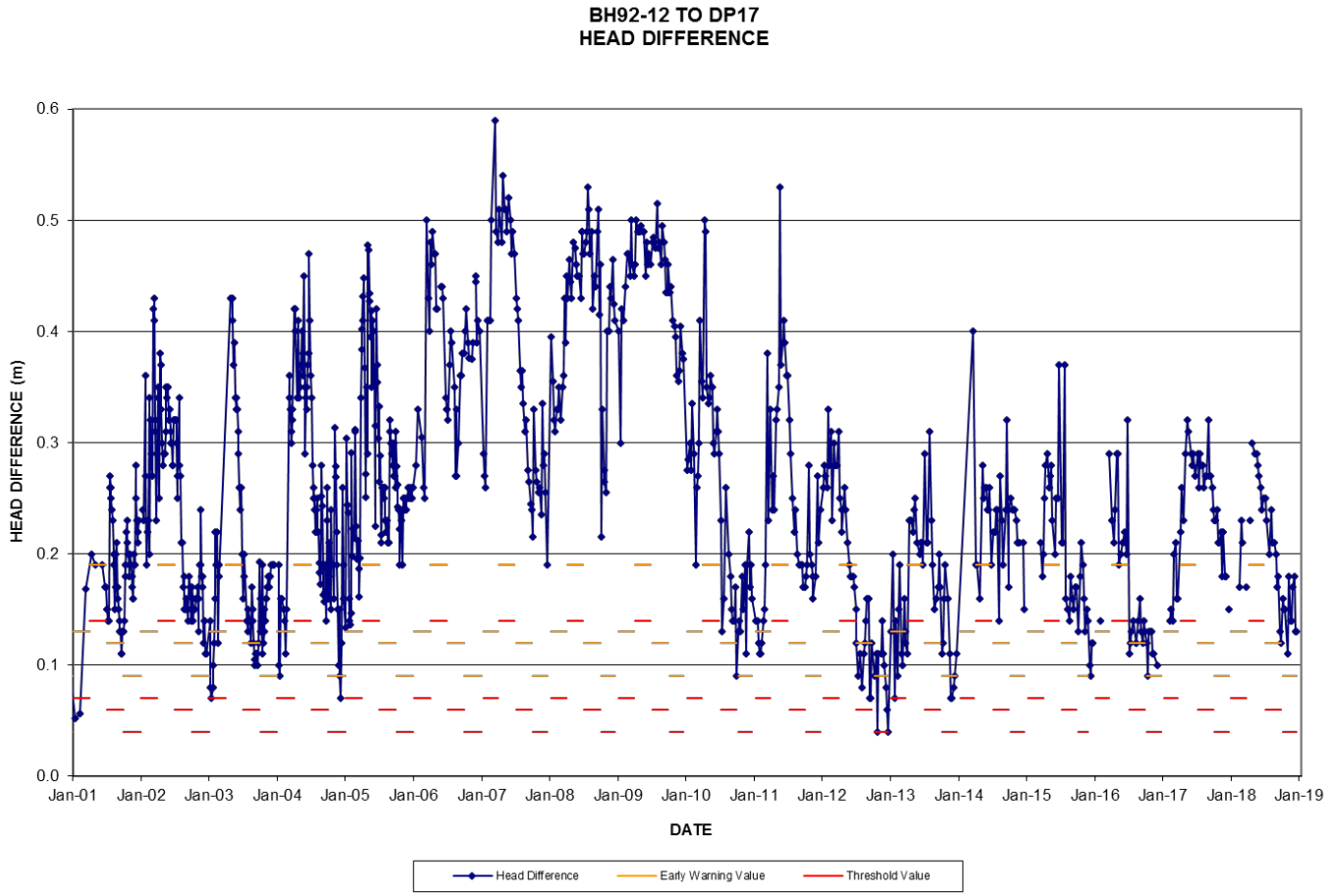


Figure 3-19 Hydraulic head difference for monitoring pair BH92-12/DP17; July 2000 to December 2018

DP6 to DP3 (Figure 3-20)

DP6 is located at the eastern limit of the central wetland area, adjacent to Phase 5, and DP3 is an in-creek drive point monitor located directly south of the Hanlon interchange. The early warning value was exceeded on September 27 and October 18, 2018. The exceedances are attributed to a lag in groundwater level response at DP6 compared to DP3 following a 13 mm rain event from September 25 to 26, and a 7 mm rain event from October 13 to 18. Similar exceedances of early warning values occurred at this threshold pair from 2014 to 2017. The threshold values were not exceeded in 2018.

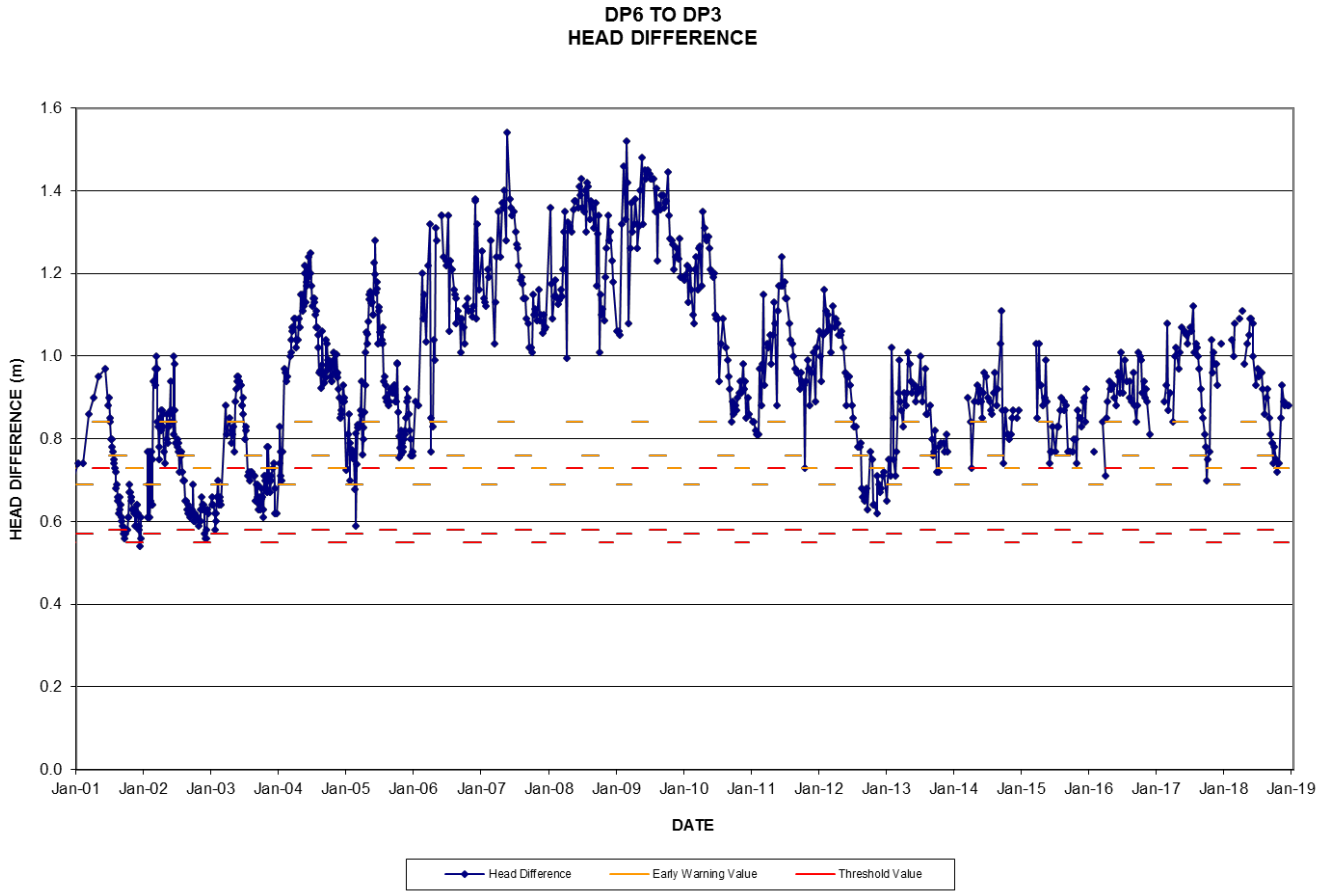


Figure 3-20 Hydraulic head difference for monitoring pair DP6/DP3; July 2000 to December 2018

BH13 to DP21 (Figure 3-21)

BH13 is located adjacent to the northern boundary of the property (north of Phase 5) and to the east of DP21. DP21 is an in-creek drive point monitor located immediately downstream of the property line, south of Highway 401. There were no exceedances of the threshold values or the early warning values at this pair in 2018.

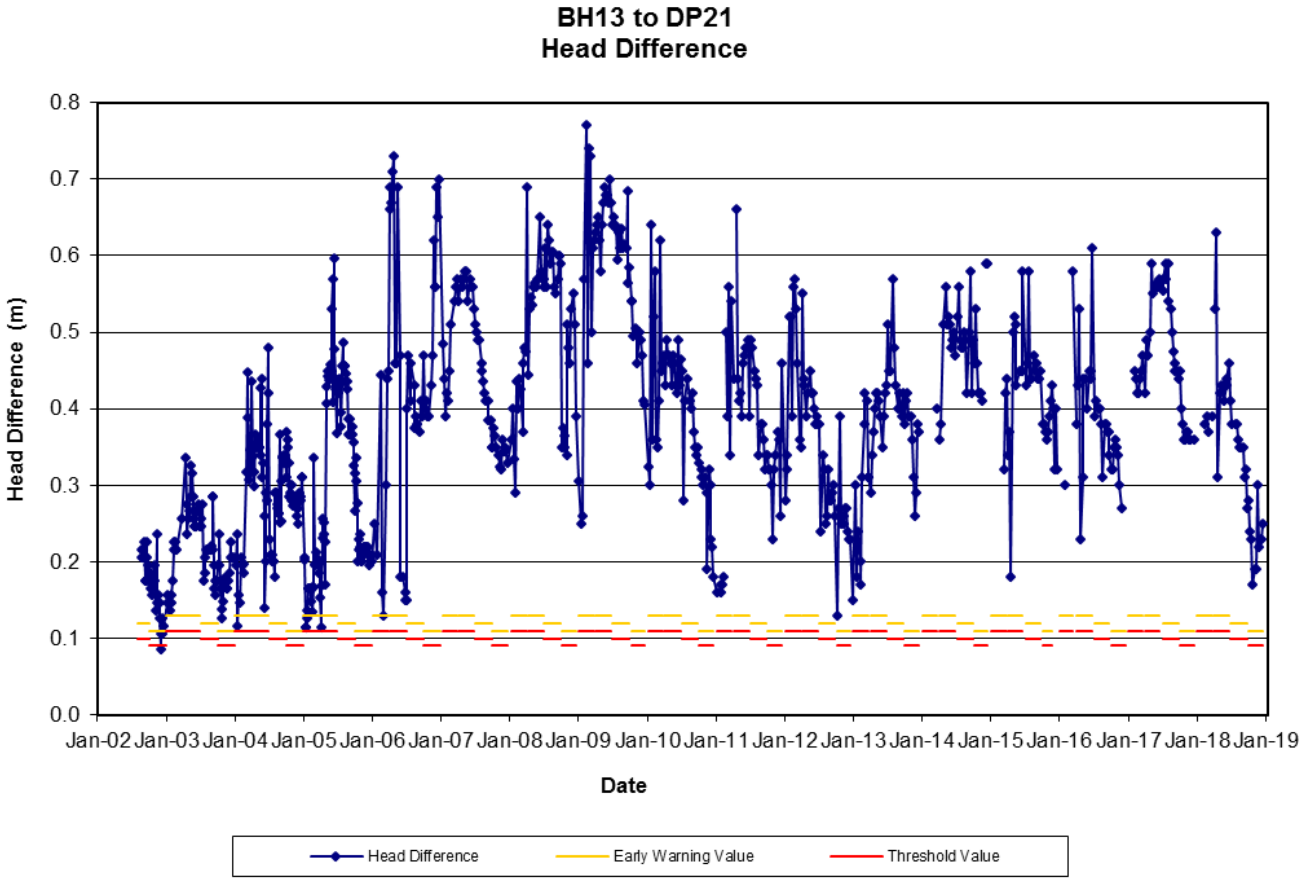


Figure 3-21 Hydraulic head difference for monitoring pair BH13/DP21; August 2002 to December 2018

Phase 1 Pond (Figure 3-22)

This pond is located in Phase 1, along the east side of the north property. Sub-aqueous extraction started in 1995 and was completed in 2002. Sub-aqueous extraction resumed in 2018 as below water extraction had not been completed to the approved limit. A low-water level threshold value of 305.5 mASL was established for the Phase 1 pond in 2002. Neither the early warning value of 305.75 mASL nor the threshold value was exceeded in 2018. As predicted, during dry periods the presence of the Phase 1 pond buffers against decreases in groundwater levels adjacent to the pond. It is noted that the constant water levels between 2000 and 2015 indicate that the extraction pond or silt pond is frozen. From 2015 onward, frozen conditions are represented by a gap in the data.

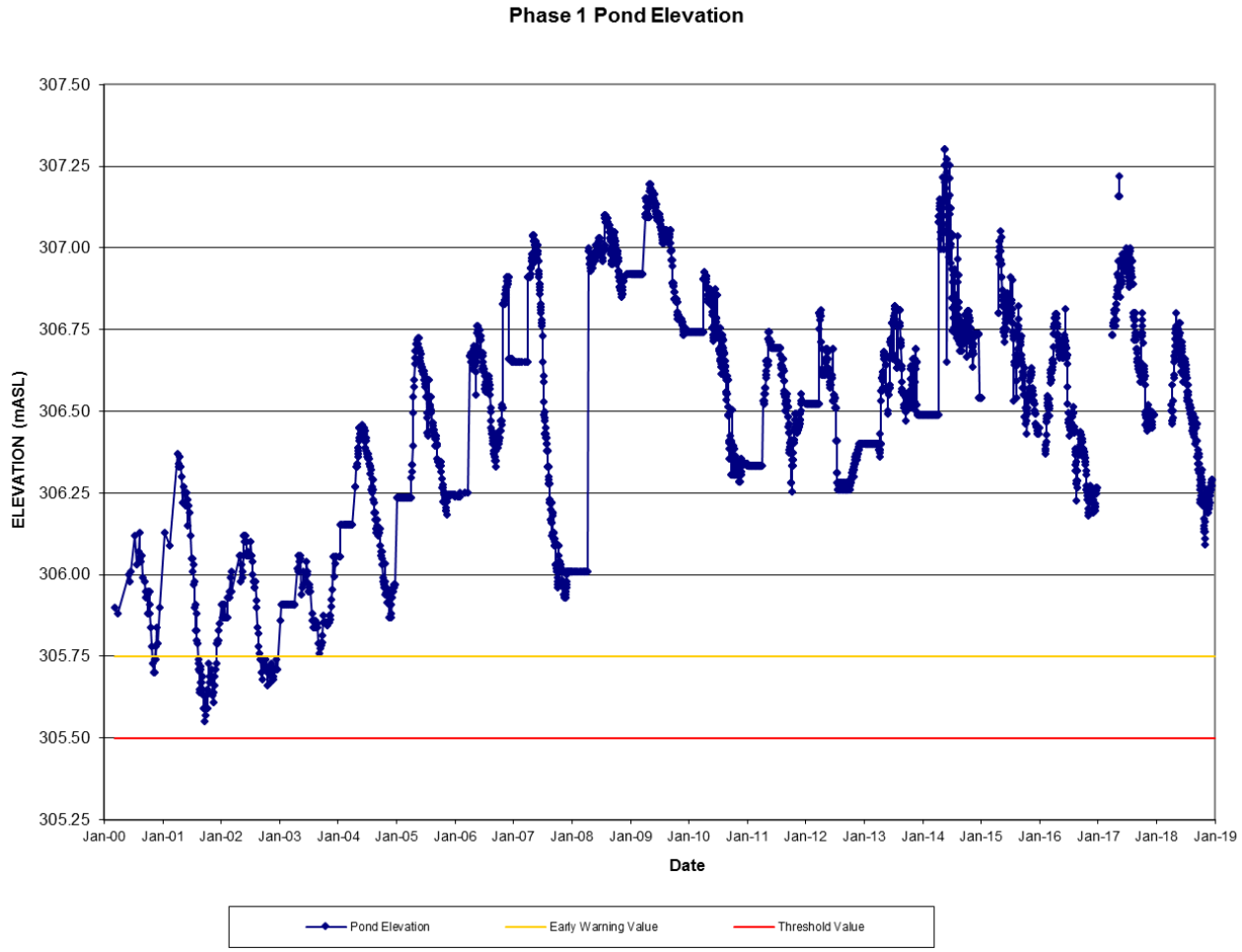


Figure 3-22 Phase 1 Pond Elevation; January 2000 to December 2018

Phase 2 Pond (Figure 3-23)

This pond is located in the south-central end of Phase 2, on the south property. Sub-aqueous extraction started on September 23, 2003 and continued to the end of 2012. Extraction in 2016 and 2017 occurred above the water table along the east (2016 only), west, and south boundaries of the Phase 2 pond as a result of obtaining MNRF approval to extract the above water table material within the setbacks. Below the water table extraction occurred in 2016 and 2017 near the east (2016 only) and west boundaries of the Phase 2 pond within the original licensed area. A low-water level threshold value of 305.0 mASL was established in 2004, with an early warning value of 305.30 mASL. The threshold and early warning values were not exceeded in 2018.

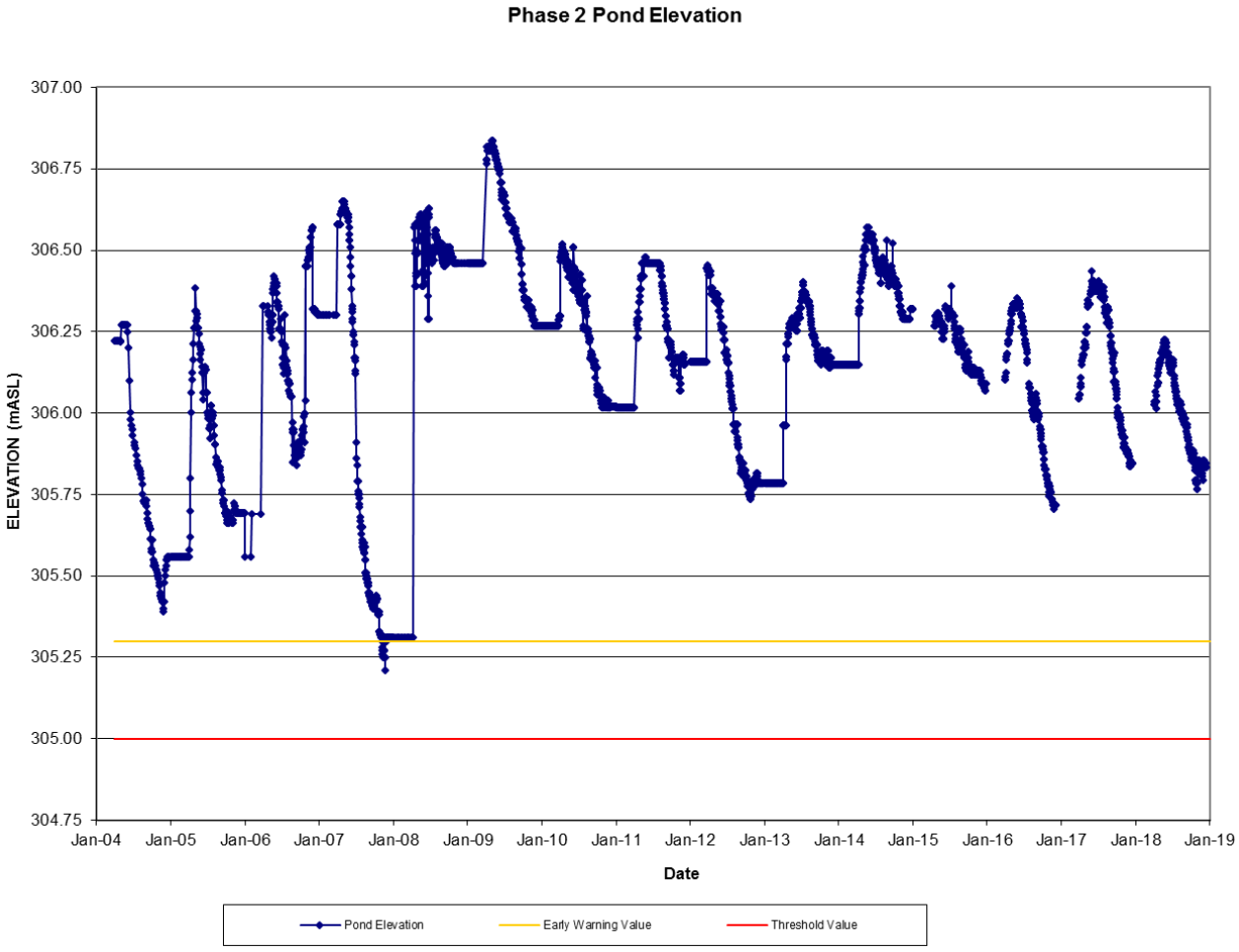


Figure 3-23 Phase 2 Pond Elevation; January 2004 to December 2018

Phase 3 Pond (Figure 3-24)

This pond is located in Phase 3 in the western section of the property, immediately north and adjacent to silt pond SP1. Sub-aqueous extraction started in 2007 and continued to the end of 2013. A low-water level threshold value of 303.85 mASL was established in 2006, with an early warning value of 304.10 mASL. The threshold and early warning values were not exceeded in 2018.

The water levels in the Phase 3 pond were lower in 2017 and 2018 compared to the 2013 to 2016 period. The water levels, however, were similar to the 2009 to 2012 levels and remained well above the early warning value. The lower water levels observed in 2017 and 2018 are attributed to the effect of the almost fully developed silt barrier between the Phase 3 and Phase 4 ponds. The lower hydraulic conductivity of the silt barrier results in a reduction in the rate of movement of water from the Phase 4 pond westerly through the silt barrier and into the Phase 3 pond. As such, water that (a) naturally moves from east to west through the granular subsurface soil that remains in place between the Phase 1 pond and the Phase 4 pond, and (b) water that accumulates in the Phase 4 pond as direct precipitation, is “held back” by the silt barrier in the Phase 4 pond (as designed), resulting in higher water levels compared to the Phase 3 pond, as intended.

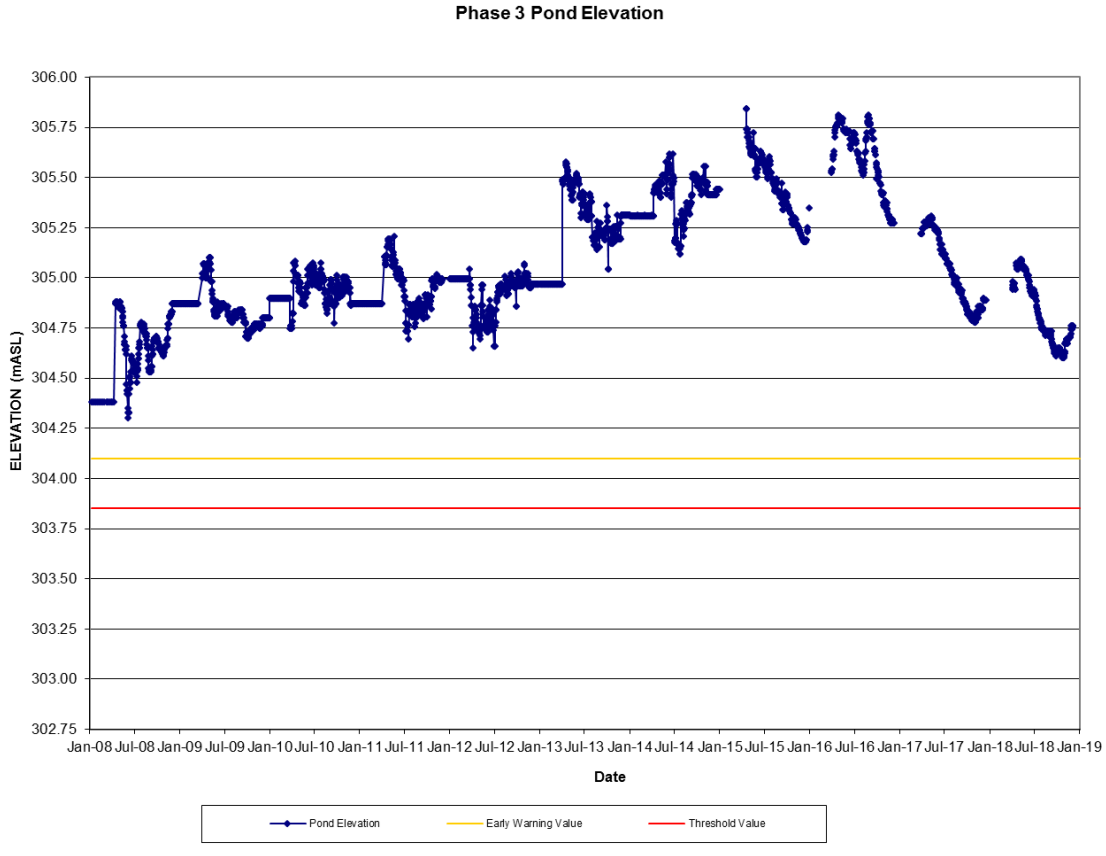


Figure 3-24 Phase 3 Pond Elevation; January 2008 to December 2018

Phase 4 Pond (Figure 3-25)

This pond is located in Phase 4, in the central section of the north property, immediately north and adjacent to silt pond SP3. Sub-aqueous extraction began in September 2013 and continued through 2015. A low-water level threshold value of 304.50 mASL and an early warning value of 305.10 mASL were established prior to extraction commencing in Phase 4. The threshold and early warning values were not exceeded in 2018.

The water level in the Phase 4 pond has increased since sub-aqueous extraction of the pond began in 2013. The recent increases are intended and are attributed to the presence of the silt barrier between the Phase 3 and Phase 4 ponds, as described above. It is expected that once extraction is completed in Phase 5 and the final Phase 1/4/5 large pond is established, the additional length of downgradient shoreline of the large pond, compared to the current Phase 4 pond shoreline, will facilitate increased movement of water out of the larger pond through the subsoils toward Mill Creek.

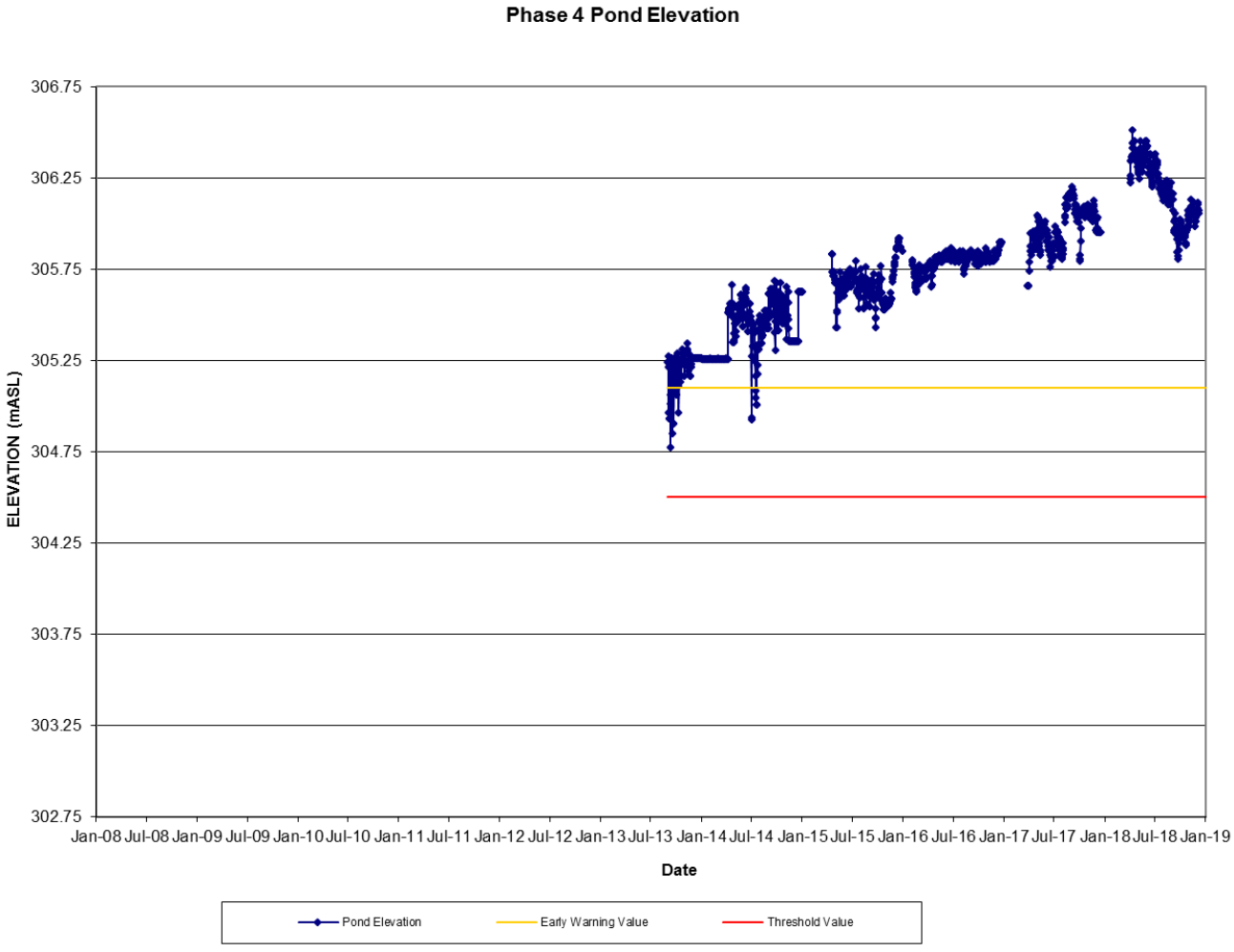


Figure 3-25 Phase 4 Pond Elevation; September to December 2018

Silt Pond SP1

Silt pond SP1 is located south of Phase 3, in the southwest corner of the north property. The filling of silt pond SP1 was completed in 2012 and water level monitoring was, therefore, terminated at this location.

Silt Pond SP2

Silt pond SP2 is located directly north of Phase 3, in the middle of the north property. The filling of silt pond SP2 was completed in 2012 and water level monitoring was, therefore, terminated at this location.

Silt Pond SP3

The original silt pond SP3 is located south of Phase 4, along the southern edge of the north property. Washing sedimentation operations were moved into SP3 after September 4, 2004, and this silt pond was used until April 2010. Approval to extend silt pond SP3 was received in 2010 and now silt pond SP3 and the Phase 4 pond are hydraulically connected. It is recommended that the Phase 4 pond threshold values also be applied to silt pond SP3.

3.3 Ground Water Contribution

Seasonal variation in stream flow is a reflection of normal long-term climatic seasonal variation, as well as specific climatic events.

During low flow periods, and in the absence of rainfall, stream flow is sustained by groundwater discharge to the creek. The groundwater discharge component of stream flow is termed base flow. Since base flow is derived from the groundwater flow system, which shows subdued seasonal changes compared to surface waters, the magnitude of the seasonal variation under base flow conditions will be less than that of the surface runoff component. In addition, since the temperature of groundwater, and particularly the deeper groundwater, does not fluctuate seasonally to anywhere near the same degree as does the surface water, the temperature of the groundwater discharge to the creek remains relatively more consistent.

Thus, groundwater discharge to the creek provides two important functions:

a) It provides base flow to maintain stream flow during low flow periods, and
b) It provides a cooling effect on the creek temperatures during the warm summer season, and a warming effect during the cold winter season.

Groundwater influx to Mill Creek is estimated at each drive point location for different flow conditions and the measurement interpolated for the stream sections between drive points. These calculations are presented in Technical Appendix B. The results of these calculations are summarized below in Table 3.4.

Table 3.4 Groundwater Influx (L/s) from the Mill Creek Aggregates Pit Property

				HISTORIC RANGE (1989-1999)	HISTORIC AVERAGE (1989-1999)	2018	2017	2016
Summer Low Flow Conditions (May to October)				15 - 24 L/s	18.9 L/s	26.9 L/s (July)	28.2 L/s (Sept)	27.8 L/s (Aug)
Winter Low Flow Conditions (November to April)				18 - 28 L/s	22.2 L/s	26.0 L/s (February)	19.8 L/s (Dec)	26.2 L/s (Nov)
Average					22.8 L/s	28.9 L/s	27.3 L/s	27.5 L/s

	2015	2014	2013	2012	2011	2010	2009	2008
Summer Low Flow Conditions (May to October)	29.2 L/s (Sept)	33.9 L/s (Aug)	24.1 L/s (Oct)	27.2 L/s (Aug)	33.0 L/s (July)	30.6 L/s (Aug)	26.4 L/s (Sept)	29.5 L/s (June)
Winter Low Flow Conditions (November to April)	26.3 L/s (Dec)	25.2 L/s (Dec)	28.5 L/s (Apr)	21.6 L/s (Nov)	26.7 L/s (Mar)	35.1 L/s (Nov)	32.5 L/s (Nov)	31.7 L/s (Mar)
Average	29.0 L/s	30.3 L/s	28.3 L/s	25.6 L/s	34.6 L/s	35.7 L/s	33.0 L/s	31.5 L/s

	2007	2006	2005	2004	2003	2002	2001	2000
Summer Low Flow Conditions (May to October)	22.1 L/s (Sept)	24.7 L/s (Aug)	22.0 L/s (Oct)	23.8 L/s (Sept)	12.5 L/s (Aug)	16.1 L/s (Sept)	17.0 L/s (Aug)	21.7 L/s (May)
Winter Low Flow Conditions (November to April)	Not Available	25.2 L/s (Jan)	23.6 L/s (Nov)	22.1 L/s (Nov)	22.1 L/s (Apr)	24.5 L/s (Nov)	22.4 L/s (Apr)	26.5 L/s (Nov)
Average	26.9 L/s	27.6 L/s	26.7 L/s	27.3 L/s	19.9 L/s	22.6 L/s	24.1 L/s	25.5 L/s

The summer low flow groundwater influx values have fluctuated from 2004 to 2018. The calculated 2018 summer low flow groundwater influx (26.9 L/s) was about 5% lower than the 2017 value of 28.2 L/s, and about 42% higher than the historic average yearly summer low flow influx (18.9 L/s), which is based on the average of the yearly summer low flow data for each drive point for the period 1989 to 1999.

The winter low flow groundwater influx values increased from 2003 to 2010, decreased to 2012, and fluctuated from 2013 to 2018. The calculated 2018 winter low flow groundwater influx (26.0 L/s) was about 31% higher than the 2017 value of 19.8 L/s, and about 17% higher than the historic average yearly winter low flow influx (22.2 L/s), which is based on the average of the yearly winter low flow data for each drive point for the period 1989 to 1999.

The 2018 annual average influx (28.9 L/s) was similar to the 2017 average value of 27.3 L/s, and about 27% higher than the pre-1999 historic long-term average influx (22.8 L/s). The higher values of groundwater discharge from 2004 to 2018 compared to the pre-1999 historic average were expected and can be attributed to the consistently higher water level in the Phase 1 pond since 2004, and in the Phase 3 and Phase 4 ponds in recent years, and the resulting higher groundwater levels across the site.

3.4 Thermal Budget

The thermal effects on Mill Creek temperatures from the two tributaries, as well as the groundwater discharge component, are relatively significant during much of the year, based on the observed temperature differences between SWM1 (upstream) and SWM2 (downstream). Generally, during the summer low flow, those three sources of input water provide a cooling effect on Mill Creek. It is noted that canopy cover along some reaches also provides a cooling effect in Mill Creek during the summer months.

In 2018, the largest summer temperature difference between SWM1 and SWM2 (using average daily temperatures from data loggers) during routine monitoring events was noted on July 27, 2018. The mean temperature of the water entering the Mill Creek Aggregates Pit property at Highway 401 (SWM1) on July 27 was measured at 20.3^{o}C. The mean water temperature in the creek leaving the property at SWM2 on July 27 was 17.9^{o}C, which is 2.4^{o}C lower than at SWM1. On July 27, the mean water temperature of Galt Creek (SWM4) and Pond Creek (SWM3) was 13.1^{o}C and 11.8^{o}C, respectively, which is strongly indicative of groundwater discharge into those tributaries.

The relative cooling effect of the two tributaries and groundwater on Mill Creek during the summer months was estimated during the period 2005 to 2012. Approximately 33% to 66% of the total temperature differential was attributed to the two tributaries, whereas approximately 34% to 67% was attributed to the combined groundwater discharge from both sides of Mill Creek. After 2012 stream flow monitoring in the two tributaries ceased so it is no longer possible to calculate the relative cooling effect of the tributaries compared with groundwater. However, there is no reason to believe that current conditions would differ substantially from the ranges of effect established during the period 2005-2012.

3.5 Summary of Ground Water Conditions

Monitoring results adjacent to the pond in Phase 1 indicate an effect on the pond levels and local groundwater levels resulting from seasonal climatic variation, the pumping of water from the pond for aggregate processing, and the recirculation discharge of clean water from the active silt pond (silt pond SP3/Phase 4 pond in 2018) back into the Phase 1 pond.

The water table in the wetland areas adjacent to Mill Creek continues to be at or near ground surface during the spring melt high groundwater conditions, with seasonal decreases in the order of 0.5 m over the course of the year.

The groundwater levels were generally similar in 2018 compared to historical averages, although there were some exceptions.

In the reach of Mill Creek between Highway 401 and the Hanlon interchange, vertical discharge (upward) gradient conditions have prevailed since 2004, with a few exceptions, and a similar trend continued through 2018.

At DP18, which is located north of Highway 401, upstream of Slovenski Park at Concession Road 25, upward vertical gradients have been present for the most part between 2005 and 2018. Prior to 2005, vertical gradients at DP18 were downward for several years. DP18 is far-removed from the site and is not affected by extraction operations at Mill Creek Aggregates Pit. The reason for this return to upward (discharge) gradients at DP18 has not been confirmed, but likely is related to other extraction activities (or cessation thereof) between 2005 and 2018 in the area.

Water levels were recorded at two bedrock aquifer wells in 2018. Water levels remained within the historic range at the North Farmhouse Well in 2018, although water levels were not measured in January, February, April, and May owing to well-head accessibility issues. As in previous years, flowing artesian conditions were recorded in bedrock well TW16-78, located adjacent to Mill Creek at the southwest corner of the property.

The multi-level monitors within the sand and gravel aquifer continued to exhibit the general pattern of upward to neutral gradients, which is consistent with historic trends. Several observations of downward gradients also occurred in 2018, which is also consistent with historic trends. The groundwater temperatures at the multi-level monitors showed a pattern similar to historic trends, with the shallow water temperatures exhibiting the greatest, and the deep temperatures showing the least, seasonal fluctuations. The multi-level monitor temperatures also show a time lag response pattern between the shallow, intermediate and deep profiles, which also is consistent with historic patterns.

Monitors 92-28, 92-29, and 92-32, are located adjacent to Mill Creek, approximately 50 m, 10 m, and 65 m downgradient from the Phase 3 extraction pond, respectively. Monitor 92-32 is located beyond (west of) the on-site berm. In 2017 and 2018, the water levels at each of the three monitors (shallow, intermediate, and deep) at 92-28, 92-29, and 92-32 were lower than the 2016 water levels due to the lower water levels in the Phase 3 pond in 2017 and 2018.

Shallow groundwater monitoring immediately downgradient of the pit ponds show the influence of the ponds on groundwater temperatures, but these temperatures quickly dissipate with distance from the ponds.

There were no exceedances in 2018 of the Action Threshold Values established for the monitoring pairs located adjacent to Mill Creek around the site, with the exception of two exceedances at the OW5-84 to DP5C/CR pair in June. The exceedances are attributed to the observed elevated hydraulic head in the groundwater and hydrogeological variability at this location. Significantly higher upward hydraulic gradients are present at DP5CR compared to DP5C, which results in lower hydraulic head differences between OW5-84 and DP5CR. It is recommended that revised early warning and threshold values be established for the OW5-84 to DP5CR pair, following the collection of a sufficient amount of monitoring data at DP5CR, to better reflect the hydrogeological conditions at DP5CR. The existing OW5-84 to DP5C early warning and threshold values do not appear to be representative of the actual conditions observed at DP5CR. Water levels in the Phase 1 pond, Phase 2 pond, Phase 3 pond, and Phase 4 pond did not exceed their respective low-water level threshold values in 2018.

Lower water levels occurred in the Phase 3 pond in 2017 and 2018 compared to 2016, and are attributed to the presence of the silt barrier between the Phase 3 pond and Phase 4 pond, which reduces the flow of water from the Phase 4 pond into the Phase 3 pond, as designed. Continued monitoring is required to ensure that threshold values related to the Phase 3 pond and threshold pairs downgradient from the pond continue to be maintained. The water levels in the Phase 1 pond and Phase 2 pond were lower in 2018 compared to 2017, and due to the silt barrier, the water levels in the Phase 4 pond were higher in 2018 compared to 2017.

4. Stream Water Quality and Water Temperature

4.1 Surface Water Quality

4.1.1 Surface Water Quality Methods

For this report, water samples were collected on December 7, 2018 at the four surface water sampling stations (SWM1, SWM2, SWM3, SWM4). Station locations were shown on Figure 2.1. Water samples were analyzed for the following parameters:

- pH, conductivity, hardness
- alkalinity: total, carbonate, bicarbonate
- nitrate, nitrite, ammonia
- total phosphorus, orthophosphate
- total organic carbon
- suspended solids
- chloride
- fecal coliform bacteria
- biological oxygen demand, chemical oxygen demand

4.1.2 Surface Water Quality Results

The water quality data for this report are provided in Table 4.1.

In 2018, The fecal coliform count ranged from <10 - 20 CFU/100 mL with no results exceeding the Provincial Water Quality Objective (PWQO) of 100 CFU/100 mL. Historically, one or more sites have had fecal coliform levels exceeding the PWQO. The PWQOs are provided to put water quality results in context and any exceedances in Mill Creek are due to upstream watershed activities and not the extraction operation.

The concentrations of most of the water quality parameters are similar between the upstream (SWM1) and downstream (SWM2) limits of the Mill Creek Property. Chloride and conductivity are typically higher in Galt Creek relative to the other three stations (Table 4.1). This may be due to road salt draining off the Hanlon Expressway into Galt Creek.

Nitrate in the two tributaries can be attributed to agricultural runoff in the watershed. In 2018, the highest nitrate level was observed at SWM3 (Pond Creek) with a value of 4.33 mg/L. The federal water quality guideline for the protection of freshwater biota for long term exposure is 13 mg/L. The Ontario Drinking Water Objective for nitrate is 10mg/L. Nitrite was not analyzed in 2018.Nitrite is traditionally below detection limits in Mill Creek and would not be expected to be present as the nitrite molecule is quickly oxidized to nitrate, therefore, it is not really necessary to analyze for nitrite but it is sometimes routinely included in the analytical package.

Table 4.1 Mill Creek Water Quality December, 2018

	SWM1 Hwy. 401	SWM4 Galt Ck.	SWM3 Pond Ck.	SWM2 (boundary)	PWQO[1]	L0Q[2]
All units are mg/L, unless otherwise indicated.						
pH (units)	8.30	8.27	8.30	8.30	6.5 – 8.5	N/A
Conductivity (μmhos/cm)	700	860	660	750	-	1
Hardness (mg/L as $CaCO_3$)	320	350	350	330	-	1
Alkalinity (Total)	260	270	270	260	-	1
Chloride	59	97	31	73	-	1
Nitrate	0.45	3.50	4.33	1.15	See[3]	0.1
Nitrite	No analysis	No analysis	No analysis	No analysis	<0.1[4]	0.01
Ammonia	0.080	<0.050	<0.050	0.076	1.2 (0.02)[5]	0.05
Orthophosphate	<0.01	<0.01	<0.01	<0.01	-	0.01
Total Phosphorus	<0.020	0.035	<0.020	<0.020	0.03	0.020
Total Organic Carbon	6.4	5.0	2.5	6.0	-	0.2
BOD5	<2	<2	<2	<2	-	2
Chemical Oxygen Demand	15	11	11	13	-	4
Total Suspended Solids	<10	<10	<10	11	-	10
Fecal Coliforms (CFU/100ml)	10	20	<10	<10	100	N/A
Total Coliforms (CFU/100ml)	40	50	120	40	-	N/A

[1] PWQO = Provincial Quality Guideline for the Protection of Aquatic Life (- denotes no guideline)
[2] LOQ = Limit of Quantitation (Reportable Detection Limit)
[3] concentrations that stimulate prolific weed growth should be avoided
[4] federal guideline (CCREM)
[5] value in brackets is calculated un-ionized ammonia at pH 8.0 and 20°C
n/a = not applicable

Total phosphorus was below detection limits at three of the sites, but exceeded the PWQO (0.03 mg/L) at SWM4 with a concentration of 0.035mg/L. Total phosphorous levels have varied in Mill Creek but were generally higher during the 1990's with several measurements above the PWQO. The maximum total phosphorous levels were recorded in 2001 and were 0.12 and 0.19 mg/L at SWM1 and SWM3, respectively. Since the mid 2000's the total phosphorous levels have typically been less than the PWQO of 0.03 mg/L. Phosphorus may be due to agricultural runoff and/or septic systems in the watershed and is unrelated to gravel extraction activities at the Mill Creek pit.

The basic water chemistry of Mill Creek and its tributaries appears relatively unchanged over the past 30 years. In recent years, chloride and conductivity levels seem to be trending upwards. Sampling has been conducted in November and December in recent years. It is likely that road salt has already been applied by this time. In 2017, water quality sampling was undertaken in September prior to the application of road salt and the chloride concentration was slightly lower than 2016 and 2018. (see Section 3.1 in Fisheries Technical App. C).

These data provide a documentation of basic water quality conditions in Mill Creek. The monitoring program is not designed to detect short term changes in surface water quality but rather looks at long term changes from annual water samples.

4.2 Ground Water Quality

4.2.1 Ground Water Quality Methods

In March and November 2018, groundwater samples were collected from Monitors BH1, 92-32-III, and 92-8, and a surface water sample was collected from the Phase 1 pond. Samples were tested in the field for temperature, pH, and conductivity and then submitted to Maxxam Analytics Inc. for chemical analysis. Water samples were analyzed for major cations and anions, alkalinity, conductivity, pH, hardness, and oil and grease.

4.2.2 Groundwater Quality Results

The 2018 chemical results are generally similar to historic values, with some exceptions. Based on the 2018 chemical data, which are provided in Technical Appendix B, the following observations are made.

- Groundwater chemistry at the site for the most part represents natural conditions and parameter levels are generally lower than the Ontario Drinking Water Quality Standards (ODWQS) which are provided for comparison, except as outlined below.
    - BH1 – hardness (March and November)
    - 92-8 – hardness (March and November), manganese (March and November)
    - 92-32-III – hardness (March and November), manganese (March and November), total dissolved solids (November)
    - ODWQS exceedances for hardness, manganese, and total dissolved solids also occurred in 2017.

      Hardness, manganese, and total dissolved solids are not considered to be health-related parameters. The standard for hardness is a guideline, which is established for parameters that need to be controlled to ensure efficient treatment of water supplies. The standards for manganese and total dissolved solids are aesthetic objectives, which are established for parameters that may impair the taste, odour, or colour of water. Hardness and manganese exceedances were observed historically at the property, both before and after extraction commenced. The total dissolved solids concentration was only marginally elevated compared to the standard, and total dissolved solids exceedances have also been previously detected at Monitors 8-I and 92-8. The elevated concentrations of hardness, manganese, and total dissolved solids are attributed to natural conditions at the site.
- Over the short-term, in 2018 the parameter concentrations were generally similar to the 2017 concentrations.
- The concentrations of most parameters have been fluctuating slightly or have been relatively consistent over the long-term. Exceptions are conductivity values (laboratory) at BH1, which have been increasing since 2014; and sodium and chloride concentrations at (a) Monitor BH1, which have increased over the long-term, but which have been stable in recent years, and (b) Monitor BH8-I/92-32-III, which increased in 2009, but have been stable in recent

years. It is noted, however, that the following historically high concentrations were detected in 2018, although they are only marginally higher than previous levels:

  - BH1: sodium 80 mg/L) (November), chloride (160 mg/L) (November), conductivity (laboratory) (900 µS/cm and 920 µS/cm) (March and November), total dissolved solids (485 mg/L) (November)
  - Phase 1 pond: sodium (62 mg/L), magnesium (35 mg/L), chloride (140 mg/L), conductivity (laboratory) (790 µS/cm), total dissolved solids (430 mg/L) (each in November)

- The elevated sodium, chloride, conductivity, and total dissolved solids concentrations may reflect road salting activities along Highway 401 and/or along the Township roads. The magnesium concentration in November was only 1 mg/L higher than the historical high concentration, and is attributed to natural groundwater conditions at the site.
- Historically, and in 2018, with increasing distance downgradient across the site (from Monitor BH1 to 92-8 to BH8/92-32-III), detected parameter concentrations generally tend to either increase or fluctuate. Exceptions include sodium, chloride, potassium (March only), pH and oil and grease (November only), which decreased across the site in 2018.
- Parameter concentrations in the Phase 1 pond are generally similar to values detected at Monitor BH1. The surface water quality complies with the Provincial Water Quality Objectives for the parameters tested in 2018, with the exception of iron (November) and zinc (November). Similar exceedances of PWQOs have occurred in the Phase 1 pond historically.
- Trace concentrations of total oil and grease were detected at Monitors BH1, 92-8, and the Phase 1 pond in November 2018. Similar detections occurred at these locations in April 2015 and March and November 2017, and detections have occurred at various monitors and the Phase 1 pond historically. The detection of an oil and grease concentration at upgradient Monitor BH1 suggests an off-site source.

4.3 Surface Water Temperature

4.3.1 Methods

Water temperatures in Mill Creek were measured with a thermistor within leveloggers installed at SWM1, SWM2, SWM3 and SWM4. Specifically, the loggers are in a 5 cm diameter steel pipe embedded into the stream bed approximately 1 m. Leveloggers rest on a bolt in the pipe and are at the substrate and water interface. Leveloggers were programmed to record water temperature every hour, continuously throughout the year. Temperature data were downloaded concurrently with water level data once per month.

4.3.2 Results

The maximum hourly summer water temperature measured in 2018 was 26.34ºC at SWM1 on July 1 at 16:00 hrs. The highest water temperature ever recorded in the Study Area was 27.9ºC in 2002. Detailed water temperature data are presented in Technical Appendix A.

Annual maximum surface water temperatures observed at each monitoring location are illustrated in Figures 4-1 and 4-2 for the period 1983-2018. Prior to 1997, stream temperatures were collected manually, typically manually between noon and 3:00 pm but maximum temperatures are usually observed after 4:00 pm. Therefore, while water temperatures appear higher in recent years, temperatures prior to 1997 may actually have been greater than those presented in Figure 4-1 and 4-2.

The maximum tolerable temperatures for brown trout and brook trout are 26.8°C and 23.9°C respectively (Raleigh *et al*. 1986; Raleigh 1982). Water temperatures in the main branch of Mill Creek within the study area exceeded the maximum temperature which brook trout can tolerate (23.9ºC) on multiple occasions in 2018 as shown in Figure 4-1. The upper tolerable temperature for brown trout (26.8ºC; Raleigh et al 1986) was not exceeded in 2018.

The maximum temperature in the two tributaries (SWM3 and SWM4) was well below the upper tolerable temperature for either species (Figure 4-2).

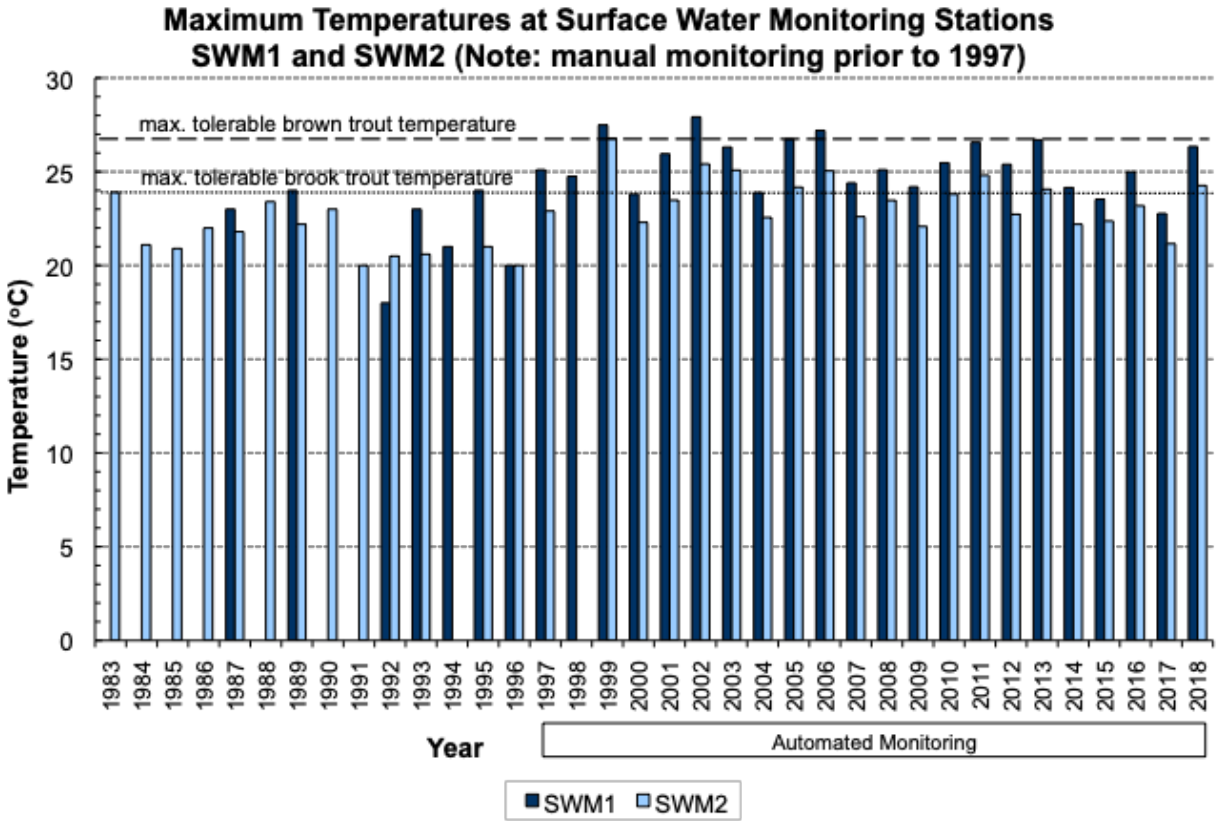


Figure 4-1 Maximum observed mid-summer temperatures at Mill Creek stations SWM1 and SWM2; 1983 to 2018

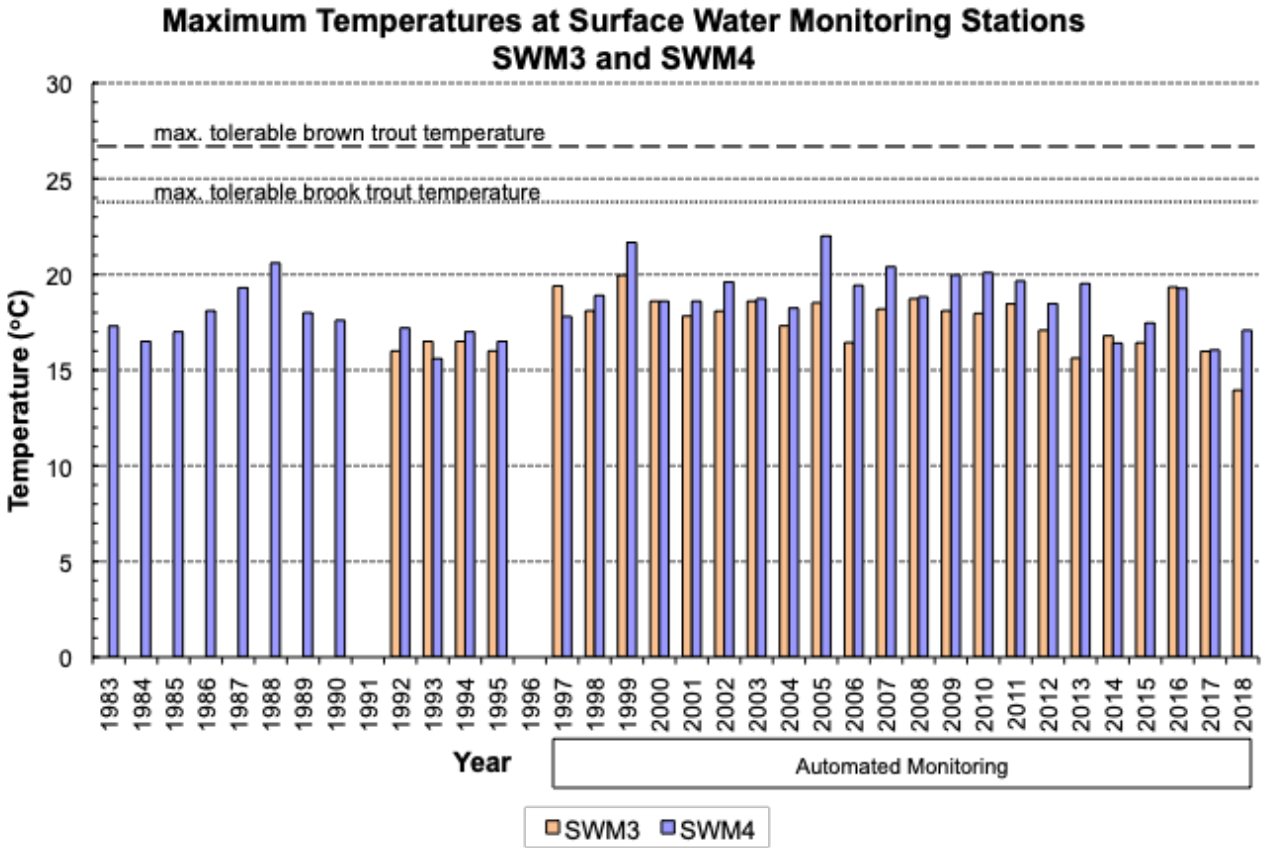


Figure 4-2 Maximum observed mid-summer temperatures at Mill Creek stations SWM3 and SWM4; 1983 to 2018

Stream water temperatures traditionally have been cooler at the downstream SWM2 station compared with SWM1 (Figure 4-3). This trend continued in 2018. When the maximum water temperature occurred at SWM1 (26.34°C July 1 16:00), the temperature at SWM2 was 2.08°C lower. The maximum summer temperature at SWM2 in 2018 was 24.26°C on July 1st. The greatest temperature difference between SWM1 and SWM2 during the summer of 2018 occurred on July 15th at 13:00 hrs when SWM2 was 3.89°C cooler than SWM1.

Surface water temperatures are cooler at SWM2 than SWM1 due to ground water input, inflow of the two coldwater tributaries and good shade from riparian vegetation within the University reach down to Concession Rd. 2. The stream temperature data collected at the surface water monitoring stations provide an excellent method to determine the availability of trout habitat in the Study Area during the summer months.

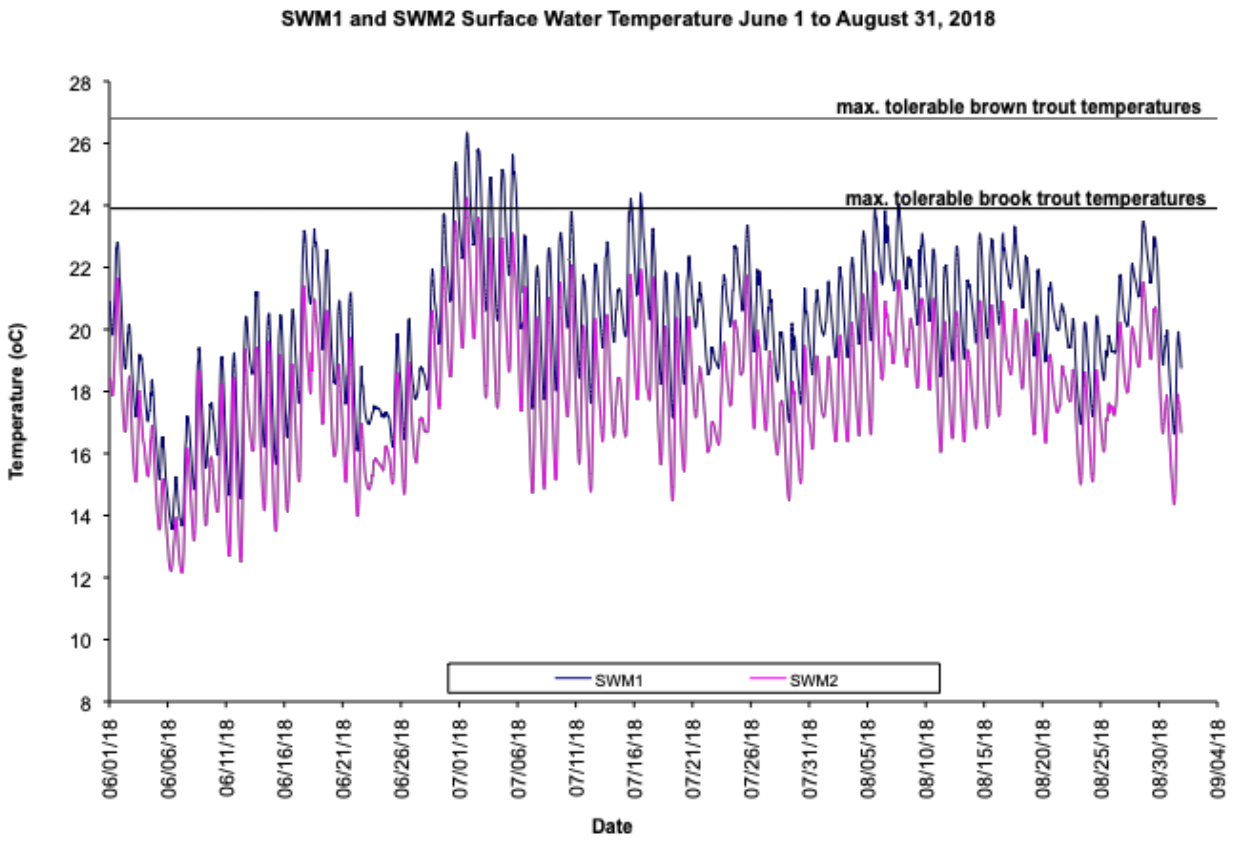


Figure 4-3 Summer thermographs for SWM1 and SWM2 for June 1 to August 31, 2018 (data from Stantec 2019).

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5. Fisheries

5.1 Methods

Monitoring conducted and reported in 2018 as part of the fisheries monitoring program includes the brown trout spawning (redd) surveys. As previously stated, the fisheries electrofishing survey was not conducted in 2018 but is planned to be undertaken again in 2019.

5.1.1 Redd Surveys

The 2018 survey was conducted on December 7th, 2018. The location of each redd was identified by experienced fisheries biologists, who are familiar with the study area. All redds were mapped on large-scale maps and compared to historical data.

5.2 Fisheries Results

5.2.1 Redd Surveys

In 2018, the number of redds in the University of Guelph reach was 43 (Figure 5-1). This is markedly lower than 2017 and a return to numbers from pre-2000.

The number of redds observed in 2018 in the Hanlon reach was 20 (Figure 5-2) which was also much lower than in the preceding 12 years and similar to the number of redds from 1992-2005. The highest number of redds recorded to date in this reach was 107 in 2016 which was also the first time that the number of redds in the Hanlon reach exceeded the number of redds in the University reach.

There could be a number of explanations for the lower redd counts in 2018, however, the most likely cause is the high level of beaver activity on both reaches of the creek. There were many downed trees across the stream and at least 3 beaver dams in the study area that may be restricting trout movement through the system. Additional dams may be present upstream and/or downstream of the study site which could further impede fish movement. In addition to impeding fish migration, the dams change flow patterns, scouring new areas and causing sediment deposition over suitable substrate for spawning. These factors reduce the availability of good spawning habitat. The larger of the dams was constructed directly over an area where many redds have been observed in the past. Due to the dam and clean gravel in the area from scouring, it was impossible to identify redds in this area.

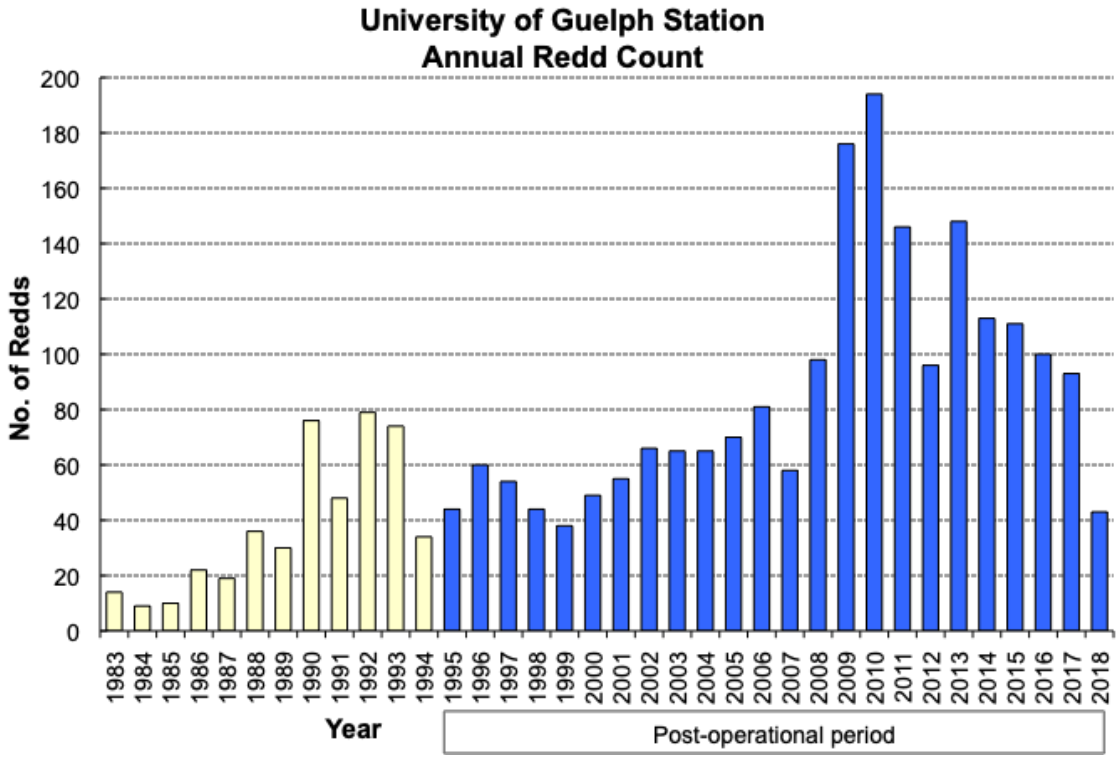

Figure 5-1 Number of brown trout redds in the University of Guelph Station (1983 to 2018)

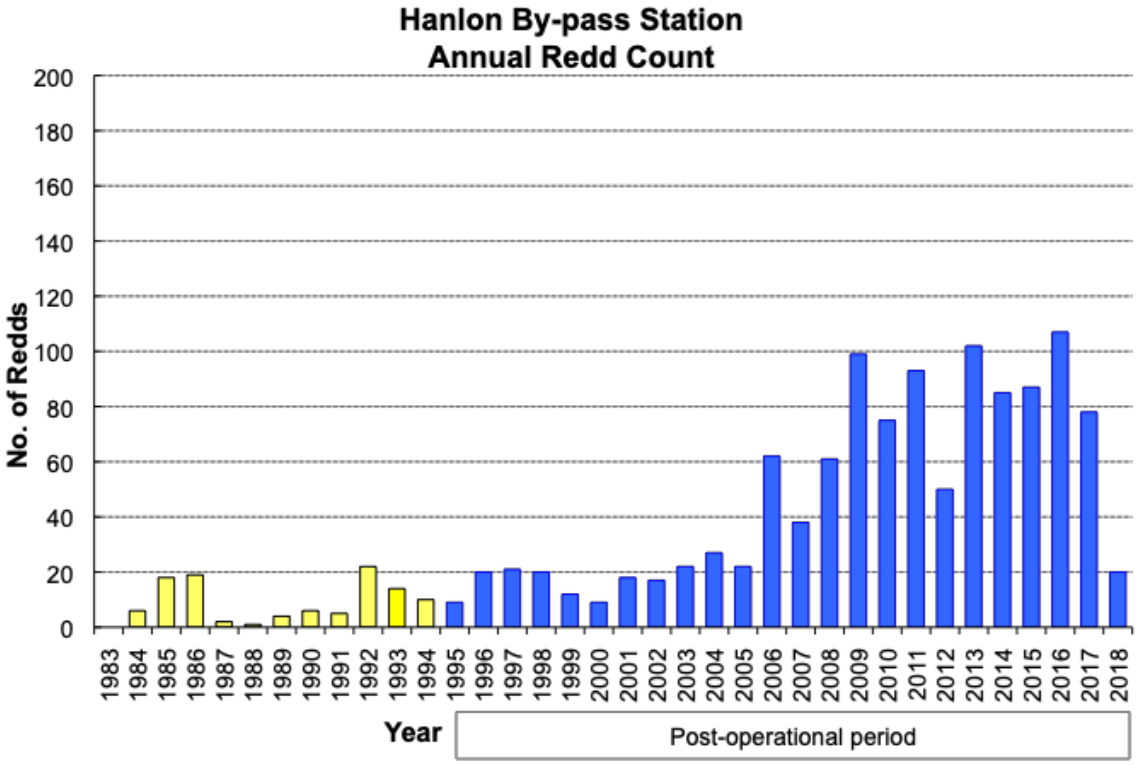

Figure 5-2 Number of brown trout redds in the Hanlon By-pass Station (1983 to 2018)

5.3 Summary of Fisheries Monitoring

The brown trout population survey was not conducted in 2018 as per the approved monitoring program. The electrofishing survey is planned to be conducted in 2019 but it is our understanding at this time that the Ontario Ministry of Environment Conservation and Parks (MECP) may prohibit any in-stream work in 2019 including the electrofishing and redd survey components of the approved monitoring program as a result of the jet fuel spill.

Spawning activity as indicated by the observed number of redds was lower in both the University and Hanlon reaches in 2018 compared to the previous 10 years. However, there has been significant natural fluctuations over the past 3 decades and the number of redds observed in 2018 was more similar to numbers observed from 1984 to 2005.

Beaver activity in the stream made the survey difficult and caused sediment deposition and scouring of the substrate in areas where high concentrations of redds have been observed in past years. Typically, the University reach has higher spawning activity due to better habitat conditions, and this was once again the case in 2018.

It is recommended that the beaver dams be removed in the summer of 2019 by the Stewardship Rangers. However, the ability to remove the beaver dams and conduct in-stream works downstream of the jet fuel spill will be dependant upon approval from MECP.

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6. Summary

Hydrology and Climate

In 2018, the mean monthly air temperature was lower than the 30-year average in January, April and November and higher than the 30-year normal in February, May, June, July, August, September and December. Mean monthly air temperature was similar to the 30-year normal in March, and October.

In 2018, total monthly precipitation was greater than the 30-year average in seven of twelve months. Total precipitation in 2018 was 1042 mm, which is 12 % greater than the 30-year norm of 925 mm.

In 2018, the maximum daily average flow at SWM2 was estimated to be 5.44 m^3/s which occurred on February 21, 2018. This flow rate occurred after approximately 32 mm of precipitation and warm temperatures of 13-16 ^oC which would have resulted in snow melt. Flow at SWM1 during the same peak event was estimated at 3.04 m^3/s.

Minimum and maximum flow rates in 2018 were within historical ranges.

The 7-day low flow at SWM2 (0.267 m^3/s) occurred from July 15 to July 21 and was above the historical average which may be related to slightly higher than average precipitation in 2018.

Hydrogeology

Monitoring results adjacent to the pond in Phase 1 indicate an effect on the pond levels and local groundwater levels resulting from seasonal climatic variation, the pumping of water from the pond for aggregate processing, and the recirculation discharge of clean water from the active silt pond (silt pond SP3/Phase 4 pond in 2018) back into the Phase 1 pond. The presence of the silt barrier between the Phase 3 and Phase 4 ponds helps to sustain a higher pond level in Phase 4 (relative to the Phase 3 pond) which results in the need to recirculate this additional volume of water back into Phase 1 pond. These calculations allowed for 5% water loss (water retained in the washed product stockpiles and evaporation loss) during aggregate processing.

There were no exceedances in 2018 of the Action Threshold Values established for the monitoring pairs located adjacent to Mill Creek around the site, with the exception of two exceedances at the OW5-84 to DP5C/CR pair in June. The exceedances are attributed to the observed elevated hydraulic head in the groundwater and hydrogeological variability at this location. Significantly higher upward hydraulic gradients are present at DP5CR compared to DP5C, which results in lower hydraulic head differences between OW5-84 and DP5CR. It is recommended that revised early warning and threshold values be established for the OW5-84 to DP5CR pair, following the collection of a sufficient amount of monitoring data at DP5CR, to better reflect the hydrogeological conditions at DP5CR. The existing OW5-84 to DP5C early warning and threshold values do not appear to be representative of the actual conditions observed at DP5CR.

Water levels in the Phase 1 pond, Phase 2 pond, Phase 3 pond, and Phase 4 pond remained within their respective low-water level threshold values in 2018.

The decrease in groundwater levels in monitors adjacent to the western limit of the Phase 3 pond in 2017 and 2018 are attributed to the decrease in water levels in the Phase 3 pond in 2017 and 2018. The lower water levels in the Phase 3 pond indicate that the silt

barrier is functioning as designed. Continued monitoring, however, is required to ensure that threshold values related to the Phase 3 pond and threshold pairs downgradient from the pond continue to be maintained.

The estimated groundwater contribution from the Mill Creek Aggregates Pit property located north of Township Road 2 was marginally higher in 2018 compared to the historic average, and was similar to the 2017 value.

Shallow groundwater temperatures near the Phase 1 and 3 ponds were elevated relative to pre-extraction conditions; however, the groundwater temperature dissipates quickly with distance away from the ponds.

The hydraulic gradient of the three drive points north of Highway 401 (DP18, DP19, and DP20) displayed upward vertical gradients (discharge) for most of 2018, with the exception of downward gradients at DP19 from September to December 2018. Downward gradients are often observed historically at DP19.

Groundwater discharge continues to provide a relatively constant base flow component to Mill Creek, from Highway 401 downstream to Concession Road 2, resulting in a cooling influence on creek temperatures during the warm and dry summer months, and a warming influence during the late fall, winter, and early spring period.

Water Quality and Water Temperature

Surface water and groundwater quality is generally similar to those reported historically with some fluctuations observed. Concentrations of some inorganic parameters (e.g. manganese) are naturally elevated in groundwater in the region. The effects of road salting on sodium and chloride levels are also evident in both the groundwater and surface water of Mill Creek.

Surface water temperatures did not exceed the maximum temperature tolerable for brown trout at any of the monitoring stations in 2018, although the maximum tolerable temperature for brook trout was exceeded on multiple occasions at SWM1 and on one occasion at SWM2.

Fisheries

The next brown trout population survey is proposed for the fall of 2019 but will be dependant upon approval from MECP due to possible residual presence of jet fuel in Mill Creek.

Spawning activity as indicated by the observed number of redds was lower in both the University and Hanlon reaches in 2018 than in previous years. Beaver activity made the survey difficult and altered areas where high concentrations of redds have been found in past years. The presence of beaver dams and numerous downed trees may have restricted trout movement and reduced the availability of prime spawning habitat. There is no reason to believe the lower trout spawning activity was linked to aggregate extraction.

There has been no consistent reduction in any biological or habitat variable that would suggest that any negative impact has occurred on fisheries production or fisheries habitat. Therefore, Dufferin Aggregates and the University of Guelph continue to be in compliance with Licence Condition #23, which states there must be no “net loss of the productive capacity of fish habitat in Mill Creek or its tributaries."

7. Threshold and Required Actions

7.1 Thresholds

The action thresholds for the threshold pairs/locations, as proposed in the Monitoring Program, are presented in Table 3.2.

7.2 Action Response for Ground Water Threshold Pairs

Early Warning Value Exceedance

Included in Table 3.2 is a summary of the early warning head difference values at each threshold pair. In the event of an exceedance of an early warning value, the following internal response protocol would be followed.

- Verify the water level data at the subject monitor pair within two days.
- If the head difference is confirmed to be less than the early warning value, the monitoring frequency will be increased to twice per week in the general vicinity of the monitoring pair.
- Concurrent with the intensified monitoring frequency, the extraction and processing operations will be reviewed with Dufferin Aggregates to determine if there is an obvious cause for the decline in head difference between the monitors. If such a cause is identified, it will be rectified as quickly as possible.
- Monitoring will continue at the intensified frequency to establish a trend in the water levels, and to determine the cause of the problem (e.g. low stream flow upstream of the threshold pair, high rate of extraction, interruption of pumping cycle, abnormally dry season, etc.), and the degree of impact likely to ensue from an exceedance of the threshold. Groundwater discharge gradient conditions at the drive point monitors will be reviewed as part of the assessment.

In the event that the trend in the water levels indicates that the threshold value could be exceeded, Dufferin Aggregates will prepare and, if necessary, implement mitigation measures to prevent an exceedance of the threshold. Potential mitigation measures include the following.

- Relocation of extraction operations to another phase.
- Recharge injection wells or trench.
- Ground water barrier wall (silt pond extensions).
- Pumping water from one of the on-site ponds to flood a particular area.
- Suspend extraction activities.
- Develop a ground water source in the bedrock aquifer.
- Divert a portion of the peak flows from Mill Creek into the on-site pond(s) to raise water levels. This approach is to be reviewed with agency staff to determine if it is feasible/appropriate.

Some mitigation measures will require approval by MNRF by way of an amendment to the site plans.

MNRF will be contacted prior to the implementation of any additional mitigation measures. The initial results of the mitigation will be documented and submitted to MNRF within one month of implementation. Any additional actions that may be required will be agreed to with MNRF at that time.

Groundwater Threshold Exceedance

In the event that mitigation measures are not successful while extraction is occurring, and a threshold is exceeded for more than seven consecutive days, then below water table extraction will cease at that location and not begin again until that threshold shows recovery for seven consecutive days. Dufferin Aggregates will notify MNRF immediately if a threshold has been exceeded for more than seven consecutive days.

7.3 Pond Level Thresholds

Low-water level threshold values and early warning values have been established for the Phase 1, Phase 2, Phase 3, and Phase 4 extraction ponds, as well as silt pond SP3, to ensure that water levels do not become so low that groundwater discharge to Mill Creek would be affected. The threshold values and early warning values are presented in Table 3.2.

8. Monitoring Programs and Recommendations

Surface Water Monitoring

- Manual flow measurement should continue to be recorded throughout 2018 to maintain and update rating curves;
- Automatic water level measurements should continue at SWM1 and SWM, and
- Automatic surface water temperature measurements should continue at SWM1, 2, 3 and 4.

Groundwater Monitoring

- Groundwater monitoring will continue at the established stations,
- An additional data logger was installed at monitor 92-33 in March 2019 at the same depth as the existing shallow logger (the deeper of the two loggers at this monitor) to confirm that the temperature sensor on the existing logger is functioning properly,
- Revised early warning and threshold values should be established for the OW5-84 to DP5CR pair, following the collection of a sufficient amount of monitoring data at DP5CR, to reflect the hydrogeological conditions at DP5CR. The existing OW5-84 to DP5C early warning and threshold values do not appear to be representative of the actual conditions observed at DP5CR,
- It should be proposed to the MNRF that the Phase 4 pond threshold values be applied to silt pond SP3,
- Monitor 92-1 be replaced.

Fisheries Monitoring

- The brown trout population estimate now takes place every other year as per the approved monitoring program. The electrofishing survey is planned for the fall of 2019 but is dependant upon approval from MECP due to possible presence of jet fuel in Mill Creek,
- The annual redd survey is proposed to continue in 2019 on two separate days,
- Surface water quality data will continue to be collected once in the fall, as in past years. A second water sampling event during the summer should be considered to determine if there are seasonal changes in the water quality,
- Increased beaver activity was a problem in 2018 impacting the redd survey efficacy and results. It is recommended that the beaver dams be removed by the Stewardship Rangers in the summer 2019 dependant upon MECP approval, and
- If the electrofishing and redd surveys proceed in 2019 interpretation of the monitoring results will take into account possible biological impacts from the third party jet spill that occurred in January, 2019.

9. References

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Technical Appendix A of the Mill Creek Coordinated Monitoring Report: 2018 Surface Water Monitoring Report

FINAL REPORT

March 28, 2019
File: 160960548

Prepared for:

Dufferin Aggregates, a division of CRH Canada Group Inc.

Prepared by:

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Guelph, ON N1G 4P5
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TECHNICAL APPENDIX A OF THE MILL CREEK COORDINATED MONITORING REPORT: 2018 SURFACE WATER MONITORING REPORT

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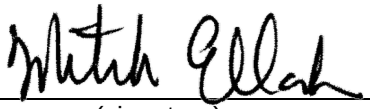
Prepared by 
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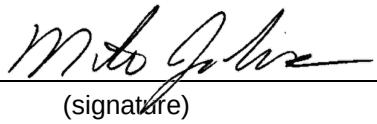
Reviewed by 
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Senior Aquatic Technologist

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Foreword

This report is a Technical Appendix of the 2018 Mill Creek Coordinated Monitoring Report, providing data and discussions regarding the routine Surface Water Monitoring Program for the Mill Creek Pit operated by Dufferin Aggregates on property owned by the University of Guelph. The results in this Appendix cover the period of January 1, 2018 to December 31, 2018. Monitoring data for hydrogeology and fisheries are provided in separate Technical Appendices and are integrated into the main body of the Coordinated Monitoring Report (see below).

The annual environmental monitoring requirements for the Mill Creek Pit operation include the preparation of the Mill Creek Coordinated Monitoring Report (prepared by LRG Environmental) which integrates and summarizes the three monitoring components provided in the following Technical Appendices:

- Technical Appendix A - Hydrology (prepared by Stantec Consulting Ltd.)
- Technical Appendix B - Hydrogeology (prepared by WSP)
- Technical Appendix C - Fisheries (prepared by LRG Environmental)

1.0 INTRODUCTION

Dufferin Aggregates operates the Mill Creek Pit in Puslinch Township, Wellington County. The following report describes the twenty-fifth year of surface water monitoring activities for the Mill Creek operation. The monitoring program documents stream flow characteristics in Mill Creek, describing base flow and precipitation runoff variations. This report forms Technical Appendix A (Mill Creek Surface Water Monitoring Program) of the Coordinated Monitoring Report. Monitoring results are presented for the period of January 1, 2018 through December 31, 2018, with comparisons to long term trends.

Operating License Number P726077, was issued to Dufferin Aggregates under the *Aggregate Resources Act* in 1991. The Mill Creek Surface Water Monitoring Program fulfills operating license conditions 21(a), 21(c), 23 and 25. An overview and discussion of the 2018 Surface Water Monitoring Program are provided in this report, with detailed data provided in sub-appendices.

2.0 METHODS

2.1 WEATHER MONITORING

2.1.1 Precipitation

Precipitation data were obtained from the Grand River Conservation Authority (GRCA) climate station at Shade's Mills Conservation Area (Cambridge, Ontario). These data were used for the examination of relationships between precipitation and stream discharge for the 2018 monitoring period. Total daily precipitation was plotted with stream discharge to demonstrate how precipitation events affected stream discharge throughout the year.

2.1.2 Air Temperature

Air temperature was logged at two locations in the Study Area (Figure 1) using a Solinst™ Barologger (barologger), which recorded air temperature hourly. The data were downloaded monthly. Climate data from the GRCA at Shade's Mills Conservation Area were used to verify air temperature data collected by on-site data loggers, as well as to identify long term climatic trend influences on Mill Creek discharge.

2.2 MILL CREEK DISCHARGE MONITORING

2.2.1 Study Overview

Four monitoring stations (SWM1, SWM2, SWM3 and SWM4) were established on the Mill Creek Pit Property in 1993 (Figure 1). Water level was monitored at SWM1 and SWM2 continually from 1993 through 2018 (with an adjustment to the location of SWM2 as discussed below). In 2013, water level monitoring was discontinued at SWM3 and SWM4, based on a request from Dufferin Aggregates and approval by the Ministry of Natural Resources and Forestry (MNRF).

Station SWM2 was originally located on the north side of Concession Road 2. In 2012, the station was moved approximately 40 m downstream, to the south side of Concession Road 2 due to property access issues. A new rating curve was required for this location; however, it was assumed that the flow estimates from the relocated SWM2 monitoring station were directly comparable to the data collected from the former SWM2 location. The assumption was based on proximity of the stations and the absence of inflowing tributaries between the two locations.

565750 566000 566250 566500 566750 567000 567250 567500 567750

4811000 4810750 4810500 4810250 4810000 4809750

Highway 6

Sideroad 20 North

Galt Creek

Highway 401

SWM 1

Air Temperature Station 1

Pond Creek

SWM 4

Mill Creek

SWM 3

Air Temperature Station 2

Concession Road 2

Mill Creek

Concession 2

SWM 2

Sideroad 20 South

N

Stantec

Legend

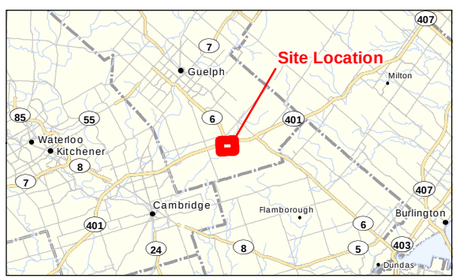
- Mill Creek Pit Property Limits (Study Area)
- Air Temperature Monitoring Station
- Surface Water Monitoring (SWM) Station
- Flow Direction
- Watercourse

0 200 400 metres

1:7,000 (At original document size of 11x17)

Notes

1. Coordinate System: NAD 1983 UTM Zone 17N
2. Base features produced under license with the Ontario Ministry of Natural Resources and Forestry © Queen's Printer for Ontario, 2017.
3. Orthoimagery provided by © Dufferin Aggregates, 2017. Imagery taken in 2017.



Project Location
Wellington County

160960549 REVA
Prepared by PW on 2018-03-23

Client/Project
DUFFERIN AGGREGATES
MILL CREEK SURFACE WATER MONITORING PROGRAM

Figure No.
1

Title
Location of Surface Water and Air Temperature Monitoring Stations at Dufferin Aggregates Mill Creek Pit Property

V:\01609\active\160960549\graphics\GIS\MXD\Report_Figures\SurfaceWaterMonitoringReport\160960549_Fig_1_Surface_Water_Monitoring_Stations_20180323.mxd Revised: 2018-03-23 By: dhavsey

2.2.2 Water Level Data Collection

Solinst™ Leveloggers (leveloggers) at SWM1 and SWM2 recorded water level at 60-minute intervals for the duration of 2018. The water level data from these leveloggers were used to estimate stream discharge using rating curves.

The leveloggers are located inside a two-inch (5 cm) diameter steel pipe, which is embedded in the stream bed to a depth of approximately 1 m. The pipe is perforated above the stream bed to allow pressure equalization. The pipe is installed such that the top of the pipe is below the low water mark, so the pipe remains submerged. This style of installation requires removal and re-insertion of the logger and reduces the potential for tampering and vandalism due to the low-profile nature of the equipment. The levelogger rests on a stainless-steel bolt inserted through the pipe, at the approximate elevation of the stream bed.

Water level data require correction by subtracting atmospheric pressure from the water level data recorded by the leveloggers. Atmospheric pressure data were recorded by a barologger located at Air Temperature Station 1. Air pressure was recorded hourly and the data were synchronized with the water level data. A second on-site barologger (Air Temperature Station 2) was maintained as a back-up data system and for quality assurance.

2.2.3 Manual Stream Flow Measurements

Since stream stage and flows are dynamic, rating curves for SWM1 and SWM2 are continually updated to improve accuracy with respect to the discharge calculations. As more points (i.e., manual flow measurements) are obtained under a wide variety of flow conditions, the accuracy of the calculated discharge estimations improves. In 2018, manual flow measurements at SWM1 and SWM2 were collected on the following dates, covering a range of seasonal and flow conditions:

- January 12
- February 9(excluding SWM1 due to ice cover on the water surface during field visit)
- March 1
- April 4
- May 10
- June 18
- July 6
- August 9
- September 13

- October 30
- November 21

Stream flows were measured manually along an established stream transect at SWM1 and SWM2. A cross-sectional profile of the wetted channel was established, and the profile was divided into 10 to 12 vertical panels of equal width. The number of panels was dependent on stream width (stream width divided by 10). The depth of each panel was measured, and velocity measurements were collected in each panel using a portable velocity meter (HACH FH950). The velocity meter was programmed to record an average velocity in m/s over a 15-second period.

Where water depth was 50 cm or less, water velocity was measured at 0.6 of the total depth from the surface. Where water depth was greater than 50 cm, water velocity was measured at 0.2, 0.6 and 0.8 of the total depth. To calculate stream discharge, the cross-sectional area of each panel (depth x panel width) was multiplied by the water velocity through the panel. Mean velocity of each depth (0.2, 0.6 and 0.8) was used, where multiple velocities were recorded in a panel. Total stream discharge was then calculated as the sum of each panel discharge. The following provides the formula used to calculate discharge (Q) and is expressed in m^3/second:

Q = the sum of q_i

q_i = panel width (m) x panel depth (m) x water velocity (m/s)

The variability of stream discharge measurement using this method was evaluated in previous monitoring years by replicating discharge measurements at the same location immediately after the original measurement. The observed variation due to method accuracy was +/- 15%.

2.2.4 Rating Curve Development

Rating curves were developed for SWM1 and SWM2 using measured stream discharge and water level data recorded by leveloggers at the time of the measurement. Logged depth versus discharge was plotted for each station to obtain the rating curves. Equations derived from these rating curves were used to convert the continuous logger readings (depth) to an estimate of stream discharge (m^3/second).

The SWM1 and SWM2 rating curves include the data collected from 2010 to 2018 and 2014 to 2018, respectively. Flow measurement data collected prior to 2014 were not suitable for use in the SWM2 rating curve due to a change in data loggers at this monitoring station.

2.3 MILL CREEK TEMPERATURE MONITORING

Leveloggers at SWM1 and SWM2 also recorded water temperature. Water temperature data at SWM3 and SWM4 was also recorded with leveloggers. Leveloggers were programmed to record water temperature every hour, continuously throughout the year. Temperature data were downloaded concurrently with water level data once per month.

2.4 DATA ANALYSIS

Collected data were stored electronically and analyzed with MS Excel. For the interpretation of data, summary statistics were calculated where applicable including maximum, minimum, mean and sum. Data analysis using Excel also included calculating the yearly and summer 7-day low flow value.

Regression analysis was used to test the relationship between summer 7-day low flow values from 2000 to 2018 and two climate variables: mean summer air temperature (calculated as the mean of the daily mean temperatures through the summer season) and total summer precipitation. Regression analysis can identify potential relationships between the predictor variable (climate related variables) and the response variable (7-day low flow). Regression analysis includes calculating the P-value. A P-value of < 0.05 is indicative of a statistically significant relationship between variables.

Prior to the comparison of historical summer flow data (Section 3.2.7), the distribution of the data from 2003 to 2018 were tested for normality. Data were inspected using visual diagnostic tools, such as histograms and box plots, to diagnose deviations from normality. The data were not normally distributed; therefore, it was log-transformed (natural-log transformations) to provide clearer data representations and facilitate interpretation.

3.0 RESULTS

3.1 WEATHER MONITORING

3.1.1 Air Temperature

Air temperature data recorded at the GRCA Shade's Mills climate station and at the two air temperature monitoring stations in the Study Area are provided in Sub-Appendix A-1. Temperature data recorded in the Study Area and at the GRCA station were similar. For this report, GRCA air temperature data are reported and used in tables and figures. February, May, July, August, September and December had temperatures higher than the 30-year normal for those months, while other months had temperatures similar to or below the 30-year normal (Figure 2).

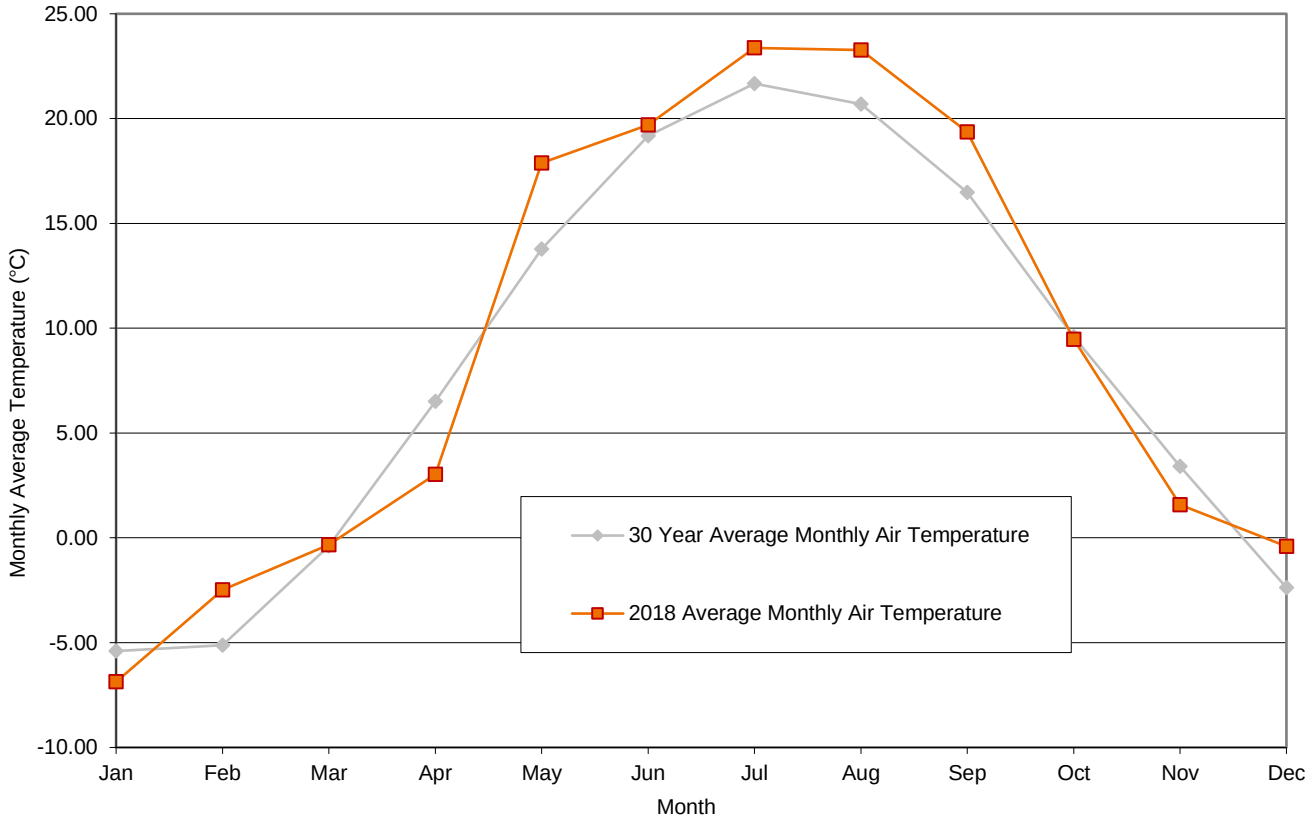


Figure 2: 2018 Monthly Air Temperatures Recorded at Shade's Mills Climate Station Compared to the 30-Year Normal (GRCA data)

3.1.2 Precipitation

Graphs of total daily precipitation in 2018 are presented in Sub-Appendix A-1. Relationships between stream flow and precipitation are discussed in Section 3.2.5 of this report. Relationships between stream flow and long-term precipitation trends are discussed in Section 3.2.6.

3.2 MILL CREEK DISCHARGE MONITORING

3.2.1 2018 Rating Curves

Data used for the SWM1 and SWM2 rating curves are presented in Sub-Appendix A-2.

Formulas for rating curves used to estimate flow rates for the 2018 water level data are shown in Table 1. Table 1 also includes the correlation (r^2 value) between water level and estimated flow for the rating curves. The possible range of r^2 values is between 0 and 1, with a higher value indicating a good relationship between logger depth and stream flow. The correlation between water level and estimated flow is considered good for both stations. The rating curves for SWM1 and SWM2 are provided in Figure 3 and Figure 4, respectively.

Table 1: Rating Curve Formulas Used to Estimate Stream Discharge for the 2018 Water Level Data

SWM1	SWM2
$y = 0.0496\ e^{5.5705x}$ $r^2 = 0.6857$	$y = 0.0718e^{4.9594x}$ $r^2 = 0.7804$
n = 83	n =50

SWM1

SWM1 is the upstream monitoring station in the Mill Creek Pit Property Study Area. Among the 83 rating curve points for this station, water levels at the time of manual flow measurement ranged from 0.17 m to 0.58 m above the logger sensor. Within this 0.41 m difference in water level, flow measurement varied from 0.072 m^3/s to 1.2 m^3/s. As illustrated in the rating curve for station SWM1 (Figure 3), the r^2 value of 0.6857 suggests there is a good relationship between depth and flow at this station.

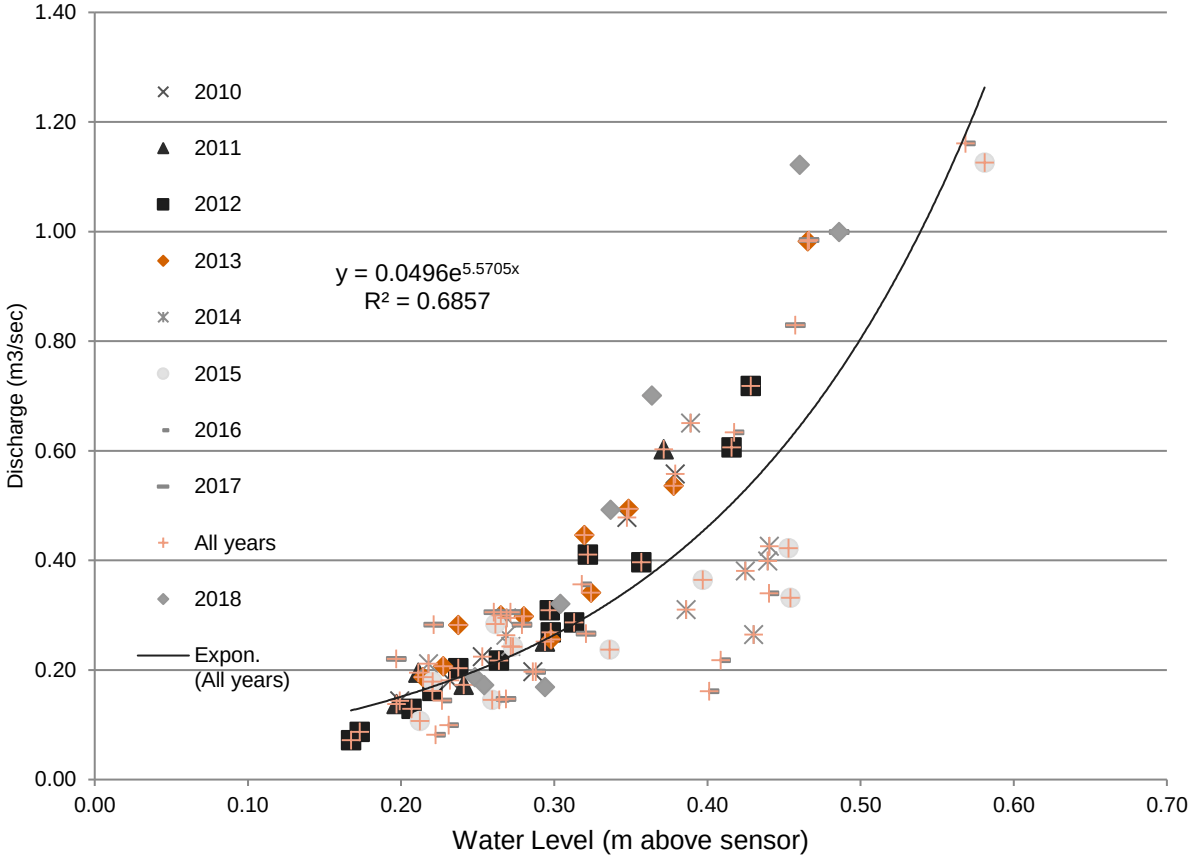


Figure 3: SWM1 Rating Curve

SWM2

SWM2 is located downstream of the Mill Creek Pit Property Study Area. SWM2 is representative of flow contributions entering the watercourse downstream of SWM1.

Among the 50 rating curve points for this station, water levels at the time of manual flow measurement ranged from 0.21 m to 0.63 m above the logger sensor. Within this 0.42 m difference in water level, flow measurement varied from 0.17 m^3/s to 1.7 m^3/s. As illustrated in the rating curve for monitoring station SWM2 (Figure 4), the r^2 value of 0.7804 indicates there is a good relationship between depth and flow at this station.

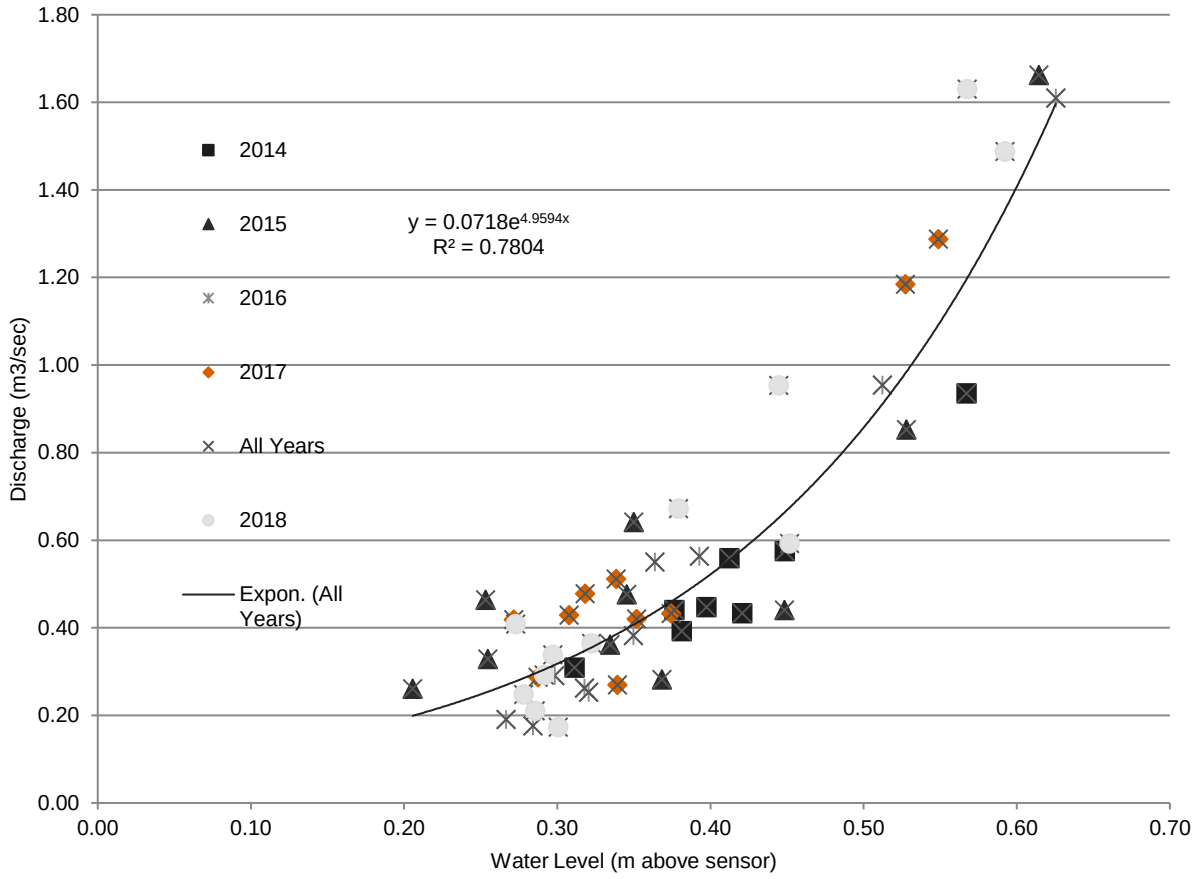


Figure 4: SWM2 Rating Curve

3.2.3 Quality Assurance and Quality Control of the Data

Manual flow measurements and logged water level data for each station were plotted to identify potential outliers in the dataset. Data that were erroneous were removed from the dataset, such as unexplained or anomalous increases or decreases in water level. This can occur when leveloggers record readings while a download is in progress, or during maintenance.

Water level data were successfully collected from SWM1 and SWM2 every 60 minutes over the 2018 calendar year. In total (both stations), 98.85 % of the 17,520 hourly water level measurements were successfully recorded and downloaded in 2018.

Water temperature was logged successfully every 60 minutes over the 2018 calendar year at all four stations (SWM1, SWM2, SWM3, and SWM4). With all stations combined, 99.28 % of 35,040 hourly temperature measurements were successfully recorded and downloaded.

Air temperature was logged successfully from Air Temperature 1 and Air Temperature 2 every 60 minutes over the 2018 calendar year. In total (both stations), 99.7 % of the 17,520 hourly air temperature measurements were successfully recorded and downloaded in 2018.

3.2.4 Mill Creek 2018 Discharge Trends

Stream discharge is well correlated with precipitation events and periods of snow melt. Table 2 summarizes the minimum and maximum calculated instantaneous stream discharge at stations SWM1 and SWM2, and the dates when these discharges occurred.

In 2018, minimum and maximum flows at SWM1 and SWM2 were within the historical range (as estimated from rating curves) observed since 2000. The 2018 minimum and maximum instantaneous flow rates at SWM2 were 0.182 and 7.11 m^3/sec, respectively (Table 2).

The estimate of minimum flows is expected to represent actual conditions more accurately than maximum flows, because low flow water levels are within (or close to) the range of flows measured to develop the rating curve. Higher flow rates (i.e., calculated discharges above the maximum measured stream flow) should be interpreted with caution because high flow water levels are above the range of flows measured to develop the rating curve. For example, looking at Figure 3, the maximum measured discharge used to develop the rating curve for SWM1 was 1.16 m^3/s but Figure 5 shows several flow events that were greater than 1.16 m^3/s. Likewise, looking at Figure 4, the maximum measured discharge used to develop the rating curve for SWM2 was 1.66 m3/s but Figure 6 shows several flow events that were greater than 1.66 m^3/s. The accuracy of the flow estimates generated by the rating curves likely decrease with higher flow levels.

Table 2: Calculated Minimum and Maximum Instantaneous Stream Discharge Recorded at SWM1 and SWM2 in 2018

	SWM1		SWM2	
	Discharge (m3/s)	**Date**	**Discharge (m3/s)**	**Date**
Minimum Stream Discharge	0.084	6-Jan	0.182	8-Feb
Maximum Stream Discharge	3.73	21-Feb	7.11	20-Feb

Instantaneous (calculated hourly) flows at SWM1 and SWM2 in 2018 are presented in Figure 5. The estimated flows in Figure 5 represent hourly measurements, which differ slightly from the daily average flows illustrated in Figure 6 and Figure 7. Weather conditions associated with the maximum flows in February are discussed below in Section 3.2.5. Detailed monthly hydrographs are plotted for stations SWM1 and SWM2 in Sub-Appendix A-3. Due to levelogger maintenance at SWM1 from January 12 to January 18, flow could not be calculated for these dates (Sub-Appendix A-3).

Over most of the year and through the summer low flow period, flow at SWM2 is greater than and proportional to flow at SWM1(Figure 5). From mid-October through December 2018 however, calculated flow at SWM1 is higher than the calculated flow at SWM2. In October 2018, a beaver constructed a dam downstream of SWM1, which affected water levels and the subsequent calculated flows at this station during this period. Since the flow estimate is based on water level, and the beaver activity increased water levels at SWM1, the beaver dam resulted in an over-estimate of flow at SWM1. Calculated stream flow at SWM1 from mid- October to the end of December is therefore not reflective of actual stream flow. The objectives of the monitoring program were not compromised because the disruption to flow characteristics at SWM1 did not occur during a period of low (base) flow, as evidenced by the calculated flows at SWM2.

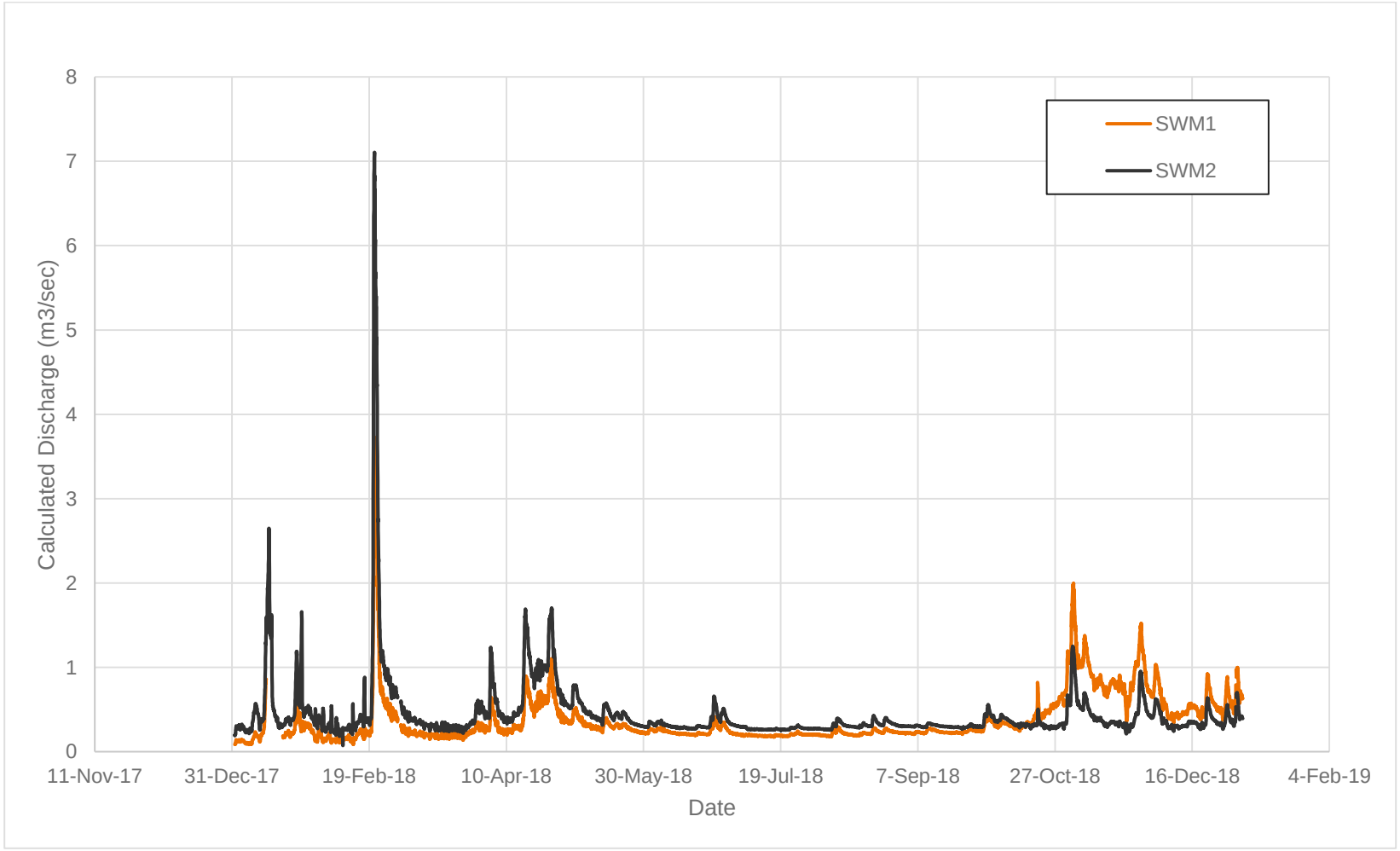


Figure 5: Calculated Hourly Stream Discharge at SWM1 and SWM2 in 2018

3.2.5 Effects of Precipitation on Mill Creek Discharge in 2018

Precipitation events recorded at the GRCA's Shade's Mills climate station are illustrated with calculated average daily stream discharge at SWM1 and SWM2 in Figure 6 and Figure 7. Plotting rainfall data with flow data shows that stream flow generally responds to precipitation. Specifically, increased flows were observed shortly after precipitation events. Rainfall events did not always result in increases in discharge in the drier months, which may be attributable to factors such as higher soil infiltration, and/or the nature of isolated rainfall events that may occur in specific locations within the watershed.

The estimated maximum daily average flow at SWM2 was 5.44 m^3/s, which occurred on February 21, 2018 (Figure 7). This flow rate occurred after approximately 32.0 mm of rain and air temperatures of 13.0-16.0 ° C between February 20 and February 21, 2018. In addition to the precipitation, melting snow likely contributed to the high flow event on February 21. Maximum daily average flow at SWM1 during the same peak event was estimated at 3.04 m^3/s (Figure 6).

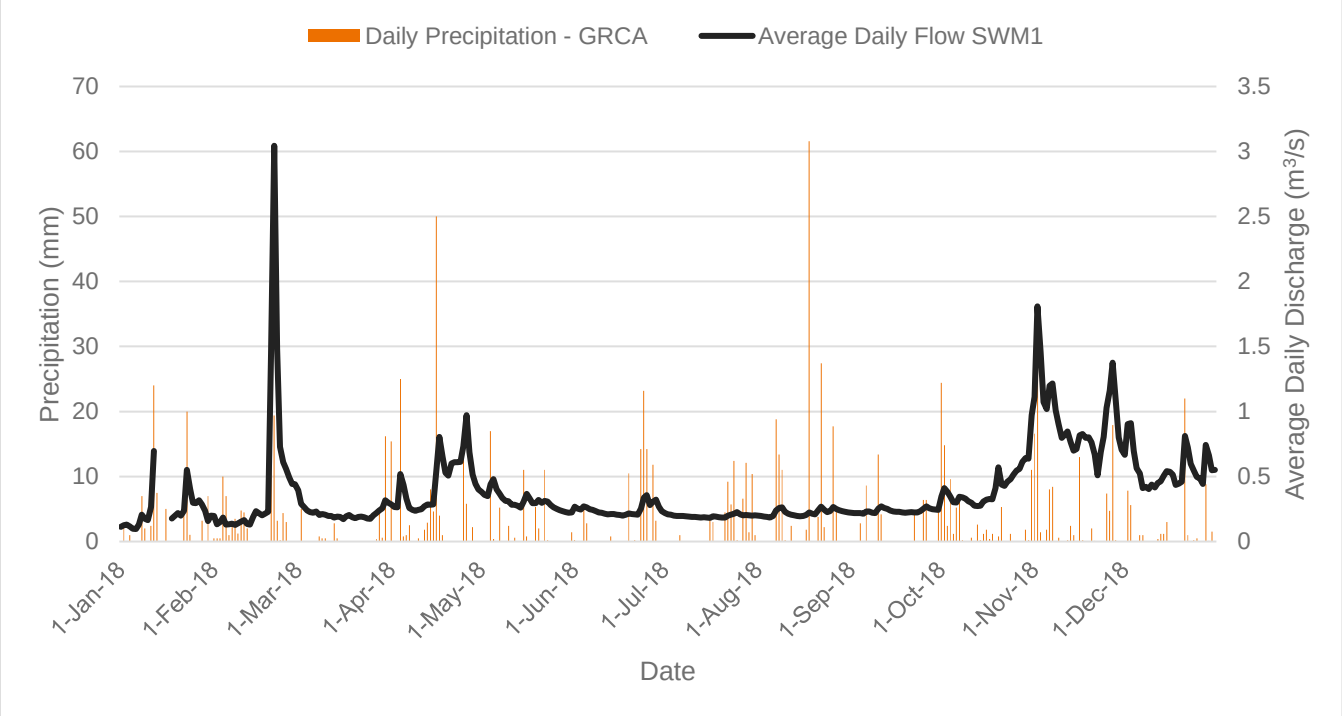


Figure 6: SWM1 Daily Average Flow and Daily Precipitation in 2018

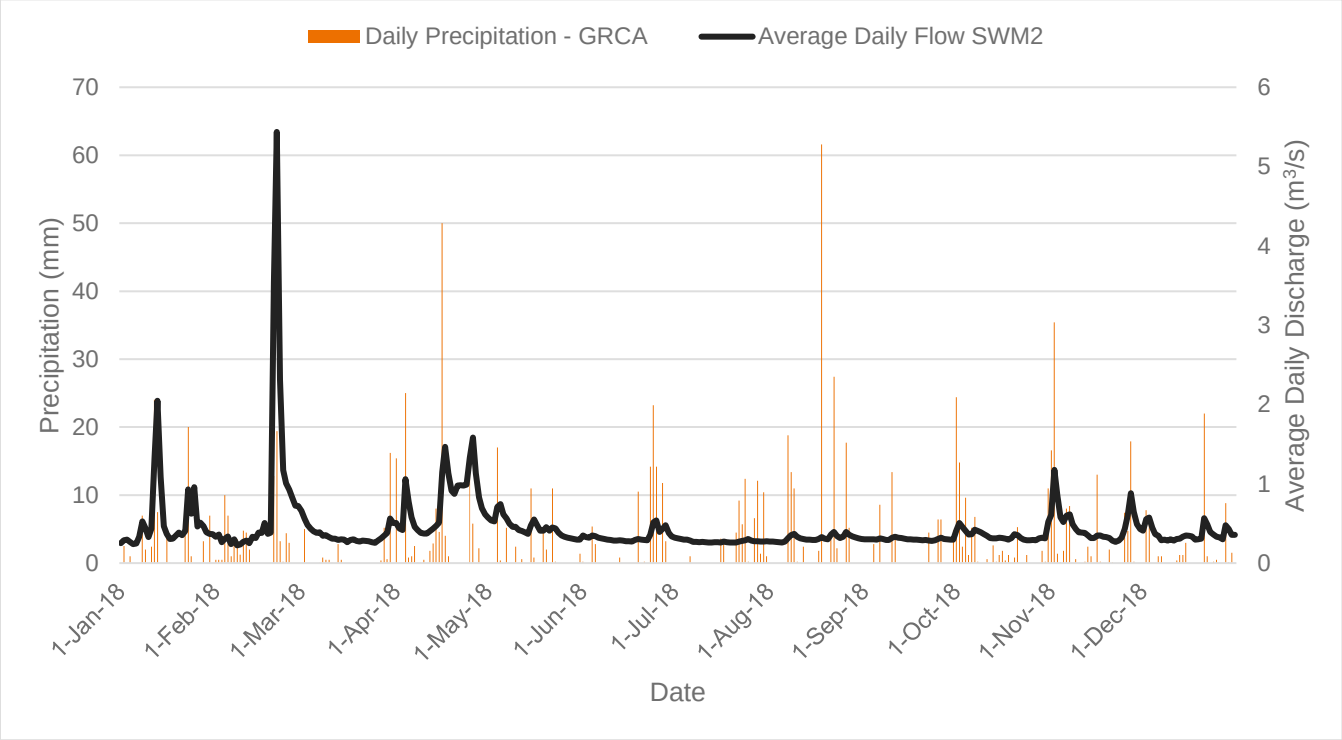


Figure 7: SWM2 Daily Average Flow and Daily Precipitation in 2018

3.2.6 Long Term Flow and Climate Data

The mean monthly air temperature in 2018 was 9.0ºC, which is 0.8ºC higher than the 30-year average of 8.2ºC (Sub-Appendix A-4). Total Precipitation in June and July were similar to the 30-year normal for those months, while August had considerably more precipitation (166 mm) than the 30-year normal (77 mm). Total precipitation in 2018 was 1042 mm, which is 11.9 % greater than the 30-year normal of 925 mm, but lower than the 1092 mm in 2017. (Sub-Appendix A-4). In 2018, total monthly precipitation was greater than the 30-year average in seven of twelve months (Figure 8).

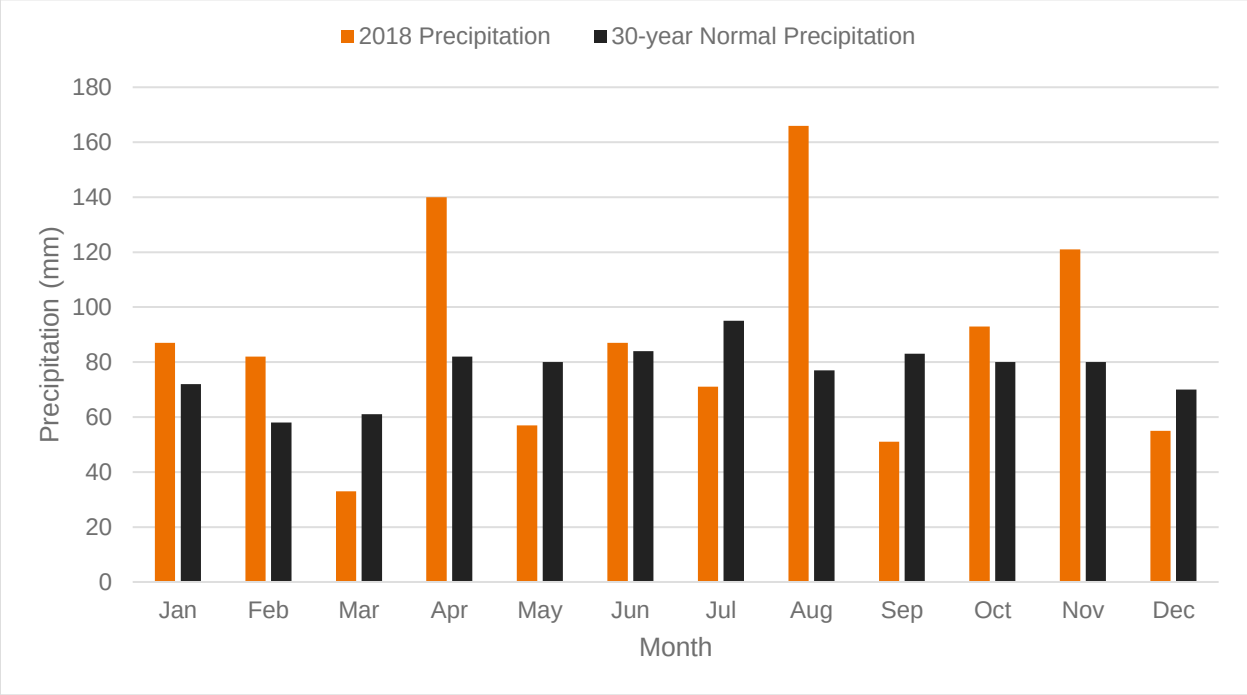


Figure 8: Total Monthly Precipitation (mm) at GRCA's Shade's Mills Climate Station Compared to the 30-Year Normal

The 7-day low flow is a standard hydrological value representing the average flow rate over the 7-day period of lowest flow for each year. The 7-day low flow at SWM2 is used to compare low flows over time. In 2018, the 7-day low flow of 0.235 m³/s occurred from February 5 to February 12. From January 29 to February 12, precipitation was recorded as snow (GRCA data) and overland runoff was unlikely, due to the average air temperature of -7.2 ° C. In the absence of rainfall and runoff, the 7-day low flow likely represents baseflow conditions.

The 7-day low flow observed in 2018 at SWM2 is comparable to the 7-day low flow recorded in previous years (Figure 9). The average of the SWM2 7-day low flow values from 2000 to 2017 is 0.217 m³/s. The 2018 7-day low flow value of 0.235 m³/s represents a 0.018 m³/s difference or 7.9 %.

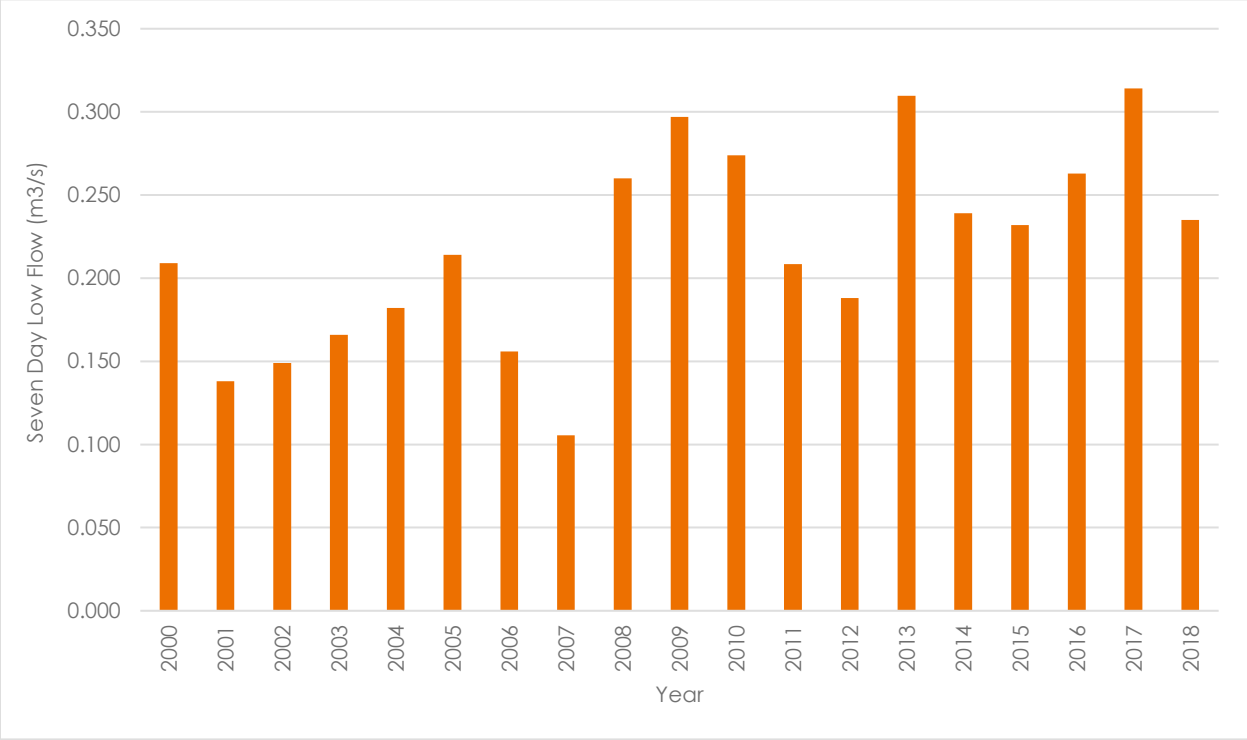


Figure 9: 7-day Low Flow at SWM2, 2000 through 2018

To remain consistent with data analysis from previous years, the 7-day low flow during the summer months (June 21 through September 22) was calculated. A summer 7-day low flow at SWM2 (0.267 m^3/s) occurred from July 15 to July 21 and was above the historical average. From July 1 to July 21, average air temperature (calculated as the mean of the daily mean temperature) was 24 ° C and total rainfall was 4.9 mm. The summer 7-day low flow values from SWM2 are illustrated with total summer precipitation (June 21 through September 22) and average summer air temperatures (calculated as the mean of the daily mean temperatures through the summer season) in Figure 10 and Figure 11, respectively.

There is an apparent relationship between total summer precipitation and summer 7-day low flow (Figure 10). A linear regression of 7-day low flow vs. total precipitation from data collected in years 2000 to 2018 confirmed that, at SWM2, there is a positive correlation and a significant relationship between stream flow and summer precipitation ($p < 0.05$) (Sub-Appendix A-5).

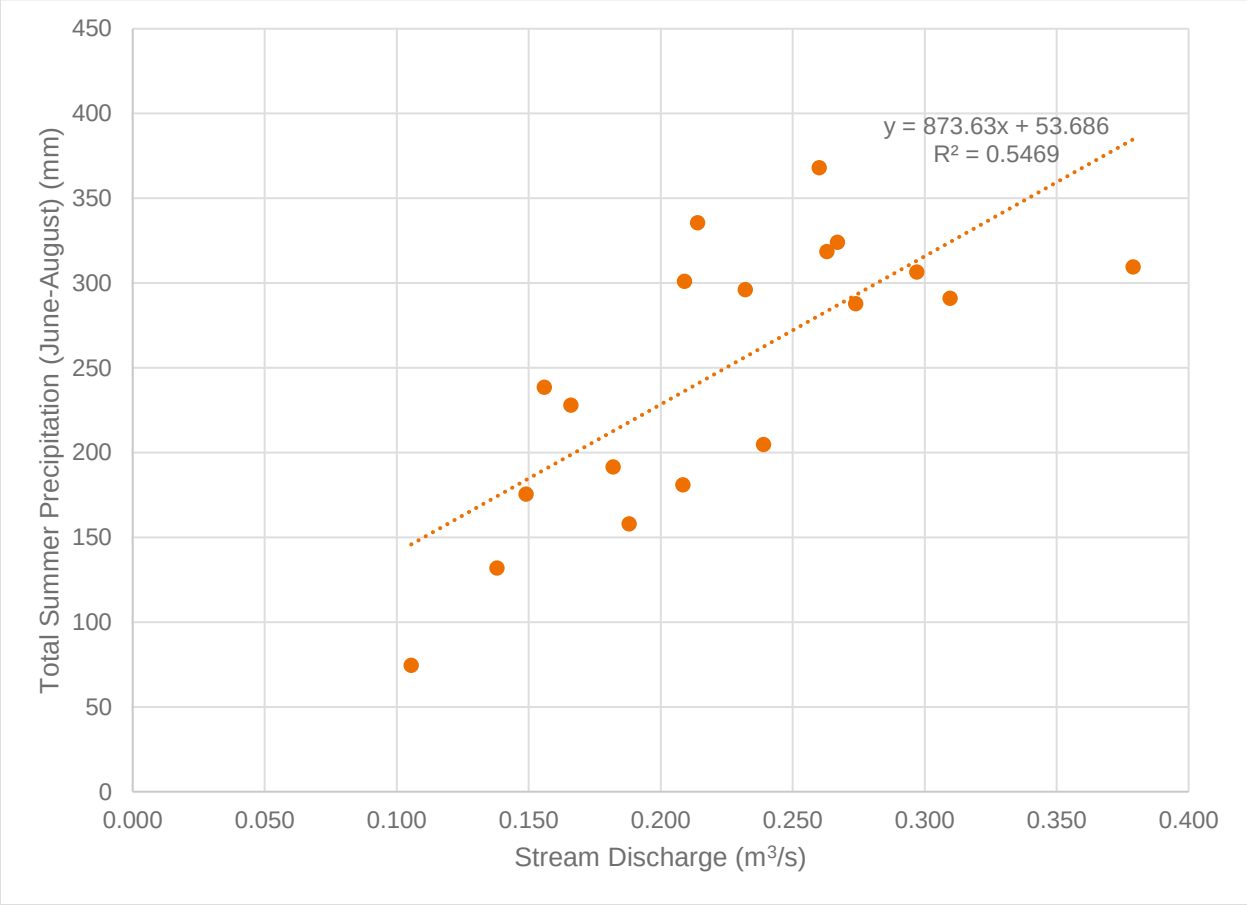


Figure 10: Total Summer Precipitation vs Summer 7-day Low Flow at SWM2, 2000 through 2018

There is no apparent relationship between mean summer air temperature and summer 7-day low flow (Figure 11). A linear regression of 7-day low flow vs. mean summer air temperature from data collected in the years 2000 – 2018, confirmed that, at SWM2, there is a weak to no correlation and no significant relationship ($p > 0.05$) between stream flow and air temperature (Sub-Appendix A-5).

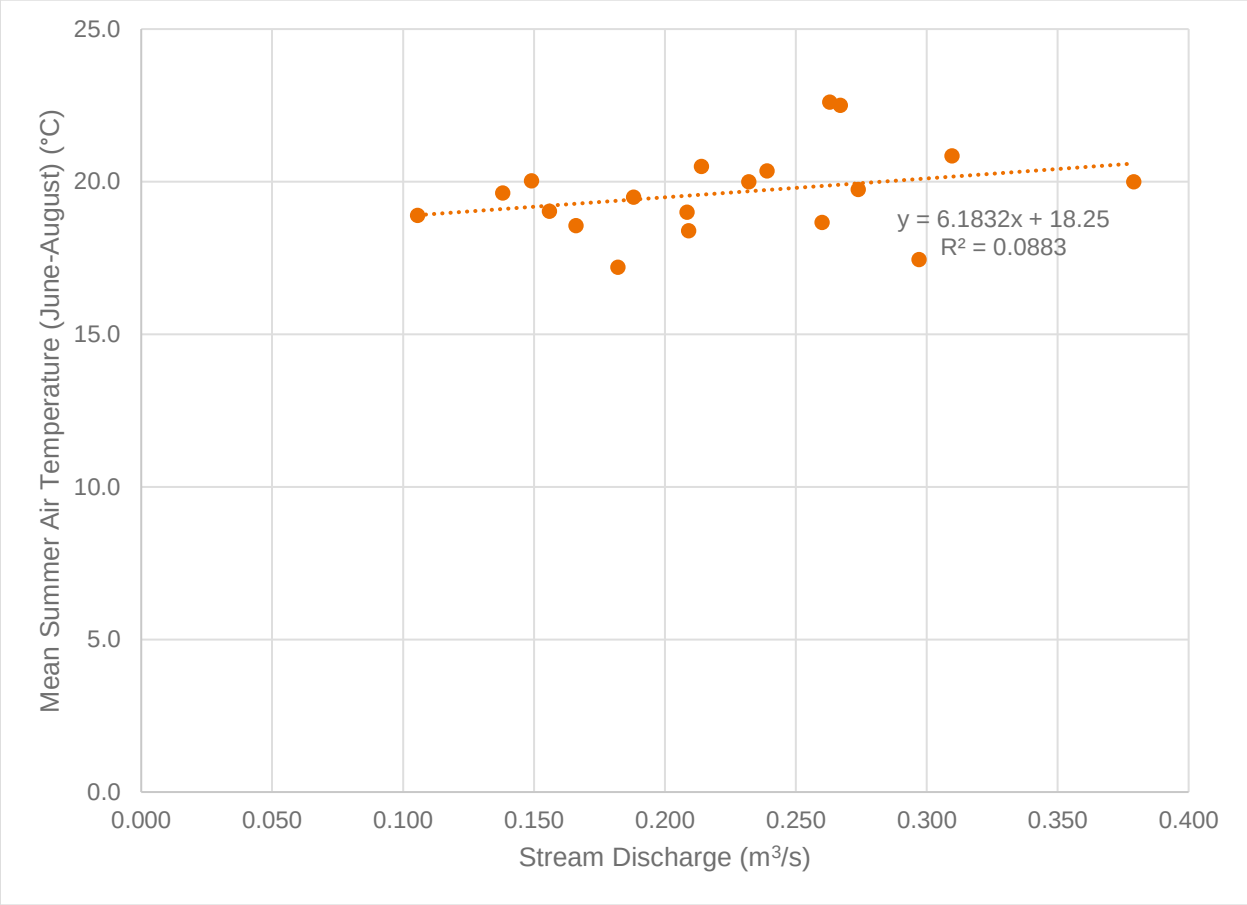


Figure 11: Mean Summer Air Temperature vs Summer 7-day Low Flow at SWM2, 2000 through 2018

These analyses confirm previous observations that summer stream flow in Mill Creek is influenced by summer precipitation. Regression plots and statistical data output are provided in Sub-Appendix A-5.

3.2.7 Historical Mill Creek Discharge Trends

In 2018, the instantaneous minimum stream discharge at SWM1 and SWM2 were within the historical range of the minimum values recorded since 2000 (Figure 12). At SWM1 and SWM2, the instantaneous maximum discharge was also within the historical range of values recorded since 2000 (Figure 13).

Flows in Mill Creek can be affected by local weather conditions (a combination of precipitation, snowmelt and soil permeability as affected by frost). Low flows, such as those generally observed in the summer months, are useful in evaluating potential effects on groundwater contributions to Mill Creek, since groundwater contributions represent a high percentage of the flow during low flow periods (Technical Appendix B).

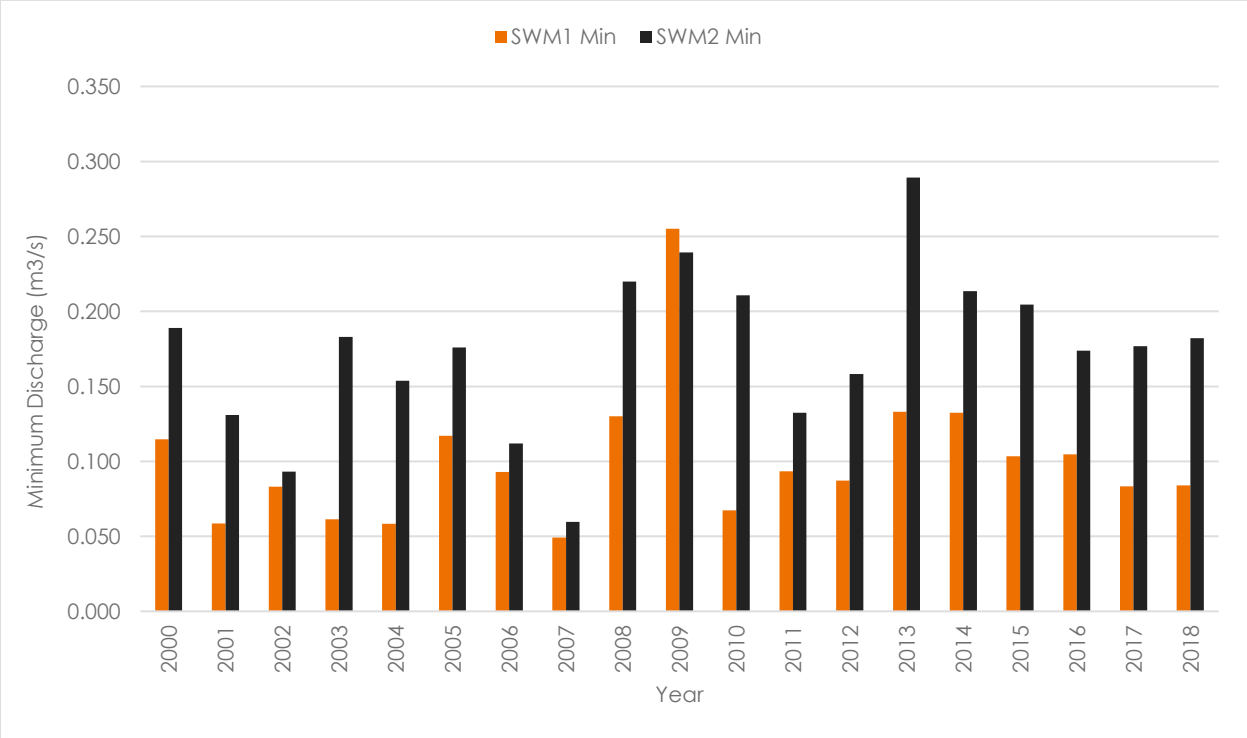


Figure 12: Instantaneous Minimum Stream Discharge at SWM1 and SWM2, 2000 through 2018

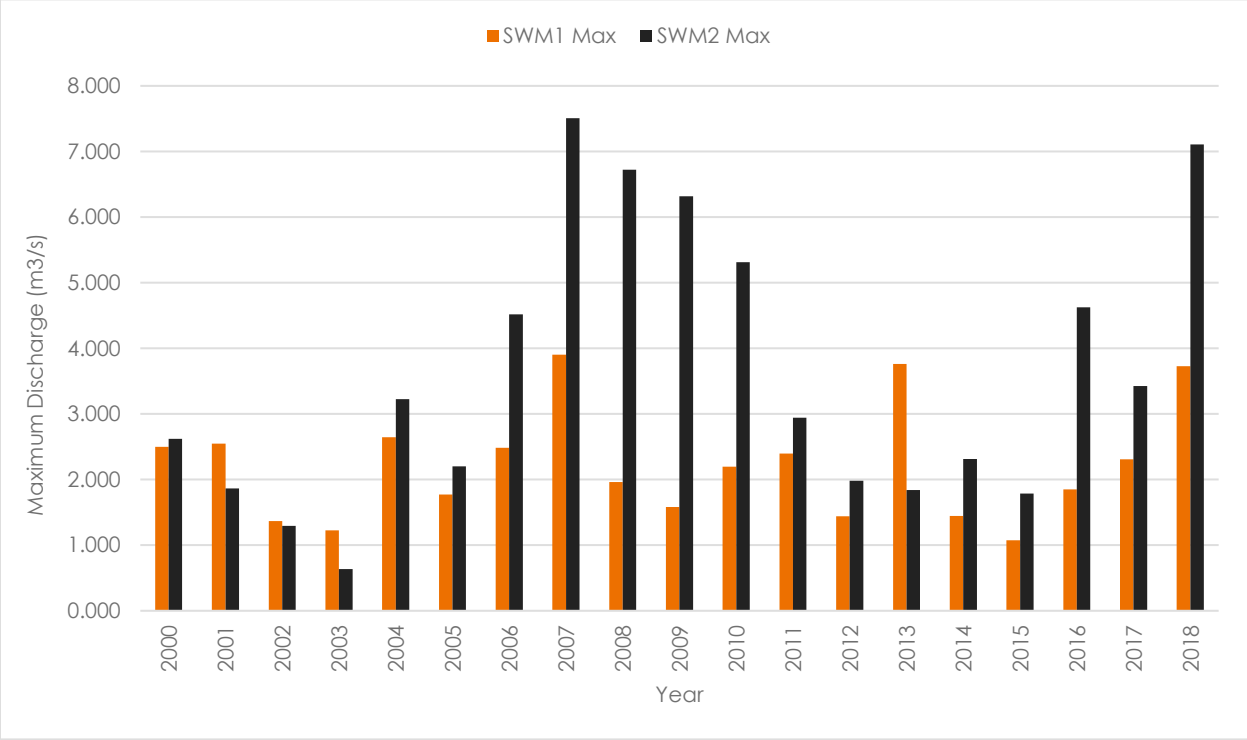


Figure 13: Instantaneous Maximum Stream Discharge at SWM1 and SWM2, 2000 through 2018

The daily average stream discharge at SWM2 for the sixteen-year period from 2003 to 2018 is illustrated in Figure 14.

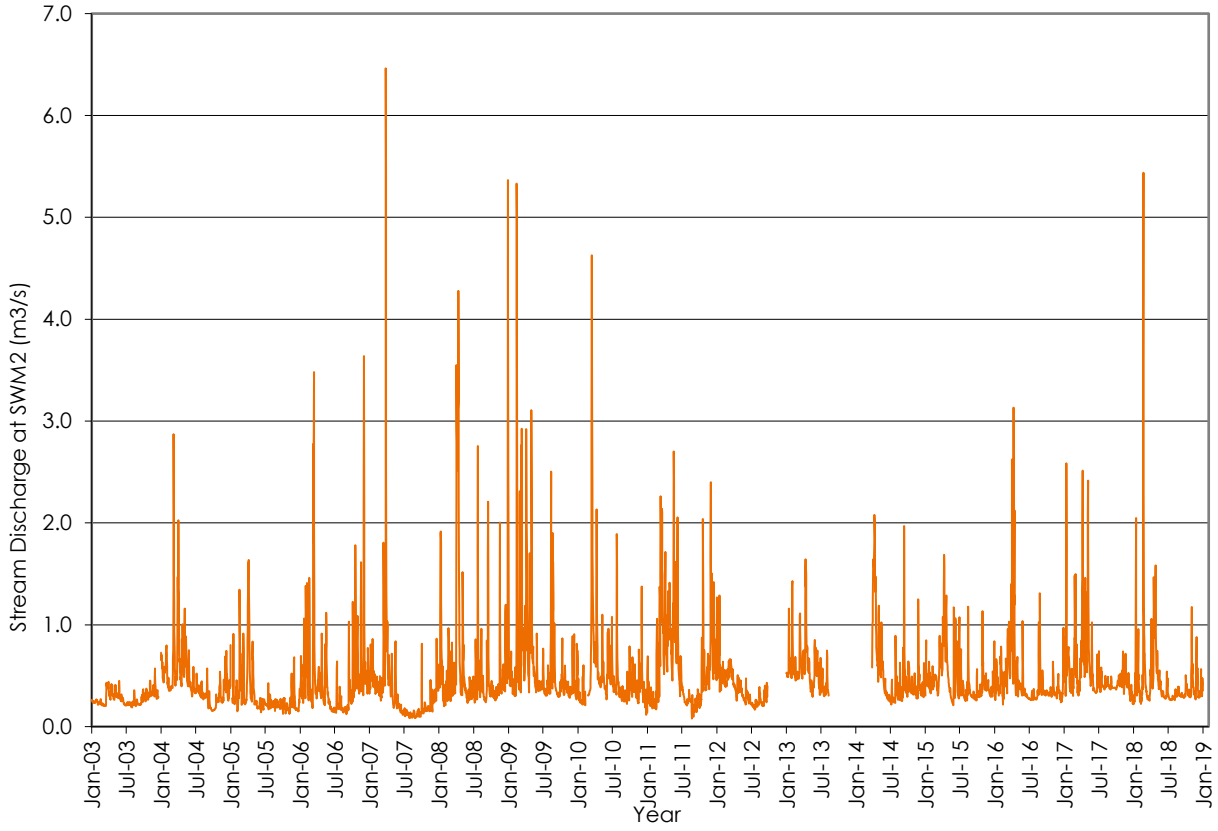


Figure 14: Historical Daily Average Stream Discharge at SWM2, 2000 through 2018

The daily average stream flow at SWM2 in summer months (June 21 to September 22 inclusive) is illustrated in Figure 15. The data are presented as log transformed, in a box and whisker plot (boxplot). Boxplots are useful when comparing two or more datasets and provides good visualization for examining flow data between years. The data were log transformed because variability in flow was high and the data did not have a normal distribution. With a log transfer, the data has greater normal distribution and therefore, flow rate differences are more readily observed.

For the box & whisker plot, data within the box represents 50% of the summer daily average flows and data outside the box represent those daily average flows in the upper and lower quartiles (maximum and minimum calculated flows). The horizontal line within the box represents the median flow for the summer months.

For 2018, the boxplot implies the daily average flow was often closer to the minimum flow recorded for the year. The graph shows that there is not a decreasing trend in daily average summer flows in Mill Creek since 2003.

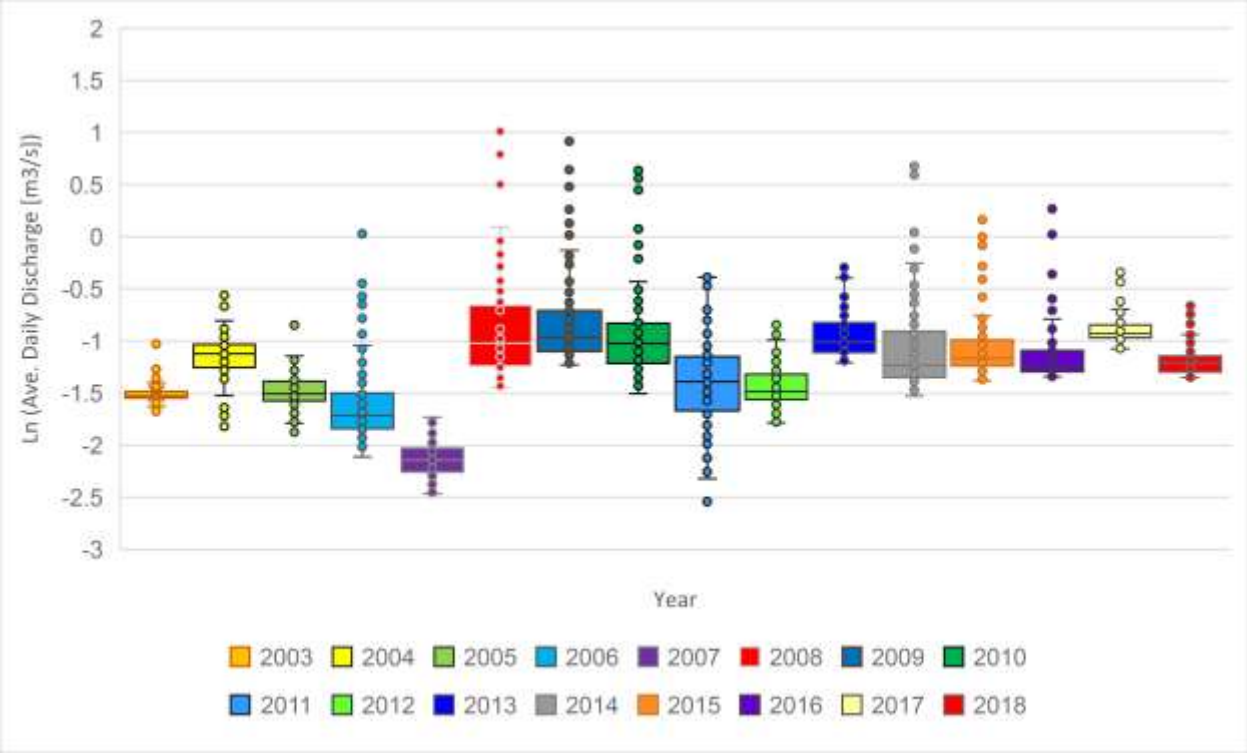


Figure 15: Discharge at SWM2 through Summer Months from 2003 through 2018

Based on the 2018 monitoring program, and historical flow data, there is no indication that aggregate extraction on the Dufferin Aggregates Mill Creek Pit Property is affecting stream flow in Mill Creek.

3.3 MILL CREEK TEMPERATURE MONITORING

Water temperature is an important habitat characteristic that influences fish habitat suitability. High water temperatures reduce the capacity of water to hold oxygen and may limit habitat suitability for various species of fish particularly salmonids, which is discussed further in Technical Appendix C. Maximum water temperatures recorded at the four surface water monitoring stations from 2003 through 2018 are provided in Table 3. The data suggest that, within each station, there is no trend of increasing or decreasing maximum surface water temperatures over the past 16 years. The maximum temperatures in 2018 at each station are within one to three degrees when compared to the 16-year average.

The maximum water temperature recorded at SWM3 in 2018 was the lowest on record. Hourly water temperature data for each monitoring station are presented in Sub-Appendix A-6 for the 2018 monitoring year.

Table 3: Maximum Recorded Surface Water Temperatures, 2003 through 2018

Monitoring Year	SWM1		SWM2		SWM3		SWM4	
	Temp (° C)	Date(s)	Temp (° C)	Date(s)	Temp (° C)	Date(s)	Temp (° C)	Date(s)
2003	26	26-Jun	25	25-Jun	19	26-Jun	19	26-Jun
2004	24	20-Jul	23	3-Aug	17	13-May	19	4-Jul
2005	27	11-Jun	24	15-Jul	19	15-Jul	22	14-Jul
2006	27	1-Aug	25	1-Aug	16	15-Jul	19	1-Aug
2007	24	27-Jun 3-Aug	23	27-Jun	18	8-Jun	20	25-Aug
2008	25	9-Jun 17-Jul	23	9-Jun	19	8-Jun 24-Jul	19	9-Jun
2009	24	24-Jun	22	24-Jun	18	23-Jun	20	20-Aug
2010	26	8-Jul	24	8-Jul	18	23-Jul	20	24-Jul
2011	27	21-Jul	25	21-Jul	18	8-Jun	20	8-Jun
2012	25	17-Jul	22	6-Jul	17	19-Jun	18	21-Jun
2013	27	17-Jul	24	17-Jul	16	10-Jul	20	19-Jul
2014	24	30-Jun	22	30-Jun	17	10-Sept	18	10-Sept
2015	24	29-Jul	22	30-Jul	16*	15-Aug	17*	15-Aug
2016	25	13-Jul	23	22-Jul	19	25-Aug	19	25-Aug
2017	23	21-Jul	22	24-Jul	16	18-May	17	18-May
2018	26	1-Jul	24	1-Jul	14	6-Jul	17	30-Jun
Average	25		23		17		17	

* Temperature logger data displayed atypical daily variability. Temperature results at SWM3 and SWM4 should be interpreted with caution.

Hourly surface water temperatures recorded in 2018 are illustrated in Figure 16 and Figure 17. As in previous monitoring years, SWM1 is consistently warmer than SWM2 during the summer months. Water temperatures at SWM1 are more influenced by air temperature, while SWM2 appears to be better buffered against the effects of high air temperatures. This is due to the influence of groundwater discharge, flow contributions from the two tributaries upstream of SWM2, and shade provided by riparian vegetation in the Study Area downstream of SWM1.

As observed in previous monitoring years, SWM3 and SWM4 (Pond Creek and Galt Creek) have a more stable thermal regime than the main branch of Mill Creek; maximum temperatures are lower than those recorded at SWM1 and SWM2 (Figure 16). Water temperatures at SWM3 (Pond Creek) were warmer through the winter months when compared to SWM4 (Galt Creek), indicating Pond Creek is more influenced by groundwater than is Galt Creek (Figure 17).

Based on the 2018 monitoring data, there is no indication that aggregate extraction on the Dufferin Aggregates Mill Creek Pit Property is affecting stream temperatures in Mill Creek.

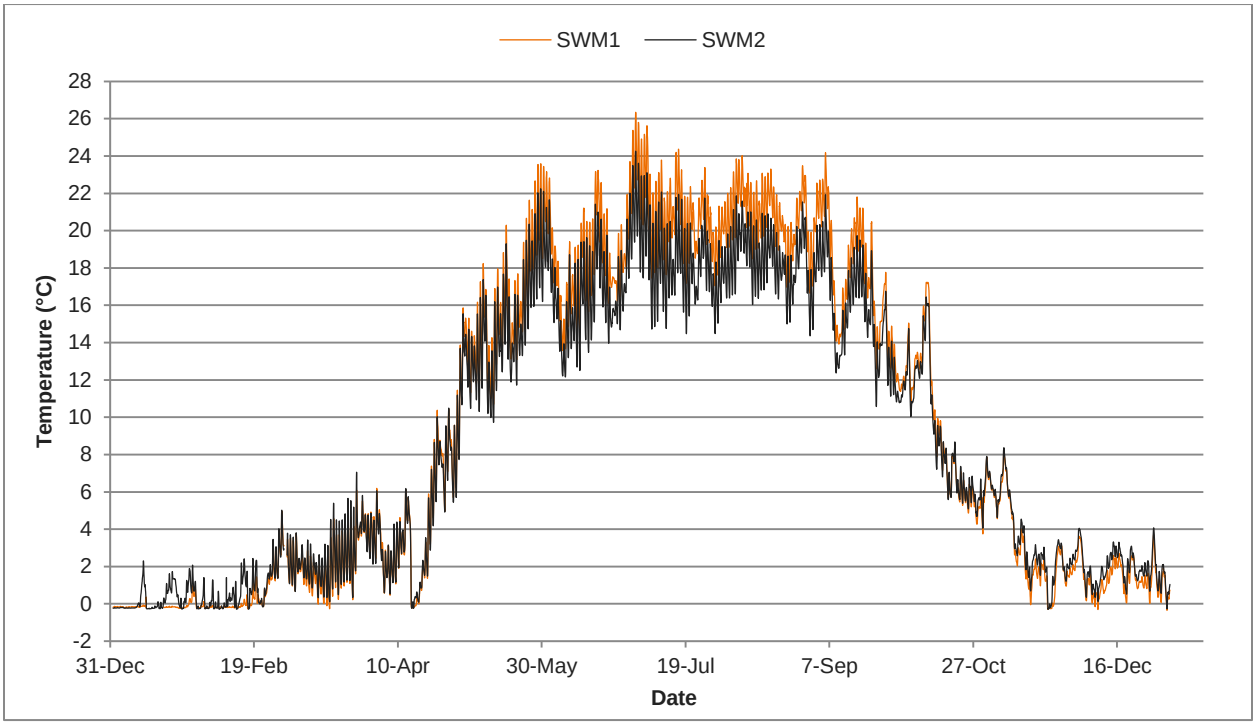


Figure 16: Hourly Water Temperatures at SWM1 and SWM2 in 2018

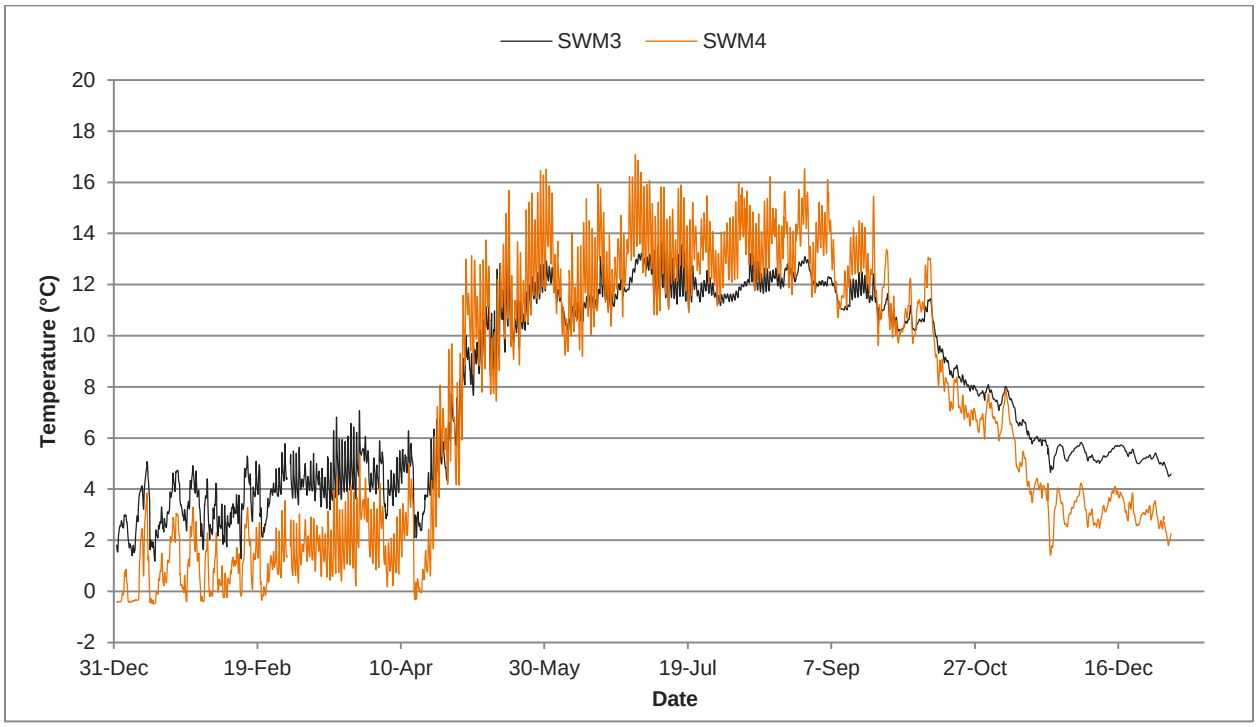


Figure 17: Hourly Water Temperatures at SWM3 and SWM4 in 2018

Figure 18 through Figure 21 show hourly air temperature in the Study Area with water temperatures at SWM1, SWM2, SWM3 and SWM4, respectively.

Air temperature data (Sub-Appendix A-1) recorded at the Mill Creek Study Area indicates that the hottest temperatures of 2018 occurred on May 28 with maximum air temperatures of 32.4 ° C (Air Temperature Station 1) and 29.5 ° C (Air Temperature Station 2). The maximum air temperature recorded at the Shade's Mills climate station was 36 ° C recorded on June 18, July 1, July 6, and July 17.

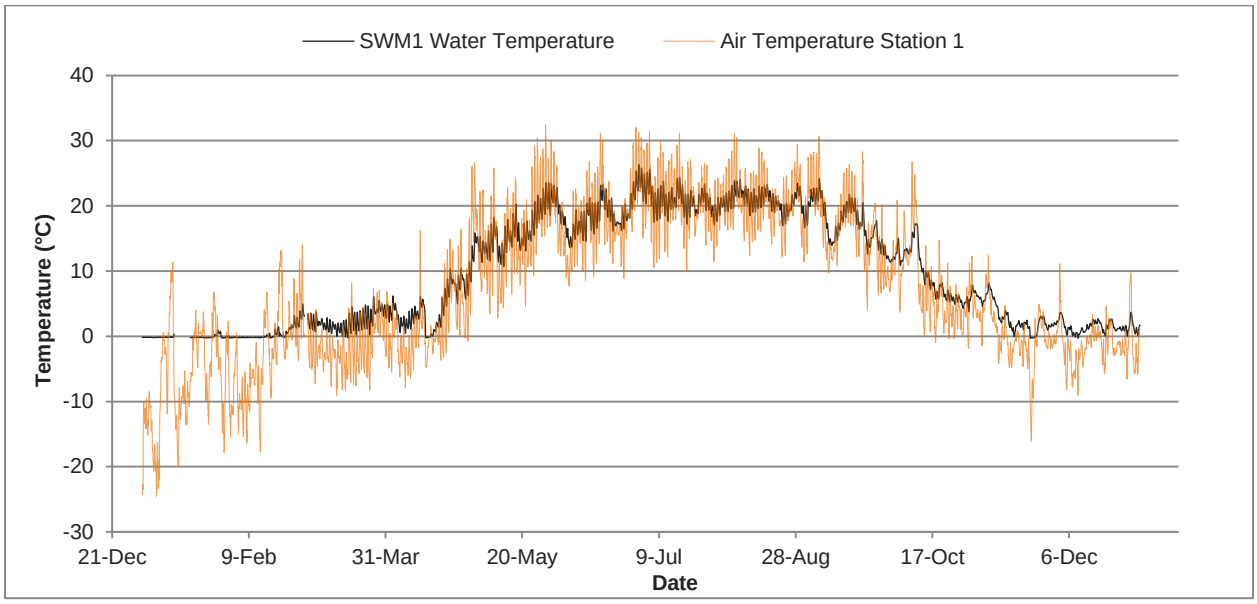


Figure 18: Air and Water Temperature at SWM1 in 2018

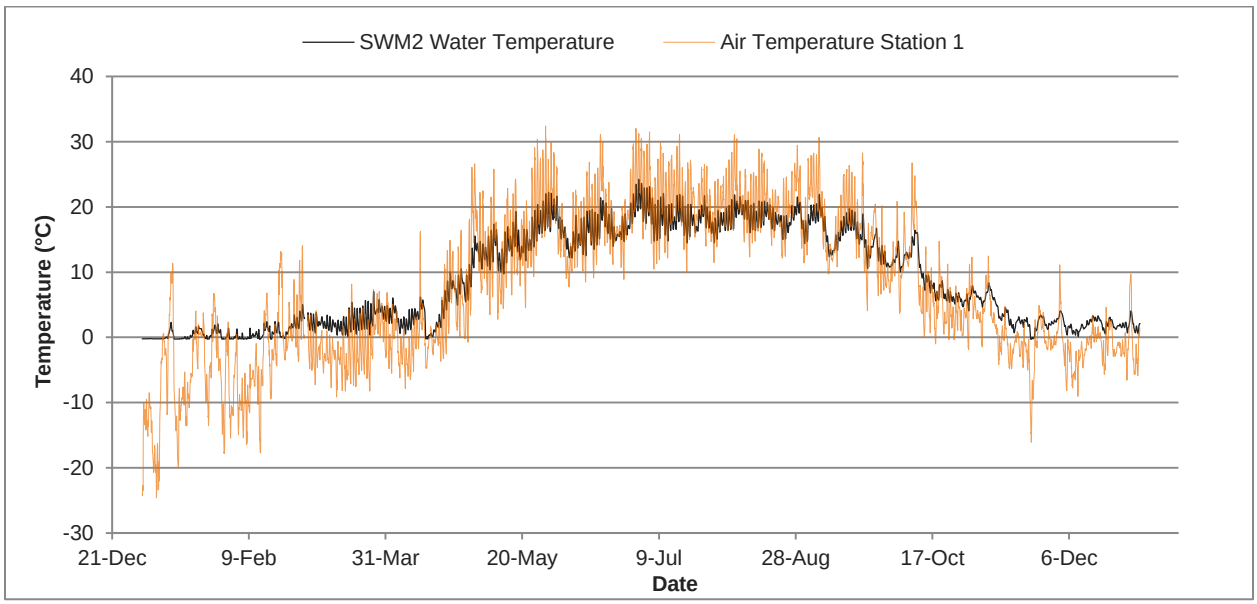


Figure 19: Air and Water Temperature at SWM2 in 2018

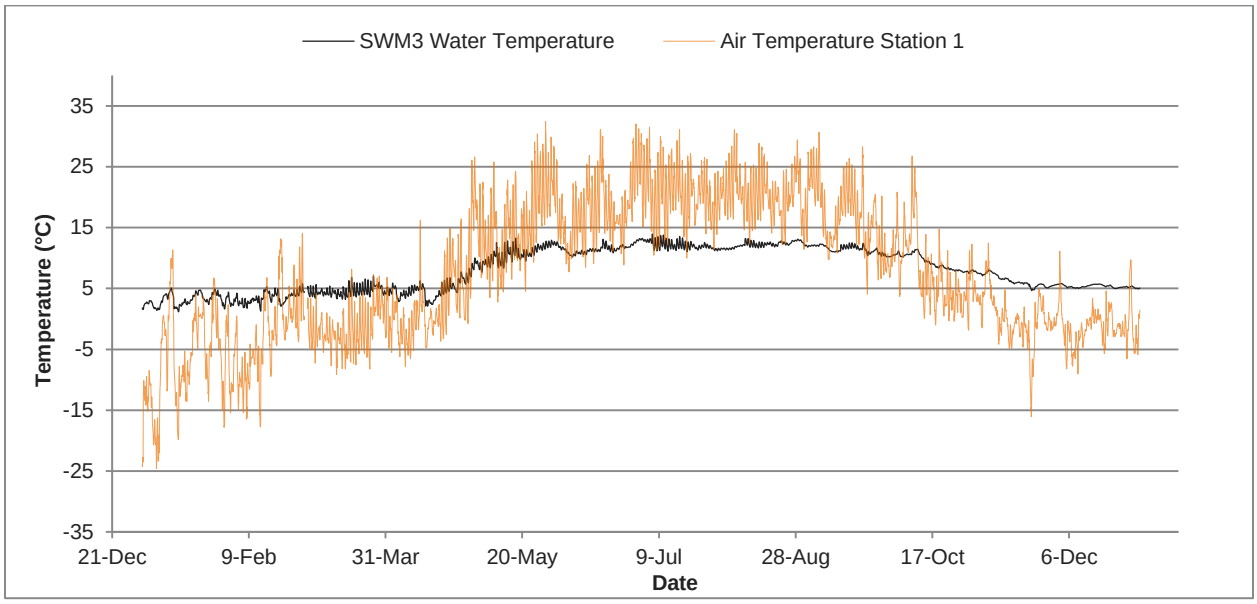


Figure 20: Air and Water Temperature at SWM3 in 2018

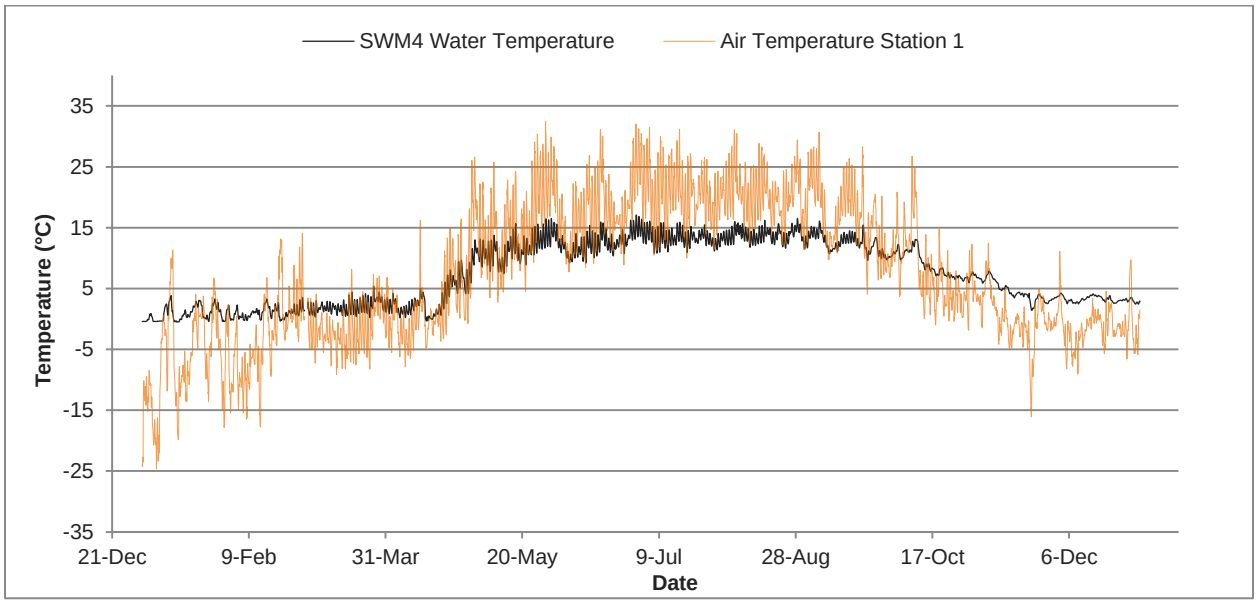


Figure 21: Air and Water Temperature at SWM4 in 2018

4.0 SUMMARY

Dufferin Aggregates operates the Mill Creek Pit in Puslinch Township, Wellington County. This report described the twenty-fifth year of surface water monitoring activities for the Mill Creek Pit operation. Based on the data collected as part of the surface water monitoring program, there is no indication of an impact to stream flow or water temperature in Mill Creek due to aggregate extraction at the Dufferin Aggregates Mill Creek Pit. Manual flow measurement should continue to be recorded throughout 2019 to maintain updated rating curves.

Results of the 2018 monitoring year include the following:

- Mean monthly air temperature in 2018 was 9.0^{o}C, which is 0.8^{o}C higher than the 30-year average of 8.2^{o}C.
- February, May, July, August, September and December had temperatures higher than the 30-year normal for those months, while other months had temperatures similar to or below the 30-year normal.
- Total precipitation in 2018 was 1042 mm, which is 11.9 % greater than the 30-year average of 925 mm, but lower than the 1092 mm in 2017.
- Total Precipitation in June and July were similar to the 30-year normal for those months, while August had considerably more precipitation (166 mm) than the 30-year normal (77 mm).
- Rating curves for SWM1 and SWM2 were updated in 2018 and were used to estimate stream discharge. The r^2 values for SWM1 and SWM2 were 0.6857 and 0.7804, respectively. The r^2 values suggests there is a good relationship between water depth and flow at both stations.
- Minimum instantaneous flow at SWM1 and SWM2 were within the historical range for each station.
- The 7-day low flow at SWM2 (0.235 m^3/s) was observed during February in 2018 and was comparable to 7-day low flow records since 2000.
- The summer 7-day low flow at SWM2 (0.267 m^3/s) occurred from July 15 to July 21 and was above the historical average
- There is a significant relationship between the summer 7-day low flow and total summer precipitation. There is no relationship between the summer 7-day low flow and mean summer air temperature.
- Historical summer flow data (2003-2018) do not show a decreasing trend in stream flow.
- Beaver dams in the upper part of the Hanlon reach interfered with water level readings at SWM1 in the fall of 2018
- Water temperatures at SWM3 and SWM4 continue to be influenced by groundwater inputs. Maximum water temperature in SWM3 and SWM4 in 2018 was 14° C and 17° C, respectively. The maximum water temperature in SWM3 was the lowest on record.

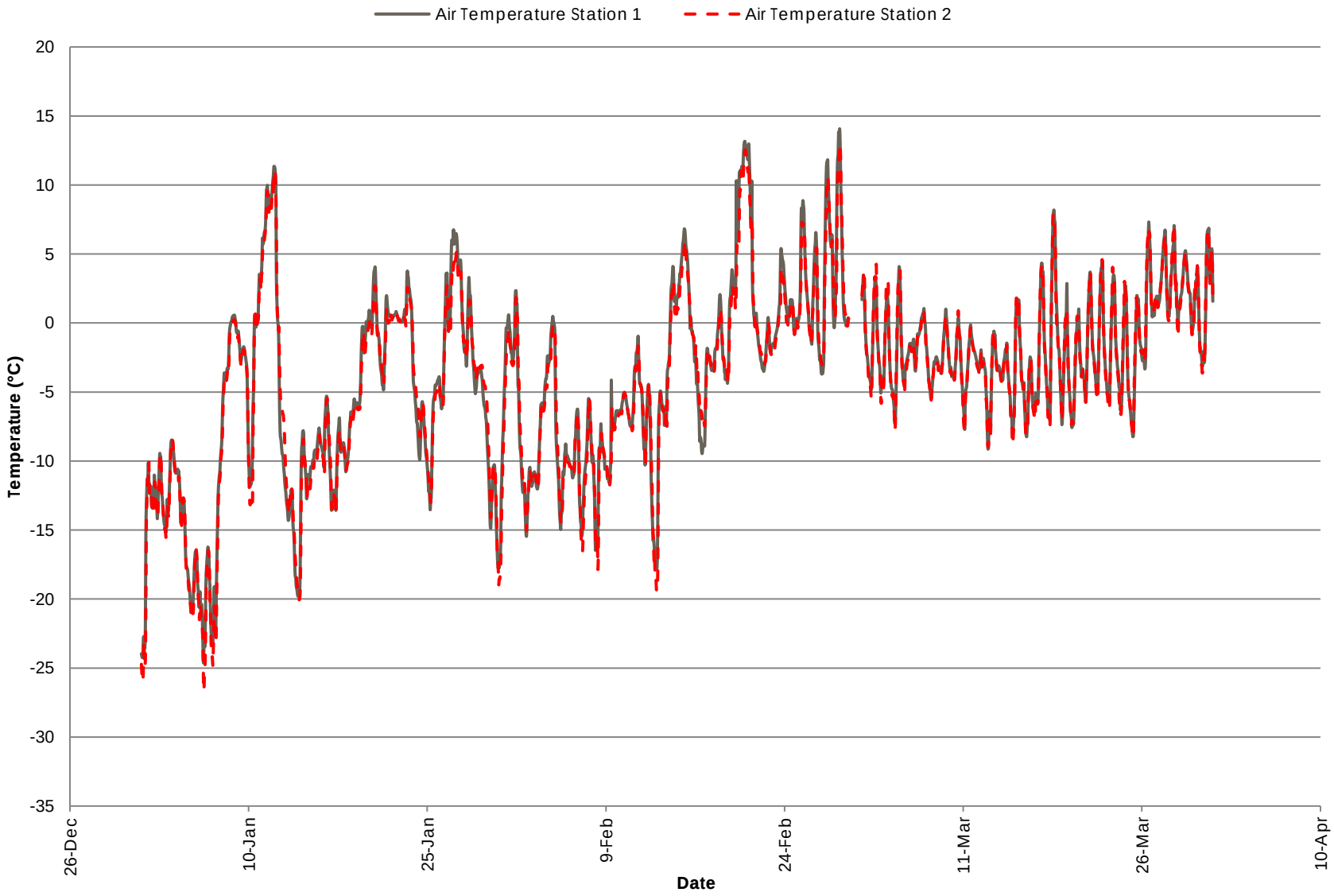
Summary
March 28, 2019

- Maximum recorded water temperatures at SWM1 and SWM2 were 26° C and 24° C, respectively.
- Maximum recorded water temperatures at the four monitoring stations were within historic ranges and reflective of air temperatures.
- Water temperatures at SWM2 continue to be cooler than water temperatures at SWM1 through the summer months. This difference is attributed to input from two coldwater tributaries, groundwater discharge, and due to shading by riparian vegetation.

SUB-APPENDIX A-1
Weather Data

MILL CREEK STUDY AREA AIR TEMPERATURE GRAPHS

Air Temperature (°C) at the Two Monitoring Locations on Dufferin Aggregates Mill Creek Pit Property (January through March, 2018)



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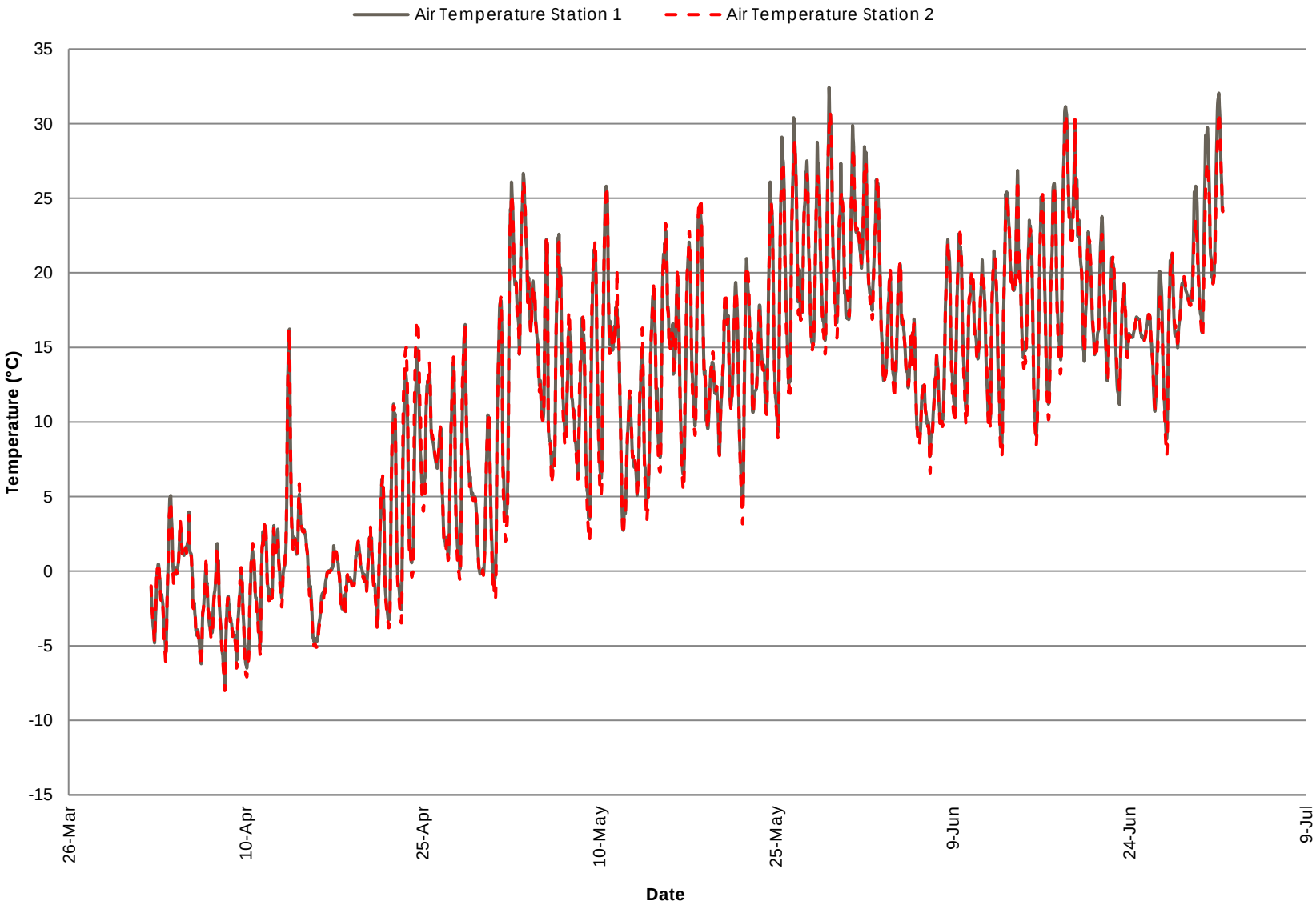
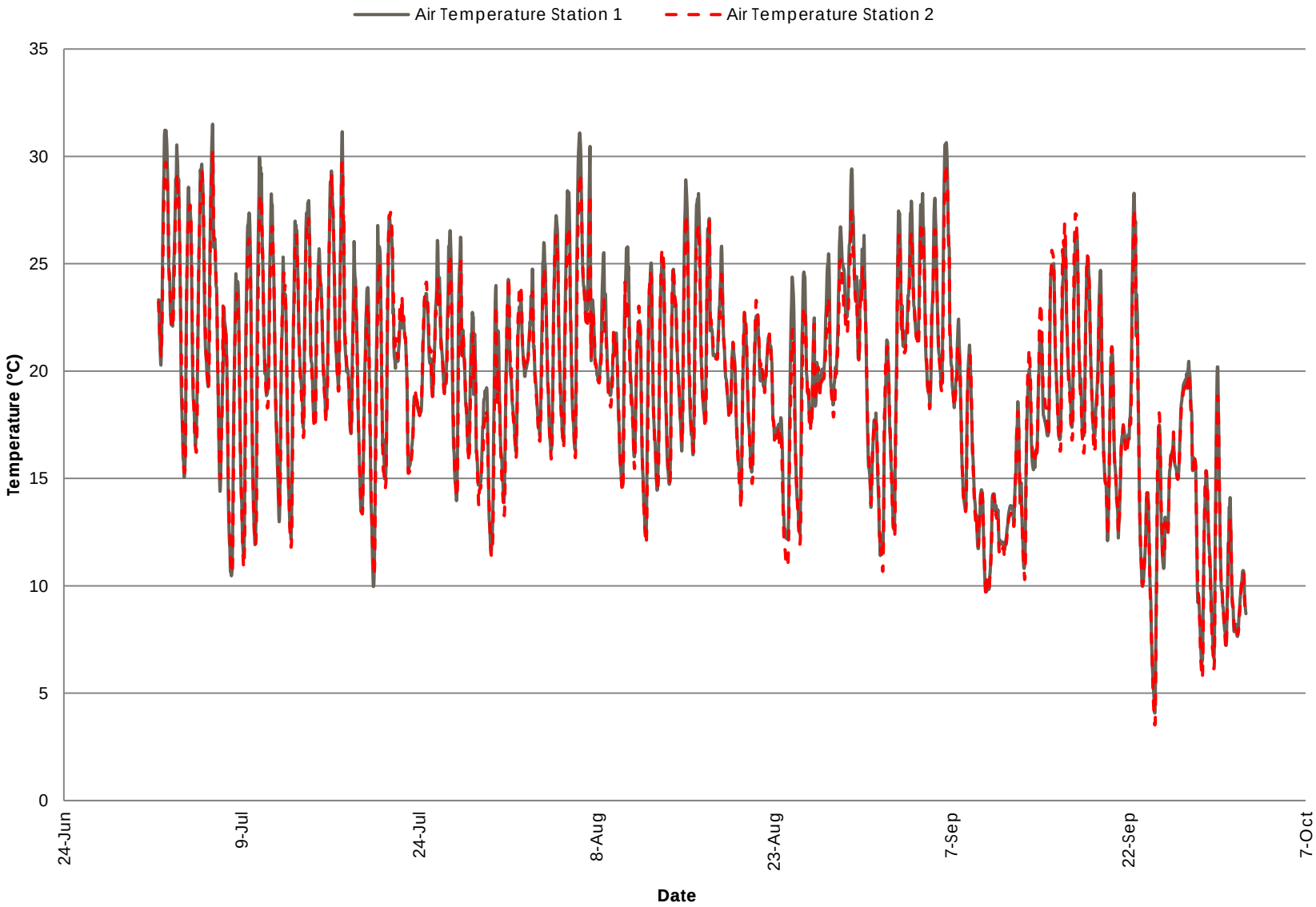
Air Temperature (°C) at the Two Monitoring Locations on Dufferin Aggregates Mill Creek Pit Property (April through June, 2018)



Stantec

Air Temperature (°C) at the Two Monitoring Locations on Dufferin Aggregates Mill Creek Pit Property (July through September, 2018)



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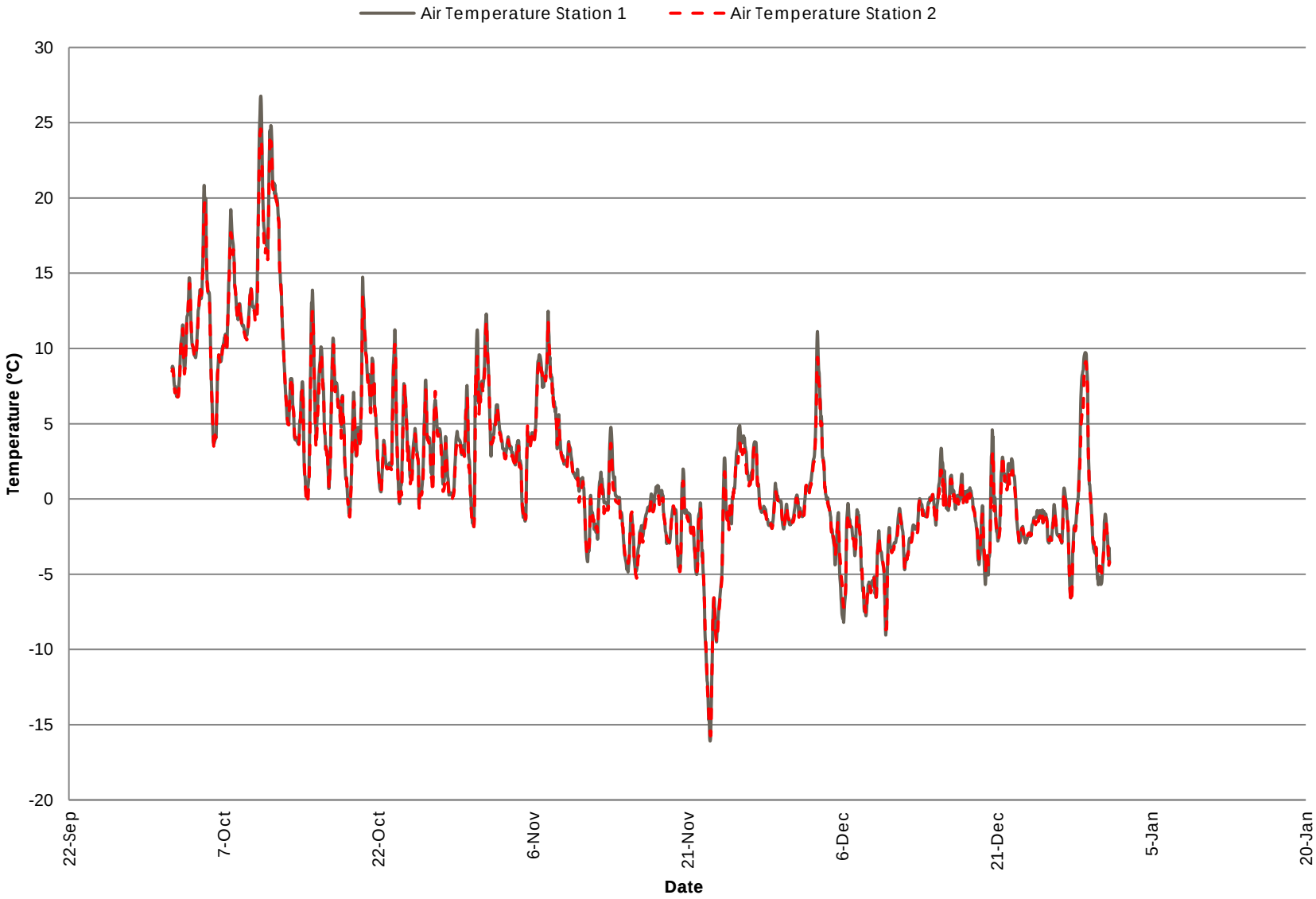
Air Temperature (°C) at the Two Monitoring Locations on Dufferin Aggregates Mill Creek Pit Property (October through December, 2018)



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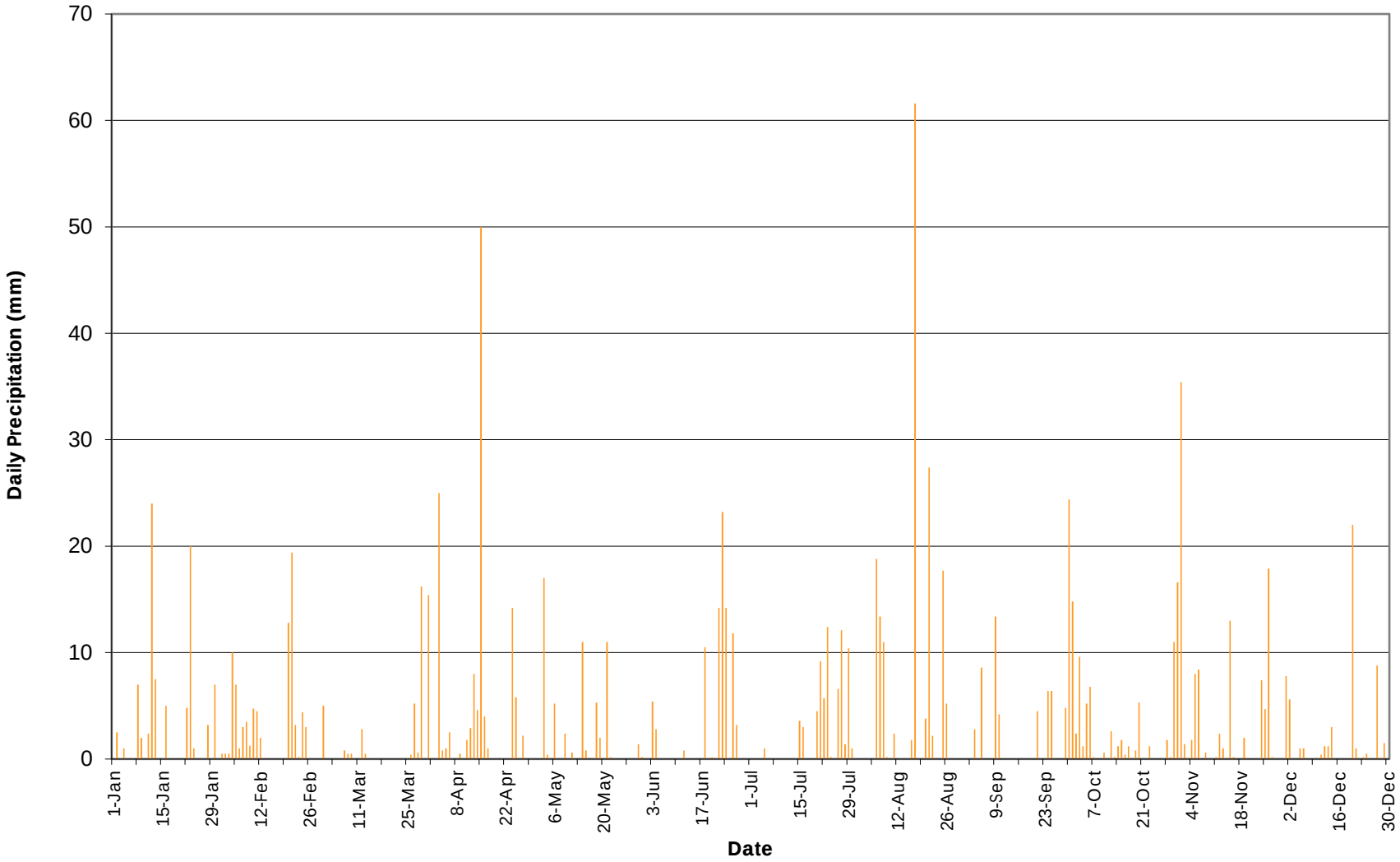
GRCA SHADE'S MILLS CLIMATE STATION GRAPHS

Daily Precipitation at Shade's Mills Conservation Area in 2018



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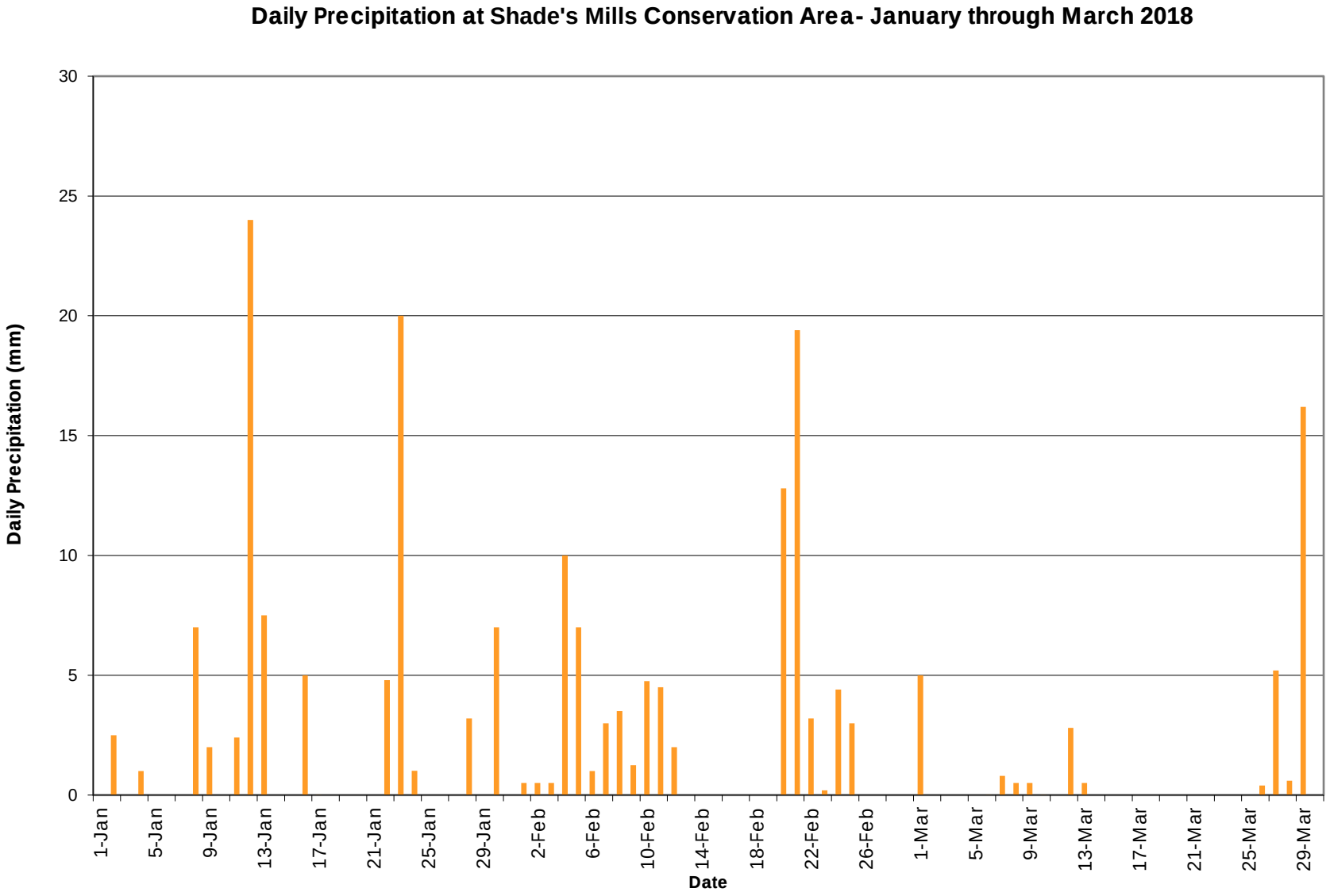
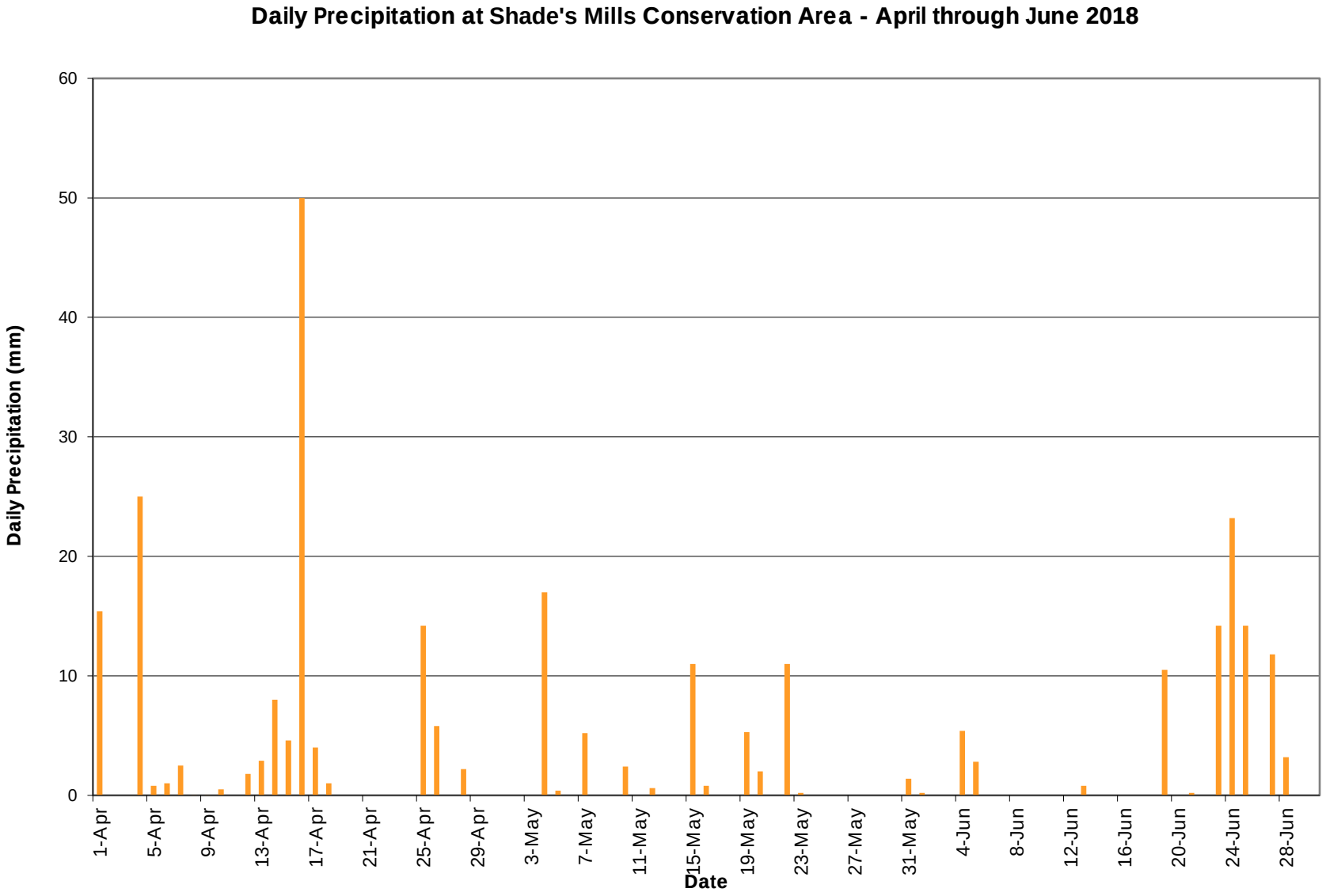

Daily Precipitation at Shade's Mills Conservation Area- January through March 2018
Daily Precipitation (mm)
30
25
20
15
10
5
0
1-Jan
5-Jan
9-Jan
13-Jan
17-Jan
21-Jan
25-Jan
29-Jan
2-Feb
6-Feb
10-Feb
14-Feb
18-Feb
22-Feb
26-Feb
1-Mar
5-Mar
9-Mar
13-Mar
17-Mar
21-Mar
25-Mar
29-Mar
Date


Daily Precipitation at Shade's Mills Conservation Area - April through June 2018
Daily Precipitation (mm)
60
50
40
30
20
10
0
1-Apr
5-Apr
9-Apr
13-Apr
17-Apr
21-Apr
25-Apr
29-Apr
3-May
7-May
11-May
15-May
19-May
23-May
27-May
31-May
4-Jun
8-Jun
12-Jun
16-Jun
20-Jun
24-Jun
28-Jun
Date

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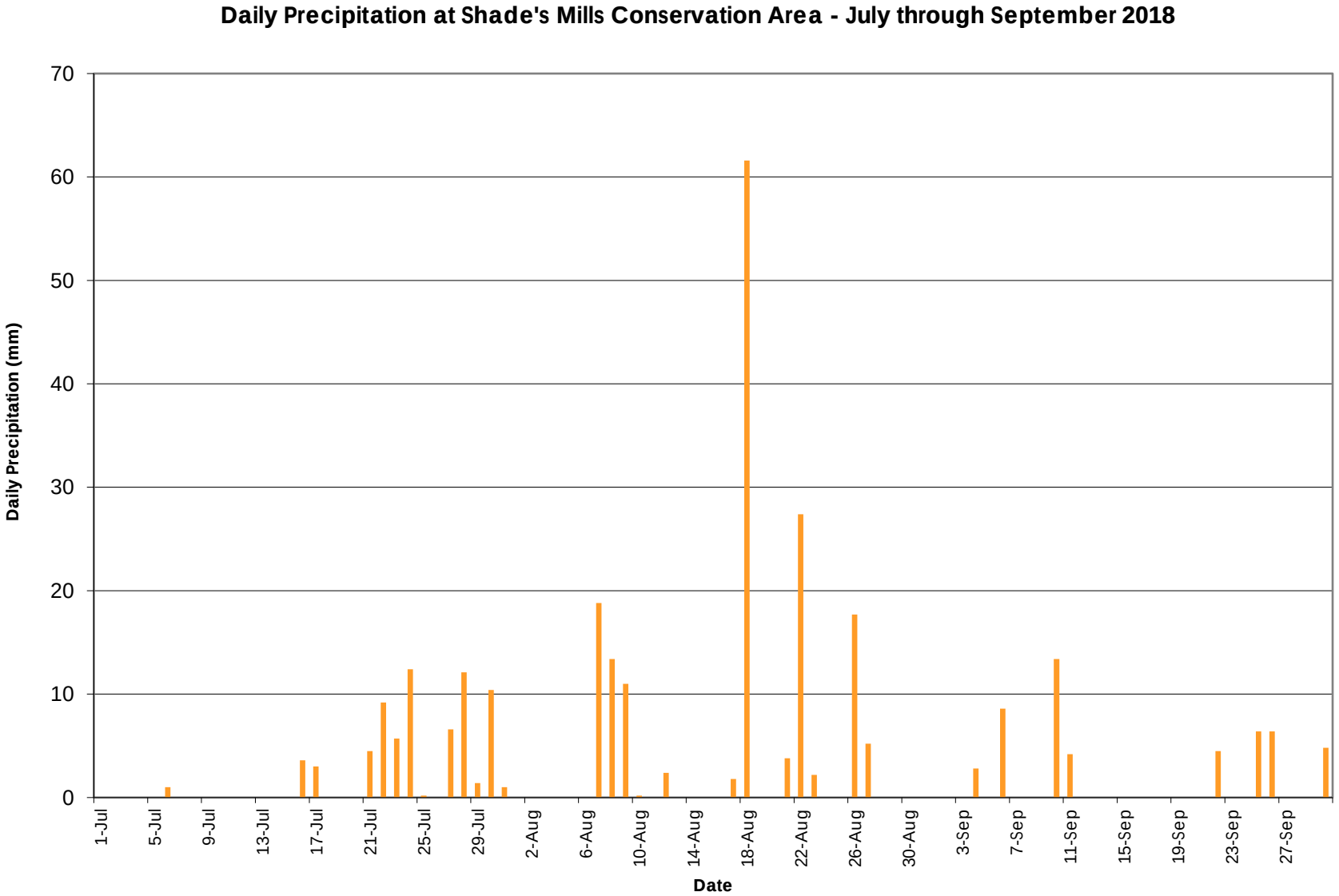
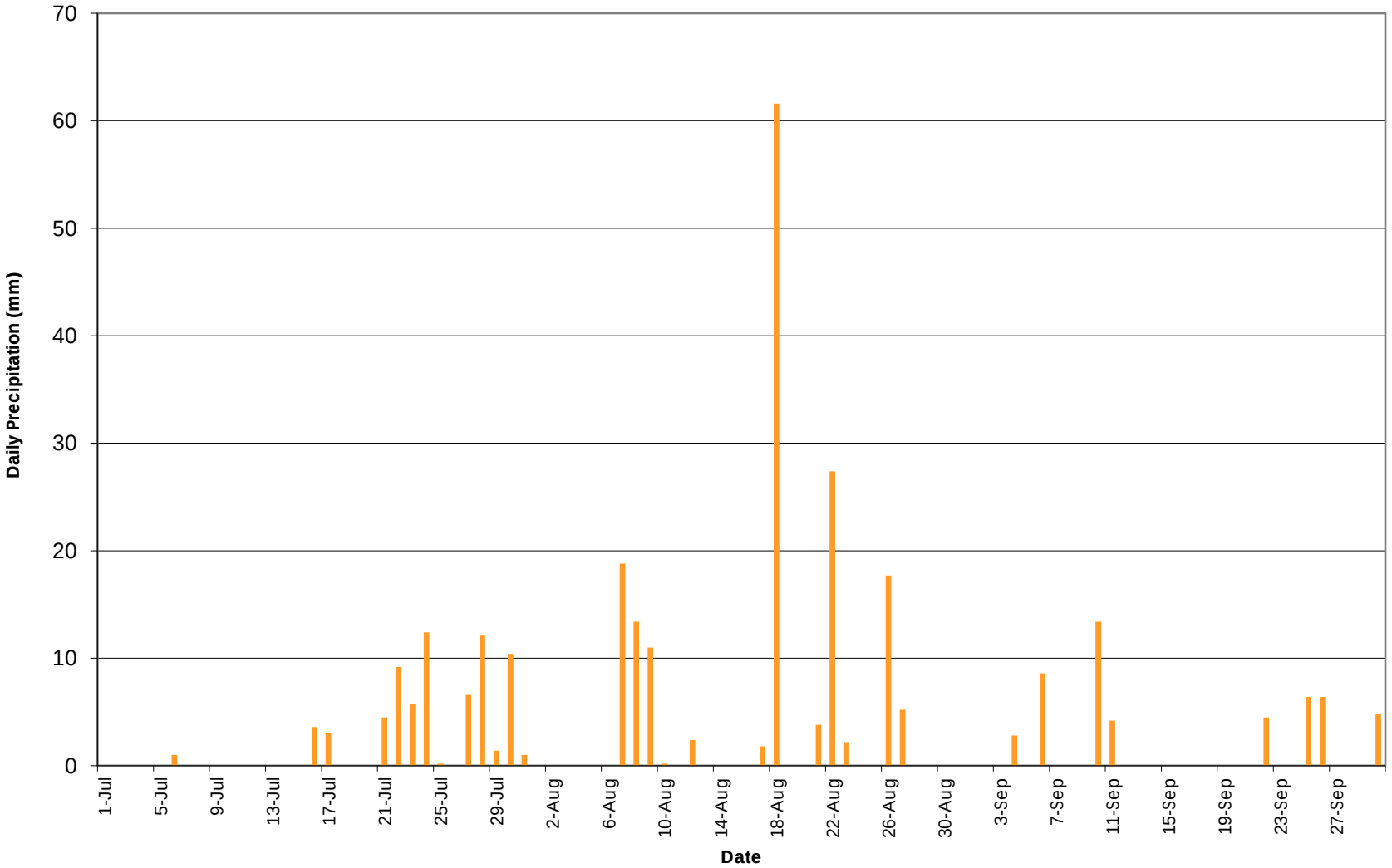

Daily Precipitation at Shade's Mills Conservation Area - July through September 2018
Daily Precipitation (mm)
70
60
50
40
30
20
10
0
1-Jul
5-Jul
9-Jul
13-Jul
17-Jul
21-Jul
25-Jul
29-Jul
2-Aug
6-Aug
10-Aug
14-Aug
18-Aug
22-Aug
26-Aug
30-Aug
3-Sep
7-Sep
11-Sep
15-Sep
19-Sep
23-Sep
27-Sep
Date

Daily Precipitation at Shade's Mills Conservation Area - July through September 2018



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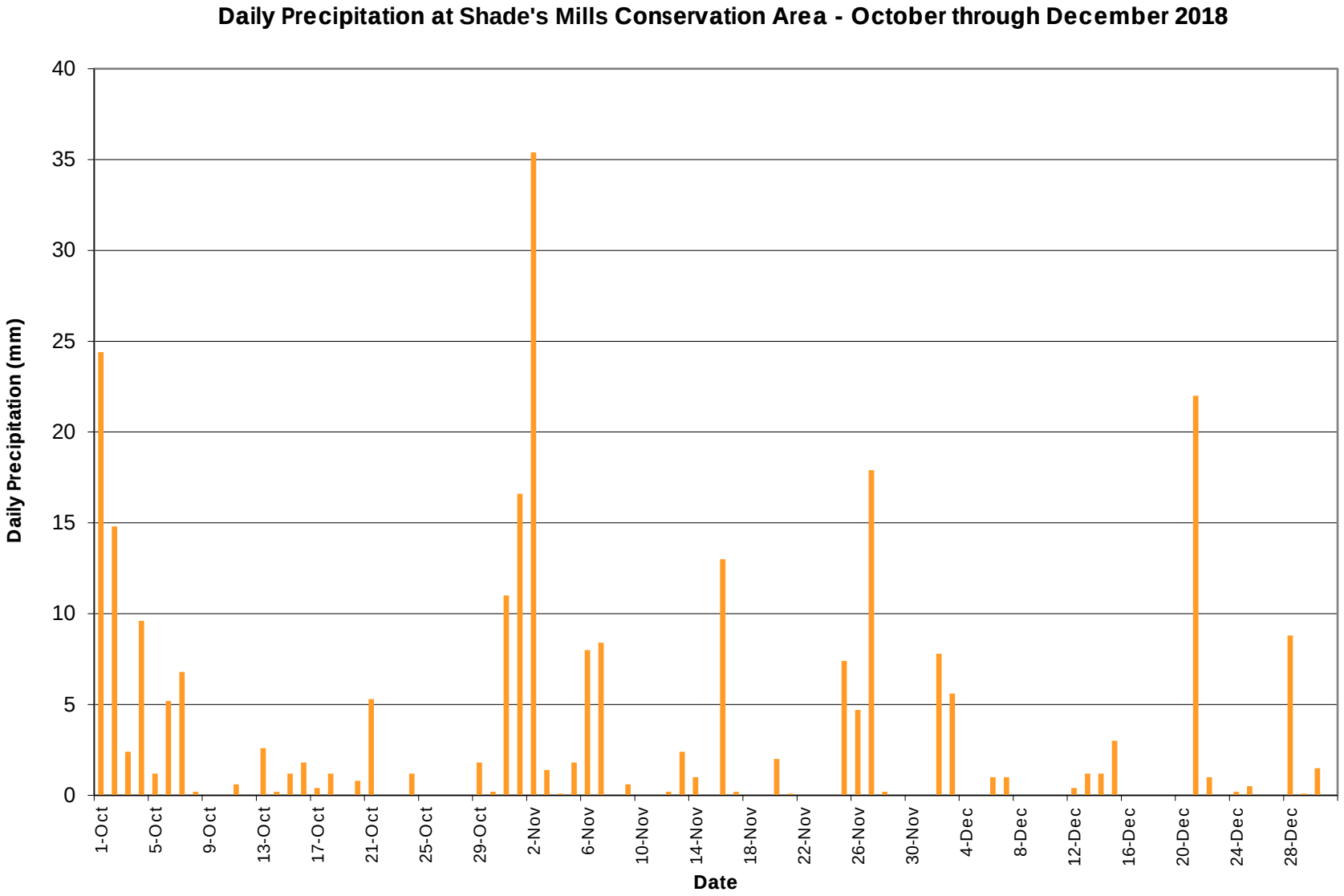
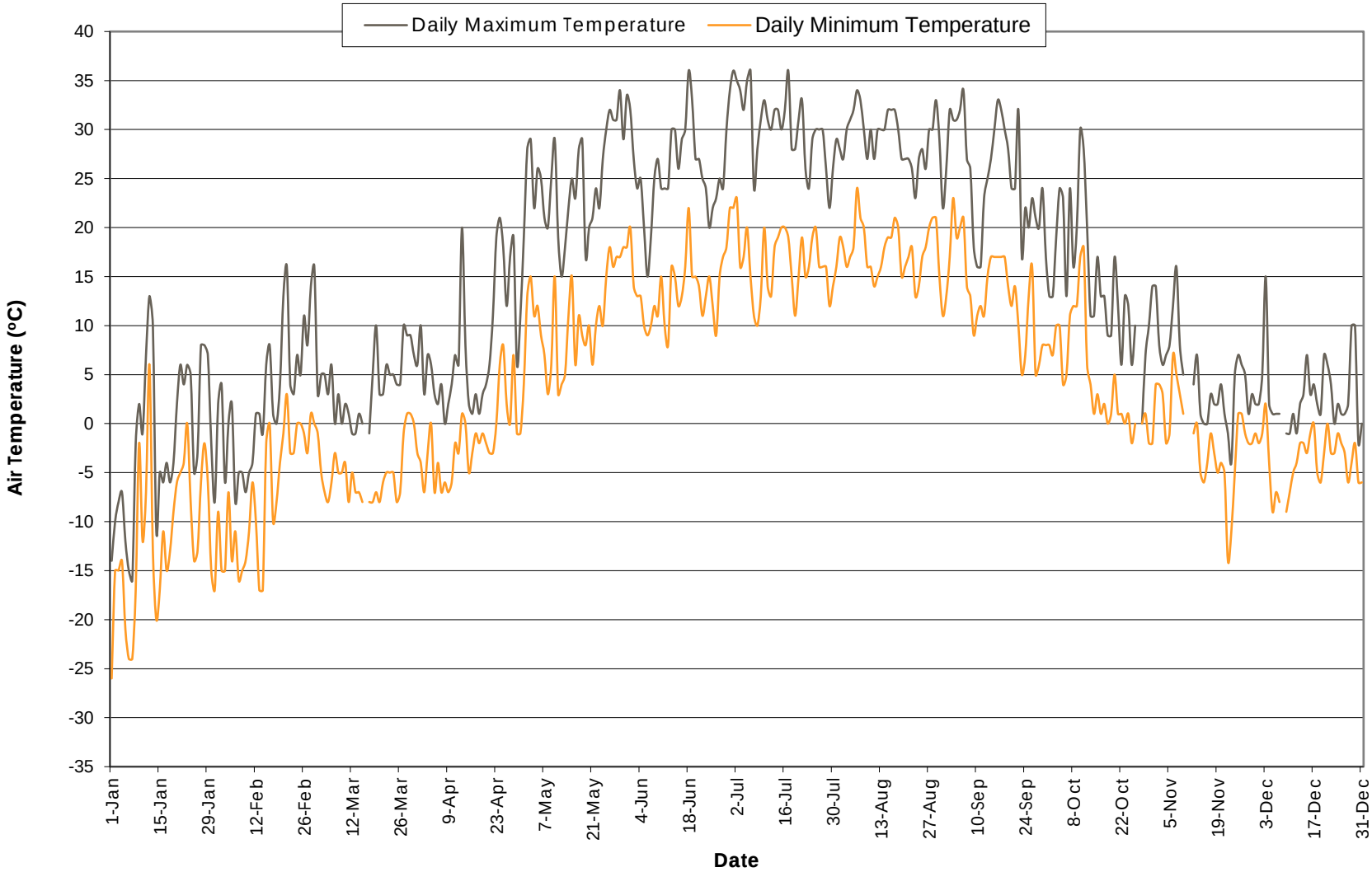
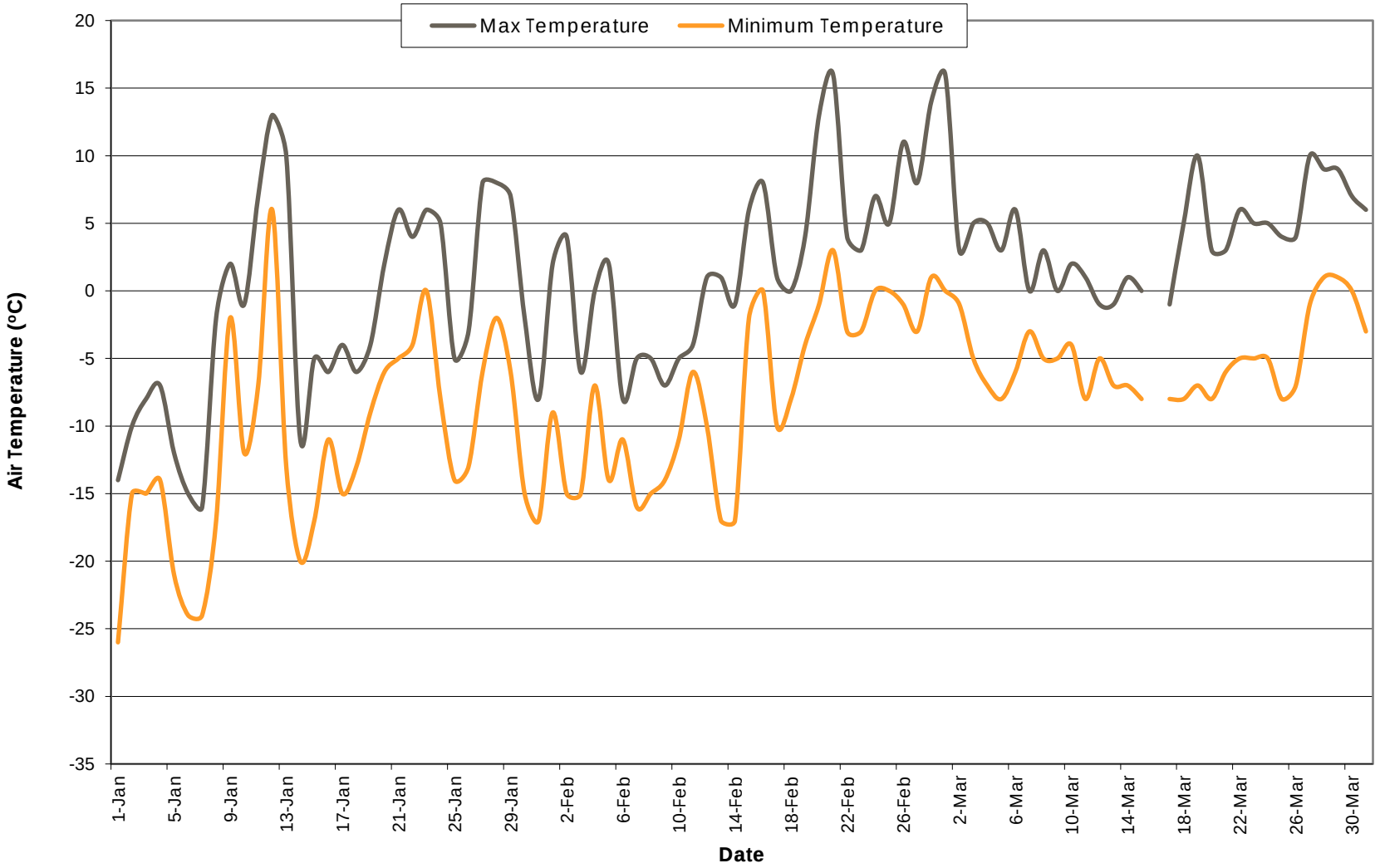
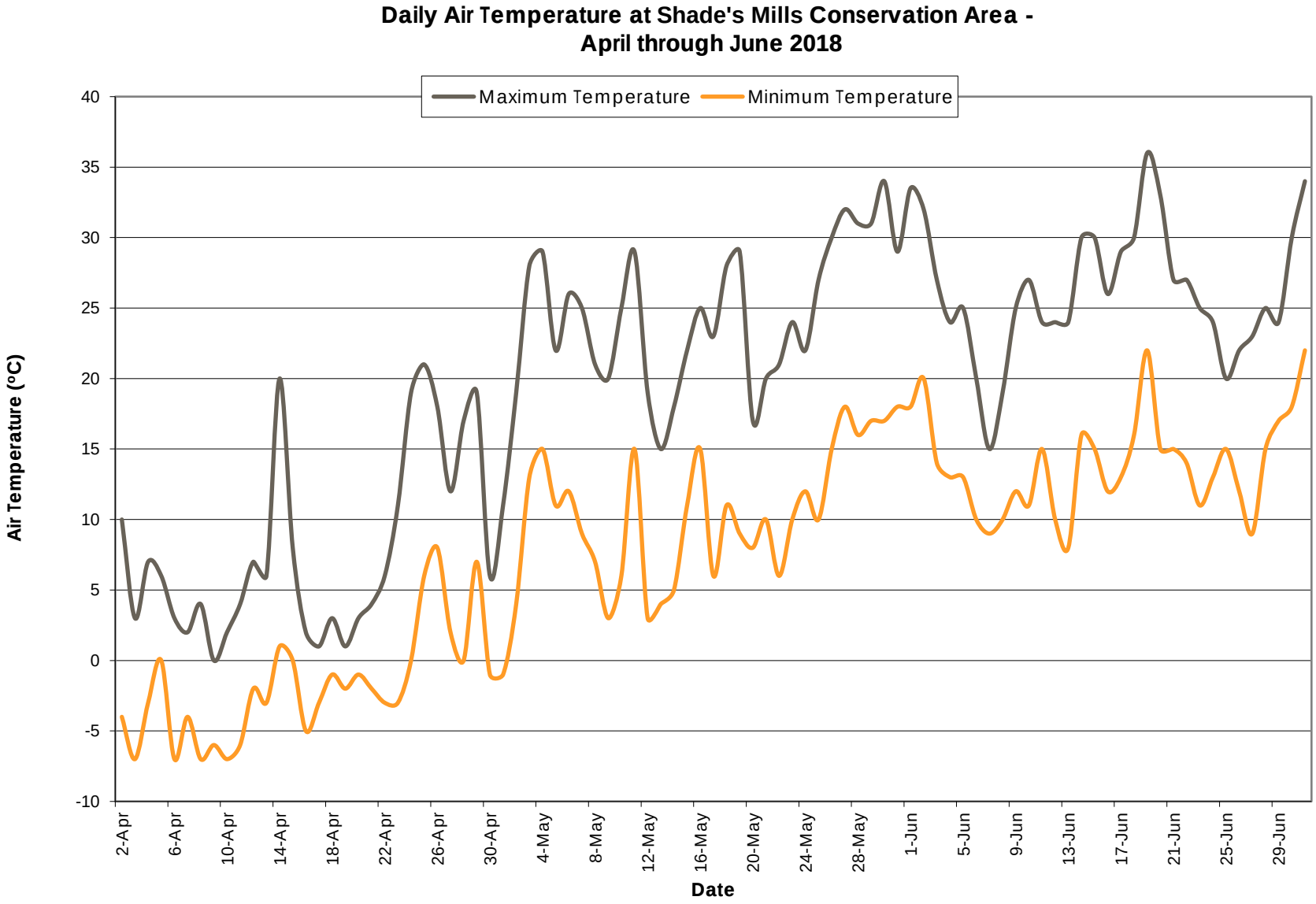

Daily Precipitation at Shade's Mills Conservation Area - October through December 2018
Daily Precipitation (mm)
40
35
30
25
20
15
10
5
0
1-Oct
5-Oct
9-Oct
13-Oct
17-Oct
21-Oct
25-Oct
29-Oct
2-Nov
6-Nov
10-Nov
14-Nov
18-Nov
22-Nov
26-Nov
30-Nov
4-Dec
8-Dec
12-Dec
16-Dec
20-Dec
24-Dec
28-Dec
Date

Daily Air Temperature at Shade's Mills Conservation Area in 2018



Daily Air Temperature at Shade's Mills Conservation Area - January through March 2018




Daily Air Temperature at Shade's Mills Conservation Area -
April through June 2018
Maximum Temperature
Minimum Temperature
Air Temperature (°C)
40
35
30
25
20
15
10
5
0
-5
-10
2-Apr
6-Apr
10-Apr
14-Apr
18-Apr
22-Apr
26-Apr
30-Apr
4-May
8-May
12-May
16-May
20-May
24-May
28-May
1-Jun
5-Jun
9-Jun
13-Jun
17-Jun
21-Jun
25-Jun
29-Jun
Date

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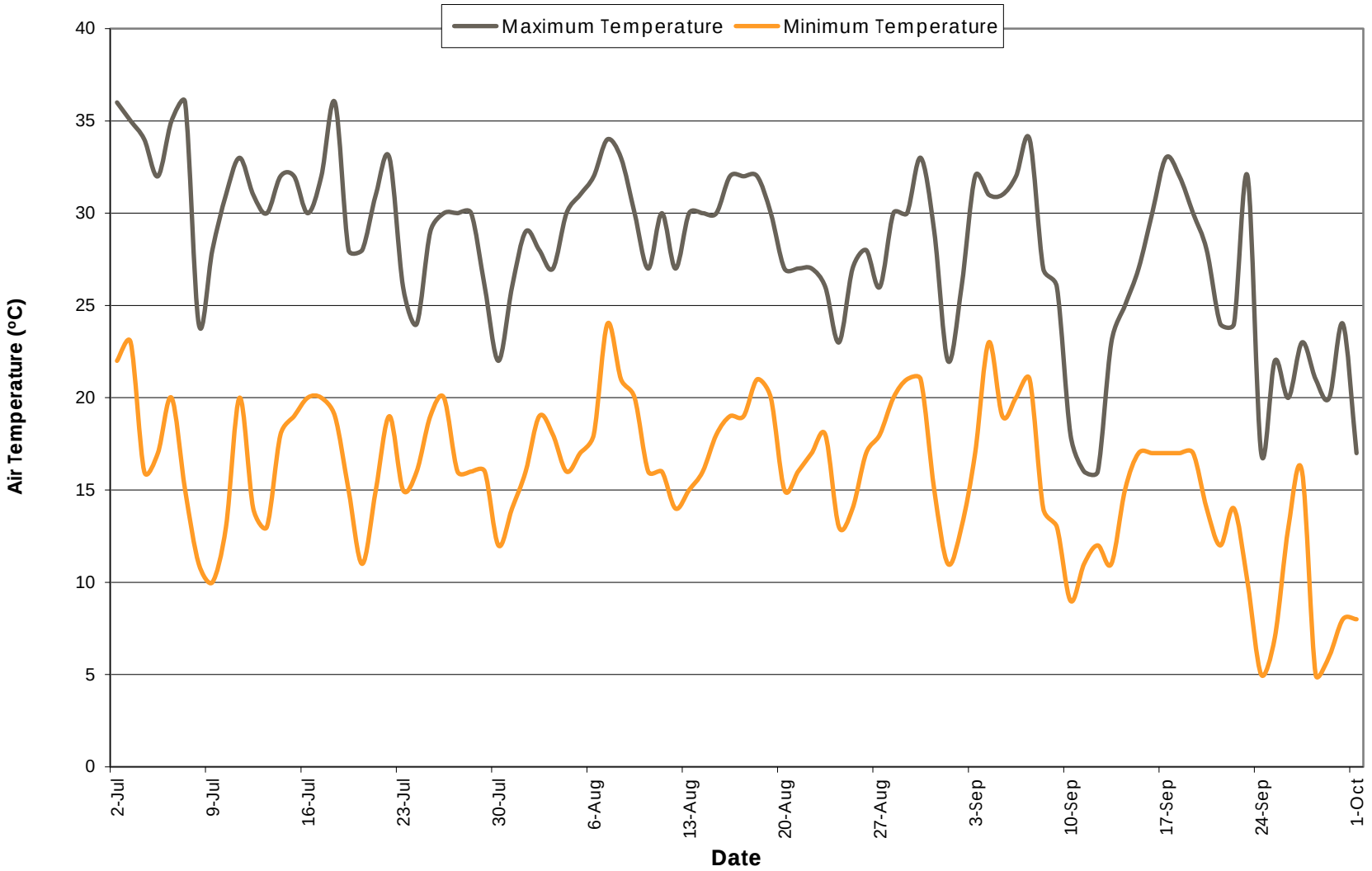
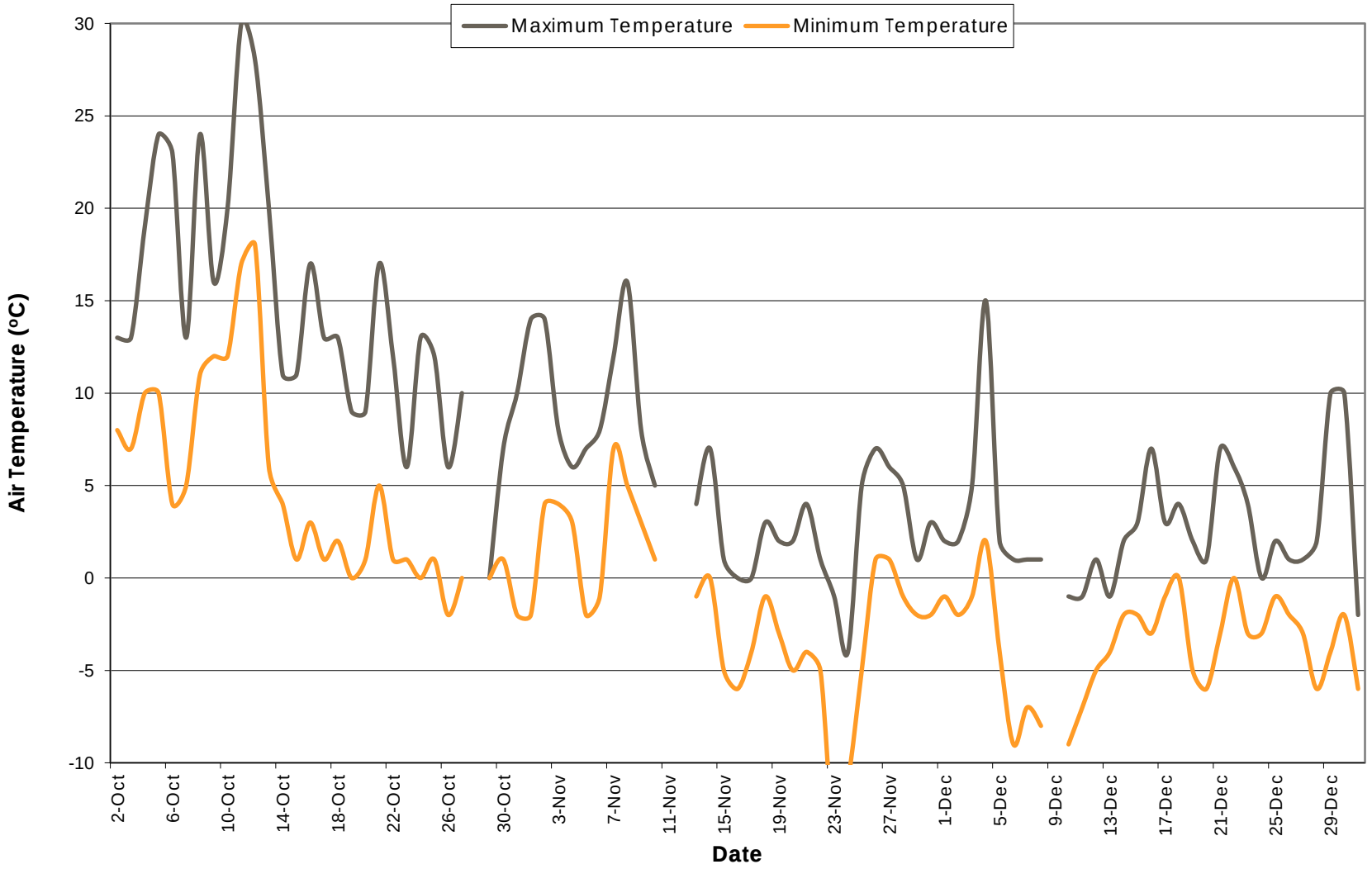
Daily Air Temperature at Shade's Mills Conservation Area - July through September 2018



Daily Air Temperature at Shade's Mills Conservation Area - October through December 2018



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Source: Grand River Conservation Authority: Shade's Mills Climate Station						
Date	**Max T**	**Min T**	**Rain**	**Snow**	**Mean T**	**Total P**
1-Jan-18	-14	-26	0	0	-20	0
2-Jan-18	-10	-15	0	2.5	-12.5	2.5
3-Jan-18	-8	-15	0	0	-11.5	0
4-Jan-18	-7	-14	0	1	-10.5	1
5-Jan-18	-12	-21	0	0	-16.5	0
6-Jan-18	-15	-24	0	0	-19.5	0
7-Jan-18	-16	-24	0	0	-20	0
8-Jan-18	-2	-17	0	7	-9.5	7
9-Jan-18	2	-2	0	2	0	2
10-Jan-18	-1	-12	0	0	-6.5	0
11-Jan-18	7	-7	2.4	0	0	2.4
12-Jan-18	13	6	24	0	9.5	24
13-Jan-18	10	-13	5.5	2	-1.5	7.5
14-Jan-18	-11	-20	0	0	-15.5	0
15-Jan-18	-5	-17	0	0	-11	0
16-Jan-18	-6	-11	0	5	-8.5	5
17-Jan-18	-4	-15	0	0.01	-9.5	0.01
18-Jan-18	-6	-13	0	0	-9.5	0
19-Jan-18	-4	-9	0	0	-6.5	0
20-Jan-18	2	-6	0	0	-2	0
21-Jan-18	6	-5	0	0	0.5	0
22-Jan-18	4	-4	4.8	0	0	4.8
23-Jan-18	6	0	20	0	3	20
24-Jan-18	5	-8	1	0.01	-1.5	1.01
25-Jan-18	-5	-14	0	0	-9.5	0
26-Jan-18	-3	-13	0	0	-8	0
27-Jan-18	8	-6	0	0	1	0
28-Jan-18	8	-2	3.2	0	3	3.2
29-Jan-18	7	-6	0	0	0.5	0
30-Jan-18	-2	-15	0	7	-8.5	7
31-Jan-18	-8	-17	0	0	-12.5	0
1-Feb-18	2	-9	0	0.5	-3.5	0.5
2-Feb-18	4	-15	0	0.5	-5.5	0.5
3-Feb-18	-6	-15	0	0.5	-10.5	0.5
4-Feb-18	0	-7	0	10	-3.5	10
5-Feb-18	2	-14	0	7	-6	7
6-Feb-18	-8	-11	0	1	-9.5	1
7-Feb-18	-5	-16	0	3	-10.5	3

Source: Grand River Conservation Authority: Shade's Mills Climate Station						
Date	**Max T**	**Min T**	**Rain**	**Snow**	**Mean T**	**Total P**
8-Feb-18	-5	-15	0	3.5	-10	3.5
9-Feb-18	-7	-14	0	1.25	-10.5	1.25
10-Feb-18	-5	-11	0	4.75	-8	4.75
11-Feb-18	-4	-6	0	4.5	-5	4.5
12-Feb-18	1	-10	2	0	-4.5	2
13-Feb-18	1	-17	0	0	-8	0
14-Feb-18	-1	-17	0	0	-9	0
15-Feb-18	6	-2	0	0	2	0
16-Feb-18	8	0	0	0	4	0
17-Feb-18	1	-10	0	0	-4.5	0
18-Feb-18	0	-8	0	0	-4	0
19-Feb-18	4	-4	0	0	0	0
20-Feb-18	13	-1	12.8	0	6	12.8
21-Feb-18	16	3	19.4	0	9.5	19.4
22-Feb-18	4	-3	3.2	0	0.5	3.2
23-Feb-18	3	-3	0.2	0	0	0.2
24-Feb-18	7	0	4.4	0	3.5	4.4
25-Feb-18	5	0	3	0	2.5	3
26-Feb-18	11	-1	0	0	5	0
27-Feb-18	8	-3	0	0	2.5	0
28-Feb-18	14	1	0	0	7.5	0
1-Mar-18	16	0	0	0	8	0
2-Mar-18	3	-1	0	5	1	5
3-Mar-18	5	-5	0	0	0	0
4-Mar-18	5	-7	0	0	-1	0
5-Mar-18	3	-8	0	0	-2.5	0
6-Mar-18	6	-6	0	0	0	0
7-Mar-18	0	-3	0	0.01	-1.5	0.01
8-Mar-18	3	-5	0	0.8	-1	0.8
9-Mar-18	0	-5	0	0.5	-2.5	0.5
10-Mar-18	2	-4	0	0.5	-1	0.5
11-Mar-18	1	-8	0	0.01	-3.5	0.01
12-Mar-18	-1	-5	0	0	-3	0
13-Mar-18	-1	-7	0	2.8	-4	2.8
14-Mar-18	1	-7	0	0.5	-3	0.5
15-Mar-18	0	-8	0	0	-4	0
16-Mar-18						

Source: Grand River Conservation Authority: Shade's Mills Climate Station						
Date	**Max T**	**Min T**	**Rain**	**Snow**	**Mean T**	**Total P**
17-Mar-18	-1	-8	0	0	-4.5	0
18-Mar-18	5	-8	0	0	-1.5	0
19-Mar-18	10	-7	0	0	1.5	0
20-Mar-18	3	-8	0	0	-2.5	0
21-Mar-18	3	-6	0	0	-1.5	0
22-Mar-18	6	-5	0	0	0.5	0
23-Mar-18	5	-5	0	0	0	0
24-Mar-18	5	-5	0	0	0	0
25-Mar-18	4	-8	0	0	-2	0
26-Mar-18	4	-7	0	0	-1.5	0
27-Mar-18	10	-1	0.4	0	4.5	0.4
28-Mar-18	9	1	5.2	0	5	5.2
29-Mar-18	9	1	0.6	0	5	0.6
30-Mar-18	7	0	16.2	0	3.5	16.2
31-Mar-18	6	-3	0	0	1.5	0
1-Apr-18	10	-4	15.4	0	3	15.4
2-Apr-18	3	-7	0	0	-2	0
3-Apr-18	7	-3	0	0	2	0
4-Apr-18	6	0	25	0	3	25
5-Apr-18	3	-7	0.8	0	-2	0.8
6-Apr-18	2	-4	0	1	-1	1
7-Apr-18	4	-7	1.5	1	-1.5	2.5
8-Apr-18	0	-6	0	0.01	-3	0.01
9-Apr-18	2	-7	0	0.01	-2.5	0.01
10-Apr-18	4	-6	0	0.5	-1	0.5
11-Apr-18	7	-2	0	0	2.5	0
12-Apr-18	6	-3	1.8	0	1.5	1.8
13-Apr-18	20	1	2.9	0	10.5	2.9
14-Apr-18	8	0	8	0	4	8
15-Apr-18	2	-5	3	1.6	-1.5	4.6
16-Apr-18	1	-3	50	0	-1	50
17-Apr-18	3	-1	4	0	1	4
18-Apr-18	1	-2	0	1	-0.5	1
19-Apr-18	3	-1	0	0	1	0
20-Apr-18	4	-2	0	0	1	0
21-Apr-18	6	-3	0	0	1.5	0
22-Apr-18	11	-3	0	0	4	0
23-Apr-18	19	0	0	0	9.5	0

Source: Grand River Conservation Authority: Shade's Mills Climate Station						
Date	**Max T**	**Min T**	**Rain**	**Snow**	**Mean T**	**Total P**
24-Apr-18	21	6	0	0	13.5	0
25-Apr-18	18	8	14.2	0	13	14.2
26-Apr-18	12	2	5.8	0	7	5.8
27-Apr-18	17	0	0	0	8.5	0
28-Apr-18	19	7	2.2	0	13	2.2
29-Apr-18	6	-1	0	0	2.5	0
30-Apr-18	11	-1	0	0	5	0
1-May-18	19	4	0	0	11.5	0
2-May-18	28	13	0	0	20.5	0
3-May-18	29	15	0	0	22	0
4-May-18	22	11	17	0	16.5	17
5-May-18	26	12	0.4	0	19	0.4
6-May-18	25	9	0	0	17	0
7-May-18	21	7	5.2	0	14	5.2
8-May-18	20	3	0	0	11.5	0
9-May-18	25	6	0	0	15.5	0
10-May-18	29	15	2.4	0	22	2.4
11-May-18	19	3	0	0	11	0
12-May-18	15	4	0.6	0	9.5	0.6
13-May-18	18	5	0	0	11.5	0
14-May-18	22	11	0	0	16.5	0
15-May-18	25	15	11	0	20	11
16-May-18	23	6	0.8	0	14.5	0.8
17-May-18	28	11	0	0	19.5	0
18-May-18	29	9	0	0	19	0
19-May-18	17	8	5.3	0	12.5	5.3
20-May-18	20	10	2	0	15	2
21-May-18	21	6	0	0	13.5	0
22-May-18	24	10	11	0	17	11
23-May-18	22	12	0.2	0	17	0.2
24-May-18	27	10	0	0	18.5	0
25-May-18	30	15	0	0	22.5	0
26-May-18	32	18	0	0	25	0
27-May-18	31	16	0	0	23.5	0
28-May-18	31	17	0	0	24	0
29-May-18	34	17	0	0	25.5	0
30-May-18	29	18	0	0	23.5	0

Source: Grand River Conservation Authority: Shade's Mills Climate Station						
Date	**Max T**	**Min T**	**Rain**	**Snow**	**Mean T**	**Total P**
31-May-18	33.5	18	1.4	0	25.75	1.4
1-Jun-18	32	20	0.2	0	26	0.2
2-Jun-18	27	14	0	0	20.5	0
3-Jun-18	24	13	0	0	18.5	0
4-Jun-18	25	13	5.4	0	19	5.4
5-Jun-18	20	10	2.8	0	15	2.8
6-Jun-18	15	9	0	0	12	0
7-Jun-18	19	10	0	0	14.5	0
8-Jun-18	25	12	0	0	18.5	0
9-Jun-18	27	11	0	0	19	0
10-Jun-18	24	15	0	0	19.5	0
11-Jun-18	24	10	0	0	17	0
12-Jun-18	24	8	0	0	16	0
13-Jun-18	30	16	0.8	0	15.8	0.8
14-Jun-18	30	15	0	0	22.5	0
15-Jun-18	26	12	0	0	19	0
16-Jun-18	29	13	0	0	21	0
17-Jun-18	30	16	0	0	23	0
18-Jun-18	36	22	0	0	29	0
19-Jun-18	33	15	10.5	0	24	10.5
20-Jun-18	27	15	0	0	21	0
21-Jun-18	27	14	0.2	0	20.5	0.2
22-Jun-18	25	11	0	0	18	0
23-Jun-18	24	13	14.2	0	18.5	14.2
24-Jun-18	20	15	23.2	0	17.5	23.2
25-Jun-18	22	12	14.2	0	17	14.2
26-Jun-18	23	9	0	0	16	0
27-Jun-18	25	15	11.8	0	20	11.8
28-Jun-18	24	17	3.2	0	20.5	3.2
29-Jun-18	30	18	0	0	24	0
30-Jun-18	34	22	0	0	28	0
1-Jul-18	36	22	0	0	29	0
2-Jul-18	35	23	0	0	29	0
3-Jul-18	34	16	0	0	25	0
4-Jul-18	32	17	0	0	24.5	0
5-Jul-18	35	20	0	0	27.5	0
6-Jul-18	36	15	1	0	25.5	1
7-Jul-18	24	11	0	0	17.5	0

Source: Grand River Conservation Authority: Shade's Mills Climate Station						
Date	**Max T**	**Min T**	**Rain**	**Snow**	**Mean T**	**Total P**
8-Jul-18	28	10	0	0	19	0
9-Jul-18	31	13	0	0	22	0
10-Jul-18	33	20	0	0	26.5	0
11-Jul-18	31	14	0	0	22.5	0
12-Jul-18	30	13	0	0	21.5	0
13-Jul-18	32	18	0	0	25	0
14-Jul-18	32	19	0	0	25.5	0
15-Jul-18	30	20	0	0	25	0
16-Jul-18	32	20	3.6	0	26	3.6
17-Jul-18	36	19	3	0	27.5	3
18-Jul-18	28	15	0	0	21.5	0
19-Jul-18	28	11	0	0	19.5	0
20-Jul-18	31	15	0	0	23	0
21-Jul-18	33	19	4.5	0	26	4.5
22-Jul-18	26	15	9.2	0	20.5	9.2
23-Jul-18	24	16	5.7	0	20	5.7
24-Jul-18	29	19	12.4	0	24	12.4
25-Jul-18	30	20	0.2	0	25	0.2
26-Jul-18	30	16	0	0	23	0
27-Jul-18	30	16	6.6	0	23	6.6
28-Jul-18	26	16	12.1	0	21	12.1
29-Jul-18	22	12	1.4	0	17	1.4
30-Jul-18	26	14	10.4	0	20	10.4
31-Jul-18	29	16	1	0	22.5	1
1-Aug-18	28	19	0	0	23.5	0
2-Aug-18	27	18	0	0	22.5	0
3-Aug-18	30	16	0	0	23	0
4-Aug-18	31	17	0	0	24	0
5-Aug-18	32	18	0	0	25	0
6-Aug-18	34	24	0	0	29	0
7-Aug-18	33	21	18.8	0	27	18.8
8-Aug-18	30	20	13.4	0	25	13.4
9-Aug-18	27	16	11	0	21.5	11
10-Aug-18	30	16	0.2	0	23	0.2
11-Aug-18	27	14	0	0	20.5	0
12-Aug-18	30	15	2.4	0	22.5	2.4
13-Aug-18	30	16	0	0	23	0

Source: Grand River Conservation Authority: Shade's Mills Climate Station						
Date	**Max T**	**Min T**	**Rain**	**Snow**	**Mean T**	**Total P**
14-Aug-18	30	18	0	0	24	0
15-Aug-18	32	19	0	0	25.5	0
16-Aug-18	32	19	0	0	25.5	0
17-Aug-18	32	21	1.8	0	26.5	1.8
18-Aug-18	30	20	61.6	0	25	61.6
19-Aug-18	27	15	0	0	21	0
20-Aug-18	27	16	0	0	21.5	0
21-Aug-18	27	17	3.8	0	22	3.8
22-Aug-18	26	18	27.4	0	22	27.4
23-Aug-18	23	13	2.2	0	18	2.2
24-Aug-18	27	14	0	0	20.5	0
25-Aug-18	28	17	0	0	22.5	0
26-Aug-18	26	18	17.7	0	22	17.7
27-Aug-18	30	20	5.2	0	25	5.2
28-Aug-18	30	21	0	0	25.5	0
29-Aug-18	33	21	0	0	27	0
30-Aug-18	29	15	0	0	22	0
31-Aug-18	22	11	0	0	16.5	0
1-Sep-18	26	13	0	0	19.5	0
2-Sep-18	32	17	0	0	24.5	0
3-Sep-18	31	23	0	0	27	0
4-Sep-18	31	19	2.8	0	25	2.8
5-Sep-18	32	20	0	0	26	0
6-Sep-18	34	21	8.6	0	27.5	8.6
7-Sep-18	27	14	0	0	20.5	0
8-Sep-18	26	13	0	0	19.5	0
9-Sep-18	18	9	0	0	13.5	0
10-Sep-18	16	11	13.4	0	13.5	13.4
11-Sep-18	16	12	4.2	0	14	4.2
12-Sep-18	23	11	0	0	17	0
13-Sep-18	25	15	0	0	20	0
14-Sep-18	27	17	0	0	22	0
15-Sep-18	30	17	0	0	23.5	0
16-Sep-18	33	17	0	0	25	0
17-Sep-18	32	17	0	0	24.5	0
18-Sep-18	30	17	0	0	23.5	0
19-Sep-18	28	14	0	0	21	0
20-Sep-18	24	12	0	0	18	0

Source: Grand River Conservation Authority: Shade's Mills Climate Station						
Date	**Max T**	**Min T**	**Rain**	**Snow**	**Mean T**	**Total P**
21-Sep-18	24	14	0	0	19	0
22-Sep-18	32	10	4.5	0	21	4.5
23-Sep-18	17	5	0	0	11	0
24-Sep-18	22	7	0	0	14.5	0
25-Sep-18	20	13	6.4	0	16.5	6.4
26-Sep-18	23	16	6.4	0	19.5	6.4
27-Sep-18	21	5	0	0	13	0
28-Sep-18	20	6	0	0	13	0
29-Sep-18	24	8	0	0	16	0
30-Sep-18	17	8	4.8	0	12.5	4.8
1-Oct-18	13	8	24.4	0	10.5	24.4
2-Oct-18	13	7	14.8	0	10	14.8
3-Oct-18	19	10	2.4	0	14.5	2.4
4-Oct-18	24	10	9.6	0	17	9.6
5-Oct-18	23	4	1.2	0	13.5	1.2
6-Oct-18	13	5	5.2	0	9	5.2
7-Oct-18	24	11	6.8	0	17.5	6.8
8-Oct-18	16	12	0.2	0	14	0.2
9-Oct-18	20	12	0	0	16	0
10-Oct-18	30	17	0	0	23.5	0
11-Oct-18	28	18	0.6	0	23	0.6
12-Oct-18	20	6	0	0	13	0
13-Oct-18	11	4	2.6	0	7.5	2.6
14-Oct-18	11	1	0.2	0	6	0.2
15-Oct-18	17	3	1.2	0	10	1.2
16-Oct-18	13	1	1.8	0	7	1.8
17-Oct-18	13	2	0.4	0	7.5	0.4
18-Oct-18	9	0	1.2	0	4.5	1.2
19-Oct-18	9	1	0	0	5	0
20-Oct-18	17	5	0.8	0	11	0.8
21-Oct-18	12	1	5.3	0	6.5	5.3
22-Oct-18	6	1	0	0	3.5	0
23-Oct-18	13	0	0	0	6.5	0
24-Oct-18	12	1	1.2	0	6.5	1.2
25-Oct-18	6	-2	0	0	2	0
26-Oct-18	10	0	0	0	5	0
27-Oct-18						0

Source: Grand River Conservation Authority: Shade's Mills Climate Station						
Date	**Max T**	**Min T**	**Rain**	**Snow**	**Mean T**	**Total P**
28-Oct-18	0	0	0	0	0	0
29-Oct-18	7	1	1.8	0	4	1.8
30-Oct-18	10	-2	0.2	0	4	0.2
31-Oct-18	14	-2	11	0	6	11
1-Nov-18	14	4	16.6	0	9	16.6
2-Nov-18	8	4	35.4	0	6	35.4
3-Nov-18	6	3	1.4	0	4.5	1.4
4-Nov-18	7	-2	0.1	0	2.5	0.1
5-Nov-18	8	-1	1.8	0	3.5	1.8
6-Nov-18	12	7	8	0	9.5	8
7-Nov-18	16	5	8.4	0	10.5	8.4
8-Nov-18	8	3	0	0	5.5	0
9-Nov-18	5	1	0.6	0	3	0.6
10-Nov-18						0
11-Nov-18						0
12-Nov-18	4	-1	0.2	0	1.5	0.2
13-Nov-18	7	0	0.4	2	3.5	2.4
14-Nov-18	1	-5	0.5	0.5	-2	1
15-Nov-18	0	-6	0	0	-3	0
16-Nov-18	0	-4	0	13	-2	13
17-Nov-18	3	-1	0.2	0	1	0.2
18-Nov-18	2	-3	0	0	-0.5	0
19-Nov-18	2	-5	0	0	-1.5	0
20-Nov-18	4	-4	0	2	0	2
21-Nov-18	1	-5	0	0.1	-2	0.1
22-Nov-18	-1	-14	0	0	-7.5	0
23-Nov-18	-4	-11	0	0	-7.5	0
24-Nov-18	5	-5	0	0	0	0
25-Nov-18	7	1	7.4	0	4	7.4
26-Nov-18	6	1	4.7	0	3.5	4.7
27-Nov-18	5	-1	17.4	0.5	2	17.9
28-Nov-18	1	-2	0	0.2	-0.5	0.2
29-Nov-18	3	-2	0	0	0.5	0
30-Nov-18	2	-1	0	0	0.5	0
1-Dec-18	2	-2	0	0	0	0
2-Dec-18	5	-1	7.8	0	2	7.8
3-Dec-18	15	2	5.6	0	8.5	5.6
4-Dec-18	2	-4	0	0	-1	0

Source: Grand River Conservation Authority: Shade's Mills Climate Station						
Date	**Max T**	**Min T**	**Rain**	**Snow**	**Mean T**	**Total P**
5-Dec-18	1	-9	0	0	-4	0
6-Dec-18	1	-7	0	1	-3	1
7-Dec-18	1	-8	0	1	-3.5	1
8-Dec-18						0
9-Dec-18	-1	-9	0	0	-5	0
10-Dec-18	-1	-7	0	0	-4	0
11-Dec-18	1	-5	0	0	-2	0
12-Dec-18	-1	-4	0	0.4	-2.5	0.4
13-Dec-18	2	-2	0.2	1	0	1.2
14-Dec-18	3	-2	1.2	0	0.5	1.2
15-Dec-18	7	-3	3	0	2	3
16-Dec-18	3	-1	0	0	1	0
17-Dec-18	4	0	0	0	2	0
18-Dec-18	2	-5	0	0	-1.5	0
19-Dec-18	1	-6	0	0	-2.5	0
20-Dec-18	7	-3	0	0	2	0
21-Dec-18	6	0	22	0	3	22
22-Dec-18	4	-3	1	0	0.5	1
23-Dec-18	0	-3	0	0	-1.5	0
24-Dec-18	2	-1	0	0.2	0.5	0.2
25-Dec-18	1	-2	0.2	0.3	-0.5	0.5
26-Dec-18	1	-3	0	0	-1	0
27-Dec-18	2	-6	0	0	-2	0
28-Dec-18	10	-4	8.8	0	3	8.8
29-Dec-18	10	-2	0	0.1	4	0.1
30-Dec-18	-2	-6	0	1.5	-4	1.5
31-Dec-18	0	-6	0	0	-3	0

SUB-APPENDIX A-2

SWM1 and SWM 2 Rating Curve Data

SWM1 AND SWM2
2018 RATING CURVE DATA

SWM1 and SWM2 Rating Curve

Date	SWM1		SWM2	
	Water Level (m)	Flow (m3/s)	Water Level (m)	Flow (m3/s)
20100401	0.3791	0.5578		
20100830	0.1991	0.1440		
20100804	0.2320	0.1810		
20100611	0.3474	0.4786		
20100305	0.2530	0.2244		
20101013	0.2860	0.1970		
20110602	0.3715	0.6025		
20110712	0.2112	0.1950		
20110822	0.1970	0.1380		
20111012	0.2410	0.1730		
20111108	0.2940	0.2520		
20120111	0.3220	0.4106		
20120201	0.4283	0.7185		
20120305	0.4157	0.6063		
20120411	0.2638	0.2173		
20120502	0.2972	0.3090		
20120606	0.2374	0.2035		
20120710	0.1731	0.0873		
20120803	0.1673	0.0720		
20120906	0.2069	0.1291		
20121002	0.2205	0.1621		
20121025	0.3568	0.3969		
20121126	0.2977	0.2689		
20121214	0.3130	0.2868		
20130108	0.2980	0.2557		
20130207	0.3240	0.3409		
20130320	0.3780	0.5361		
20130417	0.4656	0.9823		
20130509	0.2652	0.2998		
20130613	0.3196	0.4461		
20130722	0.2374	0.2822		
20130826	0.2143	0.1867		
20130916	0.2275	0.2069		
20131119	0.3486	0.4941		
20131216	0.2802	0.2977		
20140120	0.4403	0.4256	BD	BD
20140318	0.4394	0.3991	BD	BD
20140507	0.3890	0.6505	0.5672	0.9354
20140611	0.2685	0.2634	0.3764	0.4403
20140715	0.2179	0.2112	0.3114	0.3092
20140813	0.2688	0.2951	0.4125	0.5586
20140930	0.2717	0.2431	0.3813	0.3921

SWM1 and SWM2 Rating Curve

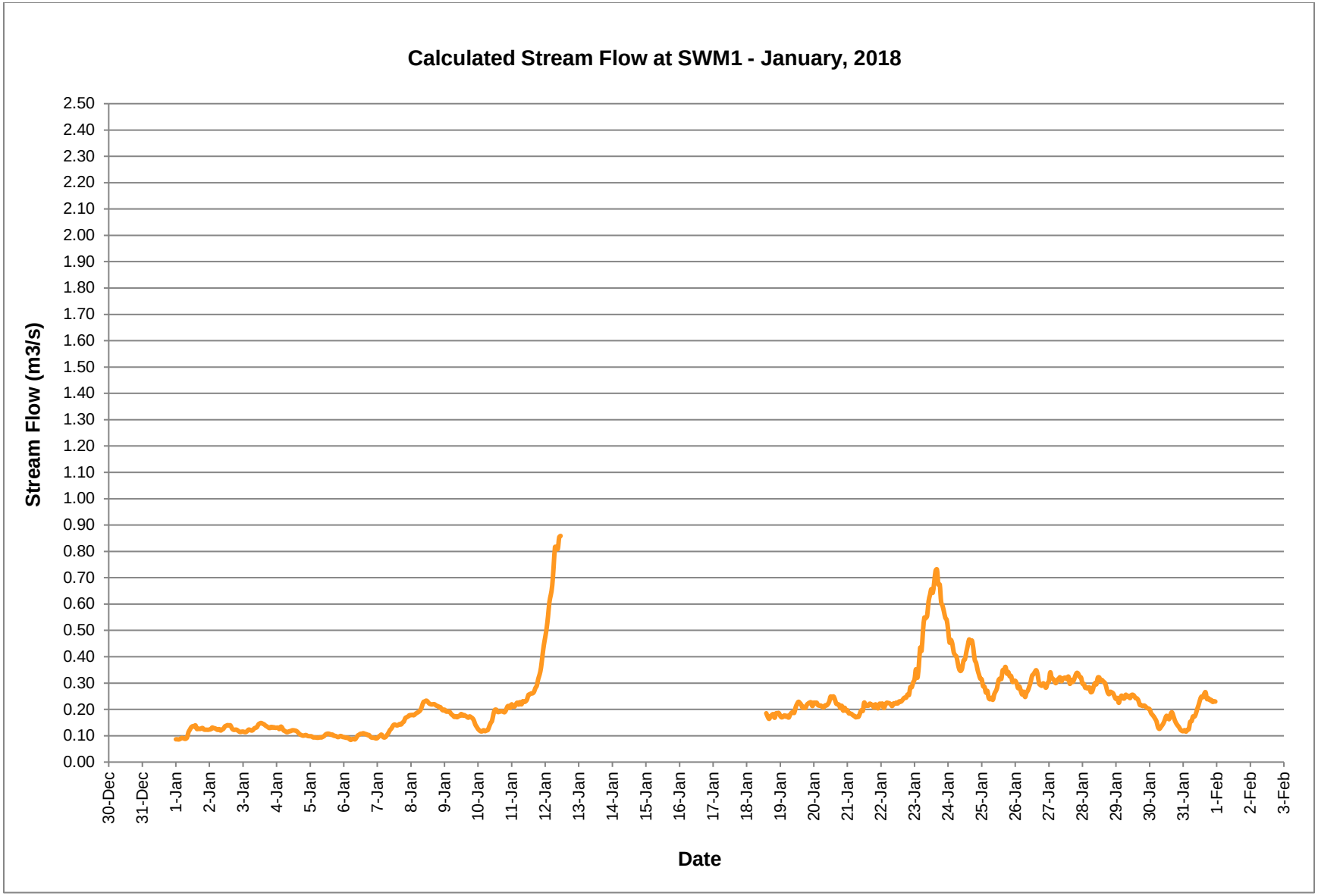
Date	SWM1		SWM2	
	Water Level (m)	Flow (m3/s)	Water Level (m)	Flow (m3/s)
20141016	0.4248	0.3809	0.4486	0.5746
20141117	0.4302	0.2647	0.3974	0.4467
20141210	0.3861	0.3102	0.4207	0.4331
20150120	0.3362	0.2373	0.3344	0.3616
20150318	0.4530	0.4224	0.5280	0.8527
20150326	0.3970	0.3646	0.3500	0.6412
20150409	0.5810	1.1258	0.6145	1.6619
20150519	0.2206	0.1786	0.2546	0.3285
20150619	0.2616	0.2838	0.3453	0.4763
20150720	0.2730	0.2424	0.2532	0.4641
20150915	0.2123	0.1071	0.3684	0.2821
20151014	0.2594	0.1453	0.2057	0.2608
20151116	0.4542	0.3319	0.4484	0.4401
20160203	0.4175	0.6335	0.5123	0.9543
20160304	0.4403	0.3401	0.3638	0.5504
20160407	0.5685	1.1611	0.6255	1.6094
20160504	0.3179	0.3561	0.3927	0.5631
20160613	0.2267	0.1441	0.2983	0.2908
20160705	0.2311	0.0991	0.2667	0.1903
20160810	0.2225	0.0816	0.2841	0.1756
20160927	0.2641	0.1452	0.3206	0.2525
20161021	0.4087	0.2177	0.3499	0.3823
20161118	0.4011	0.1612	0.3177	0.2624
20170131	0.2605	0.3052	0.3385	0.5113
20170216	0.1968	0.2204	0.2874	0.2869
20170317	0.2212	0.2830	0.2716	0.4186
20170412	0.4574	0.8291	0.5273	1.1843
20170509	0.4664	0.9847	0.5489	1.2875
20170612	0.2790	0.2830	0.3078	0.4290
20170724	0.2879	0.1967	0.3518	0.4196
20170921	0.2685	0.1475	0.3394	0.2692
20171016	0.3208	0.2664	0.3745	0.4327
20171208	0.2714	0.3052	0.3183	0.4778
20180112	0.4859	0.9995	0.5923	1.4876
20180209	N/A	N/A	0.2728	0.4086
20180301	0.3637	0.7010	0.4446	0.9534
20180404	0.4602	1.1219	0.5677	1.6301
20180510	0.3368	0.4921	0.3793	0.6719
20180618	0.2483	0.1872	0.2781	0.2478
20180706	0.2542	0.1726	0.2856	0.2101
20180809	0.3039	0.3207	0.3224	0.3643
20180913	0.2940	0.1686	0.3006	0.1727

SWM1 and SWM2 Rating Curve

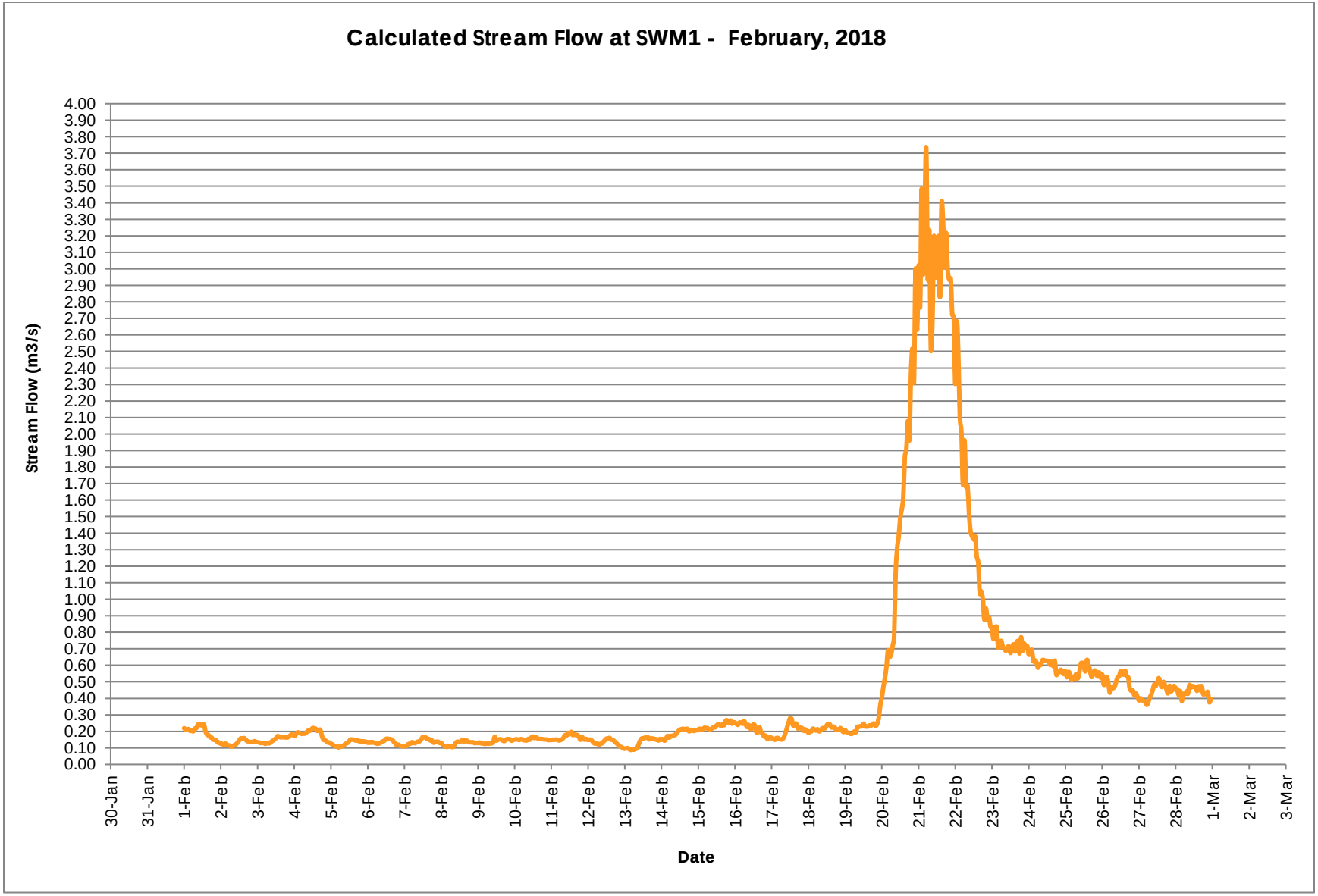
Date	SWM1		SWM2	
	Water Level (m)	Flow (m3/s)	Water Level (m)	Flow (m3/s)
20181030	BD	BD	0.2915	0.2919
20181121	BD	BD	0.2971	0.3381
20190103	BD	BD	0.4517	0.5925

SUB-APPENDIX A-3
Monthly Hydrographs

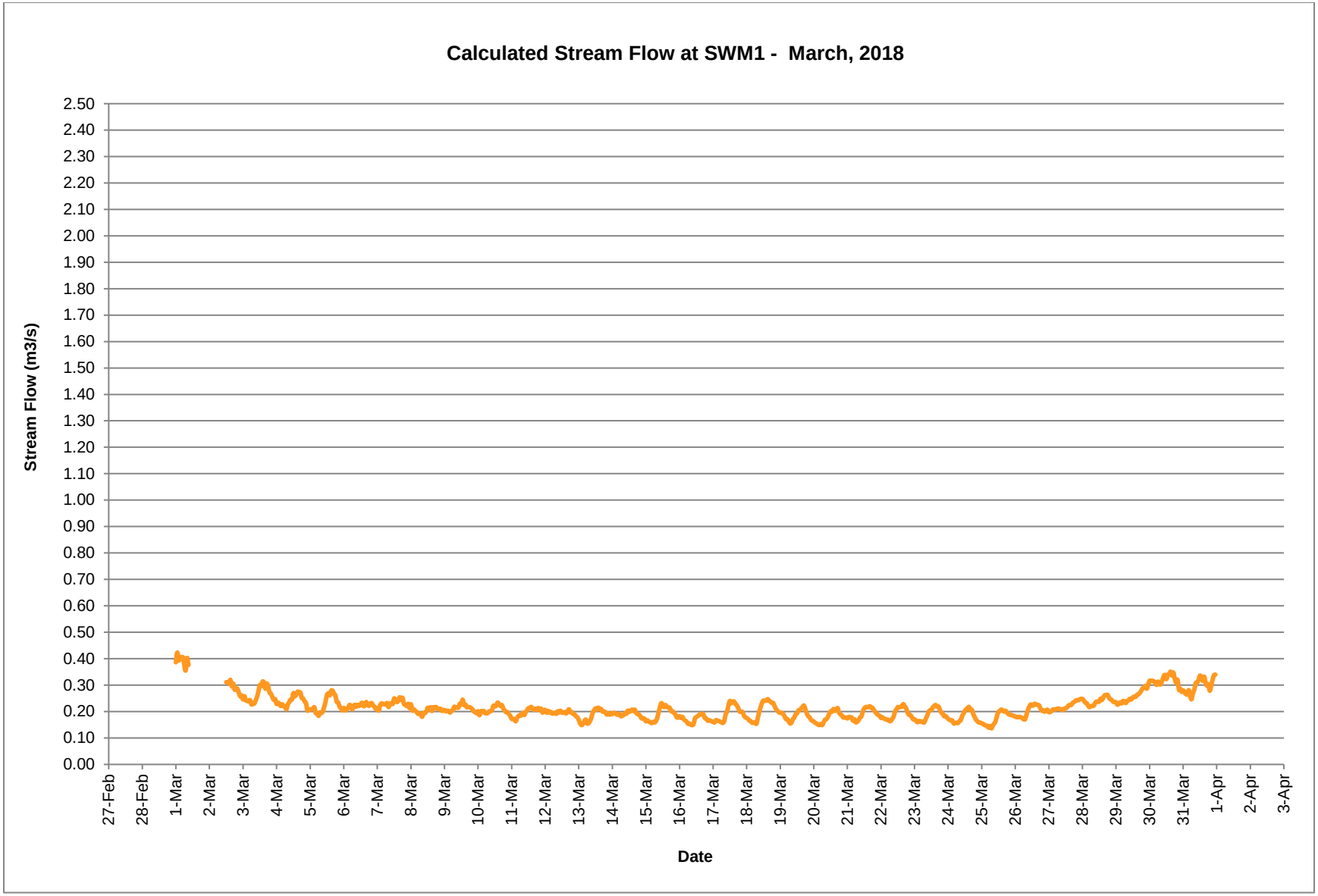
SWM1
MONTHLY DISCHARGE GRAPHS

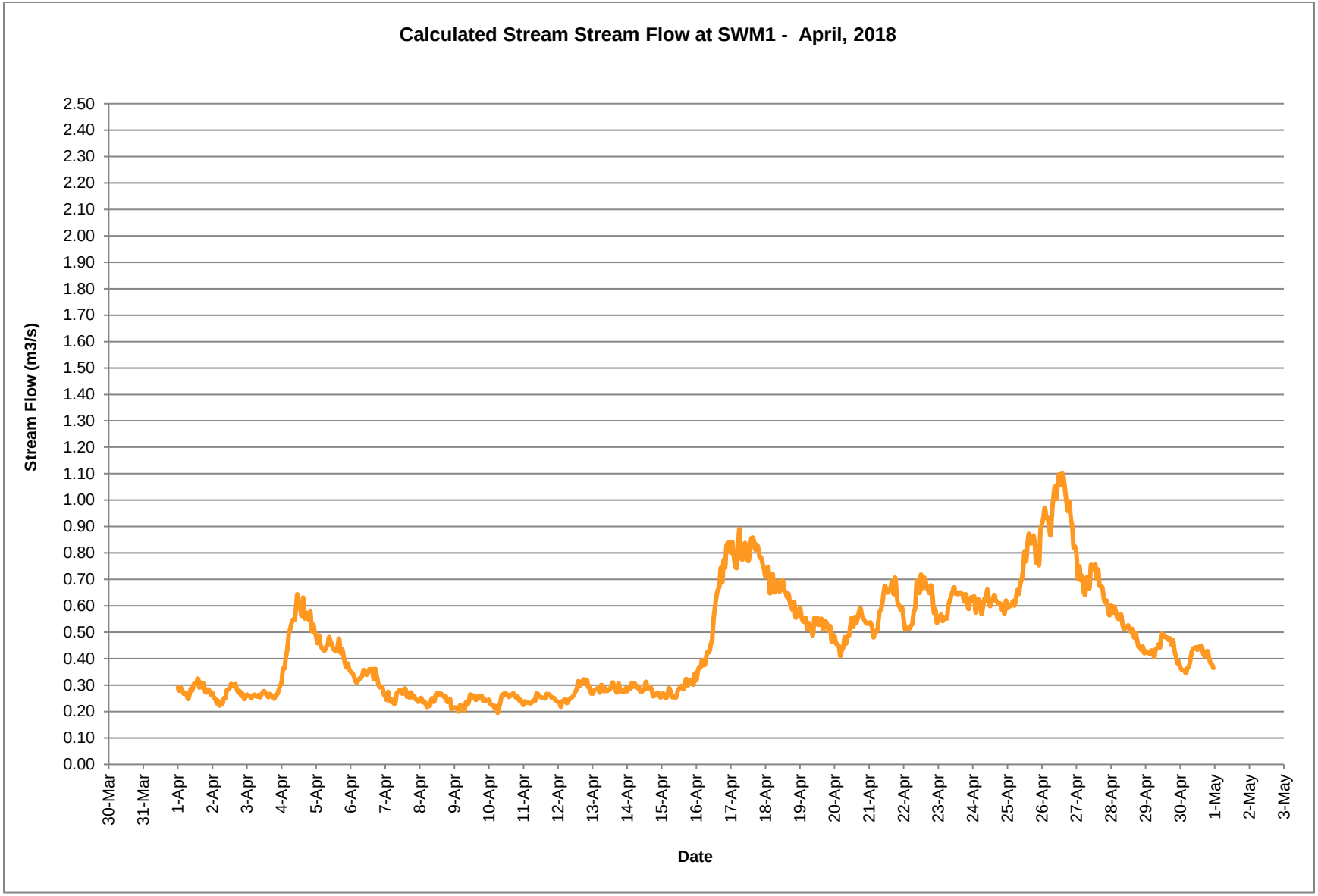

Calculated Stream Flow at SWM1 - January, 2018
Stream Flow (m3/s)
2.50
2.40
2.30
2.20
2.10
2.00
1.90
1.80
1.70
1.60
1.50
1.40
1.30
1.20
1.10
1.00
0.90
0.80
0.70
0.60
0.50
0.40
0.30
0.20
0.10
0.00
30-Dec
31-Dec
1-Jan
2-Jan
3-Jan
4-Jan
5-Jan
6-Jan
7-Jan
8-Jan
9-Jan
10-Jan
11-Jan
12-Jan
13-Jan
14-Jan
15-Jan
16-Jan
17-Jan
18-Jan
19-Jan
20-Jan
21-Jan
22-Jan
23-Jan
24-Jan
25-Jan
26-Jan
27-Jan
28-Jan
29-Jan
30-Jan
31-Jan
1-Feb
2-Feb
3-Feb
Date

Stantec

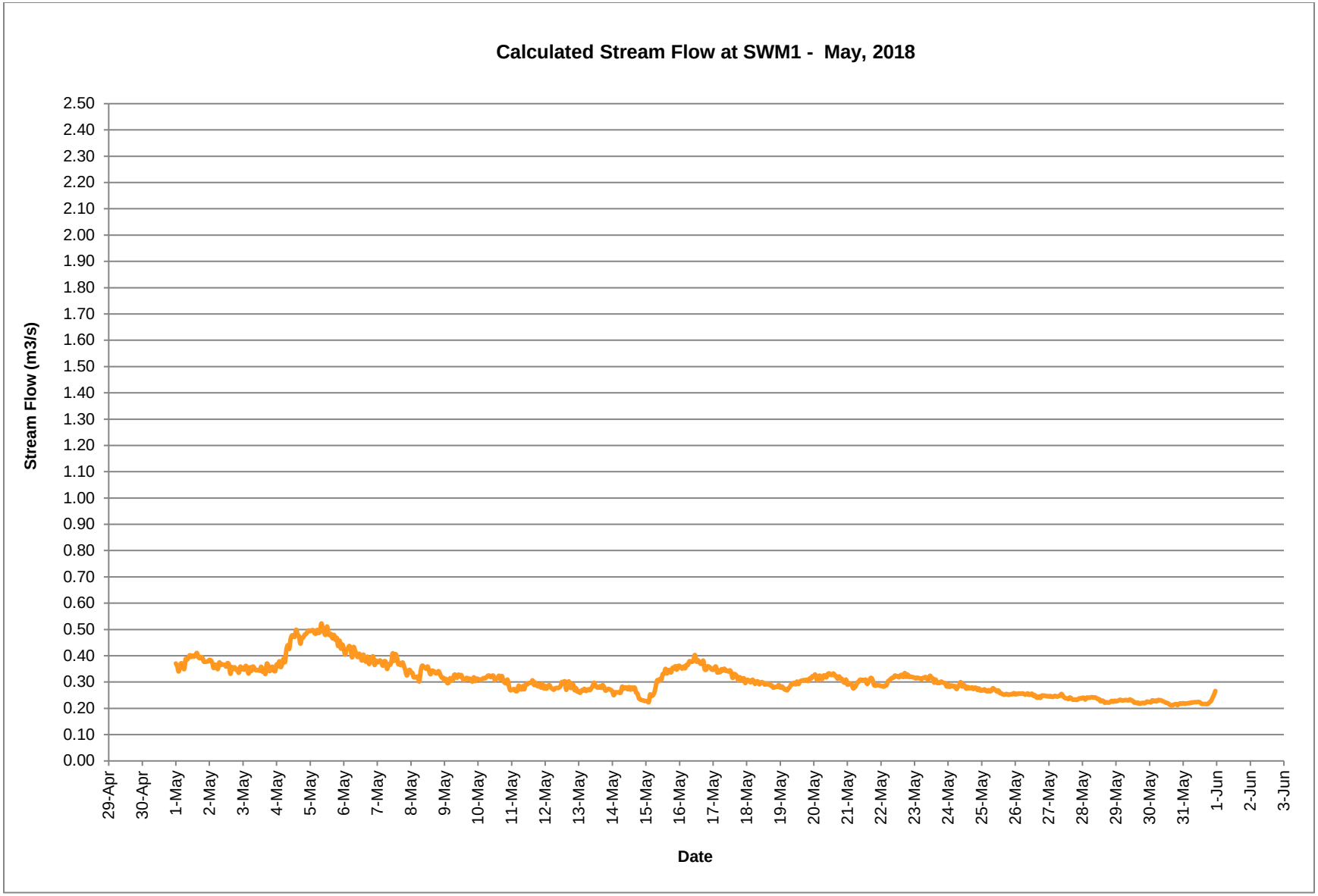

Calculated Stream Flow at SWM1 - February, 2018
Stream Flow (m3/s)
4.00
3.90
3.80
3.70
3.60
3.50
3.40
3.30
3.20
3.10
3.00
2.90
2.80
2.70
2.60
2.50
2.40
2.30
2.20
2.10
2.00
1.90
1.80
1.70
1.60
1.50
1.40
1.30
1.20
1.10
1.00
0.90
0.80
0.70
0.60
0.50
0.40
0.30
0.20
0.10
0.00
30-Jan
31-Jan
1-Feb
2-Feb
3-Feb
4-Feb
5-Feb
6-Feb
7-Feb
8-Feb
9-Feb
10-Feb
11-Feb
12-Feb
13-Feb
14-Feb
15-Feb
16-Feb
17-Feb
18-Feb
19-Feb
20-Feb
21-Feb
22-Feb
23-Feb
24-Feb
25-Feb
26-Feb
27-Feb
28-Feb
1-Mar
2-Mar
3-Mar
Date

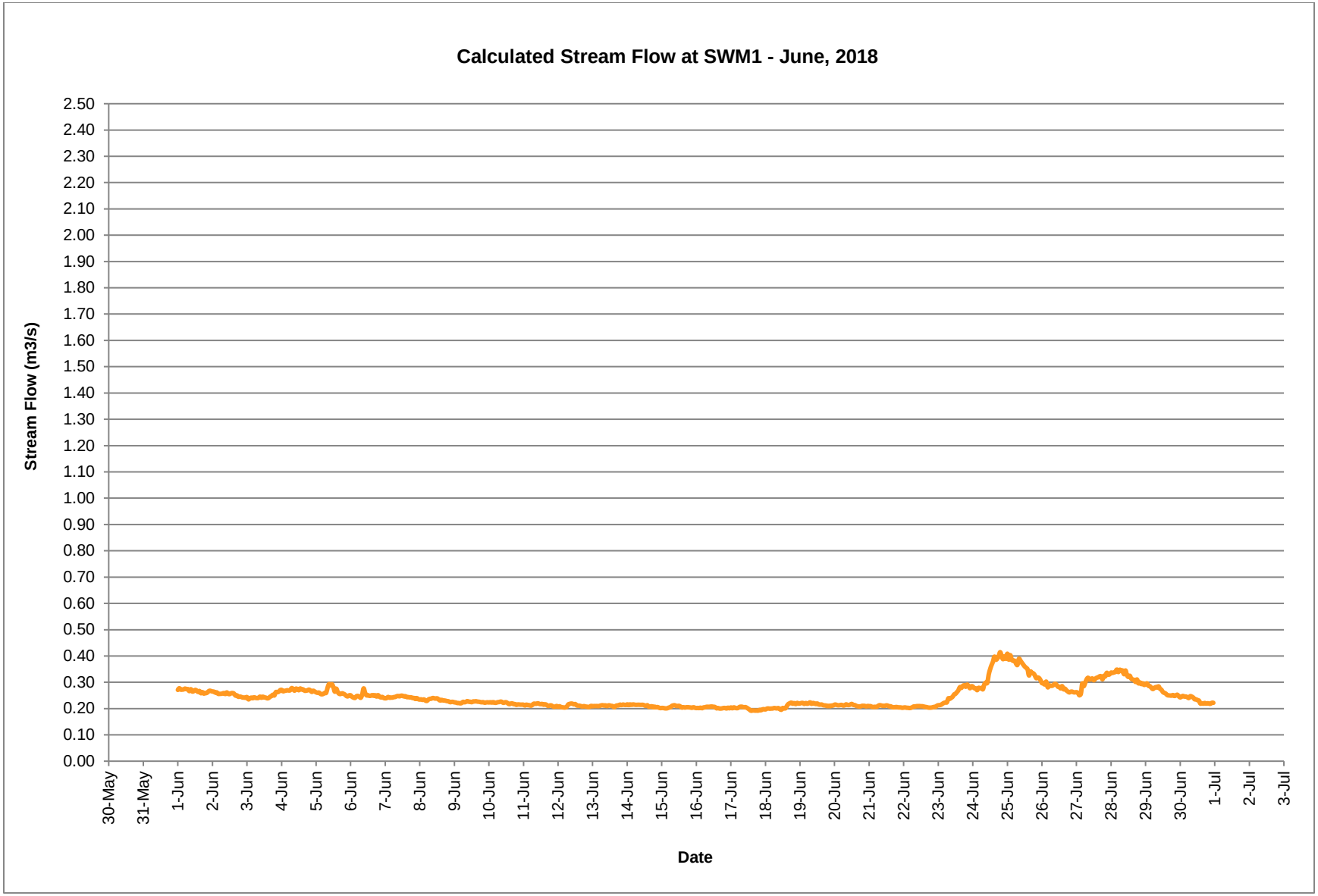
Stantec


Calculated Stream Flow at SWM1 - March, 2018
Stream Flow (m3/s)
2.50
2.40
2.30
2.20
2.10
2.00
1.90
1.80
1.70
1.60
1.50
1.40
1.30
1.20
1.10
1.00
0.90
0.80
0.70
0.60
0.50
0.40
0.30
0.20
0.10
0.00
27-Feb
28-Feb
1-Mar
2-Mar
3-Mar
4-Mar
5-Mar
6-Mar
7-Mar
8-Mar
9-Mar
10-Mar
11-Mar
12-Mar
13-Mar
14-Mar
15-Mar
16-Mar
17-Mar
18-Mar
19-Mar
20-Mar
21-Mar
22-Mar
23-Mar
24-Mar
25-Mar
26-Mar
27-Mar
28-Mar
29-Mar
30-Mar
31-Mar
1-Apr
2-Apr
3-Apr
Date


Calculated Stream Stream Flow at SWM1 - April, 2018
Stream Flow (m3/s)
2.50
2.40
2.30
2.20
2.10
2.00
1.90
1.80
1.70
1.60
1.50
1.40
1.30
1.20
1.10
1.00
0.90
0.80
0.70
0.60
0.50
0.40
0.30
0.20
0.10
0.00
30-Mar
31-Mar
1-Apr
2-Apr
3-Apr
4-Apr
5-Apr
6-Apr
7-Apr
8-Apr
9-Apr
10-Apr
11-Apr
12-Apr
13-Apr
14-Apr
15-Apr
16-Apr
17-Apr
18-Apr
19-Apr
20-Apr
21-Apr
22-Apr
23-Apr
24-Apr
25-Apr
26-Apr
27-Apr
28-Apr
29-Apr
30-Apr
1-May
2-May
3-May
Date

Stantec


Calculated Stream Flow at SWM1 - May, 2018
Stream Flow (m3/s)
2.50
2.40
2.30
2.20
2.10
2.00
1.90
1.80
1.70
1.60
1.50
1.40
1.30
1.20
1.10
1.00
0.90
0.80
0.70
0.60
0.50
0.40
0.30
0.20
0.10
0.00
29-Apr
30-Apr
1-May
2-May
3-May
4-May
5-May
6-May
7-May
8-May
9-May
10-May
11-May
12-May
13-May
14-May
15-May
16-May
17-May
18-May
19-May
20-May
21-May
22-May
23-May
24-May
25-May
26-May
27-May
28-May
29-May
30-May
31-May
1-Jun
2-Jun
3-Jun
Date


Calculated Stream Flow at SWM1 - June, 2018
Stream Flow (m3/s)
2.50
2.40
2.30
2.20
2.10
2.00
1.90
1.80
1.70
1.60
1.50
1.40
1.30
1.20
1.10
1.00
0.90
0.80
0.70
0.60
0.50
0.40
0.30
0.20
0.10
0.00
30-May
31-May
1-Jun
2-Jun
3-Jun
4-Jun
5-Jun
6-Jun
7-Jun
8-Jun
9-Jun
10-Jun
11-Jun
12-Jun
13-Jun
14-Jun
15-Jun
16-Jun
17-Jun
18-Jun
19-Jun
20-Jun
21-Jun
22-Jun
23-Jun
24-Jun
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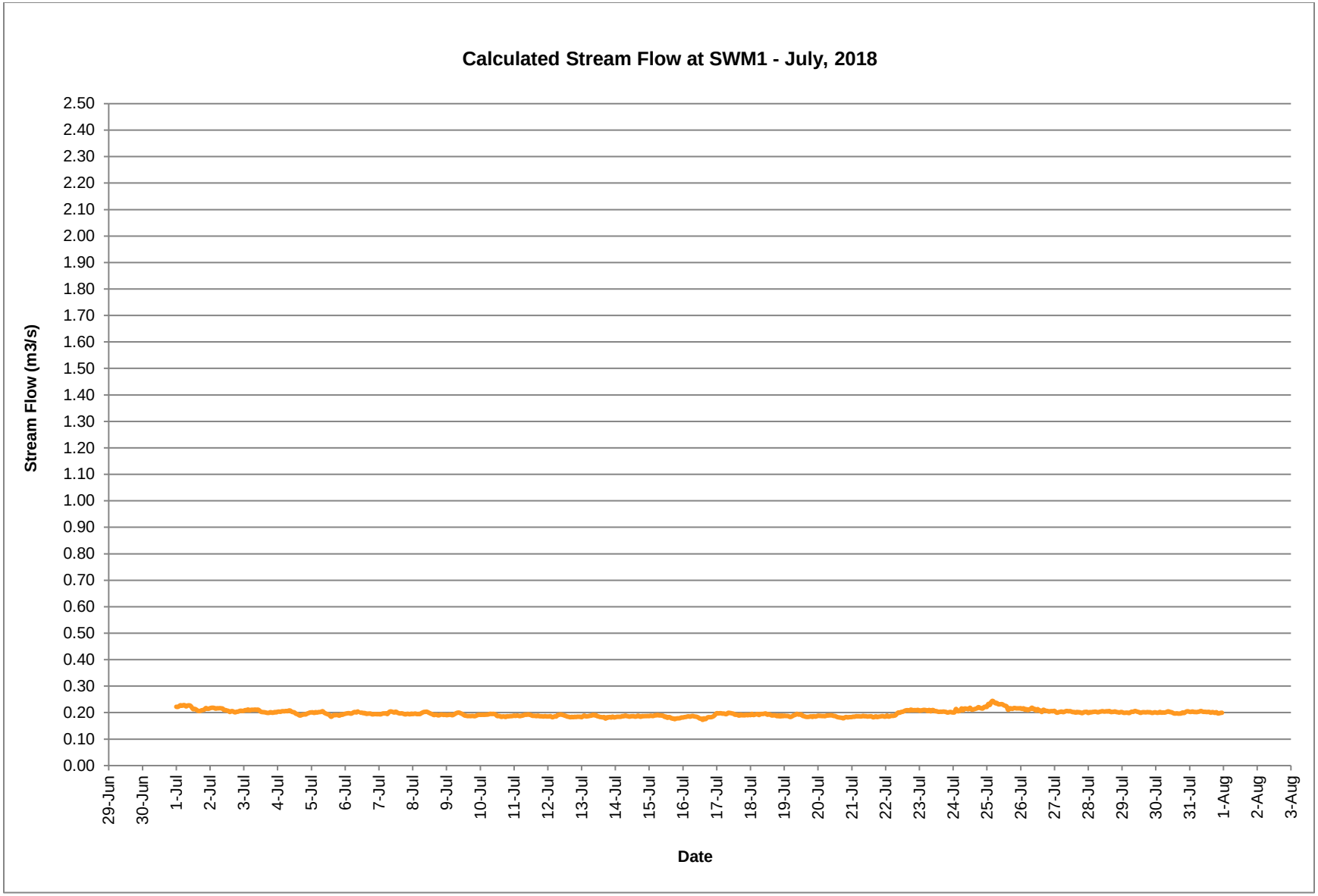
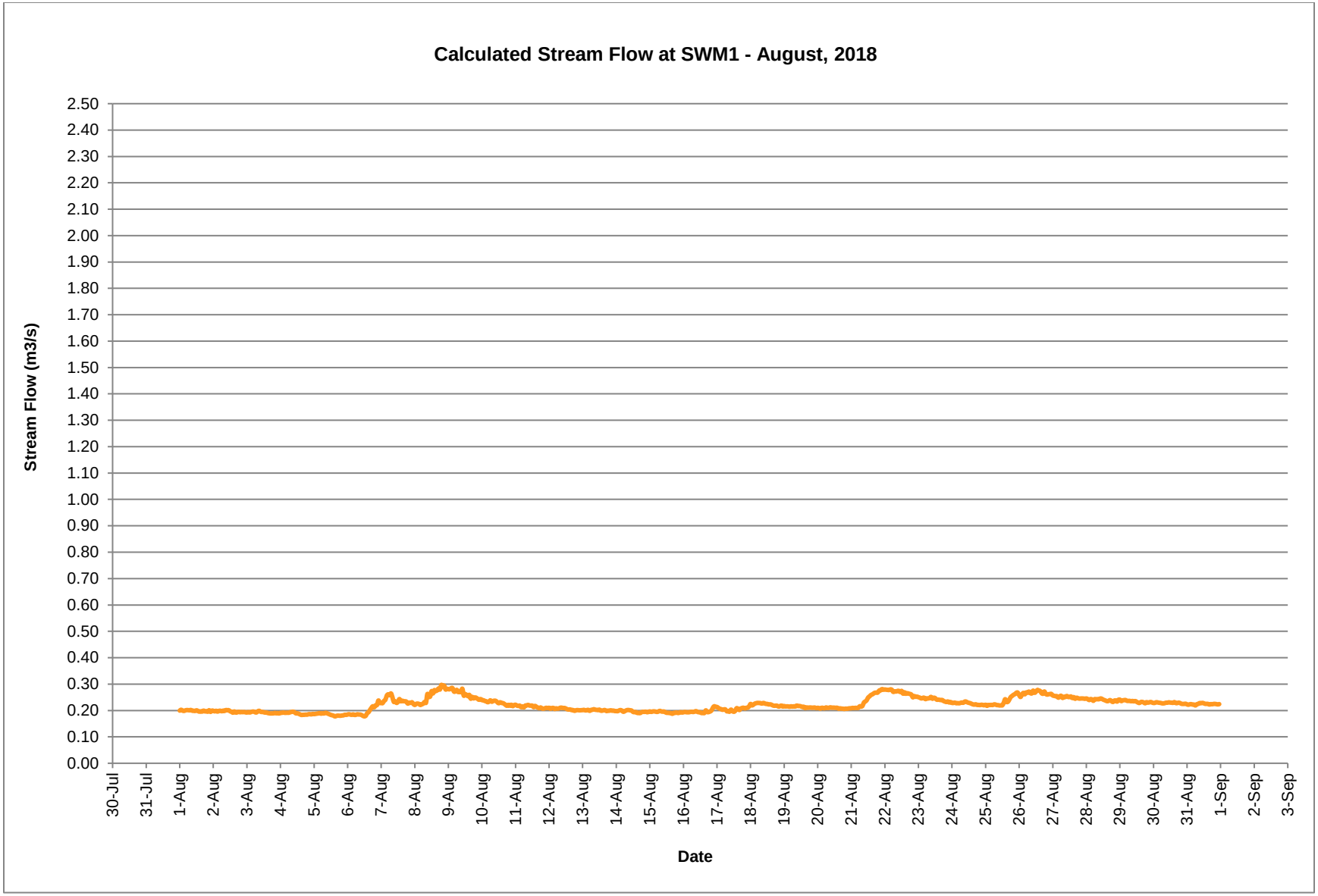
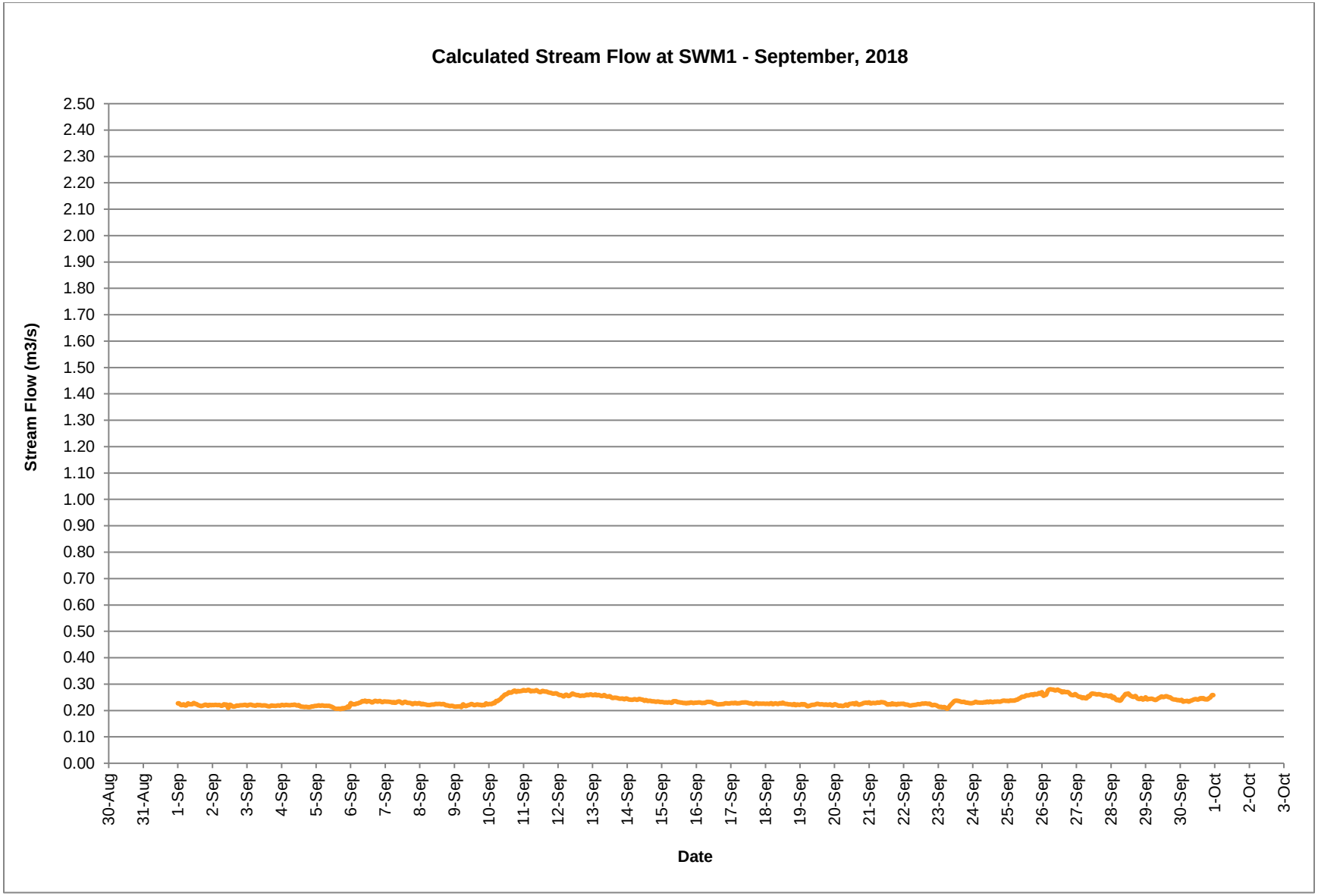
26-Jun
27-Jun
28-Jun
29-Jun
30-Jun
1-Jul
2-Jul
3-Jul
Date

Stantec

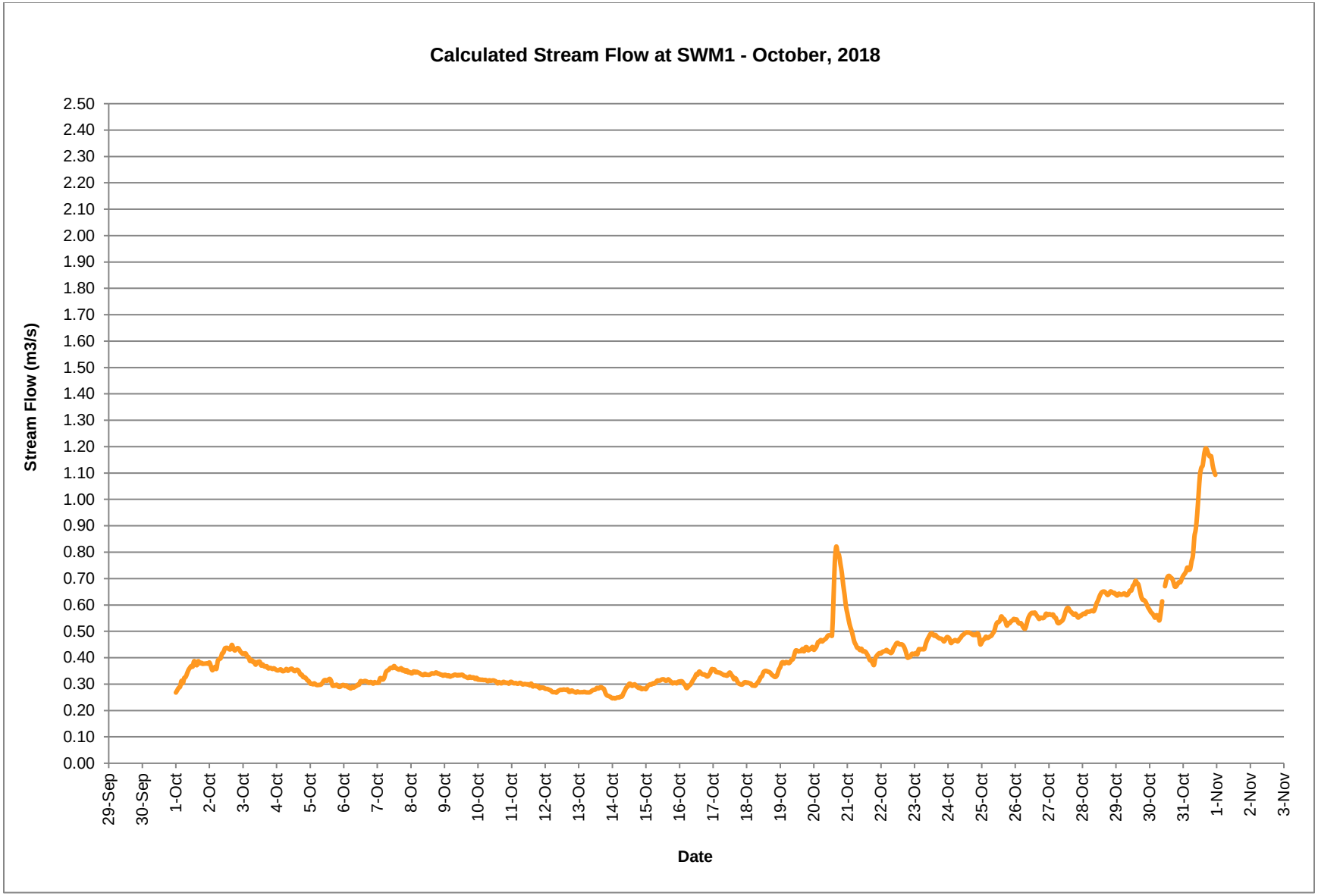

Calculated Stream Flow at SWM1 - July, 2018
Stream Flow (m3/s)
2.50
2.40
2.30
2.20
2.10
2.00
1.90
1.80
1.70
1.60
1.50
1.40
1.30
1.20
1.10
1.00
0.90
0.80
0.70
0.60
0.50
0.40
0.30
0.20
0.10
0.00
29-Jun
30-Jun
1-Jul
2-Jul
3-Jul
4-Jul
5-Jul
6-Jul
7-Jul
8-Jul
9-Jul
10-Jul
11-Jul
12-Jul
13-Jul
14-Jul
15-Jul
16-Jul
17-Jul
18-Jul
19-Jul
20-Jul
21-Jul
22-Jul
23-Jul
24-Jul
25-Jul
26-Jul
27-Jul
28-Jul
29-Jul
30-Jul
31-Jul
1-Aug
2-Aug
3-Aug
Date

Stantec

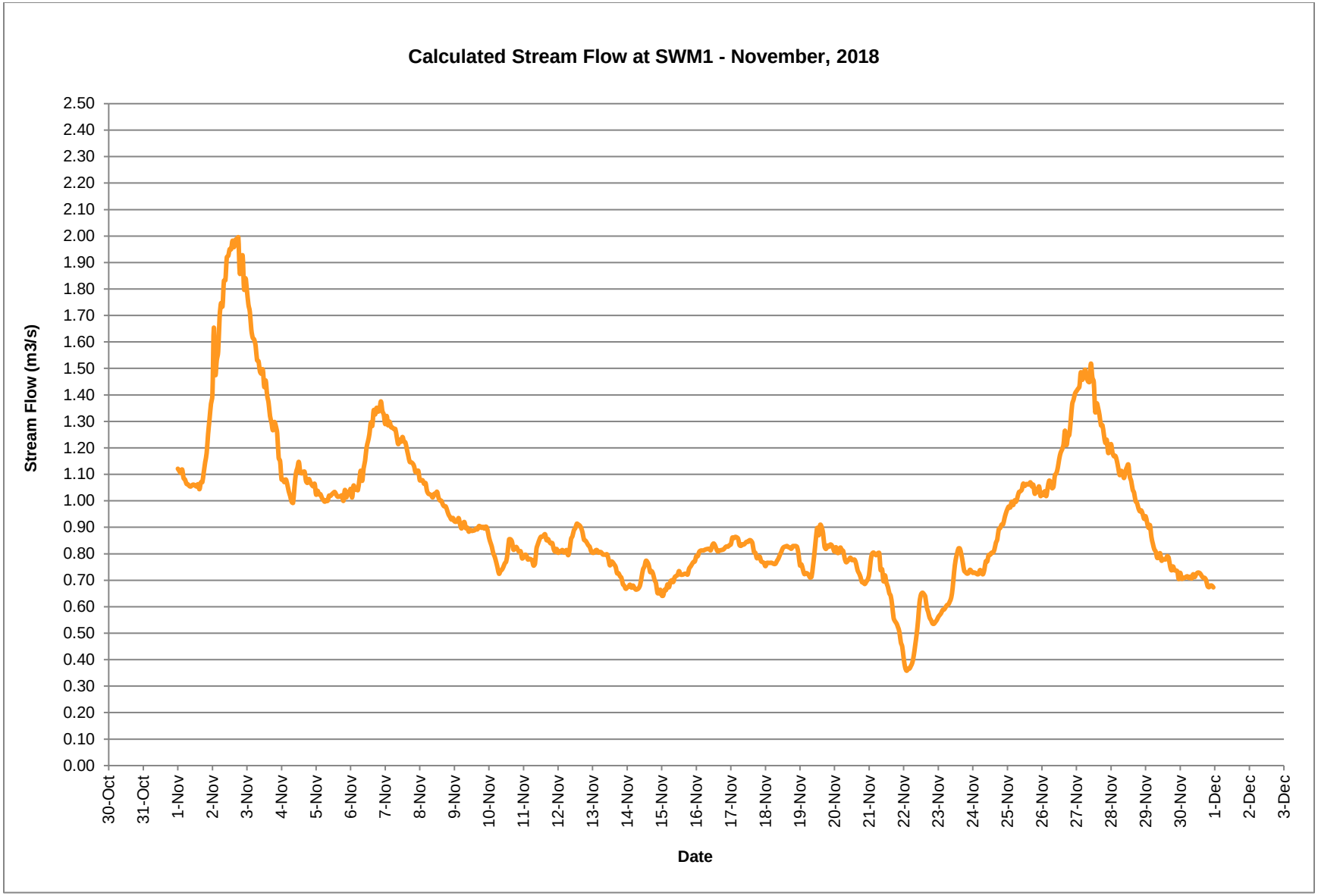

Calculated Stream Flow at SWM1 - August, 2018
Stream Flow (m3/s)
2.50
2.40
2.30
2.20
2.10
2.00
1.90
1.80
1.70
1.60
1.50
1.40
1.30
1.20
1.10
1.00
0.90
0.80
0.70
0.60
0.50
0.40
0.30
0.20
0.10
0.00
30-Jul
31-Jul
1-Aug
2-Aug
3-Aug
4-Aug
5-Aug
6-Aug
7-Aug
8-Aug
9-Aug
10-Aug
11-Aug
12-Aug
13-Aug
14-Aug
15-Aug
16-Aug
17-Aug
18-Aug
19-Aug
20-Aug
21-Aug
22-Aug
23-Aug
24-Aug
25-Aug
26-Aug
27-Aug
28-Aug
29-Aug
30-Aug
31-Aug
1-Sep
2-Sep
3-Sep
Date


Calculated Stream Flow at SWM1 - September, 2018
Stream Flow (m3/s)
2.50
2.40
2.30
2.20
2.10
2.00
1.90
1.80
1.70
1.60
1.50
1.40
1.30
1.20
1.10
1.00
0.90
0.80
0.70
0.60
0.50
0.40
0.30
0.20
0.10
0.00
30-Aug
31-Aug
1-Sep
2-Sep
3-Sep
4-Sep
5-Sep
6-Sep
7-Sep
8-Sep
9-Sep
10-Sep
11-Sep
12-Sep
13-Sep
14-Sep
15-Sep
16-Sep
17-Sep
18-Sep
19-Sep
20-Sep
21-Sep
22-Sep
23-Sep
24-Sep
25-Sep
26-Sep
27-Sep
28-Sep
29-Sep
30-Sep
1-Oct
2-Oct
3-Oct
Date

Stantec


Calculated Stream Flow at SWM1 - October, 2018
Stream Flow (m3/s)
2.50
2.40
2.30
2.20
2.10
2.00
1.90
1.80
1.70
1.60
1.50
1.40
1.30
1.20
1.10
1.00
0.90
0.80
0.70
0.60
0.50
0.40
0.30
0.20
0.10
0.00
29-Sep
30-Sep
1-Oct
2-Oct
3-Oct
4-Oct
5-Oct
6-Oct
7-Oct
8-Oct
9-Oct
10-Oct
11-Oct
12-Oct
13-Oct
14-Oct
15-Oct
16-Oct
17-Oct
18-Oct
19-Oct
20-Oct
21-Oct
22-Oct
23-Oct
24-Oct
25-Oct
26-Oct
27-Oct
28-Oct
29-Oct
30-Oct
31-Oct
1-Nov
2-Nov
3-Nov
Date

Stantec


Calculated Stream Flow at SWM1 - November, 2018
Stream Flow (m3/s)
2.50
2.40
2.30
2.20
2.10
2.00
1.90
1.80
1.70
1.60
1.50
1.40
1.30
1.20
1.10
1.00
0.90
0.80
0.70
0.60
0.50
0.40
0.30
0.20
0.10
0.00
30-Oct
31-Oct
1-Nov
2-Nov
3-Nov
4-Nov
5-Nov
6-Nov
7-Nov
8-Nov
9-Nov
10-Nov
11-Nov
12-Nov
13-Nov
14-Nov
15-Nov
16-Nov
17-Nov
18-Nov
19-Nov
20-Nov
21-Nov
22-Nov
23-Nov
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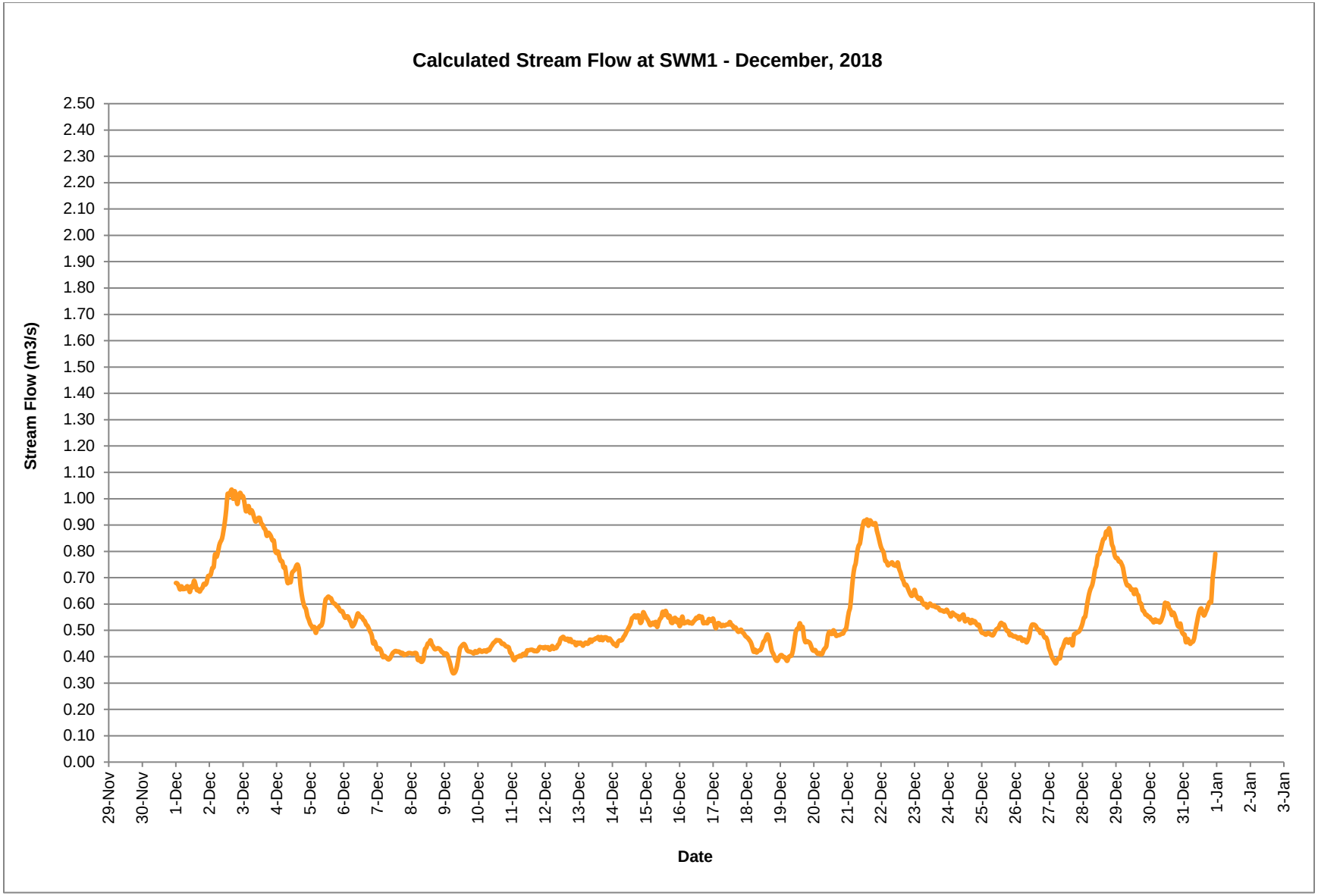
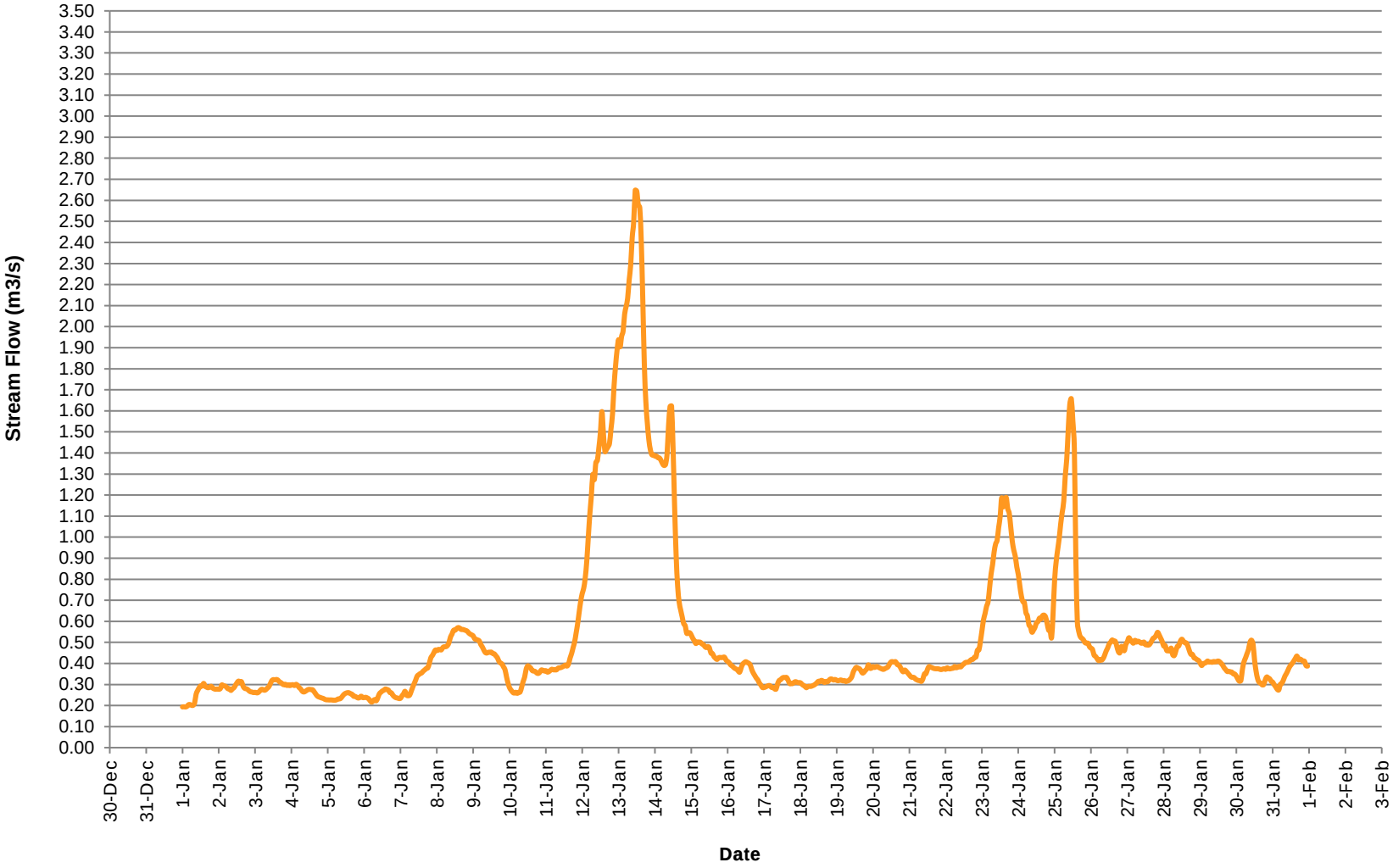
25-Nov
26-Nov
27-Nov
28-Nov
29-Nov
30-Nov
1-Dec
2-Dec
3-Dec
Date


Calculated Stream Flow at SWM1 - December, 2018
Stream Flow (m3/s)
2.50
2.40
2.30
2.20
2.10
2.00
1.90
1.80
1.70
1.60
1.50
1.40
1.30
1.20
1.10
1.00
0.90
0.80
0.70
0.60
0.50
0.40
0.30
0.20
0.10
0.00
29-Nov
30-Nov
1-Dec
2-Dec
3-Dec
4-Dec
5-Dec
6-Dec
7-Dec
8-Dec
9-Dec
10-Dec
11-Dec
12-Dec
13-Dec
14-Dec
15-Dec
16-Dec
17-Dec
18-Dec
19-Dec
20-Dec
21-Dec
22-Dec
23-Dec
24-Dec
25-Dec
26-Dec
27-Dec
28-Dec
29-Dec
30-Dec
31-Dec
1-Jan
2-Jan
3-Jan
Date

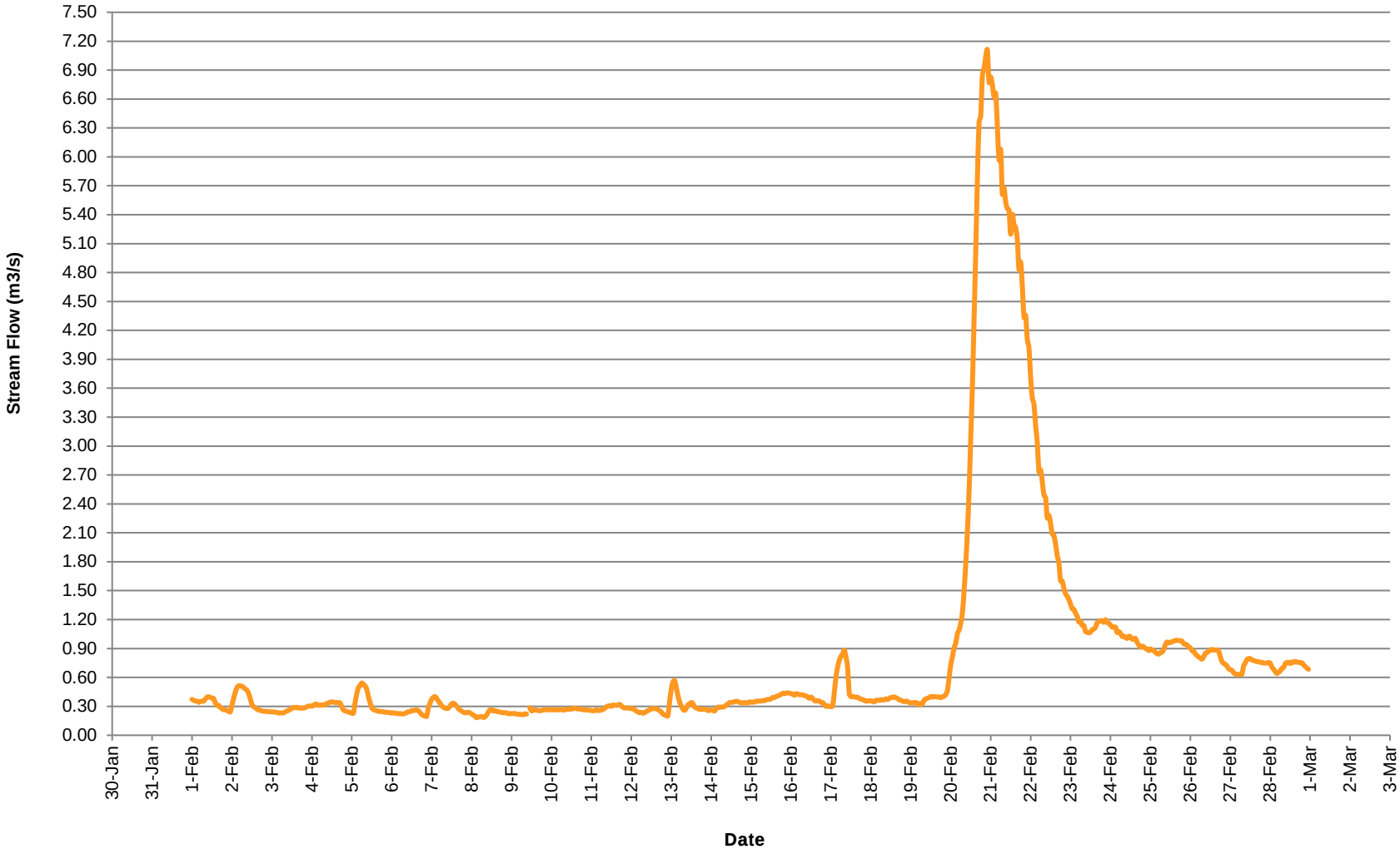
SWM2
MONTHLY DISCHARGE GRAPHS

Calculated Stream Flow at SWM2 - January, 2018



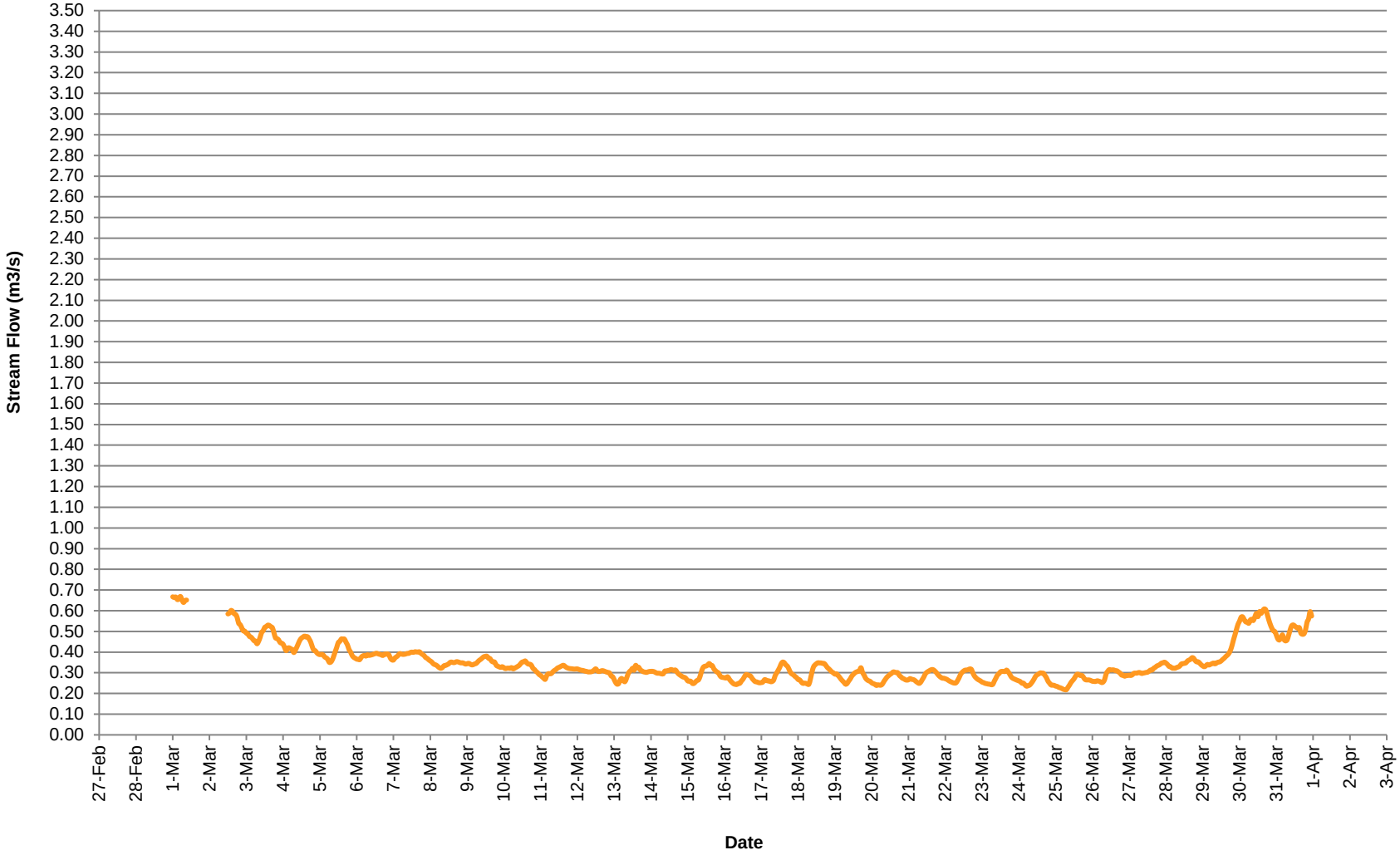
Stantec

Calculated Stream Flow at SWM2 - February, 2018



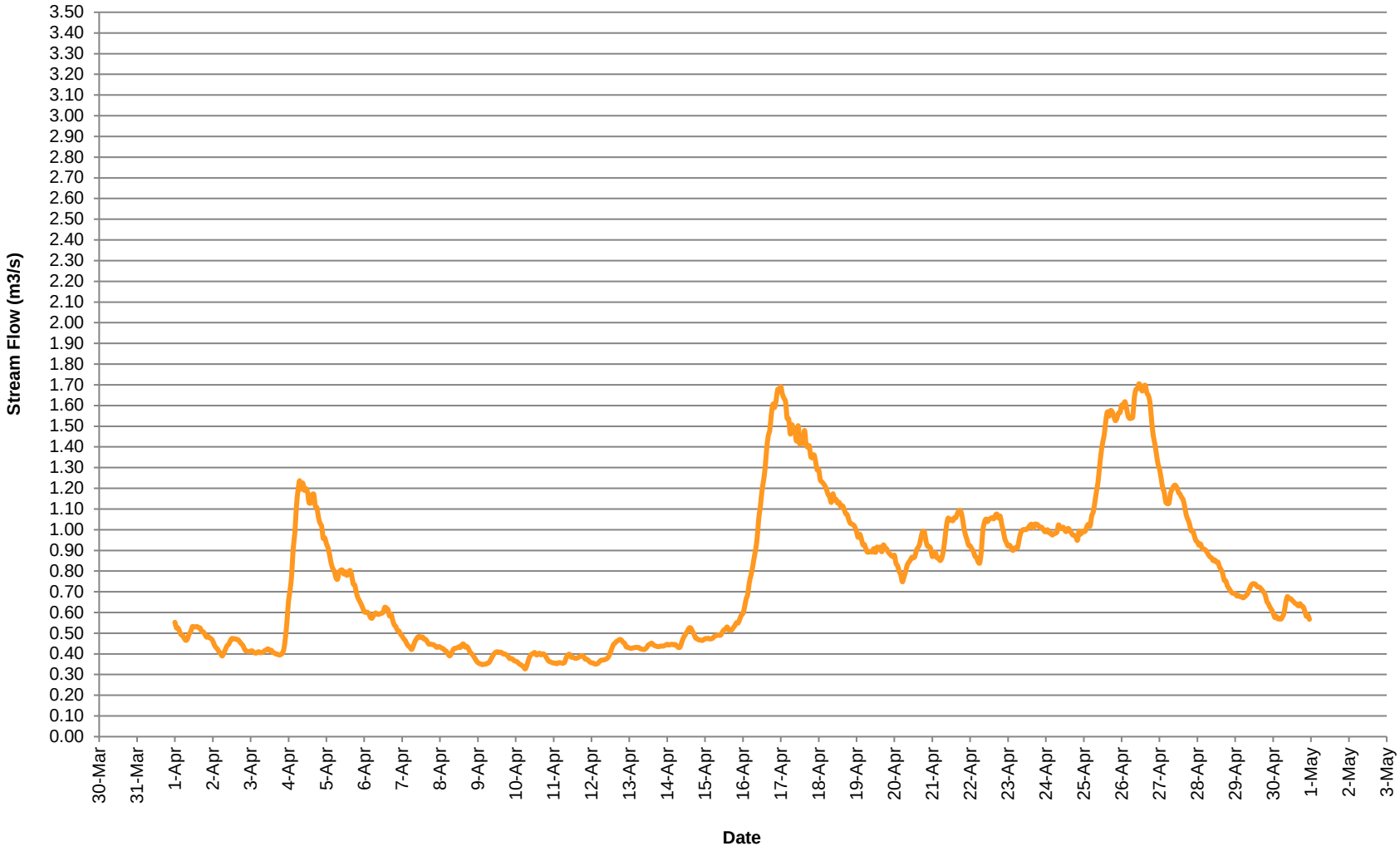
Stantec

Calculated Stream Flow at SWM2 - March 2018



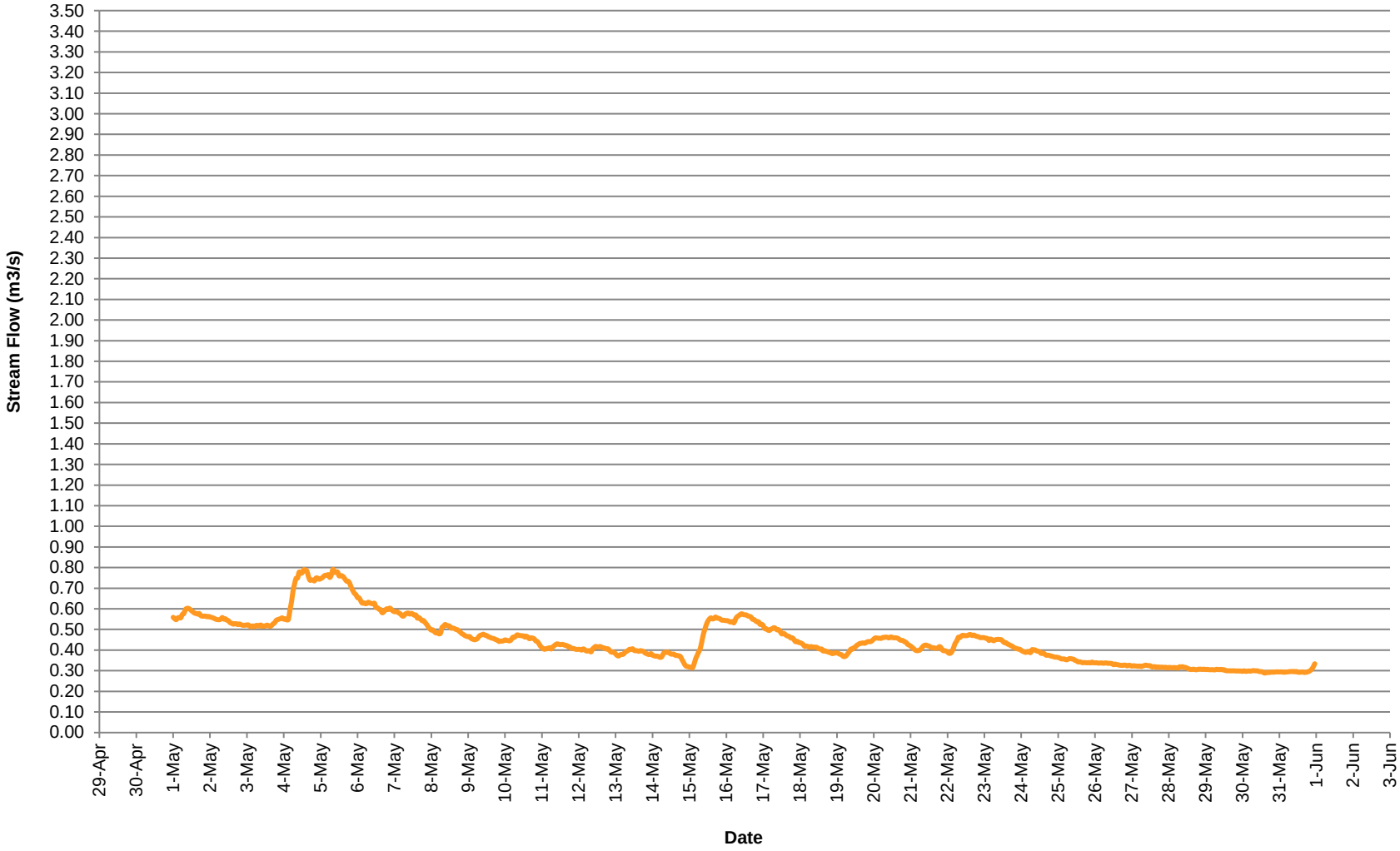
Stantec

Calculated Stream Flow at SWM2 - April 2018



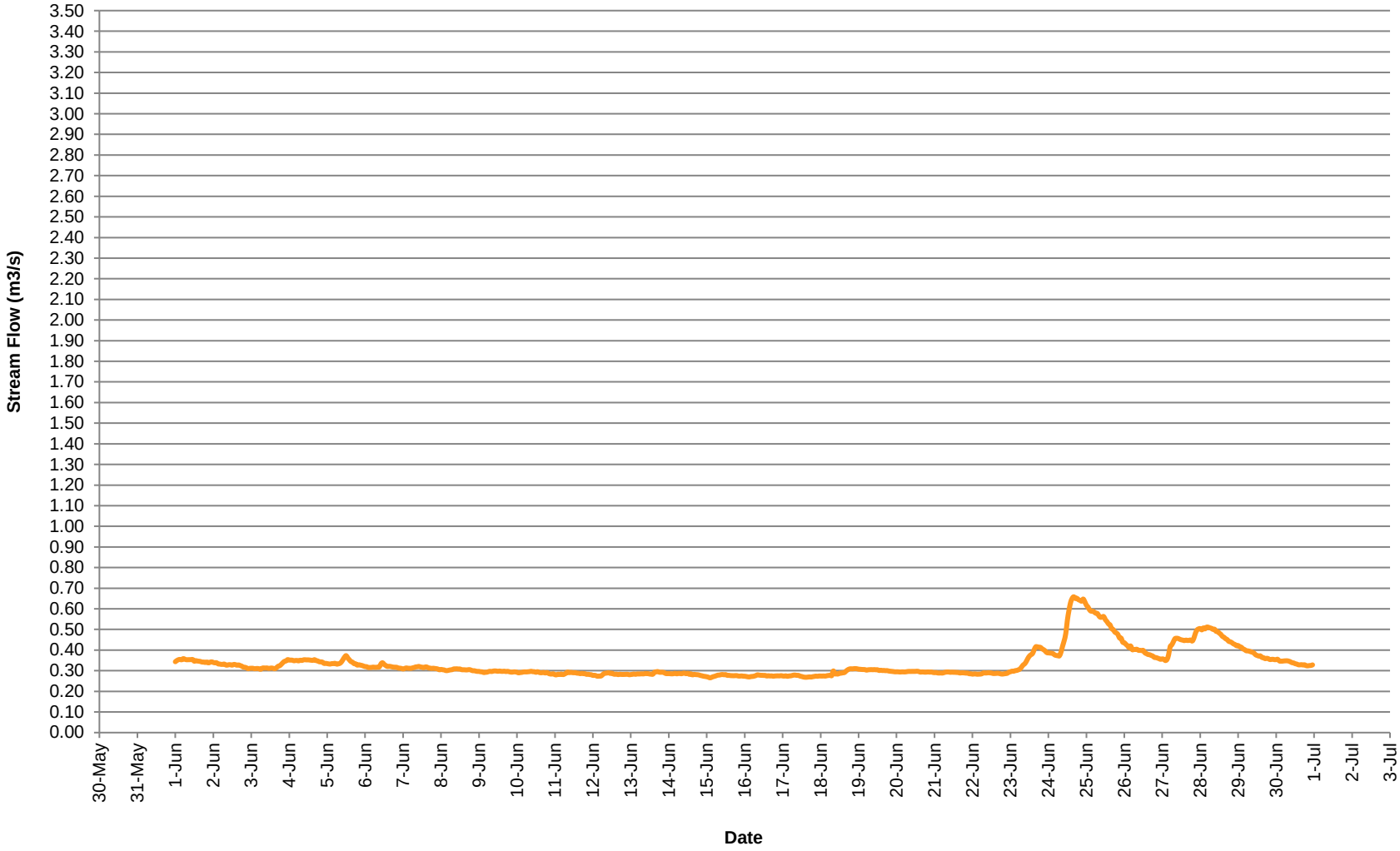
Stantec

Calculated Stream Flow at SWM2 - May 2018



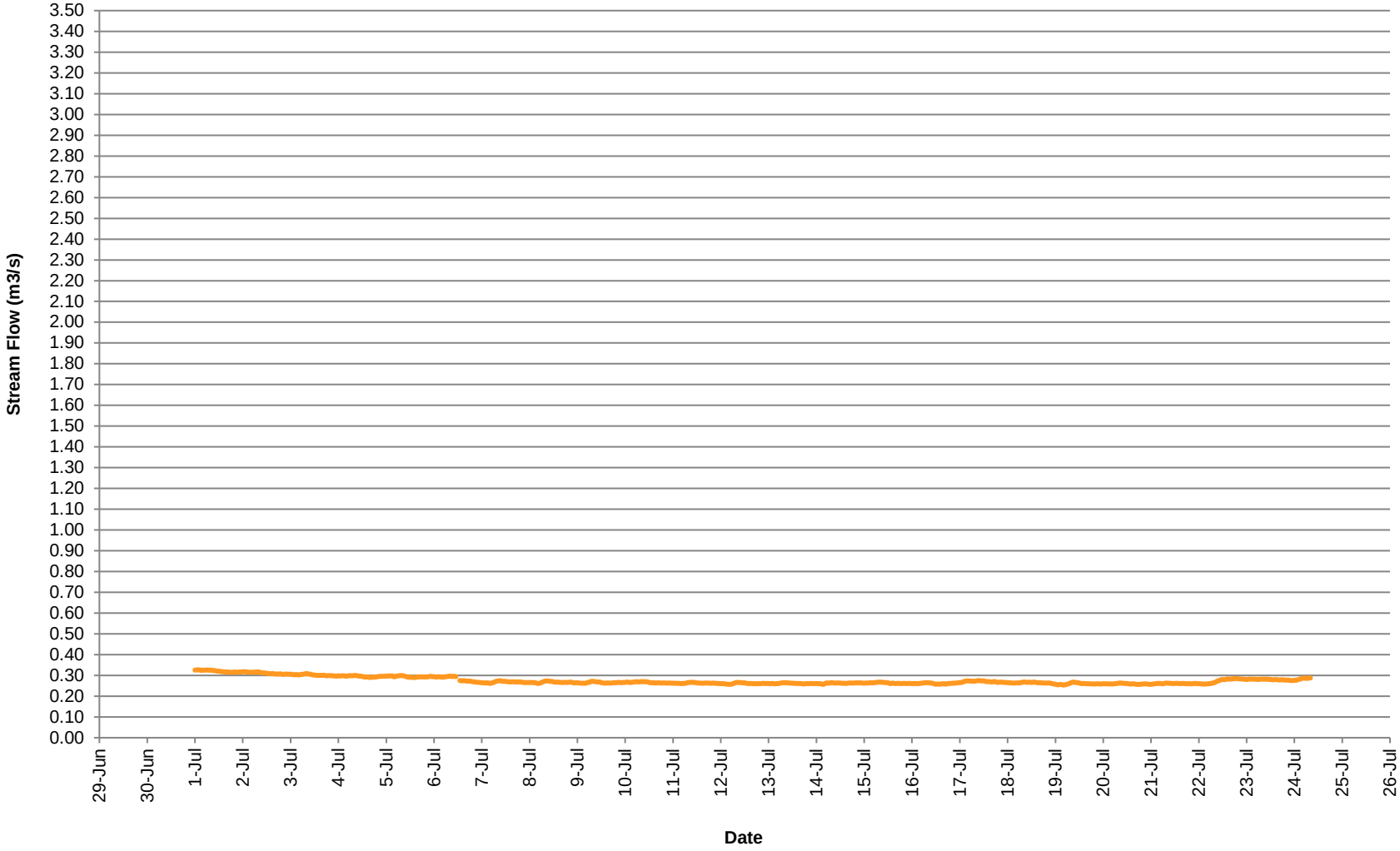
Stantec

Calculated Stream Flow at SWM2 - June 2018



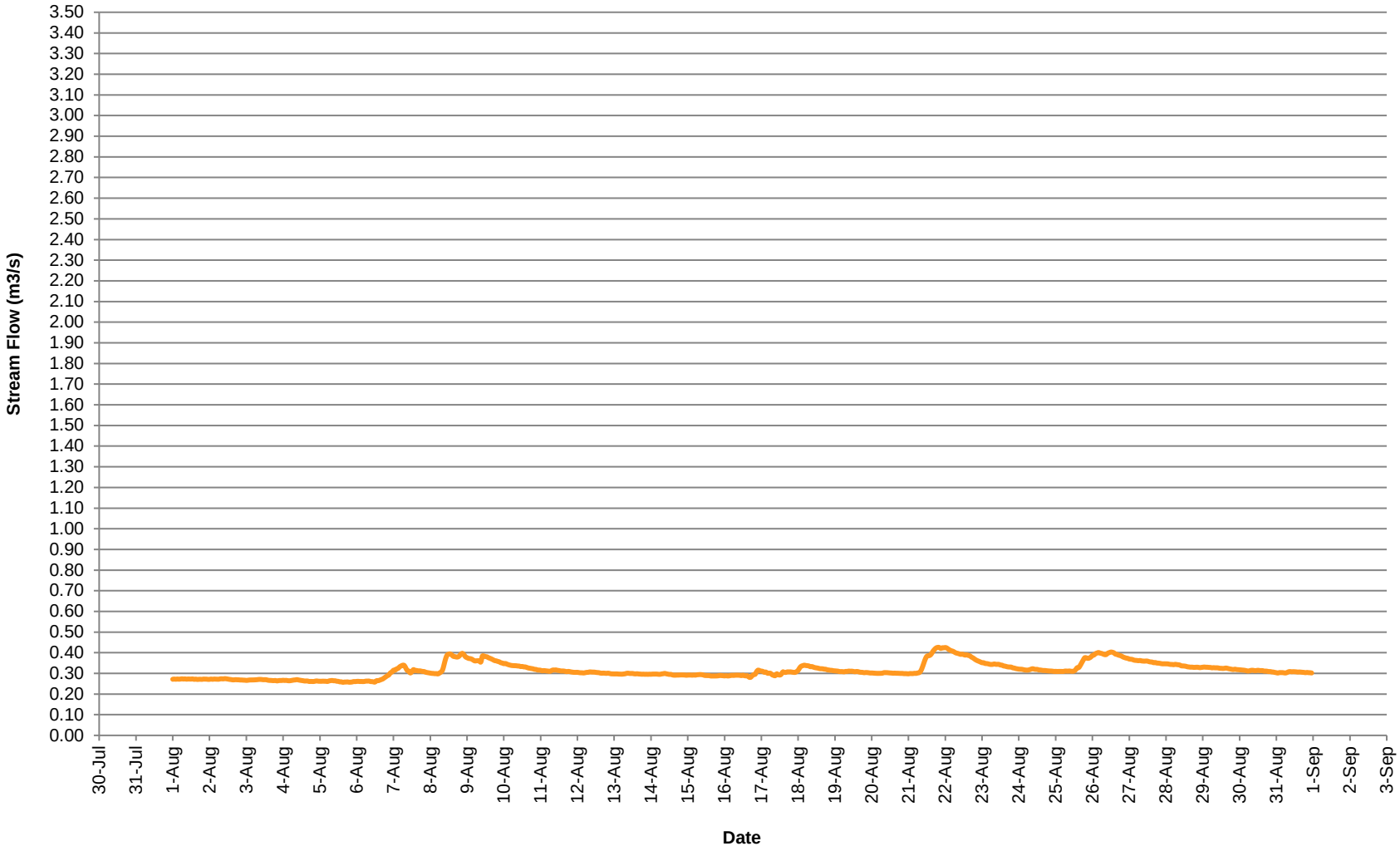
Stantec

Calculated Stream Flow at SWM2 - July 2018



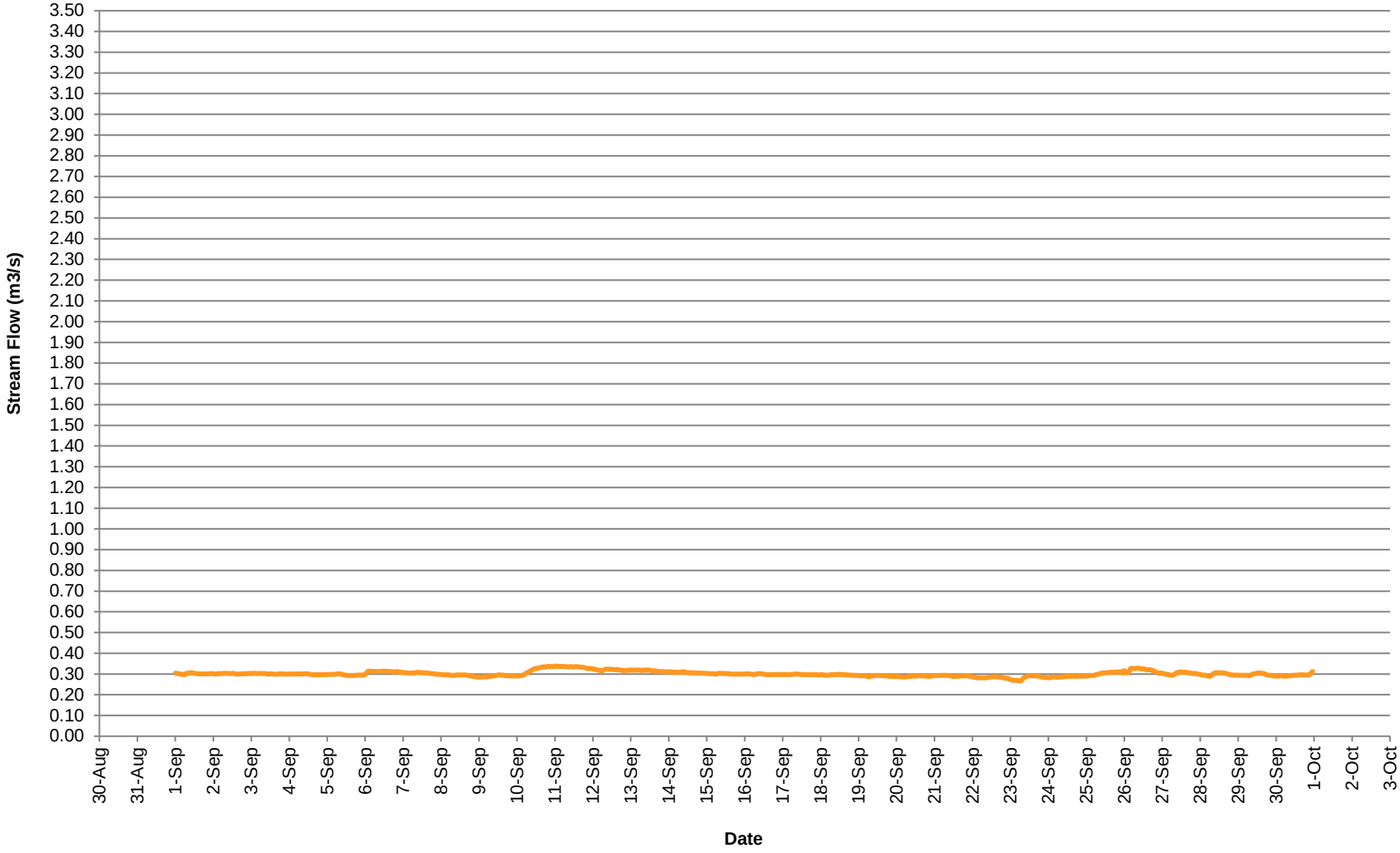
Stantec

Calculated Stream Flow at SWM2 - August 2018



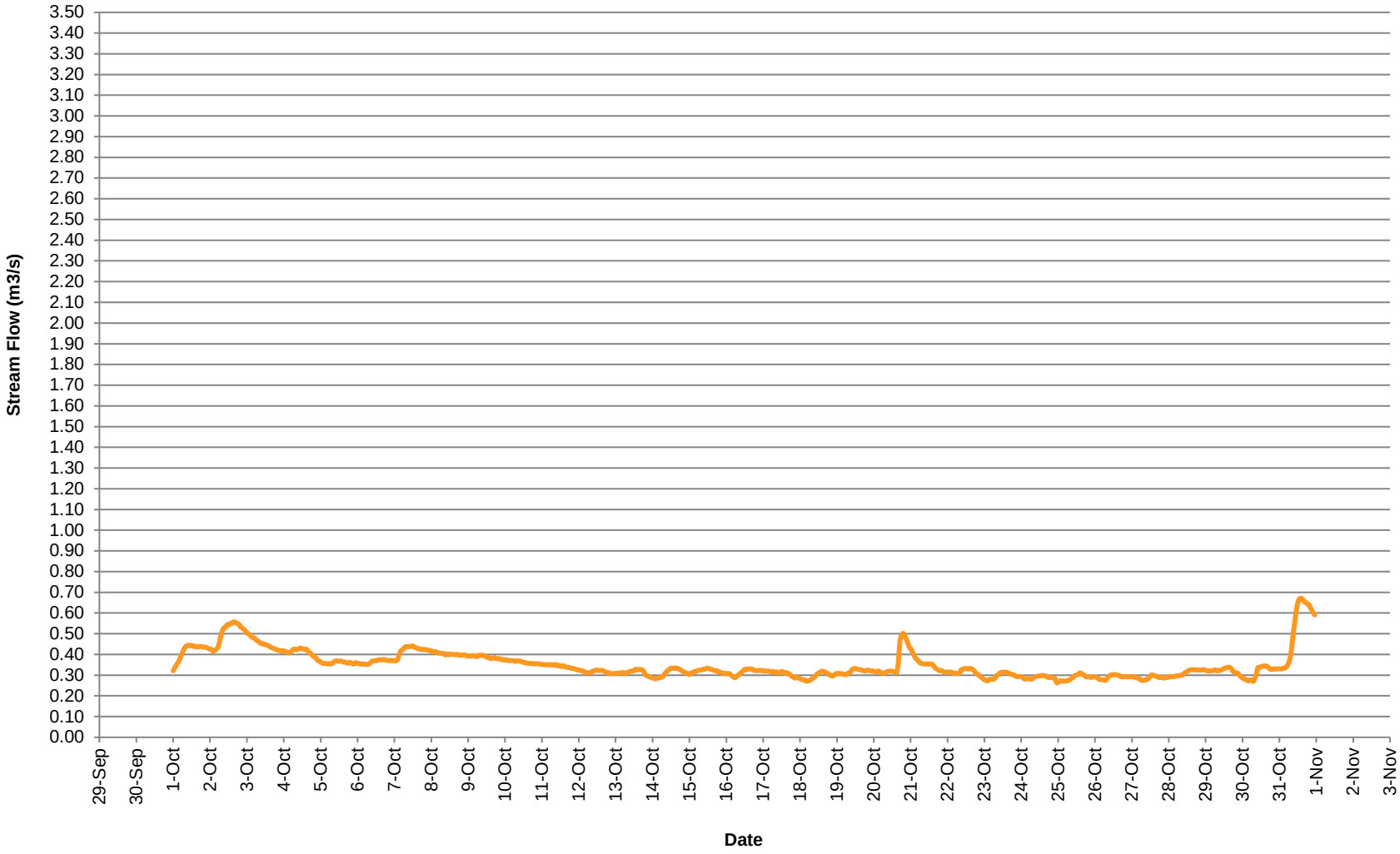
Stantec

Calculated Stream Flow at SWM2 - September 2018

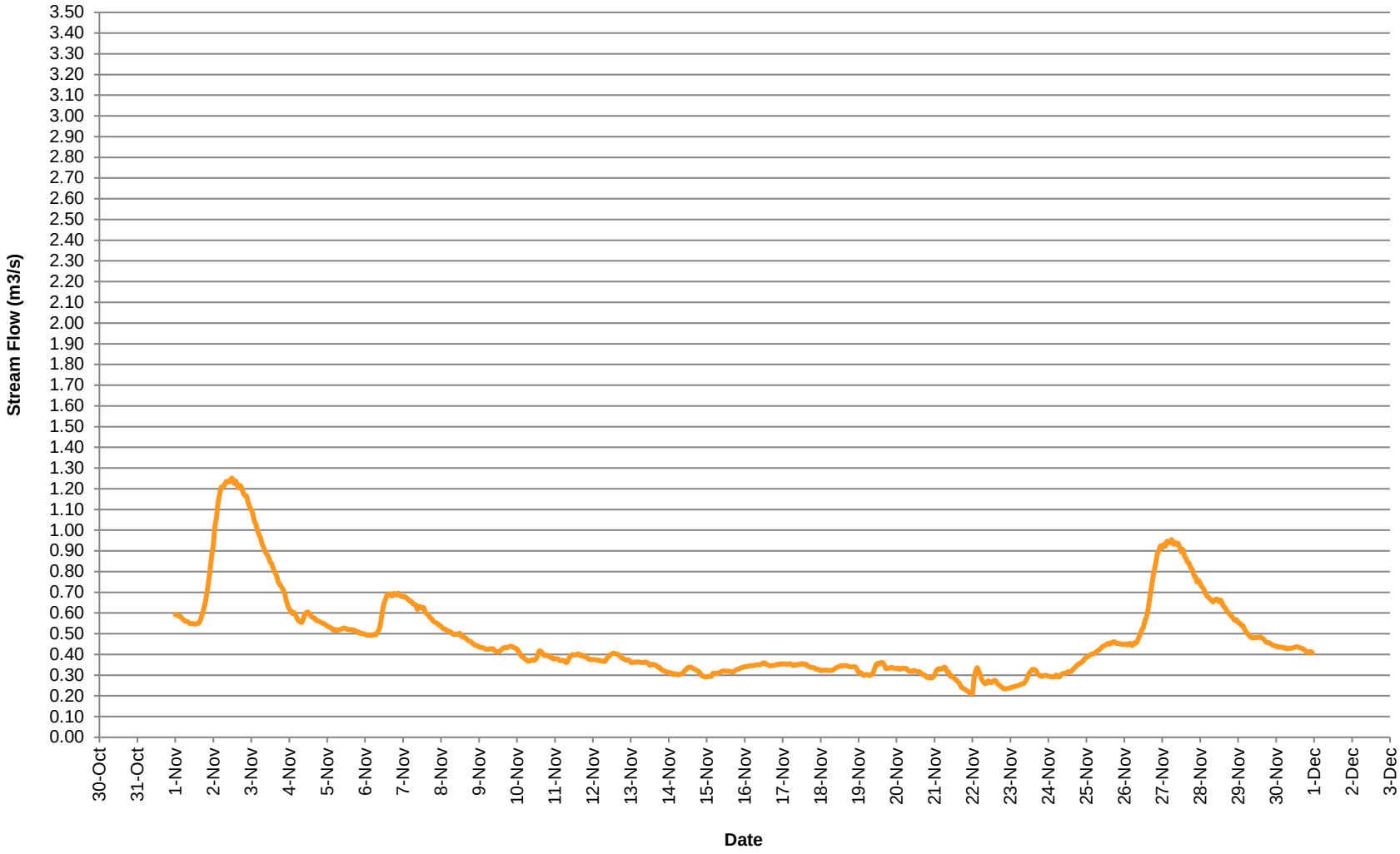


Stantec

Calculated Stream Flow at SWM2 - October 2018

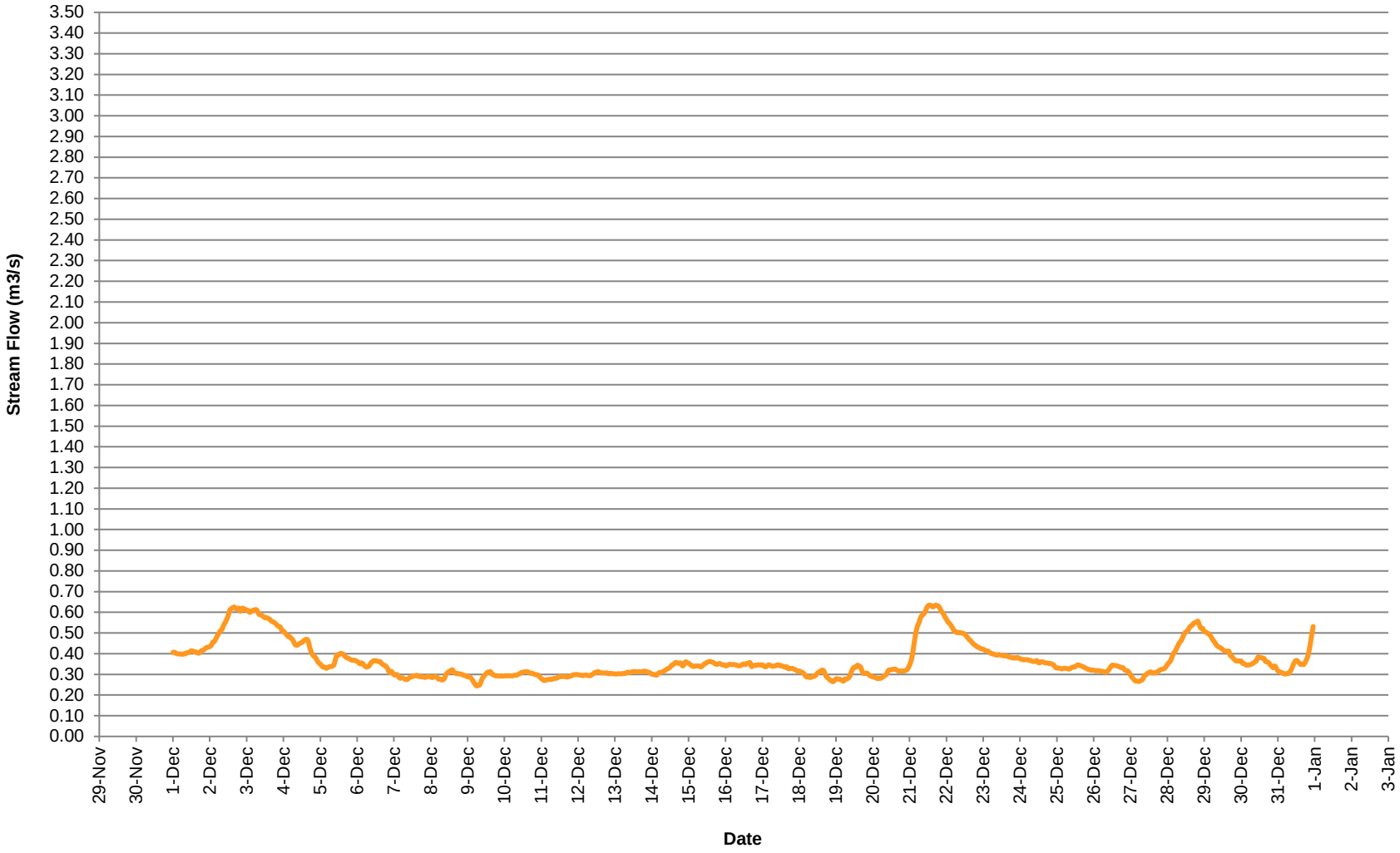


Calculated Stream Flow at SWM2 - November 2018



Stantec

Calculated Stream Flow at SWM2 - December 2018



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SUB-APPENDIX A-4

2000-2018 Climate Data and 30-year Normal

Precipitation

Total Monthly Precipitation (mm) at GRCA Shade's Mills Climate Station, 2000 - 2018

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
2000	40	49	45	75	145	150	98	53	96	21	71	91	933
2001	44	111	43	46	88	54	20	58	88	131	70	62	814
2002	64	67	64	110	106	96	69	11	81	44	60	38	809
2003	40	52	45	62	98	39	65	124	106	90	147	79	945
2004	38	22	85	64	117	61	86	45	27	71	66	80	759
2005	60	60	17	51	27	36	191	109	81	36	103	33	802
2006	94	85	63	70	94	18	183	38	141	45	105	86	1020
2007	44	12	39	48	46	33	28	14	24	25	77	77	464
2008	64	49	52	46	62	81	203	84	112	38	89	89	969
2009	31	68	59	114	79	84	115	108	32	73	33	59	853
2010	21	15	47	58	67	131	129	28	113	76	33	14	731
2011	48	58	86	101	113	87	32	62	76	129	91	86	968
2012	47	42	31	30	28	65	30	63	106	127	40	80	679
2013	101	82	41	120	72	120	133	38	111	149	61	81	1109
2014	91	71	45	87	79	52	128	25	144	72	78	27	899
2015	37	56	14	99	69	160	70	66	73	84	54	59	841
2016	45	52	100	91	32	42	93	183	69	46	68	114	934
2017	110	77	93	120	137	79	93	138	26	77	89	53	1092
2018	87	82	33	140	57	87	71	166	51	93	121	55	1042
30-year Normal	72	58	61	82	80	84	95	77	83	80	80	70	925

Temperature

Mean Monthly Air Temperature (ºC) at GRCA Shade's Mills Climate Station, 2000 - 2018

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Average
2000	-7	-4	4	6	14	18	19	18	14	10	2	-9	7
2001	-5	-4	-2	7	13	19	19	21	15	9	6	0	8
2002	-2	-3	0	6	10	18	22	20	18	7	2	-4	8
2003	-10	-9	-3	5	11	17	19	20	15	7	4	-2	6
2004	-10	-6	1	6	12	16	19	17	16	9	4	-5	6
2005	-8	-6	-4	6	10	21	21	20	16	10	4	-5	5
2006	-1	-5	0	7	13	18	21	18	14	7	4	0	8
2007	-5	-10	-1	5	13	19	19	19	16	12	1	-4	7
2008	-4	-7	-4	8	10	18	20	18	15	8	1	-4	8
2009	-11	-5	0	7	12	16	17	19	15	7	5	-4	7
2010	-6	-5	3	9	14	18	21	20	14	9	3	-5	8
2011	-10.2	-7.8	-3.6	5.5	12.6	16.6	21.4	19	15	8.9	4.8	-1.3	7.5
2012	-3.9	-2.5	5.5	5	14.8	18.3	21.7	18.5	13.8	8.6	1.6	-0.7	8.4
2013	-3.5	-6.9	-1.3	5.4	15.4	19.3	22.6	20.7	16.5	10.8	2	-4.1	8.1
2014	-9.5	-9.8	-5.9	6.2	14.3	20.7	20.4	20	16.5	10.3	1	-0.4	7
2015	-9	-14	-3	7	17	18	22	20	20	10	6	4	8
2016	-4.5	-3	2.4	4.7	14.9	19.7	23.4	23.8	19.1	11.8	6.3	-2	9.7
2017	-2.2	-0.3	-0.3	9.2	12.5	19.5	21.6	20.4	18.8	13.1	3.1	-4.9	9.2
2018	-6.9	-2.5	-0.3	3	17.9	19.7	23.4	23.3	19.4	9.5	1.6	0.4	9
30-year Normal*	-5.4	-5.1	-0.4	6.5	13.8	19.2	21.7	20.7	16.5	9.6	3.4	-2.4	8.2

* 30-year normal average temperature calculated from GRCA's Shade's Mills climate station data. Data includes that collected between 1987-2017.

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SUB-APPENDIX A-5

Regression Plots for Air Temperature and Precipitation vs. Flow

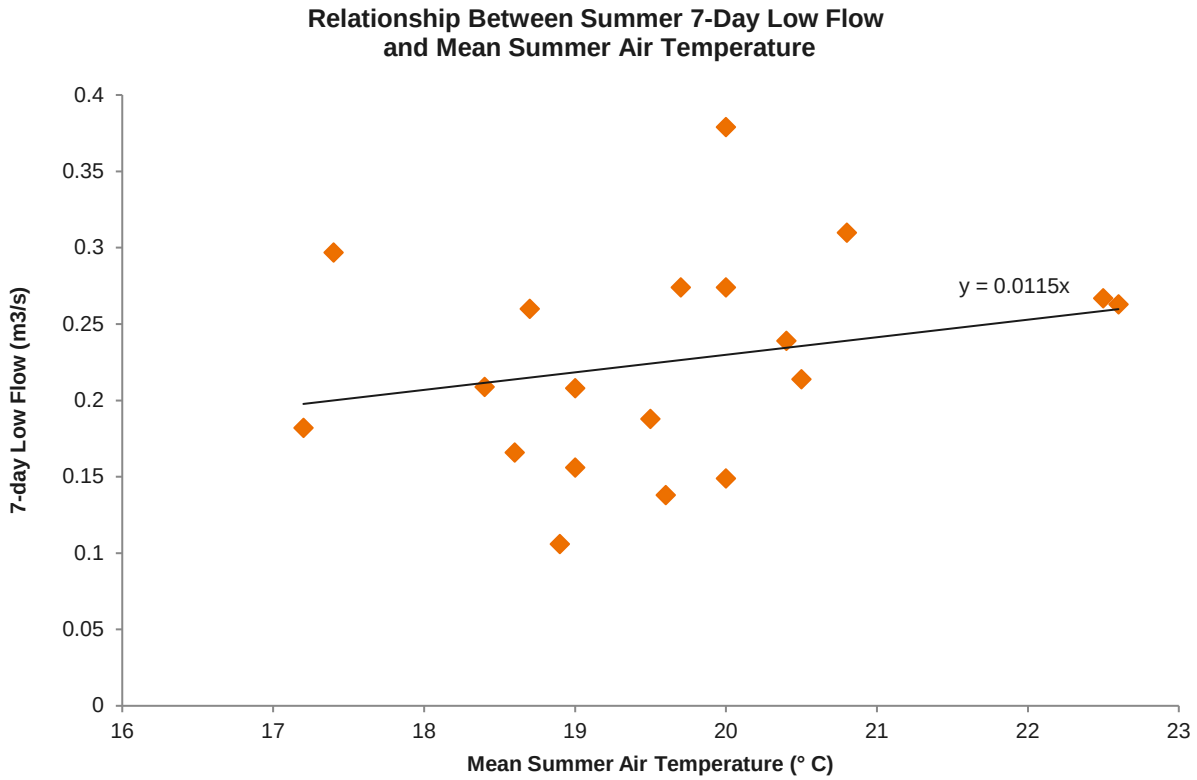
SUMMARY OUTPUT - Relationship Between Summer 7-Day Low Flow and Mean Summer Air Temperature

Regression Statistics	
Multiple R	0.3003072
R Square	0.0901844
Adjusted R Square	0.0366658
Standard Error	0.0675211
Observations	19

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	0.007682552	0.007682552	1.685105	0.211583849
Residual	17	0.077504606	0.004559094		
Total	18	0.085187158			

	Coefficients	***Standard Error***	***t Stat***	***P-value***	***Lower 95%***	***Upper 95%***	***Lower 95.0%***	***Upper 95.0%***
Intercept	-0.062014	0.221803889	-0.279587497	0.783167	-0.529978894	0.405952	-0.52997889	0.405951706
X Variable 1	0.0146386	0.011276781	1.298115851	0.211584	-0.00915336	0.03843	-0.00915336	0.038430497



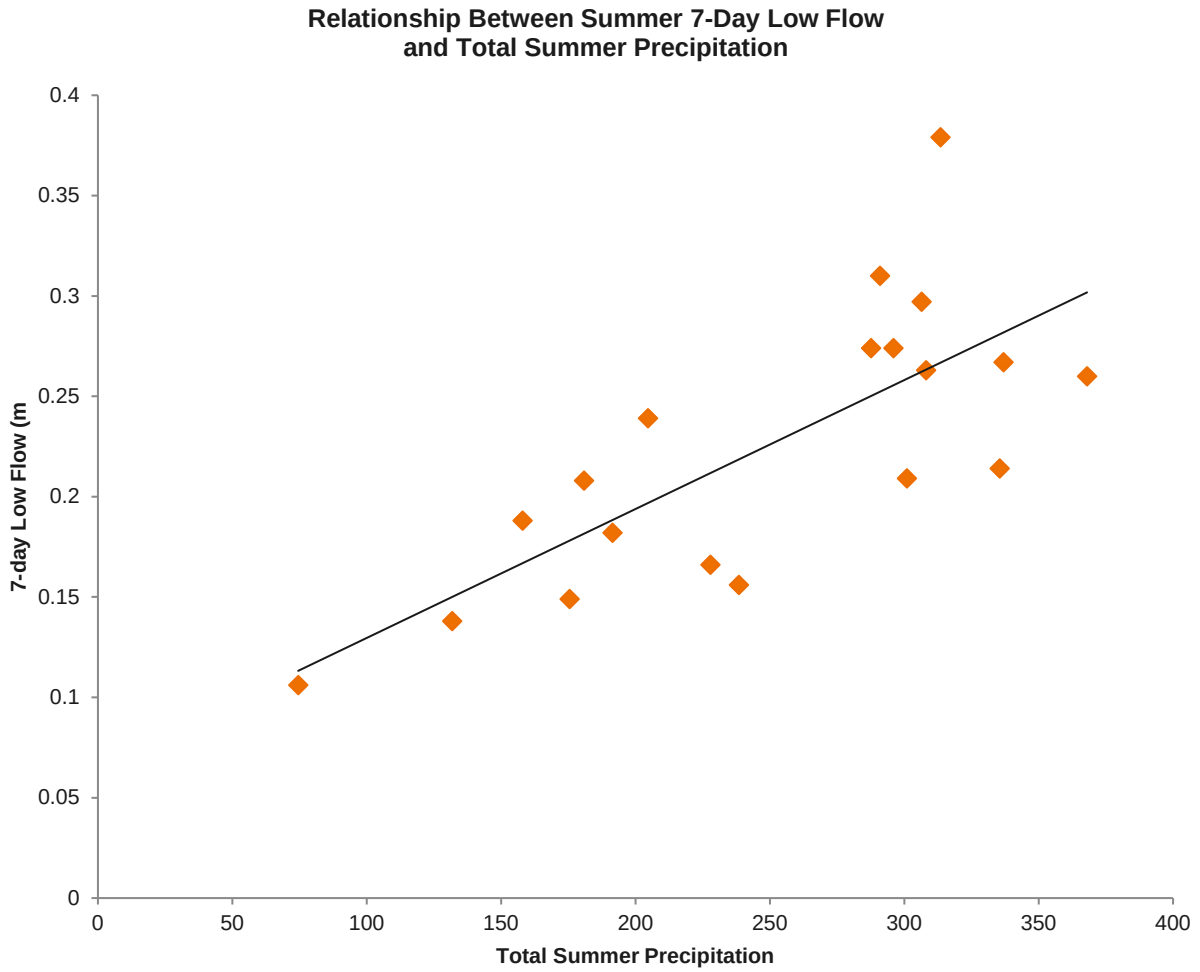
SUMMARY OUTPUT - Relationship Between Summer 7-Day Low Flow and Total Summer Precipitation

Regression Statistics	
Multiple R	0.752343111
R Square	0.566020157
Adjusted R Square	0.540491931
Standard Error	0.046633432
Observations	19

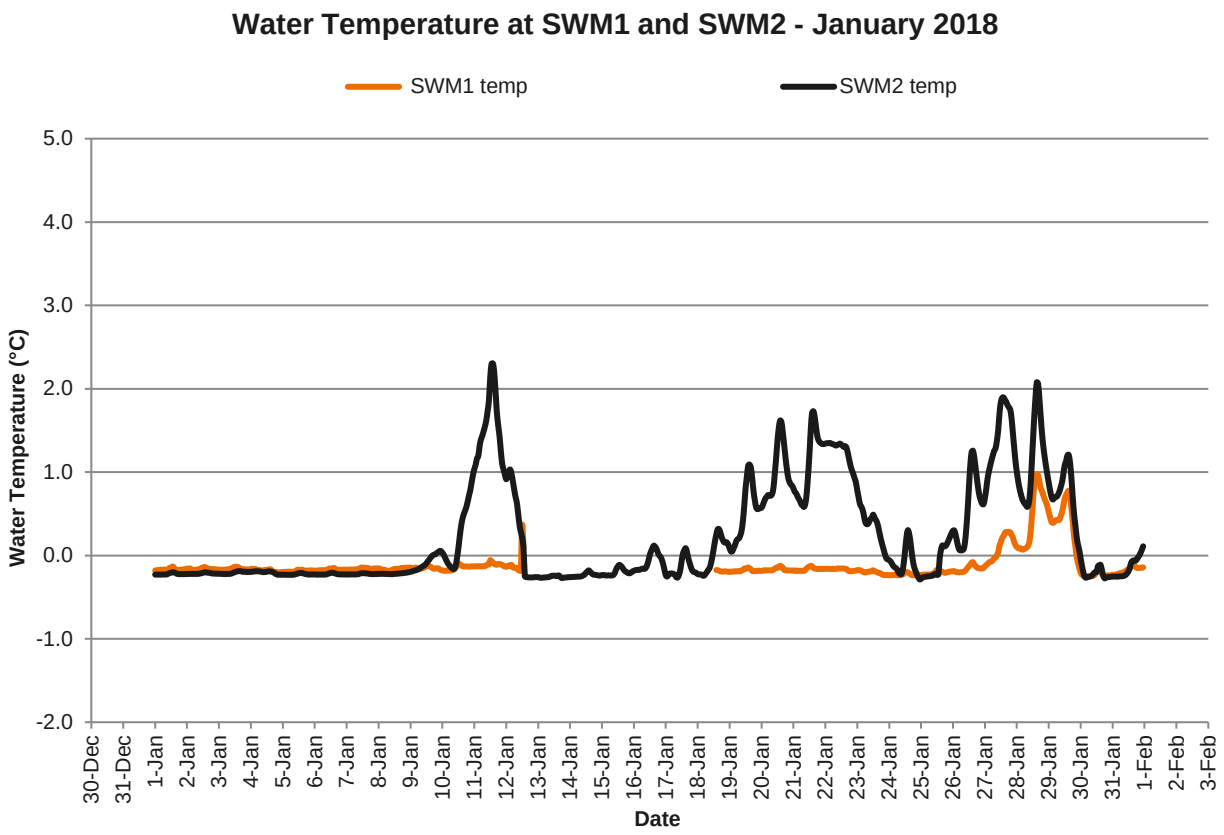
ANOVA

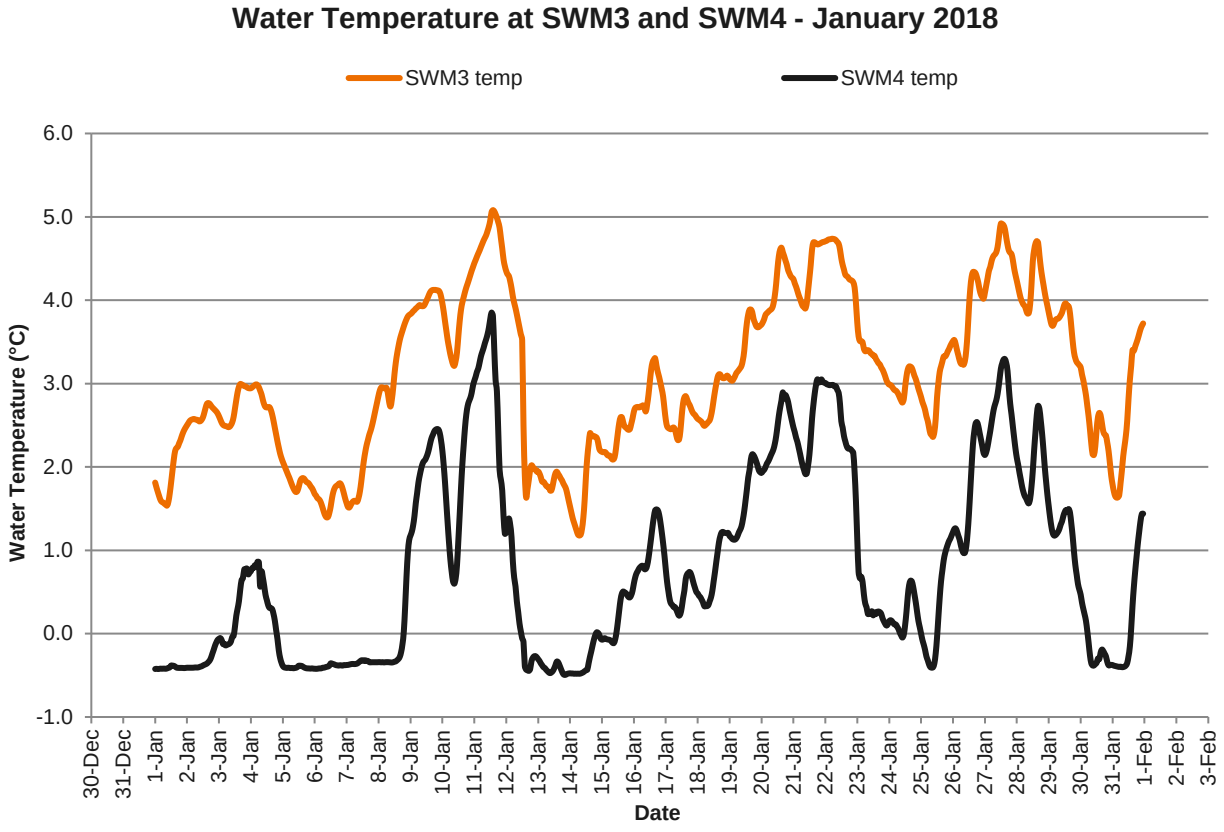
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	0.048217648	0.048218	22.17232626	0.000202414
Residual	17	0.036969509	0.002175		
Total	18	0.085187158			

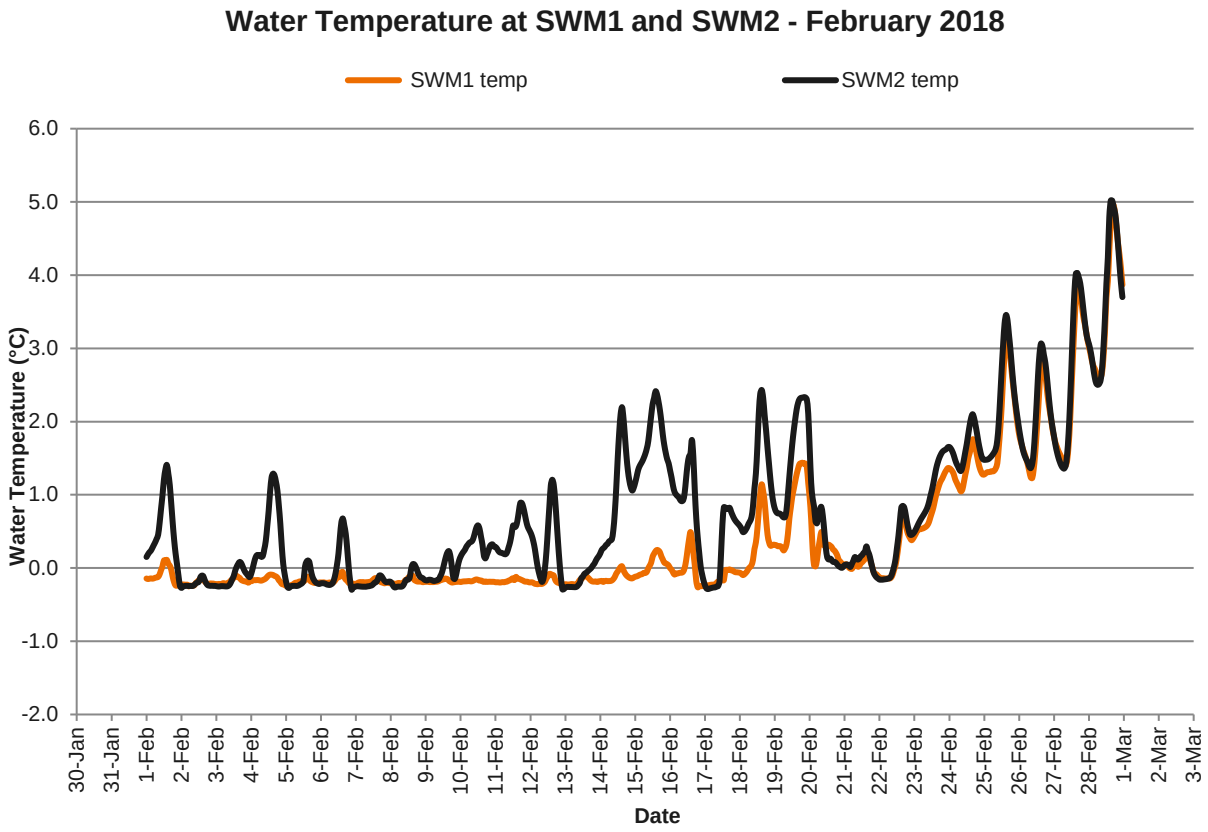
	Coefficients	***Standard Error***	***t Stat***	***P-value***	***Lower 95%***	***Upper 95%***	***Lower 95.0%***	***Upper 95.0%***
Intercept	0.065366644	0.035592093	1.83655	0.083826043	-0.009726108	0.1404594	-0.00972611	0.140459395
X Variable 1	0.000642419	0.000136431	4.70875	0.000202414	0.000354575	0.00093026	0.000354575	0.000930262

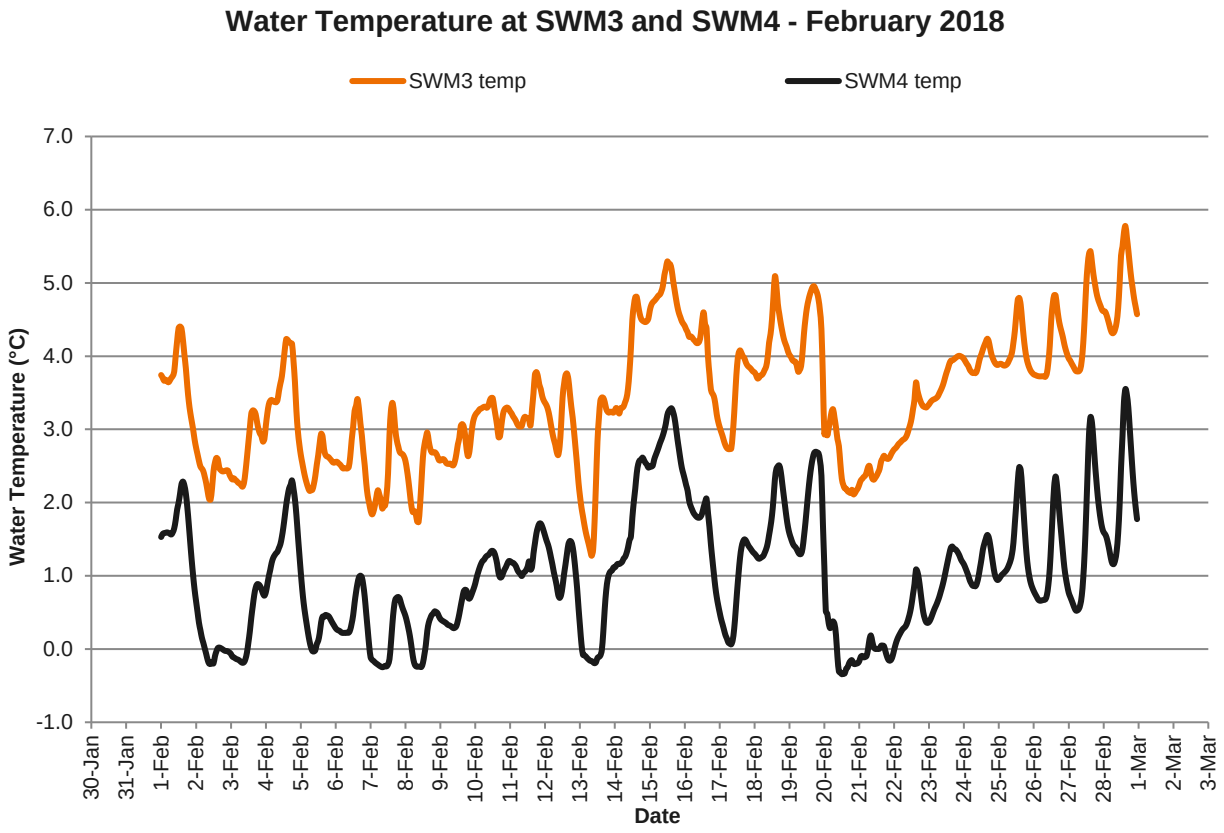


SUB-APPENDIX A-6
Monthly Water Temperature Data

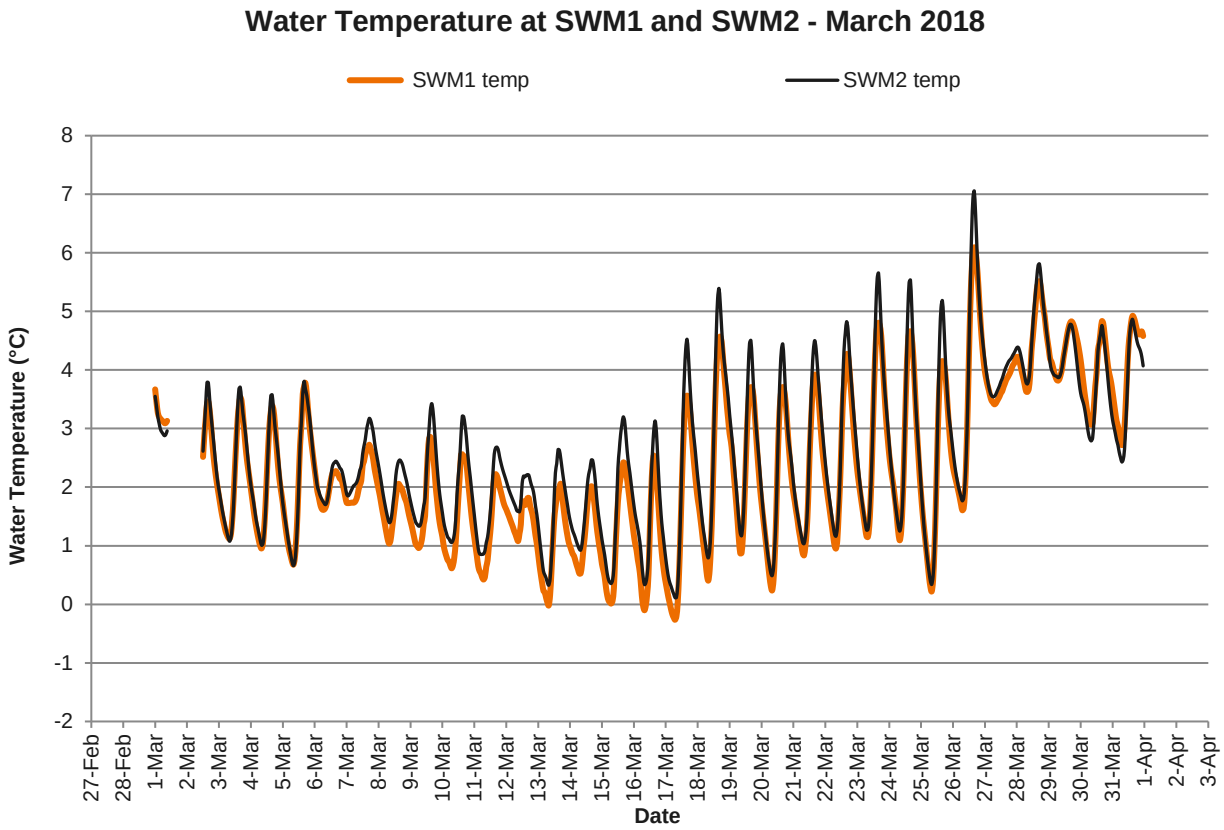

Water Temperature at SWM1 and SWM2 - January 2018
SWM1 temp
SWM2 temp
Water Temperature (°C)
5.0
4.0
3.0
2.0
1.0
0.0
-1.0
-2.0
30-Dec
31-Dec
1-Jan
2-Jan
3-Jan
4-Jan
5-Jan
6-Jan
7-Jan
8-Jan
9-Jan
10-Jan
11-Jan
12-Jan
13-Jan
14-Jan
15-Jan
16-Jan
17-Jan
18-Jan
19-Jan
20-Jan
21-Jan
22-Jan
23-Jan
24-Jan
25-Jan
26-Jan
27-Jan
28-Jan
29-Jan
30-Jan
31-Jan
1-Feb
2-Feb
3-Feb
Date

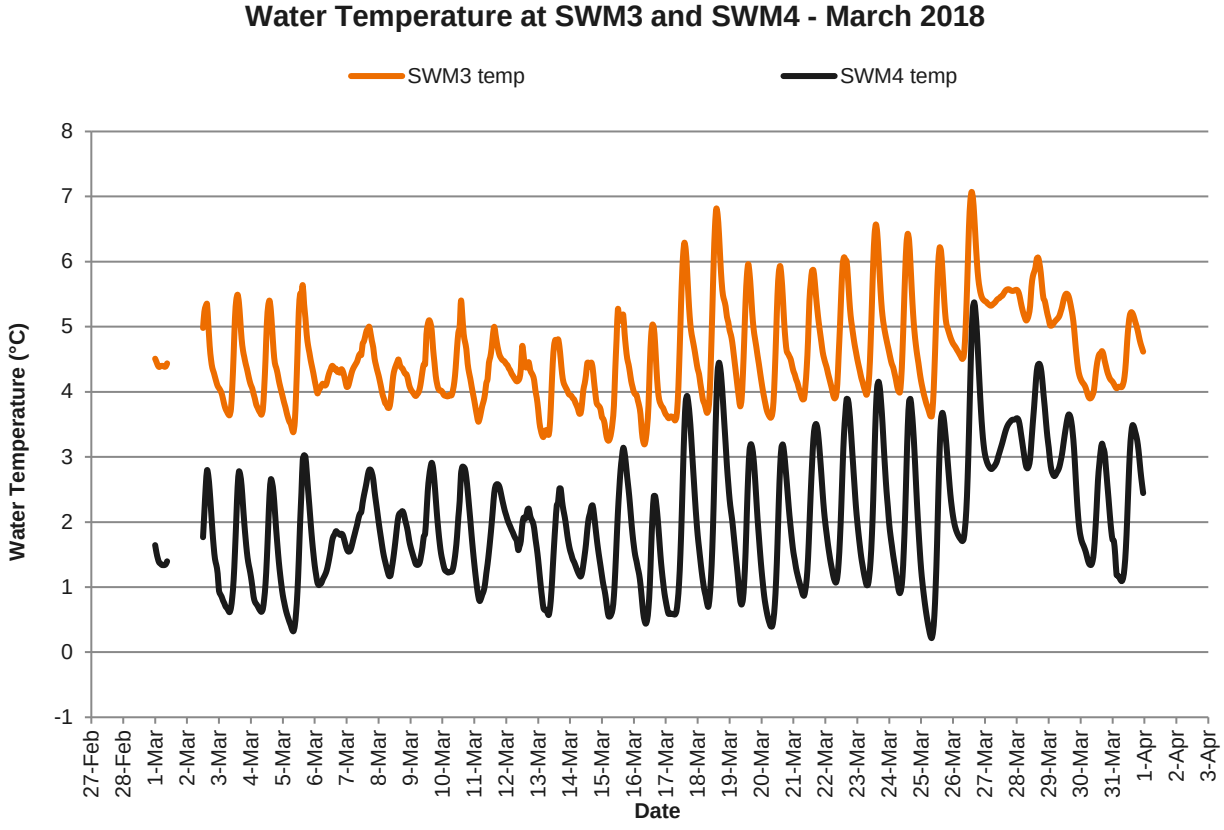

Water Temperature at SWM3 and SWM4 - January 2018
SWM3 temp
SWM4 temp
Water Temperature (°C)
6.0
5.0
4.0
3.0
2.0
1.0
0.0
-1.0
30-Dec
31-Dec
1-Jan
2-Jan
3-Jan
4-Jan
5-Jan
6-Jan
7-Jan
8-Jan
9-Jan
10-Jan
11-Jan
12-Jan
13-Jan
14-Jan
15-Jan
16-Jan
17-Jan
18-Jan
19-Jan
20-Jan
21-Jan
22-Jan
23-Jan
24-Jan
25-Jan
26-Jan
27-Jan
28-Jan
29-Jan
30-Jan
31-Jan
1-Feb
2-Feb
3-Feb
Date


Water Temperature at SWM1 and SWM2 - February 2018
SWM1 temp
SWM2 temp
Water Temperature (°C)
6.0
5.0
4.0
3.0
2.0
1.0
0.0
-1.0
-2.0
30-Jan
31-Jan
1-Feb
2-Feb
3-Feb
4-Feb
5-Feb
6-Feb
7-Feb
8-Feb
9-Feb
10-Feb
11-Feb
12-Feb
13-Feb
14-Feb
15-Feb
16-Feb
17-Feb
18-Feb
19-Feb
20-Feb
21-Feb
22-Feb
23-Feb
24-Feb
25-Feb
26-Feb
27-Feb
28-Feb
1-Mar
2-Mar
3-Mar
Date


Water Temperature at SWM3 and SWM4 - February 2018
SWM3 temp
SWM4 temp
Water Temperature (°C)
7.0
6.0
5.0
4.0
3.0
2.0
1.0
0.0
-1.0
30-Jan
31-Jan
1-Feb
2-Feb
3-Feb
4-Feb
5-Feb
6-Feb
7-Feb
8-Feb
9-Feb
10-Feb
11-Feb
12-Feb
13-Feb
14-Feb
15-Feb
16-Feb
17-Feb
18-Feb
19-Feb
20-Feb
21-Feb
22-Feb
23-Feb
24-Feb
25-Feb
26-Feb
27-Feb
28-Feb
1-Mar
2-Mar
3-Mar
Date

Stantec


Water Temperature at SWM1 and SWM2 - March 2018
SWM1 temp
SWM2 temp
Water Temperature (°C)
8
7
6
5
4
3
2
1
0
-1
-2
27-Feb
28-Feb
1-Mar
2-Mar
3-Mar
4-Mar
5-Mar
6-Mar
7-Mar
8-Mar
9-Mar
10-Mar
11-Mar
12-Mar
13-Mar
14-Mar
15-Mar
16-Mar
17-Mar
18-Mar
19-Mar
20-Mar
21-Mar
22-Mar
23-Mar
24-Mar
25-Mar
26-Mar
27-Mar
28-Mar
29-Mar
30-Mar
31-Mar
1-Apr
2-Apr
3-Apr
Date


Water Temperature at SWM3 and SWM4 - March 2018
SWM3 temp
SWM4 temp
Water Temperature (°C)
8
7
6
5
4
3
2
1
0
-1
27-Feb
28-Feb
1-Mar
2-Mar
3-Mar
4-Mar
5-Mar
6-Mar
7-Mar
8-Mar
9-Mar
10-Mar
11-Mar
12-Mar
13-Mar
14-Mar
15-Mar
16-Mar
17-Mar
18-Mar
19-Mar
20-Mar
21-Mar
22-Mar
23-Mar
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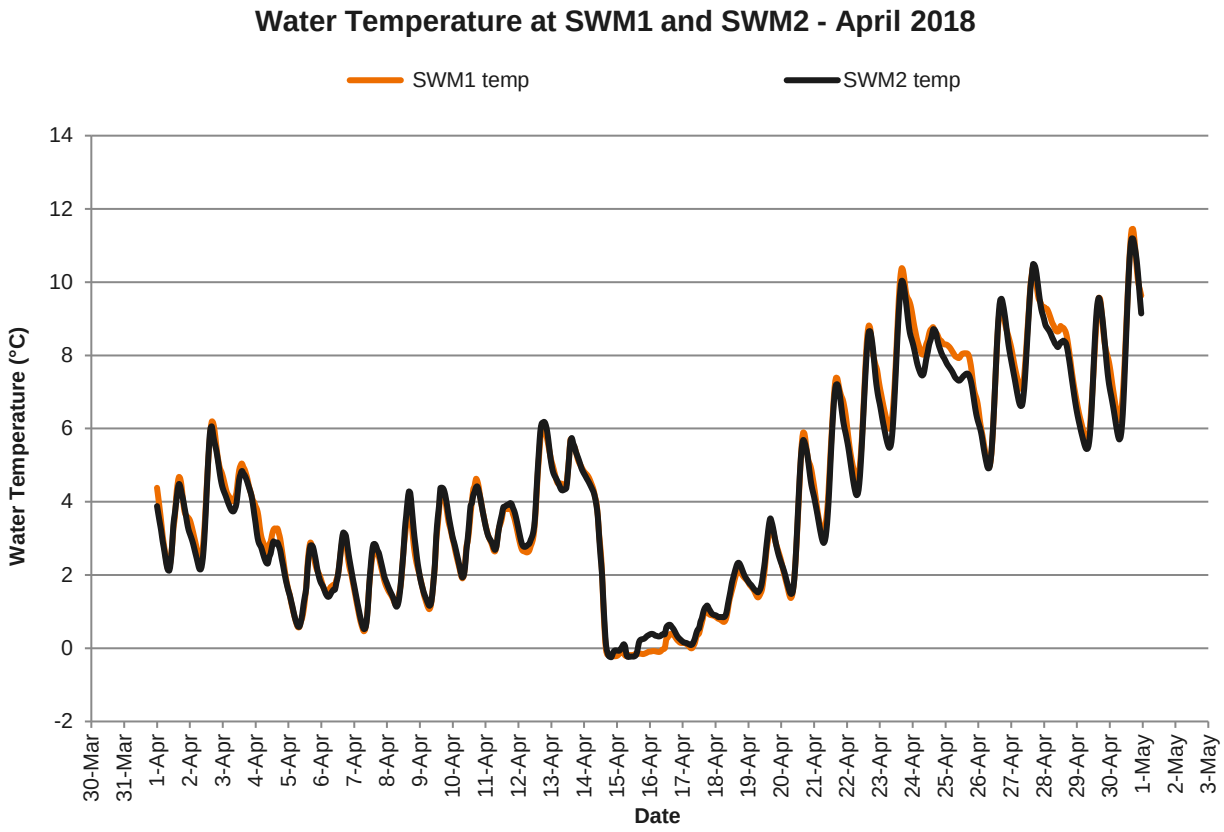
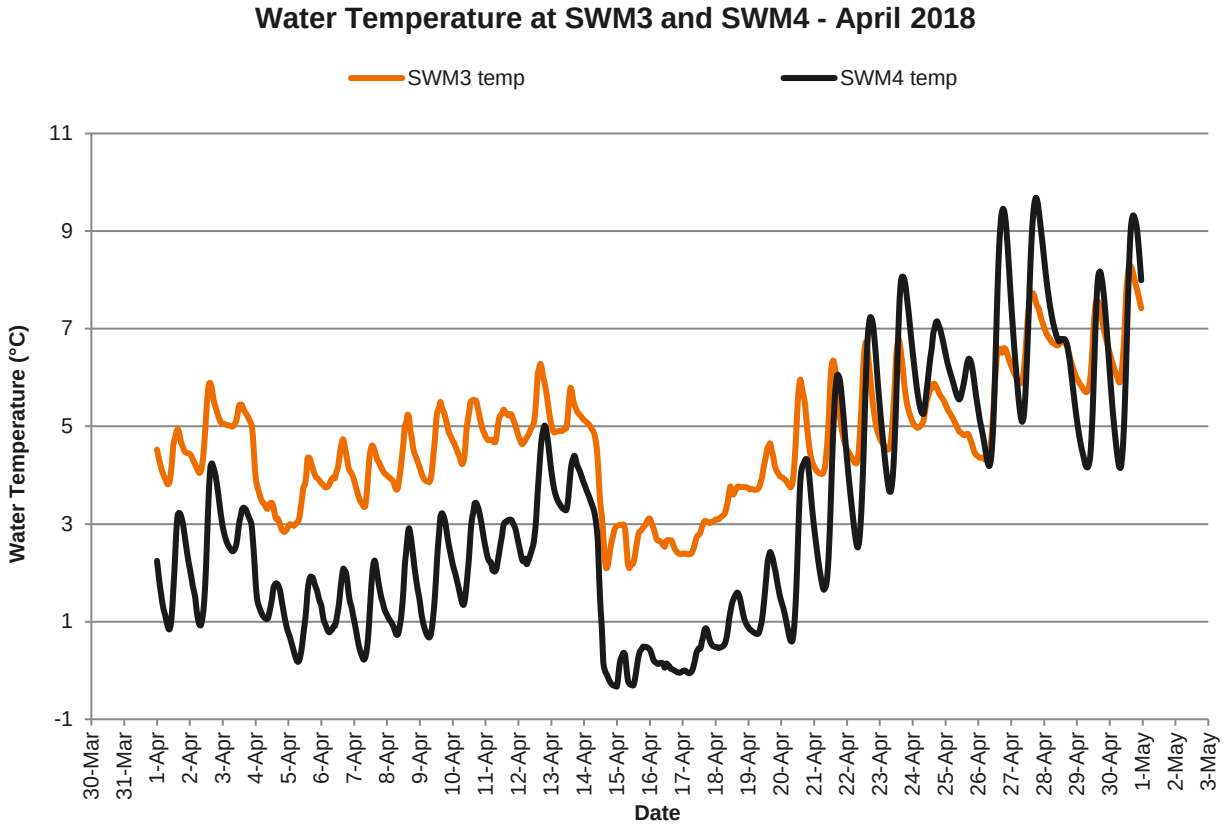
29-Mar
30-Mar
31-Mar
1-Apr
2-Apr
3-Apr
Date


Water Temperature at SWM1 and SWM2 - April 2018
SWM1 temp
SWM2 temp
Water Temperature (°C)
14
12
10
8
6
4
2
0
-2
30-Mar
31-Mar
1-Apr
2-Apr
3-Apr
4-Apr
5-Apr
6-Apr
7-Apr
8-Apr
9-Apr
10-Apr
11-Apr
12-Apr
13-Apr
14-Apr
15-Apr
16-Apr
17-Apr
18-Apr
19-Apr
20-Apr
21-Apr
22-Apr
23-Apr
24-Apr
25-Apr
26-Apr
27-Apr
28-Apr
29-Apr
30-Apr
1-May
2-May
3-May
Date


Water Temperature at SWM3 and SWM4 - April 2018
SWM3 temp
SWM4 temp
Water Temperature (°C)
11
9
7
5
3
1
-1
30-Mar
31-Mar
1-Apr
2-Apr
3-Apr
4-Apr
5-Apr
6-Apr
7-Apr
8-Apr
9-Apr
10-Apr
11-Apr
12-Apr
13-Apr
14-Apr
15-Apr
16-Apr
17-Apr
18-Apr
19-Apr
20-Apr
21-Apr
22-Apr
23-Apr
24-Apr
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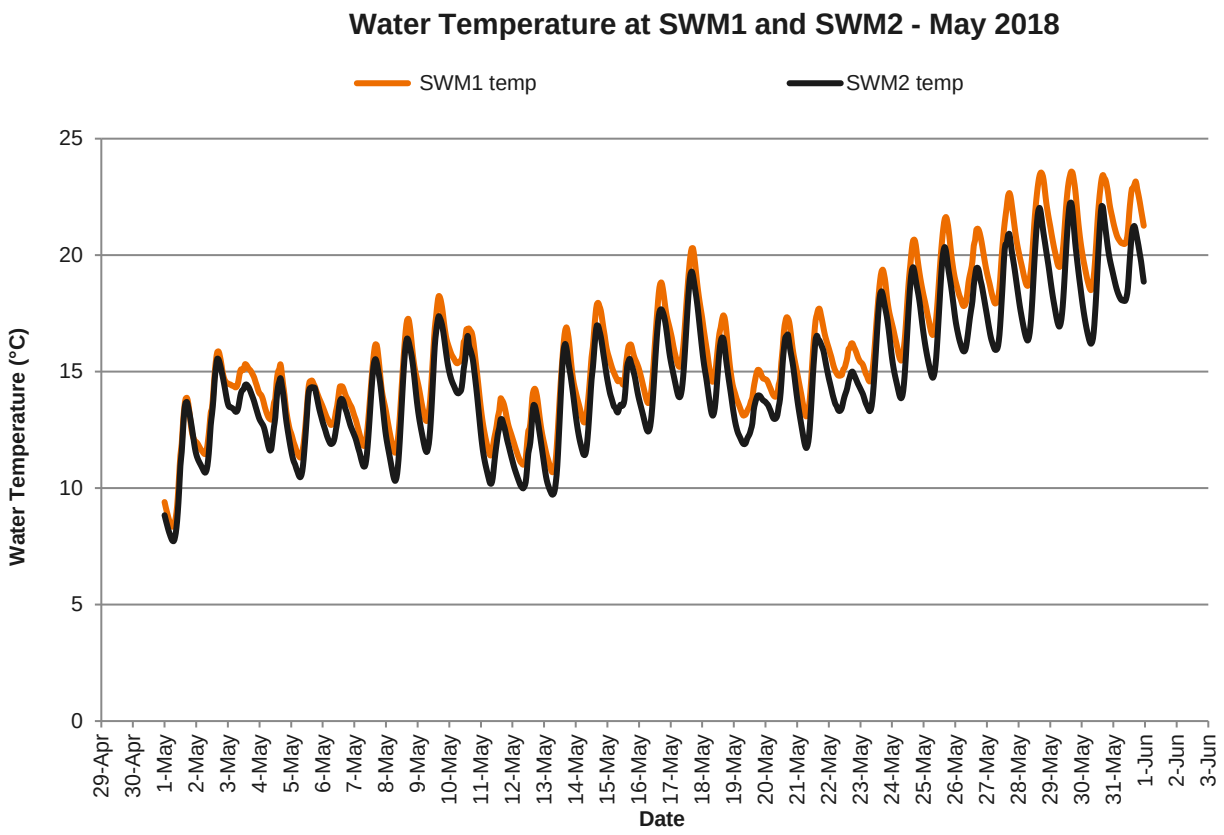
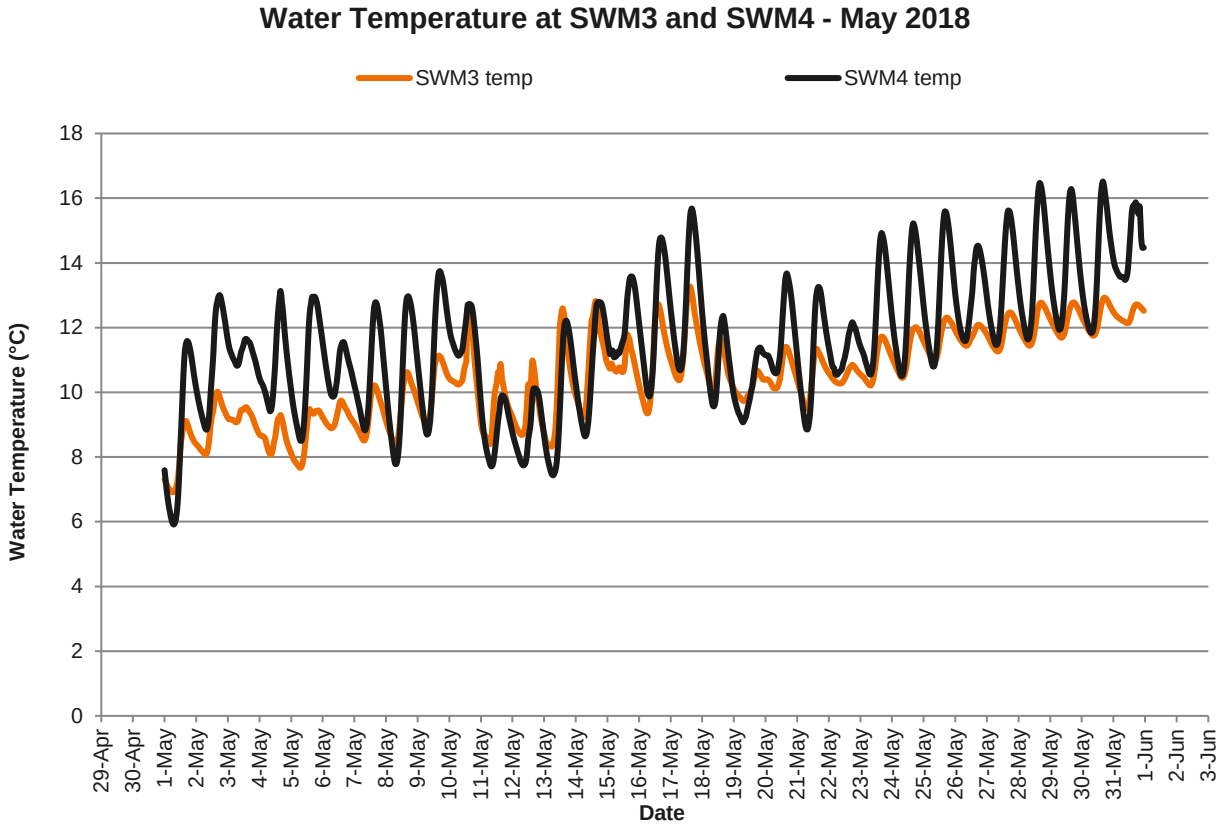
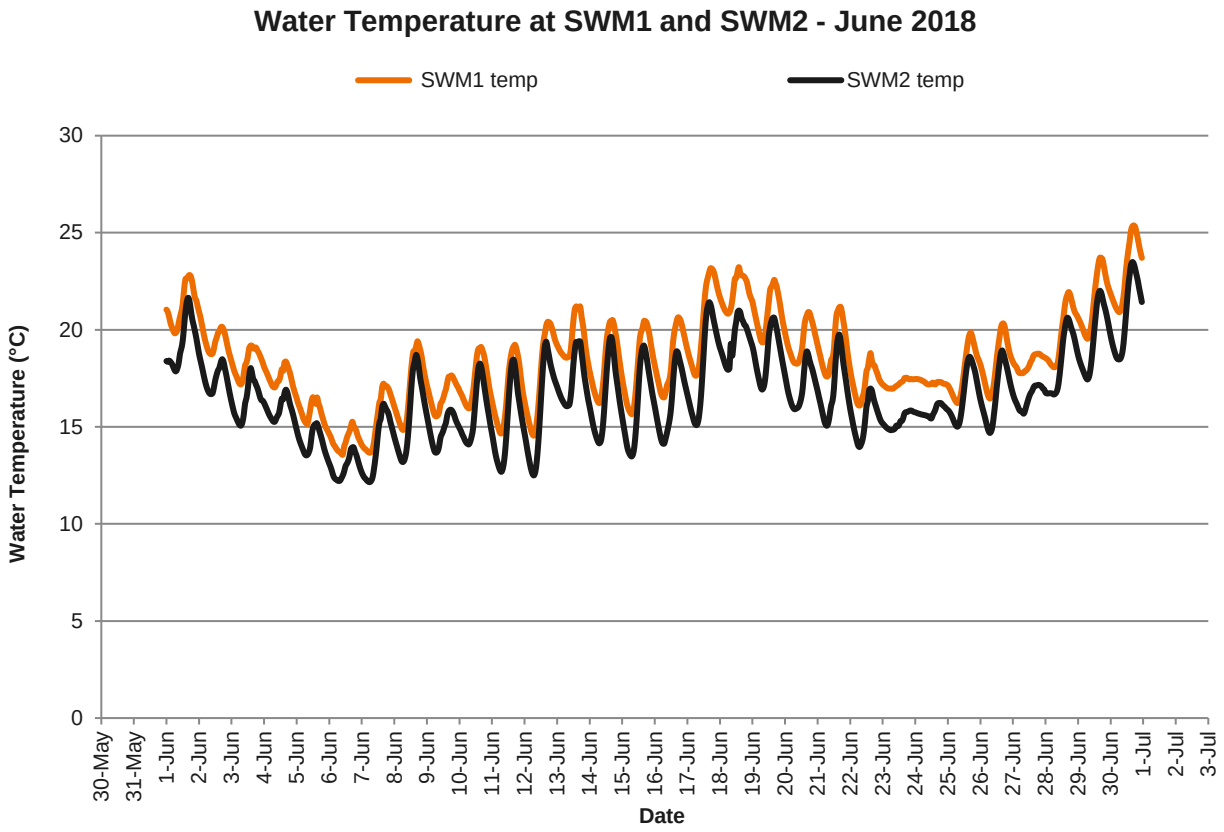
26-Apr
27-Apr
28-Apr
29-Apr
30-Apr
1-May
2-May
3-May
Date

Stantec


Water Temperature at SWM1 and SWM2 - May 2018
SWM1 temp
SWM2 temp
Water Temperature (°C)
25
20
15
10
5
0
29-Apr
30-Apr
1-May
2-May
3-May
4-May
5-May
6-May
7-May
8-May
9-May
10-May
11-May
12-May
13-May
14-May
15-May
16-May
17-May
18-May
19-May
20-May
21-May
22-May
23-May
24-May
25-May
26-May
27-May
28-May
29-May
30-May
31-May
1-Jun
2-Jun
3-Jun
Date


Water Temperature at SWM3 and SWM4 - May 2018
SWM3 temp
SWM4 temp
Water Temperature (°C)
18
16
14
12
10
8
6
4
2
0
29-Apr
30-Apr
1-May
2-May
3-May
4-May
5-May
6-May
7-May
8-May
9-May
10-May
11-May
12-May
13-May
14-May
15-May
16-May
17-May
18-May
19-May
20-May
21-May
22-May
23-May
24-May
25-May
26-May
27-May
28-May
29-May
30-May
31-May
1-Jun
2-Jun
3-Jun
Date

Stantec


Water Temperature at SWM1 and SWM2 - June 2018
SWM1 temp
SWM2 temp
Water Temperature (°C)
30
25
20
15
10
5
0
30-May
31-May
1-Jun
2-Jun
3-Jun
4-Jun
5-Jun
6-Jun
7-Jun
8-Jun
9-Jun
10-Jun
11-Jun
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13-Jun
14-Jun
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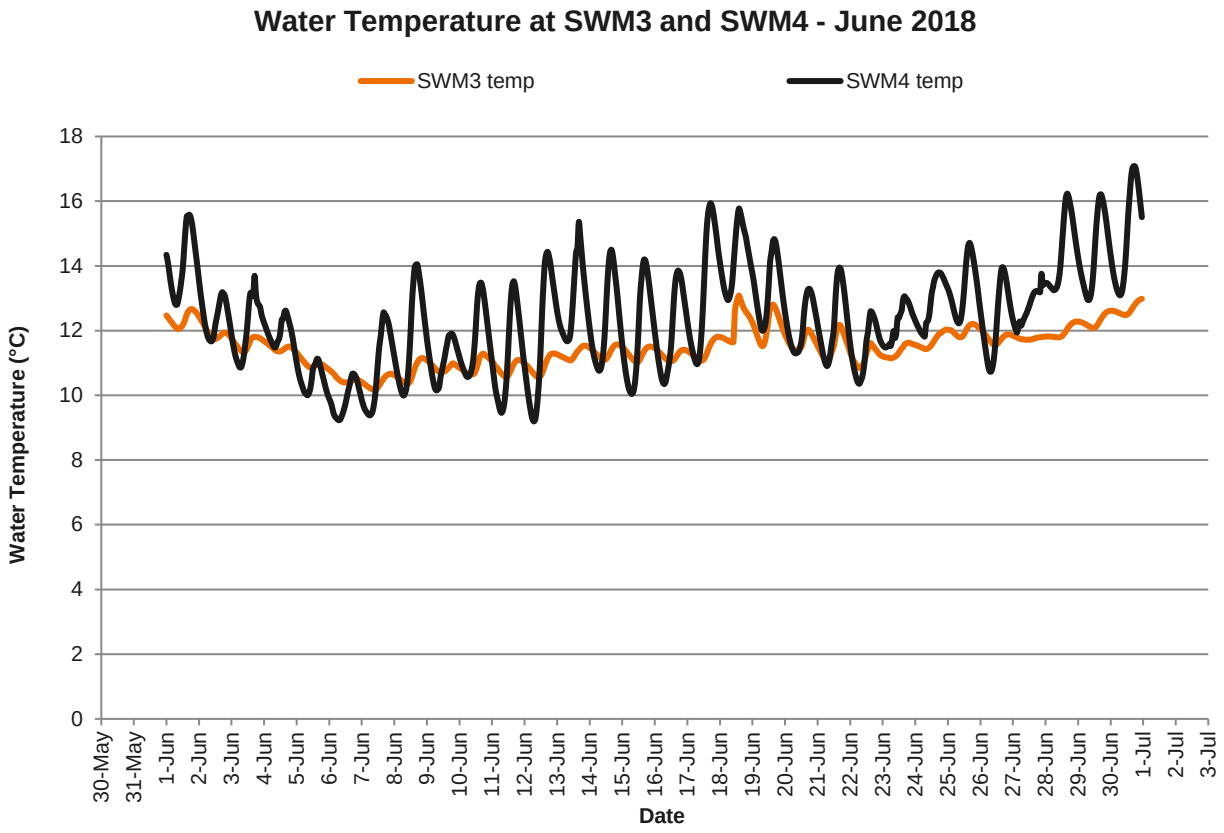
Date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SWM4 temp
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12
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30-May
31-May
1-Jun
2-Jun
3-Jun
4-Jun
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Date

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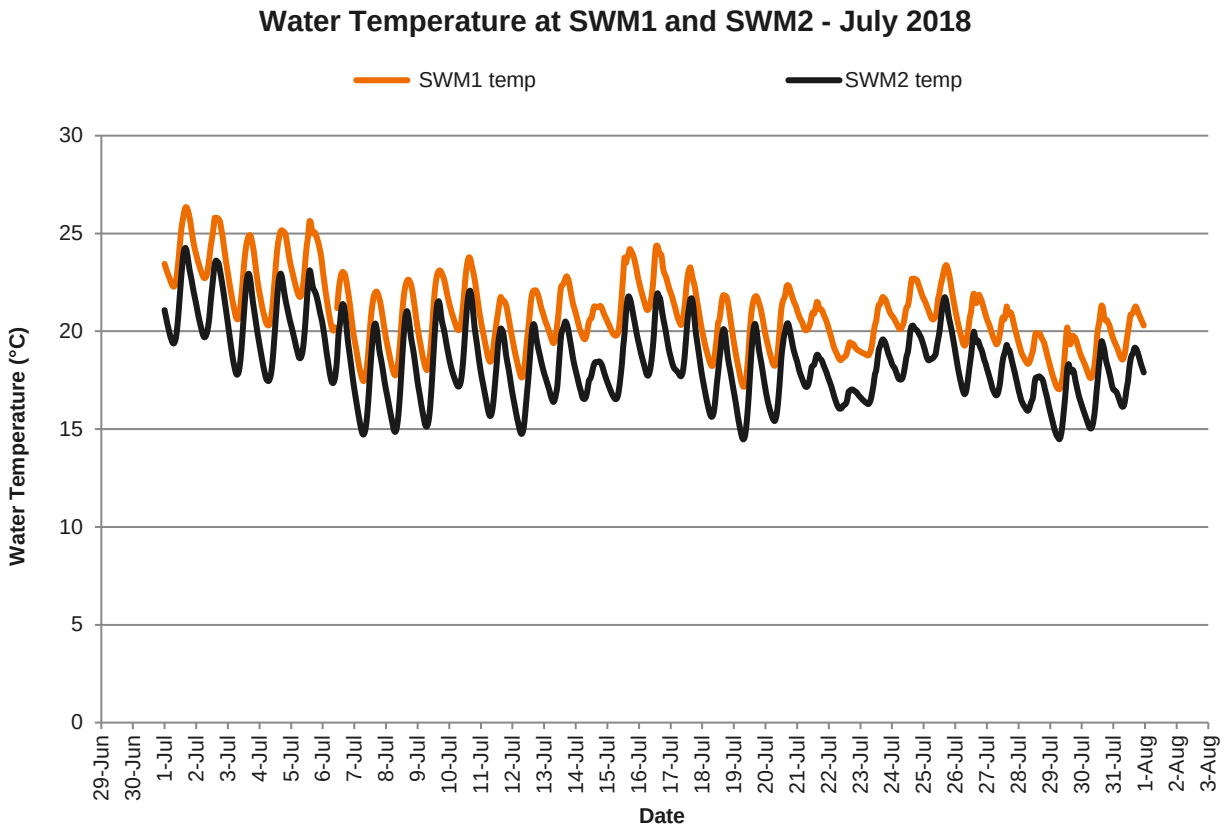
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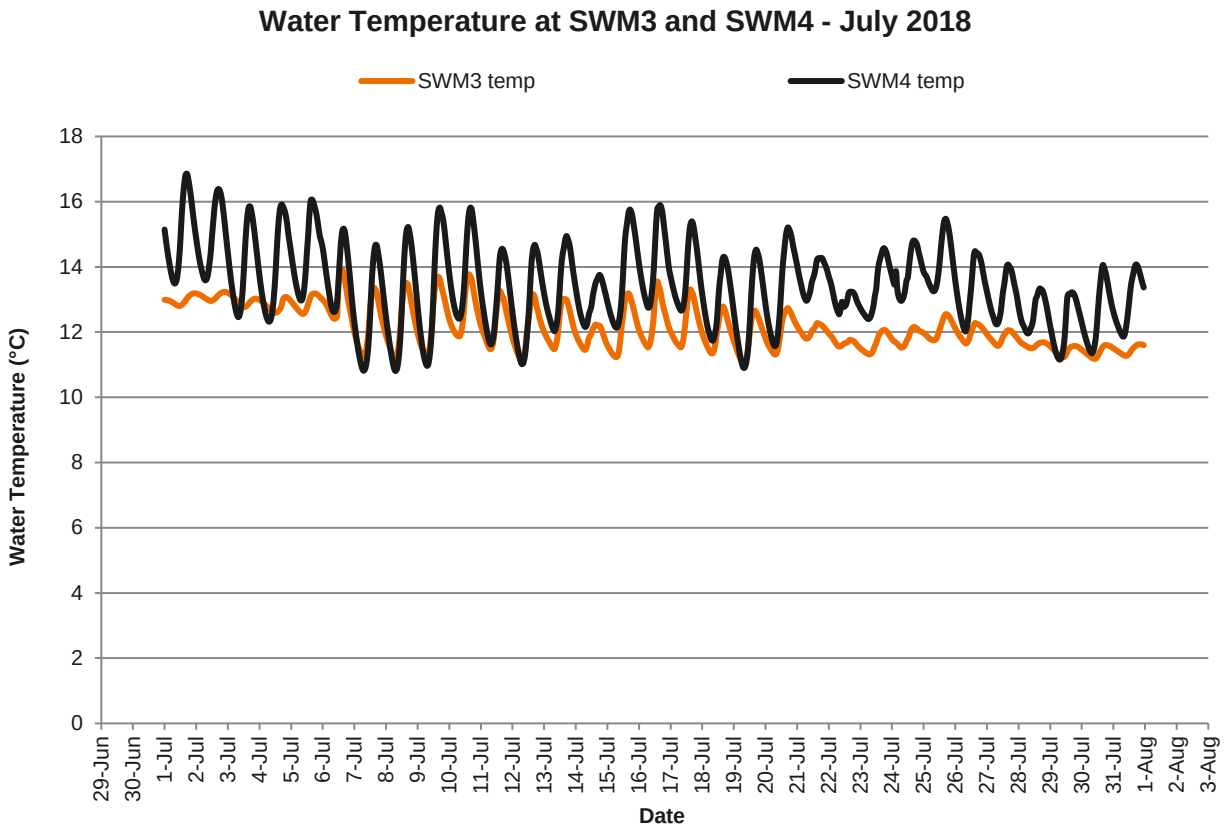
Date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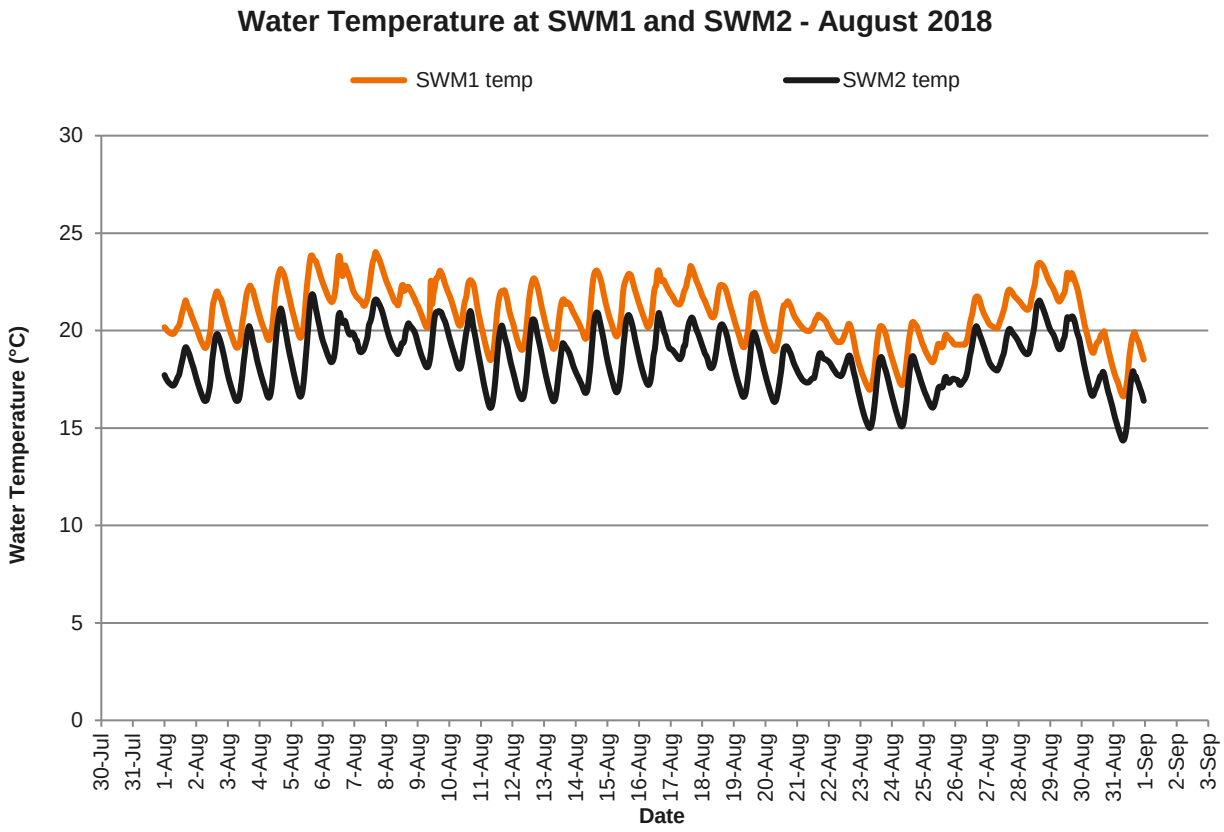
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31-Jul
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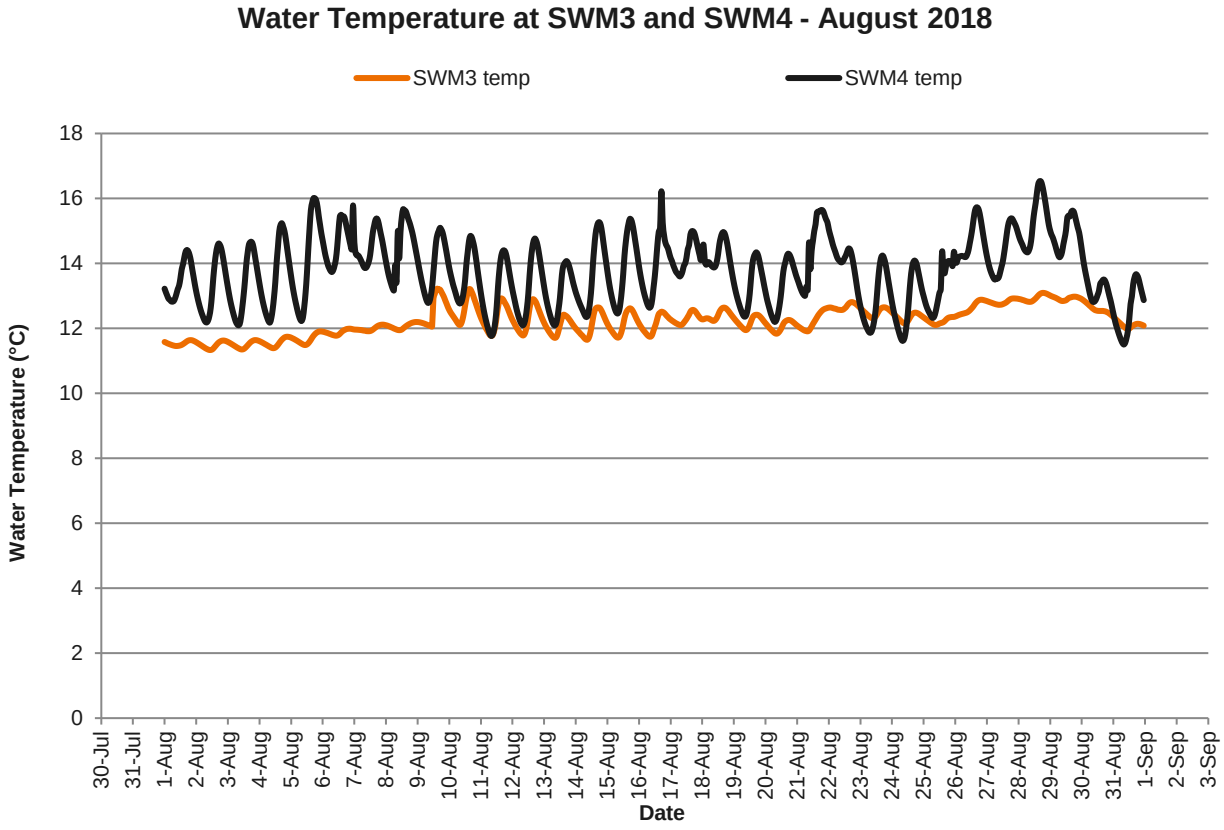
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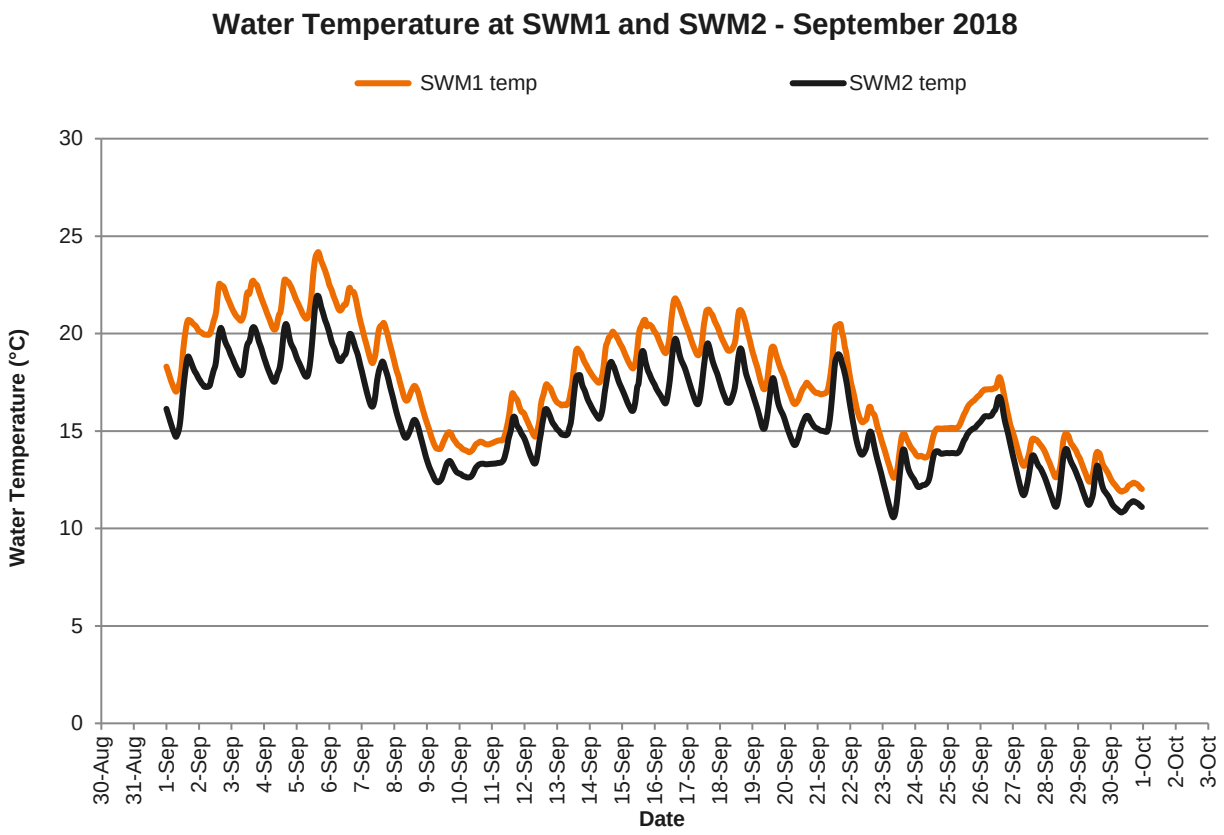
Water Temperature at SWM1 and SWM2 - September 2018
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SWM2 temp
Water Temperature (°C)
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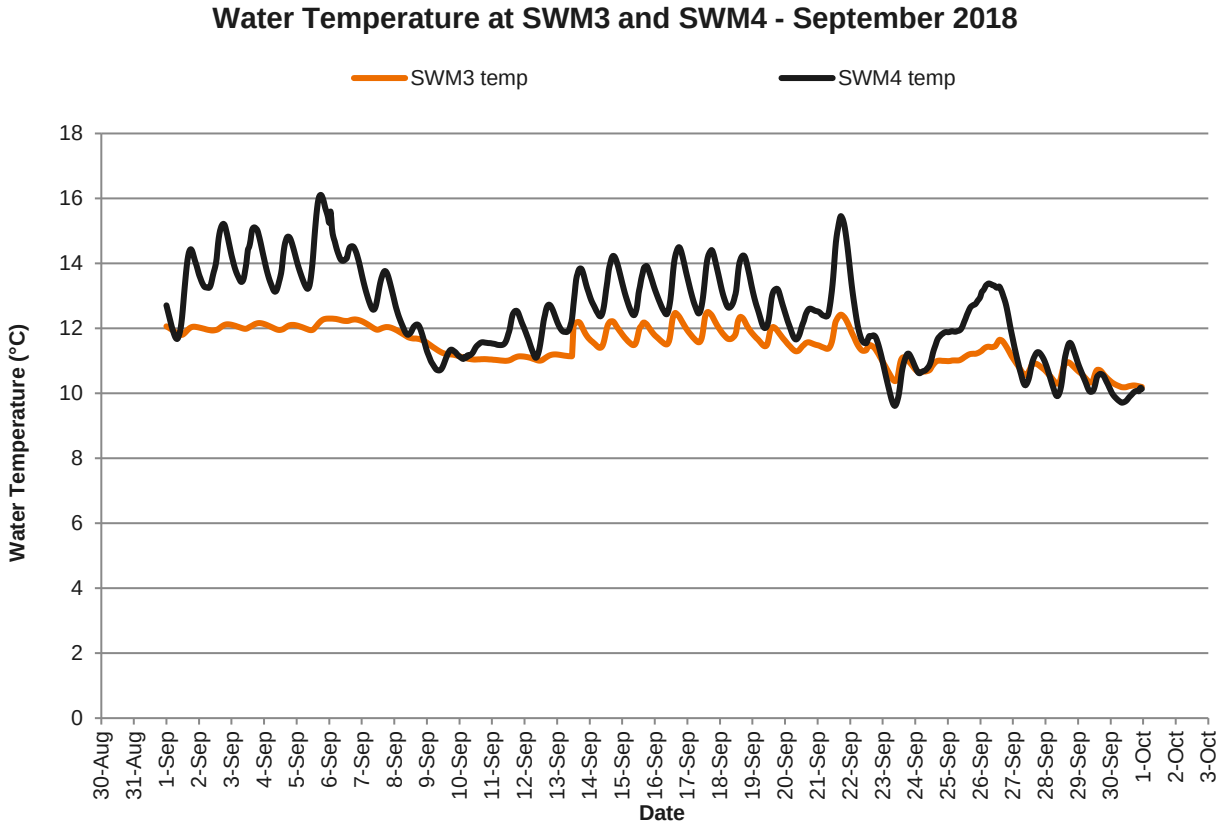
Water Temperature at SWM3 and SWM4 - September 2018
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Water Temperature (°C)
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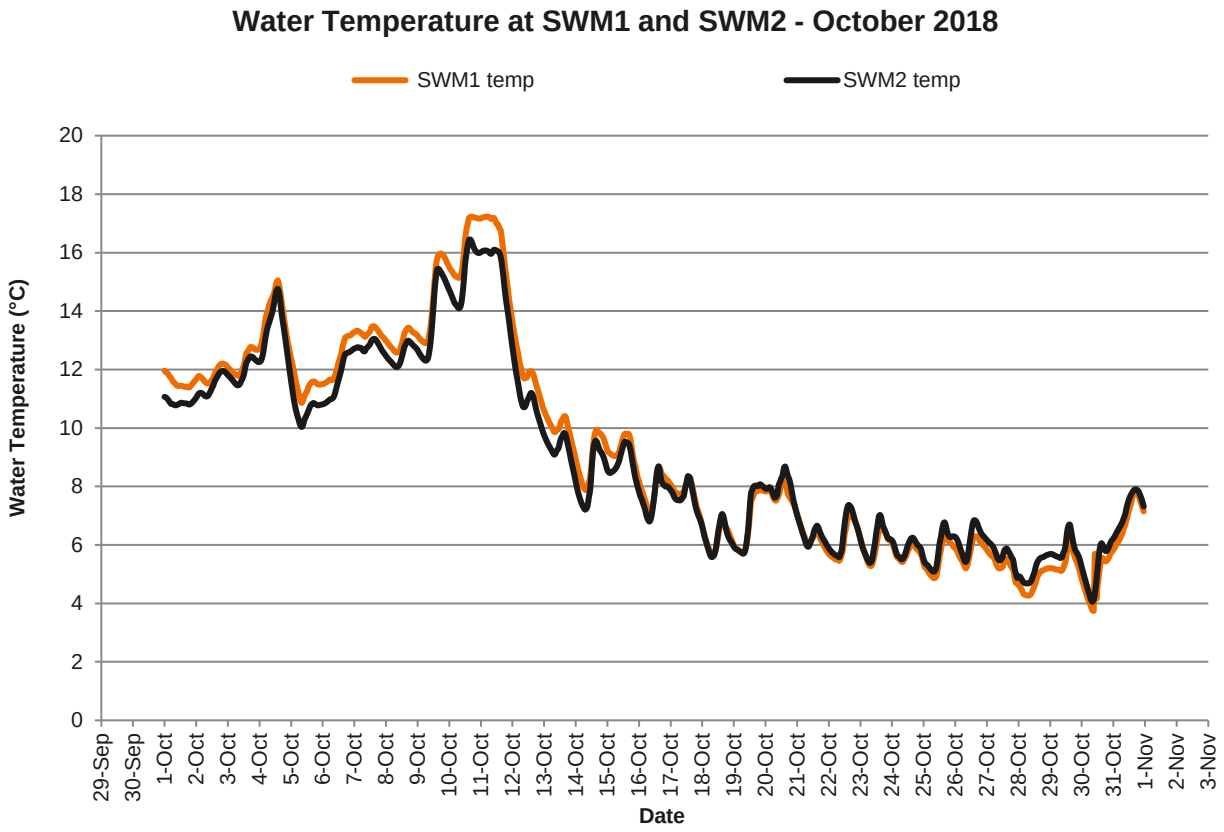
Water Temperature at SWM1 and SWM2 - October 2018
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SWM2 temp
Water Temperature (°C)
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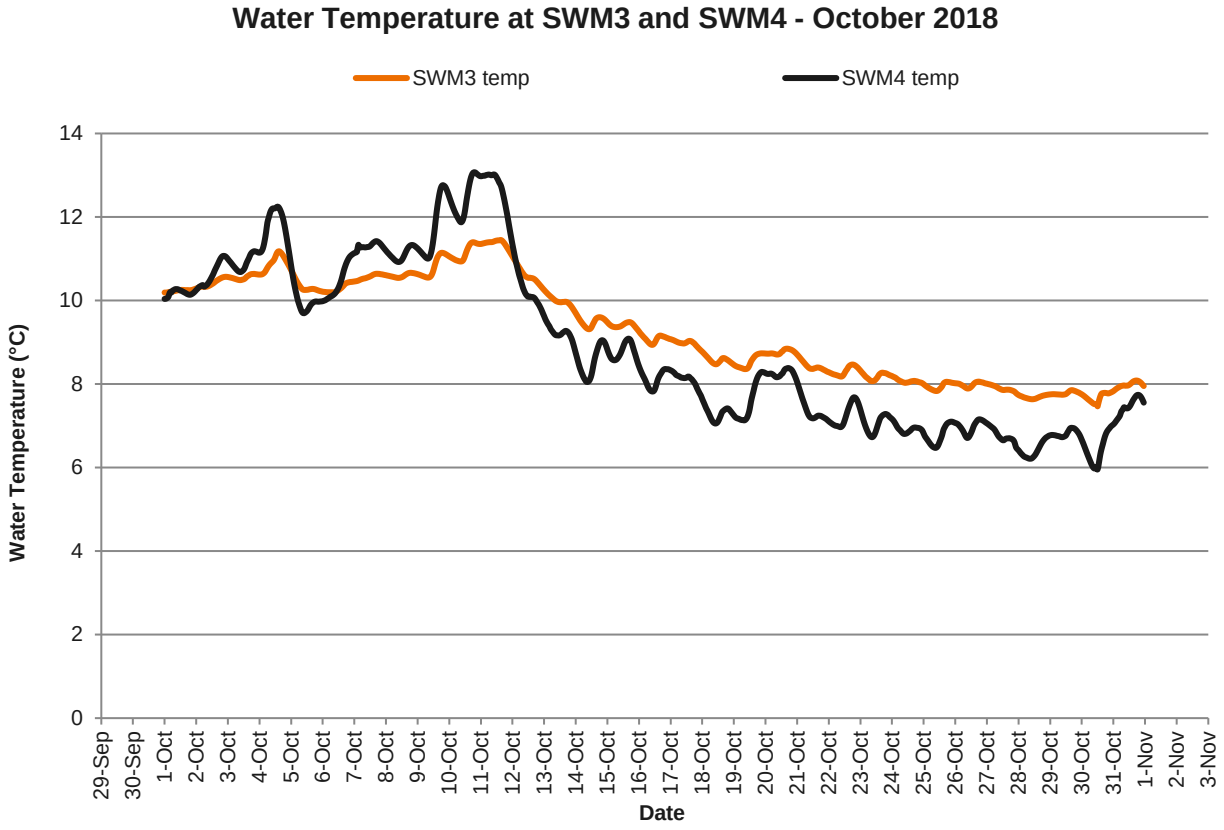
Water Temperature at SWM3 and SWM4 - October 2018
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SWM4 temp
Water Temperature (°C)
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2
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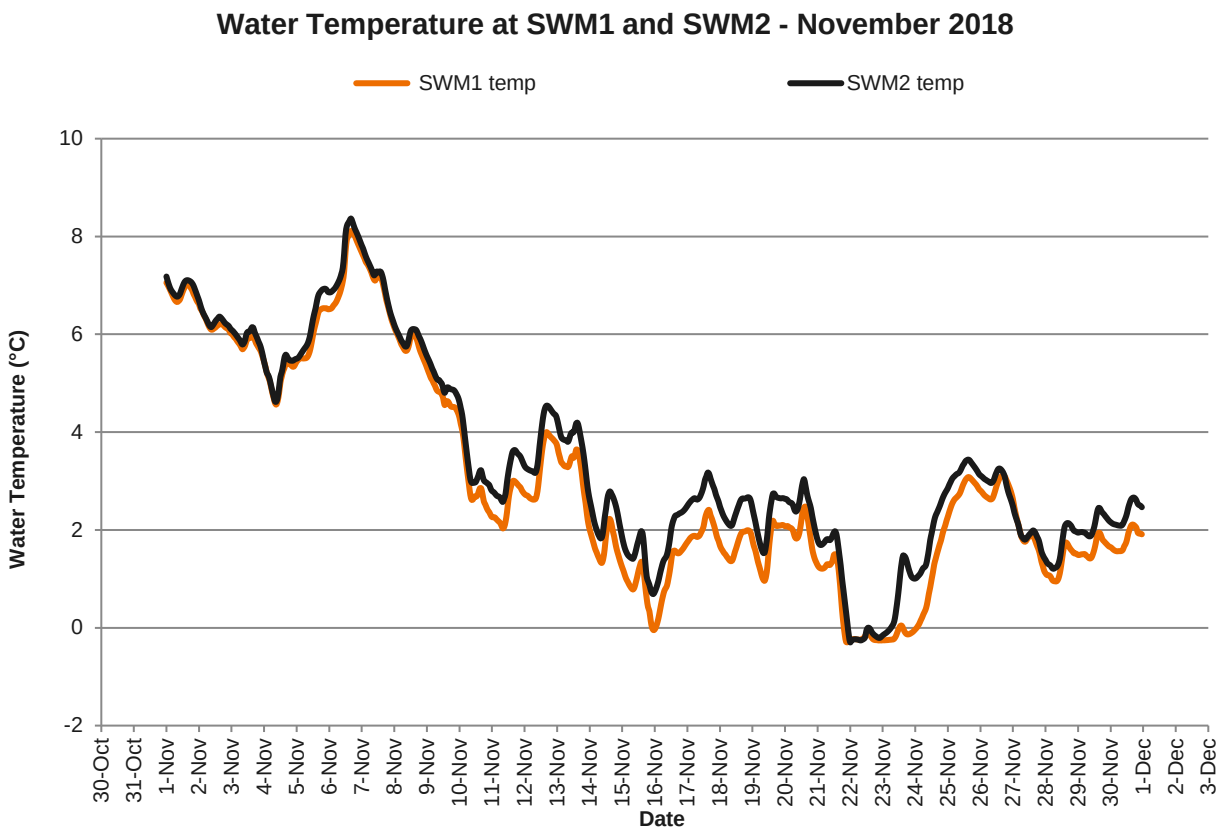
Water Temperature at SWM1 and SWM2 - November 2018
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SWM2 temp
Water Temperature (°C)
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2
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1-Nov
2-Nov
3-Nov
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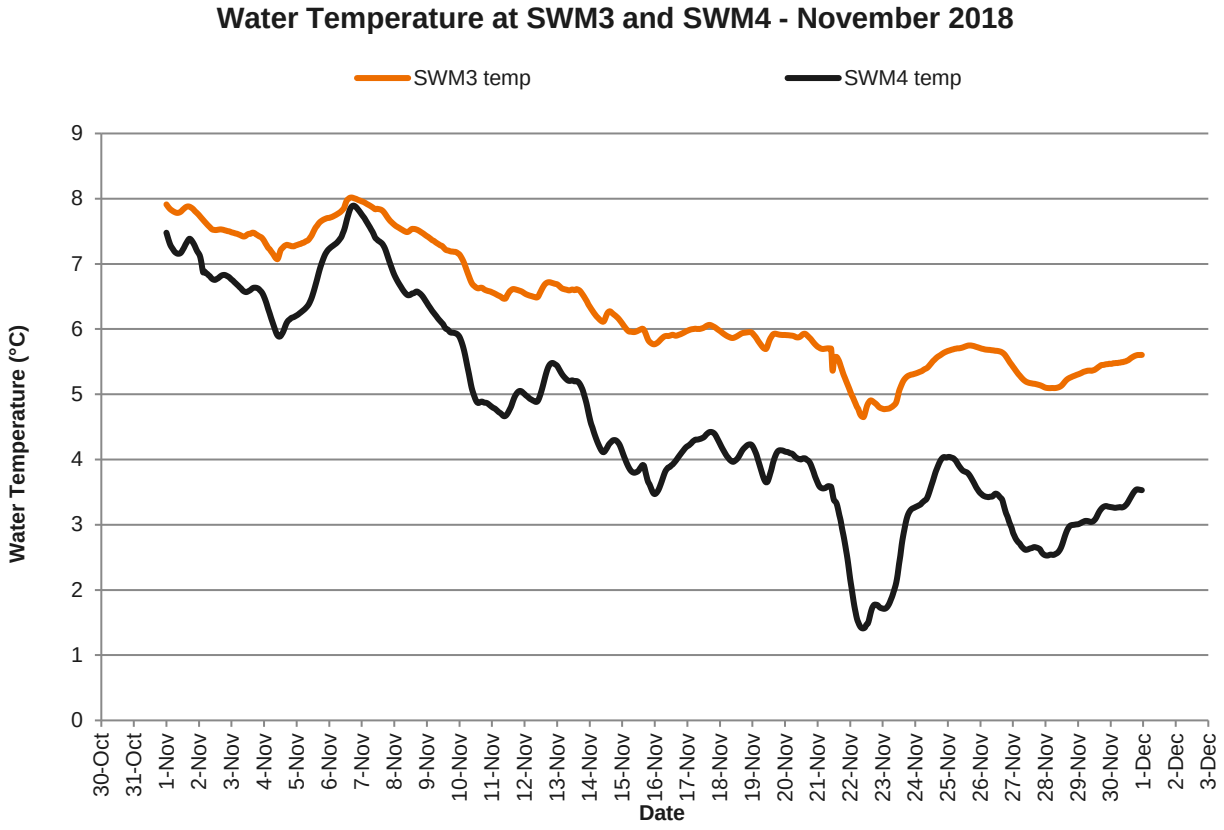
Water Temperature at SWM3 and SWM4 - November 2018
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SWM4 temp
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0
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31-Oct
1-Nov
2-Nov
3-Nov
4-Nov
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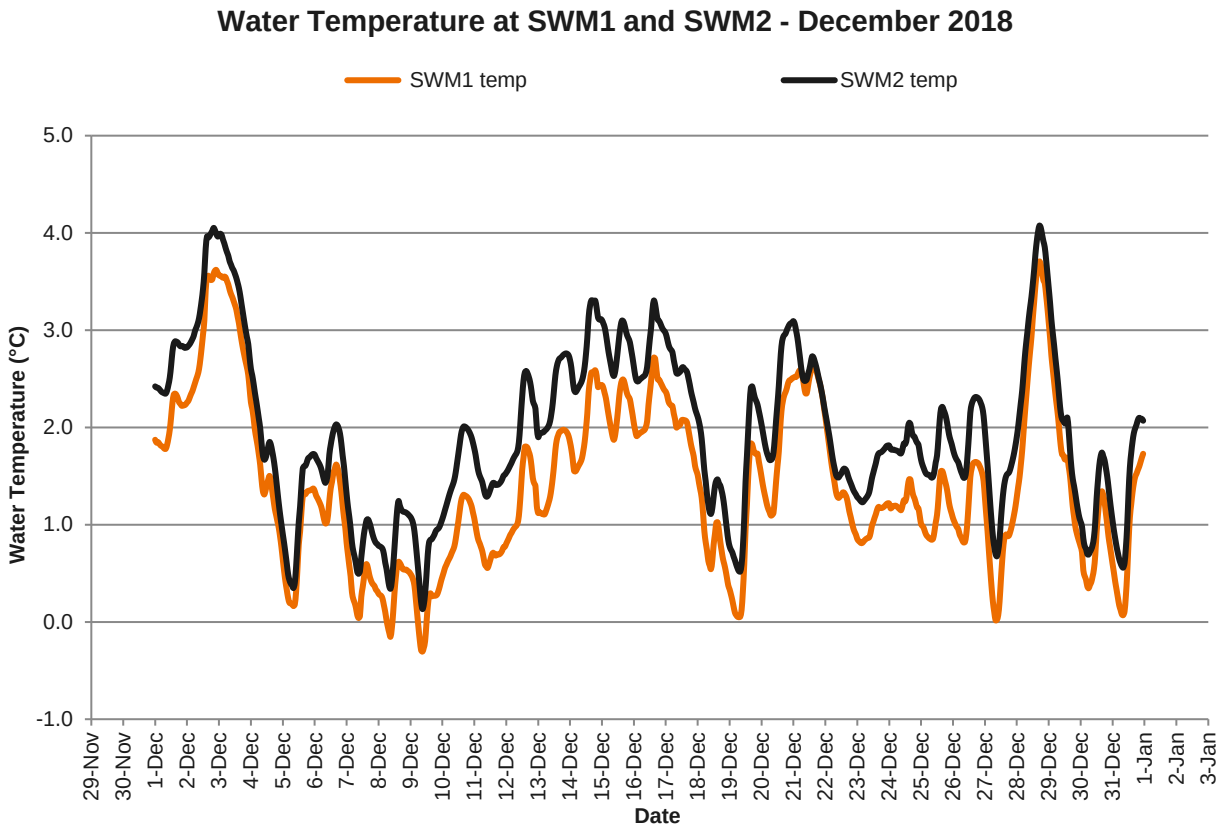
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SWM1 temp
SWM2 temp
Water Temperature (°C)
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4.0
3.0
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0.0
-1.0
29-Nov
30-Nov
1-Dec
2-Dec
3-Dec
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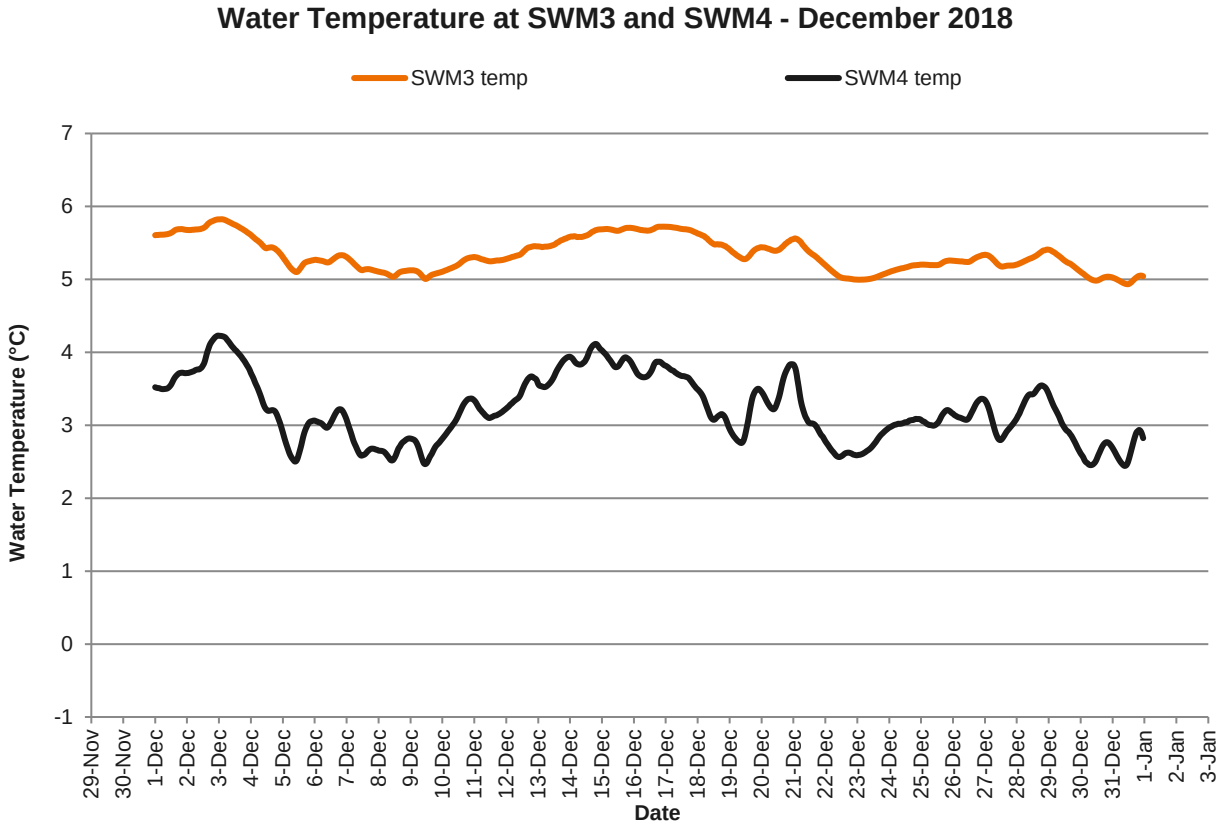
Water Temperature at SWM3 and SWM4 - December 2018
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SWM4 temp
Water Temperature (°C)
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25-Dec
26-Dec
27-Dec
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29-Dec
30-Dec
31-Dec
1-Jan
2-Jan
3-Jan
Date

MILL CREEK AGGREGATES PIT HYDROGEOLOGY

APPENDIX B OF THE 2018 COORDINATED MONITORING REPORT

DUFFERIN AGGREGATES, A DIVISION OF CRH CANADA GROUP INC.

PROJECT NO.: 111-52958-02
DATE: MARCH 29, 2019

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55 KING STREET
ST. CATHARINES, ON, CANADA L2R 3H5

T: +1 905 687-1771
F: +1 905 687-1773
WSP.COM

March 29, 2019

Dufferin Aggregates, a division of CRH Canada Group Inc.
P.O. Box 5400
Concord, ON L4K 1B6

Attention: **Ron Van Ooteghem, Site Manager**
Mill Creek Pit

Dear Sirs,

Subject: **Mill Creek Aggregates Pit Hydrogeology**
Appendix B of the 2018 Coordinated Monitoring Report

We are pleased to submit our 2018 Annual Groundwater Monitoring Report for the Mill Creek Aggregates Pit. This report was prepared in accordance with the requirements of the original 1993 approved groundwater monitoring program, and as subsequently modified in 2002, 2004, and 2006 in consultation with the Ministry of Natural Resources & Forestry (Guelph office).

The report provides the results of the groundwater monitoring program for 2018 and an interpretation of those results within the context of previously collected data at the property. The report also integrates the results of the groundwater monitoring program with monitoring results from other disciplines. Technical data are appended to the report for reference purposes.

We trust that this annual report is satisfactory at this time. Please contact our office if there are any questions.

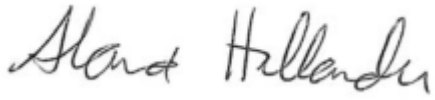
Yours truly,
WSP Canada Inc.

Greg R. Siiskonen, P.Eng.
Director, Environment

WSP ref.: 111-52958-02

SIGNATURES

PREPARED BY



Alana Hollander, C.Tech.
Project Technician

PREPARED BY

Greg R. Siiskonen, P.Eng.
Director, Environment

REVIEWED BY

Andrew G. Hims, P.Eng.
Hims GeoEnvironmental Ltd.
Consulting Engineer

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APPENDICES

1 INTRODUCTION

1.1 BACKGROUND

The University of Guelph owns approximately 189 ha of land situated in Part Lot 24, Concession 1, and Part Lots 21, 22, 23, and 24, Concession 2, Township of Puslinch, in the County of Wellington. Dufferin Aggregates, a division of CRH Canada Group Inc., leases the property from the University of Guelph. The property, called the Mill Creek Aggregates Pit, is underlain by a substantial outwash deposit, which extends to the northeast and southwest of Highway 401. See Figure 1, Location and Physical Setting, for details. This deposit forms the most important aggregate resource in this area. The subject property is licenced by the Ministry of Natural Resources and Forestry (MNRF) as a Category 3 Class 'A' Pit Below Water for extraction of the aggregate resource from above and below the water table (Licence #5738).

The northwest corner of the property is traversed by Mill Creek and by two tributary creeks, Galt Creek and Pond Creek. Various reaches of Mill Creek are documented as supporting naturally sustaining brown trout and brook trout populations. Brown trout spawning is documented as occurring in the section of Mill Creek on the Mill Creek Aggregates Pit property. Approximately half of the University property on the north side of Township Road 2 is within the regulatory flood line of Mill Creek. There is also a substantial area of wetland adjacent to Mill Creek and the tributary streams, which is part of the larger Galt Creek Swamp, an area that is designated as a Provincially Significant Wetland (formerly a Class 1 Wetland) by the MNRF.

It was predicted and accepted by the approving agencies at the time of approval of the Mill Creek Aggregates Pit that sub-aqueous extraction of the sand and gravel and the progressive formation of large ponds would modify groundwater flow patterns and discharge conditions near Mill Creek. Predicted effects were greatest in the reach of Mill Creek upstream from the Hanlon interchange to north of Highway 401. The approved aggregate extraction operation was designed to limit the impacts on the western reach of Mill Creek and its two tributaries, and the wetland area adjacent to the creek.

Extraction below the water table commenced in Phase 1 in 1995 (see Figure 3), and occurred each year through to October 2002. In late 2002, extraction activities were undertaken in Phase 2, and continued through to 2012. In 2005, a site plan amendment was issued, which allowed the extension of silt pond SP1 eastward to key into the buried drumlin feature and create a continuous groundwater barrier to the south. In 2006, silt pond SP1 was extended westward to complete the approved silt pond outline and eastward to key into the buried drumlin. Also, a trench was excavated in the silt between these two extensions to allow a connection for the surface water. Between 2007 and 2012, extraction activities were undertaken in Phases 2 and 3, and in 2013 extraction occurred in Phases 3 and 4. Approval for extraction in the area formerly designated on previous Site Plans as "Area To Be Monitored", located northwest of Phase 3, was obtained in 2010. Also, approval for the expansion of silt pond SP3 to replace the proposed barrier wall between Phases 3 and 4 was obtained. Site Plan amendments were completed in February 2010. Approval for extraction in Phase 5 was received in 2015. Extraction in 2016 and 2017 occurred above the water table along the east (2016 only), west, and south boundaries of the Phase 2 pond as a result of obtaining MNRF approval to extract the setbacks. Below the water table extraction occurred in 2016 and 2017 near the east (2016 only) and west boundaries of the Phase 2 pond within the original licensed area. Extraction occurred in 2018 above and below the water table at the east and south boundaries of the Phase 1 pond because extraction had not previously been completed to the approved limit. Extraction within the setback on the east side of the Phase 1 pond

also took place as a result of obtaining MNRF approval to extract the above water table material within the setback, as per the approved Site Plans.

1.2 GROUNDWATER THRESHOLDS

Extraction/pumping in Phase 1 between 1998 and 2002 also coincided with generally drier than average climatic conditions in southern Ontario. In addition, significant aggregate extraction occurred across the properties immediately to the east of this site, and at the property to the north of Highway 401 during the same period. It was, therefore, not unexpected that changes to the natural water table contours and groundwater discharge patterns at Mill Creek occurred as predicted.

On June 27, 2001, and following detailed negotiations with MNR and other regulatory agencies, Dufferin Aggregates issued a document entitled Mill Creek Aggregates Interim Groundwater Threshold and Action Response Plan. Interim thresholds and early warning values were set at six locations across the site, and each location includes a pair of groundwater monitors. The thresholds are based on maintaining positive seasonal hydraulic head differences on the water table between the monitor pairs, such that a hydraulic gradient will continue to exist from the site toward Mill Creek. The thresholds and early warning values have been developed to ensure that the quantity of groundwater that discharges to Mill Creek does not decline below a minimum level, and they are based on seasonal historic low water level data.

In the fall of 2001 and winter of 2002, an in-stream fish habitat needs study was undertaken by Bill Blackport and Cam Portt on behalf of the Department of Fisheries and Oceans (DFO). Their report, entitled "A Functional Analysis of the Impact of Aggregate Extraction on Groundwater and Fish Populations in Mill Creek and MacCrimmon Creeks", dated March 25, 2002, included a review of the threshold and early warning values for the Mill Creek Aggregates Pit. Modifications were incorporated into the July 2002 document entitled "Updated Coordinated Environmental Monitoring Programs for Mill Creek Aggregates, Township of Puslinch, Licence #P726077". Following further review and consultation with MNR, the July 2002 document was revised and re-issued in October 2004, and revised again in October 2006, and it now forms the basis of the environmental monitoring program that is undertaken at the Mill Creek Aggregates Pit.

In 2003, a new pair of groundwater monitors (BH13 to DP21) was added to the threshold monitoring program in the northern part of the site and continue to be monitored routinely with the other threshold monitor pairs (see Figure 2). Also included in 2003 threshold monitoring were the Phase 1 pond and silt ponds SP1 and SP2. In 2004, the Phase 2 pond and silt pond SP3 were included with the threshold monitoring. In 2006, additional monitoring for the Phase 3 operations was initiated, which included the installation of 18 groundwater leveloggers. In 2008, a threshold value was established for the Phase 3 pond that is included in the threshold monitoring program, and that program was continued through 2018.

In 2011, BH92-25 was decommissioned due to Phase 3 extraction operations. The threshold pair BH92-25 and BH92-26 was replaced with BH92-26 to DP2(in) in April 2011. Access to BH92-26 was lost due to extraction operations in November 2011. The threshold pair BH92-26 to DP2(in) was replaced with BH92-27 to DP2(in) in December 2011.

Monitor BH92-30 was decommissioned in April 2012 due to Phase 3 extraction operations. The BH92-30 to BH92-28 threshold pair was replaced with BH92-29 to DP1(in) in May 2012. Drive point monitor DP5B was vandalized in the summer of 2012, and a replacement monitor, DP5C, was installed slightly upstream of DP5B in August 2012, as shown on Figure 2. New preliminary seasonal threshold values were established for the OW5-84 to

DP5C threshold pair in the fall of 2012 based on the limited data available at that time for DP5C. In August 2013, drive point, DP5D was installed slightly downstream of DP5C, but thresholds were not established at this location. In Spring 2017, both drive points DP5C and DP5D were found removed from Mill Creek, and assumed to be removed by a vandal. Replacement drive point DP5CR was installed at the location of DP5C.

At the request of the MNRF, a new monitor, designated BH14, was installed in June 2015 between monitor 92-12 and Mill Creek, in the northeast part of the property. A data logger was installed in BH14 to record automatic groundwater level and temperature data. The purpose of Monitor BH14 is to detect any groundwater temperature changes caused by future extraction activities in Phase 5. It is noted that it is not anticipated that extraction activities in Phase 5 will impact the water temperature in Mill Creek.

1.3 OBJECTIVE AND SCOPE

The principal objectives of the 2018 Annual Monitoring Program are:

- To comply with the pertinent terms of the 2018 water monitoring program;
- To provide an assessment of the effects of on-site aggregate extraction activities on the local groundwater and surface water setting;
- To determine and assess any changes in the groundwater quality;
- To document results in an annual monitoring report as part of a coordinated report; and
- To recommend a monitoring program for implementation in 2019.

The annual monitoring report includes the collation of the monitoring data collected since 1986, a presentation of the results, and an analysis and discussion of the 2018 monitoring data. The discussion includes aspects from the companion monitoring document on surface water (Technical Appendix A). The accompanying summary document entitled “Mill Creek Coordinated Monitoring Report January 1 to December 31, 2018” integrates the monitoring results from the hydrogeology, surface water, and fisheries monitoring programs.

2 ROUTINE GROUNDWATER MONITORING PROGRAM

Figure 2, Groundwater Monitor Locations, identifies the location of the monitors in the network. Details of the monitor installations are presented in Tables A-1 to A-5, Appendix A. The 2018 monitoring program consisted of the following tasks that are outlined in the subsequent sections.

WATER LEVELS

Manually Recorded Monitors

Table 1, Monitor Groupings, presents the monitors grouped within the different hydrostratigraphic units and physical settings at the property. Monitoring was performed monthly at the following locations:

1. Monitors BH1, BH3 to BH6, BH11, BH13, and BH14; OW1-84 OW2-84, OW4-84, OW5-84, and OW16A-78, TW16-78, and TW16-79, which are adjacent to Mill Creek near the southwest corner of the site; and 92-1, 92-5, 92-8, 92-12, 92-13, 92-27 to 92-29, 92-32, and 92-33, which were installed at select locations in the 1992 resource boreholes across the property.
2. In-stream drive point monitors DP1 to DP5C/CR, and DP17 to DP22. Monitoring was performed monthly at the Mill Creek in-stream drive point monitors. Measurements at the Mill Creek drive point monitors included groundwater levels and temperatures, and surface water levels and temperatures. In addition, surface water levels are monitored manually at stations SW1 and SW2, both of which are located in Mill Creek.
3. Shallow water table drive point monitors DP6 to DP12 and DP16, which are established in the wetland areas on the Mill Creek Aggregates Pit property.

Additionally, weekly threshold monitoring was completed at Monitors BH13, BH92-12, BH92-27, BH92-29, OW5-84, DP1, DP2, DP3, DP5C/CR, DP6, DP17, and DP21.

It is noted that monitor 92-1 was removed during extraction activities in September 2018. To provide water level elevations east of the south end of the Phase 1 pond, which is what the 92-1 previously provided, with the approval of St. Marys Cement, a temporary monitoring location was established in November 2018 at the south end of the McNally Pond on the adjacent St. Marys Cement property, as shown in Figure 2. A replacement monitor will be installed in 2019.

Multi-Level Monitors Equipped with Data Loggers

Monitors:

- 92-13 – east side of the property adjacent to the southwest corner of the Phase 1 pond. A replacement shallow data logger was installed at this monitor in May 2013.
- 92-28, 92-29, and 92-32 – west side of the property adjacent to Mill Creek – installed in November 2006 as part of extraction monitoring in Phase 3
- BH4, DP7, DP8, and DP9 – centre of property adjacent to Phase 4 operations. These are single level data logger installations.

Readings of water level and temperature were obtained once per day. The data were downloaded from the data loggers monthly for review.

A data logger was installed at standpipe monitor 92-33 in March 2012 for the purpose of collecting groundwater level and temperature data from the shallow part of the aquifer. The previous permanent, non-removable multi-level pressure transducer and thermistor instrumentation malfunctioned at monitor nest 92-33 in 2010. A second shallow data logger was installed at 92-33 in October 2017 at a depth similar to the previous (i.e. pre-2012) shallow data logger. The multi-level monitors have not been replaced as adjacent monitors can provide similar information, and extraction in that area is complete.

The data loggers at 92-26 were removed in December 2011 due to access safety issues. A data logger was re-installed in 92-26-III in June 2012 to provide groundwater level and temperature data in the shallow aquifer adjacent to the Phase 3 pond. Due to access safety issues, the data logger was removed in September 2013. Extraction is complete in Phase 3.

Data loggers were also installed in the following monitors in 2011/2012.

- Monitor 92-15 (shallow monitor only) – Removed in December 2013 in anticipation of the decommissioning of Monitor 92-15 in 2014.
- Monitor 92-12 (shallow monitor only)
- Monitor 92-27 (shallow monitor only)
- Drive point DP16

A data logger was installed in Monitor BH14, located between Monitor 92-12 and Mill Creek, in June 2015.

Water Wells

As in previous years, and although not part of the 1993 "official" monitoring program, water wells located on the property, and a well supplying a local resident in the vicinity of the property, were monitored monthly. Water level monitoring began in the summer of 1994 at select locations.

Pond Staff Gauges

Surveyed staff gauges were maintained in the Phase 1 pond, Phase 2 pond, Phase 3 pond, and Phase 4 pond. The staff gauge was removed from silt pond SP3 in April 2011 due to the absence of surface water at that location. A new staff gauge was installed at the east end of the silt pond SP3 northerly extension in 2013, which represented water levels in both silt pond SP3 and the Phase 4 pond, since they are hydraulically connected. In 2016 and 2017, the SP3/Phase 4 pond staff gauge was installed in a small pond hydraulically connected to the southeast corner of the Phase 4 pond, which represents the water level in both the Phase 4 pond and SP3. Measurements of pond water levels were made daily during the ice-free period through 2018. Pond temperatures were measured monthly during the ice-free period.

As indicated above, with the approval of St. Marys Cement, a temporary monitoring location was established at the south end of the adjacent McNally Pond in November 2018 following the removal of monitor 92-1 during extraction activities. Monthly water level measurements are completed at the McNally Pond. A replacement monitor will be installed in 2019.

WATER QUALITY

In March and November 2018, groundwater samples were collected from Monitors BH1, 92-32-III, and 92-8, and a surface water sample was collected from the Phase 1 pond. Samples were tested in the field for temperature, pH, and conductivity and then submitted to Maxxam Analytics Inc. for chemical analysis. Water samples were analyzed for major cations and anions, alkalinity, conductivity, pH, hardness, and oil and grease.

QA/QC PROGRAM

The groundwater monitoring program included a Quality Assurance/Quality Control component that consisted of the following.

1. Dufferin staff performed the routine monitoring in accordance with protocols established for those tasks. The data were forwarded to WSP for review and compilation.
2. WSP collected groundwater samples in March and November 2018. The analytical laboratory, Maxxam Analytics Inc., was required to include a QA/QC component as part of the program that included a replicate analysis. The results of the laboratory's internal QA/QC testing are included in the reporting procedure and are kept on file.

3. Through 2018, Dufferin staff reviewed the results of the routine monitoring program for consistency with historic data, seasonal trends, and precipitation data. Any significant deviations from anticipated values that could not be explained, such as an increase/decrease in excess of 125% of previously established seasonal trends, were to be re-monitored for verification. If the deviations were confirmed, the MNRF was then to be notified in writing with suggestions for remedial measures, as appropriate. In 2018, no significant deviations were observed during the monitoring.
4. WSP performed the routine monitoring, in accordance with protocols established for those tasks, during the months of March, August, and November 2018.

REPORTING

An annual hydrogeological monitoring report is submitted to the MNRF for their review, as part of a coordinated report, by the end of March the following year. The annual hydrogeological report provides the following information:

1. Summary of monitoring results.
2. Description of monitoring methodology and monitoring locations. Any deviation from the standard methodology and/or monitoring locations is to be reported to the MNRF at that time. This information is summarized in the annual report.
3. Factual descriptions of monitoring results, including tables of water levels, hydrographs, and chemical data for the monitoring locations, as appropriate.
4. Discussion of monitoring results, with specific reference to key locations across the site, such as:
    a. Adjacent to current extraction area,
    b. Multi-level (data logger) monitors,
    c. Mill Creek drive points,
    d. Wetland fringe groundwater levels,
    e. Groundwater level profile(s) across the site through the wetland area,
    f. Water table configuration across the site and trends in hydraulic gradient and groundwater discharge conditions, to demonstrate any changes with respect to pre-extraction conditions, and
    g. Assessment with respect to early warning values and action thresholds at monitor pair locations.
    h. Discussion and integration of monitoring results with respect to the other monitoring programs including:
        i. Surface water flow (with particular reference to base flow quantities),
        ii. Threshold action levels and implementation of contingency measures (if appropriate), and
        iii. Scope of future monitoring program, including frequency of monitoring and addition/deletion of monitoring stations.

MNRF requires that Dufferin submit a monthly summary checklist report, which is to be issued within ten business days of the last day of the preceding month. The summary includes water level data corresponding to threshold monitoring pairs, threshold values, and pond levels. Below water table extraction (wet tonnes extracted/day), water pumped from the Phase 1 pond, water pumped from the active silt pond, and monthly precipitation totals are also to be reported in the summary report. In the event that a threshold value/level is exceeded for any period, this would be included in the summary with appropriate comments attached. The monthly reports are included with the correspondence in Appendix F.

3 ANNUAL MONITORING RESULTS

3.1 PHYSICAL SETTING

The Mill Creek Aggregates Pit is located on the southeast side of a broad northeast-southwest trending glacial outwash spillway, as shown in Figure 1. Outwash sand and gravel materials, ranging from about seven to twenty metres in thickness, underlie the property. These outwash deposits consist of interbedded sands, gravel, and to a lesser extent, silts. Mill Creek is bottomed in these granular soils.

The surficial soils adjacent to the Creek in the west and north-central parts of the Mill Creek Aggregates Pit consist of thin organic deposits. These organic soils are developed in a wetland area because of the high groundwater table condition adjacent to the creek. Generally, the thickness of these soils ranges from 0.5 m to greater than 3 m. Granular outwash deposits underlie the organics. A layer of glacial silt till generally underlies the sand and gravel deposit. Dolostone bedrock underlies the overburden materials beneath the site. The thickness of glacial till across the property varies from 0 m to about 12 m. The thickest area of till corresponds to a drumlin landform that is exposed at ground surface on the southern edge of the main property. The bedrock beneath the subject property is dolostone of the Guelph Formation. This unit is moderately hard dolostone that is generally flat-lying and displays few irregularities that affect surface topography. The resource drilling data generally confirm the relatively moderate amount of variation in the elevation of the buried bedrock surface beneath the property. The dolostone bedrock serves as the main groundwater supply aquifer in the area, although some water supply wells are developed in the granular overburden soils.

3.2 EXTRACTION ACTIVITIES

Figure 3, Site Plan Sequencing, shows the site details based on the most current (2015) approved extraction areas.

Extraction in 2018 occurred above and below the water table along the east and south boundaries of the Phase 1 pond, for material that was not previously extracted up to the below water table extraction limit. In addition, extraction occurred above the water table within the Phase 1 pond east setback, as a result of obtaining MNRF approval to extract the above water table material within setbacks, as per the approved Site Plans. Also, the silt barrier separating the Phase 3 pond from the Phase 4 pond continued to be widened in 2018 as per the site plan.

Similar to previous years, water was taken from the Phase 1 pond for aggregate washing during 2018. The Ministry of the Environment and Climate Change (MOECC) issued Permit to Take Water (PTTW) #7287-9KHPZG on June 27, 2014. This PTTW was amended by the MOECC following an amendment application by Dufferin Aggregates and Amended PTTW #6405-9NFQKL on September 22, 2014 was issued. The Amended PTTW allows for the taking of water from both the Phase 1 and Phase 4 ponds, and will expire on March 31, 2019. Amended PTTW #8520-A48LDY was issued on November 16, 2015, which included the company name change to CRH Canada Group Inc. Copies of the three PTTWs are included in Appendix F. It is noted that, anticipating the PTTW expiry on March 31, 2019, a renewal application was submitted in December 2018. Amended PTTW #5557-B93NZ5 was issued on February 7, 2019.

The silty wash water from the processing plant was pumped into the extension of silt pond SP3/Phase 4 pond for settlement of the suspended silt. From a separate location in the Phase 4 pond, clean water was pumped back into the Phase 1 pond. Pumping is adjusted between the ponds to maintain water levels within threshold values. The

detailed pumping data for 2018 are presented in Table E-1, and a summary of the monthly pumping totals is presented in Table E-2, both of which are in Appendix E. These data indicate that a reasonable balance (less than 10% difference) was achieved between the volume of process water discharged into the Phase 4 pond from the processing plant, and the volume of clean water re-circulated from the Phase 4 pond into the Phase 1 pond.

3.3 CLIMATE DATA

Historically, and as a result of climate stations being discontinued, water budgets were prepared based on: (a) the 1951 to 1980 30-year climate normals and the 1988 to 1992 annual climate data from the Guelph Arboretum Climatological Station, (b) the 1971 to 2000 30-year climate data normals and the 1993 to 1995 annual climate data from the Preston Climatological Station, (c) the 30-year climate data normals and the 1996 to 2007 annual climatic data from the Waterloo-Wellington Climatological Station, (d) the 2008, 2009, and 2011 to 2013 annual climatic data from the Elora Climatological Station, (e) the 2010 annual climatic data from the Waterloo International Airport Climatological Station, and (f) the 1983 to 2012 30-year climate data normals from the Elora Climatological Stations. The 1985 to 2014 30-year climate data normal and the 2014 to 2016 annual climatic data from the Grand River Conservation Authority's (GRCA) Shade's Mills Climatological Station are included in this report. Water budgets were prepared for the climate data using the Thornthwaite method. Results are contained in Tables D-1 to D-35, Appendix D. Graphs depicting the annual temperature profiles and the annual precipitation and water surplus are also presented in Appendix D. In October 2000, a recording tipping bucket rain gauge was installed near the entrance of the site on Concession Road 2. Data from that gauge are incorporated in Technical Appendix A (Surface Water) of the Coordinated Monitoring Report.

Between the start of monitoring in 1988 and 2018, the total annual precipitation in the area has averaged 896 mm. This is approximately 21 mm, or 2%, lower than the 30-year average precipitation of 917 mm (1985 to 2014 Shade's Mills) presented in Table D-5. The three highest total annual precipitations occurred in 2013, 2008, and 1992, when total precipitation was 1,113 mm, 1,117 mm, and 1,121 mm, respectively. The lowest amount of total annual precipitation recorded was 657 mm in 1998. With the exception of eight years (2000, 2003, 2006, 2008, 2011, 2013, 2016, 2017, and 2018), the annual precipitation at the site from 1998 to present (18 years) has been lower than the 30-year average by between 18 mm and 260 mm (2% to 28%).

The following observations are noted regarding precipitation received at the site in 2018.

- The total precipitation was 1,042 mm, which was higher than the 30-year average precipitation (1985 to 2014 Shade's Mills) (917 mm) by 125 mm (14%), and higher than the average over the last 31 years by 146 mm (16%).
- In the winter (January to March) months, more precipitation than normal was received in January and February, and March was drier than normal.
- In the spring (April to June) months, April was considerably wetter than normal, May was drier than normal, and June was similar to normal.
- In the summer (July to September) months, July and September were drier than normal, and August was considerably wetter than normal.
- In the fall (October to December) months, October and November were wetter than normal, and December was drier than normal.
- The resulting groundwater levels were generally similar to 2017 and recent years, as detailed later in this report.
- The months in which the greatest precipitation differences occurred were April and August when the 2018 precipitation was 64 mm and 94 mm, respectively.

Because of the permeable nature of the surficial soils at the site, the amount of precipitation received and the timing of that precipitation have a direct impact on the seasonal groundwater levels at the site. This is discussed in detail in later sections.

The 2018 temperature and precipitation data are presented in Figure 4. Based on the data presented in Appendix D and in Figure 4, the following observations and trends are noted.

- The mean monthly temperature in April was 4°C lower than the long-term average, the temperatures in January, March, October, and November were similar to the long-term averages, and the temperatures in February, May to September, and December were between 2°C and 5°C higher than the long-term averages.
- In 2018, the monthly precipitation fluctuated throughout the year versus the normal. The 2018 precipitation was greater than the 30-year normal in January, February, April, August, October, and November; lower than the 30-year normal in March, May, July, September, and December; and similar to the 30-year normal in June.
- As shown in Figure 4, the water surplus in 2018 generally followed the typical seasonal trend of decreasing from a peak in the spring until late summer before increasing in the fall. Due to the precipitation trends in 2018, the monthly surplus was higher than normal in January, February, April, and November, and lower than normal in March and December.
- Owing to the higher than average annual total precipitation, the calculated net water surplus for 2018 was 352 mm, which is 57 mm (19%) higher than the 30-year normal surplus of 295 mm. The 2018 value was 90 mm (20%) lower than the 2017 surplus of 442 mm.

3.4 BEDROCK AQUIFER

As noted in Table 1, Monitor Groupings, there are two water wells on the property that are developed within the bedrock aquifer: TW16-78 and North Farmhouse Well 4794. Water level data for these wells are provided in Tables B-1 and B-2, Appendix B, and groundwater hydrographs are also contained in Appendix B.

Based on the 2018 groundwater level data and the hydrographs for the bedrock wells, the following observations are made.

- As in previous years, free-flowing artesian conditions were observed at TW16-78 during each of the monitoring events in 2018. The flowing conditions indicate that the vertical hydraulic gradient in the bedrock aquifer at that location (southwest corner of the site) was upwards at the time of the monitoring event, and that the magnitude of the confined pressure (piezometric) head was above grade.
- Monitoring at North Farmhouse Well 4794, which is the well for the farmhouse on the north property, began in 1994. In 2018, water levels decreased from June to December and fluctuated from October to December. It is noted that water levels were not measured in January, February, April, and May owing to well-head accessibility issues.

In summary, the water levels in the bedrock aquifer well TW16-78, and North Farmhouse Well (as far as could be monitored) exhibited normal seasonal trends that reflected prevailing climatic conditions and were not affected by pit operations.

3.5 SAND AND GRAVEL AQUIFER

The monitors that are screened in the sand and gravel aquifer are noted in Table 1. Water level data for those monitors are documented in Table B-1, Appendix B. Groundwater hydrographs for the monitors in the sand and gravel aquifer are also presented in Appendix B. A summary of the water level data for the monitors is provided in Table B-6, Appendix B. Groundwater hydrographs for representative sand and gravel aquifer monitors located from east to west across the property are presented on Figure 5. Monitor 7-II was removed in March 2015 as part of extraction activities, so Monitor 4-I, which is also located in the central portion of the site, is included on Figure 5 as well. Historic groundwater elevations at Monitors 4-I and 7-II are similar. Presented on Figure 6 is the relationship between the shallow groundwater level at Monitor 92-28 (located in the northwest area of the site) and individual precipitation events during 2018.

Compared to 2017, water levels in the representative monitors were, on average, 0.02 m (92-32) to 0.22 m (1-I) lower in 2018. The lower levels observed in 2018 compared to 2017 are attributed to the lower water surplus that occurred in 2018 compared to 2017.

As observed in Table B-6, in 2018 the average water levels at the individual monitors ranged from approximately 0.2 m above ground surface to 7.9 m below ground surface across the site, and fluctuations ranging from 0.3 m to 0.9 m occurred during 2018. The 2018 average water levels in the majority of the monitors were lower compared to 2017 values, and is attributed to the lower water surplus that occurred in 2018 compared to 2017, as noted above. In 2018, the maximum and minimum water levels at the monitors were within their historic ranges.

Based on the water level data, the hydrographs, and Figures 5 and 6, the following groundwater elevation trends were observed in 2018. Generally, water levels on both the east and west sides of the site in 2018 exhibited typical seasonal variation observed in previous years, which is a peak in the spring due to the annual spring melt and precipitation recharge, decreasing through the summer, and an increase in the late fall.

- With respect to Figure 6, the shallow groundwater level at 92-28 responded to precipitation events through most of the year.
- The highest water levels in 2018 generally were recorded in (a) February or April in the southwest corner, (b) April on the west side of the site, and (c) April/May on the east side of the site. The February and April peaks reflect the higher than normal precipitation received in January, February, and April 2018.
- Annual low water levels were generally recorded in (a) July in the southwest corner, (b) July/September/ October on the west side of the site, and (c) October on the east side of the site. The low water levels in the summer reflect the lower than normal precipitation received in May and July. The low water levels in September and October reflect the lower than normal precipitation received in September.

As in previous years, the fluctuations that were observed in groundwater elevations during 2018 were a direct response to several factors, including seasonal climatic conditions, proximity to open-water ponds, and/or aggregate activities, including below-water aggregate extraction activities. Figures 7 and 8 present interpretations of the groundwater table configuration across the property based on water level data for April 24 and October 30, 2018, respectively. The April data are generally representative of the 2018 high water table conditions, which is typical and reflects the effects of the early spring freshet and spring precipitation. The October data are generally representative of the 2018 low water table conditions. Most water table conditions throughout the year fell between the high and low conditions shown on Figures 7 and 8, respectively, although, as indicated above, the annual high and low water levels at individual monitors occurred during various months throughout 2018.

The interpreted water table configuration illustrated on Figures 7 and 8 indicates that groundwater continues to move from east to west across the northern property. The water table contours south of Highway 401 tend to "bend back" toward the creek, indicating that the creek receives groundwater discharge from the subject property along the reach south of Highway 401. Typically, water table contours bend back further (i.e. more strongly) under high flow water table conditions, indicating an increased component of groundwater flow northwestward toward the creek near the Hanlon interchange and to the west.

The water table configuration adjacent to Mill Creek north of Highway 401, from the western limit of Slovenski Park downstream to the 401 culvert, continues to exhibit a somewhat different trend relative to the lands to the south. The water level data in that area north of Highway 401 indicate that shallow groundwater movement is to the west, essentially parallel to the creek, with a component toward the reach of Mill Creek south of Highway 401 and east of the Hanlon interchange. This trend typically is more apparent in the low groundwater conditions, and is a result of the buffering influence of the water levels that occur in the Phase 1 pond and to the east in the St. Marys Cement (McNally) pond south of Highway 401, and in the Reid Heritage ponds to the north.

The pattern shown by the water table contours south of Township Road 2 indicates a generally west-southwesterly groundwater flow direction beneath the Mill Creek Aggregates Pit property and the lands to the west toward Mill Creek.

Based on the contours shown on Figures 7 and 8, the rate of change in the elevation of the water table with distance defines the horizontal hydraulic gradient across the site. In 2018, the average horizontal hydraulic gradient across the central and western parts of the site was about 0.0019 for the April high water table condition, and about 0.0016 for the October low water table condition. These seasonal hydraulic gradients are similar to the historic record. The presence of the Phase 1 pond and the McNally pond to the east causes a flatter hydraulic gradient in the area around Phase 1. In that particular area, the gradient was about 0.00083 under both the high and low water table conditions.

Profiles of the 2018 high and low water conditions from southeast to northwest across the north property are presented in Figure 9. The alignment of cross-section X-X' is shown on Figures 7 and 8. There was similar variation between the high and low water level conditions in 2018 compared to 2017.

Daily automatic readings of piezometric pressure were obtained from the multi-level Monitor 92-13 in the east-central portion of the site until the data loggers malfunctioned due to age in September 2012. A shallow data logger was installed at 92-13 in May 2013. Daily automatic readings of piezometric pressure and water temperature were previously collected at Monitor 92-31 (removed by the extraction in summer 2011), at the west side of the site. In November 2006, data loggers were installed at three depths in each of the six monitors located at the west end of the site. The monitors included 92-25 (removed in August 2011), 92-26 (removed in December 2011), 92-28, 92-29, 92-30 (removed in April 2012), and 92-32. In August 2011, data loggers were installed near the base of shallow monitors DP7, DP9, and BH4. In December 2011, data loggers were installed near the base of shallow monitors DP8 and 92-27-III. Data loggers were also installed near the base of shallow monitors 92-12-III, 92-15-III (removed in December 2013), 92-26-III (removed in September 2013), 92-33-III, and DP16 in 2012. In June 2015, a data logger was installed in the new shallow monitor BH14, and in October 2017 a second shallow data logger was installed at 92-33 at a depth similar to the previous (i.e. pre-2012) shallow data logger. Given the large volume of data that have been collected for these multi-level monitors, the individual readings are not included in this report; they are available in electronic format, if necessary. The data are presented in graphical form in Appendix B.

The depths at which the multi-level monitors are installed are summarized below, together with comments on their functionality.

MULTI-LEVEL MONITOR	DEPTH OF PROBE (m)	STRATIGRAPHY	MONITOR FUNCTIONING?	
			PRESSURE TRANSDUCER	THERMISTOR
92-12-III	3.7	Gravelly fine to coarse sand	Yes (re-installed in June 2012)	Yes (re-installed in June 2012)
92-13-I	10.2	Gravelly medium to coarse sand	Malfunction in September 2012	Malfunction in November 2011
92-13-II	7.7	Gravelly medium to coarse sand	Malfunction in January 2008	Malfunction in September 2010
92-13-III	5.0	Gravelly medium to coarse sand	Yes (re-installed in May 2013)	Yes (re-installed in May 2013)
92-15-III	8.0	Gravelly fine to coarse sand	Removed in December 2013	Removed in December 2013
92-25-I	6.9	Gravelly medium to coarse sand	Removed in August 2011	Removed in August 2011
92-25-II	4.6	Gravelly medium to coarse sand	Removed in August 2011	Removed in August 2011
92-25-III	1.9	Sandy gravel	Removed in August 2011	Removed in August 2011
92-26-I	9.2	Gravelly sand	Removed in December 2011	Removed in December 2011
92-26-II	6.0	Gravelly sand	Removed in December 2011	Removed in December 2011
92-26-III	3.3	Gravelly sand	Removed in September 2013	Removed in September 2013
92-27-III	5.0	Gravelly Sand	Yes	Yes
92-28-I	4.0	Sandy gravel	Yes	Yes
92-28-II	3.1	Sandy gravel	Yes	Yes
92-28-III	2.4	Sandy gravel	Yes	Yes
92-29-I	8.5	Sandy gravel	Yes	Yes
92-29-II	5.4	Sand	Yes	Yes
92-29-III	3.0	Sandy gravel	Yes	Yes
92-30-I	8.0	Sand	Removed in April 2012	Removed in April 2012
92-30-II	5.9	Sand	Removed in April 2012	Removed in April 2012
92-30-III	3.3	Sand	Removed in April 2012	Removed in April 2012
92-31-I	9.1	Silt till	Removed in Summer 2011	Removed in Summer 2011
92-31-II	7.0	Gravelly sand	Removed in Summer 2011	Removed in Summer 2011
92-31-III	3.2	Gravelly sand	Removed in Summer 2011	Removed in Summer 2011
92-32-I	13.9	Silt till	Yes	Yes
92-32-II	8.8	Silty fine sand	Yes	Yes
92-32-III	3.5	Sand	Yes	Yes
92-33-III	7.6	Gravelly sand	Yes (re-installed in March 2012)	Yes (re-installed in March 2012)
92-33-III	3.0	Gravelly sand	Yes (installed October 2017)	Yes (installed October 2017)
BH4	4.3	Sand and Gravel	Yes	Yes
BH14	6.0	Sand and Gravel/Gravelly Sand	Yes	Yes
DP7	2.3	Organics/gravelly sand	Yes	Yes
DP8	2.0	Organics/gravelly sand	Yes	Yes
DP9	1.8	Organics/gravelly sand	Yes	Yes

It is noted that the functioning data loggers provide sufficient information on groundwater levels and temperatures for continued assessment of potential impacts adjacent to the extraction ponds.

Hydrographs

Groundwater hydrographs produced using the levelogger data, including the multi-level monitors, are presented in Figures B-29 to B-37, and groundwater thermographs in Figures B-38 to B-46, Appendix B. Based on the hydrographs, the following observations were noted at the monitors in 2018.

BH4

A data logger was installed in 2011. This monitor is located adjacent to Township Road No. 2, approximately 40 m south of silt pond SP3, and outside of the licenced extraction area. The 2018 water levels were within the range of water levels measured at BH4 since the data logger was installed. The 2018 water levels increased from January to April, decreased to October, increased in November, and decreased to the end of the year.

BH14

Monitor BH14, and a data logger, were installed in June 2015. This monitor is located in the north-central area of the property, approximately 40 m southeast of Mill Creek and about 60 m northwest of Monitor 92-12. The 2018 water levels were within the range of water levels measured at BH14 since the data logger was installed, with the exception of a historic high level in February. It is noted that the historic database at this location is considerably limited. Any post-installation aggregate extraction influence is not apparent. Water levels at BH14 fluctuated from January to March, increased in April, decreased to October, and fluctuated to December.

92-12

This monitor nest is located in the north-central area of the property, about 300 m west (downgradient) of the Phase 1 pond, and approximately 60 m and 100 m southeast (upgradient) of Monitor BH14 and Mill Creek, respectively. A data logger was installed in the shallow monitor at 92-12 in 2012. The 2018 water levels were within the range of water levels measured at 92-12 since the data logger was installed, and any post-installation aggregate extraction influence is not apparent. The 2018 water levels fluctuated from January to April, with an overall increase, decreased to October, increased in November and fluctuated to December.

92-13

This nest of monitors is located approximately 20 m west of the pond in Phase 1. As noted above, the initial pressure transducer instrumentation failed in 2001, and a data logger malfunction occurred in 2012. A data logger was re-installed in the shallow monitor at 92-13 in 2013. The 2018 water levels were within the historic range of water levels measured at the shallow monitor at 92-13. Given the close proximity of 92-13 to Pond 1 and Pond 4, the groundwater levels at 92-13 have been influenced by aggregate extraction and the presence of the two ponds, as expected. The 2018 water levels increased from January to April, remained stable in May, decreased to September and remained relatively stable to December.

92-32

This monitor nest was installed in November 2006 and is located about 80 m northwest (downgradient) of the western limit of the Phase 3 pond, and approximately 60 m southeast (upgradient) of Mill Creek. The following

table contains a summary of the range in vertical hydraulic gradients between the intermediate and shallow monitors and the deep and intermediate monitors from 2007 to 2018.

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Intermediate/ Shallow	-0.005 to 0.019	-0.008 to 0.022	0.014 to 0.053	-0.008 to 0.022	-0.019 to 0.031	-0.003 to 0.019	0.002 to 0.024	0.006 to 0.027	0.011 to 0.026	-0.001 to 0.029	0.004 to 0.025	-0.013 to 0.022
Deep/ Intermediate	0.007 to 0.029	0.013 to 0.037	0.011 to 0.043	0.002 to 0.040	-0.003 to 0.026	0.002 to 0.035	-0.003 to 0.042	0.000 to 0.052	0.022 to 0.050	0.030 to 0.060	0.022 to 0.053	0.008 to 0.041

Note: "-" indicates a downward gradient

In 2018, the gradient between the intermediate and shallow monitors varied between a small upward gradient and a small downward gradient. The gradient between the deep and intermediate monitors was consistently a small upward gradient. These trends are similar to the 2017 trends except that a downward gradient was not observed between the intermediate and shallow monitors in 2017. The 2018 downward gradient was caused by a precipitation event on October 31 to November 2, 2018, where a total of 63 mm of rain was received. The peak vertical gradients in 2018 were within the range of historic results. An aggregate extraction influence on the vertical gradient is not apparent.

The three monitors show similar responses to precipitation recharge events. The deep probe is located in the silt till beneath the sand and above the bedrock.

It is noted that the deep monitors at 92-32 and 92-33 are set within the glacial till soils that underlie the aggregate resource. The relatively strong vertical gradients that are observed at the deep monitors are likely a reflection, at least in part, of the upward gradients present in the underlying bedrock aquifer, which result in flowing artesian conditions in monitors at some locations.

On the west side of the north property, the data loggers/leveloggers have been divided into two lines of two monitor nests. Each line is discussed below.

North Line: 92-29 and 92-28

92-29

This monitor nest was installed in November 2006 approximately 120 m southeast (upgradient) of Mill Creek, and is within 10 m of the western limit of the Phase 3 pond. The following table contains a summary of the range in vertical hydraulic gradients between the intermediate and shallow, and the deep and intermediate monitors from 2007 to 2018. It is noted that due to complications resulting from frozen conditions at Monitor 92-29-III, data from February 27 to May 8, 2015 are unavailable. Data are also unavailable at Monitor 92-29-I from December 11 to 21, 2015 owing to a data logger malfunction.

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Intermediate/ Shallow	-0.052 to 0.02	-0.118 to 0.014	-0.079 to 0.01	-0.095 to 0.052	-0.017 to 0.015	-0.087 to 0.045	-0.083 to -0.021	-0.080 to -0.019	-0.083 to -0.016	-0.083 to -0.026	-0.039 to -0.010	-0.031 to 0.018
Deep/ Intermediate	-0.021 to 0.037	-0.009 to 0.087	-0.094 to 0.104	-0.049 to 0.052	-0.009 to 0.010	-0.059 to 0.047	-0.025 to -0.002	-0.036 to -0.001	-0.051 to -0.009	-0.035 to -0.012	-0.029 to -0.003	-0.019 to 0.008

Note: "-" indicates a downward gradient

In 2018, the gradient between the intermediate and shallow monitors, and between the intermediate and deep monitors, varied between a small upward gradient and a small downward gradient, which is similar to the gradients observed from 2007 to 2012. Similar minimum peak gradients occurred in 2017 compared to 2018, but positive gradient most recently occurred in 2012. The peak vertical gradients were within the historic ranges in 2018. The three monitors show similar responses to precipitation recharge events. Given that each of the three probes is located in sand and gravel within 10 m of the Phase 3 pond, small downward vertical gradients are not unexpected. An aggregate extraction influence is apparent, which is also not unexpected due to the close proximity of the monitors to the Phase 3 pond.

92-28

This monitor nest was installed in November 2006 and is located approximately 40 m northwest (downgradient of) 92-29, and 60 m east (upgradient) of Mill Creek. The following table contains a summary of the range in vertical hydraulic gradients between the intermediate and shallow monitors and the deep and intermediate monitors between 2007 and 2018. It is noted that data are not available for January and February 2012. Data are also not available for Monitor 92-28-I for the period from August 30 to September 20, 2013, and for 92-28-II for the period from July 22 to August 1, 2017, as the data loggers malfunctioned.

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Intermediate/ Shallow	-0.085 to 0.044	-0.080 to 0.021	-0.104 to 0.043	-0.093 to 0.026	-0.157 to 0.087	-0.252 to 0.525	-0.177 to -0.046	-0.162 to -0.031	-0.214 to 0.013	-0.044 to 0.026	-0.066 to -0.015	-0.064 to 0.009
Deep/ Intermediate	-0.084 to 0.062	-0.017 to 0.043	-0.102 to 0.088	-0.075 to 0.101	-0.083 to 0.078	-0.538 to 0.190	-0.084 to 0.150	-0.028 to 0.011	-0.049 to 0.035	-0.068 to 0.003	-0.014 to 0.012	-0.017 to 0.041

Note: "-" indicates a downward gradient

In 2018, the gradient between the intermediate and shallow monitors, and between the intermediate and deep monitors, varied between a small upward gradient and a small downward gradient, which is similar to the 2017 results; in 2017, however, only small downward gradients occurred between the intermediate and shallow monitors. The peak vertical gradients were within the historic ranges in 2018. The three probes are located in sandy gravel and, therefore, small gradients would be expected. The three monitors show similar responses to precipitation recharge events. An aggregate extraction influence is apparent, which is not unexpected due to the close proximity of the monitors to the Phase 3 pond.

Figure 6 shows the relationship between the shallow groundwater level (water table) and precipitation events at Monitor 92-28-III in 2018. The water level responded to precipitation through most of the year.

South Line: 92-27 and 92-33

92-27

This monitor nest is located about 100 m east (upgradient) of Mill Creek and is adjacent to the final western limit of the Phase 3 pond. A data logger was installed in the shallow monitor at this location in December 2011. The 2018 water levels were lower than the water levels measured in 2017 and within the range of water levels recorded since the data logger was installed, with the exception of September, at which time a historic low water level was recorded. The lower elevations in 2018 are attributed to the lower water levels in the Phase 3 pond in 2018 compared to 2017. Water levels at this location generally fluctuated from January to April, decreased to September, and increased to the end of the year. Based on the manual water levels measured at 92-27 since 1992, there appears to be an aggregate extraction influence at this location, which is not unexpected considering the close proximity of 92-27 to the Phase 3 pond.

92-33

This monitor nest is located approximately 60 m northwest (downgradient) from 92-27, and 50 m east (upgradient) of Mill Creek and was operational since 1992, but all three pressure transducers and temperature thermistors malfunctioned in July 2010. A data logger was re-installed in the shallow monitor in March 2012, and a second shallow data logger was installed in October 2017 for temperature monitoring purposes at a depth similar to the previous (i.e. pre-2012) shallow data logger. The shallow water levels increased slightly from January to April, decreased to September, and increased to December. The water levels at 92-33 in 2018 were within the range of levels recorded since the data logger was re-installed in 2012. Based on the manual water levels measured at 92-33 since 1992, there appears to be an aggregate extraction influence at this location, which is not unexpected considering the proximity of 92-33 to the Phase 3 pond. Monitor 92-33 is located downgradient and further removed from Pond 3 relative to 92-27, and the influence from the pond is much reduced. It is noted that discharge conditions at downgradient Mill Creek drive points DP1 and DP2 do not appear to be impacted by the lower groundwater levels observed to the east, as detailed below.

Thermographs

Groundwater thermographs produced using the levelogger data, including the multi-level monitors, are presented in Figures B-38 to B-46, Appendix B. Based on these thermographs, the following observations were noted at the monitors in 2018.

BH4

A levelogger transducer was installed in BH4 in August 2011. This monitor is located approximately 40 m south of silt pond SP3, adjacent to Township Road No. 2, and outside of the licenced extraction area. The seasonal groundwater temperature fluctuation observed at this location exhibits a wave-like pattern. In 2018, the maximum and minimum temperatures were similar to the peak temperatures recorded from 2011 to 2017 and within the historic range. An aggregate extraction influence is not apparent at this location. The temperature decreased from 8.6°C in January to the annual low of 5.8°C in May. The temperature then increased to the annual high of 11.7°C in October before decreasing to 8.2°C in December.

The following table summarizes the temperature range in the monitor.

	2011	2012	2013	2014	2015	2016	2017	2018
Shallow	9.1* to 11.4	6.3 to 11.6	5.9 to 11.5	5.3 to 11.7	5.3 to 11.1	6.1 to 11.6	5.9 to 11.3	5.8 to 11.7

Note: Temperatures are recorded in degrees Celsius
" * " indicates data logger installed in August.

BH14

Monitor BH14, and a data logger, were installed in June 2015. This monitor is located in the north-central area of the property, approximately 40 m southeast of Mill Creek and about 60 m northwest of Monitor 92-12. The temperature decreased from 10.9°C in January to the annual low of 6.9°C in May. The temperature then increased to the annual high of 12.5°C in October before decreasing to 10.1°C in December. The 2018 peak temperatures were similar to the 2015 to 2017 peaks. An aggregate extraction influence is not apparent at this location.

The following table summarizes the temperature range in the monitor.

	2015	2016	2017	2018
Shallow	7.8 to 12.2	6.7 to 12.5	7.0 to 12.8	6.9 to 12.5

Note: Temperatures are recorded in degrees Celsius

92-12

This monitor nest is located in the north-central area of the property, about 300 m west (downgradient) of the Phase 1 pond, and approximately 60 m and 100 m southeast (upgradient) of Monitor BH14 and Mill Creek, respectively. A data logger was installed in the shallow monitor at 92-12 in June 2012. In 2018, the minimum temperature was marginally lower than the historic peak minimum temperature; however, an aggregate extraction influence is not apparent at this location. An aggregate extraction influence would have a warming effect on the groundwater temperature. It is noted that the historic database at this location is relatively limited. The temperature decreased from 5.8°C in January to the annual low of 2.5°C in April. The temperature then increased to the annual high of 17.5°C in August before decreasing to 6.5°C in December.

The following table summarizes the temperature range in the monitor.

	2012	2013	2014	2015	2016	2017	2018
Shallow	7.7* to 18.8	3.8 to 17.0	2.8 to 17.9	3.2 to 18.3	4.7 to 16.2	4.3 to 14.5	2.5 to 17.5

Note: Temperatures are recorded in degrees Celsius
" * " indicates data logger installed in June.

92-13

This monitor nest is located approximately 20 m to the west (downgradient) of the pond in Phase 1. Given the close proximity of the monitor to the pond, this monitor provides data with respect to the thermal effects resulting from the presence of the pond, wash water pumping, and silt pond water recirculation. As noted above, a data logger malfunction occurred at this monitor in 2012, and a shallow data logger was re-installed in May 2013.

The groundwater temperature fluctuations at this location (Figure B-41) resemble a wave-like pattern, similar to the ambient air temperature. The air temperature exhibits a reasonably consistent pattern that sees annual winter lows in January/February, increasing to annual highs in the summer (July/August) and then decreasing through the fall back to the winter season. The natural pre-extraction groundwater temperatures show a reasonably similar pattern, with annual lows of 5.7°C to 8.5°C that occur in late spring/early summer, increasing to annual highs of 9.0°C to 10.7°C in the fall, followed by a progressive decrease through the fall and into the winter. The historical data illustrate the pre-extraction (1992 to 1994) natural seasonal variation, followed by the thermal modifications resulting from the progressive development of the Phase 1 pond.

Since 1995, the groundwater temperature shows a pronounced time-lag with respect to the ambient air temperature, with annual lows generally occurring in the spring, and highs in the fall. The shallow monitor appears to respond to thermal increases and decreases a few weeks before a response is seen in the intermediate monitor, and at least a month earlier than the deep monitor.

In 2018, the maximum and minimum temperatures in the shallow monitor were lower and higher than the post-extraction peak/low temperatures recorded, respectively, since the data logger was re-installed in 2013, including 2017; however, the 2018 peak/low temperatures were within the 1995 to 2017 ranges. It is noted that the Phase 1 pond peak/low temperature in 2018 was similar to 2000 to 2017 values, as shown in Figure B-69. The cause of the muted temperature maximum and minimum values in 2018 at 92-13 is not apparent, but further monitoring will confirm whether this represents an on-going trend. The temperature at 92-13 decreased from the annual high of 17.5°C in January to the annual low of 4.5°C in March. The temperature then increased to 14.9°C in December.

The following table summarizes the temperature ranges observed at each of the three monitor elevations since installation.

	1995	1996	1997	1998	1999	2000	2001	2002	2003
Shallow	5.7 to 19.1	2.1 to 20.5	1.1 to 18.9	1.1 to 19.9	1.9 to 14.9	2.5 to 13.5	2.7 to 14.1	6.9 to 16.3	3.3 to 18.1
Intermediate	7.4 to 16.8	4.2 to 18.6	3.6 to 17.0	2.6 to 17.6	4.4 to 14.2	4.0 to 12.6	3.8 to 13.6	6.4 to 15.0	4.4 to 16.8
Deep	8.2 to 14.1	5.8 to 16.3	5.5 to 15.3	3.7 to 15.9	6.2 to 14.3	5.3 to 11.4	4.7 to 12.4	6.4 to 12.6	5.1 to 14.7

	2004	2005	2006	2007	2008	2009	2010	2011	2012
Shallow	2.7 to 18.9	2.3 to 20.5	5.7 to 20.1	2.7 to 20.7	5.9 to 21.7	2.9 to 21.3	8.9 to 17.7	2.9 to 22.6	N/A
Intermediate	3.0 to 17.8	3.2 to 17.8	5.2 to 17.6	3.2 to 16.8	5.8 to 19.0	4.4 to 18.6	7.4 to 18.8	5.0 to 16.2	N/A
Deep	4.1 to 15.7	4.1 to 15.3	4.7 to 14.7	2.3 to 13.6	N/A	N/A	N/A	7.9 to 15.3	N/A

	2013	2014	2015	2016	2017	2018			
Shallow	3.4 to 19.0	2.4 to 20.9	2.3 to 21.3	3.5 to 21.9	2.8 to 20.6	4.5 to 17.5			
Intermediate	N/A	N/A	N/A	N/A	N/A	N/A			
Deep	N/A	N/A	N/A	N/A	N/A	N/A			

Note: Temperatures are recorded in degrees Celsius

"N/A" indicates temperatures not available due to data logger failure

From May 2013 onward, only a shallow data logger was present.

92-32

This monitor nest was installed in November 2006 and is located approximately 60 m southeast (upgradient) of Mill Creek and approximately 90 m downgradient of the western limit of the Phase 3 pond. As shown in Figure B-45, the seasonal groundwater temperature fluctuations observed at the shallow monitor at this location (32-III) exhibit a wave-like pattern, with the annual low in late winter/spring and highs in the late summer/fall. The shallow monitor historically responds to thermal increases and decreases a couple of months prior to the intermediate monitor and a few months earlier than the deep monitor. In recent years, however, the lag has increased. The apparent seasonal changes in groundwater temperature in the intermediate and deep monitors are very small relative to the shallow monitor and to monitors at other locations. This is likely due to the greater depth at which these two lower monitors are installed, compared to other intermediate and deep probes, and/or the finer-grained materials in which the monitors are installed (silty fine sand and silt till, respectively). A slight increasing trend in groundwater temperatures at the intermediate and deep monitors was apparent in 2013 and 2014, but in 2015 the temperatures at these two monitors decreased to values similar to 2011 and 2012 temperatures. A further minor decrease occurred in 2016. This cooling effect suggested stabilizing conditions at this location now that extraction has ceased in Phase 3, but the slight increase in temperatures in 2017 and further increase in 2018 suggest that the decrease was natural. Continued monitoring will assist in the confirmation of this interpretation.

Shallow Monitor – The temperature decreased from 8.3ºC in January to the annual low of 4.3ºC in April, then increased to the annual high of 15.1ºC in September. From September to December, the shallow groundwater temperature decreased steadily to 7.5ºC.

Intermediate Monitor – The temperature increased from 9.6ºC in January to the annual high of 9.8ºC in February. The temperature then decreased to the annual low of 9.4ºC in September, and increased to 9.5ºC in December.

Deep Monitor – The temperature increased from 9.0ºC in January to the annual high of 9.1ºC in April. The temperature then decreased to the annual low of 8.9 ºC in December.

The following table contains a summary of the temperature ranges at each of the three monitors. The peak minimum and maximum temperatures in the shallow monitor in 2018 were similar to the historic ranges. In the intermediate and deep monitors, however, and similar to 2017, the peak minimum and maximum temperatures were marginally higher than the historic values.

	2007	2008	2009	2010	2011	2012	2013	2014	2015
Shallow	4.0 to 12.2	3.5 to 13.6	3.6 to 13.3	3.3 to 15.3	5.6 to 14.0	6.1 to 15.2	5.3 to 15.1	5.0 to 13.6	4.6 to 14.9
Intermediate	8.2 to 8.6	8.2 to 8.6	8.2 to 8.6	8.3 to 9.1	8.1 to 9.2	8.5 to 9.1	8.7 to 9.5	8.7 to 9.5	8.6 to 9.3
Deep	8.1 to 8.2	8.1 to 8.3	8.1 to 8.3	8.1 to 8.3	8.1 to 8.7	8.2 to 8.6	8.3 to 8.9	8.4 to 8.9	8.3 to 8.7

	2016	2017	2018
Shallow	3.5 to 15.7	3.5 to 14.8	4.3 to 15.1
Intermediate	8.8 to 9.1	9.0 to 9.6	9.4 to 9.8
Deep	8.4 to 8.6	8.6 to 9.0	8.9 to 9.1

Note: Temperatures are recorded in degrees Celsius.

On the west side of the north property, the data loggers have been divided into two lines of two monitor nests. Each line is discussed below.

North Line: 92-29 and 92-28

92-29

This monitor nest was installed in November 2006 and is located within 10 m of the limit of extraction of the Phase 3 pond (completed in 2012), and approximately 120 m southeast of Mill Creek. As shown in Figure B-44, historically, the seasonal groundwater temperature fluctuations observed at each of the three monitors at this location exhibited a wave-like pattern, with the annual low typically in late winter/spring and highs typically in the late summer/fall. The shallow monitor (29-III) typically responded to thermal increases and decreases a couple of months prior to the intermediate monitor and a few months earlier than the deep monitor. The temperatures recorded from 2012 to 2018, however, do not follow the general patterns observed at this location prior to 2012, and now reflect the monitor's location adjacent to the western limit of the Phase 3 pond. The groundwater temperatures at the shallow and intermediate monitors generally mirrored each other throughout 2018, and much greater fluctuations occurred at each monitor from 2012 to 2018 compared to previous years. The thermal increases at the deep monitor lagged behind the other two monitors by a couple months, as typically occurs, but from 2014 to 2016, peak high temperatures at the deep monitor were greater than in past years. The peak high temperatures in 2017 and 2018, however, were lower than in recent years. As observed in 2016 and 2017, after increasing in 2014 and 2015, the peak low temperature at the deep monitor in 2018 returned to a temperature similar to pre-2014 levels. These changes in temperature trends at this monitor are attributed to the excavation of the Phase 3 pond to within 10 m of the monitor nest.

Shallow Monitor – The temperature decreased from 2.0°C in January to the annual low of 0.0°C in February. The temperature then increased to the annual high of 24.3°C in July before decreasing to 3.0°C in December.

Intermediate Monitor – The temperature decreased from 3.5°C in January to the annual low of 1.1°C in February. The temperature then increased to the annual high of 23.7°C in July before decreasing to 4.7°C in December.

Deep Monitor – The temperature declined from 12.9°C in January to the annual low of 7.5°C in May. The groundwater temperature then increased to the annual high of 14.7°C in October, and decreased to 12.8°C in December.

The following table contains a summary of the temperature ranges at each of the three monitors.

	2007	2008	2009	2010	2011	2012	2013	2014	2015
Shallow	4.1 to 15.0	3.3 to 15.1	4.0 to 14.9	3.2 to 15.9	4.0 to 15.3	2.2 to 24.7	0.7 to 26.3	-0.2 to 23.9	-0.4 to 24.9
Intermediate	7.0 to 11.5	6.1 to 11.7	6.4 to 11.1	6.6 to 11.9	6.6 to 11.3	2.1 to 24.6	1.4 to 26.7	1.5 to 24.0	1.6 to 24.6
Deep	8.0 to 10.1	7.9 to 10.0	7.8 to 10.0	7.9 to 10.3	7.8 to 10.3	8.3 to 16.6	5.7 to 17.3	3.9 to 18.1	3.5 to 17.8

	2016	2017	2018
Shallow	-0.2 to 25.8	0.4 to 22.8	0.0 to 24.3
Intermediate	1.8 to 25.8	1.2 to 22.5	1.1 to 23.7
Deep	6.1 to 21.3	6.2 to 15.7	7.5 to 14.7

Note: Temperatures are recorded in degrees Celsius.

Figure 11 shows the relationship between the air temperature and the groundwater temperature at the three elevations in the aquifer throughout 2018. As expected, the groundwater continues to respond proportionately to seasonal air temperature changes, but now it is also influenced by the water temperature in the adjacent Phase 3 pond.

92-28

This monitor nest was installed in November 2006 and is located approximately 40 m downgradient of 92-29 (which itself is within 10 m from the western limit of the Phase 3 pond), and 60 m east (upgradient) of Mill Creek. As shown in Figure B-43, the seasonal groundwater temperature fluctuations observed at each of the three monitors at this location through 2018 continue to exhibit a wave-like pattern similar to historical values, with the annual low in late winter/spring and highs in the late summer/fall. The magnitude and general timing of the seasonal temperature changes in the three monitors at this location are reasonably similar, as each of the three monitors are relatively shallow (within 4 m of ground surface). As first observed in 2013, in 2017 the winter low temperatures were about 1°C higher than 2012 and about 2°C higher than prior to 2012. In 2018, the winter low temperatures were slightly cooler compared to 2017, but remained slightly higher than the 2012 and pre-2012 values. The summer/fall high temperatures at the shallow monitor also continue to be slightly lower in 2018 than prior to 2012. The 2018 data trends suggest that the presence of the Phase 3 pond in the northwest corner of the extraction area may have a subtle influence on groundwater temperatures at the 92-28 nest, which is located approximately 50 m downgradient from the pond, and approximately 60 m upgradient from Mill Creek. Continued monitoring through 2019 will provide

additional data to assess pond thermal influences on downgradient groundwater conditions, now that aggregate extraction in this area has been completed. Influences to-date at this location are considered minor.

Shallow Monitor – The temperature declined from 7.7°C in January to the annual low of 5.1°C in February. Temperatures then increased to the annual high of 14.3°C in September. It is noted that the annual high observed at the shallow monitor at 92-29 in 2018 was 10.0°C higher than the high at 92-28, which demonstrates the considerable thermal plume dissipation that occurs over the 40 m distance between the two monitors. From September to December, the shallow groundwater temperature decreased steadily to 7.0°C.

Intermediate Monitor – The temperature decreased from 8.6°C in January to the annual low of 5.7°C in April. Temperatures then increased to the annual high of 13.9°C in September. From September to December, the intermediate groundwater temperature decreased to 8.0°C.

Deep Monitor – The temperature declined from 9.0°C in January to the annual low of 5.7°C in April. The groundwater temperature then increased to the annual high of 13.1°C in October. From October to December, the deep groundwater temperature decreased to 8.3°C.

The following table contains a summary of the temperature ranges at each of the three monitors.

	2007	2008	2009	2010	2011	2012	2013	2014	2015
Shallow	3.8 to 14.1	3.6 to 14.7	3.6 to 14.9	3.5 to 15.5	3.5 to 14.5	4.9 to 14.1	5.3 to 14.1	5.4 to 13.6	5.6 to 13.3
Intermediate	4.3 to 13.4	3.8 to 14.2	3.9 to 14.1	3.8 to 14.6	4.0 to 14.3	5.1 to 13.9	5.5 to 13.9	5.8 to 13.4	6.2 to 12.9
Deep	5.1 to 12.5	4.6 to 13.0	4.9 to 12.7	4.6 to 13.4	4.6 to 13.2	5.7 to 12.6	6.4 to 12.5	6.8 to 12.2	6.4 to 12.1

	2016	2017	2018
Shallow	5.4 to 14.3	6.0 to 14.0	5.1 to 14.3
Intermediate	5.8 to 14.2	6.3 to 13.8	5.7 to 13.9
Deep	6.3 to 13.7	6.7 to 13.0	5.7 to 13.1

Note: Temperatures are recorded in degrees Celsius.

South Line: 92-27 and 92-33

92-27

This monitor nest is located about 100 m east (upgradient) of Mill Creek and is adjacent to the western limit of the Phase 3 extraction. A data logger was installed in the shallow monitor at this location in December 2011. It is noted that the data logger fell to the bottom of the monitor in August 2012, and relevant temperature data are, therefore, unavailable from August to November 2012. The temperature in 2018 decreased from 12.1°C in January to the annual low of 4.0°C in April. The temperature then increased to the annual high of 17.1°C in October before decreasing to 8.6°C in December. A thermograph for the monitor is presented in Figure B-42.

The following table contains a summary of the annual temperature range at this monitor location from 2012 to 2018. The peak minimum and maximum temperatures in 2018 were similar to the 2017 peaks and within the historic ranges. Prior to 2017, the temperature pattern at 92-27 was similar to the pattern observed at 92-29, which indicated a similar pond influence at the two monitors. This similar pond influence is expected given the comparable separation distances between the monitors and the Phase 3 pond. A similar, albeit more subtle, decrease in shallow maximum temperature and increase in shallow minimum temperature compared to 2016 occurred at 92-29 in 2017 and 2018. The Phase 3 pond temperatures in 2017 and 2018 were similar to previous years, as observed on Figure B-69, which suggests that the change in peak temperatures at 92-27 in 2017 and 2018 were not caused by the Phase 3 pond. Continued monitoring will confirm whether this change is a trend.

	2012	2013	2014	2015	2016	2017	2018
Shallow	3.9 to 20.2	1.7 to 22.2	0.6 to 21.8	-0.5 to 20.0	1.0 to 23.0	4.6 to 16.4	4.0 to 17.1

Note: Temperatures are recorded in degrees Celsius.

92-33

This monitor nest is located 50 m east (upgradient) of Mill Creek and was operational since 1992. All three thermistors malfunctioned in July 2010. A data logger was re-installed in the shallow monitor in March 2012, but malfunctions occurred between July and September. The monitor is located within approximately 70 m of the western edge of the Phase 3 pond. A second shallow data logger, denoted 'Shallow (B)' on Figure B-46, was installed in October 2017 for temperature monitoring purposes at a depth similar to the previous (i.e. pre-2012) shallow data logger. The 'Shallow B' data logger is installed about 4.7 m higher than the existing shallow data logger. Rather than the typical fluctuations of 2°C to 3°C, the temperature in 2018 at the existing shallow logger fluctuated throughout the year between 10.3°C and 10.5°C. Although these temperatures are within the typical range at this monitor, the muted amplitude of the thermograph is unexpected. The data logger depth remained unchanged in 2018 compared to previous years, so the decrease in amplitude was not due to an increased data logger depth. An additional data logger was installed in March 2019 at the same depth as the existing shallow logger to confirm whether the temperature sensor on the existing logger is functioning properly.

The temperature profile of the 'Shallow (B)' data logger in 2018 continued to resemble the profile of the previous shallow data logger (pre-2011), which his expected due to the similar depths at which the loggers were installed. The temperature in 2018 decreased from 8.0°C in January to the annual low of 6.3°C in February. The temperature then increased to the annual high of 13.5°C in September, and decreased to 7.5°C in December.

	1995	1996	1997	1998	1999	2000	2001	2002	2003
Shallow	4.3 to 11.9	3.5 to 11.7	3.9 to 11.5	4.5 to 12.3	5.1 to 12.9	5.9 to 13.3	4.7 to 12.7	5.3 to 13.7	5.1 to 12.7
Intermediate	7.3 to 8.4	7.5 to 8.4	7.5 to 8.6	7.5 to 8.8	8.0 to 9.8	8.1 to 9.6	8.3 to 9.8	8.6 to 10.6	8.3 to 9.6
Deep	8.1 to 9.1	8.1 to 8.3	8.1 to 9.3	8.3 to 8.7	8.5 to 9.1	8.9 to 9.9	9.1 to 10.1	9.5 to 11.9	8.6 to 9.6

	2004	2005	2006	2007	2008	2009	2010*	2011	2012**
Shallow	4.9 to 12.9	4.7 to 13.9	5.3 to 13.7	5.7 to 13.3	5.1 to 13.3	5.1 to 14.1	5.3 to 13.1	N/A	8.4 to 9.8
Intermediate	8.3 to 10.2	8.1 to 10.6	8.6 to 10.4	8.6 to 10.4	8.6 to 10.6	8.8 to 10.6	8.6 to 10.8	N/A	N/A
Deep	9.4 to 10.6	9.4 to 11.0	9.4 to 11.2	9.4 to 11.4	9.2 to 10.6	8.8 to 10.6	8.6 to 10.2	N/A	N/A

	2013	2014	2015	2016	2017	2018
Shallow	8.2 to 10.9	7.5 to 11.0	8.2 to 10.5	8.9 to 12.0	10.3 to 12.4	10.3 to 10.5
Shallow (B)					8.0*** to 12.1	6.3 to 13.5
Intermediate	N/A	N/A	N/A	N/A	N/A	N/A
Deep	N/A	N/A	N/A	N/A	N/A	N/A

Note: Temperatures are recorded in degrees Celsius.
"*" indicates January to July only.
"**" indicates March to December only.
"***" indicates October to December only.
"N/A" indicates temperatures not available due to data logger failure.
Blank indicates data logger not installed.

3.6 WETLAND WATER LEVELS

The drive point monitors that are located in the wetland are noted in Table 1. Monitors DP6 to DP12 are located in the large wetland area in the north-central part of the property. DP16 is located in the wetland along the western side of the property.

Monitoring of wetland drive points on the Reid Heritage property adjacent to Mill Creek north of Highway 401 commenced in August 2000, and those monitors were incorporated into the routine monitoring program. These drive points were removed by others with the exception of DP113, located immediately north of Hwy 401. Results for this monitor are discussed later in this section.

The water level data for the wetland drive points are documented in Table B-3, Appendix B. Groundwater hydrographs for the wetland drive points are presented in Figures B-49 to B-58, B-60, B-62, and B-64, Appendix B. In Table B-7, Appendix B, a summary of wetland water level data is provided. A groundwater hydrograph of three representative drive points in the wetland is presented in Figure 12. As shown in the hydrograph, of the three representative drive points the groundwater elevation at DP7 is typically highest, and the lowest elevations occur at DP11. This is expected, as DP7 is located furthest upgradient from Mill Creek and DP11 is closest, and groundwater flow at the site is toward Mill Creek.

Historically, the groundwater levels within the wetland remained reasonably close to ground surface throughout the year. The water levels are typically nearest to ground surface, and in some instances they are above ground surface, mostly during the spring melt. The groundwater levels then show a progressive decline to their maximum depth below ground surface during the summer to early fall months. The fluctuation between the spring high water levels to the summer low water levels usually ranges from 0.1 m to 1.0 m, depending on the location.

In 2018, the following groundwater elevation trends were observed in the wetland monitors, based on the monthly monitoring results.

- Generally, water levels fluctuated during the winter, decreased from April/May to July, then fluctuated to the end of the year.
- The highest water levels in 2018 were typically recorded in April or May, with a couple recorded in February. The lowest water levels were recorded during various months/seasons, with the most (5) recorded in the summer (July and September).
- Based on manually measured groundwater levels, the overall seasonal variation in the elevation of the water table in the wetland in 2018 (seasonal high to low), ranged from 0.31 m in DP8, located in the southern portion of the central wetland, near silt pond SP3, to 0.72 m in DP11, located in the northern portion of the central wetland, near Mill Creek.
- In 2018, based on manually measured groundwater levels, the average depth of the water table below ground surface within the wetland monitors ranged from 0.2 m above ground surface at DP16, located on the west side of the property, to 0.9 m below ground surface at DP10, adjacent to Mill Creek. The maximum depth of the water table recorded was 1.1 m below ground surface at DP10 in March and November, and the highest groundwater level recorded was 0.3 m above ground surface recorded at DP16 in February and April.

A cross-section through the wetland showing the groundwater profiles for both the high and low water table conditions is presented in Figure 13. The location of the section is shown on the Site Plan, Figure 2.

The groundwater level recorded within the wetland in 2018 averaged about 0.03 m above the historical average, and about 0.02 m below the 2017 average for the site. The lower levels compared to 2017 are attributed to the lower water surplus that occurred at the site in 2018 compared to 2017. The increase in water levels within the wetland areas generally is less than the increase experienced at other locations across the site. This is primarily due to the proximity of the wetland areas to Mill Creek, which acts as a buffer, or hinge point, for the water table that reduces the magnitude of seasonal variations. The wetland groundwater levels recorded in 2018 were within the historical maximum and minimum groundwater levels. An aggregate extraction influence is not apparent.

Daily readings of piezometric pressure and water temperature were collected at drive points DP7, DP8, and DP9 in the north-central part of the property, and at drive point DP16 at the western side of the property. The groundwater in the shallower drive points DP9 and DP16 typically responds to thermal increases and decreases a few months prior to the deeper screened drive points DP7 and DP8.

DP7 – The temperature decreased from 11.0°C in January to the annual low of 8.1°C in May. The temperature then increased to the annual high of 11.9°C in October, and decreased to 10.2°C in December.

DP8 – The groundwater temperature decreased from 8.7°C in January to the annual low of 7.2°C in April, then increased to the annual high of 10.5°C in November before decreasing to 8.8°C in December. It is noted that the annual low and high values were slightly lower and higher than the minimum and maximum temperatures, respectively, recorded at DP8 from 2013 to 2017. The temperature range recorded from 2013 to 2017 was 7.4°C to 10.3°C.

DP9 – The temperature decreased from 6.0°C in January to the annual low of 3.5°C in April, then increased to the annual high of 13.2°C in September. The temperature decreased to 5.0°C in December. It is noted that in 2017, the annual high of 12.5°C was slightly lower than the annual highs recorded from 2011 to 2016, which ranged from 12.9°C to 13.3°C. In 2018, however, the annual high increased to 13.2°C, which indicates that a decreasing trend in annual high temperatures at DP9 is not occurring. It is also noted that the annual low in 2018 was slightly lower than the annual lows recorded at DP9 from 2011 to 2017, which ranged from 3.7°C to 6.9°C.

DP16 – The temperature decreased from 6.0°C in January to the annual low of 4.6°C in February. The temperature then increased to the annual high of 16.3°C in August, then decreased to 5.4°C in December. It is noted that, as in 2016 and 2017, the annual low of 4.6°C in 2018 was higher than the annual lows recorded from 2013 to 2015, which ranged from 1.3°C to 2.7°C. Also, the annual high of 16.3°C in 2018 was higher than the annual high of 14.8°C in 2017, and approached the annual highs recorded from 2013 to 2016, which ranged from 16.9°C to 17.6°C. A decreasing trend in annual high temperatures at DP16 is, therefore, not occurring.

The following table contains a summary of the temperature range in the drive points from August 2011 to 2018. For 2012, the DP8 data include only April to December, and the DP16 data include June to December. With the exception of the annual maximum temperature at DP8 and annual minimum temperatures at DP8 and DP9 discussed above, the annual minimum and maximum temperatures recorded at the drive points were within the ranges recorded since the data loggers were installed in 2011/2012. An aggregate extraction influence is not apparent.

	2011	2012	2013	2014	2015	2016	2017	2018
DP7	10.3 to 12.6	8.5 to 12.8	9.4 to 12.5	8.6 to 11.4	8.1 to 10.9	8.5 to 11.6	9.6 to 12.2	8.1 to 11.9
DP8	N/A	7.8* to 10.3*	7.8 to 10.3	7.6 to 9.4	7.4 to 10.2	7.8 to 10.3	7.8 to 10.1	7.2 to 10.5
DP9	6.9 to 13.3	4.5 to 13.3	4.3 to 12.9	4.1 to 13.2	3.7 to 13.0	4.5 to 13.0	4.0 to 12.5	3.5 to 13.2
DP16	N/A	8.6** to 18.3**	2.7 to 17.1	1.3 to 17.1	2.3 to 17.6	6.4 to 16.9	6.1 to 14.8	4.6 to 16.3

Note: Temperatures are recorded in degrees Celsius.
"N/A" indicates data logger not installed.
* 2012 DP8 data include only April to December
** 2012 DP16 data include only June to December.

Based on the data from the data logger transducers at DP7, DP8, DP9, and DP16, the groundwater level in the wetland generally increased during the winter and early spring, decreased in the spring and summer, increased in the early fall, and either remained stable or decreased in the late fall. The exception was at DP16 where water levels remained stable for the majority of the summer and increased throughout the fall. The water levels were higher at DP7 and DP8, and lower at DP16, than the ranges recorded since the data loggers were installed in 2011/2012, while at DP9 the water levels were within the previous recorded ranges and an aggregate extraction influence is not apparent. The higher water levels recorded at DP7 and DP8 are attributed to the higher seasonal water levels observed in the Phase 4 pond in 2018 compared to 2017, as shown on Figure B-68. The higher water levels in the Phase 4 pond indicate that the silt barrier is functioning as designed. It is noted that, similar to the water levels at Monitor 92-32, located about 140 m north of DP16, the water levels at DP16 were lower in 2018 compared to 2017 and there has been an overall downward trend in water levels since 2014. The lower water levels at DP16 are attributed to the lower seasonal water levels observed in the Phase 3 pond in 2018 compared to 2017, as shown on Figure B-68. As with the higher water levels in the Phase 4 pond, the lower water levels in the Phase 3 pond indicate that the silt barrier is functioning as designed.

3.7 MILL CREEK DRIVE POINTS

The drive point monitors that are installed in the creek bed are listed in Table 1. The drive point locations are shown on Figure 2. The drive point monitors are used to provide groundwater and surface water temperature data. As well, the drive points provide a measure of the hydraulic head within the groundwater system beneath the creek, as well as providing a surface water level in the creek. These data are used to calculate the magnitude and direction (i.e. upward or downward) of the vertical hydraulic gradient at the creek.

Drive points DP18 to DP20 are located north of Highway 401, upstream from the property. Drive points DP3, DP4, DP17, DP21, and DP22 are located in the northeast section of the creek, from south of the Hanlon interchange upstream to Highway 401. Drive points DP1 and DP2 are located in the northwest section of the creek, downstream from the Galt Creek and Pond Creek tributaries, and DP5CR (formerly DP5A then DP5B then DP5C then DP5D) is

located just beyond the southwest corner of the site, where Mill Creek flows beneath the bridge at Concession Road 2.

Water level data for the creek drive points are presented in Table B-5, and groundwater/surface water hydrographs for the creek drive points are presented in Figures B-70 to B-100, Appendix B. Additionally, water level data for the original surface water monitoring stations SW1 and SW2 are presented in Table B-4, and hydrographs are provided in Figures B-66 and B-67, respectively. A summary of the creek drive point data, including temperature, vertical hydraulic gradients, and calculated discharge fluxes for each monitor, is presented in Table B-5. Thermographs of the groundwater and surface water temperatures at each drive point are presented in Figures B-71 to B-104, Appendix B.

The hydrographs for the drive point monitors show the seasonal changes in elevation of the groundwater at each monitor, together with the surface water elevation data for the creek. The yearly average vertical hydraulic gradients for the in-stream drive points, starting at the downstream location DP5A/B/C/D/CR and moving upgradient to DP18, from 2018 back to 2005, and historically from the start of data collection (1988 to 1993) up to 2005, are shown below.

Average Vertical Hydraulic Gradient

DRIVE POINT	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005	HISTORIC AVERAGE (UP TO 2005)
DP5A/B/C/D/CR	0.54	0.47	0.18	0.21	0.28	0.18	0.40	0.19	0.18	0.12	0.12	0.09	0.09	0.11	0.09
DP2	0.26	0.25	0.33	0.34	0.29	0.33	0.32	0.30	0.30	0.24	0.22	0.22	0.21	0.14	0.17
DP1	0.27	0.25	0.33	0.33	0.37	0.37	0.30	0.31	0.27	0.21	0.22	0.19	0.21	0.23	0.22
DP3	0.07	0.04	0.06	0.05	0.05	0.05	0.06	0.06	0.07	0.06	0.06	0.06	0.06	0.05	0.04
DP17	0.07	0.06	0.04	0.05	0.03	0.03	0.03	0.04	0.06	0.05	0.06	0.04	0.04	0.04	0.02
DP22	0.07	0.08	0.05	0.05	0.08	0.05	0.04	0.06	0.06	0.09	0.09	0.06	0.07	0.06	0.03
DP4	0.13	0.16	0.10	0.14	0.17	0.11	0.08	0.12	0.15	0.22	0.20	0.12	0.12	0.09	0.04
DP21	0.06	0.11	0.03	0.06	0.08	0.07	0.05	0.09	0.10	0.14	0.16	0.11	0.11	0.08	0.06
DP20	0.08	0.14	0.10	0.12	0.12	0.14	0.08	0.10	0.11	0.19	0.15	0.14	0.14	0.12	0.00
DP19	0.02	0.01	-0.03	-0.01	0.06	0.03	0.00	0.04	0.04	0.12	0.09	0.04	0.05	0.07	-0.06
DP18	0.06	0.12	0.08	0.11	0.09	0.10	0.07	0.08	0.07	0.13	0.12	0.06	0.07	0.08	0.03

NOTES:
1) (-) = downward vertical gradient
2) Because of several drive point replacements due to vandalism, DP5 data from 2012 onward are interpreted with caution.

The following patterns and trends were observed in 2018.

- Based on the average condition through 2018, upward gradients between the groundwater and the creek occurred from DP18 downstream to DP5C/D/CR. Groundwater discharge continues to provide base flow to these reaches of Mill Creek.
- As shown in the preceding table, the magnitude of the average vertical hydraulic gradient is variable from DP18 downstream to DP5A/B/C/D/CR, with the strongest upward gradients being observed at DP1, DP2, and

DP5A/B/C/D/CR, and the weakest upward gradients in the creek between DP3 and DP22, at DP21, and between DP19 and DP18.

- Between 1998 and 2003, downward vertical gradients persisted in the reach north of Highway 401, from DP18 down to about DP20, for much of each year. From 2005 to 2018, the vertical gradients at these drive points have remained upward, with the exception of neutral and downward vertical gradient conditions on average over the course of the year at DP19 in 2012 and in 2015 and 2016, respectively (varied between downward and upward gradient conditions).
- A downward vertical gradient was observed at DP3 in December; DP4 in February; DP19 from September to December; and DP21 in October and November. The February 2018 downward vertical gradient at DP4 is attributed to the surface water level increasing more rapidly than the groundwater level in response to the 43 mm of precipitation received as rain at the site between February 20 and 25. Similarly, 18 mm of rain was received between September 10 and 11, which likely contributed to the downward gradient at DP19 in September. The cause of the October and November downward gradients is not apparent. The lower than normal water surplus at the site in December likely contributed to the downward vertical gradients in December. Downward gradients have occurred regularly historically at DP19, with average downward gradients occurring in 2015 and 2016. Downward gradients have occasionally been observed historically at DP3, DP4, and DP21.
- In 2018, the average vertical hydraulic gradients were higher than the 2017 values at DP1, DP2, DP3, DP5CR, DP17, and DP19, and lower than the 2017 values at the remaining in-stream drive points. The difference between the 2018 average and the 2017 average ranged between -0.06 at DP18 and DP20 and 0.07 at DP5CR. The lower average vertical hydraulic gradients observed at several drive points are attributed to the lower water surplus at the site in 2018 compared to 2017.
- The 2018 average vertical hydraulic gradients at the creek drive points were generally higher than the pre-2005 averages. This overall increase in hydraulic gradients likely reflects a buffering effect due to the presence of the Phase 1, Phase 3, and Phase 4 ponds, and translates into a proportional increase in the groundwater discharge to Mill Creek. This is discussed in further detail later in this section.
- Generally, the seasonal fluctuation of the surface water elevation in Mill Creek at the drive point monitors was similar to the variation of the groundwater elevation in 2018. Historically, greater seasonal groundwater fluctuations have been observed compared to surface water fluctuations.
- From DP21 downstream to DP3, the surface water level, and to a lesser degree the groundwater level, exhibited an overall decreasing trend since approximately 1996. This coincided with the development of the Phase 1 extraction pond, which lowered the gradient across the east side of the site. Also, below-water extraction and the installation of a groundwater barrier wall was occurring on the Reid Heritage Homes Property (north of the creek), and below-water extraction was occurring on the St. Marys Cement property (adjacent to, and east of, Phase 1) during that time, all of which affected groundwater flow toward the creek. This resulted in a progressive lowering of the creek level immediately downgradient of the Phase 1 pond; however, water levels appear to have recovered and stabilized in recent years.

The drive point hydrographs typically show clear seasonal patterns consisting of:

- A rise early in the year due to snowmelt and other groundwater discharge;
- A decline through the summer months;
- An increase in the late fall; and
- A gradual decline through the winter when the precipitation is generally bound up in the snow pack.

In 2018, the groundwater levels generally increased in the early spring, decreased in the late spring and early summer, increased in August, and fluctuated to the end of the year. Frozen conditions were encountered at each creek drive point in January; at DP2 in March; at DP1, DP2, DP5CR, and DP20 in November and December; and at DP4 in December. The groundwater levels were within the historic ranges at each creek drive point in 2018. Frozen conditions were encountered at each creek drive point in January. The surface water levels typically decreased in the late winter, increased in the early spring, decreased in the late spring, increased to August, and fluctuated to the end of the year. Surface water levels at the creek drive points were within their historic ranges in 2018, with the exception of the June levels at DP5CR and DP17, which were slightly lower than the historic low. These low values may be attributed to the lower than normal precipitation received at the site in May.

It is noted that, owing to various reasons over the years, such as access issues and vandalism, the DP5 drive point has had to be re-installed a number of times in several different locations in this reach of Mill Creek. These different locations have had different stream bed elevations, resulting in varying groundwater and surface water elevations being reported over time, as observed on Figure B-82. The data should be interpreted with caution.

THERMOGRAPHS

The in-creek drive point monitors are also used to provide a measure of the temperature of the groundwater discharge and the surface water at each location. As presented in the thermographs, Figures B-71 to B-101, the groundwater and surface water temperature data show the trends noted below. These surface water temperatures are based on manual measurements recorded once per month; therefore, surface water "maximum" temperatures differ from those recorded by the surface water data logger monitors, which are reported in Technical Appendices A and C of this annual report. The trends are as follows.

- A wide seasonal variation in the surface water temperatures, which are low in the winter and high in the summer. In 2018, the surface water temperature ranged from 0.2°C to 20.8°C, which was within the historical range.
- Whereas there is a somewhat smaller seasonal variation in groundwater temperatures as recorded (historically between 2°C and 21°C when all drive point monitors are considered), this is still considered to be a wide seasonal variation for typical groundwater. It is noted, however, that thermal transfer from the creek surface water will affect the shallow groundwater temperatures at the drive points. In addition, the amount of monitor development that is completed before a groundwater temperature reading is taken can affect the value. The groundwater temperature in 2018 ranged from 1.5°C to 20.0°C.
- Along Mill Creek in 2018, vertical gradients were generally upward, and groundwater discharge provided a cooling influence on creek temperatures during the warm summer months, and a warming influence during the cold winter months.
- The temperature patterns for 2018 shown on the thermographs are generally consistent with historic patterns. At the Mill Creek drive points, average 2018 groundwater temperatures were generally slightly higher than the historic averages and the surface water temperatures were slightly lower than the historic averages. Exceptions were drive points DP18, DP19, DP21, and DP22, at which groundwater temperatures were slightly lower than the historic averages. Compared to the historic averages (start of monitoring to 2017), the 2018 groundwater temperature averages differed by between -1.2°C and 1.2°C, and the surface water temperature averages differed by between -1.4°C and -0.5°C. For example, in 2018, the average groundwater temperatures at DP1, DP2, DP3, DP4, and DP20 exceeded the historic average by 0.4°C to 1.2°C.

In Figures B-103 and B-104, Appendix B, groundwater thermographs are presented for each of the Mill Creek drive points. Included on the thermographs are 100-period moving average trendlines. The moving average trendlines serve to smooth out the temperature data to enable long-term trend analyses. The following observations are noted regarding the thermographs.

- From 2003 to between 2011 and 2013, an increasing long-term trend is observed at each of the drive points, ranging from approximately 1°C to 2°C. Greater temperature increases occurred between DP18 and DP17 (upstream of the site to the Hanlon interchange) (2°C) than between DP17 and DP5A/B/C/D (Hanlon interchange to downstream of site) (1°C). At DP1 and DP2, at which temperature data were first recorded in 1988, increasing trends are observed along the entire length of the moving average trendline, which begins in 1998, although a minor fluctuating trend has occurred at DP2 since 2015.
- Temperatures have generally stabilized at the Mill Creek drive points since about 2011 to 2013. Exceptions include DP17, at which temperatures appear to continue to be marginally increasing, and the above noted DP1.
- On the thermographs for DP1, DP2, and DP5A/B/C/CR in Figure B-103, the periods during which extraction occurred in the west and northwest areas of Phase 3 are shown (2006, 2011, and 2012). Any influence of the Phase 3 extraction activities on groundwater temperatures at these three drive points, such as warming effects, would have likely occurred during these periods. The extension of silt pond SP1 toward the west in 2006 would have had the potential of affecting temperatures at nearby drive point DP5A, but evidence of any thermal effects of the extraction is not observed on the thermograph. The extraction in the northwest area of Phase 3 in 2011 and 2012 would have had the potential to affect temperatures at drive point DP1 and DP2. At both DP1 and DP2, cooler than normal temperatures were recorded in 2011, and in 2012 cooler than normal temperatures were also recorded at DP2. At DP1 in 2012, temperatures increased notably compared to 2011, but were similar to temperatures observed in 2001, 2002, 2006, and 2007, and are thus considered to be natural.
- The timing of maximum and minimum temperatures at DP1, DP2, and DP5A/B/C/CR during and following extraction activities in the vicinity of the drive points also generally remained similar to the pre-extraction patterns.
- If pit extraction activities have affected groundwater temperatures at drive points DP1, DP2, and DP5A/B/C/CR, the effect has been subtle. Since a long-term increasing temperature trend is also observed at upstream (background) drive point DP18, regional influences in addition to development at the Mill Creek Pit may be occurring. It is noted that the temperatures at DP18 have stabilized in recent years.

GROUNDWATER DISCHARGE

Table B-5, Appendix B, includes the calculated groundwater discharge, or influx, to the creek bed at each in-creek drive point monitor location. Tables 2 and 3 incorporate the calculated influx at each drive point location and provide an estimate of the distribution of groundwater influx into the creek, for various conditions. Table 2 includes the distribution of groundwater influx for the 2018 average, winter low flow, and summer low flow conditions from DP18 downstream to DP5CR. Table 3 includes the distribution for the overall historic average, historic winter low flow average, and the historic summer low flow average conditions. Locations of the monitoring stations and their separation distances are shown on Figure 14. The distribution of groundwater influx for each monitoring period from 1993 to 2017 is presented in Table B-8, Appendix B.

Figures 15, 16, and 17 show the distribution of groundwater influx for the 2018 summer low flow, winter low flow, and average conditions, respectively. Under summer low flow conditions, Figure 15, the 2018 groundwater flux from the Mill Creek Aggregates property to the creek is estimated at about 26.9 L/s, compared to about 23.3 L/s for the historic average summer low flow conditions. The 2018 value was 15% higher than the average condition. The

above-normal summer discharge in 2018 is attributed to the continued higher-than-normal vertical gradients generally observed at the site. The 2018 summer low flow groundwater flux was 5% lower than the 2017 estimation of 28.2 L/s.

Under winter low flow conditions, Figure 16, the 2018 groundwater flux from the Mill Creek Aggregates Property to the creek is estimated at about 26.0 L/s, compared to about 25.4 L/s for the historic average winter low flow condition. This is about 2% higher than the historic average. The 2018 winter low flow groundwater flux was 31% higher than the 2017 estimation of 19.8 L/s. The higher flux during the winter low flow conditions in 2018 are also attributed to the continued higher-than-normal vertical gradients.

As shown in Figure 17, the groundwater flux from the property is estimated to be about 28.9 L/s for the 2018 average condition, or about 9% higher compared to about 26.6 L/s for the overall historic average condition. The 2018 estimation was 6% higher than the 2017 estimation of 27.3 L/s.

As shown in Table B-8, Appendix B, the calculated event-based groundwater influx in 2018 was higher in certain months, and lower in others, compared to the same months in 2017. In 2018, the maximum event-based estimated groundwater influx to the creek from the Mill Creek Aggregates Pit property (Highway 401 downstream to DP5CR) occurred in June and was about 33.2 L/s.

The minimum event-based estimated groundwater influx from the property (Highway 401 downstream to DP5CR) was about 26.0 L/s in February 2018, as discussed above. The historic average minimum event-based groundwater influx from the property is 18.9 L/s, with individual values varying from 15 L/s to 27 L/s (based on the average of the yearly summer low flow data for each drive point for the period 1989 to 1999).

3.8 SURFACE WATER

Stantec staff undertakes stream flow monitoring on-site. The results of historic pre-extraction stream flow measurements conducted by others are presented in the May 1989 Existing Conditions Consolidated Report, prepared by Gartner Lee Limited and Jagger Hims Limited (now WSP). The elevation data for the water levels in the creek at the drive points are presented in Table B-5, Appendix B. In addition, the elevations of the creek at the original surface water monitoring stations SW1 and SW2 are provided in Table B-4.

The stages of Mill Creek and the two tributaries historically were monitored on a continuous basis at the four surface water monitoring stations SWM1 to SWM4 to provide an estimate of stream flow during the year (see Technical Appendix A of the Coordinated Monitoring Report). Commencing in 2013 with the approval of the MNRF, stream flow estimations are now only provided for stations SWM1 and SWM2. Estimates of stream flow are calculated using the stage-discharge curves that have been established for each station. The data illustrate that Mill Creek and the tributary streams exhibit typical seasonal variation in flow. High flows occur for a relatively short period in the spring and during occasional winter thaw events, and relatively low flows occur during the winter when precipitation is usually bound up in the snow pack and frozen ground conditions prevail. The lowest flows occur during the summer, reflecting high evapotranspiration rates. A summary of the 2018 flow and temperature extremes at the surface water monitoring locations is provided below. It is noted that the high flow values are interpreted with caution due to errors associated with the flow calculation method. It is also noted that, due to the construction of a beaver dam downstream of SWM1 (near DP3) in 2018, it was interpreted by Stantec that SWM1 flow data from October 16, 2018 onward are unrepresentative of normal flow conditions in Mill Creek and should, therefore, be excluded from analyses. As such, the analyses in this report have excluded these data.

	SWM1 AT HWY 401 UPSTREAM	SWM4 GALT CREEK	SWM3 POND CREEK	SWM2 AT TWP. RD. 2 DOWNSTREAM
High Flow (L/s)	3,727	N/A	N/A	7,107
	February 21			February 20
Low Flow (L/s)	84	N/A	N/A	182
	January 6			February 8
High Temperature (°C) (Manual)	20.4	15.2	14.9	17.9
	July 27	July 27 & August 22	August 22	August 22
High Temperature (°C) (Data logger)	26.3	17.1	13.9	24.3
	July 1	June 30	July 6	July 1
Low Temperature (°C) (Manual)	1.4	2.4	2.8	0.7
	November 29	November 29	February 26	January 16
Low Temperature (°C) (Data logger)	-0.3	-0.5	1.2	-0.3
	December 9	January 13	January 14	November 22

Notes: N/A indicates data not available.
High flow values are interpreted with caution due to the flow calculation method.

A comparison between the manually recorded open water temperatures (groundwater program) and the water temperatures recorded electronically (surface water program) illustrates the notable effect of solar warming within a given day. As indicated by temperatures recorded electronically, the creek temperature at SWM1 can fluctuate by as much as 7°C during a day (as indicated by historical data from the Surface Water Monitoring Program). Temperature data collected by WSP, which are in-stream manual measurements taken at the time of groundwater monitoring, are incorporated into this assessment.

The summer low flows, and to a lesser extent the winter flows, are taken to represent the base flow conditions for the creek. During base flow conditions, streamflow in the creek is maintained by groundwater discharge from both sides of the creek through the watershed. On-site, the lowest flows in Mill Creek in 2018 generally were recorded in February, March, and June to September, while the highest flows occurred in February, April, November, and December. The February high flow corresponds with snow melt and precipitation during seasonally warm temperatures, the April high flow corresponds with the spring freshet, and the November high flow corresponds with the higher than normal precipitation received in November.

At the above surface water stations (SWM1 to SWM4), temperatures were generally similar at SWM1 (upstream) and SWM2 (downstream) in the winter and spring; higher than at SWM2 in the late spring and summer; and lower than at SWM2 in the late fall. In the spring and summer, water temperatures in Pond Creek (SWM3) and Galt Creek (SWM4) were generally lower than in Mill Creek at SWM1. In the winter and late fall, the water temperatures in Pond Creek were generally higher than in Mill Creek at SWM1, and in the late fall the water temperatures in Galt Creek were also generally higher than in Mill Creek at SWM1. The water temperatures in Pond Creek, Galt Creek, and at SWM1 were similar in the early spring and early fall, and the water temperatures in Galt Creek and at SWM1 were similar in the winter. During the spring/summer period, these tributary waters provide a cooling effect to Mill Creek by the time the creek water reaches SWM2, and a warming effect during the fall/winter period. The temperature data illustrate that the two tributary streams are thermally different from Mill Creek, and, in fact, are

thermally more similar to the shallow groundwater. It is, therefore, inferred that the two tributaries receive much of their water as groundwater discharge throughout their length.

Staff gauges are installed in the Phase 1 pond, Phase 2 pond, Phase 3 pond, Phase 4 pond, and the former recharge trench at the northern limit of Phase 1. Water level and temperature data are presented in Table B-4. In addition, a pond hydrograph, Figure B-68 and pond thermograph, Figure B-69, are presented in Appendix B. The thermograph indicates that the temperature of the shallow water in the ponds generally ranges from frozen (or near frozen) conditions in the winter to a peak temperature of between 24°C to 29°C in the summer. The temperature then decreases through the fall, to near frozen conditions again in December.

The shallow groundwater temperature at Monitor 92-28 (Figure B-43), which is located outside the extraction area, approximately 50 m downgradient from the western limit of the completed Phase 3 pond, reached a peak temperature of 14.3°C in September of 2018. The 2018 data trends continue to be similar to the historical data, indicating that the presence of the Phase 3 pond in the northwest corner of the extraction area does not appear to influence groundwater temperatures at the 92-28 nest to any significant degree. It was noted in the 2015 Annual Monitoring Report that the peak high groundwater temperature has decreased and the peak low temperature has increased at Monitor 92-28 since 2011 compared to the 2007 to 2011 monitoring period. These changes have been relatively subtle (i.e. approximately 2°C). In 2018, the peak low temperature was within the range of the 2012 to 2015 values, and, as observed in 2016 and 2017, the peak high temperature remained similar to the 2007 to 2011 monitoring period. Continued monitoring through 2019 will provide additional data to assess pond thermal influences on downgradient groundwater conditions, now that aggregate extraction in this area has been completed. Previous assessments confirm that dissipation of the thermal plume from the extraction ponds does occur in the groundwater flow system within a relatively short distance from the pond, and that a minimal effect is observed outside the extraction area.

3.9 GROUNDWATER – SURFACE WATER INTERACTION

Seasonal variation in stream flow is a reflection of normal long-term climatic seasonal variation, as well as specific climatic events. The high flows, which typically occur in the spring, are the result of the annual spring melt and rainfall events. The low flows, which typically occur during the latter part of the summer season, and to a lesser extent during mid-winter, are the result of moderately lower rainfall, and in the case of the summer, increased temperatures and evapotranspiration losses. In the mid-winter period, precipitation is generally bound up in the snow pack, except when thaws occur periodically.

During low flow periods, and in the absence of rainfall, stream flow is sustained by groundwater discharge to the creek. The groundwater discharge component of stream flow is termed base flow. Since base flow is derived from the groundwater flow system, which shows subdued seasonal changes compared to surface waters, the magnitude of the seasonal variation under base flow conditions will be less than that of the surface runoff component. In addition, since the temperature of groundwater, and particularly the deeper groundwater, does not fluctuate seasonally to anywhere near the same degree as does the surface water, the temperature of the groundwater discharge to the creek remains relatively more consistent.

Thus, groundwater discharge to the creek provides two important functions:

1. It provides base flow to maintain stream flow during low flow periods, and
2. It provides a cooling effect on the creek temperatures during the warm summer season, and a warming effect during the cold winter season.

Given the diffuse nature of groundwater movement, it is not possible to directly measure the magnitude of the groundwater discharge component to Mill Creek from the Mill Creek Aggregates property. Groundwater influx to Mill Creek is estimated at each drive point location for different flow conditions and the measurement interpolated for the stream sections between drive points. These calculations are presented in Tables 2 and 3, and the data are shown pictorially on Figures 15 to 17. The results of these calculations are summarized below.

Groundwater Influx from the Mill Creek Aggregates Pit Property

				HISTORIC RANGE (1989-1999)	HISTORIC AVERAGE (1989-1999)	2018	2017	2016
Summer Low Flow Conditions (May to October)				15 - 24 L/s	18.9 L/s	26.9 L/s (July)	28.2 L/s (Sept)	27.8 L/s (Aug)
Winter Low Flow Conditions (November to April)				18 - 28 L/s	22.2 L/s	26.0 L/s (February)	19.8 L/s (Dec)	26.2 L/s (Nov)
Average					22.8 L/s	28.9 L/s	27.3 L/s	27.5 L/s

	2015	2014	2013	2012	2011	2010	2009	2008
Summer Low Flow Conditions (May to October)	29.2 L/s (Sept)	33.9 L/s (Aug)	24.1 L/s (Oct)	27.2 L/s (Aug)	33.0 L/s (July)	30.6 L/s (Aug)	26.4 L/s (Sept)	29.5 L/s (June)
Winter Low Flow Conditions (November to April)	26.3 L/s (Dec)	25.2 L/s (Dec)	28.5 L/s (Apr)	21.6 L/s (Nov)	26.7 L/s (Mar)	35.1 L/s (Nov)	32.5 L/s (Nov)	31.7 L/s (Mar)
Average	29.0 L/s	30.3 L/s	28.3 L/s	25.6 L/s	34.6 L/s	35.7 L/s	33.0 L/s	31.5 L/s

	2007	2006	2005	2004	2003	2002	2001	2000
Summer Low Flow Conditions (May to October)	22.1 L/s (Sept)	24.7 L/s (Aug)	22.0 L/s (Oct)	23.8 L/s (Sept)	12.5 L/s (Aug)	16.1 L/s (Sept)	17.0 L/s (Aug)	21.7 L/s (May)
Winter Low Flow Conditions (November to April)	Not Available	25.2 L/s (Jan)	23.6 L/s (Nov)	22.1 L/s (Nov)	22.1 L/s (Apr)	24.5 L/s (Nov)	22.4 L/s (Apr)	26.5 L/s (Nov)
Average	26.9 L/s	27.6 L/s	26.7 L/s	27.3 L/s	19.9 L/s	22.6 L/s	24.1 L/s	25.5 L/s

The summer low flow groundwater influx values have fluctuated from 2004 to 2018. The calculated 2018 summer low flow groundwater influx (26.9 L/s) was about 5% lower than the 2017 value of 28.2 L/s, and about 42% higher than the historic average yearly summer low flow influx (18.9 L/s), which is based on the average of the yearly summer low flow data for each drive point for the period 1989 to 1999.

The winter low flow groundwater influx values increased from 2003 to 2010, decreased to 2012, and fluctuated from 2013 to 2018. The calculated 2018 winter low flow groundwater influx (26.0 L/s) was about 31% higher than the 2017 value of 19.8 L/s, and about 17% higher than the historic average yearly winter low flow influx (22.2 L/s), which is based on the average of the yearly winter low flow data for each drive point for the period 1989 to 1999.

From 2004 to 2007, the calculated average influx values fluctuated annually. From 2007 to 2010, the values increased, and the values have fluctuated since 2010. The 2018 annual average influx (28.9 L/s) was similar to the 2017 average value of 27.3 L/s, and about 27% higher than the pre-1999 historic long-term average influx (22.8 L/s). The higher values of groundwater discharge from 2004 to 2018 compared to the pre-1999 historic average are attributed to the consistently higher water level in the Phase 1 pond since 2004, and in the Phase 3 and Phase 4 ponds in recent years, and the resulting higher groundwater levels across the site.

In 2018, twelve routine monthly monitoring events were conducted, and included three QA/QC monitoring events (March, August, and November). The groundwater influx to Mill Creek was calculated using the drive point data from eight of the events, excluding the January, March, November, and December events due to frozen conditions. A summary of the estimated influxes and the temperature data from the four surface water monitoring stations are presented in the table below.

Surface water temperatures are recorded using in-stream temperature probes as part of the surface water monitoring program. The temperature data from those data loggers are collected from mid-stream at one-hour intervals. Since surface water temperatures fluctuate throughout the day, Dufferin Aggregates and WSP temperature data are presented, which are in-stream measurements collected manually at the time of groundwater monitoring. Available temperature values in brackets are from the data logger data.

DATE		SWM1 @ Hwy 401 Upstream	SWM4 Galt Creek	SWM3 Pond Creek	SWM2 @ Twp. Rd. 2 Downstream	Influx (L/s) (Both sides of Creek)*	Influx (L/s) (South of Creek Only)*
16-Jan-18	Flow (L/s)	NA	NA	NA	368	Frozen	Frozen
	Temp. (°C)	Frozen(NA)	Frozen(1.0)	Frozen(2.9)	0.7(-0.1)	Frozen	
26-Feb-18	Flow (L/s)	493	NA	NA	829	48.3	26.0
	Temp. (°C)	2.5(1.9)	2.5(1.2)	2.8(4.1)	3.9(2.1)	5.7	
26-Mar-18	Flow (L/s)	201	NA	NA	285	Frozen	Frozen
	Temp. (°C)	4.8(3.7)	4.8(3.1)	5.3(5.5)	3.4(3.9)	7.5	
24-Apr-18	Flow (L/s)	612	NA	NA	989	50.0	27.2
	Temp. (°C)	9.2(8.5)	7.8(6.3)	8.3(5.4)	8.9(8.1)	8.5	
18-May-18	Flow (L/s)	294	NA	NA	407	58.6	31.7
	Temp. (°C)	14.4(15.9)	11.8(11.0)	12.7(10.7)	14.3(14.7)	10.9	
12-Jun-18	Flow (L/s)	210	NA	NA	282	61.3	33.2
	Temp. (°C)	14.9(17.5)	13.1(11.7)	13.7(10.9)	16.0(15.8)	13.0	
27-Jul-18	Flow (L/s)	203	NA	NA	276	49.6	26.9
	Temp. (°C)	20.4(20.3)	15.2(13.1)	14.5(11.8)	17.5(17.9)	15.1	
22-Aug-18	Flow (L/s)	268	NA	NA	391	54.3	29.5
	Temp. (°C)	19.8(19.6)	15.2(17.9)	14.9(12.7)	17.9(17.9)	14.5	
12-Sep-18	Flow (L/s)	258	NA	NA	320	54.0	29.4
	Temp. (°C)	15.8(16.1)	13.8(11.9)	12.7(11.1)	15.8(14.8)	14.5	
30-Oct-18	Flow (L/s)	NA	NA	NA	313	50.6	27.3
	Temp. (°C)	4.8(4.9)	6.8(6.4)	8.1(7.7)	4.9(5.2)	9.6	
21-Nov-18	Flow (L/s)	NA	NA	NA	283	Frozen	Frozen
	Temp. (°C)	1.4(0.9)	2.4(3.3)	3.8(5.5)	1.8(1.4)	Frozen	
20-Dec-18	Flow (L/s)	NA	NA	NA	307	Frozen	Frozen
	Temp. (°C)	2.4(1.7)	5.0(3.5)	4.6(5.4)	4.5(2.3)	Frozen	

Notes: (1) Flow values are daily averages.
(2) NA = not available.
(3) Temperature in brackets is approximate daily average from mid-creek data logger.
(4) * - Groundwater influx calculated from drive point data.
(5) Flow data no longer recorded at SWM3 and SWM4 as approved by the MNRF.

Prior to 2013, the groundwater influx was estimated using the surface water data based on the following equation.

$$\text{Groundwater Influx} = [\text{SWM2} - (\text{SWM1} + \text{SWM3} + \text{SWM4})]$$

As stated in previous reports, however, estimating groundwater influx at this site based on stage-discharge relationships is considered inaccurate. Following the discontinuation of surface water flow rate estimations at stations SWM3 and SWM4 in 2013, evaluating groundwater influx to the creek is no longer undertaken using that methodology. A higher degree of accuracy is achieved by estimating groundwater influx based on drive point data, and these estimates are presented in the above table.

The July 27, 2018 summer low flow drive point data estimate of groundwater influx from the Mill Creek Aggregates Pit (i.e. from the south side of the creek) of 26.9 L/s represents about 10% of the total estimated stream flow in Mill Creek at SWM2 under base flow conditions estimated to be 276 L/s at that time. The combined groundwater discharge from both sides of the creek (49.6 L/s) represents about 18% of total stream flow. It is noted that during the spring when the water table was higher, the groundwater discharge component from the property was estimated to be 27.2 L/s (April 24, 2018), which was similar to the summer low flow influx; however, since the flow in Mill Creek at that time was recorded as 989 L/s at SWM2, the groundwater influx from the pit property (south side of the creek) represented only about 3% of the total stream flow. The combined groundwater discharge from both sides of the creek (50.0 L/s) represented approximately 5% of the total stream flow under the spring high flow conditions.

The thermal effects on Mill Creek temperatures from the two tributaries, as well as the groundwater discharge component, are relatively significant during much of the year, based on the observed temperature differences between SWM1 (upstream) and SWM2 (downstream). Generally, during the summer low flow, those three sources of input water provide a cooling effect on Mill Creek. It is noted that canopy cover along some reaches also provides a cooling effect in Mill Creek during the summer months.

In 2018, the largest summer temperature difference between SWM1 and SWM2 (using average daily temperatures from data loggers) during routine monitoring events was noted on July 27, 2018. The mean temperature of the water entering the Mill Creek Aggregates Pit property at Highway 401 (SWM1) on July 27 was measured at 20.3ºC. The mean water temperature in the creek leaving the property at SWM2 on July 27 was 17.9ºC, which is 2.4ºC lower than at SWM1. On July 27, the mean water temperature of Galt Creek (SWM4) and Pond Creek (SWM3) was 13.1ºC and 11.8ºC, respectively, which is strongly indicative of groundwater discharge into those tributaries. The temperature of the groundwater discharge component to Mill Creek was estimated to be about 15.1ºC, based on average temperatures recorded at the in-stream drive points. Historically (from 2005 to 2012), approximately 33% to 66% of the total temperature differential has been estimated to be attributed to the two tributaries, whereas approximately 34% to 67% has been attributed to the combined groundwater discharge from both sides of Mill Creek. As noted above, it is recognized that the vegetation canopy and riparian cover will also serve to reduce surface water temperatures across the property.

3.10 GROUNDWATER CONDITIONS ADJACENT TO EXTRACTION ACTIVITIES

Aggregate extraction from below the water table in Phase 1 began in 1995 and was completed in 2002. The operations were moved to Phase 2 in late 2002 and continued there throughout 2003 to 2012. In 2013, aggregate extraction from above and below the water table occurred in the central area of Phase 3 and in the western area of Phase 4. Extraction from above and below the water table occurred in the south-central and eastern area of Phase 4 in 2014 and 2015, respectively. Extraction in 2016 and 2017 occurred above and below the water table along the east (2016 only) and west boundaries and above the water table on the south boundary of the Phase 2 pond as a result of obtaining MNRF approval to extract the setbacks. Extraction in 2018 occurred above and below the water table along the east and south boundaries of the Phase 1 pond, for material that was not previously extracted up to the below water table extraction limit. In addition, extraction occurred above the water table within the Phase 1 pond east setback, as a result of obtaining MNRF approval to extract the above water table material within setbacks, as per the approved Site Plans.

Previous monitoring results at locations adjacent to the Phase 1 pond (Monitors 92-1, 92-5, 92-8, 92-13, 92-14, 92-15, BH1, BH5, and BH6) have indicated that operational activities, including the pumping of process water out of the pond, have an effect on local groundwater levels and temperatures. In 2018, pumping from the Phase 1 pond

and the return of water from silt pond SP3/Phase 4 pond back to the Phase 1 pond occurred between April 2 and December 15.

Until they malfunctioned in 2011, groundwater temperatures were measured daily by means of electronic temperature probes set at three horizons in the sand and gravel profile in Monitor nest 92-13. A new shallow data logger was installed at this monitor in May 2013. This monitor nest is located approximately 20 m to the west of the open water in the Phase 1 pond. The data have shown that groundwater temperatures at each of the three elevations are affected by the presence of open water in the Phase 1 pond.

Through the period 2000 to 2018, clean water was returned from the active silt pond (either SP1, SP2, or SP3), or from an area of a pond located adjacent to a silt pond (e.g. Phase 4 pond from 2015 to 2018), directly back into the Phase 1 pond. The groundwater temperature highs recorded from about 2000 to 2005 downgradient from the Phase 1 pond at 92-13 were lower by as much as 7°C compared to 1995 to 1998 values, but were still 2°C to 8°C above pre-extraction temperatures. The re-circulation of clean silt pond water back to the Phase 1 pond appears to reduce pond temperatures at least locally at the south end, which reduced the range of groundwater temperatures observed at 92-13 after 2000. It appears that the absence of aggregate extraction in the Phase 1 pond has resulted in this increase in peak summer temperatures of the groundwater immediately downgradient from the Phase 1 pond. Aggregate extraction likely induced the flow of cooler groundwater toward the pond during the summer months.

New data loggers were installed at three depths in six monitors west of Phase 3, at the western limit of the site, in November 2006. Subsequently, data loggers were removed from two of these monitor nests in 2011 due to Phase 3 operations. Monitors 92-25 and 92-31 were removed during extraction activities in 2011, and Monitor 92-30 was removed during extraction activities in April 2012. Data logger malfunctions occurred at Monitor 92-33, and the data loggers were removed from Monitor 92-26 due to access safety concerns. The following observations are noted for the monitors currently equipped with multiple data loggers.

- At Monitor 92-28, the vertical gradients remained similar to the 2007 gradients until 2012, when much larger gradients occurred. It is interpreted that extraction activities in the northwest corner of the Phase 3 pond resulted in localized influences on the groundwater levels observed at monitor nest 92-28, giving rise to the apparent higher vertical gradient conditions. The vertical gradients have decreased since 2012, which supports this interpretation as extraction activities in the northwest corner of the Phase 3 pond did not occur after 2012. Similar to the 2013 to 2017 period, smaller seasonal groundwater level fluctuations occurred in 2018 compared to previous years, resulting in higher average elevations at each of the three monitors. These smaller fluctuations are attributed to the buffering effect of the Phase 3 pond. It is noted, however, that, as observed in 2017, the water levels at each of the three 92-28 monitors decreased in 2018 compared to the 2013 to 2016 period and compared to 2017, which is attributed to the lower water levels in the Phase 3 pond in 2018 compared to the 2013 to 2016 period. The peak groundwater temperatures measured at the three monitors were slightly lower (i.e. higher annual low, lower annual high) than in previous years, as observed since 2012.
- At Monitor 92-29, which is now located adjacent to the Phase 3 pond, the vertical gradients in 2018 were similar to the 2007 to 2017 gradients. The magnitude of water level fluctuations, however, was lower at the three monitors in 2018 compared to the fluctuations from 2007 to 2012, and were similar to the fluctuations recorded from 2013 to 2017, and at Monitor 92-28. The increased average groundwater levels from 2013 to 2016 compared to pre-2012 levels which occurred at Monitor 92-28 also occurred at Monitor 92-29, and are also attributed to the buffering effect of the Phase 3 pond. The decrease in water levels observed at each of the three 92-28 monitors in 2017 and 2018 compared to the 2013 to 2016 period also occurred at 92-29, and is also attributed to the lower water levels in the Phase 3 pond in 2017 and 2018 compared to that earlier period. The groundwater temperatures, which had been consistent from 2007 to 2011, have fluctuated much more since 2012. The typical time lag in temperatures between the shallow and intermediate monitors has not been

observed since 2011, as the temperatures at the two monitors generally mirrored each other. These temperature trend changes are attributed to the advancement of the excavation/pond development to within a few metres of Monitor 92-29.

- At Monitor 92-32, the vertical gradients in 2018 were generally consistent with the gradients measured from 2007 to 2017. The decrease in water levels observed at 92-28 and 92-29 in 2017 and 2018 compared to the 2013 to 2016 period also occurred at 92-32 within each of the three monitors (shallow, intermediate, and deep), and is also attributed to the lower water levels in the Phase 3 pond in 2017 and 2018 compared to that earlier period. The groundwater temperature trends at the three monitors were similar to previous years, although a slight increase in temperature at the intermediate and deep monitors was observed in 2018. The vertical gradients at Monitor 92-32 do not appear to be affected by the Phase 3 pond; however, the groundwater levels do appear to be influenced by the water levels in the Phase 3 pond. Further monitoring will confirm whether the groundwater temperatures are affected by the Phase 3 pond or if the slight increases observed in 2018 represent natural fluctuations.

3.11 WATER QUALITY

Chemical analyses of groundwater and surface water were completed in March and November 2018 for samples collected from Monitors BH1, 92-8, and 92-32-III, and from the Phase 1 pond. It is noted that Monitor 92-32-III, at which sampling began in November 2011, is located in the same general area of the property as former Monitor BH8-I, which was removed during extraction activities in 2011. Groundwater samples were collected from Monitor BH8-I from 1992 to 2011. The field chemical results are presented in Table C-1, and the laboratory chemical results are presented in Tables C-2 and C-3, Appendix C. The laboratory chemical results and Quality Assurance/Quality Control (QA/QC) reports for the current year are included in Appendix C.

The groundwater and surface water temperatures, as measured in the field, fluctuate in response to the ambient air temperature. The pH and conductivity values were within their respective historic ranges, with the exception of the November pH value at 92-32-III, which was slightly lower than the historic range, and the November conductivity values at BH1, 92-8, and the Phase 1 pond, which were higher than the historic range.

The 2018 chemical results are generally similar to historic values, with some exceptions. Based on the 2018 chemical data, the following observations are made.

- For comparison purposes, groundwater quality was assessed versus the Ontario Drinking Water Quality Standards (ODWQS). Groundwater quality generally complies with the ODWQS for the parameters tested, except as outlined below.
  - BH1 – hardness (March and November)
  - 92-8 – hardness (March and November), manganese (March and November)
  - 92-32-III – hardness (March and November), manganese (March and November), total dissolved solids (November)
  - ODWQS exceedances for hardness, manganese, and total dissolved solids also occurred in 2017.

    Hardness, manganese, and total dissolved solids are not considered to be health-related parameters. The standard for hardness is a guideline, which is established for parameters that need to be controlled to ensure efficient treatment of water supplies. The standards for manganese and total dissolved solids are aesthetic objectives, which are established for parameters that may impair the taste, odour, or colour of water. Hardness and manganese exceedances were observed historically at the property, both before and after

extraction commenced. The total dissolved solids concentration was only marginally elevated compared to the standard, and total dissolved solids exceedances have also been previously detected at Monitors 8-I and 92-8. The elevated concentrations of hardness, manganese, and total dissolved solids are attributed to natural conditions at the site.

- Over the short term, in 2018 the parameter concentrations were generally similar to the 2017 concentrations.
- The concentrations of most parameters have been fluctuating slightly or have been relatively consistent over the long-term. Exceptions are conductivity values (laboratory) at BH1 (located at the eastern, upgradient, boundary of the property), which have been increasing since 2014; and sodium and chloride concentrations at (a) Monitor BH1, which have increased over the long-term, but which have been stable in recent years, although a historically high sodium concentration (80 mg/L) was detected in November 2018, and (b) Monitor BH8-I/92-32-III, which increased in 2009, but have been stable in recent years. It is noted, however, that the following historically high concentrations were detected in 2018.
  - BH1: sodium (80 mg/L) (November), chloride (160 mg/L) (November), conductivity (laboratory) (900 µS/cm and 920 µS/cm) (March and November), total dissolved solids (485 mg/L) (November)
  - Phase 1 pond: sodium (62 mg/L), magnesium (35 mg/L), chloride (140 mg/L), conductivity (laboratory) (790 µS/cm), total dissolved solids (430 mg/L) (each in November)

  The elevated sodium, chloride, conductivity, and total dissolved solids concentrations may reflect road salting activities along Highway 401 and/or along the Township roads. The magnesium concentration in November was only 1 mg/L higher than the historical high concentration, and is attributed to natural groundwater conditions at the site.
- Historically, and in 2018, with increasing distance downgradient across the site (from Monitor BH1 to 92-8 to BH8/92-32-III), detected parameter concentrations generally tend to either increase or fluctuate. Exceptions include sodium, chloride, potassium (March only), pH, and oil and grease (November only), which decreased across the site in 2018.
- Parameter concentrations in the Phase 1 pond are generally similar to values detected at Monitor BH1. The surface water quality complies with the Provincial Water Quality Objectives for the parameters tested in 2018, with the exception of iron (November) and zinc (November). Similar exceedances of PWQOs have occurred in the Phase 1 pond historically.
- Trace concentrations of total oil and grease were detected at Monitors BH1, 92-8, and the Phase 1 pond in November 2018. Similar detections occurred at these locations in April 2015 and March and November 2017, and detections have occurred at various monitors and the Phase 1 pond historically. The detection of an oil and grease concentration at upgradient Monitor BH1 suggests an off-site source.

3.12 COMPLIANCE WITH INTERIM THRESHOLD VALUES

The early warning and interim threshold values, which came into effect on June 30, 2001, are based on maintaining positive seasonal hydraulic head gradients across the water table between specific monitor pairs, such that a positive hydraulic gradient continues to exist from the site toward Mill Creek. In other words, the groundwater levels should be lower at locations closer to Mill Creek. The thresholds were developed to ensure that the quantity of groundwater discharging to Mill Creek does not decline below a minimum level. The creek drive point monitors tie the thresholds to groundwater level/discharge at the creek. Surface water elevations in the Phase 1, Phase 2, Phase 3, and Phase 4 ponds are also included with the compliance monitoring. Maximum and minimum elevations with associated early warning values are defined for each pond. The interim threshold and early warning values generally are based on a review of historic pre-extraction low water level data (where available) and are defined

seasonally; pond threshold water level values do not change seasonally. Where necessary, threshold pairs have been modified over time to reflect current extraction conditions and the removal of individual monitor locations.

It is noted that the groundwater levels in the in-stream drive points typically respond more rapidly to precipitation and snowmelt events than the deeper groundwater monitors. As such, occasionally, early warning and threshold value exceedances can occur due to these natural events.

A summary of the head differences and pond elevations is included in Tables G-1 to G-10, and the data are shown graphically in Figures G-1 to G-16, Appendix G. Where available, historical data are shown in the tables for comparison purposes. A summary of the early warning and threshold value compliance for 2018 is provided in the following table, and the monitor pairs and ponds are discussed below.

MONITOR PAIR / LOCATION	EARLY WARNING VALUE EXCEEDANCE IN 2018?	THRESHOLD VALUE EXCEEDANCE IN 2018?
BH92-29 to DP1	No	No
BH92-27 to DP2	No	No
OW5-84 to DP5CR	Yes	Yes
BH92-12 to DP17	No	No
DP6 to DP3	Yes	No
BH13 to DP21	No	No
Phase 1 Pond	No	No
Phase 2 Pond	No	No
Phase 3 Pond	No	No
Phase 4 Pond	No	No
Silt Pond SP3	No	No

BH92-29 TO DP1

This monitor pair replaced the BH92-30 to BH92-28 threshold pair in May 2012, as BH92-30 was removed during extraction activities in April 2012. This pair is located in the northwest corner of the site, south of the confluence between the Pond Creek tributary and Mill Creek. DP1 is an in-creek drive point located in Mill Creek near the western property boundary. The early warning and threshold values were not exceeded in 2018 (see Table G-4 and Figures G-7 and G-8).

BH92-27 to DP2

This pair of monitors is located in the western part of the site, west of the Phase 3 extraction area, and replaced BH92-26 to DP2 after November 2011 when BH92-26 became inaccessible due to its proximity to the extraction area. DP2 is an in-creek drive point located in Mill Creek at the western property boundary. The early warning values and threshold values were not exceeded in 2018 (see Table G-5 and Figures G-9 and G-10).

OW5-84 to DP5A/B/C/CR

This pair of monitors is located in the southwest corner of the site, adjacent to Mill Creek. OW5-84 is a groundwater monitor screened to about full depth in the aquifer, and is situated just inside the property line. The location of DP5 has been modified several times due to vandalism and access issues. DP5A was an in-creek drive point situated in Mill Creek just north of the bridge at Township Road 2. DP5B replaced DP5A in this threshold pair in December 2011 when DP5A became inaccessible due to landowner permission being withdrawn. DP5B, located south of the bridge, was vandalized in July 2012, and replaced with DP5C, which was installed slightly upstream from DP5B, but still south of the bridge. New (preliminary) threshold values were implemented for the OW5-84 to DP5C pair in September 2012 (see Table G-6 and Figures G-11 and G-12). Based on hydraulic conductivity testing, it is interpreted that DP5C was installed in lower-conductivity soil that is not reflective of the sand/gravel aquifer in which DP5A and DP5B were developed. This condition would result in groundwater levels that do not respond to climatic conditions as quickly as nearby drive points screened in more representative soils with higher hydraulic conductivities.

DP5C was vandalised in Spring 2017 and replaced with DP5CR, which was installed at the location of DP5C. The early warning and threshold values were not exceeded at DP5C prior to the vandalism. At DP5CR, at which we continue to apply the threshold values developed for DP5C, and similar to 2017, the early warning values were exceeded several times between May and December, and the threshold values were exceeded during two monitoring events in June. The exceedances are the result of elevated groundwater heads / strong upward vertical gradients measured at DP5CR, which are attributed to the observed hydrogeological variability at this location referred to in Section 3.7. It is recommended that revised early warning and threshold values be established for the OW5-84 to DP5CR pair, following the collection of a sufficient amount of monitoring data at DP5CR, to better reflect the hydrogeological conditions at DP5CR. The existing OW5-84 to DP5C early warning and threshold values do not appear to be representative of the actual conditions at DP5CR.

BH92-12 to DP17

BH92-12 was established in 2001 just outside the licensed area of extraction, west of Phase 5 (extraction has not yet occurred in Phase 5). Monitor DP17 is an in-creek drive point located at the Hanlon interchange, upstream from DP3. The threshold values have not been exceeded since its implementation on June 30, 2001 (see Table G-2 and Figures G-3 and G-4). The early warning and threshold values were not exceeded at this pair in 2018.

DP6 to DP3

DP6 is located at the eastern limit of the central wetland area, adjacent to Phase 5, and DP3 is an in-creek drive point monitor located directly south of the Hanlon interchange. The early warning value was exceeded on September 27 and October 18, 2018 (Table G-3 and Figures G-5 and G-6). The exceedances are attributed to a lag in groundwater level response at DP6 compared to DP3 following a 13 mm rain event from September 25 to 26, and a 7 mm rain event from October 13 to 18. Similar exceedances of early warning values occurred at this threshold pair from 2014 to 2017. The threshold values were not exceeded in 2018.

BH13 to DP21

BH13 is located adjacent to the northern boundary of the property (north of Phase 5) and to the east of DP21. DP21 is an in-creek drive point monitor located immediately downstream of the property line, south of Highway 401. There were no exceedances of the threshold values or the early warning values at this pair in 2018 (see Table G-1 and Figures G-1 and G-2).

PHASE 1 POND

This pond is located in Phase 1, along the east side of the north property. Sub-aqueous extraction started in 1995 and was completed in 2002. Sub-aqueous extraction resumed in 2018 at the east and south boundaries of the Phase 1 pond, as the below water table extraction had not previously been completed to the approved limit. A low-water level threshold value of 305.5 mASL was established for the Phase 1 pond in 2002. Neither the early warning value of 305.75 mASL nor the threshold value was exceeded in 2018 (see Table G-7 and Figure G-13). As predicted, during dry periods the presence of the Phase 1 pond buffers against decreases in groundwater levels adjacent to the pond. It is noted that the constant water levels recorded during the winter months between 2000 and 2015 indicate that the extraction pond or silt pond was frozen. From 2015 onward, frozen conditions are represented by a gap in the data.

PHASE 2 POND

This pond is located in the south-central end of Phase 2, on the south property. Sub-aqueous extraction started on September 23, 2003 and continued to the end of 2012. Extraction in 2016 and 2017 occurred above the water table along the east (2016 only), west, and south boundaries of the Phase 2 pond as a result of obtaining MNRF approval to extract the setbacks. Below the water table extraction occurred in 2016 and 2017 near the east (2016 only) and west boundaries of the Phase 2 pond within the original licensed area. A low-water level threshold value of 305.0 mASL was established in 2004, with an early warning value of 305.30 mASL. The threshold and early warning values were not exceeded in 2018 (see Table G-8 and Figure G-14).

PHASE 3 POND

This pond is located in Phase 3 in the western section of the north property, immediately north and adjacent to silt pond SP1. Sub-aqueous extraction started in 2007 and continued to the end of 2013. A low-water level threshold value of 303.85 mASL was established in 2006, with an early warning value of 304.10 mASL. The threshold and early warning values were not exceeded in 2018 (see Table G-9 and Figure G-15).

As indicated above, the water levels in the Phase 3 pond were lower in 2017 and 2018 compared to the 2013 to 2016 period. The water levels, however, were similar to the 2009 to 2012 levels and remained well above the early warning value. The lower water levels observed in 2017 and 2018 are attributed to the effect of the almost fully developed silt barrier between the Phase 3 and Phase 4 ponds. The lower hydraulic conductivity of the silt barrier results in a reduction in the rate of movement of water from the Phase 4 pond westerly through the silt barrier and into the Phase 3 pond. As such, water that (a) naturally moves from east to west through the granular subsurface soil that remains in place between the Phase 1 pond and the Phase 4 pond, and (b) water that accumulates in the Phase 4 pond as direct precipitation, is “held back” by the silt barrier in the Phase 4 pond (as designed), resulting in higher water levels in the Phase 4 pond compared to the Phase 3 pond, as intended.

PHASE 4 POND

This pond is located in Phase 4, in the central section of the north property, immediately north and adjacent to silt pond SP3. Sub-aqueous extraction began in September 2013 and continued through 2015. A low-water level threshold value of 304.50 mASL and an early warning value of 305.10 mASL were established prior to extraction commencing in Phase 4. The threshold and early warning values were not exceeded in 2018 (see Table G-10 and Figure G-16). The water level in the Phase 4 pond has increased since sub-aqueous extraction of the pond began in 2013. The recent increases are intended and are attributed to the presence of the silt barrier between the Phase 3 and Phase 4 ponds, as described above. It is expected that once extraction is completed in Phase 5 and the final large Phase 1/4/5 pond is established, the additional length of downgradient shoreline of the large pond, compared to the

current Phase 4 pond shoreline, will facilitate increased movement of water out of the larger pond through the subsoils toward Mill Creek.

SILT POND SP1

Silt pond SP1 is located south of Phase 3, in the southwest corner of the north property. The original footprint of silt pond SP1 was nearly full of fines over most of the area, and wash water sedimentation operations were moved into silt pond SP2 after July 2003 and later to silt pond SP3. Maximum and minimum threshold values were established for SP1 to ensure that the water contained in the pond does not breach over the perimeter berm, nor become too low whereby it might reduce groundwater discharge to Mill Creek. The filling of silt pond SP1 was completed in 2012 and water level monitoring was, therefore, terminated at this location.

SILT POND SP2

Silt pond SP2 is located directly north of Phase 3, in the middle of the north property. Washing sedimentation operations were moved into SP2 after July 2003 and remained there until September 4, 2004, at which time the pond was full of fines over most of its area. Discharge to the eastern end of silt pond SP2/barrier wall silt pond (SP3 extension) resumed in June 2012 and continued until November. The filling of silt pond SP2 was completed in 2012 and water level monitoring was, therefore, terminated at this location.

SILT POND SP3

The original silt pond SP3 is located south of Phase 4, along the southern edge of the north property. Washing sedimentation operations were moved into SP3 after September 4, 2004, and this silt pond was used until April 2010. The staff gauge was removed from SP3 in April 2011 due to the lack of surface water at this location. Approval to extend SP3 north to the central wetland and east along the wetland boundary, which included the development of the silt barrier between Phases 3 and 4, was received in 2010. This extension of silt pond SP3 has since been completed, and silt pond SP3 and the Phase 4 pond are now hydraulically connected. As of March 2015, it was recommended that the Phase 4 pond threshold values be applied to silt pond SP3.

4 SUMMARY

Groundwater monitoring has been conducted at the Mill Creek Aggregates Pit property since late 1986. Aggregate extraction from below the water table has been ongoing at the property since 1995. The 2018 monitoring program included five components which were: (a) the monitoring of water levels and temperature conditions in the groundwater monitors, the multi-level monitors and the water wells, (b) groundwater quality monitoring, (c) quality assurance/quality control aspects, (d) assessment of compliance with the interim action thresholds, and (e) annual reporting.

The 30-year average total annual precipitation in this area is 917 mm, and the long-term average water surplus is estimated to be about 295 mm per year. In 2018, the corresponding values were 1,042 mm and 352 mm, respectively, which represent an increase of 14% in precipitation and 19% in the annual water surplus with respect to long-term average conditions. In 2018, the monthly precipitation fluctuated throughout the year versus the normal. The 2018 precipitation was greater than the 30-year normal in January, February, April, August, October, and November; lower than the 30-year normal in March, May, July, September, and December; and similar to the 30-year normal in June.

Aggregate extraction and areas that are stripped account for approximately 93 ha of land in six areas on the property. Aggregate extraction from below the water table began in Phase 1 in 1995. In 2015, extraction continued in Phase 4, and extraction in 2016 and 2017 occurred above the water table along the east (2016 only), west, and south boundaries of the Phase 2 pond as a result of obtaining MNRF approval to extract the setbacks. Below the water table extraction occurred in 2016 and 2017 near the east (2016 only) and west boundaries of the Phase 2 pond within the original licensed area. In 2018, extraction occurred above and below the water table along the east and south boundaries of the Phase 1 pond, for material that was not previously extracted up to the below water table extraction limit. In addition, extraction occurred above the water table within the Phase 1 pond east setback, as a result of obtaining MNRF approval to extract the above water table material within setbacks, as per the approved Site Plans. Starting in April 2012, fines-laden process water was discharged into silt ponds SP1, SP2, and the SP3 extension area, thereby developing the approved silt barrier between the Phase 3 pond and the western limit of the Phase 4 extraction / pond area. The silt barrier continued to be widened in 2018 as per the site plan.

Monitoring results adjacent to the pond in Phase 1 indicate an effect on the pond levels and local groundwater levels resulting from seasonal climatic variation, the pumping of water from the pond for aggregate processing, and the recirculation discharge of clean water from the active silt pond (silt pond SP3/Phase 4 pond in 2018) back into the Phase 1 pond. The pumping of water from the active silt pond back to the Phase 1 extraction pond is adjusted to maintain a balance between water taken and water returned, and to maintain water levels within threshold values. As shown in Table E-2 in Appendix E, a reasonable balance (less than 10% difference) was achieved between the volume of water discharged into the Phase 4 pond from the processing plant, and the volume of clean water re-circulated from the Phase 4 pond into the Phase 1 pond.

The decrease in groundwater levels in monitors adjacent to the western limit of the Phase 3 pond in 2017 and 2018 are attributed to the decrease in water levels in the Phase 3 pond in 2017 and 2018. The lower water levels in the Phase 3 pond indicate that the silt barrier is functioning as designed. Continued monitoring, however, is required to ensure that threshold values related to the Phase 3 pond and threshold pairs downgradient from the pond continue to be maintained.

Shallow groundwater monitoring immediately downgradient of the pit ponds shows the influence of the ponds on groundwater temperatures, but these influences quickly dissipate with distance from the ponds. For example, at Monitor 92-13, located about 20 m from the Phase 1 pond, thermal effects resulting from the presence of the pond, wash water pumping, and silt pond water recirculation are observed. Monitor 92-12 is located further from the Phase 1 pond and the groundwater temperature at 92-12 is much reduced relative to the Phase 1 pond and 92-13. At the west side of the site, shallow groundwater temperatures at Monitor 92-29 have increased by up to 14^{o}C, which is attributed to the monitor now being located in close proximity to the Phase 3 pond. Further downgradient of 92-29 is DP1, located in Mill Creek. Monitor 92-29 and DP1 represent a monitoring pair for threshold pair monitoring. The thermograph for DP1 suggests that development of the Phase 3 pond in 2012 has not influenced groundwater temperatures in Mill Creek to any notable degree. Monitor 92-27 is also adjacent to the Phase 3 pond, and with DP2 represents a threshold monitoring pair. This threshold pair exhibits a similar groundwater temperature relationship as the 92-29 to DP1 threshold pair. Similar to DP1, the thermograph for DP2 suggests that development of the Phase 3 pond in 2012 has not influenced groundwater temperatures in Mill Creek to any notable degree; however, there does appear to be a subtle, almost 2^{o}C increase, in groundwater temperature at DP1 and DP2 that began prior to extraction activities in this area, which may be a regional phenomenon. Monitor 92-32 is located approximately 65 m downgradient of the Phase 3 pond, and this monitor shows an increase of 3^{o}C compared to historic values. Downgradient from Monitor 92-32 at Mill Creek drive point DP2, however, the long-term minor increase in groundwater temperature compared to historic values is more subtle than at Monitor 92-32, and increases not attributable to the pit operations are evident. In the short-term, groundwater temperatures at DP2 appear to now be fluctuating. The presence of the perimeter berm between the Phase 3 pond and Monitor 92-32 has reduced the thermal effect at this location. Monitor 92-28, located approximately 50 m downgradient from the northwest limit

of extraction of the Phase 3 pond, and 60 m east (upgradient) of Mill Creek, may be subject to a subtle thermal influence from the Phase 3 pond that was completed in that area in 2012.

Groundwater conditions in 2018 generally were consistent with historic monitoring data, with groundwater flowing from east to west through the site toward, and discharging into, Mill Creek, except as discussed in the main text. The water table in the wetland areas adjacent to Mill Creek continues to be at or near ground surface during the spring melt high groundwater conditions, with seasonal decreases in the order of 0.5 m over the course of the year.

Groundwater discharge continues to provide a relatively consistent seasonal base flow component to Mill Creek, from Highway 401 downstream to Concession Road 2, resulting in a cooling influence on creek temperatures during the warm and dry summer months, and a warming influence during the late fall, winter, and early spring period. The estimated groundwater contribution from the Mill Creek Aggregates Pit property located north of Township Road 2 was marginally higher in 2018 compared to the historic average, and was similar to the 2017 value.

In 2018, several groundwater levels in monitors were lower compared to those recorded in 2017. Given the precipitation patterns described above, these lower groundwater levels are not unexpected. The groundwater levels were generally similar in 2018 compared to historical averages, although there were some exceptions.

In 2018, downward gradients occurred at the in-creek drive point monitor DP19 from September to December. The historic average (up to 2005) gradient at DP19 was also downward. A downward vertical gradient was also observed at DP3 in December, DP4 in February, and DP21 in October and November. Downward gradients have been observed historically at DP19 and occasionally at DP3, DP4, and DP21. The February 2018 downward vertical gradient at DP4 is attributed to the surface water level increasing more rapidly than the groundwater level in response to the 43 mm of precipitation received as rain at the site between February 20 and 25. Similarly, 18 mm of rain was received between September 10 and 11, which likely contributed to the downward gradient at DP19 in September. The cause of the October and November downward gradients is not apparent. The lower than normal water surplus at the site in December likely contributed to the downward vertical gradients in December.

At DP20, located in Mill Creek north of Highway 401, except for an occasional downward gradient condition, an upward discharge gradient has been present since 2004 through to 2018. The upward gradient condition coincided with higher water levels in the Phase 1 pond being maintained throughout the year, and may also be affected by pond levels and groundwater conditions to the north of the creek (Reid Heritage property) since extraction ceased at that location several years ago.

In the reach of Mill Creek between Highway 401 and the Hanlon interchange, downward vertical gradients were observed periodically at some of the monitors during dry periods between 1998 and 2003. Vertical discharge (upward) gradient conditions have prevailed since 2004, with a few exceptions, and a similar trend continued through 2018.

At DP18, which is located north of Highway 401, upstream of Slovenski Park at Concession Road 25, upward vertical gradients have been present for the most part between 2005 and 2018. Prior to 2005, vertical gradients at DP18 were downward for several years. DP18 is far-removed from the site and is not affected by extraction operations at Mill Creek Aggregates Pit. The reason for this return to upward (discharge) gradients at DP18 has not been confirmed, but likely is related to other extraction activities (or cessation thereof) between 2005 and 2018 in the area.

Water levels were recorded at two bedrock aquifer wells in 2018. Water levels remained within the historic range at the North Farmhouse Well in 2018, although water levels were not measured in January, February, April, and May

owing to well-head accessibility issues. As in previous years, flowing artesian conditions were recorded in bedrock well TW16-78, located adjacent to Mill Creek at the southwest corner of the property.

The multi-level monitors within the sand and gravel aquifer continued to exhibit the general pattern of upward to neutral gradients, which is consistent with historic trends. Several observations of downward gradients also occurred in 2018, which is also consistent with historic trends. The groundwater temperatures at the multi-level monitors showed a pattern similar to historic trends, with the shallow water temperatures exhibiting the greatest, and the deep temperatures showing the least, seasonal fluctuations. The multi-level monitor temperatures also show a time lag response pattern between the shallow, intermediate and deep profiles, which also is consistent with historic patterns.

Monitors 92-28, 92-29, and 92-32 are located adjacent to Mill Creek, approximately 50 m, 10 m, and 65 m downgradient from the Phase 3 extraction pond, respectively. Monitor 92-32 is located beyond (west of) the on-site berm. Results from Monitor 92-32 indicate that the vertical gradients in 2018 were generally similar to the 2017 trends except that a similar magnitude of downward gradient between the intermediate and shallow monitors was last observed in 2011, and was caused by a precipitation event on October 31 to November 2, 2018, where a total of 63 mm of rain was received. Results from Monitors 92-28 and 92-29 also indicate that the 2018 vertical gradients were similar to the 2017 results, except that at both 92-28 and 92-29, both small upward and downward gradients occurred between the intermediate and shallow monitors in 2018, whereas only small downward gradients were observed in 2017. In 2017 and 2018, the water levels at each of the three monitors (shallow, intermediate, and deep) at 92-28, 92-29, and 92-32 were lower than the 2016 water levels due to the lower water levels in the Phase 3 pond in 2017 and 2018.

Maximum and minimum temperatures at 92-28 in 2018 were similar to the historic values, with the maximum value in the shallow monitor only slightly lower, and the minimum values in the three monitors only slightly higher, than the historic values. The Phase 3 pond may have had a subtle thermal influence on groundwater temperatures at 92-28 in 2018. At 92-29, located immediately adjacent to the limit of extraction of the Phase 3 pond, the maximum temperatures at the shallow and intermediate monitors were slightly higher than the 2017 temperatures, and continued to be much higher than the historic values, and the minimum temperatures were similar to the 2013 to 2017 values, and notably lower than the historic values. At the deep monitor at 92-29, the peak high temperature in 2018 was lower than in recent years and slightly lower than the 2017 value. As observed in 2016 and 2017, after decreasing (i.e. becoming cooler) in 2014 and 2015, the peak low temperature at the deep monitor in 2018 remained at a temperature similar to pre-2014 levels. These temperature effects at 92-29 are attributed to the extraction of the Phase 3 pond to within a few metres of 92-29 in 2012.

At Monitor 92-13, located just west of the Phase 1 pond, the presence of the pond itself, the pumping of water from the pond, and the discharge of return-water back into the Phase 1 pond affects pond water and adjacent groundwater temperatures. Historically, the groundwater temperatures were affected by up to a maximum of 8^{o}C at 92-13.

Historically, the recorded peak temperature in the Phase 1 pond occurs in August. At 92-13, the peak groundwater temperature now occurs in September or October. A time lag of about one to two months, therefore, exists between maximum shallow surface water temperatures in the pond and maximum groundwater temperatures at Monitor 92-13. In 2018, however, the peak occurred in January, and the maximum and minimum temperatures in the shallow monitor were lower and higher than the peak/low temperatures recorded, respectively, since the data logger was re-installed in 2013. The cause of the muted temperature maximum and minimum values in 2018 at 92-13 is not apparent. There is typically a decline from the surface water peak temperature of approximately 2°C to 5°C in the shallow groundwater over the 20 m separation distance, confirming that considerable dissipation of the thermal influence from the Phase 1 pond does occur in the groundwater flow system within a short distance downgradient from the pond.

Long-term groundwater temperature increases are observed at each of the Mill Creek drive points, ranging from about 1°C to 2°C, with larger increases observed between DP18 and DP17 and smaller increases observed between DP17 and DP5A/B/C/D/CR. The temperatures have stabilized at each of the drive points since between 2011 and 2013, with the exception of recent fluctuations at DP2 and a continuing increase at DP1 and DP17. The temperature increases appear to be regional, with a possible subtle effect from the pit operations. These subtle effects are caused by the above noted considerable thermal dissipation between the ponds and the groundwater downgradient from the ponds.

Results of the two sets of groundwater quality chemical analyses completed in 2018 are generally consistent with historic values. Groundwater quality within on-site monitors complies with the Ontario Drinking Water Quality Standards for the parameters tested, except for hardness at each of the three monitors tested, and manganese and total dissolved solids at some locations. Sodium and chloride concentrations increased at Monitor BH8-I/92-32-III in 2009 and increased at BH1 over the long-term, but have been stable in recent years, although a historically high sodium concentration (80 mg/L) was detected in November 2018. In 2018, historically high concentrations of (a) sodium (80 mg/L), chloride (160 mg/L), conductivity (laboratory) (900 µS/cm and 920 µS/cm), and total dissolved solids (485 mg/L) were detected at BH1, and (b) sodium (62 mg/L), magnesium (35 mg/L), chloride (140 mg/L), conductivity (laboratory) (790 µS/cm), and total dissolved solids (430 mg/L) were detected at the Phase 1 pond. The sodium, chloride, conductivity, and total dissolved solids concentration increases may be attributable to road salting on Highway 401 and/or Concession Road No. 2; and the increase in the magnesium concentration is attributed to natural groundwater conditions at the site. It is recommended that groundwater monitoring be continued in 2019 as outlined in Section 5.0.

There were no exceedances in 2018 of the Action Threshold Values established for the monitoring pairs located adjacent to Mill Creek around the site, with the exception of two exceedances at the OW5-84 to DP5CR pair in June. The exceedances are attributed to the observed elevated hydraulic head in the groundwater and hydrogeological variability at this location referred to in Section 3.7. Significantly higher upward hydraulic gradients are present at DP5CR compared to DP5C, which results in lower hydraulic head differences between OW5-84 and DP5CR. It is recommended that revised early warning and threshold values be established for the OW5-84 to DP5CR pair, following the collection of a sufficient amount of monitoring data at DP5CR, to better reflect the hydrogeological conditions at DP5CR. The existing OW5-84 to DP5C early warning and threshold values do not appear to be representative of the actual conditions observed at DP5CR. Water levels in the Phase 1 pond, Phase 2 pond, Phase 3 pond, and Phase 4 pond did not exceed their respective low-water level threshold values in 2018. Lower water levels occurred in the Phase 3 pond in 2017 and 2018 compared to 2016, and are attributed to the presence of the silt barrier between the Phase 3 pond and Phase 4 pond, which reduces the flow of water from the Phase 4 pond into the Phase 3 pond, as designed. Continued monitoring is required to ensure that threshold values related to the Phase 3 pond and threshold pairs downgradient from the pond continue to be maintained. The water levels in the Phase 1 pond and Phase 2 pond were lower in 2018 compared to 2017, and, due to the presence of the silt barrier, the water levels in the Phase 4 pond were higher in 2018 compared to 2017.

5 2019 MONITORING PROGRAM

Extraction activities above the water table within the eastern setback of the Phase 1 pond, and below the water table within the extraction limit in Phase 1 will occur in 2019, and silt pond SP3 will be used in 2019. As a means of assessing impacts from natural seasonal climatic variation and aggregate extraction operations on groundwater and/or surface water and compliance with the threshold values, the current monitoring program will be continued through 2019. The original monitoring program is outlined in the approved 1993 Coordinated Report on Monitoring Programs. That program was updated and amended in October 2004 and again in January 2006, as detailed in the

Updated Coordinated Environmental Monitoring Programs document (which was required for access/extraction in Phase 3). Groundwater and surface water monitoring stations are identified on Figure 2.

5.1 WATER LEVELS

5.1.1 MONITORS EQUIPPED WITH DATA LOGGERS

Monitors: 92-13 (shallow monitor only) – east side of property adjacent to Phase 1
92-27 (shallow monitor only) and 92-33 (shallow monitor only – two data loggers) – west side of property adjacent to Mill Creek on the Site Plans,
92-28, 92-29, and 92-32 – west side of the property, adjacent to Mill Creek – installed in November 2006 as part of pre-extraction monitoring in Phase 3.
DP16 – west side of property, adjacent to Mill Creek – installed in June 2012
92-12 (shallow monitor only), BH4, BH14, DP7, DP8 and DP9 – centre of property adjacent to Phase 4 and 5 operations.

Frequency:
Readings of water level (water pressure) and temperature are obtained once per day. WSP staff download the data loggers and review the data on a monthly basis. Downloading during the winter season may not occur monthly due to the difficulty of downloading during sub-zero temperatures.

5.1.2 MANUALLY RECORDED MONITORS

These monitors comprise the following.

1. Monitors at BH1, BH3 to BH6, TW16-78, OW1-84, OW2-84, OW4-84, OW5-84, and OW16A-78, located adjacent to Mill Creek near the southwest corner of the site; the monitors that were installed at select locations in the 1992 resource boreholes across the property designated 92-5, 92-8, 92-12, 92-13, 92-27, 92-28, 92-29, 92-32, 92-33; Monitor BH11, located in Phase 2; Monitor BH13, located north of Phase 5; and Monitor BH14, located between Phase 5 and Mill Creek;
2. Shallow drive point monitors DP6 to DP12, and DP16, established in the wetland areas on the Mill Creek Aggregates Pit property. Groundwater levels are monitored in Reid Heritage drive point monitor DP113;
3. In-stream drive point monitors DP1 to DP5CR, and DP17 to DP22. Measurements at the Mill Creek drive point monitors include groundwater levels and temperatures, and surface water levels and temperatures. In addition, surface water levels are monitored manually at stations SW1 and SW2, both of which are located in Mill Creek; and
4. The water well located on the property designated as North Farmhouse Well (MOE 4794).

Frequency:
Monitoring is carried out on a monthly basis or more frequently in the monitors included with threshold monitoring, as required. Staff from Dufferin Aggregates completes the routine monitoring and monthly data review.

5.1.3 ON-SITE PONDS

Surveyed staff gauges are established in the extraction ponds each spring once the ponds have thawed in Phase 1, Phase 2, Phase 3, and Phase 4. The staff gauges are removed each winter to prevent damage by ice movement.

Frequency:
Pond temperatures are monitored monthly during the ice-free period by Dufferin Aggregates staff. Water levels are monitored daily during the ice-free period by Dufferin Aggregates staff and are to be reported monthly to MNRF by Dufferin Aggregates, as part of the monthly reporting requirements.

5.1.4 OFF-SITE PONDS

Pond: McNally pond (temporary), per St. Marys Cement approval – Located on the adjacent St. Marys Cement property

Frequency:
Water levels are monitored on a monthly basis by Dufferin Aggregates staff.

5.2 WATER QUALITY

The general chemical water quality is determined for both groundwater and on-site surface water as follows.

Monitoring Locations:

Background:	BH1 (standpipe monitor)
Operational:	92-8 (standpipe monitor)
On-site Pond:	Phase 1 pond
Downgradient:	BH92-32-III (standpipe monitor)

These locations will be reviewed and modified as the operation proceeds.

Frequency: Twice per year
March/April - prior to annual start-up of operations
November/December – prior to annual shutdown of operations

Parameters:
Major anions and cations
Conductivity, pH, alkalinity, and hardness
Oil and grease
Field pH, temperature, and conductivity

5.3 QA/QC PROGRAM

The groundwater monitoring program includes a Quality Assurance/Quality Control component that consists of the following:

1. Staff from Dufferin Aggregates performs the routine monthly monitoring in accordance with protocols established for those tasks. WSP staff will monitor site water levels once every four months for QA/QC purposes.
2. WSP collects water samples in March/April and November/December. The analytical laboratory used for the chemical analysis is required to include a QA/QC component as part of the analysis. This is standard practice in the industry and typically includes blanks, standard reference material percent recovery spikes, and duplicates/replicates. The results of the laboratory's internal QA/QC testing are included in the reporting procedure.
3. Dufferin staff complete a review of the results of the routine monitoring program on a monthly basis. The data are to be reviewed for consistency with historical data, seasonal trends, and precipitation data. Any significant deviations from anticipated values that cannot be explained, such as an increase/decrease in excess of 125% of previously established seasonal trends, are to be re-monitored for verification. If the deviations are confirmed, the MNRF will be notified in writing with suggestions for remedial measures as appropriate.

5.4 REPORTING SCHEDULE

5.4.1 MONTHLY REPORTING

MNRF requires that a monthly checklist summary report be prepared to document water level data corresponding to threshold monitoring pairs, threshold values, and pond levels. Below water table extraction (wet tonnes extracted/day), water pumped from the Phase 1 pond, water pumped into the Phase 1 pond, and monthly precipitation totals are also to be reported in the summary report. In the event that a threshold value/level is exceeded for any period, this would be included in the summary with appropriate comments attached. That monthly report is to be submitted to MNRF by the tenth business day of each month for the previous month. Dufferin Aggregates staff will prepare the monthly reports and submit them to MNRF.

5.4.2 ANNUAL REPORTING

An annual monitoring report shall be prepared and submitted to the MNRF for review, as part of the coordinated report, by March 31 of the following year. The annual report shall provide the following information:

1. Summary of monitoring results
2. Description of monitoring methodology and locations. Any deviations from the standard methodology and/or monitoring locations are to be reported to MNRF at that time. This information is summarized in the annual report.
3. Factual description of monitoring results, including tables of water levels, hydrographs, and chemical data for the monitoring locations, as appropriate.
4. Discussion of monitoring results with specific reference to key locations across the site, such as:

a Threshold monitor pairs and pond levels,
b Adjacent to current extraction area,
c Multi-level (data logger) monitors,
d Mill Creek drive points,
e Wetland fringe groundwater levels,
f Groundwater level profile(s) across the site through the wetland area, and
g Water table configuration across the site and trends in hydraulic gradient and groundwater discharge conditions.

5 Discussion and integration of monitoring results with respect to the other monitoring programs, including:
a Surface water flow (with particular reference to base flow quantities),
b Fisheries habitat, fish distribution, reproduction successes, or otherwise,
c Wetland habitat,
d Threshold action levels and implementation of contingency measures (if appropriate), and
e Scope of future monitoring program, including frequency of monitoring and addition/deletion of monitoring stations.

This information will also be summarized in the coordinated report that accompanies the reports from the individual disciplines.

5.5 THRESHOLD MONITORING

Interim threshold values and early warning values were established in June 2001 as agreed with staff from DFO and MNR. Those thresholds were retained at five of the original six monitoring pairs, following completion of the in-stream fish habitat needs study report by DFO's consultants which was issued in March 2002. These working thresholds are based on maintaining positive seasonal hydraulic head differences on the water table between select monitor pairs, such that a positive hydraulic gradient will continue to exist from the site toward Mill Creek. One additional pair of monitors (BH13 to DP21(in)) and associated threshold levels were established in July 2002. Due to Phase 3 extraction operations, the monitor pair 92-25 to 92-26 has been replaced by 92-27 to DP2, and the monitor pair 92-30 to 92-28 has been replaced with 92-29 to DP1.

DP5C replaced DP5A/B in the monitor pair OW5-84 to DP5C owing to access issues at DP5A, and the vandalism of DP5B. DP5C was vandalised in Spring 2017 and replaced with DP5CR. As indicated above, it is recommended that revised early warning and threshold values be established for DP5CR following the collection of a sufficient amount of monitoring data to reflect the hydrogeological conditions at DP5CR. The existing DP5C early warning and threshold values do not appear to be representative of the actual conditions at DP5CR.

Threshold surface water levels are established in the Phase 1 pond, Phase 2 pond, Phase 3 pond, and Phase 4 pond.

The interim thresholds and early warning values are based on a review of historic low water level data, and values vary seasonally. The plan incorporates a set of early warning values that are higher (or lower, as appropriate) than the actual threshold values. These early warning values provide Dufferin Aggregates and the University of Guelph with an internal review mechanism and lead-time to assess potential water level problems, and to prepare and implement mitigation measures if necessary, before actual threshold values are exceeded. Details are provided in Table G-11, Appendix G.

Monthly Report:

MNRF requires that Dufferin Aggregates submit a monthly summary checklist report, which is to be issued within ten (10) business days of the last day of the preceding month. The summary is to include water level data corresponding to threshold monitoring pairs, threshold values, and pond levels. Below water table extraction (wet tonnes extracted/day), water pumped from the Phase 1 pond, water pumped into the Phase 1 pond, and monthly precipitation totals are also to be reported in the summary report. In the event that a threshold value/level is exceeded for any period, this information would be included in the summary with appropriate comments attached. These monthly reports are included with the correspondence in Appendix F.

6 CONCLUSIONS AND RECOMMENDATIONS

Based on the findings presented in this report, the following conclusions are provided.

- The 2018 monitoring program was completed in accordance with the groundwater monitoring program that was recommended in the original 1993 Coordinated Report on Monitoring Programs and as updated in July 2002, October 2004, and January 2006.
- The total annual precipitation in 2018 was 1,042 mm, which was 125 mm (14%) higher than the 30-year normal value of 917 mm.
- The calculated annual water surplus for 2018 was 352 mm. This value is higher (by 57 mm or 19%) than the 30-year normal surplus of 295 mm. The higher than normal water surplus resulted in higher than average groundwater levels at various locations; however, water levels were typically within historic ranges.
- In 2018, a reasonable balance (less than 10% difference) was achieved between the volume of process water discharged into the Phase 4 pond from the processing plant, and the volume of clean water re-circulated from the Phase 4 pond into the Phase 1 pond.
- Results from Monitors 92-28, 92-29, and 92-32 indicate that the vertical gradients in 2018 were generally similar to the 2017 results, with minor exceptions. Maximum and minimum temperatures at 92-28 in 2018 were similar to the historic values. The Phase 3 pond may have had a subtle thermal influence on groundwater temperatures at 92-28 in 2018. At Monitor 92-32, the temperatures at the intermediate and deep monitors increased slightly, which suggests that previous slight increasing and decreasing trends were natural. Continued monitoring at these two locations will assist in further assessment of the thermal influence of the now fully established Phase 3 pond on the groundwater between the pond and Mill Creek. Temperature effects at 92-29 are attributed to the extraction of the Phase 3 pond to within a few metres of 92-29 in 2012.
- In 2018, the multi-level monitors continued to exhibit the general pattern of upward to neutral vertical gradients at the base of the sand and gravel, which is consistent with historic trends. Several downward gradients were also observed, which is also consistent with historic trends.
- Groundwater levels at the shallow, intermediate, and deep monitors adjacent to the Phase 3 pond were lower in 2018 compared to 2017, and is attributed to the lower water levels in the Phase 3 pond in 2018. A similar observation was made in 2017 compared to 2016. The lower water levels in the Phase 3 pond indicate that the silt barrier is functioning as designed. Continued monitoring, however, is required to ensure that threshold values related to the Phase 3 pond and threshold pairs downgradient from the pond continue to be maintained.

- The 2018 groundwater discharge was similar along Mill Creek compared to 2017.
- Similar to 2017, downward vertical gradients were observed at DP19 from September to December 2018. The higher Phase 1 pond levels appear to have aided the return of discharge gradients at DP19 and DP20 from 2005 onwards, in conjunction with water level conditions at other aggregate operations in the area.
- Long-term groundwater temperature increases are observed at each of the Mill Creek drive points, ranging between about 1°C and 2°C, with larger increases observed between DP18 and DP17 and smaller increases observed between DP17 and DP5A/B/C/D/CR. The temperatures have stabilized at each of the drive points since between 2011 and 2013, with the exception of recent fluctuations at DP2 and a continuing slow increase in the long-term trend lines at DP1 and DP17. The temperature increases appear to be regional, with a possible subtle effect from the pit operations.
- Results of the groundwater quality chemical analyses completed in 2018 are generally consistent with historical data. Sodium and chloride concentrations increased at BH1 over the long-term, and have been stable in recent years, although a historic high sodium concentration was detected at BH1 in November 2018. The increases may be attributable to road salting along Highway 401 and/or Concession Road No. 2. In 2018, historically high concentrations of (a) sodium (80 mg/L), chloride (160 mg/L), conductivity (laboratory) (900 µS/cm and 920 µS/cm), and total dissolved solids (485 mg/L) were detected at BH1, and (b) sodium (62 mg/L), magnesium (35 mg/L), chloride (140 mg/L), conductivity (laboratory) (790 µS/cm), and total dissolved solids (430 mg/L) were detected at the Phase 1 pond. The sodium, chloride, conductivity, and total dissolved solids concentration increases may be attributable to road salting on Highway 401 and/or Concession Road No. 2; and the increase in the magnesium concentration is attributed to natural groundwater conditions at the site.
- There were no exceedances in 2018 of the Action Threshold Values at the monitoring pairs, with the exception of two exceedances at the OW5-84 to DP5CR pair in June. It is noted that DP5C was vandalised in Spring 2017, and DP5CR was installed to replace DP5C. The exceedance is attributed to the observed hydrogeological variability at this location. The existing DP5C early warning and threshold values do not appear to be representative of the actual conditions at DP5CR. Water levels in the Phase 1 pond, Phase 2 pond, Phase 3 pond, and Phase 4 pond did not exceed their respective threshold values.
- It was previously concluded that the then proposed extraction of the sand and gravel resource out to the full extent of the limit of extraction on the west side of the property, former "Area To Be Monitored", in (Phase 3) would not result in any detrimental thermal effects on the groundwater/surface water interactions and temperature conditions in Mill Creek. Approval was given in February 2010 by the MNRF to complete the full Phase 3 extraction in that area. Subsequent monitoring undertaken since extraction was completed and through 2018 continues to support that conclusion.

We respectfully submit the following recommendations, based on the study findings, for your consideration.

- The groundwater monitoring program should be continued in 2019, as detailed in Section 5.0. The original 1993 monitoring program was updated in:
  - July 2002 to include the monitoring of threshold pairs;
  - October 2004 to monitor extraction activities in Phase 2;
  - January 2006 to monitor extraction activities in Phase 3; and
  - June 2015 to monitor future extraction activities in Phase 5 with the addition of Monitor BH14 to the monitoring program.

- An additional data logger was installed at monitor 92-33 in March 2019 at the same depth as the existing shallow logger (the deeper of the two loggers at this monitor) to confirm whether the temperature sensor on the existing logger is functioning properly.
- Revised early warning and threshold values should be established for the OW5-84 to DP5CR pair, following the collection of a sufficient amount of monitoring data at DP5CR, to reflect the hydrogeological conditions at DP5CR. The existing OW5-84 to DP5C early warning and threshold values do not appear to be representative of the actual conditions observed at DP5CR.
- It should be proposed to the MNRF that the Phase 4 pond threshold values be applied to silt pond SP3.

TABLES

TABLE 1
MONITOR GROUPINGS
MILL CREEK AGGREGATES PIT

Bedrock	Sand and Gravel		Wetland	Creek
TW16-78	1	92-1*	DP6	DP1
Well 4794	2*	92-5	DP7	DP2
	3	92-8	DP8	DP3
	4	92-12	DP9	DP4
	5	92-13	DP10	DP5A**
	6	92-14*	DP11	DP5B***
	7-I*	92-15*	DP12	DP5C***
	7-II*	92-15a*	DP16	DP5CR
	11	92-26	DP113	DP17
	12*	92-27		DP18
	13	92-28		DP19
	14	92-29		DP20
	OW16A-78	92-32		DP21
	TW16-79	92-33		DP22
	OW1-84	OW5-84		
	OW2-84			
	OW4-84			

NOTES:
- * Indicates monitor was decommissioned.
- ** Indicates monitor is no longer accessible.
- *** Indicates monitor was removed by vandals.

TABLE 2
DISTRIBUTION OF GROUNDWATER INFLUX, 2018 CONDITIONS
MILL CREEK AGGREGATES PIT

FROM	TO	LENGTH	AVERAGE WIDTH	AVERAGE INFLUX (L/s/m²)			TOTAL GROUNDWATER INFLUX (L/s)			ESTIMATED GROUNDWATER FLUX FROM NORTH SIDE OF CREEK (L/s)			ESTIMATED GROUNDWATER FLUX FROM SOUTH SIDE OF CREEK (L/s)		
		(m)	(m)	2018 Average	2018 Winter Low Flow	2018 Summer Low Flow	2018 Average	2018 Winter Low Flow	2018 Summer Low Flow	2018 Average	2018 Winter Low Flow	2018 Summer Low Flow	2018 Average	201 Winter Low Flow	2018 Summer Low Flow
DP18	**DP19**	670	6.5	8.2E-04	2.4E-04	8.3E-04	3.6	1.1	3.6	1.8	0.5	1.8	1.8	0.5	1.8
DP19	**DP20**	310	6.5	7.1E-04	5.3E-04	7.0E-04	1.4	1.1	1.4	0.6	0.4	0.6	0.9	0.6	0.8
DP20	**Hwy 401**	270	6.5	9.5E-04	1.1E-03	1.1E-03	1.7	2.0	2.0	0.7	0.8	0.8	1.0	1.2	1.2
Hwy 401	**DP21**	60	7.1	1.8E-03	2.3E-03	2.0E-03	0.8	1.0	0.8	0.3	0.4	0.3	0.5	0.6	0.5
DP21	**DP4**	100	7.3	3.1E-03	7.0E-04	3.2E-03	2.3	0.5	2.4	0.9	0.2	0.9	1.4	0.3	1.4
DP4	**DP22**	50	7.1	5.2E-03	1.9E-03	4.8E-03	1.8	0.7	1.7	0.7	0.3	0.7	1.1	0.4	1.0
DP22	**DP17**	100	6.6	3.7E-03	3.2E-03	3.1E-03	2.4	2.1	2.0	1.0	0.8	0.8	1.5	1.3	1.2
DP17	**DP3**	165	7.1	2.4E-03	2.4E-03	2.0E-03	2.8	2.8	2.3	1.1	1.1	0.9	1.7	1.7	1.4
DP3	**Galt Creek**	420	6.0	2.4E-03	2.3E-03	2.1E-03	6.0	5.7	5.4	2.4	2.3	2.1	3.6	3.4	3.2
Galt Creek	**Pond Creek**	255	8.1	3.0E-03	3.0E-03	3.0E-03	6.2	6.2	6.2	2.5	2.5	2.5	3.7	3.7	3.7
Pond Creek	**DP1**	250	8.0	7.3E-03	7.0E-03	7.0E-03	14.7	14.1	14.1	7.3	7.0	7.0	7.3	7.0	7.0
DP1	**DP2**	100	6.7	6.1E-03	5.7E-03	5.8E-03	4.1	3.8	3.9	2.1	1.9	1.9	2.1	1.9	1.9
DP2	**DP5CR**	800	7.6	2.0E-03	1.9E-03	1.8E-03	12.2	11.3	10.9	6.1	5.7	5.4	6.1	5.7	5.4
TOTALS							60.0	52.4	56.6	27.5	24.0	25.9	32.5	28.4	30.7

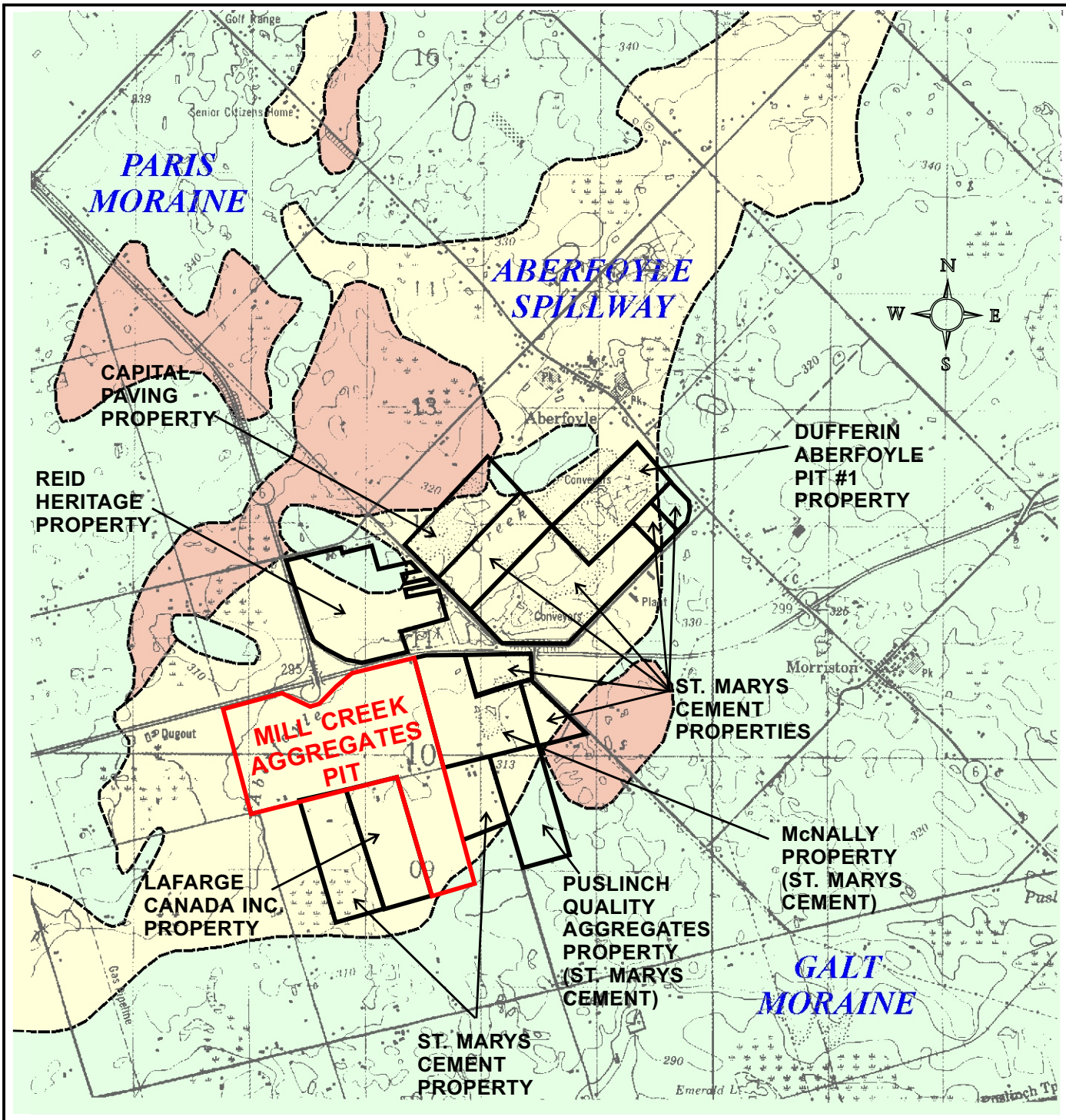
NOTES:
- Groundwater influx at Galt Creek and Pond Creek based on seepage meter data from May/June 1992.
- 2018 Average - Average of all 2018 data at each drive point.
- 2018 Winter Low Flow - Based on February 26, 2018 data.
- 2018 Summer Low Flow - Based on July 27, 2018 data.

TABLE 3
DISTRIBUTION OF GROUNDWATER INFLUX, AVERAGE HISTORIC CONDITIONS
MILL CREEK AGGREGATES PIT

FROM	TO	LENGTH	AVERAGE WIDTH	AVERAGE INFLUX (L/s/m²)			TOTAL GROUNDWATER INFLUX (L/s)			ESTIMATED GROUNDWATER FLUX FROM NORTH SIDE OF CREEK (L/s)			ESTIMATED GROUNDWATER FLUX FROM SOUTH SIDE OF CREEK (L/s)		
		(m)	(m)	Overall Average	Winter Low Flow Average	Summer Low Flow Average	Overall Average	Winter Low Flow Average	Summer Low Flow Average	Overall Average	Winter Low Flow Average	Summer Low Flow Average	Overall Average	Winter Low Flow Average	Summer Low Flow Average
DP18	**DP19**	670	6.5	8.0E-04	3.3E-04	5.1E-04	3.5	1.4	2.2	1.7	0.7	1.1	1.7	0.7	1.1
DP19	**DP20**	310	6.5	5.4E-04	1.5E-04	8.8E-05	1.1	0.3	0.2	0.4	0.1	0.1	0.7	0.2	0.1
DP20	**Hwy 401**	270	6.5	1.2E-03	8.9E-04	7.3E-04	2.2	1.6	1.3	0.9	0.6	0.5	1.3	0.9	0.8
Hwy 401	**DP21**	60	7.1	1.6E-03	1.1E-03	1.3E-03	0.7	0.5	0.5	0.3	0.2	0.2	0.4	0.3	0.3
DP21	**DP4**	100	7.3	2.6E-03	1.8E-03	2.1E-03	1.9	1.3	1.5	0.8	0.5	0.6	1.1	0.8	0.9
DP4	**DP22**	50	7.1	3.8E-03	2.8E-03	3.1E-03	1.3	1.0	1.1	0.5	0.4	0.4	0.8	0.6	0.7
DP22	**DP17**	100	6.6	2.5E-03	2.0E-03	2.0E-03	1.6	1.3	1.3	0.7	0.5	0.5	1.0	0.8	0.8
DP17	**DP3**	165	7.1	1.4E-03	1.3E-03	1.3E-03	1.6	1.5	1.5	0.7	0.6	0.6	1.0	0.9	0.9
DP3	**Galt Creek**	420	6.0	1.8E-03	1.7E-03	1.7E-03	4.4	4.2	4.3	1.8	1.7	1.7	2.7	2.5	2.6
Galt Creek	**Pond Creek**	255	8.1	3.0E-03	3.0E-03	3.0E-03	6.2	6.2	6.2	2.5	2.5	2.5	3.7	3.7	3.7
Pond Creek	**DP1**	250	8.0	7.0E-03	6.7E-03	6.3E-03	14.0	13.4	12.7	7.0	6.7	6.3	7.0	6.7	6.3
DP1	**DP2**	100	6.7	5.6E-03	5.2E-03	4.8E-03	3.7	3.5	3.2	1.9	1.8	1.6	1.9	1.8	1.6
DP2	**DP5A/B/C/D**	800	7.6	2.3E-03	2.4E-03	1.8E-03	14.0	14.6	10.8	7.0	7.3	5.4	7.0	7.3	5.4
TOTALS							56.3	50.9	47.0	26.1	23.7	21.7	30.3	27.2	25.3

NOTES:
- Groundwater influx at Galt Creek and Pond Creek based on seepage meter data from May/June 1992.
- Overall Average - Average of year-round historic data at each drive point.
- Winter Low Flow Average - Based on historic winter data at each drive point.
- Summer Low Flow Average - Based on historic summer data at each drive point.

FIGURES



Legend

- SANDY SILT TILL
- ICE-CONTACT STRATIFIED DRIFT SAND, SILT, GRAVEL
- OUTWASH SAND AND GRAVEL

SOURCE:
GENERALIZED AFTER KARROW, 1987.

500 0 1000 metres

LOCATION AND PHYSICAL SETTING

2018 ANNUAL GROUNDWATER MONITORING REPORT
MILL CREEK AGGREGATES PIT
Township of Puslinch
for Dufferin Aggregates

Dufferin Aggregates
A division of Holcim (Canada) Inc.

DATE: MARCH 2019	SCALE: 1:50000
PROJECT: 111-52958-02 100	REF. NO.: 111-52958-02 100 F1 2018

wsp

FIGURE 1

GROUNDWATER MONITOR LOCATIONS

FIGURE **2**

2018 ANNUAL GROUNDWATER MONITORING REPORT
MILL CREEK AGGREGATES PIT
Township Of Puslinch
for Dufferin Aggregates

REIDS HERITAGE HOMES PROPERTY
PIT
(AGGREGATE EXTRACTION)

POND
DP18 AT CONCESSION ROAD
FROM 401 EXIT RD 34 (R) TO CON 7 (R) PASSED S.S. 25
SLOVENSKI PARK
POND
2327
DP20
DP19
DP113
SG4
MacDONALD CARTIER FREEWAY
HIGHWAY 401
HANLON EXPRESSWAY (Hwy No. 6)
GALT CREEK
LOT 20
LOT 21
LOT 22
LOT 23
LOT 24
LOT 25
SM7 SWM4
SM3
SM2
SWM3
POND CREEK
SM4
SM6
SM1
92-28
92-29
92-33
92-27
DP1
DP2
SM4
92-32
DP16
MILL CREEK
CONCESSION II
DP11
DP10
DP12
CONCESSION II
DP3
DP17
DP22
DP21
SWM1
SM1
DP4
BH14
92-12
DP6
DP9
DP8
DP7
POND
SP2
SP1
SP3
3
4
5
6
SG
92-8
92-13
PROCESSING AREA AND STOCKPILES
SP4
TEMPORARY SILT POND FOR START UP STAGE
BERM
92-5
13
11
1
2
POND
CONCESSION II
McNALLY PROPERTY (ST. MARYS CEMENT)
(AGGREGATE EXTRACTION)
OW16A-78
TW16-78
(Flowing)
OW1-84
OW4-84
OW2-84
OW5-84
SM 5
SWM2
DP 5A
DP5CR
TW16-79
TOWNSHIP ROAD No. 2 (CONCESSION ROAD)
SIDE ROAD 20
6724
MILL (Aberfoyle) CREEK
E. LAKE (SWAMP/WOODLAND)
A. AND L. NAGEL (SWAMP/WOODLAND)
CONCESSION I
ST. MARYS CEMENT (AGGREGATE EXTRACTION)
PIT
LAFARGE CANADA INC. PROPERTY (AGGREGATE EXTRACTION)
NORTH WELL
2325
4794
NEW BERM
92-1
SMITH WELL
OLECHOWSKI RESIDENCE
POND
Lot 24 POND
CONCESSION 1
ST. MARYS CEMENT (Aggregate Extraction)
TRUSTEES PRESBYTERIAN CHURCH IN CANADA (CRIEFF HILLS CHRISTIAN RETREAT)

LEGEND

- B.H'A' BOREHOLE
- HYDRO/TELEPHONE LINE
- POST AND WIRE FENCE
- BUILDING
- TEST WELLS
- 1 GROUNDWATER MONITOR INSTALLATION
- SWM4 SURFACE WATER MONITORING STATION
- 92-1 RESOURCE BOREHOLE (1992)
- 11 GROUNDWATER MONITOR (2002)
- DENOTES STANDPIPE MONITOR INSTALLED
- DENOTES DATALOGGER INSTALLED
- SM5 STREAM QUALITY AND FISHERIES MONITORING STATIONS (WATER QUALITY BIOLOGICAL/FISHERIES AS PER FAUN AQUATICS REPORT)
- DP8 DRIVE POINT
- SG STAFF GAUGE AND DESIGNATION
- SP1 SILT POND AND DESIGNATION
- WETLANDS
- POND
- NATURAL DRAINAGE
- 3692 WATER WELL WITH MOE IDENTIFICATION NUMBER
- CREEK
- GATE
- WOODLANDS/FOREST (MIXED)
- BOUNDARY OF LICENCED PROPERTY
- SM2 SEEPAGE METER DESIGNATION AND APPROXIMATE LOCATION (BY J. FITZGIBBON) (NO LONGER OPERATIVE)
- RECHARGE TRENCH
- 5b APPROVED PHASING

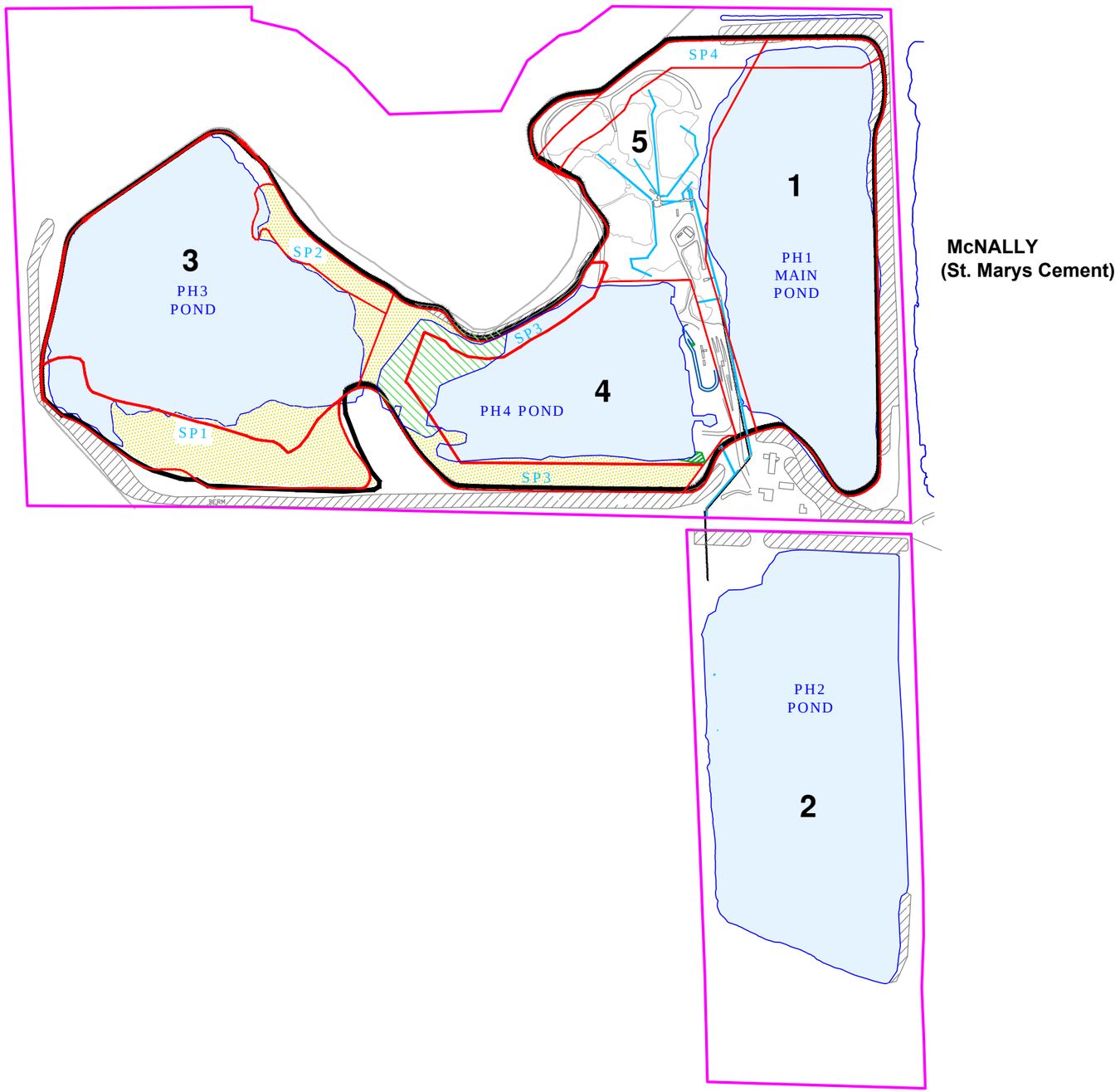
SCALE 1:8000
0 100 200 metres

NOTES:
BASE MAPPING BY PLANNING INITIATIVES LTD., DATED AUGUST 1987, DRAWING NUMBERS 1A AND 1B OF 4.

PROJECT: 111-52958-02 100
DATE: MARCH 2019
REF. NO.: 111-52958-02 100 F2 2018

wsp

Dufferin Aggregates
A division of Holcim (Canada) Inc.



McNALLY
(St. Marys Cement)

LEGEND

- BOUNDARY OF LICENSED PROPERTY
- LICENCED LIMIT OF EXTRACTION PER SITE PLANS
- BOUNDARY OF EXTRACTION AREA PER G.R.C.A. FILL PERMIT APPLICATION
- 3 — PHASE DESIGNATION
- SP3 — SILT POND DESIGNATION
- BERM
- INFILLED SILT POND
- PARTIALLY INFILLED SILT POND
- EXTRACTED AREA TO BE SLOPED

SITE PLAN SEQUENCING

2018 ANNUAL GROUNDWATER
MONITORING REPORT
MILL CREEK AGGREGATES PIT
Township Of Puslinch
for Dufferin Aggregates

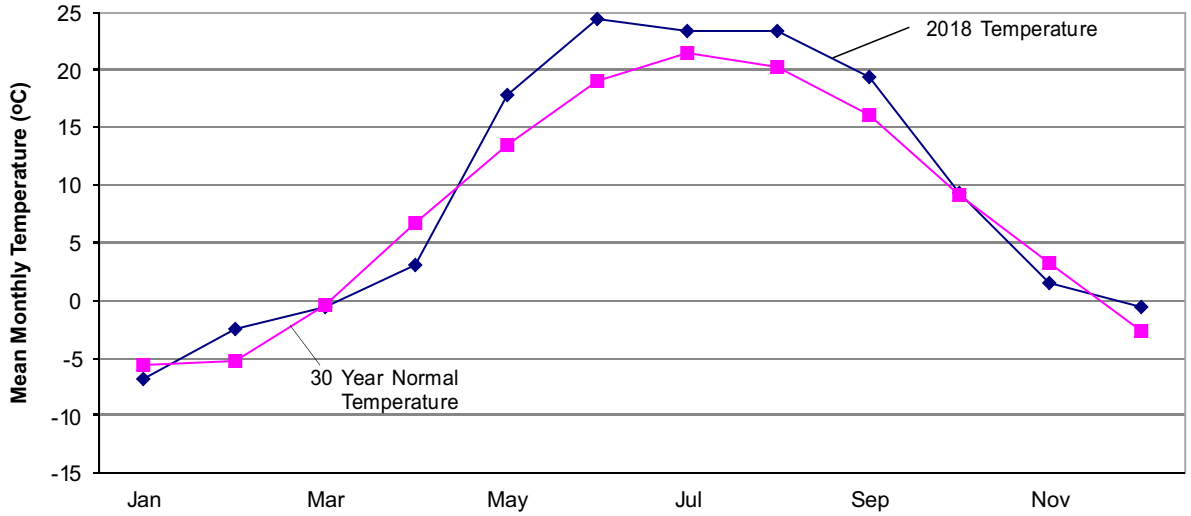
Dufferin Aggregates
A division of Holcim (Canada) Inc.

wsp

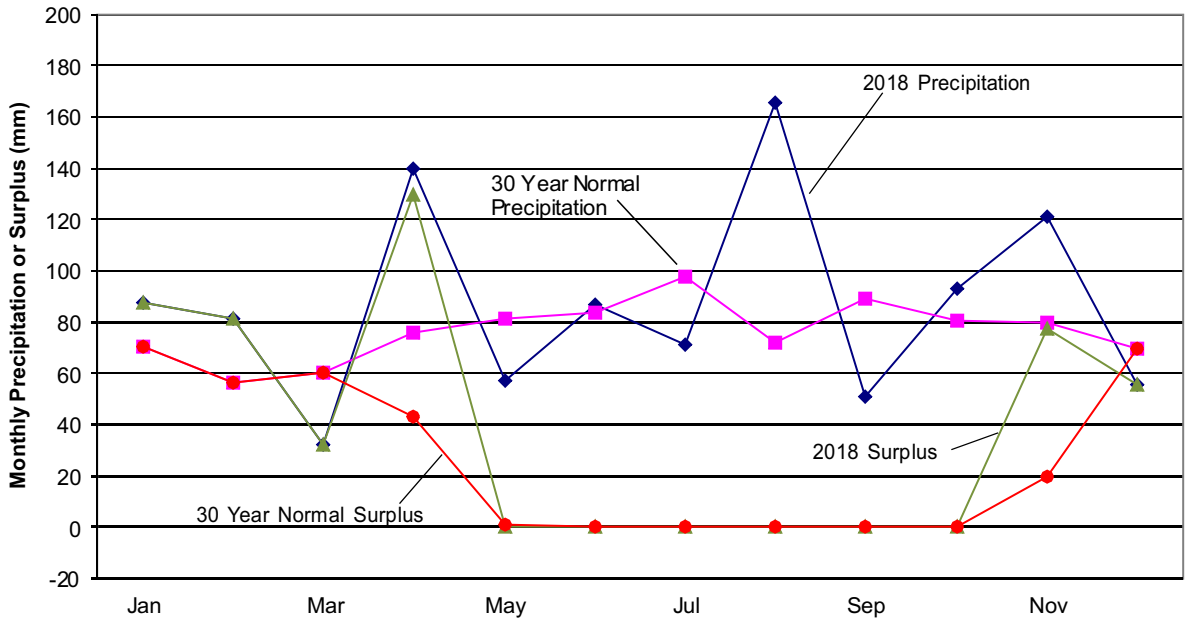
SCALE: NOT TO SCALE
PROJECT: 111-52958-02 100
DATE: MARCH 2019
REF. NO.: 111-52958-02 100 F3 2018

FIGURE
3

2018 TEMPERATURE DATA
SHADE'S MILLS CLIMATE STATION



2018 PRECIPITATION DATA
SHADE'S MILLS CLIMATE STATION



2018 TEMPERATURE AND PRECIPITATION DATA

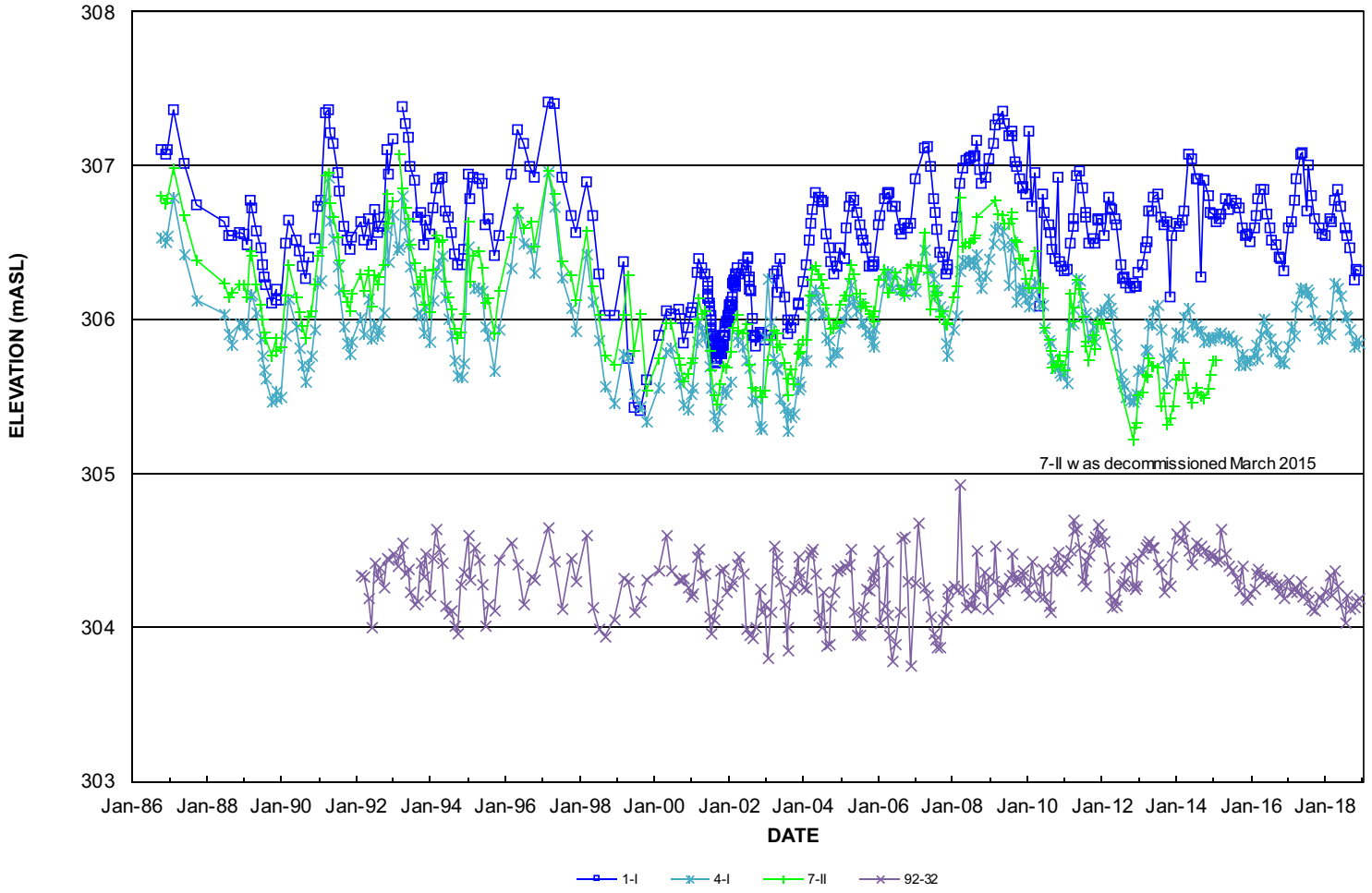
2018 ANNUAL GROUNDWATER
MONITORING REPORT
MILL CREEK AGGREGATES PIT
Township of Puslinch
for Dufferin Aggregates

Dufferin Aggregates
A division of Holcim (Canada) Inc.

DATE: MARCH 2019	SCALE: AS SHOWN
PROJECT: 111-52958-02 100	REF. NO.: 111-52958-02 1000 F4 2018

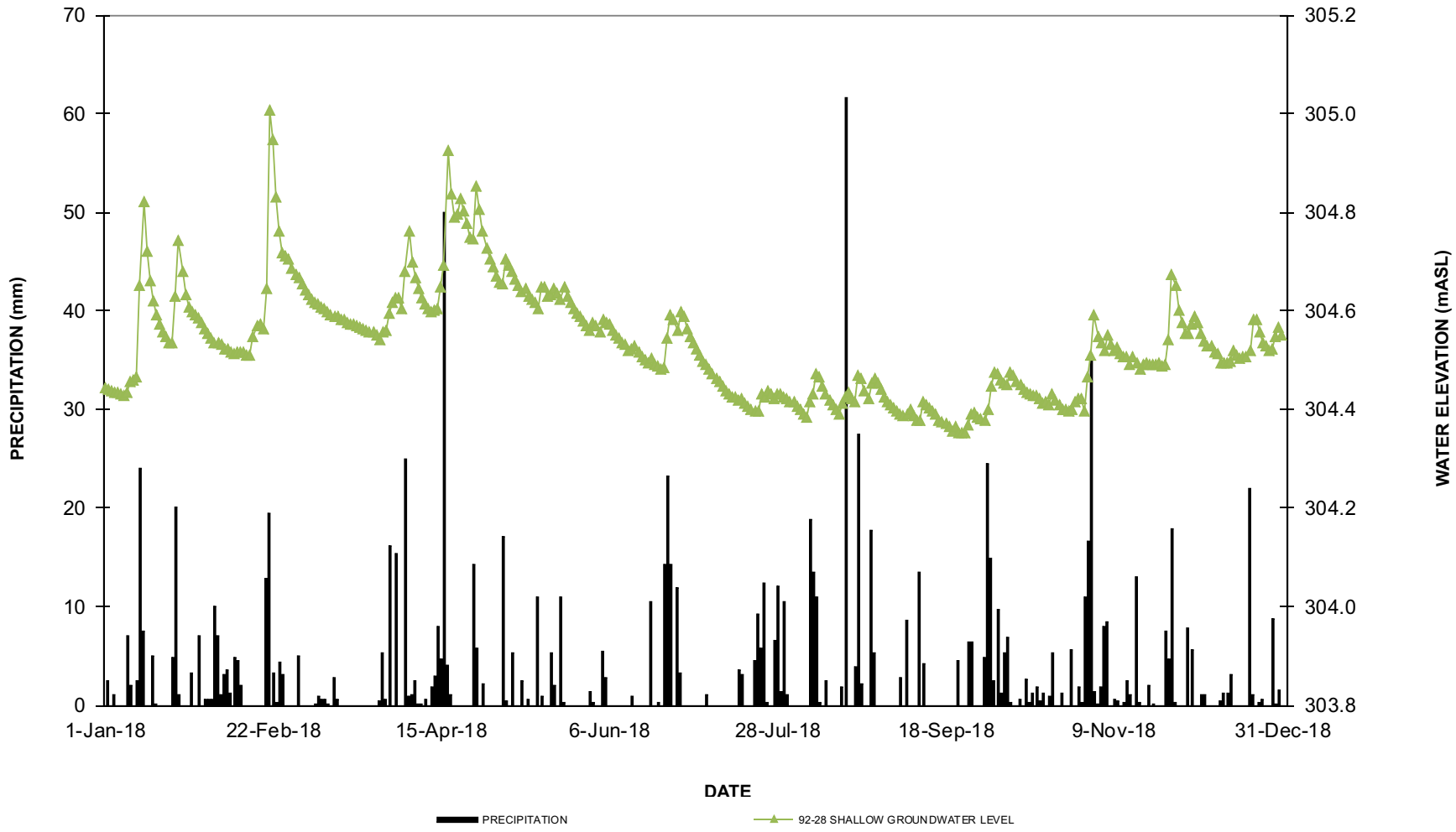
wsp

FIGURE 4

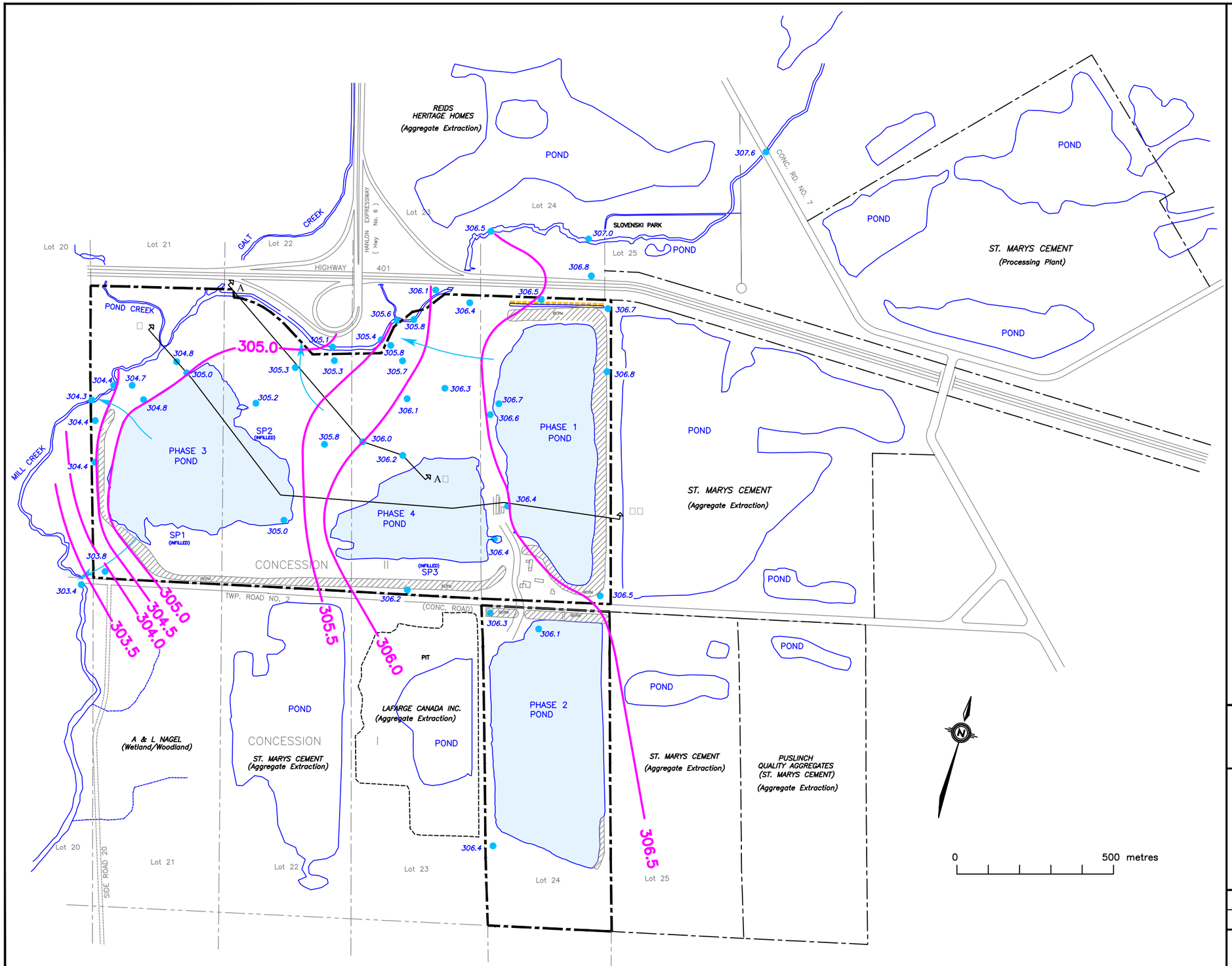


NOTE:
THESE MONITORS ARE WATER TABLE STANDPIPES ESTABLISHED IN THE BH-SERIES OF MONITORS ACROSS THE PROPERTY.

SCALE: AS SHOWN	GROUNDWATER HYDROGRAPH OF REPRESENTATIVE MONITORS IN THE SAND AND GRAVEL AQUIFER
REF. NO.: 111-52958-02 100 F5 2018	
DATE: MARCH 2019	2018 ANNUAL GROUNDWATER MONITORING REPORT MILL CREEK AGGREGATES PIT Township of Puslinch for Dufferin Aggregates
PROJECT: 111-52958-02 100	FIGURE 5



SCALE: AS SHOWN	SHALLOW GROUNDWATER ELEVATION AND DAILY PRECIPITATION AT MONITOR 92-28
REF. NO.: 111-52958-02 100 F6 2018	
DATE: MARCH 2019	2018 ANNUAL GROUNDWATER MONITORING REPORT MILL CREEK AGGREGATES PIT Township of Puslinch for Dufferin Aggregates
PROJECT: 111-52958-02 100	FIGURE 6
wsp	Dufferin Aggregates



LEGEND

- BOUNDARY OF LICENCED PROPERTY
- 306.4 — WATER TABLE ELEVATION (mASL) APRIL 24, 2018
- 306.0 — INTERPRETED WATER TABLE CONTOUR (mASL)
- INFERRED DIRECTION OF GROUNDWATER FLOW
- A — GEOLOGIC CROSS SECTION LOCATION

2018 'HIGH FLOW' WATER TABLE CONFIGURATION (APRIL)

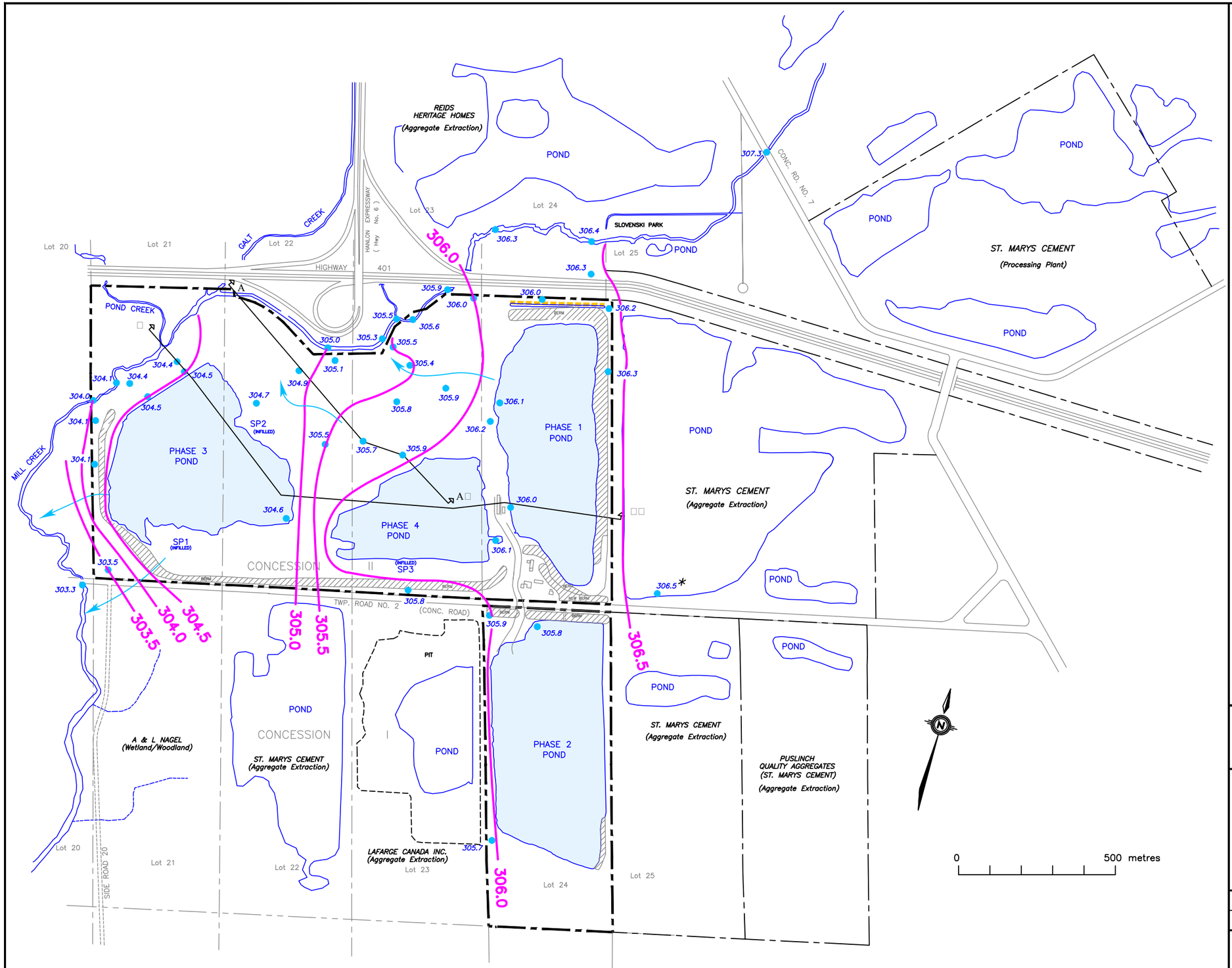
2018 ANNUAL GROUNDWATER MONITORING REPORT
MILL CREEK AGGREGATES PIT
Township of Puslinch
for Dufferin Aggregates

Dufferin Aggregates
A division of Holcim (Canada) Inc.

DATE: MARCH 2019	SCALE: 1:12500
PROJECT: 111-52958-02 100	FILE NO.: 111-52958-02 100 F7 2018

wsp

FIGURE 7



LEGEND

- BOUNDARY OF LICENCED PROPERTY
- 305.7 WATER TABLE ELEVATION (mASL) OCTOBER 30, 2018
- 306.5* WATER TABLE ELEVATION (mASL) NOVEMBER1, 2018
- 306.0 INTERPRETED WATER TABLE CONTOUR (mASL)
- INFERRED DIRECTION OF GROUNDWATER FLOW
- A GEOLOGIC CROSS SECTION LOCATION

2018 'LOW FLOW' WATER TABLE CONFIGURATION (OCTOBER)

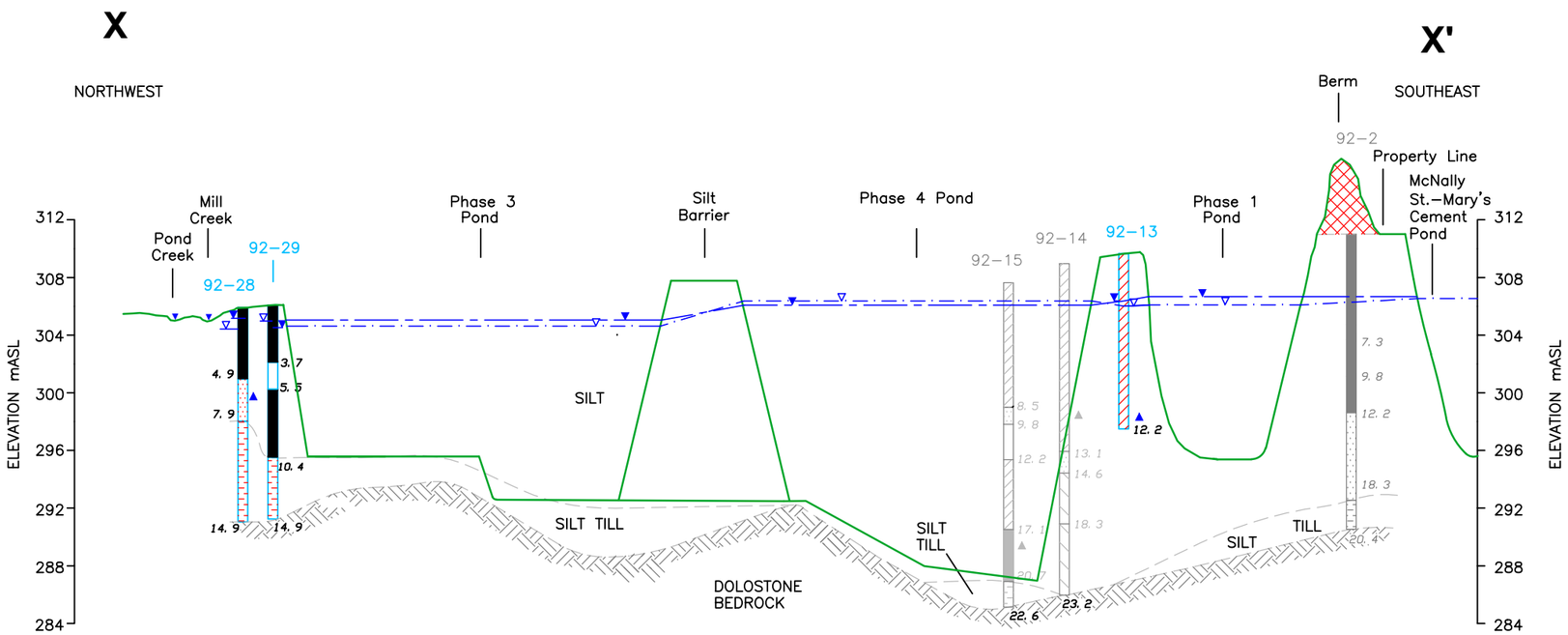
2018 ANNUAL GROUNDWATER MONITORING REPORT
MILL CREEK AGGREGATES PIT
Township of Puslinch
for Dufferin Aggregates

Dufferin Aggregates
A division of Holcim (Canada) Inc.

DATE: MARCH 2019	SCALE: 1:12500
PROJECT: 111-52958-02 100	FILE NO.: 111-52958-02 100 F8 2018

wsp

FIGURE 8



LEGEND

- GRAVEL, SANDY GRAVEL, SAND AND GRAVEL
- GRAVELLY, FINE TO COARSE, SAND
- SAND
- SILT, SILTY FINE SAND, FINE SAND
- SILT TILL
- ASSUMED BEDROCK

92–28 BOREHOLE DESIGNATION
(GREYED OUT BOREHOLE □ DECOMMISSIONED MONITOR)

2018 □HIGH FLOW□WATER TABLE PROFILE
(APRIL 2018)

2018 □LOW FLOW□WATER TABLE PROFILE
(OCTOBER 2018)

5. 5 DEPTH TO CHANGE IN STRATA (m)

GROUNDWATER MONITOR

14. 9 BOTTOM OF BOREHOLE (m)

SCALES:

H□r□□□t□□1:8000
Vert□□□1:400

0 200 400 metres

NOTE:
THE ACTUAL SOIL STRATIFICATION HAS BEEN VERIFIED FROM DATA OBTAINED AT THE BOREHOLE LOCATIONS ONLY. THE INFERRED CONTACTS SHOWN ARE BASED ON GEOLOGICAL EVIDENCE AND THESE MAY VARY FROM THOSE SH0WN BETWEEN BORINGS.

WATER TABLE PROFILE

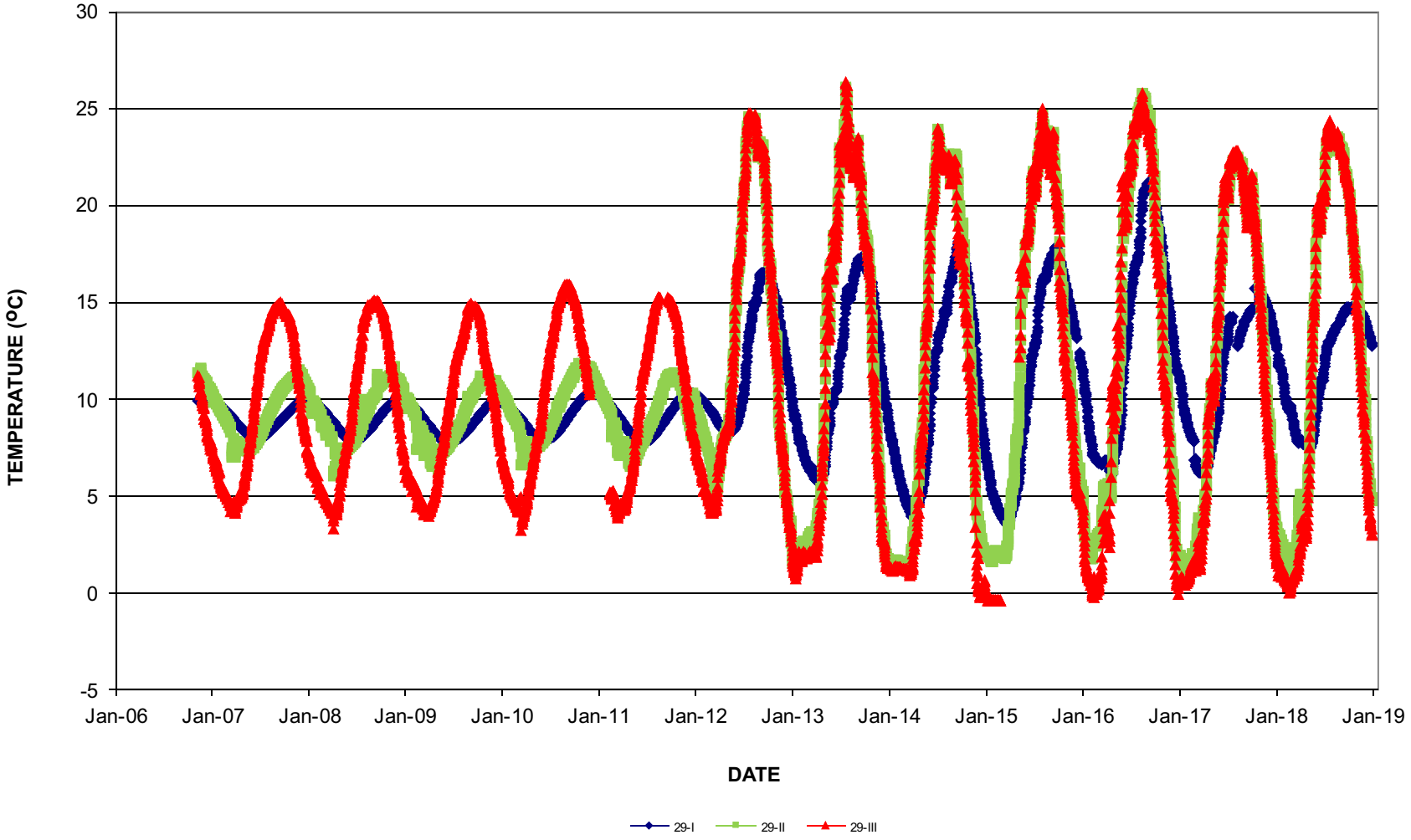
2018 ANNUAL GROUNDWATER MONITORING REPORT
MILL CREEK AGGREGATES PIT
Township of Puslinch
for Dufferin Aggregates

Dufferin Aggregates
A division of Holcim (Canada) Inc.

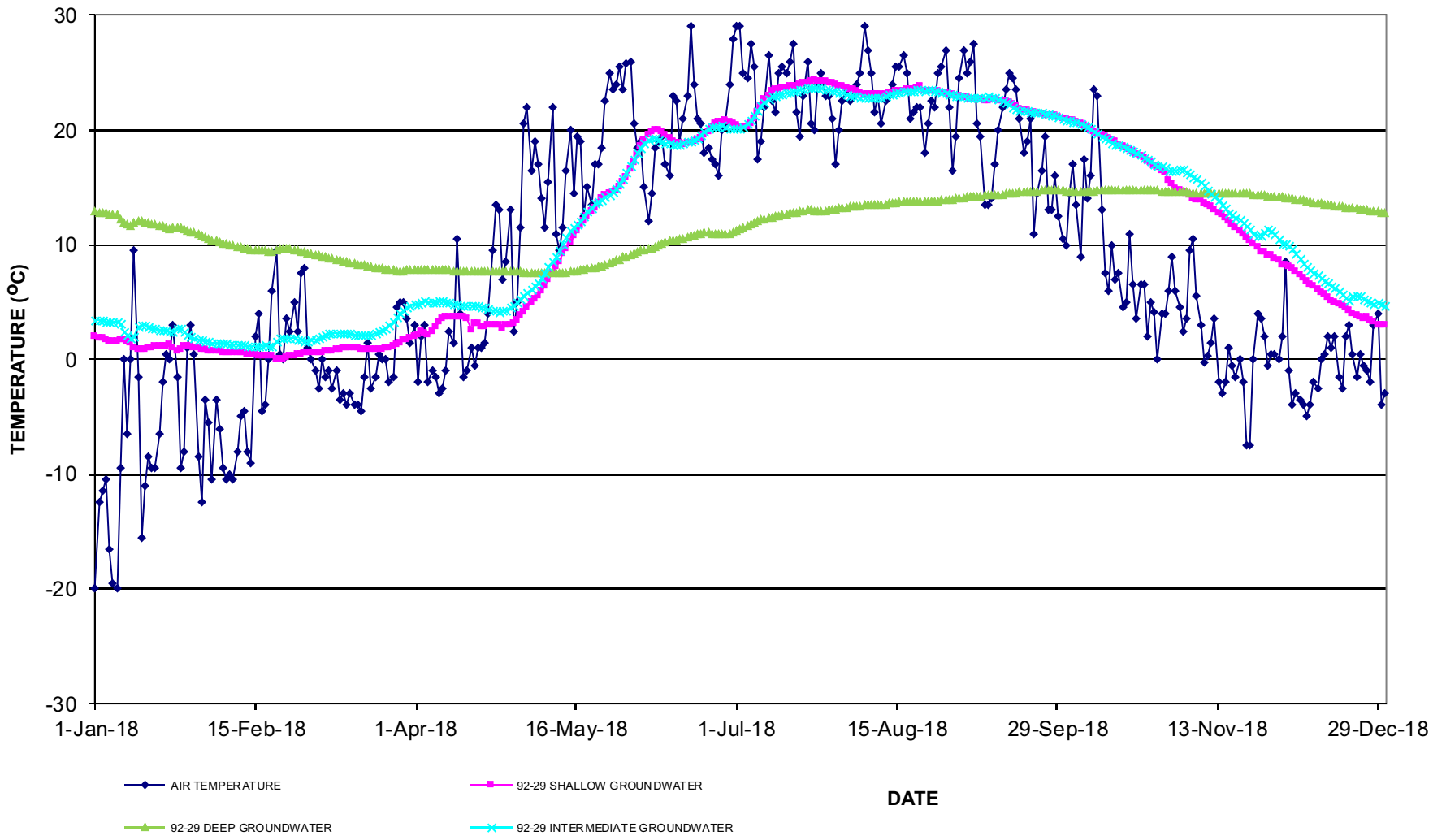
DATE: MARCH 2019	SCALES: AS SHOWN
PROJECT: 111-52958-02 100	FILE NO.: 111-52958-02 1000 F9 2018

wsp

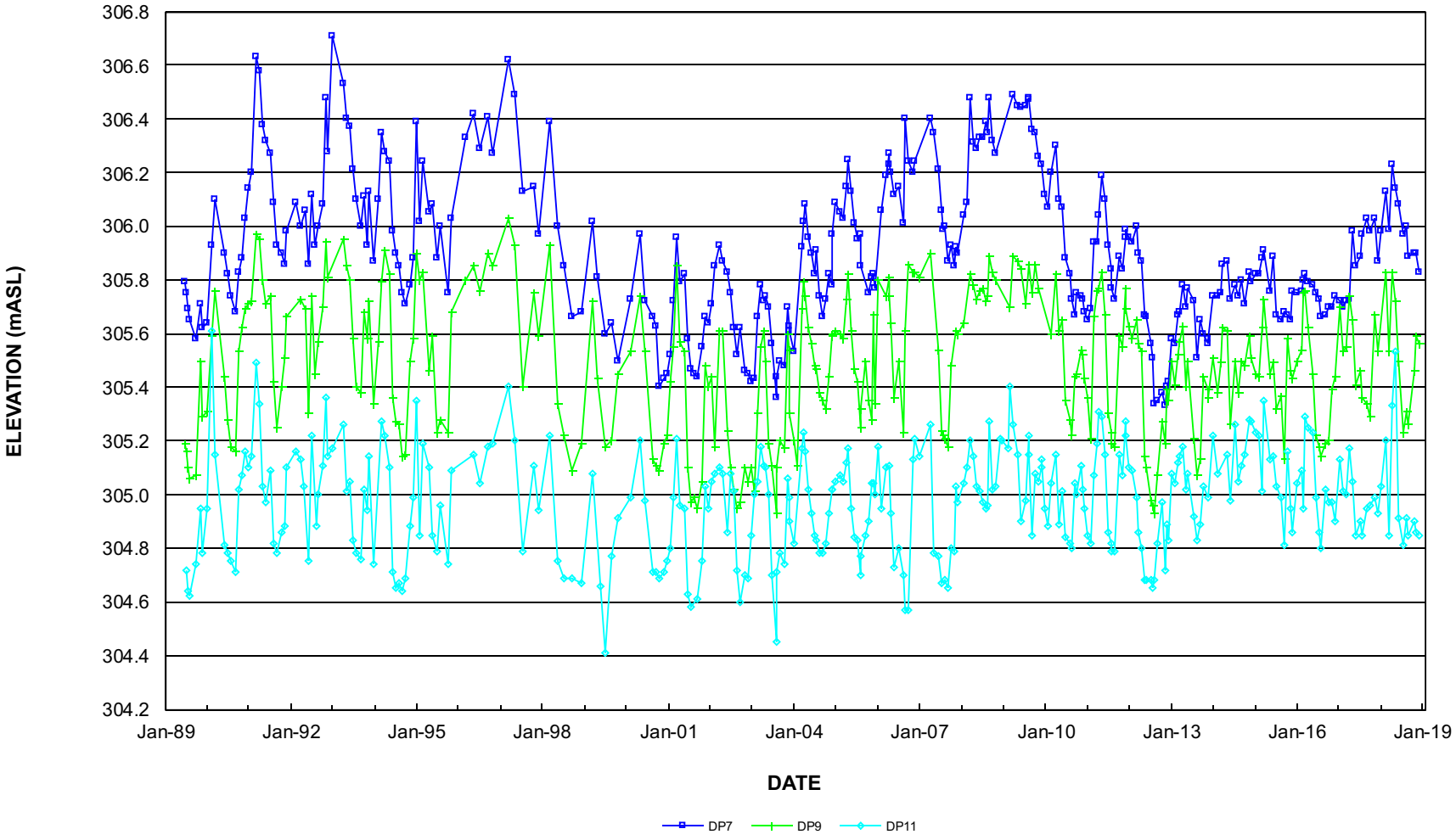
FIGURE
9



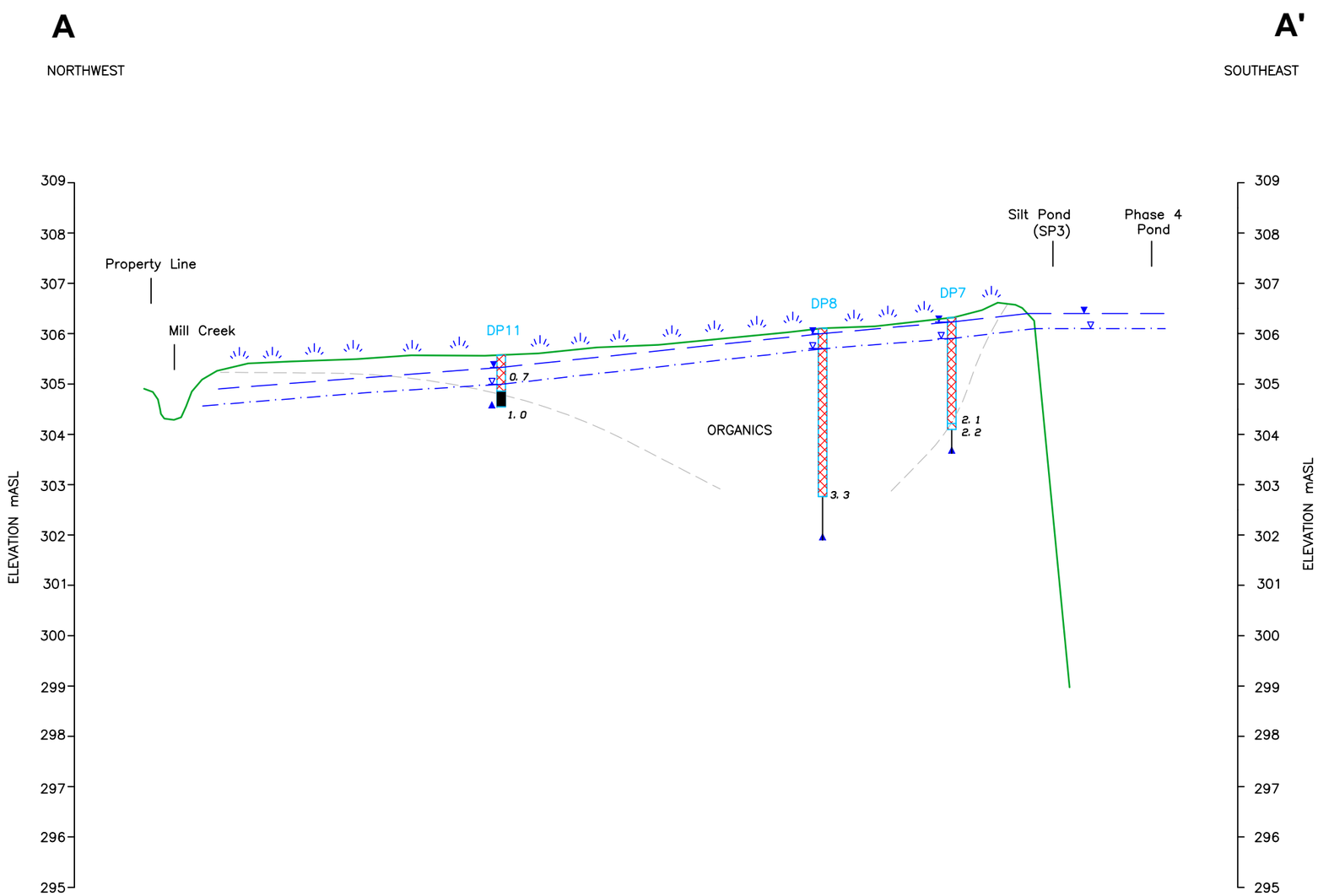
SCALE: AS SHOWN	GROUNDWATER TEMPERATURE PROFILE MULTI-LEVEL MONITOR 92-29
REF. NO.: 111-52958-02 100 F10 2018	
DATE: MARCH 2019	2018 ANNUAL GROUNDWATER MONITORING REPORT MILL CREEK AGGREGATES PIT Township of Puslinch for Dufferin Aggregates
PROJECT: 111-52958-02 100	FIGURE 10
wsp	Dufferin Aggregates



SCALE: AS SHOWN	**GROUNDWATER VS AIR TEMPERATURE AT MULTI-LEVEL MONITOR 92-29**
REF. NO.: 111-52958-02 100-0 F11 2018	
DATE: MARCH 2019	2018 ANNUAL GROUNDWATER MONITORING REPORT MILL CREEK AGGREGATES PIT Township of Puslinch for Dufferin Aggregates
PROJECT: 111-52958-02 100	FIGURE **11**
WSP	Dufferin Aggregates



SCALE: AS SHOWN	GROUNDWATER HYDROGRAPH OF REPRESENTATIVE DRIVE POINTS IN THE WETLAND
REF. NO.: 111-52958-02 100 F12 2018	
DATE: MARCH 2019	2018 ANNUAL GROUNDWATER MONITORING REPORT MILL CREEK AGGREGATES PIT Township of Puslinch For Dufferin Aggregates
PROJECT: 111-52958-02 100	FIGURE 12
wsp	Dufferin Aggregates



LEGEND

- ORGANICS
- SAND AND GRAVEL
- GRAVELLY SAND
- SAND
- CLAYEY SILT
- SILT TILL

DP11 — BOREHOLE DESIGNATION

BUSH/WETLAND DESIGNATION

2018 "HIGH FLOW" WATER TABLE PROFILE (APRIL 2018)

2018 "LOW FLOW" WATER TABLE PROFILE (OCTOBER 2018)

0.7 — DEPTH TO CHANGE IN STRATA (m)

GROUNDWATER MONITOR

1.0 — BOTTOM OF BOREHOLE (m)

SCALES:

Hor. 1:5000
Vert. 1:100

0 100 200 metres

NOTE:
THE ACTUAL SOIL STRATIFICATION HAS BEEN VERIFIED FROM DATA OBTAINED AT THE BOREHOLE LOCATIONS ONLY. THE INFERRED CONTACTS SHOWN ARE BASED ON GEOLOGICAL EVIDENCE AND THESE MAY VARY FROM THOSE SH0WN BETWEEN BORINGS.

GROUNDWATER LEVEL PROFILES THROUGH THE WETLAND

2018 ANNUAL GROUNDWATER MONITORING REPORT
MILL CREEK AGGREGATES PIT
Township of Puslinch
for Dufferin Aggregates

Dufferin Aggregates
A division of Holcim (Canada) Inc.

DATE: MARCH 2019	SCALES: AS SHOWN
PROJECT: 111-52958-02 100	FILE NO.: 111-52958-02 100 F13 2018

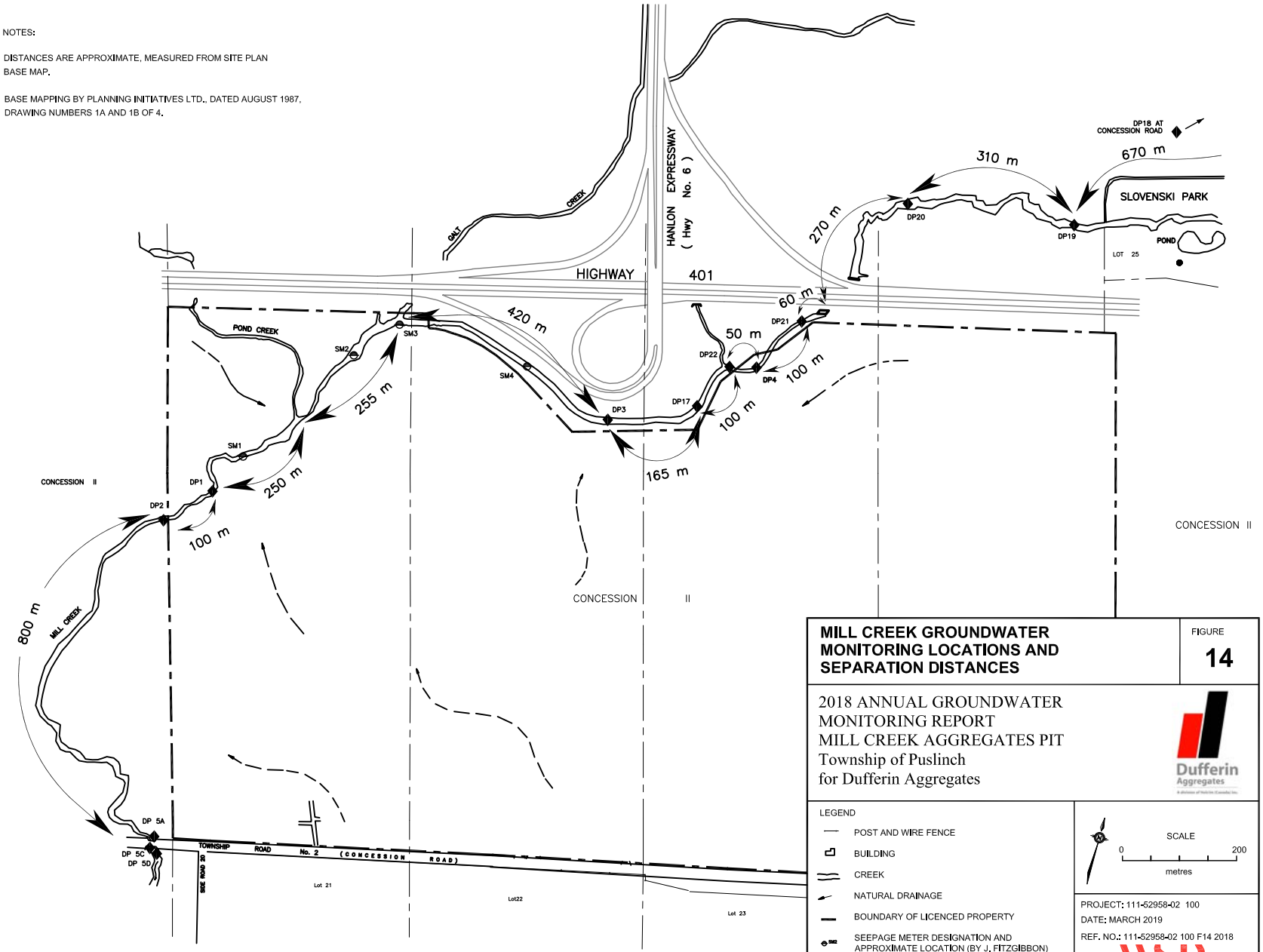
wsp

FIGURE 13

NOTES:

DISTANCES ARE APPROXIMATE, MEASURED FROM SITE PLAN BASE MAP.

BASE MAPPING BY PLANNING INITIATIVES LTD., DATED AUGUST 1987, DRAWING NUMBERS 1A AND 1B OF 4.



MILL CREEK GROUNDWATER MONITORING LOCATIONS AND SEPARATION DISTANCES

FIGURE 14

2018 ANNUAL GROUNDWATER MONITORING REPORT
MILL CREEK AGGREGATES PIT
Township of Puslinch
for Dufferin Aggregates

Dufferin Aggregates

LEGEND

- POST AND WIRE FENCE
- BUILDING
- CREEK
- NATURAL DRAINAGE
- BOUNDARY OF LICENCED PROPERTY
- SM2 SEEPAGE METER DESIGNATION AND APPROXIMATE LOCATION (BY J. FITZGIBBON)
- DP20 DRIVE POINT

SCALE 0 200 metres

PROJECT: 111-52958-02 100
DATE: MARCH 2019
REF. NO.: 111-52958-02 100 F14 2018

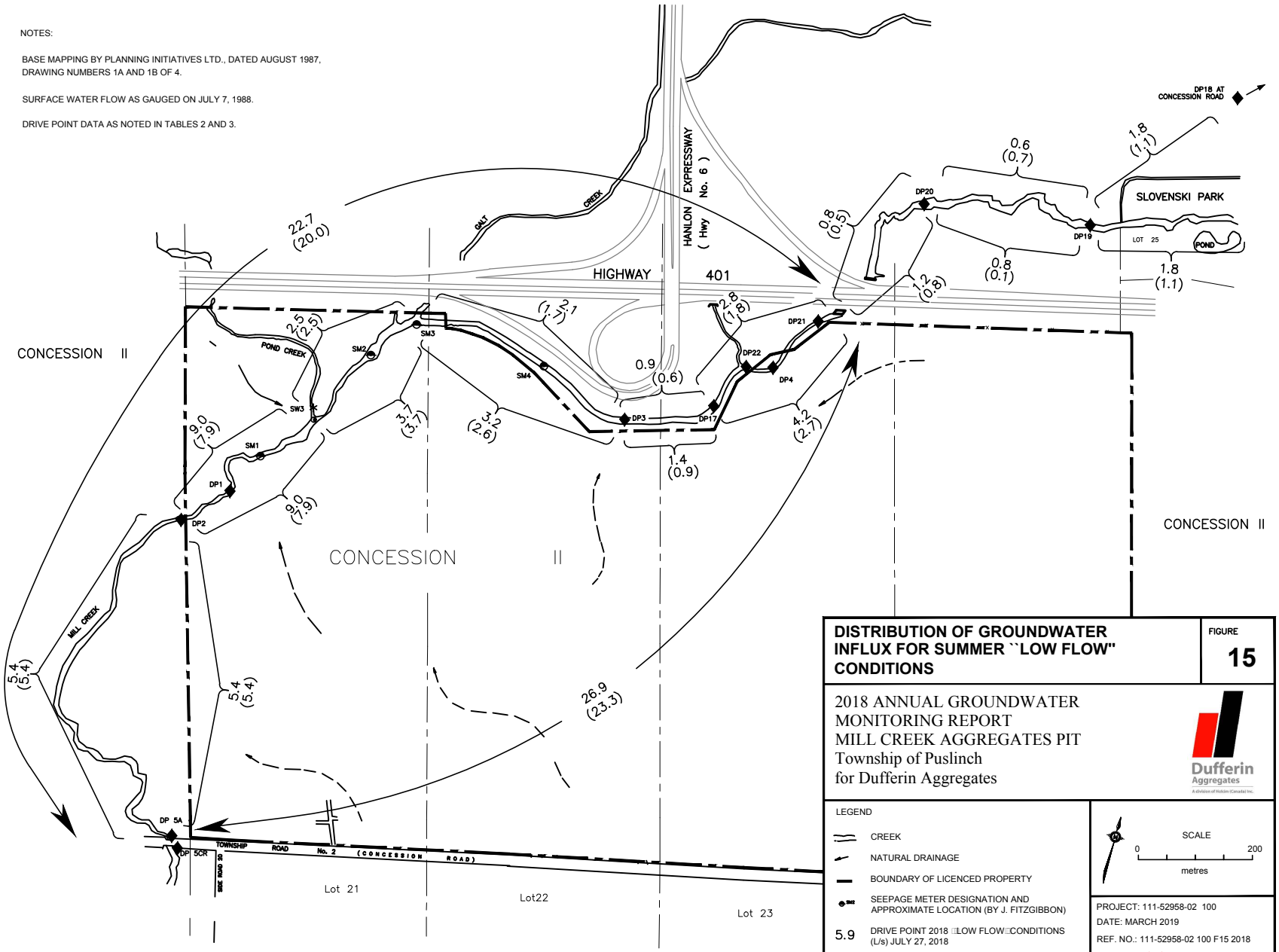
wsp

NOTES:

BASE MAPPING BY PLANNING INITIATIVES LTD., DATED AUGUST 1987, DRAWING NUMBERS 1A AND 1B OF 4.

SURFACE WATER FLOW AS GAUGED ON JULY 7, 1988.

DRIVE POINT DATA AS NOTED IN TABLES 2 AND 3.



DISTRIBUTION OF GROUNDWATER INFLUX FOR SUMMER ``LOW FLOW'' CONDITIONS

FIGURE **15**

2018 ANNUAL GROUNDWATER MONITORING REPORT
MILL CREEK AGGREGATES PIT
Township of Puslinch
for Dufferin Aggregates

Dufferin Aggregates
A division of Holcim (Canada) Inc.

LEGEND

- CREEK
- NATURAL DRAINAGE
- BOUNDARY OF LICENCED PROPERTY
- SEEPAGE METER DESIGNATION AND APPROXIMATE LOCATION (BY J. FITZGIBBON)
- 5.9 DRIVE POINT 2018 □LOW FLOW□CONDITIONS (L/s) JULY 27, 2018
- (5.4) AVERAGE OF YEARLY SUMMER □LOW FLOW□ CONDITIONS (L/s) 1992 - 2017

SCALE
0 200
metres

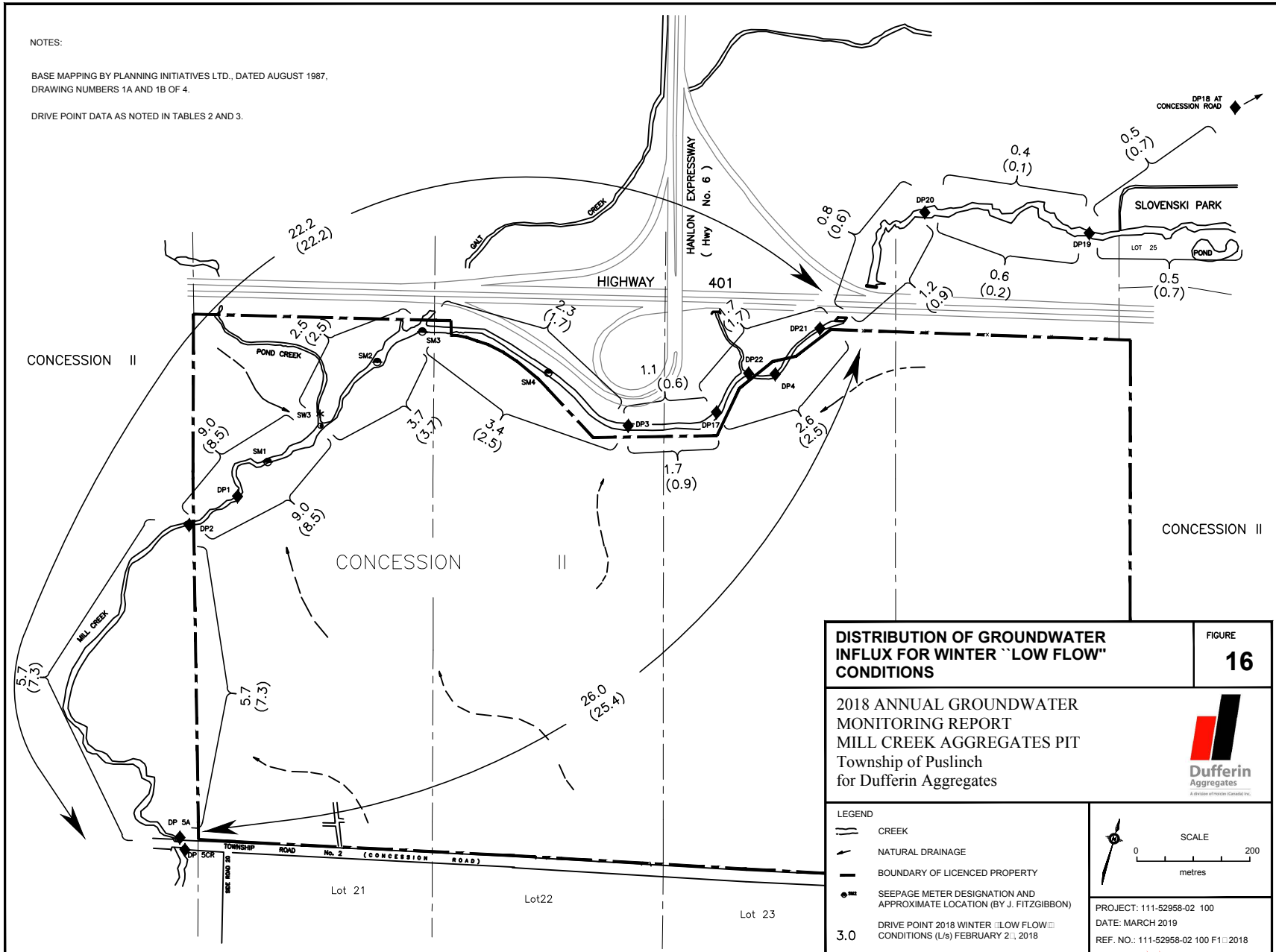
PROJECT: 111-52958-02 100
DATE: MARCH 2019
REF. NO.: 111-52958-02 100 F15 2018

wsp

NOTES:

BASE MAPPING BY PLANNING INITIATIVES LTD., DATED AUGUST 1987, DRAWING NUMBERS 1A AND 1B OF 4.

DRIVE POINT DATA AS NOTED IN TABLES 2 AND 3.



DISTRIBUTION OF GROUNDWATER INFLUX FOR WINTER ``LOW FLOW'' CONDITIONS

FIGURE **16**

2018 ANNUAL GROUNDWATER MONITORING REPORT
MILL CREEK AGGREGATES PIT
Township of Puslinch
for Dufferin Aggregates

Dufferin Aggregates
A division of Holcim (Canada) Inc.

LEGEND

- CREEK
- NATURAL DRAINAGE
- BOUNDARY OF LICENCED PROPERTY
- SEEPAGE METER DESIGNATION AND APPROXIMATE LOCATION (BY J. FITZGIBBON)
- 3.0 DRIVE POINT 2018 WINTER "LOW FLOW" CONDITIONS (L/s) FEBRUARY 2□, 2018
- (2.5) AVERAGE OF YEARLY WINTER "LOW FLOW" CONDITIONS (L/s) 1992 - 2017

SCALE
0 200
metres

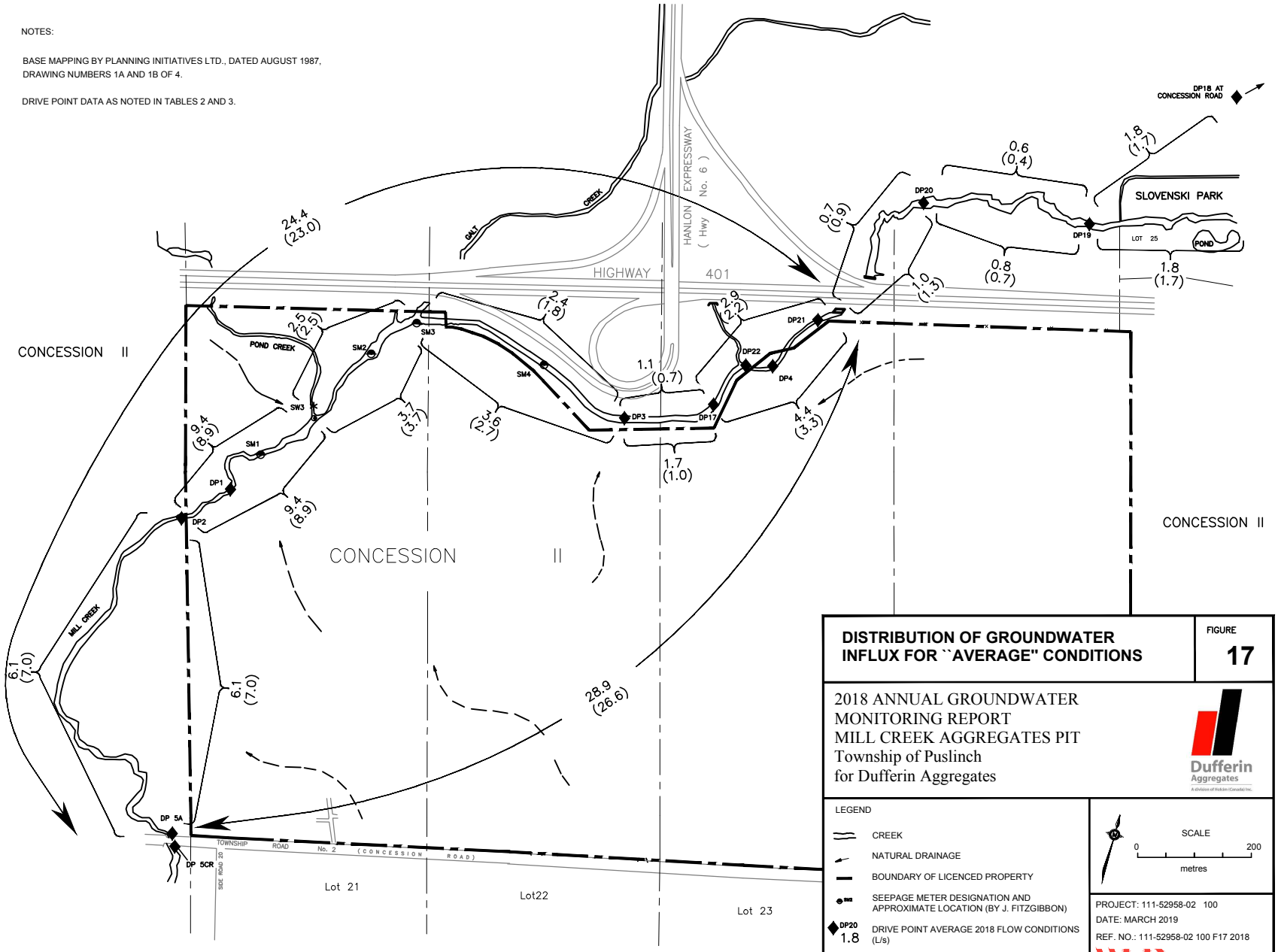
PROJECT: 111-52958-02 100
DATE: MARCH 2019
REF. NO.: 111-52958-02 100 F1□2018

wsp

NOTES:

BASE MAPPING BY PLANNING INITIATIVES LTD., DATED AUGUST 1987, DRAWING NUMBERS 1A AND 1B OF 4.

DRIVE POINT DATA AS NOTED IN TABLES 2 AND 3.



DISTRIBUTION OF GROUNDWATER INFLUX FOR ``AVERAGE'' CONDITIONS

FIGURE **17**

2018 ANNUAL GROUNDWATER MONITORING REPORT
MILL CREEK AGGREGATES PIT
Township of Puslinch
for Dufferin Aggregates

Dufferin Aggregates
A division of Holcim (Canada) Inc.

LEGEND

- CREEK
- NATURAL DRAINAGE
- BOUNDARY OF LICENCED PROPERTY
- SM1 SEEPAGE METER DESIGNATION AND APPROXIMATE LOCATION (BY J. FITZGIBBON)
- DP20 / 1.8 DRIVE POINT AVERAGE 2018 FLOW CONDITIONS (L/s)
- (0.9) AVERAGE HISTORIC FLOW CONDITIONS (L/s) 1992 - 2017

SCALE
0 200
metres

PROJECT: 111-52958-02 100
DATE: MARCH 2019
REF. NO.: 111-52958-02 100 F17 2018

wsp

APPENDIX

A MONITOR DETAILS

TABLE A-1
GROUNDWATER MONITOR DETAILS
MILL CREEK AGGREGATES PIT

BOREHOLE NO.	MONITOR NO.	MONITOR TYPE	MONITOR DIAMETER (mm)	MONITOR ELEVATION (T.O.P.) (mASL)	SCREENED INTERVAL ELEVATION (mASL)	FILTER PACK ELEVATION (mASL)	SEAL ELEVATION (mASL)	BACKFILL ELEVATION (mASL)
1		S	51	309.86	303.4 - 304.9		307.9 - 308.8	303.4 - 307.9
2A		S	51	313.41	297.08 - 300.82		309.61 - 312.66	296.76 - 309.61
3A		S	51	315.62	296.38 - 300.12		311.66 - 314.82	296.06 - 311.66
4		S	51	308.85	304.2 - 305.8		307.3 - 308.2	304.2 - 307.3
5		S	51	309.19	303.5 - 305.0		307.0 - 307.9	303.5 - 307.0
6		S	51	308.34	303.5 - 305.1		306.2 - 307.1	303.5 - 306.2
7	I	P	51	308.46	292.4 - 294.0		294.4 - 295.2	292.4 - 294.4
							306.5 - 307.4	295.2 - 306.5
7	II	S	51	308.4	303.0 - 304.5		306.5 - 307.4	303.0 - 306.5
11		S	51	310.09	300.28 - 306.38		308.58 - 309.28	300.18 - 308.58
12		S	51	311.61	301.23 - 307.43		310.43 - 311.13	300.43 - 310.43
13		S	51	307.59	299.26 - 305.77		306.17 - 306.87	306.17 - 299.26
14		S	51	308.14	302.84 - 304.36		304.67 - 307.41	
TW16-78		P	152	304.0	271.3 - 282.1 [1]		Cased from 282.1 - 303.6	
TW16-79		P	146	304.2	295.1 - 296.5 [2]		Cased from 296.5 - 303.7	
OW1-84		S	51	304.8	294.9 - 295.8		303.5 - 303.8	294.9 - 303.5
OW2-84		S	51	304.8	295.4 - 295.9		303.6 - 303.9	295.4 - 303.6
OW4-84		S	51	304.6	294.6 - 295.7		303.4 - 303.7	294.6 - 303.4
OW5-84		S	51	304.41	294.8 - 295.6		303.3 - 303.6	294.8 - 303.3
OW16A-78		S	38	304.5	295.5 - 296.7		302.6 - 303.5	295.5 - 302.6
92-1		S	51	313.0	303.0 - 306.0			303.0 - 312.2
92-5		S	51	308.20	300.0 - 303.0			300.0 - 308.0
92-8		S	51	309.65	300.3 - 303.3			300.3 - 308.1
92-12		S	51	307.88	303.05 - 304.57			303.05 - 307.26
92-13		S [3]	76	310.0	297.8 - 309.5			297.8 - 309.5
92-14		S [3]	76	309.8	297.6 - 308.8			297.6 - 308.8
92-15		S [3]	76	309.1	289.7 - 308.4			289.7 - 308.4
92-15a		S	51	309.27	296.90 - 297.66			296.90 - 308.55
92-26		S [3]	76	306.3	295.9 - 305.4			295.9 - 305.4
92-27		S [3]	76	305.9	292.9 - 305.1			292.9 - 305.1
92-28		S [3]	76	306.6	299.3 - 305.8			299.3 - 305.8
92-29		S [3]	76	306.9	297.1 - 306.1			297.1 - 306.1
92-32		S [3]	76	305.4	290.1 - 304.9			290.1 - 304.9
92-33		S [3]	76	306.2	291.0 - 305.5			291.0 - 305.5

NOTES:
- P - Piezometer
- S - Standpipe
- mASL - Metres above sea level
- T.O.P. - Top of pipe
- (1) - Open hole
- (2) - Well Screen in an open hole
- (3) - Equipped with multi-level transducers
- * - Bedrock well; well completion details not available

TABLE A-2
MULTI-LEVEL MONITOR DETAILS
MILL CREEK AGGREGATES PIT

BOREHOLE NO.	MONITOR NO.	GROUND ELEVATION (mASL)	MONITOR ELEVATION (T.O.P.) (mASL)	PROBE DESIGNATION	PROBE ELEVATION (mASL)
92-13	I	309.5	310.0	Deep	299.3
	II			Intermediate	301.8
	III			Shallow	304.5
92-15	I	308.4	309.1	Deep	290.0
92-15 a	II		309.3	Intermediate	297.7
92-15	III		309.1	Shallow	305.4
92-26	I	305.48	306.36	Deep	296.30
	II		306.36	Intermediate	299.46
	III		306.30	Shallow	302.39
92-27	I	305.1	305.9	Deep	295.9
	II			Intermediate	299.2
	III			Shallow	302.7
92-28	I	305.83	306.73	Deep	301.81
	II		306.72	Intermediate	302.70
	III		306.60	Shallow	303.45
92-29	I	306.05	306.97	Deep	297.53
	II		306.97	Intermediate	300.61
	III		306.90	Shallow	303.10
92-32	I	304.93	305.58	Deep	290.90
	II		305.58	Intermediate	296.02
	III		305.40	Shallow	301.42
92-33	I	305.5	306.2	Deep	294.4
	II			Intermediate	298.5
	III			Shallow	303.5 / 298.5
	III			Shallow (B)	303.3

NOTES:
- Each probe is a combination water level pressure transducer and temperature thermistor.
- mASL - Metres above sea level
- T.O.P. - Top of pipe

TABLE A-3
DRIVE POINT MONITOR DETAILS
MILL CREEK AGGREGATES PIT

MONITOR	DRIVE POINT DIAMETER (mm)	GROUND ELEVATION (m ASL)	TOP OF PIPE ELEVATION (m ASL)	SCREENED INTERVAL ELEVATION (m ASL)	MID-POINT OF SCREEN BELOW GRADE (m)
DP1	32	303.55 [1]	304.86	301.86 - 302.46	1.39
DP2A	32	303.15 [1]	304.52	301.05 - 301.55	1.85
DP3	32	304.46 [1]	305.68	302.49 - 303.39	1.52
DP4	32	305.23 [1]	306.81	303.80 - 304.40	1.13
DP5A	32	302.56 [1]	303.59	301.60 - 302.00	0.76
DP5B	32	302.43 [1]	303.50	301.51 - 301.91	0.72
DP5C	32	302.67 [1]	304.11	301.81 - 302.42	0.57
DP5CR	32	302.66 [1]	303.71	301.77 - 302.07	0.76
DP6	32	306.2	306.82	304.5 - 305.1	1.4
DP7	32	306.3	307.63	303.7 - 304.3	2.1
DP8	32	306.1	307.2	301.9 - 302.5	3.9
DP9	32	305.9	306.8	304.6 - 305.2	1.0
DP10	32	306.0	307.4	303.7 - 304.3	1.9
DP11	32	305.6	306.8	304.5 - 305.6	0.6
DP12	32	305.6	306.7	303.8 - 305.2	1.1
DP16	32	304.1	305.0	302.4 - 303.3	1.3
DP17	32	305.04 [1]	306.26	303.69 - 304.59	0.90
DP18	32	307.07 [1]	307.74	306.04 - 306.64	0.73
DP19	32	306.33 [1]	307.53	303.93 - 304.43	2.15
DP20	32	306.02 [1]	307.14	303.64 - 304.04	2.18
DP21	32	305.47 [1]	306.77	303.98 - 304.48	1.24
DP22	32	304.89 [1]	306.01	302.41 - 302.91	2.23

NOTES:
- mASL - Metres above sea level
- (1) - Elevation of creek bed
- DP5B replaced DP5A when resident denied access to creek
- DP5C replaced DP5B when DP5B was vandalised
- DP5C was vandalised
- DP5CR added to monitoring program to replace DP5C

TABLE A-4
SURFACE WATER MONITOR DETAILS
MILL CREEK AGGREGATES PIT

MONITOR	TOP OF MONITOR ELEVATION (mASL)	MONITOR TYPE
SW1	306.65	1 metre staffing gauge
SW2	303.71	Drive Point
RT	307.44	2 metre staffing gauge in recharge trench
P1	306.81	1 metre staffing gauge in Phase 1 pond
P2	306.29	1 metre staffing gauge in Phase 2 pond
P3	305.24	1 metre staffing gauge in Phase 3 pond
P4	306.47	1 metre staffing gauge in Phase 4 pond

NOTE:
- SW1 resurveyed on May 16, 2013
- SW2 is measured from the top of DP5CR
- P1, P2, P3 and P4 surveyed on April 2, 2018

TABLE A-5
REID HERITAGE DRIVE POINT MONITOR DETAILS
MILL CREEK AGGREGATES PIT

MONITOR	TOP OF MONITOR ELEVATION (mASL)	GRADE ELEVATION (mASL)	MONITOR LENGTH (m)	BOTTOM OF MONITOR ELEVATION (mASL)	MONITOR TYPE
DP113	307.87	307.08	4.08	303.84	near creek drive point

APPENDIX

B MONITORING RESULTS

TABLE B-1
WATER LEVEL DATA - GROUNDWATER MONITORS
MILL CREEK AGGREGATES PIT

BH1-I								
DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)
02-Nov-86	2.80	307.10	23-Jun-93	2.72	307.18	03-May-01	3.56	306.34
17-Dec-86	2.83	307.07	15-Jul-93	2.91	306.99	06-Jun-01	3.60	306.30
06-Jan-87	2.80	307.10	18-Aug-93	3.00	306.90	25-Jun-01	3.65	306.25
10-Mar-87	2.54	307.36	20-Sep-93	3.23	306.67	28-Jun-01	3.68	306.22
23-Jun-87	2.89	307.01	19-Oct-93	3.20	306.70	03-Jul-01	3.73	306.17
22-Oct-87	3.15	306.75	17-Nov-93	3.41	306.49	05-Jul-01	3.75	306.15
07-Jul-88	3.26	306.64	07-Dec-93	3.25	306.65	09-Jul-01	3.76	306.14
26-Aug-88	3.35	306.55	18-Jan-94	3.34	306.56	12-Jul-01	3.79	306.11
27-Sep-88	3.35	306.55	23-Feb-94	3.17	306.73	16-Jul-01	3.81	306.09
14-Dec-88	3.33	306.57	24-Mar-94	3.04	306.86	19-Jul-01	3.84	306.06
20-Jan-89	3.34	306.56	19-Apr-94	2.99	306.91	23-Jul-01	3.84	306.06
22-Feb-89	3.41	306.49	24-May-94	2.98	306.92	26-Jul-01	3.87	306.03
01-Apr-89	3.12	306.78	23-Jun-94	3.19	306.71	30-Jul-01	3.90	306.00
17-Apr-89	3.17	306.73	19-Jul-94	3.23	306.67	02-Aug-01	3.93	305.97
24-May-89	3.32	306.58	25-Aug-94	3.33	306.57	07-Aug-01	3.95	305.95
12-Jul-89	3.43	306.47	21-Sep-94	3.47	306.43	09-Aug-01	3.97	305.93
27-Jul-89	3.54	306.36	19-Oct-94	3.54	306.36	13-Aug-01	4.00	305.90
15-Aug-89	3.62	306.28	24-Nov-94	3.54	306.36	16-Aug-01	4.05	305.85
30-Aug-89	3.67	306.23	22-Dec-94	3.44	306.46	20-Aug-01	4.02	305.88
17-Oct-89	3.79	306.11	24-Jan-95	2.96	306.94	23-Aug-01	4.05	305.85
30-Nov-89	3.70	306.20	16-Feb-95	3.11	306.79	27-Aug-01	4.04	305.86
13-Dec-89	3.77	306.13	23-Mar-95	2.98	306.92	30-Aug-01	4.07	305.83
17-Jan-90	3.77	306.13	16-May-95	2.99	306.91	04-Sep-01	4.09	305.81
06-Mar-90	3.40	306.50	13-Jun-95	3.02	306.88	06-Sep-01	4.10	305.80
02-Apr-90	3.25	306.65	20-Jul-95	3.28	306.62	10-Sep-01	4.11	305.79
25-Jun-90	3.38	306.52	15-Aug-95	3.24	306.66	13-Sep-01	4.14	305.76
26-Jul-90	3.45	306.45	18-Oct-95	3.48	306.42	17-Sep-01	4.17	305.73
22-Aug-90	3.55	306.35	22-Nov-95	3.35	306.55	20-Sep-01	4.18	305.72
26-Sep-90	3.63	306.27	26-Mar-96	2.96	306.94	24-Sep-01	4.11	305.79
24-Oct-90	3.49	306.41	31-May-96	2.67	307.23	27-Sep-01	4.12	305.78
25-Nov-90	NA		29-Jul-96	2.76	307.14	01-Oct-01	4.12	305.78
14-Dec-90	3.37	306.53	27-Sep-96	2.91	306.99	04-Oct-01	4.15	305.75
23-Jan-91	3.16	306.74	07-Nov-96	2.98	306.92	09-Oct-01	4.11	305.79
20-Feb-91	3.12	306.78	25-Mar-97	2.49	307.41	11-Oct-01	4.12	305.78
28-Mar-91	2.56	307.34	26-May-97	2.50	307.40	15-Oct-01	4.10	305.80
26-Apr-91	2.54	307.36	30-Jul-97	2.98	306.92	19-Oct-01	4.05	305.85
24-May-91	2.69	307.21	06-Nov-97	3.22	306.68	22-Oct-01	4.05	305.85
20-Jun-91	2.76	307.14	12-Dec-97	3.33	306.57	26-Oct-01	4.07	305.83
30-Jul-91	2.95	306.95	27-Mar-98	3.01	306.89	29-Oct-01	4.06	305.84
22-Aug-91	3.06	306.84	31-May-98	3.22	306.68	01-Nov-01	4.08	305.82
25-Sep-91	3.29	306.61	31-Jul-98	3.60	306.30	05-Nov-01	4.07	305.83
29-Oct-91	3.38	306.52	30-Sep-98	3.87	306.03	08-Nov-01	4.09	305.81
26-Nov-91	3.44	306.46	30-Dec-98	3.87	306.03	12-Nov-01	4.10	305.80
16-Dec-91	3.36	306.54	31-Mar-99	3.52	306.38	15-Nov-01	4.12	305.78
13-Mar-92	3.26	306.64	20-May-99	4.15	305.75	19-Nov-01	4.11	305.79
15-Apr-92	3.38	306.52	16-Jul-99	4.47	305.43	22-Nov-01	4.11	305.79
22-May-92	3.24	306.66	10-Sep-99	4.49	305.41	26-Nov-01	4.08	305.82
29-Jun-92	3.41	306.49	09-Nov-99	4.29	305.61	29-Nov-01	4.06	305.84
20-Jul-92	3.18	306.72	01-Mar-00	4.00	305.90	03-Dec-01	4.01	305.89
26-Aug-92	3.33	306.57	19-May-00	3.84	306.06	06-Dec-01	4.00	305.90
14-Sep-92	3.29	306.61	06-Jul-00	3.86	306.04	10-Dec-01	4.00	305.90
28-Oct-92	3.23	306.67	14-Sep-00	3.83	306.07	13-Dec-01	4.00	305.90
27-Nov-92	2.80	307.10	11-Oct-00	3.89	306.01	17-Dec-01	3.98	305.92
14-Dec-92	2.96	306.94	07-Nov-00	4.05	305.85	20-Dec-01	3.94	305.96
19-Jan-93	2.73	307.17	12-Dec-00	3.95	305.95	02-Jan-02	3.91	305.99
05-Mar-93	NA		11-Jan-01	3.85	306.05	07-Jan-02	3.91	305.99
26-Mar-93	NA		07-Feb-01	3.82	306.08	10-Jan-02	3.90	306.00
20-Apr-93	2.52	307.38	12-Mar-01	3.59	306.31	14-Jan-02	3.89	306.01
28-May-93	2.63	307.27	09-Apr-01	3.50	306.40	17-Jan-02	3.87	306.03

NOTES:
- BTOP — Below top of pipe
- NA — Not available
- m ASL — metres above sea level
- (F) — Frozen

TABLE B-1
WATER LEVEL DATA - GROUNDWATER MONITORS
MILL CREEK AGGREGATES PIT

BH1-I								
DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)
21-Jan-02	3.88	306.02	04-Aug-04	3.13	306.77	17-Dec-08	2.98	306.92
24-Jan-02	3.86	306.04	26-Aug-04	3.34	306.56	06-Jan-09	2.86	307.04
28-Jan-02	3.85	306.05	28-Sep-04	3.43	306.47	27-Feb-09	2.76	307.14
01-Feb-02	3.80	306.10	18-Oct-04	3.52	306.38	11-Mar-09	2.64	307.26
04-Feb-02	3.81	306.09	16-Nov-04	3.60	306.30	14-Apr-09	2.60	307.30
07-Feb-02	3.80	306.10	15-Dec-04	3.55	306.35	21-May-09	2.55	307.35
11-Feb-02	3.78	306.12	16-Dec-04	3.55	306.35	16-Jun-09	2.63	307.27
15-Feb-02	3.81	306.09	20-Jan-05	3.43	306.47	31-Jul-09	2.71	307.19
18-Feb-02	3.80	306.10	25-Feb-05	3.50	306.40	25-Aug-09	2.68	307.22
21-Feb-02	3.75	306.15	24-Mar-05	3.30	306.60	28-Aug-09	2.71	307.19
25-Feb-02	3.81	306.09	18-Apr-05	3.16	306.74	28-Sep-09	2.88	307.03
07-Mar-02	3.66	306.24	29-Apr-05	3.10	306.80	14-Oct-09	2.91	306.99
11-Mar-02	3.64	306.26	26-May-05	3.12	306.78	11-Nov-09	2.99	306.91
15-Mar-02	3.67	306.23	23-Jun-05	3.20	306.70	11-Dec-09	3.04	306.86
19-Mar-02	3.65	306.25	25-Jul-05	3.28	306.62	16-Dec-09	3.03	306.87
21-Mar-02	3.64	306.26	17-Aug-05	3.34	306.56	13-Jan-10	3.08	306.82
26-Mar-02	3.60	306.30	25-Aug-05	3.38	306.52	11-Feb-10	2.68	307.22
28-Mar-02	3.60	306.30	30-Sep-05	3.43	306.47	11-Mar-10	3.16	306.74
01-Apr-02	3.68	306.22	27-Oct-05	3.55	306.35	16-Apr-10	2.95	306.95
05-Apr-02	3.65	306.25	28-Nov-05	3.55	306.35	21-May-10	3.81	306.09
07-Apr-02	3.56	306.34	07-Dec-05	3.54	306.36	17-Jun-10	3.08	306.82
06-May-02	3.60	306.30	19-Dec-05	3.52	306.38	15-Jul-10	3.20	306.70
14-Jun-02	3.54	306.36	26-Jan-06	3.28	306.62	18-Aug-10	3.28	306.62
11-Jul-02	3.58	306.32	15-Feb-06	3.22	306.68	31-Aug-10	3.33	306.57
23-Jul-02	3.49	306.41	30-Mar-06	3.11	306.79	28-Sep-10	3.44	306.46
30-Jul-02	3.50	306.40	27-Apr-06	3.07	306.83	20-Oct-10	3.50	306.40
05-Aug-02	3.64	306.26	28-Apr-06	3.08	306.82	18-Nov-10	2.98	306.92
09-Aug-02	3.62	306.28	15-May-06	3.07	306.83	08-Dec-10	3.52	306.38
16-Aug-02	3.70	306.20	15-Jun-06	3.16	306.74	22-Dec-10	3.55	306.35
21-Aug-02	3.71	306.19	15-Jul-06	3.16	306.74	19-Jan-11	3.58	306.32
04-Sep-02	3.89	306.01	24-Aug-06	3.31	306.59	17-Feb-11	3.57	306.33
17-Sep-02	4.00	305.90	15-Sep-06	3.34	306.56	16-Mar-11	3.40	306.50
02-Oct-02	4.00	305.90	15-Oct-06	3.27	306.63	13-Apr-11	3.29	306.61
11-Oct-02	4.01	305.89	15-Nov-06	3.30	306.60	21-Apr-11	3.24	306.66
18-Oct-02	4.07	305.83	07-Dec-06	3.27	306.63	26-May-11	2.97	306.93
21-Nov-02	3.98	305.92	17-Jan-07	2.99	306.91	16-Jun-11	2.94	306.96
13-Dec-02	3.99	305.91	26-Apr-07	2.79	307.11	14-Jul-11	3.04	306.86
09-Jan-03	4.03	305.87	16-May-07	2.78	307.13	11-Aug-11	3.16	306.70
10-Feb-03	4.00	305.90	26-Jun-07	2.91	306.99	17-Aug-11	3.19	306.67
13-Mar-03	4.00	305.90	25-Jul-07	3.11	306.79	14-Sep-11	3.36	306.50
10-Apr-03	3.60	306.30	07-Aug-07	3.20	306.70	27-Oct-11	3.33	306.53
07-May-03	3.72	306.18	21-Aug-07	3.31	306.59	14-Nov-11	3.36	306.50
15-May-03	3.58	306.32	21-Sep-07	3.46	306.44	14-Dec-11	3.21	306.65
16-Jun-03	3.50	306.40	17-Oct-07	3.49	306.41	22-Dec-11	3.20	306.66
17-Jul-03	3.75	306.15	15-Nov-07	3.60	306.30	16-Jan-12	3.20	306.66
21-Aug-03	3.99	305.91	29-Nov-07	3.57	306.33	16-Feb-12	3.31	306.55
26-Aug-03	3.90	306.00	10-Dec-07	3.54	306.36	29-Mar-12	3.06	306.80
25-Sep-03	3.95	305.95	31-Jan-08	3.35	306.55	10-Apr-12	3.13	306.73
27-Oct-03	3.90	306.00	29-Feb-08	3.24	306.67	30-Apr-12	3.14	306.72
01-Dec-03	3.80	306.10	31-Mar-08	3.02	306.88	29-May-12	3.20	306.66
11-Dec-03	3.79	306.11	28-Apr-08	2.92	306.98	20-Jun-12	3.24	306.62
19-Jan-04	3.65	306.25	28-May-08	2.87	307.03	24-Jul-12	3.5	306.36
18-Feb-04	3.54	306.36	25-Jun-08	2.86	307.04	08-Aug-12	3.59	306.27
25-Mar-04	3.38	306.52	16-Jul-08	2.85	307.05	21-Aug-12	3.58	306.28
07-Apr-04	3.27	306.63	20-Aug-08	2.84	307.06	18-Sep-12	3.62	306.24
22-Apr-04	3.18	306.72	26-Aug-08	2.84	307.06	23-Oct-12	3.65	306.21
20-May-04	3.07	306.83	19-Sep-08	2.74	307.16	28-Nov-12	3.62	306.24
24-Jun-04	3.10	306.80	10-Oct-08	2.93	306.97	06-Dec-12	3.64	306.22
23-Jul-04	3.12	306.78	05-Nov-08	3.02	306.88	19-Dec-12	3.64	306.22

NOTES:
- · BTOP Below top of pipe
- · NA Not available
- · m ASL metres above sea level
- · (F) Frozen

TABLE B-1
WATER LEVEL DATA - GROUNDWATER MONITORS
MILL CREEK AGGREGATES PIT

BH1-I								
DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)
16-Jan-13	3.55	306.31	21-Jan-15	3.17	306.69	18-Jan-17	3.26	306.60
20-Feb-13	3.50	306.36	18-Feb-15	3.22	306.64	15-Feb-17	3.22	306.64
21-Mar-13	3.39	306.47	25-Mar-15	3.20	306.66	17-Mar-17	3.08	306.78
04-Apr-13	3.35	306.51	06-Apr-15	3.17	306.69	11-Apr-17	2.95	306.91
25-Apr-13	3.15	306.71	20-May-15	3.07	306.79	18-May-17	2.79	307.07
23-May-13	3.15	306.71	23-Jun-15	3.14	306.72	14-Jun-17	2.78	307.08
13-Jun-13	3.06	306.80	22-Jul-15	3.08	306.78	20-Jul-17	3.15	306.71
31-Jul-13	3.04	306.82	25-Aug-15	3.10	306.76	09-Aug-17	2.86	307.00
29-Aug-13	3.19	306.67	24-Sep-15	3.13	306.73	12-Sep-17	3.05	306.81
25-Sep-13	3.24	306.62	29-Oct-15	3.26	306.60	12-Oct-17	3.20	306.66
22-Oct-13	3.22	306.64	25-Nov-15	3.31	306.55	21-Nov-17	3.26	306.60
28-Nov-13	3.71	306.15	10-Dec-15	3.30	306.56	19-Dec-17	3.30	306.56
10-Dec-13	3.31	306.55	20-Jan-16	3.35	306.51	16-Jan-18	3.31	306.55
15-Jan-14	3.23	306.63	29-Feb-16	3.26	306.60	26-Feb-18	3.20	306.66
26-Feb-14	3.25	306.61	17-Mar-16	3.18	306.68	26-Mar-18	3.22	306.64
26-Mar-14	3.21	306.65	30-Mar-16	3.07	306.79	24-Apr-18	3.08	306.78
01-Apr-14	3.15	306.71	27-Apr-16	3.01	306.85	18-May-18	3.01	306.85
15-May-14	2.79	307.07	30-May-16	3.01	306.85	12-Jun-18	3.12	306.74
18-Jun-14	2.82	307.04	27-Jun-16	3.17	306.69	27-Jul-18	3.26	306.60
29-Jul-14	2.95	306.91	28-Jul-16	3.26	306.60	22-Aug-18	3.31	306.55
25-Aug-14	2.95	306.91	11-Aug-16	3.34	306.52	12-Sep-18	3.39	306.47
18-Sep-14	3.58	306.28	21-Sep-16	3.37	306.49	30-Oct-18	3.60	306.26
17-Oct-14	2.96	306.90	18-Oct-16	3.45	306.41	21-Nov-18	3.53	306.33
27-Nov-14	3.05	306.81	14-Nov-16	3.46	306.40	20-Dec-18	3.54	306.32
15-Dec-14	3.16	306.70	14-Dec-16	3.54	306.32			

NOTES:
- · BTOP Below top of pipe
- · NA Not available
- · m ASL metres above sea level
- · (F) Frozen

TABLE B-1
WATER LEVEL DATA - GROUNDWATER MONITORS
MILL CREEK AGGREGATES PIT

BH2-I/BH2B

DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)
17-Dec-86	6.78	306.84	14-Dec-92	6.90	306.72	16-Jul-99	8.02	305.60
06-Jan-87	6.70	306.92	19-Jan-93	6.51	307.11	08-Sep-99	8.34	305.28
10-Mar-87	6.67	306.95	05-Mar-93	6.73	306.89	10-Nov-99	8.36	305.26
23-Jun-87	6.81	306.81	31-Mar-93	6.42	307.20	01-Mar-00	8.09	305.53
22-Oct-87	7.17	306.45	20-Apr-93	6.41	307.21	19-May-00	7.80	305.82
07-Jul-88	7.18	306.44	28-May-93	6.50	307.12	06-Jul-00	7.50	306.12
26-Aug-88	7.41	306.21	22-Jun-93	6.67	306.95	14-Sep-00	7.71	305.91
27-Sep-88	7.51	306.11	15-Jul-93	6.85	306.77	10-Oct-00	7.84	305.78
14-Dec-88	7.46	306.16	18-Aug-93	7.05	306.57	08-Nov-00	7.97	305.65
20-Jan-89	7.45	306.17	20-Sep-93	7.23	306.39	12-Dec-00	8.05	305.57
22-Feb-89	7.47	306.15	19-Oct-93	7.36	306.26	12-Jan-01	8.01	305.61
01-Apr-89	7.33	306.29	17-Nov-93	7.48	306.14	07-Feb-01	7.98	305.64
17-Apr-89	7.29	306.33	07-Dec-93	7.45	306.17	11-Mar-01	7.72	305.90
24-May-89	7.39	306.23	18-Jan-94	7.56	306.06	09-Apr-01	7.54	306.08
12-Jul-89	7.49	306.13	23-Feb-94	7.45	306.17	03-May-01	7.53	306.09
27-Jul-89	7.57	306.05	24-Mar-94	7.34	306.28	06-Jun-01	7.50	306.12
15-Aug-89	7.67	305.95	19-Apr-94	7.05	306.57	11-Jul-01	7.61	306.01
30-Aug-89	7.73	305.89	24-May-94	6.88	306.74	01-Aug-01	7.79	305.83
17-Oct-89	7.92	305.70	23-Jun-94	7.07	306.55	05-Sep-01	8.00	305.62
30-Nov-89	8.01	305.61	21-Jul-94	7.23	306.39	02-Oct-01	8.56	305.06
13-Dec-89	8.03	305.59	25-Aug-94	7.42	306.20	06-Nov-01	8.55	305.07
17-Jan-90	8.06	305.56	21-Sep-94	7.58	306.04	06-Dec-01	8.49	305.13
06-Mar-90	7.61	306.01	18-Oct-94	7.70	305.92	04-Jan-02	dry	
02-Apr-90	7.31	306.31	24-Nov-94	7.80	305.82	07-Feb-02	8.70	304.92
25-Jun-90	7.36	306.26	22-Dec-94	7.80	305.82	07-Mar-02	8.70	304.92
26-Jul-90	7.52	306.10	25-Jan-95	7.18	306.44	07-Apr-02	7.62	306.00
22-Aug-90	7.65	305.97	16-Feb-95	7.30	306.32	06-May-02	7.50	306.12
26-Sep-90	7.79	305.83	23-Mar-95	7.20	306.42	14-Jun-02	7.48	306.14
24-Oct-90	7.82	305.80	17-May-95	7.20	306.42	11-Jul-02	7.60	306.02
25-Nov-90	7.76	305.86	13-Jun-95	7.09	306.53	09-Aug-02	7.70	305.92
14-Dec-90	7.66	305.96	20-Jul-95	7.31	306.31	04-Sep-02	8.00	305.62
23-Jan-91	7.16	306.46	15-Aug-95	7.42	306.20	11-Oct-02	8.05	305.57
20-Feb-91	7.17	306.45	18-Oct-95	7.72	305.90	21-Nov-02	8.15	305.47
28-Mar-91	6.78	306.84	22-Nov-95	7.65	305.97	13-Dec-02	8.26	305.36
26-Apr-91	6.27	307.35	26-Mar-96	7.10	306.52	09-Jan-03	(F)	
24-May-91	6.44	307.18	31-May-96	6.46	307.16	10-Feb-03	(F)	
20-Jun-91	6.61	307.01	29-Jul-96	6.71	306.91	13-Mar-03	(F)	
30-Jul-91	6.89	306.73	02-Oct-96	7.01	306.61	10-Apr-03	7.88	305.74
22-Aug-91	7.02	306.60	07-Nov-96	7.10	306.52	07-May-03	7.85	305.77
25-Sep-91	7.31	306.31	26-Mar-97	6.28	307.34	15-May-03	7.66	305.96
29-Oct-91	7.50	306.12	26-May-97	6.41	307.21	16-Jun-03	7.68	305.94
26-Nov-91	7.62	306.00	30-Jul-97	6.94	306.68		Monitor 2 Destroyed	
16-Dec-91	7.65	305.97	06-Nov-97	7.43	306.19	24-Jun-04	6.99	306.42
13-Mar-92	7.59	306.03	16-Dec-97	7.53	306.09	23-Jul-04	7.14	306.27
15-Apr-92	7.64	305.98	27-Mar-98	7.05	306.57	04-Aug-04	7.19	306.22
22-May-92	7.22	306.40	31-May-98	7.03	306.59	26-Aug-04	7.34	306.07
29-Jun-92	7.43	306.19	31-Jul-98	7.46	306.16	28-Sep-04	7.47	305.94
20-Jul-92	7.50	306.12	30-Sep-98	7.83	305.79	18-Oct-04	7.58	305.83
26-Aug-92	7.51	306.11	30-Dec-98	8.05	305.57	16-Nov-04	7.65	305.76
14-Sep-92	7.50	306.12	31-Mar-99	7.75	305.87	15-Dec-04	7.63	305.78
28-Oct-92	7.42	306.20	20-May-99	7.95	305.67	16-Dec-04	7.61	305.80
26-Nov-92	6.21	307.41						

NOTES:
- · BTOP Below top of pipe
- · NA Not available
- · m ASL metres above sea level
- · (F) Frozen

TABLE B-1
WATER LEVEL DATA - GROUNDWATER MONITORS
MILL CREEK AGGREGATES PIT

BH2-I/BH2B

DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)
20-Jan-05	7.52	305.89	27-Feb-09	6.71	306.70	18-Sep-12	7.74	305.67
25-Feb-05	7.47	305.94	11-Mar-09	6.60	306.81	23-Oct-12	7.81	305.60
24-Mar-05	7.58	305.83	14-Apr-09	6.52	306.89	28-Nov-12	7.80	305.61
18-Apr-05	7.02	306.39	21-May-09	6.58	306.83	06-Dec-12	7.77	305.64
29-Apr-05	6.99	306.42	16-Jun-09	6.67	306.74	19-Dec-12	7.76	305.65
26-May-05	7.02	306.39	31-Jul-09	6.79	306.62	16-Jan-13	7.71	305.70
23-Jun-05	7.13	306.28	25-Aug-09	6.76	306.65	20-Feb-13	7.60	305.81
25-Jul-05	7.23	306.18	28-Aug-09	6.83	306.58	21-Mar-13	7.49	305.92
17-Aug-05	7.33	306.08	28-Sep-09	6.96	306.45	04-Apr-13	7.45	305.96
25-Aug-05	7.34	306.07	14-Oct-09	6.97	306.44	25-Apr-13	7.26	306.15
30-Sep-05	7.39	306.02	11-Nov-09	7.04	306.37	23-May-13	7.21	306.20
27-Oct-05	7.54	305.87	11-Dec-09	7.08	306.33	13-Jun-13	7.18	306.23
28-Nov-05	7.53	305.88	16-Dec-09	7.06	306.35	31-Jul-13	7.13	306.28
07-Dec-05	7.53	305.88	13-Jan-10	7.09	306.32	29-Aug-13	7.22	306.19
19-Dec-05	7.54	305.87	11-Feb-10	7.14	306.27	25-Sep-13	7.73	305.68
15-Feb-06	7.15	306.26	11-Mar-10	7.23	306.18	22-Oct-13	7.32	306.09
30-Mar-06	7.01	306.40	16-Apr-10	7.02	306.39	28-Nov-13	7.34	306.07
27-Apr-06	7.01	306.40	21-May-10	7.13	306.28	10-Dec-13	7.37	306.04
28-Apr-06	7.02	306.39	17-Jun-10	7.16	306.25	15-Jan-14	7.30	306.11
15-May-06	6.90	306.51	15-Jul-10	7.27	306.14	26-Feb-14	7.27	306.14
15-Jun-06	7.12	306.29	18-Aug-10	7.35	306.06	26-Mar-14	7.28	306.13
15-Jul-06	7.13	306.28	31-Aug-10	7.36	306.05	01-Apr-14	7.25	306.16
24-Aug-06	7.28	306.13	28-Sep-10	7.47	305.94	15-May-14	6.94	306.47
15-Oct-06	7.23	306.18	20-Oct-10	7.55	305.86	18-Jun-14	6.98	306.43
15-Nov-06	7.12	306.29	18-Nov-10	7.59	305.82	29-Jul-14	7.05	306.36
07-Dec-06	7.05	306.36	08-Dec-10	7.57	305.84	25-Aug-14	7.07	306.34
17-Jan-07	6.9	306.51	22-Dec-10	7.58	305.83	18-Sep-14	7.06	306.35
26-Apr-07	6.69	306.72	19-Jan-11	7.59	305.82	17-Oct-14	7.13	306.28
26-Jun-07	6.98	306.43	17-Feb-11	7.60	305.81	27-Nov-14	7.20	306.21
25-Jul-07	7.21	306.20	16-Mar-11	7.42	305.99	15-Dec-14	7.23	306.18
07-Aug-07	7.29	306.12	13-Apr-11	7.29	306.12	21-Jan-15	7.25	306.16
21-Aug-07	7.41	306.00	21-Apr-11	7.27	306.14	18-Feb-15	7.26	306.15
21-Sep-07	7.80	305.61	26-May-11	6.96	306.45	25-Mar-15	7.26	306.15
17-Oct-07	7.64	305.77	16-Jun-11	6.90	306.51	06-Apr-15	7.27	306.14
15-Nov-07	7.80	305.61	14-Jul-11	6.97	306.44	20-May-15	7.21	306.20
29-Nov-07	7.68	305.73	11-Aug-11	7.11	306.30	23-Jun-15	7.19	306.22
10-Dec-07	7.66	305.75	17-Aug-11	7.13	306.28	22-Jul-15	7.22	306.19
31-Jan-08	7.44	305.97	14-Sep-11	7.31	306.10	25-Aug-15	7.23	306.18
29-Feb-08	7.31	306.10	27-Oct-11	7.37	306.04	24-Sep-15	7.39	306.02
31-Mar-08	7.03	306.38	14-Nov-11	7.44	305.97	29-Oct-15	7.46	305.95
28-Apr-08	6.86	306.55	22-Dec-11	7.22	306.19	25-Nov-15	7.50	305.91
28-May-08	6.90	306.51	16-Jan-12	7.22	306.19	10-Dec-15	7.52	305.89
25-Jun-08	6.91	306.50	16-Feb-12	7.23	306.18			
16-Jul-08	6.93	306.48	29-Mar-12	7.11	306.30			
20-Aug-08	6.89	306.52	10-Apr-12	7.15	306.26			
26-Aug-08	6.89	306.52	30-Apr-12	7.19	306.22			
19-Sep-08	6.89	306.52	29-May-12	7.27	306.14			
10-Oct-08	7.01	306.40	20-Jun-12	7.35	306.06			
05-Nov-08	7.10	306.31	24-Jul-12	7.55	305.86			
17-Dec-08	7.01	306.40	08-Aug-12	7.60	305.81			
06-Jan-09	6.83	306.58	21-Aug-12	7.65	305.76			

NOTES:
- BTOP Below top of pipe
- NA Not available
- m ASL metres above sea level
- (F) Frozen

TABLE B-1
WATER LEVEL DATA - GROUNDWATER MONITORS
MILL CREEK AGGREGATES PIT

BH2-I/BH2B								
DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)
20-Jan-16	7.48	305.93						
29-Feb-16	7.46	305.95						
17-Mar-16	7.42	305.99						
30-Mar-16	7.35	306.06						
27-Apr-16	7.14	306.27						
30-May-16	7.10	306.31						
27-Jun-16	7.21	306.20						
28-Jul-16	7.36	306.05						
Decommissioned								

NOTES:
- BTOP Below top of pipe
- NA Not available
- m ASL metres above sea level
- (F) Frozen

TABLE B-1
WATER LEVEL DATA - GROUNDWATER MONITORS
MILL CREEK AGGREGATES PIT

BH3-I/BH3B

DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)
17-Dec-86	8.40	306.30	19-Jan-93	8.13	306.57	01-Mar-00	9.52	305.18
06-Jan-87	8.32	306.38	05-Mar-93	8.39	306.31	19-May-00	9.43	305.27
10-Mar-87	8.38	306.32	31-Mar-93	8.19	306.51	06-Jul-00	9.04	305.66
23-Jun-87	8.47	306.23	20-Apr-93	8.08	306.62	14-Sep-00	9.35	305.35
22-Oct-87	8.83	305.87	28-May-93	8.21	306.49	10-Oct-00	9.46	305.24
07-Jul-88	8.83	305.87	22-Jun-93	8.40	306.30	08-Nov-00	9.58	305.12
26-Aug-88	9.07	305.63	15-Jul-93	8.57	306.13	12-Dec-00	9.64	305.06
27-Sep-88	9.18	305.52	18-Aug-93	8.77	305.93	12-Jan-01	9.61	305.09
14-Dec-88	9.08	305.62	20-Sep-93	8.92	305.78	07-Feb-01	9.57	305.13
20-Jan-89	9.02	305.68	19-Oct-93	9.04	305.66	11-Mar-01	9.29	305.41
22-Feb-89	9.09	305.61	17-Nov-93	9.13	305.57	09-Apr-01	9.09	305.61
01-Apr-89	8.95	305.75	07-Dec-93	9.16	305.54	03-May-01	9.03	305.67
17-Apr-89	8.89	305.81	19-Jan-94	9.19	305.51	06-Jun-01	9.10	305.60
24-May-89	8.99	305.71	23-Feb-94	9.13	305.57	11-Jul-01	9.26	305.44
12-Jul-89	9.12	305.58	24-Mar-94	9.02	305.68	01-Aug-01	9.41	305.29
27-Jul-89	9.21	305.49	19-Apr-94	8.67	306.03	05-Sep-01	9.83	304.87
15-Aug-89	9.31	305.39	24-May-94	8.53	306.17	02-Oct-01	9.76	304.94
30-Aug-89	9.39	305.31	23-Jun-94	8.72	305.98	06-Nov-01	9.77	304.93
17-Oct-89	9.60	305.10	21-Jul-94	8.90	305.80	06-Dec-01	9.72	304.98
30-Nov-89	9.69	305.01	25-Aug-94	9.11	305.59	04-Jan-02	9.66	305.04
13-Dec-89	9.70	305.00	21-Sep-94	9.28	305.42	07-Feb-02	9.65	305.05
17-Jan-90	9.75	304.95	18-Oct-94	9.42	305.28	07-Mar-02	9.45	305.25
06-Mar-90	9.26	305.44	24-Nov-94	9.54	305.16	07-Apr-02	9.29	305.41
02-Apr-90	8.91	305.79	22-Dec-94	9.54	305.16	06-May-02	9.09	305.61
25-Jun-90	8.98	305.72	25-Jan-95	8.98	305.72	14-Jun-02	9.07	305.63
26-Jul-90	9.17	305.53	16-Feb-95	8.98	305.72	11-Jul-02	9.20	305.50
22-Aug-90	9.31	305.39	23-Mar-95	8.86	305.84	09-Aug-02	9.30	305.40
26-Sep-90	9.46	305.24	17-May-95	8.76	305.94	04-Sep-02	9.56	305.14
24-Oct-90	9.49	305.21	13-Jun-95	8.75	305.95	11-Oct-02	9.75	304.95
25-Nov-90	9.42	305.28	20-Jul-95	9.00	305.70	21-Nov-02	9.86	304.84
14-Dec-90	9.30	305.40	15-Aug-95	9.13	305.57	13-Dec-02	9.90	304.80
23-Jan-91	8.73	305.97	18-Oct-95	9.45	305.25	09-Jan-03	(F)	
20-Feb-91	8.77	305.93	22-Nov-95	9.40	305.30	10-Feb-03	(F)	
28-Mar-91	8.42	306.28	26-Mar-96	8.78	305.92	13-Mar-03	(F)	
26-Apr-91	7.87	306.83	31-May-96	8.09	306.61	10-Apr-03	9.67	305.03
24-May-91	8.08	306.62	29-Jul-96	8.40	306.30	07-May-03	9.56	305.14
20-Jun-91	8.28	306.42	02-Oct-96	8.73	305.97	15-May-03	9.54	305.16
30-Jul-91	8.58	306.12	07-Nov-96	8.79	305.91	16-Jun-03	9.54	305.16
22-Aug-91	8.72	305.98	26-Mar-97	7.99	306.71	17-Jul-03	9.55	305.15
25-Sep-91	9.00	305.70	26-May-97	8.12	306.58	21-Aug-03	9.55	305.15
29-Oct-91	9.20	305.50	30-Jul-97	8.62	306.08		Monitor 3-I Clogged	
26-Nov-91	9.31	305.39	06-Nov-97	9.16	305.54	24-Jun-04	9.58	306.04
16-Dec-91	9.34	305.36	16-Dec-97	9.25	305.45	23-Jul-04	9.71	305.91
13-Mar-92	9.27	305.43	27-Mar-98	8.69	306.01	04-Aug-04	9.75	305.87
15-Apr-92	9.29	305.41	31-May-98	8.67	306.03	26-Aug-04	9.91	305.71
22-May-92	NA		31-Jul-98	9.16	305.54	28-Sep-04	10.03	305.59
29-Jun-92	9.09	305.61	30-Sep-98	9.55	305.15	18-Oct-04	10.14	305.48
20-Jul-92	9.18	305.52	30-Dec-98	9.78	304.92	16-Nov-04	10.20	305.42
26-Aug-92	9.22	305.48	31-Mar-99	9.46	305.24	15-Dec-04	10.15	305.47
14-Sep-92	9.19	305.51	20-May-99	9.58	305.12	16-Dec-04	10.17	305.45
28-Oct-92	9.08	305.62	16-Jul-99	9.69	305.01			
26-Nov-92	8.57	306.13	08-Sep-99	10.03	304.67			
15-Dec-92	8.51	306.19	10-Nov-99	10.04	304.66			

NOTES:
- · BTOP Below top of pipe
- · NA Not available
- · m ASL metres above sea level
- · (F) Frozen

TABLE B-1
WATER LEVEL DATA - GROUNDWATER MONITORS
MILL CREEK AGGREGATES PIT

BH3-I/BH3B								
DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)
20-Jan-05	10.08	305.54	14-Apr-09	8.86	306.76	19-Dec-12	10.20	305.42
25-Feb-05	10.01	305.61	21-May-09	8.95	306.67	16-Jan-13	10.12	305.50
24-Mar-05	10.15	305.47	16-Jun-09	9.04	306.58	20-Feb-13	9.99	305.63
18-Apr-05	9.47	306.15	31-Jul-09	9.17	306.45	21-Mar-13	9.84	305.78
29-Apr-05	9.40	306.22	25-Aug-09	9.13	306.49	04-Apr-13	9.78	305.84
26-May-05	9.49	306.13	28-Aug-09	9.20	306.42	25-Apr-13	9.54	306.08
23-Jun-05	9.79	305.83	28-Sep-09	9.34	306.28	23-May-13	9.32	306.30
25-Jul-05	9.78	305.84	14-Oct-09	9.38	306.24	13-Jun-13	9.50	306.12
17-Aug-05	9.85	305.77	11-Nov-09	9.46	306.16	31-Jul-13	9.46	306.16
25-Aug-05	9.86	305.76	11-Dec-09	9.53	306.09	29-Aug-13	9.60	306.02
30-Sep-05	9.92	305.70	16-Dec-09	9.51	306.11	25-Sep-13	9.63	305.99
27-Oct-05	10.06	305.56	13-Jan-10	9.54	306.08	22-Oct-13	9.71	305.91
28-Nov-05	10.06	305.56	11-Feb-10	9.59	306.03	28-Nov-13	9.74	305.88
07-Dec-05	10.06	305.56	11-Mar-10	9.65	305.97	10-Dec-13	9.77	305.85
19-Dec-05	10.06	305.56	16-Apr-10	9.39	306.23	15-Jan-14	9.72	305.90
15-Feb-06	9.81	305.81	21-May-10	9.51	306.11	26-Feb-14	9.72	305.90
30-Mar-06	9.36	306.26	17-Jun-10	9.53	306.09	26-Mar-14	9.72	305.90
27-Apr-06	9.42	306.20	15-Jul-10	9.63	305.99	01-Apr-14	9.66	305.96
28-Apr-06	9.40	306.22	18-Aug-10	9.71	305.91	15-May-14	9.30	306.32
15-May-06	9.34	306.28	31-Aug-10	9.75	305.87	18-Jun-14	9.36	306.26
15-Jun-06	9.56	306.06	28-Sep-10	9.84	305.78	29-Jul-14	9.46	306.16
15-Jul-06	9.57	306.05	20-Oct-10	9.94	305.68	25-Aug-14	9.48	306.14
24-Aug-06	9.70	305.92	18-Nov-10	10.00	305.62	18-Sep-14	9.46	306.16
15-Oct-06	9.75	305.87	08-Dec-10	10.00	305.62	17-Oct-14	9.58	306.04
15-Nov-06	9.45	306.17	22-Dec-10	10.02	305.60	27-Nov-14	9.66	305.96
07-Dec-06	9.41	306.21	19-Jan-11	10.03	305.59	15-Dec-14	9.66	305.96
17-Jan-07	9.26	306.36	17-Feb-11	10.00	305.62	21-Jan-15	9.69	305.93
26-Apr-07	9.09	306.53	16-Mar-11	9.75	305.87	18-Feb-15	9.74	305.88
26-Jun-07	9.37	306.25	13-Apr-11	9.61	306.01	25-Mar-15	9.70	305.92
25-Jul-07	9.58	306.04	21-Apr-11	9.58	306.04	06-Apr-15	9.68	305.94
07-Aug-07	9.66	305.96	26-May-11	9.27	306.35	20-May-15	9.60	306.02
21-Aug-07	9.77	305.85	16-Jun-11	9.21	306.41	23-Jun-15	9.58	306.04
21-Sep-07	9.96	305.66	14-Jul-11	9.31	306.31	22-Jul-15	9.60	306.02
17-Oct-07	10.00	305.62	11-Aug-11	9.47	306.15	25-Aug-15	9.54	306.08
15-Nov-07	10.10	305.52	17-Aug-11	9.49	306.13	24-Sep-15	9.81	305.81
29-Nov-07	10.10	305.52	14-Sep-11	9.69	305.93	29-Oct-15	9.87	305.75
10-Dec-07	10.08	305.54	27-Oct-11	9.76	305.86	25-Nov-15	9.93	305.69
31-Jan-08	9.84	305.78	14-Nov-11	9.83	305.79	10-Dec-15	9.95	305.67
29-Feb-08	9.69	305.93	22-Dec-11	9.67	305.95	20-Jan-16	9.91	305.71
31-Mar-08	9.39	306.23	16-Jan-12	9.62	306.00	29-Feb-16	9.86	305.76
28-Apr-08	9.16	306.46	16-Feb-12	9.60	306.02	17-Mar-16	9.83	305.79
28-May-08	9.24	306.38	29-Mar-12	9.47	306.15	30-Mar-16	9.70	305.92
25-Jun-08	9.29	306.33	10-Apr-12	9.50	306.12	27-Apr-16	9.47	306.15
16-Jul-08	9.30	306.32	30-Apr-12	9.57	306.05	30-May-16	9.48	306.14
20-Aug-08	9.27	306.35	29-May-12	9.65	305.97	27-Jun-16	9.62	306.00
26-Aug-08	9.26	306.36	20-Jun-12	9.74	305.88	28-Jul-16	9.73	305.89
19-Sep-08	9.26	306.36	24-Jul-12	9.93	305.69	11-Aug-16	9.78	305.84
10-Oct-08	9.39	306.23	08-Aug-12	9.99	305.63	21-Sep-16	9.68	305.94
05-Nov-08	9.50	306.12	21-Aug-12	10.05	305.57	18-Oct-16	9.90	305.72
17-Dec-08	9.42	306.20	18-Sep-12	10.13	305.49	14-Nov-16	9.94	305.68
06-Jan-09	9.19	306.43	23-Oct-12	10.23	305.39	14-Dec-16	9.94	305.68
27-Feb-09	9.07	306.55	28-Nov-12	10.21	305.41			
11-Mar-09	8.95	306.67	06-Dec-12	10.20	305.42			

NOTES:
- · BTOP Below top of pipe
- · NA Not available
- · m ASL metres above sea level
- · (F) Frozen

TABLE B-1
WATER LEVEL DATA - GROUNDWATER MONITORS
MILL CREEK AGGREGATES PIT

BH3-I/BH3B								
DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)
18-Jan-17	9.84	305.78						
15-Feb-17	9.72	305.90						
17-Mar-17	9.65	305.97						
11-Apr-17	9.48	306.14						
18-May-17	9.26	306.36						
14-Jun-17	9.27	306.35						
20-Jul-17	9.30	306.32						
09-Aug-17	9.35	306.27						
12-Sep-17	9.54	306.08						
12-Oct-17	9.69	305.93						
21-Nov-17	9.78	305.84						
19-Dec-17	9.86	305.76						
16-Jan-18	(F)							
26-Feb-18	9.60	306.02						
26-Mar-18	9.67	305.95						
24-Apr-18	9.24	306.38						
18-May-18	9.44	306.18						
12-Jun-18	9.50	306.12						
27-Jul-18	9.65	305.97						
22-Aug-18	9.68	305.94						
12-Sep-18	9.75	305.87						
30-Oct-18	9.89	305.73						
21-Nov-18	9.87	305.75						
20-Dec-18	9.70	305.92						

NOTES:
- BTOP Below top of pipe
- NA Not available
- m ASL metres above sea level
- (F) Frozen

TABLE B-1
WATER LEVEL DATA - GROUNDWATER MONITORS
MILL CREEK AGGREGATES PIT

BH4-I								
DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)
02-Nov-86	2.35	306.54	27-May-93	2.27	306.62	12-Mar-01	3.03	305.86
17-Dec-86	2.38	306.51	22-Jun-93	2.39	306.50	09-Apr-01	2.90	305.99
06-Jan-87	2.34	306.55	15-Jul-93	2.54	306.35	03-May-01	2.96	305.93
10-Mar-87	2.09	306.80	18-Aug-93	2.70	306.19	06-Jun-01	3.00	305.89
23-Jun-87	2.46	306.43	20-Sep-93	2.84	306.05	11-Jul-01	3.19	305.70
22-Oct-87	2.76	306.13	19-Oct-93	2.86	306.03	01-Aug-01	3.33	305.56
07-Jul-88	2.85	306.04	17-Nov-93	2.97	305.92	05-Sep-01	3.51	305.38
26-Aug-88	2.98	305.91	07-Dec-93	2.80	306.09	02-Oct-01	3.58	305.31
27-Sep-88	3.05	305.84	19-Jan-94	3.03	305.86	06-Nov-01	3.47	305.42
14-Dec-88	2.91	305.98	23-Feb-94	2.76	306.13	06-Dec-01	3.34	305.55
20-Jan-89	2.92	305.97	24-Mar-94	2.59	306.30	04-Jan-02	3.37	305.52
22-Feb-89	2.98	305.91	19-Apr-94	2.52	306.37	07-Feb-02	3.29	305.60
01-Apr-89	2.73	306.16	25-May-94	2.47	306.42	07-Mar-02	(F)	
17-Apr-89	2.72	306.17	23-Jun-94	2.74	306.15	07-Apr-02	2.99	305.90
24-May-89	2.84	306.05	20-Jul-94	2.88	306.01	06-May-02	3.03	305.86
12-Jul-89	3.01	305.88	25-Aug-94	2.99	305.90	14-Jun-02	3.06	305.83
27-Jul-89	3.12	305.77	21-Sep-94	3.15	305.74	11-Jul-02	3.15	305.74
15-Aug-89	3.21	305.68	18-Oct-94	3.25	305.64	09-Aug-02	3.20	305.69
30-Aug-89	3.27	305.62	24-Nov-94	3.26	305.63	04-Sep-02	3.42	305.47
17-Oct-89	3.42	305.47	21-Dec-94	3.17	305.72	11-Oct-02	3.40	305.49
30-Nov-89	3.35	305.54	24-Jan-95	2.41	306.48	21-Nov-02	3.58	305.31
13-Dec-89	3.40	305.49	16-Feb-95	(F)		13-Dec-02	3.60	305.29
17-Jan-90	3.39	305.50	24-Mar-95	2.68	306.21	09-Jan-03	3.00	305.89
06-Mar-90	2.99	305.90	17-May-95	2.68	306.21	10-Feb-03	2.62	306.27
02-Apr-90	2.75	306.14	13-Jun-95	2.70	306.19	13-Mar-03	2.90	305.99
25-Jun-90	2.93	305.96	20-Jul-95	2.93	305.96	10-Apr-03	3.14	305.75
26-Jul-90	3.07	305.82	15-Aug-95	2.99	305.90	07-May-03	3.21	305.68
22-Aug-90	3.18	305.71	18-Oct-95	3.22	305.67	15-May-03	3.20	305.69
26-Sep-90	3.29	305.60	22-Nov-95	2.95	305.94	16-Jun-03	3.40	305.49
24-Oct-90	3.19	305.70	26-Mar-96	2.55	306.34	17-Jul-03	3.46	305.43
25-Nov-90	3.12	305.77	31-May-96	2.19	306.70	21-Aug-03	3.61	305.28
14-Dec-90	2.95	305.94	31-Jul-96	2.39	306.50	26-Aug-03	3.49	305.40
23-Jan-91	2.65	306.24	02-Oct-96	2.42	306.47	25-Sep-03	3.52	305.37
20-Feb-91	2.63	306.26	07-Nov-96	2.58	306.31	27-Oct-03	3.50	305.39
28-Mar-91	2.11	306.78	26-Mar-97	1.93	306.96	01-Dec-03	3.29	305.60
26-Apr-91	1.97	306.92	26-May-97	2.15	306.74	11-Dec-03	3.34	305.55
24-May-91	2.24	306.65	30-Jul-97	2.61	306.28	16-Dec-03	3.32	305.57
20-Jun-91	2.36	306.53	06-Nov-97	2.81	306.08	19-Jan-04	3.15	305.74
30-Jul-91	2.54	306.35	16-Dec-97	2.96	305.93	18-Feb-04	3.15	305.74
22-Aug-91	2.69	306.20	27-Mar-98	2.46	306.43	25-Mar-04	2.86	306.03
25-Sep-91	2.93	305.96	31-May-98	2.77	306.12	07-Apr-04	2.76	306.13
29-Oct-91	3.04	305.85	31-Jul-98	3.02	305.87	22-Apr-04	2.73	306.16
26-Nov-91	3.11	305.78	30-Sep-98	3.32	305.57	20-May-04	2.69	306.20
16-Dec-91	3.03	305.86	30-Dec-98	3.43	305.46	24-Jun-04	2.75	306.14
13-Mar-92	2.87	306.02	31-Mar-99	3.11	305.78	23-Jul-04	2.85	306.04
15-Apr-92	2.98	305.91	20-May-99	3.13	305.76	04-Aug-04	2.84	306.05
22-May-92	2.75	306.14	16-Jul-99	3.37	305.52	26-Aug-04	3.00	305.89
29-Jun-92	3.01	305.88	10-Sep-99	3.45	305.44	28-Sep-04	3.02	305.87
20-Jul-92	2.91	305.98	10-Nov-99	3.55	305.34	18-Oct-04	3.16	305.73
26-Aug-92	2.99	305.90	01-Mar-00	3.33	305.56	16-Nov-04	3.10	305.79
14-Sep-92	2.96	305.93	19-May-00	3.10	305.79	15-Dec-04	3.10	305.79
28-Oct-92	2.84	306.05	06-Jul-00	3.07	305.82	16-Dec-04	3.10	305.79
28-Nov-92	2.30	306.59	14-Sep-00	3.26	305.63			
14-Dec-92	2.51	306.38	11-Oct-00	3.30	305.59			
19-Jan-93	2.20	306.69	07-Nov-00	3.44	305.45			
05-Mar-93	2.43	306.46	12-Dec-00	3.47	305.42			
26-Mar-93	2.41	306.48	12-Jan-01	3.37	305.52			
20-Apr-93	2.08	306.81	07-Feb-01	3.33	305.56			

NOTES:
- · BTOP Below top of pipe
- · NA Not available
- · m ASL metres above sea level
- · (F) Frozen

TABLE B-1
WATER LEVEL DATA - GROUNDWATER MONITORS
MILL CREEK AGGREGATES PIT

BH4-I								
DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)
20-Jan-05	2.94	305.95	28-Sep-09	2.53	306.36	22-Oct-13	3.26	305.59
25-Feb-05	2.90	305.99	14-Oct-09	2.77	306.12	28-Nov-13	3.06	305.79
24-Mar-05	2.84	306.05	11-Nov-09	2.69	306.20	10-Dec-13	3.08	305.77
18-Apr-05	2.77	306.12	11-Dec-09	2.70	306.19	15-Jan-14	2.93	305.92
29-Apr-05	2.66	306.23	16-Dec-09	2.68	306.21	26-Feb-14	2.95	305.90
26-May-05	2.76	306.13	13-Jan-10	2.75	306.14	26-Mar-14	2.96	305.89
23-Jun-05	2.83	306.06	11-Feb-10	2.80	306.09	01-Apr-14	2.83	306.02
25-Jul-05	2.78	306.11	11-Mar-10	2.72	306.17	15-May-14	2.77	306.08
17-Aug-05	2.90	305.99	16-Apr-10	2.64	306.25	18-Jun-14	2.87	305.98
25-Aug-05	2.91	305.98	21-May-10	2.78	306.11	29-Jul-14	2.88	305.97
30-Sep-05	2.96	305.93	17-Jun-10	2.79	306.10	25-Aug-14	2.92	305.93
27-Oct-05	2.98	305.91	15-Jul-10	2.94	305.95	18-Sep-14	2.92	305.93
28-Nov-05	3.03	305.86	18-Aug-10	3.02	305.87	17-Oct-14	2.99	305.86
07-Dec-05	2.94	305.95	31-Aug-10	3.04	305.85	27-Nov-14	2.96	305.89
19-Dec-05	3.06	305.83	28-Sep-10	3.14	305.75	15-Dec-14	2.98	305.87
30-Mar-06	2.64	306.25	20-Oct-10	3.20	305.69	21-Jan-15	2.96	305.89
27-Apr-06	2.57	306.32	18-Nov-10	3.19	305.70	18-Feb-15	2.96	305.89
28-Apr-06	2.59	306.30	08-Dec-10	3.23	305.66	25-Mar-15	2.94	305.91
15-Jun-06	2.68	306.21	22-Dec-10	3.25	305.64	06-Apr-15	2.93	305.92
15-Jul-06	2.59	306.30	19-Jan-11	3.23	305.66	20-May-15	2.97	305.88
24-Aug-06	2.69	306.20	17-Feb-11	3.30	305.59	23-Jun-15	2.95	305.90
15-Sep-06	2.69	306.20	16-Mar-11	2.92	305.97	22-Jul-15	2.98	305.87
15-Oct-06	2.72	306.17	13-Apr-11	2.91	305.98	25-Aug-15	2.99	305.86
15-Nov-06	2.66	306.23	21-Apr-11	2.82	306.07	24-Sep-15	3.14	305.71
07-Dec-06	2.64	306.25	26-May-11	2.62	306.27	29-Oct-15	3.07	305.78
17-Jan-07	2.70	306.19	16-Jun-11	2.63	306.26	25-Nov-15	3.14	305.71
26-Apr-07	2.43	306.46	14-Jul-11	2.74	306.15	10-Dec-15	3.11	305.74
16-May-07	2.56	306.33	11-Aug-11	2.80	306.05	20-Jan-16	3.11	305.74
26-Jun-07	2.55	306.34	17-Aug-11	2.83	306.02	29-Feb-16	3.07	305.78
25-Jul-07	2.62	306.27	14-Sep-11	2.97	305.88	17-Mar-16	3.01	305.84
07-Aug-07	2.73	306.16	27-Oct-11	2.89	305.96	30-Mar-16	3.10	305.75
21-Aug-07	2.69	306.20	14-Nov-11	2.99	305.86	27-Apr-16	2.94	305.91
21-Sep-07	2.80	306.09	22-Dec-11	2.81	306.04	30-May-16	2.84	306.01
17-Oct-07	2.83	306.06	16-Jan-12	2.80	306.05	27-Jun-16	2.91	305.94
15-Nov-07	3.04	305.85	16-Feb-12	2.78	306.07	28-Jul-16	2.97	305.88
10-Dec-07	3.12	305.77	29-Mar-12	2.71	306.14	11-Aug-16	3.05	305.80
31-Jan-08	2.95	305.94	10-Apr-12	2.77	306.08	21-Sep-16	3.02	305.83
29-Feb-08	2.86	306.03	30-Apr-12	2.80	306.05	18-Oct-16	3.11	305.74
31-Mar-08	2.57	306.32	29-May-12	2.94	305.91	14-Nov-16	3.12	305.73
28-Apr-08	2.50	306.39	20-Jun-12	3.01	305.84	14-Dec-16	3.13	305.72
28-May-08	2.52	306.37	24-Jul-12	3.20	305.65	18-Jan-17	3.02	305.83
25-Jun-08	2.50	306.39	08-Aug-12	3.26	305.59	15-Feb-17	2.89	305.96
16-Jul-08	2.51	306.38	21-Aug-12	3.28	305.57	17-Mar-17	2.95	305.90
20-Aug-08	2.53	306.36	18-Sep-12	3.35	305.50	11-Apr-17	2.76	306.09
26-Aug-08	2.52	306.37	23-Oct-12	3.37	305.48	18-May-17	2.64	306.21
19-Sep-08	2.46	306.43	28-Nov-12	3.38	305.47	14-Jun-17	2.67	306.18
10-Oct-08	2.60	306.29	06-Dec-12	3.36	305.49	20-Jul-17	2.65	306.20
05-Nov-08	2.68	306.21	19-Dec-12	3.33	305.52	09-Aug-17	2.67	306.18
17-Dec-08	2.60	306.29	16-Jan-13	3.18	305.67	12-Sep-17	2.73	306.12
06-Jan-09	2.49	306.40	20-Feb-13	3.17	305.68	12-Oct-17	2.85	306.00
27-Feb-09	2.39	306.50	21-Mar-13	3.04	305.81	21-Nov-17	2.88	305.97
11-Mar-09	2.30	306.59	04-Apr-13	3.05	305.80	19-Dec-17	2.97	305.88
14-Apr-09	2.28	306.61	25-Apr-13	2.87	305.98	16-Jan-18	2.89	305.96
21-May-09	2.31	306.58	23-May-13	2.88	305.97	26-Feb-18	2.94	305.91
16-Jun-09	2.40	306.49	13-Jun-13	2.79	306.06	26-Mar-18	2.82	306.03
31-Jul-09	2.66	306.23	31-Jul-13	2.75	306.10	24-Apr-18	2.61	306.24
25-Aug-09	2.38	306.51	29-Aug-13	2.91	305.94	18-May-18	2.64	306.21
28-Aug-09	2.41	306.48	25-Sep-13	3.10	305.75	12-Jun-18	2.69	306.16

NOTES:
- · BTOP Below top of pipe
- · NA Not available
- · m ASL metres above sea level
- · (F) Frozen

TABLE B-1
WATER LEVEL DATA - GROUNDWATER MONITORS
MILL CREEK AGGREGATES PIT

BH4-I								
DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)
27-Jul-18	2.82	306.03						
22-Aug-18	2.83	306.02						
12-Sep-18	2.91	305.94						
30-Oct-18	3.02	305.83						
21-Nov-18	2.98	305.87						
20-Dec-18	3.00	305.85						

NOTES:
· BTOP Below top of pipe
· NA Not available
· m ASL metres above sea level
· (F) Frozen

TABLE B-1
WATER LEVEL DATA - GROUNDWATER MONITORS
MILL CREEK AGGREGATES PIT

BH5-I								
DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)
02-Nov-86	2.28	306.95	23-Jun-93	2.42	306.81	03-May-01	3.01	306.22
17-Dec-86	2.37	306.86	15-Jul-93	2.53	306.70	06-Jun-01	3.01	306.22
06-Jan-87	2.37	306.86	18-Aug-93	2.57	306.66	25-Jun-01	3.06	306.17
10-Mar-87	2.23	307.00	20-Sep-93	2.70	306.53	28-Jun-01	3.03	306.20
23-Jun-87	2.35	306.88	19-Oct-93	2.53	306.70	03-Jul-01	3.04	306.19
22-Oct-87	2.57	306.66	17-Nov-93	2.78	306.45	05-Jul-01	3.08	306.15
07-Jul-88	2.73	306.50	07-Dec-93	2.59	306.64	09-Jul-01	3.07	306.16
26-Aug-88	2.82	306.41	18-Jan-94	2.75	306.48	12-Jul-01	3.05	306.18
27-Sep-88	2.70	306.53	23-Feb-94	2.56	306.67	16-Jul-01	3.00	306.23
14-Dec-88	2.71	306.52	24-Mar-94	2.45	306.78	19-Jul-01	3.01	306.22
20-Jan-89	2.71	306.52	19-Apr-94	2.51	306.72	23-Jul-01	3.11	306.12
22-Feb-89	2.78	306.45	24-May-94	2.55	306.68	26-Jul-01	3.09	306.14
01-Apr-89	2.49	306.74	23-Jun-94	2.73	306.50	30-Jul-01	3.10	306.13
17-Apr-89	2.56	306.67	19-Jul-94	2.77	306.46	02-Aug-01	3.14	306.09
24-May-89	2.71	306.52	25-Aug-94	2.80	306.43	07-Aug-01	3.13	306.10
12-Jul-89	2.83	306.40	21-Sep-94	2.91	306.32	09-Aug-01	3.15	306.08
27-Jul-89	2.93	306.30	19-Oct-94	2.92	306.31	13-Aug-01	3.40	305.83
15-Aug-89	2.97	306.26	24-Nov-94	2.85	306.38	14-Aug-01	3.23	306.00
30-Aug-89	3.00	306.23	22-Dec-94	2.77	306.46	16-Aug-01	3.26	305.97
17-Oct-89	3.06	306.17	24-Jan-95	2.38	306.85	20-Aug-01	3.24	305.99
30-Nov-89	2.90	306.33	16-Feb-95	2.65	306.58	23-Aug-01	3.24	305.99
13-Dec-89	3.02	306.21	23-Mar-95	2.46	306.77	27-Aug-01	3.42	305.81
17-Jan-90	2.95	306.28	17-May-95	2.60	306.63	30-Aug-01	3.38	305.85
06-Mar-90	2.74	306.49	13-Jun-95	2.60	306.63	31-Aug-01	3.31	305.92
02-Apr-90	2.63	306.60	20-Jul-95	2.80	306.43	04-Sep-01	3.23	306.00
25-Jun-90	2.79	306.44	15-Aug-95	2.69	306.54	06-Sep-01	3.25	305.98
26-Jul-90	2.83	306.40	18-Oct-95	2.89	306.34	10-Sep-01	3.28	305.95
22-Aug-90	2.90	306.33	22-Nov-95	2.69	306.54	13-Sep-01	3.30	305.93
26-Sep-90	2.96	306.27	26-Mar-96	2.37	306.86	17-Sep-01	3.32	305.91
24-Oct-90	2.78	306.45	31-May-96	2.37	306.86	20-Sep-01	3.33	305.90
25-Nov-90	2.77	306.46	29-Jul-96	2.45	306.78	24-Sep-01	3.25	305.98
14-Dec-90	2.66	306.57	27-Sep-96	2.44	306.79	27-Sep-01	3.29	305.94
23-Jan-91	2.59	306.64	07-Nov-96	2.48	306.75	01-Oct-01	3.29	305.94
20-Feb-91	2.49	306.74	25-Mar-97	2.21	307.02	04-Oct-01	3.33	305.90
28-Mar-91	2.20	307.03	26-May-97	2.25	306.98	09-Oct-01	3.22	306.01
26-Apr-91	2.29	306.94	30-Jul-97	2.55	306.68	11-Oct-01	3.25	305.98
24-May-91	2.42	306.81	06-Nov-97	2.58	306.65	15-Oct-01	3.36	305.87
20-Jun-91	2.44	306.79	12-Dec-97	2.75	306.48	19-Oct-01	3.17	306.06
30-Jul-91	2.40	306.83	27-Mar-98	2.41	306.82	22-Oct-01	3.14	306.09
22-Aug-91	2.59	306.64	31-May-98	2.71	306.52	26-Oct-01	3.16	306.07
25-Sep-91	2.74	306.49	31-Jul-98	2.99	306.24	29-Oct-01	3.08	306.15
29-Oct-91	2.74	306.49	30-Sep-98	3.19	306.04	01-Nov-01	3.10	306.13
26-Nov-91	2.78	306.45	30-Dec-98	3.17	306.06	05-Nov-01	3.07	306.16
16-Dec-91	2.68	306.55	31-Mar-99	2.94	306.29	08-Nov-01	3.11	306.12
13-Mar-92	2.61	306.62	20-May-99	3.40	305.83	12-Nov-01	3.12	306.11
15-Apr-92	2.69	306.54	16-Jul-99	3.63	305.60	15-Nov-01	3.14	306.09
22-May-92	2.69	306.54	10-Sep-99	3.55	305.68	19-Nov-01	3.12	306.11
29-Jun-92	2.83	306.40	09-Nov-99	3.43	305.80	22-Nov-01	3.10	306.13
20-Jul-92	2.53	306.70	01-Mar-00	3.17	306.06	26-Nov-01	3.04	306.19
26-Aug-92	2.73	306.50	19-May-00	3.03	306.20	29-Nov-01	3.00	306.23
14-Sep-92	2.66	306.57	06-Jul-00	3.07	306.16	03-Dec-01	2.95	306.28
28-Oct-92	2.62	306.61	14-Sep-00	3.26	305.97	06-Dec-01	2.98	306.25
26-Nov-92	2.35	306.88	11-Oct-00	3.27	305.96	10-Dec-01	3.00	306.23
15-Dec-92	2.49	306.74	07-Nov-00	3.41	305.82	13-Dec-01	2.99	306.24
19-Jan-93	2.40	306.83	12-Dec-00	3.30	305.93	17-Dec-01	2.92	306.31
05-Mar-93	NA		11-Jan-01	3.18	306.05	20-Dec-01	2.89	306.34
26-Mar-93	2.35	306.88	07-Feb-01	3.17	306.06	02-Jan-02	3.00	306.23
20-Apr-93	2.22	307.01	12-Mar-01	2.96	306.27	07-Jan-02	2.91	306.32
28-May-93	2.39	306.84	09-Apr-01	2.85	306.38	10-Jan-02	2.87	306.36

NOTES:
- · BTOP Below top of pipe
- · NA Not available
- · m ASL metres above sea level
- · (F) Frozen

TABLE B-1
WATER LEVEL DATA - GROUNDWATER MONITORS
MILL CREEK AGGREGATES PIT

BH5-I								
DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)
14-Jan-02	3.20	306.03	04-Sep-02	3.42	305.81	24-Aug-06	2.84	306.39
17-Jan-02	3.22	306.01	17-Sep-02	3.41	305.82	15-Sep-06	2.81	306.42
21-Jan-02	3.23	306.00	02-Oct-02	3.40	305.83	15-Oct-06	2.68	306.55
24-Jan-02	3.15	306.08	11-Oct-02	3.44	305.79	15-Nov-06	2.55	306.68
28-Jan-02	3.15	306.08	18-Oct-02	3.46	305.77	07-Dec-06	2.52	306.71
01-Feb-02	3.13	306.10	21-Nov-02	3.41	305.82	17-Jan-07	2.52	306.71
04-Feb-02	3.28	305.95	13-Dec-02	3.42	305.81	26-Apr-07	2.38	306.85
07-Feb-02	3.16	306.07	09-Jan-03	3.38	305.85	16-May-07	2.38	306.85
11-Feb-02	3.15	306.08	10-Feb-03	3.31	305.92	26-Jun-07	2.52	306.71
15-Feb-02	3.20	306.03	13-Mar-03	3.07	306.16	25-Jul-07	2.69	306.54
18-Feb-02	3.25	305.98	10-Apr-03	3.00	306.23	07-Aug-07	2.76	306.47
21-Feb-02	3.02	306.21	07-May-03	3.06	306.17	21-Aug-07	2.86	306.37
25-Feb-02	3.08	306.15	15-May-03	3.10	306.13	21-Sep-07	2.98	306.25
05-Mar-02	3.05	306.18	16-Jun-03	3.21	306.02	17-Oct-07	2.96	306.27
07-Mar-02	3.04	306.19	17-Jul-03	3.22	306.01	15-Nov-07	3.03	306.20
11-Mar-02	2.95	306.28	21-Aug-03	3.39	305.84	29-Nov-07	2.96	306.27
15-Mar-02	3.00	306.23	26-Aug-03	3.20	306.03	10-Dec-07	2.95	306.28
19-Mar-02	3.00	306.23	25-Sep-03	3.30	305.93	31-Jan-08	2.79	306.44
21-Mar-02	2.98	306.25	27-Oct-03	3.26	305.97	29-Feb-08	2.72	306.51
26-Mar-02	3.00	306.23	01-Dec-03	3.11	306.12	31-Mar-08	2.42	306.81
28-Mar-02	2.98	306.25	11-Dec-03	3.14	306.09	28-Apr-08	2.47	306.76
01-Apr-02	2.96	306.27	16-Dec-03	3.14	306.09	28-May-08	2.46	306.77
05-Apr-02	2.94	306.29	19-Jan-04	3.06	306.17	25-Jun-08	2.42	306.81
07-Apr-02	2.80	306.43	18-Feb-04	2.94	306.29	16-Jul-08	2.43	306.80
11-Apr-02	2.92	306.31	25-Mar-04	2.82	306.41	20-Aug-08	2.41	306.82
17-Apr-02	2.94	306.29	07-Apr-04	2.71	306.52	26-Aug-08	2.42	306.81
19-Apr-02	2.79	306.44	22-Apr-04	2.61	306.62	19-Sep-08	2.33	306.90
23-Apr-02	2.95	306.28	20-May-04	2.59	306.64	10-Oct-08	2.47	306.76
29-Apr-02	2.92	306.31	24-Jun-04	2.63	306.60	05-Nov-08	2.53	306.70
06-May-02	3.09	306.14	23-Jul-04	2.74	306.49	17-Dec-08	2.46	306.77
10-May-02	3.11	306.12	04-Aug-04	2.74	306.49	06-Jan-09	2.40	306.83
14-May-02	3.08	306.15	26-Aug-04	2.85	306.38	27-Feb-09	2.40	306.83
17-May-02	2.98	306.25	28-Sep-04	2.92	306.31	11-Mar-09	2.25	306.98
21-May-02	2.98	306.25	18-Oct-04	2.99	306.24	14-Apr-09	2.26	306.97
24-May-02	3.03	306.20	16-Nov-04	3.02	306.21	21-May-09	2.27	306.96
27-May-02	3.05	306.18	15-Dec-04	2.97	306.26	16-Jun-09	2.29	306.94
31-May-02	3.00	306.23	16-Dec-04	2.97	306.26	31-Jul-09	2.31	306.92
04-Jun-02	3.02	306.21	20-Jan-05	2.86	306.37	25-Aug-09	2.27	306.96
07-Jun-02	3.00	306.23	25-Feb-05	2.80	306.43	28-Aug-09	2.30	306.93
11-Jun-02	3.09	306.14	24-Mar-05	2.81	306.42	28-Sep-09	2.42	306.81
14-Jun-02	3.10	306.13	18-Apr-05	2.65	306.58	14-Oct-09	2.45	306.78
18-Jun-02	3.08	306.15	29-Apr-05	2.55	306.68	11-Nov-09	2.51	306.72
21-Jun-02	3.05	306.18	26-May-05	2.64	306.59	11-Dec-09	2.54	306.69
25-Jun-02	3.05	306.18	23-Jun-05	2.69	306.54	16-Dec-09	2.51	306.72
02-Jul-02	3.08	306.15	25-Jul-05	2.78	306.45	13-Jan-10	2.62	306.61
05-Jul-02	3.12	306.11	17-Aug-05	2.85	306.38	11-Feb-10	3.14	306.09
08-Jul-02	3.13	306.10	25-Aug-05	2.86	306.37	11-Mar-10	2.62	306.61
11-Jul-02	3.15	306.08	30-Sep-05	2.89	306.34	16-Apr-10	2.52	306.71
15-Jul-02	3.20	306.03	27-Oct-05	3.00	306.23	21-May-10	2.62	306.61
18-Jul-02	3.21	306.02	28-Nov-05	3.03	306.20	17-Jun-10	2.60	306.63
23-Jul-02	3.20	306.03	07-Dec-05	2.96	306.27	15-Jul-10	2.77	306.46
26-Jul-02	3.20	306.03	19-Dec-05	2.96	306.27	18-Aug-10	2.83	306.40
30-Jul-02	3.15	306.08	26-Jan-06	2.72	306.51	31-Aug-10	2.89	306.34
05-Aug-02	3.19	306.04	15-Feb-06	2.75	306.48	28-Sep-10	2.91	306.32
09-Aug-02	3.19	306.04	30-Mar-06	2.62	306.61	20-Oct-10	2.99	306.24
16-Aug-02	3.25	305.98	27-Apr-06	2.50	306.73	18-Nov-10	3.55	305.68
21-Aug-02	3.26	305.97	28-Apr-06	2.60	306.63	08-Dec-10	2.98	306.25
23-Aug-02	3.27	305.96	15-May-06	2.63	306.60	22-Dec-10	3.02	306.21
28-Aug-02	3.40	305.83	15-Jun-06	2.71	306.52			
30-Aug-02	3.40	305.83	15-Jul-06	2.69	306.54			

NOTES:
- BTOP Below top of pipe
- NA Not available
- m ASL metres above sea level
- (F) Frozen

TABLE B-1
WATER LEVEL DATA - GROUNDWATER MONITORS
MILL CREEK AGGREGATES PIT

BH5-I								
DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)
19-Jan-11	3.05	306.18	28-Nov-13	2.71	306.48	17-Mar-17	2.66	306.53
17-Feb-11	2.91	306.32	10-Dec-13	2.90	306.29	11-Apr-17	2.51	306.68
16-Mar-11	2.82	306.41	15-Jan-14	2.76	306.43	18-May-17	2.44	306.75
13-Apr-11	2.80	306.43	26-Feb-14	2.85	306.34	14-Jun-17	2.74	306.45
21-Apr-11	2.72	306.51	26-Mar-14	2.81	306.38	20-Jul-17	2.41	306.78
26-May-11	2.47	306.76	01-Apr-14	2.70	306.49	09-Aug-17	2.52	306.67
16-Jun-11	2.53	306.70	15-May-14	2.40	306.79	12-Sep-17	2.69	306.50
14-Jul-11	2.66	306.57	18-Jun-14	2.55	306.64	12-Oct-17	2.80	306.39
11-Aug-11	2.81	306.38	29-Jul-14	2.53	306.66	21-Nov-17	2.81	306.38
17-Aug-11	2.86	306.33	25-Aug-14	2.59	306.60	19-Dec-17	2.86	306.33
14-Sep-11	2.95	306.24	18-Sep-14	2.56	306.63	16-Jan-18	2.83	306.36
27-Oct-11	2.87	306.32	17-Oct-14	2.56	306.63	26-Feb-18	2.74	306.45
14-Nov-11	2.92	306.27	27-Nov-14	2.64	306.55	26-Mar-18	2.83	306.36
14-Dec-11	2.68	306.51	15-Dec-14	2.76	306.43	24-Apr-18	2.65	306.54
22-Dec-11	2.74	306.45	21-Jan-15	2.80	306.39	18-May-18	2.64	306.55
16-Jan-12	2.76	306.43	18-Feb-15	2.85	306.34	12-Jun-18	2.76	306.43
16-Feb-12	2.76	306.43	25-Mar-15	2.60	306.59	27-Jul-18	2.90	306.29
29-Mar-12	2.66	306.53	06-Apr-15	2.78	306.41	22-Aug-18	2.88	306.31
10-Apr-12	2.78	306.41	20-May-15	2.71	306.48	12-Sep-18	2.98	306.21
30-Apr-12	2.74	306.45	23-Jun-15	2.68	306.51	30-Oct-18	3.17	306.02
29-May-12	2.85	306.34	22-Jul-15	2.75	306.44	21-Nov-18	3.07	306.12
20-Jun-12	2.89	306.30	25-Aug-15	2.74	306.45	20-Dec-18	3.15	306.04
24-Jul-12	3.11	306.08	24-Sep-15	2.84	306.35			
08-Aug-12	3.20	305.99	29-Oct-15	2.70	306.49			
21-Aug-12	3.15	306.04	25-Nov-15	2.85	306.34			
18-Sep-12	3.13	306.06	10-Dec-15	2.97	306.22			
23-Oct-12	3.08	306.11	20-Jan-16	2.94	306.25			
28-Nov-12	3.12	306.07	29-Feb-16	2.78	306.41			
06-Dec-12	3.12	306.07	17-Mar-16	2.68	306.51			
19-Dec-12	3.14	306.05	30-Mar-16	2.60	306.59			
16-Jan-13	3.02	306.17	27-Apr-16	2.65	306.54			
20-Feb-13	3.01	306.18	30-May-16	2.72	306.47			
21-Mar-13	2.92	306.27	27-Jun-16	3.09	306.10			
04-Apr-13	2.90	306.29	28-Jul-16	2.86	306.33			
25-Apr-13	2.71	306.48	11-Aug-16	3.00	306.19			
23-May-13	2.81	306.38	21-Sep-16	2.95	306.24			
13-Jun-13	2.68	306.51	18-Oct-16	2.99	306.20			
31-Jul-13	2.60	306.59	14-Nov-16	2.99	306.20			
29-Aug-13	2.83	306.36	14-Dec-16	3.05	306.14			
25-Sep-13	2.82	306.37	18-Jan-17	2.75	306.44			
22-Oct-13	2.74	306.45	15-Feb-17	2.73	306.46			

NOTES:
- · BTOP Below top of pipe
- · NA Not available
- · m ASL metres above sea level
- · (F) Frozen

TABLE B-1
WATER LEVEL DATA - GROUNDWATER MONITORS
MILL CREEK AGGREGATES PIT

BH6-I								
DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)
02-Nov-86	1.70	306.71	22-Jun-93	1.84	306.57	03-May-01	2.43	305.98
17-Dec-86	1.76	306.65	15-Jul-93	2.01	306.40	06-Jun-01	2.40	306.01
06-Jan-87	1.76	306.65	18-Aug-93	2.10	306.31	25-Jun-01	2.49	305.92
10-Mar-87	1.50	306.91	20-Sep-93	2.20	306.21	28-Jun-01	2.48	305.93
23-Jun-87	1.70	306.71	19-Oct-93	2.04	306.37	03-Jul-01	2.56	305.85
22-Oct-87	2.03	306.38	17-Nov-93	2.25	306.16	05-Jul-01	2.56	305.85
07-Jul-88	2.22	306.19	07-Dec-93	2.05	306.36	09-Jul-01	2.60	305.81
26-Aug-88	2.25	306.16	18-Jan-94	2.27	306.14	12-Jul-01	2.60	305.81
27-Sep-88	2.18	306.23	23-Feb-94	2.02	306.39	16-Jul-01	2.62	305.79
14-Dec-88	2.17	306.24	24-Mar-94	1.75	306.66	19-Jul-01	2.63	305.78
20-Jan-89	2.18	306.23	19-Apr-94	1.92	306.49	23-Jul-01	2.68	305.73
22-Feb-89	2.26	306.15	24-May-94	1.98	306.43	26-Jul-01	2.69	305.72
01-Apr-89	1.90	306.51	23-Jun-94	2.22	306.19	30-Jul-01	2.71	305.70
17-Apr-89	2.01	306.40	19-Jul-94	2.28	306.13	02-Aug-01	2.73	305.68
24-May-89	2.19	306.22	25-Aug-94	2.30	306.11	07-Aug-01	2.77	305.64
12-Jul-89	2.32	306.09	21-Sep-94	2.41	306.00	09-Aug-01	2.78	305.63
27-Jul-89	2.40	306.01	19-Oct-94	2.42	305.99	13-Aug-01	2.82	305.59
15-Aug-89	2.45	305.96	23-Nov-94	2.32	306.09	16-Aug-01	2.82	305.59
30-Aug-89	2.48	305.93	21-Dec-94	2.20	306.21	20-Aug-01	2.67	305.74
17-Oct-89	2.38	306.03	25-Jan-95	1.76	306.65	23-Aug-01	2.76	305.65
30-Nov-89	2.49	305.92	16-Feb-95	2.15	306.26	27-Aug-01	2.82	305.59
13-Dec-89	2.49	305.92	23-Mar-95	1.91	306.50	30-Aug-01	2.80	305.61
17-Jan-90	2.43	305.98	17-May-95	NA		04-Sep-01	2.83	305.58
06-Mar-90	2.21	306.20	13-Jun-95	2.11	306.30	06-Sep-01	2.84	305.57
02-Apr-90	2.07	306.34	20-Jul-95	2.29	306.12	10-Sep-01	2.86	305.55
25-Jun-90	2.27	306.14	15-Aug-95	2.19	306.22	13-Sep-01	2.88	305.53
26-Jul-90	2.33	306.08	18-Oct-95	2.37	306.04	17-Sep-01	2.90	305.51
22-Aug-90	2.40	306.01	22-Nov-95	2.12	306.29	20-Sep-01	2.86	305.55
26-Sep-90	2.45	305.96	26-Mar-96	1.81	306.60	24-Sep-01	2.82	305.59
24-Oct-90	2.29	306.12	31-May-96	2.05	306.36	27-Sep-01	2.80	305.61
25-Nov-90	2.26	306.15	29-Jul-96	1.93	306.48	01-Oct-01	2.85	305.56
14-Dec-90	2.09	306.32	27-Sep-96	1.90	306.51	04-Oct-01	2.86	305.55
23-Jan-91	2.04	306.37	07-Nov-96	1.94	306.47	09-Oct-01	2.75	305.66
20-Feb-91	1.95	306.46	26-Mar-97	1.54	306.87	11-Oct-01	2.77	305.64
28-Mar-91	1.50	306.91	26-May-97	1.70	306.71	15-Oct-01	2.65	305.76
26-Apr-91	1.62	306.79	30-Jul-97	2.06	306.35	19-Oct-01	2.65	305.76
24-May-91	1.85	306.56	06-Nov-97	2.01	306.40	22-Oct-01	2.71	305.70
20-Jun-91	1.89	306.52	12-Dec-97	2.19	306.22	26-Oct-01	2.71	305.70
30-Jul-91	1.90	306.51	27-Mar-98	1.77	306.64	29-Oct-01	2.75	305.66
22-Aug-91	2.11	306.30	31-May-98	2.20	306.21	01-Nov-01	2.76	305.65
25-Sep-91	2.24	306.17	31-Jul-98	2.37	306.04	05-Nov-01	2.73	305.68
29-Oct-91	2.24	306.17	30-Sep-98	2.51	305.90	08-Nov-01	2.77	305.64
26-Nov-91	2.27	306.14	30-Dec-98	2.56	305.85	12-Nov-01	2.78	305.63
16-Dec-91	2.16	306.25	31-Mar-99	2.26	306.15	15-Nov-01	2.76	305.65
13-Mar-92	2.07	306.34	20-May-99	2.57	305.84	19-Nov-01	2.80	305.61
15-Apr-92	2.16	306.25	16-Jul-99	2.78	305.63	22-Nov-01	2.80	305.61
22-May-92	2.15	306.26	10-Sep-99	2.63	305.78	26-Nov-01	2.71	305.70
29-Jun-92	2.33	306.08	10-Nov-99	2.73	305.68	29-Nov-01	2.68	305.73
20-Jul-92	2.00	306.41	01-Mar-00	2.45	305.96	03-Dec-01	2.58	305.83
26-Aug-92	2.24	306.17	19-May-00	2.22	306.19	06-Dec-01	2.65	305.76
14-Sep-92	2.17	306.24	06-Jul-00	2.48	305.93	10-Dec-01	2.68	305.73
28-Oct-92	2.11	306.30	14-Sep-00	2.65	305.76	13-Dec-01	2.70	305.71
26-Nov-92	1.72	306.69	10-Oct-00	2.68	305.73	17-Dec-01	2.63	305.78
14-Dec-92	1.94	306.47	07-Nov-00	2.78	305.63	20-Dec-01	2.59	305.82
19-Jan-93	1.80	306.61	12-Dec-00	2.62	305.79	02-Jan-02	2.68	305.73
05-Mar-93	NA		12-Jan-01	2.64	305.77	07-Jan-02	2.37	306.04
26-Mar-93	NA		07-Feb-01	2.62	305.79	10-Jan-02	2.67	305.74
19-Apr-93	1.68	306.73	12-Mar-01	2.44	305.97	14-Jan-02	2.67	305.74
27-May-93	1.83	306.58	09-Apr-01	2.25	306.16	17-Jan-02	2.67	305.74

NOTES:
- · BTOP Below top of pipe
- · NA Not available
- · m ASL metres above sea level
- · (F) Frozen

TABLE B-1
WATER LEVEL DATA - GROUNDWATER MONITORS
MILL CREEK AGGREGATES PIT

BH6-I								
DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)
21-Jan-02	2.67	305.74	09-Jan-03	2.80	305.61	21-Sep-07	2.23	306.18
24-Jan-02	2.60	305.81	10-Feb-03	2.79	305.62	17-Oct-07	2.39	306.03
28-Jan-02	2.58	305.83	13-Mar-03	2.60	305.81	29-Nov-07	2.38	306.03
01-Feb-02	2.75	305.66	10-Apr-03	2.50	305.91	10-Dec-07	2.43	305.98
04-Feb-02	3.00	305.41	07-May-03	2.42	305.99	31-Jan-08	2.26	306.15
07-Feb-02	2.92	305.49	15-May-03	2.51	305.90	29-Feb-08	2.22	306.19
11-Feb-02	2.90	305.51	16-Jun-03	2.55	305.86	31-Mar-08	1.81	306.60
15-Feb-02	2.78	305.63	17-Jul-03	2.56	305.85	28-Apr-08	1.98	306.43
18-Feb-02	2.80	305.61	21-Aug-03	2.78	305.63	28-May-08	1.98	306.43
21-Feb-02	2.85	305.56	26-Aug-03	2.68	305.73	25-Jun-08	1.86	306.55
25-Feb-02	2.90	305.51	25-Sep-03	2.67	305.74	16-Jul-08	1.86	306.55
05-Mar-02	3.00	305.41	27-Oct-03	2.65	305.76	20-Aug-08	1.92	306.49
07-Mar-02	(F)		01-Dec-03	2.45	305.96	26-Aug-08	1.92	306.49
11-Mar-02	2.40	306.01	11-Dec-03	2.53	305.88	19-Sep-08	1.78	306.63
15-Mar-02	2.44	305.97	16-Dec-03	2.58	305.83	10-Oct-08	1.94	306.47
19-Mar-02	2.42	305.99	19-Jan-04	2.51	305.90	05-Nov-08	2.03	306.38
21-Mar-02	2.44	305.97	18-Feb-04	2.50	305.91	17-Dec-08	1.95	306.46
26-Mar-02	2.47	305.94	25-Mar-04	2.25	306.16	06-Jan-09	1.96	306.45
28-Mar-02	2.48	305.93	07-Apr-04	2.17	306.24	27-Feb-09	1.88	306.53
01-Apr-02	2.41	306.00	22-Apr-04	2.01	306.40	11-Mar-09	1.72	306.69
05-Apr-02	2.36	306.05	20-May-04	2.08	306.33	14-Apr-09	1.74	306.67
07-Apr-02	2.40	306.01	24-Jun-04	2.08	306.33	21-May-09	1.79	306.62
11-Apr-02	2.28	306.13	23-Jul-04	2.14	306.27	16-Jun-09	1.79	306.62
19-Apr-02	2.29	306.12	04-Aug-04	2.21	306.20	31-Jul-09	1.75	306.66
23-Apr-02	2.46	305.95	26-Aug-04	2.32	306.09	25-Aug-09	1.72	306.69
29-Apr-02	2.43	305.98	28-Sep-04	2.38	306.03	28-Aug-09	1.74	306.67
06-May-02	2.46	305.95	18-Oct-04	2.40	306.01	28-Sep-09	1.88	306.53
10-May-02	2.49	305.92	16-Nov-04	2.45	305.96	14-Oct-09	1.90	306.51
14-May-02	2.41	306.00	16-Dec-04	2.40	306.01	11-Nov-09	2.02	306.39
17-May-02	2.32	306.09	20-Jan-05	2.32	306.09	11-Dec-09	2.05	306.36
21-May-02	2.41	306.00	25-Feb-05	2.25	306.16	16-Dec-09	2.03	306.38
24-May-02	2.43	305.98	24-Mar-05	2.24	306.17	13-Jan-10	2.14	306.27
27-May-02	2.47	305.94	18-Apr-05	2.14	306.27	11-Feb-10	2.20	306.21
31-May-02	2.47	305.94	29-Apr-05	2.05	306.36	11-Mar-10	2.11	306.30
04-Jun-02	2.49	305.92	26-May-05	2.12	306.29	16-Apr-10	1.99	306.42
07-Jun-02	2.50	305.91	23-Jun-05	2.10	306.31	21-May-10	1.99	306.42
14-Jun-02	2.56	305.85	25-Jul-05	2.15	306.26	17-Jun-10	2.08	306.33
21-Jun-02	2.50	305.91	17-Aug-05	2.29	306.12	15-Jul-10	2.26	306.15
25-Jun-02	2.40	306.01	25-Aug-05	2.28	306.13	18-Aug-10	2.27	306.14
05-Jul-02	2.48	305.93	30-Sep-05	2.27	306.14	31-Aug-10	2.34	306.07
11-Jul-02	2.44	305.97	27-Oct-05	2.34	306.07	28-Sep-10	2.43	305.98
15-Jul-02	2.55	305.86	28-Nov-05	2.40	306.01	20-Oct-10	2.46	305.95
18-Jul-02	2.51	305.90	07-Dec-05	2.41	306.00	18-Nov-10	2.38	306.03
23-Jul-02	2.52	305.89	19-Dec-05	2.43	305.98	08-Dec-10	2.48	305.93
26-Jul-02	2.50	305.91	26-Jan-06	2.18	306.23	22-Dec-10	2.52	305.89
05-Aug-02	2.68	305.73	15-Feb-06	2.23	306.18	19-Jan-11	2.57	305.84
09-Aug-02	2.65	305.76	27-Apr-06	2.02	306.39	17-Feb-11	2.52	305.89
16-Aug-02	2.73	305.68	28-Apr-06	2.07	306.34	16-Mar-11	2.34	306.07
21-Aug-02	2.75	305.66	15-May-06	2.06	306.35	13-Apr-11	2.30	306.11
23-Aug-02	2.77	305.64	15-Jul-06	2.16	306.25	21-Apr-11	2.17	306.24
04-Sep-02	2.82	305.59	15-Oct-06	2.08	306.33	26-May-11	1.96	306.45
17-Sep-02	2.81	305.60	15-Nov-06	2.11	306.30	16-Jun-11	1.99	306.42
02-Oct-02	2.80	305.61	07-Dec-06	2.08	306.33	14-Jul-11	2.20	306.21
11-Oct-02	2.82	305.59	17-Jan-07	2.05	306.36	11-Aug-11	2.33	306.08
18-Oct-02	2.85	305.56	30-Mar-07	1.91	306.50	17-Aug-11	2.38	306.03
08-Nov-02	2.80	305.61	26-Apr-07	1.81	306.60	14-Sep-11	2.43	305.98
19-Nov-02	2.75	305.66	16-May-07	1.89	306.53	27-Oct-11	2.34	306.07
22-Nov-02	2.76	305.65	26-Jun-07	2.03	306.38	14-Nov-11	2.42	305.99
29-Nov-02	2.76	305.65	25-Jul-07	2.14	306.27	14-Dec-11	2.26	306.15
04-Dec-02	2.80	305.61	07-Aug-07	2.25	306.16	22-Dec-11	2.26	306.15
13-Dec-02	2.83	305.58	21-Aug-07	2.28	306.14			

NOTES:
- · BTOP Below top of pipe
- · NA Not available
- · m ASL metres above sea level
- · (F) Frozen

TABLE B-1
WATER LEVEL DATA - GROUNDWATER MONITORS
MILL CREEK AGGREGATES PIT

BH6-I								
DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)
16-Jan-12	2.30	306.11	21-Sep-16	2.42	305.92			
16-Feb-12	2.35	306.06	18-Oct-16	2.43	305.91			
29-Mar-12	2.18	306.16	14-Nov-16	2.44	305.90			
10-Apr-12	2.25	306.09	14-Dec-16	2.54	305.80			
30-Apr-12	2.18	306.16	18-Jan-17	2.34	306.00			
29-May-12	2.31	306.03	15-Feb-17	2.38	305.96			
20-Jun-12	2.35	305.99	17-Mar-17	2.31	306.03			
24-Jul-12	2.50	305.84	11-Apr-17	2.10	306.24			
08-Aug-12	2.56	305.78	18-May-17	2.00	306.34			
21-Aug-12	2.55	305.79	14-Jun-17	2.05	306.29			
18-Sep-12	2.60	305.74	20-Jul-17	2.00	306.34			
23-Oct-12	2.62	305.72	09-Aug-17	2.10	306.24			
28-Nov-12	2.60	305.74	12-Sep-17	2.16	306.18			
06-Dec-12	2.59	305.75	12-Oct-17	2.24	306.10			
19-Dec-12	2.63	305.71	21-Nov-17	2.23	306.11			
16-Jan-13	2.49	305.85	19-Dec-17	2.39	305.95			
20-Feb-13	2.54	305.80	16-Jan-18	(F)				
21-Mar-13	2.43	305.91	26-Feb-18	2.18	306.16			
04-Apr-13	2.41	305.93	26-Mar-18	2.32	306.02			
25-Apr-13	2.14	306.20	24-Apr-18	2.04	306.30			
23-May-13	2.31	306.03	18-May-18	2.10	306.24			
13-Jun-13	2.17	306.17	12-Jun-18	2.20	306.14			
31-Jul-13	2.15	306.19	27-Jul-18	2.31	306.03			
29-Aug-13	2.36	305.98	22-Aug-18	2.26	306.08			
25-Sep-13	2.33	306.01	12-Sep-18	2.36	305.98			
22-Oct-13	2.27	306.07	30-Oct-18	2.49	305.85			
28-Nov-13	2.42	305.92	21-Nov-18	2.43	305.91			
19-Dec-13	2.47	305.87	20-Dec-18	2.40	305.94			
15-Jan-14	2.29	306.05						
26-Feb-14	2.27	306.07						
26-Mar-14	2.34	306.00						
01-Apr-14	2.20	306.14						
15-May-14	2.02	306.32						
18-Jun-14	2.11	306.23						
29-Jul-14	2.09	306.25						
25-Aug-14	2.13	306.21						
18-Sep-14	2.07	306.27						
17-Oct-14	2.15	306.19						
27-Nov-14	2.20	306.14						
15-Dec-14	2.32	306.02						
21-Jan-15	2.36	305.98						
18-Feb-15	2.39	305.95						
25-Mar-15	2.32	306.02						
06-Apr-15	2.27	306.07						
20-May-15	2.24	306.10						
23-Jun-15	2.09	306.25						
22-Jul-15	2.29	306.05						
25-Aug-15	2.23	306.11						
24-Sep-15	2.41	305.93						
29-Oct-15	2.40	305.94						
25-Nov-15	2.41	305.93						
10-Dec-15	2.46	305.88						
20-Jan-16	2.47	305.87						
29-Feb-16	2.36	305.98						
17-Mar-16	2.31	306.03						
30-Mar-16	2.20	306.14						
27-Apr-16	2.25	306.09						
30-May-16	2.23	306.11						
27-Jun-16	2.14	306.20						
28-Jul-16	2.34	306.00						
11-Aug-16	2.45	305.89						

NOTES:
- BTOP — Below top of pipe
- NA — Not available
- m ASL — metres above sea level
- (F) — Frozen

TABLE B-1
WATER LEVEL DATA - GROUNDWATER MONITORS
MILL CREEK AGGREGATES PIT

BH7-II

DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)
02-Nov-86	1.72	306.81	27-May-93	1.74	306.73	12-Mar-01	2.47	306.00
17-Dec-86	1.77	306.76	22-Jun-93	1.81	306.66	09-Apr-01	2.33	306.14
06-Jan-87	1.74	306.79	15-Jul-93	1.98	306.49	03-May-01	2.43	306.04
10-Mar-87	1.54	306.99	18-Aug-93	2.10	306.37	06-Jun-01	2.41	306.06
23-Jun-87	1.85	306.68	20-Sep-93	2.24	306.23	11-Jul-01	2.67	305.80
22-Oct-87	2.14	306.39	19-Oct-93	2.19	306.28	01-Aug-01	2.80	305.67
07-Jul-88	2.29	306.24	17-Nov-93	2.37	306.10	05-Sep-01	2.96	305.51
26-Aug-88	2.38	306.15	07-Dec-93	2.15	306.32	02-Oct-01	3.02	305.45
27-Sep-88	2.35	306.18	18-Jan-94	2.42	306.05	06-Nov-01	2.89	305.58
14-Dec-88	2.30	306.23	23-Feb-94	2.14	306.33	06-Dec-01	2.77	305.70
20-Jan-89	2.30	306.23	24-Mar-94	1.92	306.55	04-Jan-02	2.78	305.69
22-Feb-89	2.38	306.15	19-Apr-94	1.96	306.51	07-Feb-02	2.68	305.79
01-Apr-89	2.08	306.45	24-May-94	1.95	306.52	07-Mar-02	2.52	305.95
17-Apr-89	2.11	306.42	23-Jun-94	2.22	306.25	07-Apr-02	2.44	306.03
24-May-89	2.30	306.23	19-Jul-94	2.32	306.15	06-May-02	2.54	305.93
12-Jul-89	2.43	306.10	25-Aug-94	2.40	306.07	14-Jun-02	2.56	305.91
27-Jul-89	2.53	306.00	21-Sep-94	2.53	305.94	11-Jul-02	2.50	305.97
15-Aug-89	2.61	305.92	19-Oct-94	2.59	305.88	09-Aug-02	2.76	305.71
30-Aug-89	2.65	305.88	23-Nov-94	2.55	305.92	04-Sep-02	2.91	305.56
17-Oct-89	2.76	305.77	21-Dec-94	2.43	306.04	11-Oct-02	2.93	305.54
30-Nov-89	2.65	305.88	25-Jan-95	1.83	306.64	21-Nov-02	2.93	305.54
13-Dec-89	2.73	305.80	15-Feb-95	2.22	306.25	13-Dec-02	2.97	305.50
17-Jan-90	2.71	305.82	23-Mar-95	2.05	306.42	09-Jan-03	2.93	305.54
06-Mar-90	2.37	306.16	17-May-95	2.02	306.45	10-Feb-03	2.73	305.74
02-Apr-90	2.17	306.36	13-Jun-95	2.13	306.34	13-Mar-03	2.60	305.87
25-Jun-90	2.38	306.15	20-Jul-95	2.36	306.11	10-Apr-03	2.54	305.93
26-Jul-90	2.48	306.05	15-Aug-95	2.33	306.14	07-May-03	2.56	305.91
22-Aug-90	2.57	305.96	18-Oct-95	2.56	305.91	15-May-03	2.65	305.82
26-Sep-90	2.65	305.88	22-Nov-95	2.28	306.19	16-Jun-03	2.63	305.84
24-Oct-90	2.51	306.02	26-Mar-96	1.93	306.54	17-Jul-03	2.75	305.72
25-Nov-90	2.47	306.06	31-May-96	1.74	306.73	21-Aug-03	2.96	305.51
14-Dec-90	2.30	306.23	29-Jul-96	1.87	306.60	26-Aug-03	2.85	305.62
23-Jan-91	2.11	306.42	30-Sep-96	1.83	306.64	25-Sep-03	2.79	305.68
20-Feb-91	2.06	306.47	07-Nov-96	1.99	306.48	27-Oct-03	2.89	305.58
28-Mar-91	1.59	306.94	27-Mar-97	1.51	306.96	01-Dec-03	2.63	305.84
26-Apr-91	1.57	306.96	26-May-97	1.65	306.82	11-Dec-03	2.69	305.78
24-May-91	1.77	306.76	30-Jul-97	2.09	306.38	16-Dec-03	2.68	305.79
20-Jun-91	1.86	306.67	07-Nov-97	2.18	306.29	19-Jan-04	2.60	305.87
30-Jul-91	1.99	306.54	16-Dec-97	2.34	306.13	18-Feb-04	2.60	305.87
22-Aug-91	2.14	306.39	27-Mar-98	1.89	306.58	25-Mar-04	2.31	306.16
25-Sep-91	2.34	306.19	31-May-98	2.25	306.22	07-Apr-04	2.21	306.26
29-Oct-91	2.41	306.12	31-Jul-98	2.44	306.03	22-Apr-04	2.14	306.33
26-Nov-91	2.47	306.06	30-Sep-98	2.70	305.77	20-May-04	2.12	306.35
16-Dec-91	2.36	306.17	30-Dec-98	2.76	305.71	24-Jun-04	2.17	306.30
13-Mar-92	2.23	306.30	31-Mar-99	2.44	306.03	23-Jul-04	2.21	306.26
15-Apr-92	2.34	306.19	20-May-99	2.18	306.29	04-Aug-04	2.26	306.21
22-May-92	2.21	306.32	16-Jul-99	2.67	305.80	26-Aug-04	2.37	306.10
29-Jun-92	2.44	306.09	10-Sep-99	2.43	306.04	28-Sep-04	2.46	306.01
20-Jul-92	2.24	306.29	10-Nov-99	2.93	305.54	18-Oct-04	2.53	305.94
26-Aug-92	2.30	306.23	01-Mar-00	2.72	305.75	16-Nov-04	2.52	305.95
14-Sep-92	2.25	306.28	19-May-00	2.49	305.98	15-Dec-04	2.49	305.98
29-Oct-92	2.17	306.36	06-Jul-00	2.49	305.98	16-Dec-04	2.48	305.99
26-Nov-92	1.71	306.82	14-Sep-00	2.72	305.75			
14-Dec-92	1.90	306.63	11-Oct-00	2.76	305.71			
19-Jan-93	1.70	306.77	07-Nov-00	2.87	305.60			
05-Mar-93	NA		12-Dec-00	2.82	305.65			
31-Mar-93	1.40	307.07	12-Jan-01	2.75	305.72			
19-Apr-93	1.61	306.86	07-Feb-01	2.72	305.75			

NOTES:
- · BTOP Below top of pipe
- · NA Not available
- · m ASL metres above sea level
- · (F) Frozen

TABLE B-1
WATER LEVEL DATA - GROUNDWATER MONITORS
MILL CREEK AGGREGATES PIT

BH7-II

DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)
20-Jan-05	2.37	306.10	11-Mar-09	1.69	306.78	28-Nov-12	3.21	305.22
25-Feb-05	2.31	306.16	14-Apr-09	1.78	306.69	06-Dec-12	3.13	305.30
24-Mar-05	2.31	306.16	21-May-09	1.79	306.68	19-Dec-12	3.10	305.33
18-Apr-05	2.20	306.27	16-Jun-09	1.84	306.63	16-Jan-13	2.92	305.51
29-Apr-05	2.11	306.36	31-Jul-09	1.84	306.63	20-Feb-13	2.90	305.53
26-May-05	2.17	306.30	25-Aug-09	1.77	306.70	21-Mar-13	2.79	305.64
23-Jun-05	2.30	306.17	28-Aug-09	1.81	306.66	04-Apr-13	2.80	305.63
25-Jul-05	2.30	306.17	28-Sep-09	1.95	306.52	25-Apr-13	2.68	305.75
17-Aug-05	2.38	306.09	14-Oct-09	1.96	306.51	23-May-13	2.73	305.70
25-Aug-05	2.36	306.11	11-Nov-09	2.07	306.40	13-Jun-13	2.73	305.70
30-Sep-05	2.38	306.09	11-Dec-09	2.08	306.39	31-Jul-13	2.74	305.69
27-Oct-05	2.43	306.04	16-Dec-09	2.07	306.40	29-Aug-13	2.99	305.44
28-Nov-05	2.45	306.02	13-Jan-10	2.20	306.27	25-Sep-13	2.91	305.52
07-Dec-05	2.41	306.06	11-Feb-10	2.26	306.21	22-Oct-13	3.11	305.32
19-Dec-05	2.48	305.99	11-Mar-10	2.15	306.32	28-Nov-13	3.07	305.36
26-Jan-06	2.21	306.26	16-Apr-10	2.02	306.45	19-Dec-13	2.99	305.44
30-Mar-06	2.14	306.33	21-May-10	2.26	306.21	15-Jan-14	2.82	305.61
27-Apr-06	2.29	306.18	17-Jun-10	2.26	306.21	26-Feb-14	2.79	305.64
15-May-06	2.29	306.18	15-Jul-10	2.52	305.95	26-Mar-14	2.79	305.64
15-Jul-06	2.16	306.31	18-Aug-10	2.60	305.87	01-Apr-14	2.71	305.72
24-Aug-06	2.27	306.20	31-Aug-10	2.67	305.80	15-May-14	2.91	305.52
15-Oct-06	2.31	306.16	28-Sep-10	2.78	305.69	18-Jun-14	2.97	305.46
15-Nov-06	2.13	306.34	20-Oct-10	2.77	305.70	29-Jul-14	2.87	305.56
07-Dec-06	2.11	306.36	18-Nov-10	2.74	305.73	25-Aug-14	2.90	305.53
17-Jan-07	2.24	306.23	08-Dec-10	2.70	305.77	18-Sep-14	2.92	305.51
22-Feb-07	2.12	306.35	22-Dec-10	2.76	305.71	17-Oct-14	2.94	305.49
30-Mar-07	2.12	306.35	19-Jan-11	2.80	305.67	27-Nov-14	2.88	305.55
26-Apr-07	1.90	306.57	17-Feb-11	2.68	305.79	15-Dec-14	2.79	305.64
16-May-07	2.16	306.31	16-Mar-11	2.30	306.17	21-Jan-15	2.69	305.74
26-Jun-07	2.40	306.07	13-Apr-11	2.48	305.99	18-Feb-15	2.69	305.74
25-Jul-07	2.25	306.22	21-Apr-11	2.39	306.08			
07-Aug-07	2.31	306.16	26-May-11	2.21	306.26			
21-Aug-07	2.29	306.18	16-Jun-11	2.27	306.20	Decommissioned		
21-Sep-07	2.45	306.02	14-Jul-11	2.45	306.02			
17-Oct-07	2.41	306.06	11-Aug-11	2.57	305.86			
15-Nov-07	2.50	305.97	17-Aug-11	2.60	305.83			
29-Nov-07	2.49	305.98	14-Sep-11	2.69	305.74			
10-Dec-07	2.50	305.97	27-Oct-11	2.53	305.90			
31-Jan-08	2.32	306.15	14-Nov-11	2.62	305.81			
29-Feb-08	2.25	306.22	14-Dec-11	2.46	305.97			
31-Mar-08	1.67	306.80	22-Dec-11	2.44	305.99			
28-Apr-08	1.99	306.48	16-Jan-12	2.45	305.98			
28-May-08	1.97	306.50	16-Feb-12	2.45	305.98			
25-Jun-08	1.97	306.50	29-Mar-12	2.41	306.02			
16-Jul-08	1.96	306.51	10-Apr-12	2.50	305.93			
20-Aug-08	1.94	306.53	30-Apr-12	2.55	305.88			
26-Aug-08	1.92	306.55	29-May-12	2.81	305.62			
19-Sep-08	1.80	306.67	20-Jun-12	2.80	305.63			
10-Oct-08	1.97	306.50	24-Jul-12	2.93	305.50			
05-Nov-08	2.04	306.43	08-Aug-12	2.99	305.44			
17-Dec-08	1.98	306.49	21-Aug-12	3.13	305.30			
06-Jan-09	1.93	306.54	18-Sep-12	3.23	305.20			
27-Feb-09	1.88	306.59	23-Oct-12	3.20	305.23			

NOTES:
- · BTOP — Below top of pipe
- · NA — Not available
- · m ASL — metres above sea level
- · (F) — Frozen

TABLE B-1
WATER LEVEL DATA - GROUNDWATER MONITORS
MILL CREEK AGGREGATES PIT

BH 11								
DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)
30-Jul-02	4.20	305.89	26-Jun-07	3.60	306.49	14-Nov-11	4.07	306.02
11-Oct-02	4.52	305.57	25-Jul-07	3.70	306.39	22-Dec-11	3.90	306.19
21-Nov-02	4.55	305.54	07-Aug-07	3.81	306.28	16-Jan-12	3.88	306.21
13-Dec-02	4.60	305.49	21-Aug-07	3.83	306.26	16-Feb-12	3.86	306.23
09-Jan-03	4.76	305.33	21-Sep-07	3.97	306.12	29-Mar-12	3.78	306.31
10-Feb-03	4.62	305.47	17-Oct-07	3.97	306.12	10-Apr-12	3.84	306.25
10-Apr-03	4.65	305.44	15-Nov-07	4.12	305.97	30-Apr-12	3.89	306.20
07-May-03	4.21	305.88	10-Dec-07	4.11	305.98	29-May-12	3.98	306.11
15-May-03	4.59	305.50	31-Jan-08	3.92	306.17	20-Jun-12	4.08	306.01
16-Jun-03	4.62	305.47	29-Feb-08	3.84	306.25	24-Jul-12	4.25	305.84
17-Jul-03	4.44	305.65	31-Mar-08	3.56	306.53	08-Aug-12	4.32	305.77
21-Aug-03	4.62	305.47	28-Apr-08	3.55	306.54	21-Aug-12	4.34	305.75
26-Aug-03	4.48	305.61	28-May-08	3.54	306.55	18-Sep-12	4.37	305.72
25-Sep-03	4.52	305.57	25-Jun-08	3.51	306.58	23-Oct-12	4.40	305.69
27-Oct-03	4.62	305.47	16-Jul-08	3.49	306.60	28-Nov-12	4.46	305.63
01-Dec-03	4.32	305.77	20-Aug-08	3.51	306.58	06-Dec-12	4.43	305.66
11-Dec-03	4.36	305.73	26-Aug-08	3.51	306.58	19-Dec-12	4.42	305.67
16-Dec-03	4.36	305.73	19-Sep-08	3.45	306.64	20-Feb-13	4.27	305.82
19-Jan-04	4.20	305.89	10-Oct-08	3.58	306.51	21-Mar-13	4.14	305.95
18-Feb-04	4.19	305.90	05-Nov-08	3.67	306.42	04-Apr-13	4.13	305.96
25-Mar-04	3.89	306.20	17-Dec-08	3.57	306.52	25-Apr-13	3.92	306.17
07-Apr-04	3.80	306.29	06-Jan-09	3.45	306.64	23-May-13	3.94	306.15
22-Apr-04	3.75	306.34	27-Feb-09	3.34	306.75	13-Jun-13	3.89	306.20
20-May-04	3.71	306.38	11-Mar-09	2.98	307.11	31-Jul-13	3.80	306.29
24-Jun-04	3.76	306.33	14-Apr-09	3.32	306.77	29-Aug-13	3.96	306.13
23-Jul-04	3.85	306.24	21-May-09	3.33	306.76	25-Sep-13	4.14	305.95
04-Aug-04	3.85	306.24	16-Jun-09	3.37	306.72	22-Oct-13	4.02	306.07
26-Aug-04	4.00	306.09	31-Jul-09	3.41	306.68	28-Nov-13	4.11	305.98
28-Sep-04	4.06	306.03	25-Aug-09	3.37	306.72	10-Dec-13	4.12	305.97
18-Oct-04	4.14	305.95	28-Aug-09	3.47	306.62	15-Jan-14	4.01	306.08
16-Nov-04	4.16	305.93	28-Sep-09	3.53	306.56	26-Feb-14	4.02	306.07
15-Dec-04	4.14	305.95	14-Oct-09	3.55	306.54	26-Mar-14	4.03	306.06
16-Dec-04	4.09	306.00	11-Nov-09	3.62	306.47	01-Apr-14	3.94	306.15
20-Jan-05	4.00	306.09	11-Dec-09	3.64	306.45	15-May-14	3.75	306.34
25-Feb-05	3.91	306.18	16-Dec-09	3.63	306.46	18-Jun-14	3.87	306.22
24-Mar-05	3.90	306.19	13-Jan-10	3.70	306.39	29-Jul-14	3.95	306.14
18-Apr-05	3.84	306.25	11-Feb-10	3.75	306.34	25-Aug-14	3.99	306.10
29-Apr-05	3.75	306.34	11-Mar-10	3.77	306.32	18-Sep-14	4.00	306.09
26-May-05	3.80	306.29	16-Apr-10	3.64	306.45	17-Oct-14	4.05	306.04
23-Jun-05	3.86	306.23	21-May-10	3.74	306.35	27-Nov-14	4.06	306.03
25-Jul-05	3.84	306.25	17-Jun-10	3.77	306.32	15-Dec-14	4.06	306.03
17-Aug-05	3.94	306.15	15-Jul-10	3.92	306.17	21-Jan-15	4.05	306.04
25-Aug-05	3.95	306.14	18-Aug-10	3.97	306.12	18-Feb-15	4.05	306.04
30-Sep-05	4.00	306.09	31-Aug-10	4.02	306.07	25-Mar-15	4.03	306.06
27-Oct-05	4.05	306.04	28-Sep-10	4.08	306.01	06-Apr-15	4.03	306.06
28-Nov-05	4.04	306.05	20-Oct-10	4.21	305.88	20-May-15	4.05	306.04
07-Dec-05	4.00	306.09	18-Nov-10	4.18	305.91	23-Jun-15	4.01	306.08
19-Dec-05	4.07	306.02	08-Dec-10	4.23	305.86	22-Jul-15	4.02	306.07
15-Feb-06	3.95	306.14	22-Dec-10	4.25	305.84	25-Aug-15	4.06	306.03
30-Mar-06	3.85	306.24	19-Jan-11	4.25	305.84	24-Sep-15	4.24	305.85
27-Apr-06	3.65	306.44	17-Feb-11	4.06	306.03	29-Oct-15	4.19	305.90
28-Apr-06	3.65	306.44	16-Mar-11	3.95	306.14	25-Nov-15	4.24	305.85
15-May-06	3.76	306.33	13-Apr-11	3.92	306.17	10-Dec-15	4.21	305.88
15-Jun-06	3.88	306.21	21-Apr-11	3.84	306.25	20-Jan-16	4.21	305.88
15-Jul-06	3.85	306.24	26-May-11	3.64	306.45	29-Feb-16	4.17	305.92
24-Aug-06	3.81	306.28	16-Jun-11	3.62	306.47	17-Mar-16	4.12	305.97
15-Oct-06	3.76	306.33	14-Jul-11	3.71	306.38	30-Mar-16	4.26	305.83
15-Nov-06	3.69	306.40	11-Aug-11	3.84	306.25	27-Apr-16	4.06	306.03
07-Dec-06	3.67	306.42	17-Aug-11	3.88	306.21	30-May-16	3.98	306.11
17-Jan-07	3.57	306.52	14-Sep-11	4.02	306.07	27-Jun-16	4.04	306.05
26-Apr-07	3.47	306.62	27-Oct-11	3.99	306.10	28-Jul-16	4.32	305.77

NOTES:
- BTOP Below top of pipe
- NA Not available
- m ASL metres above sea level
- (F) Frozen

TABLE B-1
WATER LEVEL DATA - GROUNDWATER MONITORS
MILL CREEK AGGREGATES PIT

BH 11								
DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)
11-Aug-16	4.20	305.89						
21-Sep-16	4.19	305.90						
18-Oct-16	4.21	305.88						
14-Nov-16	4.31	305.78						
14-Dec-16	4.32	305.77						
18-Jan-17	4.20	305.89						
15-Feb-17	4.10	305.99						
17-Mar-17	4.09	306.00						
11-Apr-17	3.92	306.17						
18-May-17	3.86	306.23						
14-Jun-17	3.79	306.30						
20-Jul-17	3.79	306.30						
09-Aug-17	3.80	306.29						
12-Sep-17	3.90	306.19						
12-Oct-17	4.02	306.07						
21-Nov-17	4.06	306.03						
19-Dec-17	4.15	305.94						
16-Jan-18	4.08	306.01						
26-Feb-18	3.97	306.12						
26-Mar-18	3.99	306.10						
24-Apr-18	3.81	306.28						
18-May-18	3.82	306.27						
12-Jun-18	3.86	306.23						
27-Jul-18	3.98	306.11						
22-Aug-18	4.01	306.08						
12-Sep-18	4.09	306.00						
30-Oct-18	4.20	305.89						
21-Nov-18	4.16	305.93						
20-Dec-18	4.75	305.34						

NOTES:
- · BTOP — Below top of pipe
- · NA — Not available
- · m ASL — metres above sea level
- · (F) — Frozen

TABLE B-1
WATER LEVEL DATA - GROUNDWATER MONITORS
MILL CREEK AGGREGATES PIT

BH 12

DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)
30-Jul-02	6.22	305.66	21-Aug-07	5.88	305.73	16-Feb-12	5.79	305.82
11-Oct-02	6.55	305.33	21-Sep-07	6.06	305.55	29-Mar-12	5.66	305.95
21-Nov-02	6.65	305.23	17-Oct-07	6.07	305.54	10-Apr-12	5.70	305.91
13-Dec-02	6.69	305.19	15-Nov-07	6.20	305.41	30-Apr-12	5.63	305.98
09-Jan-03	6.56	305.05	29-Nov-07	6.14	305.47	29-May-12	5.87	305.74
10-Feb-03	6.74	304.87	10-Dec-07	6.12	305.49	20-Jun-12	5.93	305.68
10-Apr-03	6.56	305.05	31-Jan-08	5.91	305.70	24-Jul-12	6.19	305.42
07-May-03	6.30	305.31	29-Feb-08	5.80	305.81	08-Aug-12	6.20	305.41
15-May-03	6.55	305.06	31-Mar-08	5.53	306.08	21-Aug-12	6.24	305.37
16-Jun-03	6.58	305.03	28-Apr-08	5.40	306.21	18-Sep-12	6.31	305.30
26-Aug-03	6.45	305.16	28-May-08	5.40	306.21	23-Oct-12	6.39	305.22
25-Sep-03	6.55	305.06	25-Jun-08	5.44	306.17	28-Nov-12	6.34	305.27
27-Oct-03	6.43	305.18	16-Jul-08	5.43	306.18	06-Dec-12	6.34	305.27
01-Dec-03	6.34	305.27	20-Aug-08	5.36	306.25	19-Dec-12	6.33	305.28
11-Dec-03	6.35	305.26	26-Aug-08	5.35	306.26	16-Jan-13	6.26	305.35
16-Dec-03	6.35	305.26	19-Sep-08	5.41	306.20	20-Feb-13	6.18	305.43
19-Jan-04	6.22	305.39	10-Oct-08	5.52	306.09	21-Mar-13	6.04	305.57
25-Mar-04	5.80	305.81	05-Nov-08	5.60	306.01	04-Apr-13	6.04	305.57
07-Apr-04	5.67	305.94	17-Dec-08	5.50	306.11	25-Apr-13	5.83	305.78
22-Apr-04	5.70	305.91	06-Jan-09	5.32	306.29	23-May-13	5.80	305.81
20-May-04	5.65	305.96	27-Feb-09	5.20	306.41	13-Jun-13	5.73	305.88
24-Jun-04	5.68	305.93	11-Mar-09	5.15	306.46	31-Jul-13	5.73	305.88
23-Jul-04	5.80	305.81	14-Apr-09	5.08	306.53	29-Aug-13	5.85	305.76
04-Aug-04	5.84	305.77	21-May-09	5.17	306.44	25-Sep-13	5.92	305.69
26-Aug-04	5.97	305.64	16-Jun-09	5.22	306.39	22-Oct-13	5.94	305.67
28-Sep-04	6.05	305.56	31-Jul-09	5.30	306.31	28-Nov-13	6.02	305.59
18-Oct-04	6.17	305.44	25-Aug-09	5.26	306.35	10-Dec-13	6.03	305.58
16-Nov-04	6.20	305.41	28-Aug-09	5.34	306.27	15-Jan-14	5.93	305.68
15-Dec-04	6.19	305.42	28-Sep-09	5.45	306.16	26-Feb-14	5.95	305.66
16-Dec-04	6.21	305.40	14-Oct-09	5.45	306.16	26-Mar-14	5.98	305.63
20-Jan-05	6.00	305.61	11-Nov-09	5.53	306.08	01-Apr-14	5.91	305.70
25-Feb-05	5.92	305.69	11-Dec-09	5.58	306.03	15-May-14	5.58	306.03
24-Mar-05	5.89	305.72	16-Dec-09	5.57	306.04	18-Jun-14	5.67	305.94
18-Apr-05	5.66	305.95	13-Jan-10	5.60	306.01	29-Jul-14	5.72	305.89
29-Apr-05	5.72	305.89	11-Feb-10	5.65	305.96	25-Aug-14	5.76	305.85
26-May-05	5.78	305.83	16-Apr-10	5.54	306.07	18-Sep-14	5.76	305.85
23-Jun-05	5.71	305.90	21-May-10	5.65	305.96	17-Oct-14	5.92	305.69
25-Jul-05	5.79	305.82	17-Jun-10	5.66	305.95	27-Nov-14	5.95	305.66
17-Aug-05	5.93	305.68	15-Jul-10	5.77	305.84	15-Dec-14	5.95	305.66
25-Aug-05	5.9	305.71	18-Aug-10	5.86	305.75	21-Jan-15	5.98	305.63
30-Sep-05	5.98	305.63	31-Aug-10	5.91	305.70	18-Feb-15	6.00	305.61
27-Oct-05	6.03	305.58	28-Sep-10	5.98	305.63	25-Mar-15	5.96	305.65
28-Nov-05	6.06	305.55	20-Oct-10	6.18	305.43	06-Apr-15	5.92	305.69
07-Dec-05	6.09	305.52	18-Nov-10	6.17	305.44	20-May-15	5.87	305.74
19-Dec-05	6.10	305.51	08-Dec-10	6.20	305.41	23-Jun-15	5.85	305.76
15-Feb-06	5.73	305.88	22-Dec-10	6.21	305.40	22-Jul-15	5.86	305.75
30-Mar-06	5.58	306.03	19-Jan-11	6.15	305.46	25-Aug-15	5.92	305.69
27-Apr-06	5.73	305.88	17-Feb-11 (F)			24-Sep-15	5.94	305.67
28-Apr-06	5.57	306.04	16-Mar-11	5.91	305.70	29-Oct-15	6.03	305.58
15-May-06	5.55	306.06	13-Apr-11	5.82	305.79	25-Nov-15	6.20	305.41
15-Jun-06	5.69	305.92	21-Apr-11	5.74	305.87	10-Dec-15	6.22	305.39
15-Jul-06	5.71	305.90	26-May-11	5.54	306.07	20-Jan-16	6.11	305.50
24-Aug-06	5.81	305.80	16-Jun-11	5.48	306.13	29-Feb-16	6.08	305.53
15-Oct-06	5.78	305.83	14-Jul-11	5.55	306.06	17-Mar-16	6.08	305.53
15-Nov-06	5.61	306.00	11-Aug-11	5.70	305.91	30-Mar-16	5.97	305.64
07-Dec-06	5.61	306.00	17-Aug-11	5.72	305.89	27-Apr-16	5.78	305.83
17-Jan-07	5.48	306.13	14-Sep-11	5.87	305.74	30-May-16	5.74	305.87
26-Apr-07	5.32	306.29	27-Oct-11	5.89	305.72	27-Jun-16	5.86	305.75
26-Jun-07	5.53	306.08	14-Nov-11	5.97	305.64	28-Jul-16	6.08	305.53
25-Jul-07	5.72	305.89	22-Dec-11	5.82	305.79			
07-Aug-07	5.80	305.81	16-Jan-12	5.81	305.80	Decommissioned		

NOTES:
- BTOP Below top of pipe
- NA Not available
- m ASL metres above sea level
- (F) Frozen

TABLE B-1
WATER LEVEL DATA - GROUNDWATER MONITORS
MILL CREEK AGGREGATES PIT

BH 13

DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)
26-Jul-02	1.70	305.89	18-Aug-03	1.70	305.89	8-Jul-04	1.52	306.07
21-Aug-02	1.81	305.78	21-Aug-03	1.74	305.85	12-Jul-04	1.56	306.03
23-Aug-02	1.81	305.78	25-Aug-03	1.65	305.94	15-Jul-04	1.51	306.08
28-Aug-02	1.82	305.77	26-Aug-03	1.69	305.90	19-Jul-04	1.56	306.03
30-Aug-02	1.81	305.78	29-Aug-03	1.74	305.85	22-Jul-04	1.59	306.00
04-Sep-02	1.81	305.78	2-Sep-03	1.77	305.82	26-Jul-04	1.62	305.97
10-Sep-02	1.87	305.72	4-Sep-03	1.71	305.88	29-Jul-04	1.57	306.02
12-Sep-02	1.87	305.72	8-Sep-03	1.71	305.88	2-Aug-04	1.42	306.17
17-Sep-02	1.80	305.79	11-Sep-03	1.81	305.78	5-Aug-04	1.47	306.12
20-Sep-02	1.81	305.78	15-Sep-03	1.80	305.79	9-Aug-04	1.52	306.07
25-Sep-02	1.84	305.75	18-Sep-03	1.81	305.78	12-Aug-04	1.53	306.06
27-Sep-02	1.80	305.79	22-Sep-03	1.78	305.81	16-Aug-04	1.56	306.03
04-Oct-02	1.81	305.78	25-Sep-03	1.68	305.91	19-Aug-04	1.56	306.03
08-Oct-02	1.81	305.78	26-Sep-03	1.73	305.86	23-Aug-04	1.61	305.98
11-Oct-02	1.83	305.76	29-Sep-03	1.64	305.95	26-Aug-04	1.43	306.16
15-Oct-02	1.83	305.76	2-Oct-03	1.68	305.91	30-Aug-04	1.48	306.11
23-Oct-02	1.80	305.79	6-Oct-03	1.68	305.91	2-Sep-04	1.51	306.08
29-Oct-02	1.80	305.79	9-Oct-03	1.72	305.87	6-Sep-04	1.52	306.07
31-Oct-02	1.81	305.78	13-Oct-03	1.69	305.90	8-Sep-04	1.44	306.15
05-Nov-02	1.81	305.78	16-Oct-03	1.63	305.96	9-Sep-04	1.46	306.13
12-Nov-02	1.63	305.96	20-Oct-03	1.68	305.91	13-Sep-04	1.46	306.13
15-Nov-02	1.75	305.84	23-Oct-03	1.66	305.93	16-Sep-04	1.48	306.11
19-Nov-02	1.79	305.80	27-Oct-03	1.65	305.94	20-Sep-04	1.44	306.15
22-Nov-02	1.79	305.80	30-Oct-03	1.66	305.93	23-Sep-04	1.50	306.09
26-Nov-02	1.81	305.78	3-Nov-03	1.56	306.03	27-Sep-04	1.49	306.10
29-Nov-02	1.78	305.81	6-Nov-03	1.58	306.01	30-Sep-04	1.49	306.10
04-Dec-02	1.82	305.77	10-Nov-03	1.66	305.93	4-Oct-04	1.54	306.05
06-Dec-02	1.80	305.79	13-Nov-03	1.63	305.96	7-Oct-04	1.58	306.01
10-Dec-02	1.80	305.79	17-Nov-03	1.59	306.00	11-Oct-04	1.58	306.01
13-Dec-02	1.80	305.79	20-Nov-03	1.56	306.03	14-Oct-04	1.60	305.99
18-Dec-02	1.81	305.78	24-Nov-03	1.53	306.06	18-Oct-04	1.50	306.09
7-Jan-03	1.78	305.81	1-Dec-03	1.46	306.13	21-Oct-04	1.56	306.03
9-Jan-03	1.76	305.83	8-Dec-03	1.59	306.00	25-Oct-04	1.57	306.02
14-Jan-03	1.77	305.82	11-Dec-03	1.51	306.08	28-Oct-04	1.58	306.01
21-Jan-03	1.77	305.82	15-Dec-03	1.57	306.02	1-Nov-04	1.56	306.03
24-Jan-03	1.78	305.81	22-Dec-03	1.58	306.01	4-Nov-04	1.49	306.10
28-Jan-03	1.77	305.82	6-Jan-04	1.48	306.11	8-Nov-04	1.51	306.08
31-Jan-03	1.76	305.83	8-Jan-04	1.51	306.08	11-Nov-04	1.57	306.02
5-Feb-03	1.74	305.85	12-Jan-04	1.53	306.06	15-Nov-04	1.53	306.06
10-Feb-03	1.70	305.89	15-Jan-04	1.55	306.04	18-Nov-04	1.60	305.99
14-Feb-03	1.69	305.90	19-Jan-04	1.57	306.02	22-Nov-04	1.60	305.99
17-Feb-03	1.69	305.90	26-Jan-04	1.60	305.99	25-Nov-04	1.58	306.01
21-Feb-03	1.70	305.89	5-Feb-04	1.49	306.10	29-Nov-04	1.52	306.07
24-Feb-03	1.70	305.89	9-Feb-04	1.50	306.09	2-Dec-04	1.57	306.02
13-Mar-03	1.60	305.99	16-Feb-04	1.51	306.08	6-Dec-04	1.52	306.07
27-Mar-03	1.53	306.06	19-Feb-04	1.50	306.09	9-Dec-04	1.51	306.08
10-Apr-03	1.72	305.87	5-Mar-04	1.19	306.40	13-Dec-04	1.50	306.09
11-Apr-03	1.45	306.14	8-Mar-04	1.24	306.35	15-Dec-04	1.47	306.12
21-Apr-03	1.53	306.06	11-Mar-04	1.31	306.28	16-Dec-04	1.48	306.11
24-Apr-03	1.58	306.01	15-Mar-04	1.37	306.22	20-Dec-04	1.55	306.04
28-Apr-03	1.56	306.03	18-Mar-04	1.38	306.21	23-Dec-04	1.57	306.02
5-May-03	1.55	306.04	22-Mar-04	1.36	306.23	20-Jan-05	1.40	306.19
7-May-03	1.49	306.10	25-Mar-04	1.33	306.26	25-Feb-05	1.34	306.25
8-May-03	1.50	306.09	1-Apr-04	1.15	306.44	24-Mar-05	1.52	306.07
12-May-03	1.51	306.08	5-Apr-04	1.23	306.36	18-Apr-05	1.26	306.33
15-May-03	1.65	305.94	7-Apr-04	1.27	306.32	29-Apr-05	1.35	306.24
16-May-03	1.51	306.08	8-Apr-04	1.26	306.33	26-May-05	1.28	306.31
23-May-03	1.52	306.07	12-Apr-04	1.30	306.29	23-Jun-05	1.34	306.25
26-May-03	1.55	306.04	15-Apr-04	1.29	306.30	25-Jul-05	1.45	306.14
29-May-03	1.54	306.05	22-Apr-04	1.17	306.42	17-Aug-05	1.44	306.15
2-Jun-03	1.54	306.05	26-Apr-04	1.20	306.39	25-Aug-05	1.43	306.16
5-Jun-03	1.54	306.05	3-May-04	1.15	306.44	30-Sep-05	1.48	306.11
9-Jun-03	1.54	306.05	10-May-04	1.12	306.47	27-Oct-05	1.53	306.06
13-Jun-03	1.54	306.05	13-May-04	1.17	306.42	28-Nov-05	1.55	306.04
16-Jun-03	1.65	305.94	17-May-04	1.23	306.36	07-Dec-05	1.46	306.13
17-Jun-03	1.54	306.05	20-May-04	1.24	306.35	19-Dec-05	1.59	306.00
19-Jun-03	1.54	306.05	25-May-04	1.10	306.49	26-Jan-06	1.26	306.33
23-Jun-03	1.54	306.05	27-May-04	1.22	306.37	15-Feb-06	1.32	306.27
26-Jun-03	1.54	306.05	31-May-04	1.23	306.36	30-Mar-06	1.23	306.36
3-Jul-03	1.54	306.05	3-Jun-04	1.37	306.22	27-Apr-06	1.18	306.41
7-Jul-03	1.54	306.05	7-Jun-04	1.60	305.99	28-Apr-06	1.23	306.36
10-Jul-03	1.54	306.05	10-Jun-04	1.59	306.00	15-May-06	1.26	306.33
17-Jul-03	1.60	305.99	14-Jun-04	1.38	306.21	15-Jun-06	1.37	306.22
22-Jul-03	1.65	305.94	17-Jun-04	1.40	306.19	15-Jul-06	1.33	306.26
25-Jul-03	1.65	305.94	21-Jun-04	1.31	306.28	24-Aug-06	1.43	306.16
28-Jul-03	1.65	305.94	24-Jun-04	1.29	306.30	15-Oct-06	1.15	306.44
31-Jul-03	1.65	305.94	28-Jun-04	1.32	306.27	15-Nov-06	1.20	306.39
7-Aug-03	1.65	305.94	5-Jul-04	1.55	306.04	07-Dec-06	1.19	306.40
11-Aug-03	1.65	305.94						

NOTES:
- · BTOP Below top of pipe
- · NA Not available
- · m ASL metres above sea level
- · (F) Frozen

TABLE B-1
WATER LEVEL DATA - GROUNDWATER MONITORS
MILL CREEK AGGREGATES PIT

BH 13								
DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)
17-Jan-07	1.26	306.33	22-Dec-11	1.27	306.32	18-May-17	1.11	306.48
22-Feb-07	1.17	306.42	16-Jan-12	1.31	306.28	14-Jun-17	1.16	306.43
30-Mar-07	1.01	306.58	16-Feb-12	1.33	306.26	20-Jul-17	1.07	306.52
26-Apr-07	1.04	306.55	29-Mar-12	1.27	306.32	09-Aug-17	1.19	306.40
16-May-07	1.03	306.56	10-Apr-12	1.34	306.25	12-Sep-17	1.28	306.31
26-Jun-07	1.22	306.37	30-Apr-12	1.35	306.24	12-Oct-17	1.35	306.24
25-Jul-07	1.33	306.26	29-May-12	1.41	306.18	21-Nov-17	1.30	306.29
07-Aug-07	1.38	306.21	20-Jun-12	1.44	306.15	19-Dec-17	1.40	306.19
21-Aug-07	1.43	306.16	24-Jul-12	1.58	306.01	16-Jan-18	1.33	306.26
21-Sep-07	1.51	306.08	08-Aug-12	1.67	305.92	26-Feb-18	1.22	306.37
17-Oct-07	1.47	306.12	21-Aug-12	1.61	305.98	26-Mar-18	1.38	306.21
15-Nov-07	1.53	306.06	18-Sep-12	1.54	306.05	24-Apr-18	1.22	306.37
29-Nov-07	1.42	306.17	23-Oct-12	1.45	306.14	18-May-18	1.23	306.36
10-Dec-07	1.45	306.14	28-Nov-12	1.58	306.01	12-Jun-18	1.33	306.26
31-Jan-08	1.32	306.27	06-Dec-12	1.52	306.07	27-Jul-18	1.42	306.17
29-Feb-08	1.28	306.31	19-Dec-12	1.60	305.99	22-Aug-18	1.35	306.24
31-Mar-08	0.88	306.71	16-Jan-13	1.43	306.16	12-Sep-18	1.45	306.14
28-Apr-08	1.11	306.48	20-Feb-13	1.42	306.17	30-Oct-18	1.56	306.03
28-May-08	1.13	306.46	21-Mar-13	1.41	306.18	21-Nov-18	1.47	306.12
25-Jun-08	1.10	306.49	04-Apr-13	1.22	306.37	20-Dec-18	1.48	306.11
16-Jul-08	1.12	306.47	25-Apr-13	1.25	306.34			
20-Aug-08	1.05	306.54	23-May-13	1.38	306.21			
26-Aug-08	1.12	306.47	13-Jun-13	1.26	306.33			
19-Sep-08	0.87	306.72	31-Jul-13	1.19	306.40			
10-Oct-08	1.11	306.48	29-Aug-13	1.40	306.19			
05-Nov-08	1.14	306.45	25-Sep-13	1.37	306.22			
03-Dec-08	1.10	306.49	22-Oct-13	1.25	306.34			
17-Dec-08	1.06	306.53	28-Nov-13	1.41	306.18			
06-Jan-09	1.05	306.54	10-Dec-13	1.43	306.16			
27-Feb-09	1.02	306.57	15-Jan-14	1.28	306.31			
11-Mar-09	0.82	306.77	26-Feb-14	1.34	306.25			
14-Apr-09	0.90	306.69	26-Mar-14	1.36	306.23			
21-May-09	0.91	306.68	01-Apr-14	1.18	306.41			
16-Jun-09	0.96	306.63	15-May-14	1.06	306.53			
31-Jul-09	0.97	306.62	18-Jun-14	1.22	306.37			
25-Aug-09	0.93	306.66	29-Jul-14	1.11	306.48			
28-Aug-09	0.97	306.62	25-Aug-14	1.24	306.35			
28-Sep-09	1.06	306.53	18-Sep-14	1.16	306.43			
14-Oct-09	1.09	306.50	17-Oct-14	1.18	306.41			
11-Nov-09	1.15	306.44	27-Nov-14	1.20	306.39			
11-Dec-09	1.15	306.44	15-Dec-14	1.33	306.26			
16-Dec-09	1.12	306.47	21-Jan-15	1.36	306.23			
13-Jan-10	1.23	306.36	18-Feb-15	1.38	306.21			
11-Feb-10	1.27	306.32	25-Mar-15	1.34	306.25			
11-Mar-10	1.18	306.41	06-Apr-15	1.19	306.40			
16-Apr-10	1.16	306.43	20-May-15	1.32	306.27			
21-May-10	1.23	306.36	23-Jun-15	1.15	306.44			
17-Jun-10	1.15	306.44	22-Jul-15	1.15	306.44			
15-Jul-10	1.36	306.23	25-Aug-15	1.31	306.28			
18-Aug-10	1.40	306.19	24-Sep-15	1.42	306.17			
31-Aug-10	1.44	306.15	29-Oct-15	1.18	306.41			
28-Sep-10	1.35	306.24	25-Nov-15	1.31	306.28			
20-Oct-10	1.47	306.12	10-Dec-15	1.46	306.13			
18-Nov-10	1.41	306.18	20-Jan-16	1.44	306.15			
08-Dec-10	1.47	306.12	29-Feb-16	1.26	306.33			
22-Dec-10	1.51	306.08	17-Mar-16	1.18	306.41			
19-Jan-11	1.54	306.05	30-Mar-16	1.02	306.57			
17-Feb-11	1.34	306.25	27-Apr-16	1.44	306.15			
16-Mar-11	0.92	306.67	30-May-16	1.32	306.27			
13-Apr-11	1.32	306.27	27-Jun-16	1.24	306.35			
21-Apr-11	1.13	306.46	28-Jul-16	1.42	306.17			
26-May-11	1.05	306.54	11-Aug-16	1.52	306.07			
16-Jun-11	1.17	306.42	21-Sep-16	1.47	306.12			
14-Jul-11	1.30	306.29	18-Oct-16	1.47	306.12			
11-Aug-11	1.38	306.21	14-Nov-16	1.48	306.11			
17-Aug-11	1.46	306.13	14-Dec-16	1.54	306.05			
14-Sep-11	1.49	306.10	18-Jan-17	1.29	306.30			
27-Oct-11	1.35	306.24	15-Feb-17	1.30	306.29			
14-Nov-11	1.41	306.18	17-Mar-17	1.28	306.31			
14-Dec-11	1.32	306.27	11-Apr-17	1.11	306.48			

NOTES:
- · BTOP — Below top of pipe
- · NA — Not available
- · m ASL — metres above sea level
- · (F) — Frozen

TABLE B-1
WATER LEVEL DATA - GROUNDWATER MONITORS
MILL CREEK AGGREGATES PIT

BH 14								
DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)
23-Jun-15	2.45	305.69						
22-Jul-15	2.65	305.49						
25-Aug-15	2.65	305.49						
24-Sep-15	2.70	305.44						
29-Oct-15	2.47	305.67						
25-Nov-15	2.66	305.48						
10-Dec-15	2.66	305.48						
20-Jan-16	2.52	305.62						
29-Feb-16	2.40	305.74						
17-Mar-16	2.52	305.62						
30-Mar-16	2.43	305.71						
27-Apr-16	2.57	305.57						
30-May-16	2.60	305.54						
27-Jun-16	2.71	305.43						
28-Jul-16	2.66	305.48						
11-Aug-16	2.72	305.42						
21-Sep-16	2.70	305.44						
18-Oct-16	2.71	305.43						
14-Nov-16	2.67	305.47						
14-Dec-16	2.74	305.40						
18-Jan-17	2.57	305.57						
15-Feb-17	2.65	305.49						
17-Mar-17	2.60	305.54						
11-Apr-17	2.48	305.66						
18-May-17	2.51	305.63						
14-Jun-17	2.58	305.56						
20-Jul-17	2.53	305.61						
09-Aug-17	2.58	305.56						
12-Sep-17	2.57	305.57						
12-Oct-17	2.58	305.56						
21-Nov-17	2.53	305.61						
19-Dec-17	2.62	305.52						
16-Jan-18	2.54	305.60						
26-Feb-18	2.44	305.70						
26-Mar-18	2.63	305.51						
24-Apr-18	2.39	305.75						
18-May-18	2.52	305.62						
12-Jun-18	2.60	305.54						
27-Jul-18	2.64	305.50						
22-Aug-18	2.53	305.61						
12-Sep-18	2.63	305.51						
30-Oct-18	2.63	305.51						
21-Nov-18	2.61	305.53						
20-Dec-18	2.63	305.51						

NOTES:
- BTOP — Below top of pipe
- NA — Not available
- m ASL — metres above sea level
- (F) — Frozen

TABLE B-1
WATER LEVEL DATA - GROUNDWATER MONITORS
MILL CREEK AGGREGATES PIT

TW16-78								
DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)
08-Jul-88		304.00	25-Aug-94		FLOWING	09-Aug-02		FLOWING
11-Aug-88		304.00	21-Sep-94		FLOWING	04-Sep-02		NO FLOW
27-Sep-88		304.00	18-Oct-94		FLOWING	11-Oct-02		NO FLOW
01-Apr-89		FLOWING	24-Nov-94		FLOWING	21-Nov-02		FLOWING
17-Apr-89		FLOWING	21-Dec-94		FLOWING	13-Dec-02		NO FLOW
24-May-89		FLOWING	24-Jan-95		FLOWING	10-Apr-03		FLOWING
12-Jul-89		FLOWING	16-Feb-95		FLOWING	07-May-03		FLOWING
27-Jul-89		FLOWING	24-Mar-95		FLOWING	15-May-03		FLOWING
15-Aug-89		FLOWING	16-May-95		NO FLOW	16-Jun-03		FLOWING
30-Aug-89		FLOWING	13-Jun-95		NO FLOW	17-Jul-03		NO FLOW
17-Oct-89		NA	20-Jul-95		NO FLOW	21-Aug-03		NO FLOW
30-Nov-89		FLOWING	15-Aug-95		FLOWING	26-Aug-03		NO FLOW
13-Dec-89		FLOWING	18-Oct-95		FLOWING	25-Sep-03		FLOWING
17-Jan-90		FLOWING	22-Nov-95		FLOWING	27-Oct-03		FLOWING
06-Mar-90		FLOWING	26-Mar-96		FLOWING	01-Dec-03		FLOWING
02-Apr-90		FLOWING	31-May-96		FLOWING	11-Dec-03		FLOWING
25-Jun-90		NO FLOW	31-Jul-96		NO FLOW	16-Dec-03		FLOWING
26-Jul-90		NO FLOW	30-Sep-96		FLOWING	19-Jan-04		FLOWING
22-Aug-90		FLOWING	06-Nov-96		NO FLOW	18-Feb-04		FLOWING
26-Sep-90		FLOWING	26-Mar-97		NO FLOW	25-Mar-04		FLOWING
24-Oct-90		FLOWING	26-May-97		NO FLOW	07-Apr-04		FLOWING
25-Nov-90		FLOWING	30-Jul-97		NO FLOW	22-Apr-04		FLOWING
14-Dec-90		FLOWING	06-Nov-97		NO FLOW	20-May-04		FLOWING
23-Jan-91		FLOWING	16-Dec-97		FLOWING	24-Jun-04		FLOWING
20-Feb-91		FLOWING	27-Mar-98		FLOWING	23-Jul-04		FLOWING
28-Mar-91		FLOWING	31-May-98		FLOWING	04-Aug-04		FLOWING
26-Apr-91		FLOWING	31-Jul-98		NO FLOW	26-Aug-04		FLOWING
24-May-91		FLOWING	30-Sep-98		NO FLOW	28-Sep-04		FLOWING
20-Jun-91		NO FLOW	30-Dec-98		NO FLOW	18-Oct-04		FLOWING
30-Jul-91		NO FLOW	31-Mar-99		FLOWING	16-Nov-04		FLOWING
22-Aug-91		FLOWING	20-May-99		FLOWING	15-Dec-04		FLOWING
25-Sep-91		FLOWING	16-Jul-99		NO FLOW	16-Dec-04		FLOWING
29-Oct-91		FLOWING	09-Sep-99		FLOWING	20-Jan-05		FLOWING
26-Nov-91		FLOWING	09-Nov-99		FLOWING	25-Feb-05		FLOWING
16-Dec-91		FLOWING	01-Mar-00		FLOWING	24-Mar-05		FLOWING
13-Mar-92		FLOWING	19-May-00		FLOWING	18-Apr-05		FLOWING
15-Apr-92		FLOWING	06-Jul-00		FLOWING	29-Apr-05		FLOWING
22-May-92		FLOWING	13-Sep-00		FLOWING	26-May-05		FLOWING
29-Jun-92		FLOWING	10-Oct-00		FLOWING	23-Jun-05		FLOWING
20-Jul-92		FLOWING	07-Nov-00		FLOWING	25-Jul-05		FLOWING
27-Aug-92		NO FLOW	11-Dec-00		FLOWING	17-Aug-05		FLOWING
14-Sep-92		NO FLOW	12-Jan-01		FLOWING	26-Aug-05		FLOWING
28-Oct-92		FLOWING	07-Feb-01		FLOWING	30-Sep-05		FLOWING
27-Nov-92		FLOWING	12-Mar-01		FLOWING	27-Oct-05		FLOWING
14-Dec-92		FLOWING	09-Apr-01		FLOWING	28-Nov-05		FLOWING
19-Jan-93		FLOWING	04-May-01		FLOWING	07-Dec-05		FLOWING
05-Mar-93		FLOWING	06-Jun-01		FLOWING	19-Dec-05		FLOWING
26-Mar-93		NA	11-Jul-01		FLOWING	26-Jan-06		FLOWING
20-Apr-93		FLOWING	01-Aug-01		NO FLOW	15-Feb-06		FLOWING
27-May-93		FLOWING	09-Aug-01		NO FLOW	30-Mar-06		FLOWING
22-Jun-93		FLOWING	13-Aug-01		NO FLOW	27-Apr-06		FLOWING
14-Jul-93		FLOWING	16-Aug-01		NO FLOW	28-Apr-06		FLOWING
18-Aug-93		NO FLOW	20-Aug-01		FLOWING	15-May-06		FLOWING
20-Sep-93		FLOWING	04-Sep-01		FLOWING	15-Jun-06		FLOWING
19-Oct-93		FLOWING	01-Oct-01		FLOWING	15-Jul-06		FLOWING
17-Nov-93		FLOWING	05-Nov-01		FLOWING	24-Aug-06		FLOWING
06-Dec-93		FLOWING	06-Dec-01		FLOWING	15-Sep-06		FLOWING
19-Jan-94		FLOWING	04-Jan-02		FLOWING	15-Oct-06		FLOWING
23-Feb-94		FLOWING	07-Feb-02		FLOWING	15-Nov-06		FLOWING
24-Mar-94		FLOWING	07-Mar-02		FLOWING	07-Dec-06		FLOWING
19-Apr-94		FLOWING	07-Apr-02		FLOWING			
24-May-94		FLOWING	06-May-02		FLOWING			
23-Jun-94		FLOWING	14-Jun-02		FLOWING			
21-Jul-94		FLOWING	11-Jul-02		FLOWING			

NOTES:
- · BTOP Below top of pipe
- · NA Not available
- · m ASL metres above sea level
- · (F) Frozen

TABLE B-1
WATER LEVEL DATA - GROUNDWATER MONITORS
MILL CREEK AGGREGATES PIT

TW16-78

DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)
17-Jan-07		FLOWING	17-Aug-11		FLOWING	30-Mar-16		FLOWING
22-Feb-07		FLOWING	14-Sep-11		FLOWING	27-Apr-16		FLOWING
30-Mar-07		FLOWING	27-Oct-11		FLOWING	30-May-16		FLOWING
26-Apr-07		NO FLOW	14-Nov-11		FLOWING	27-Jun-16		FLOWING
16-May-07		FLOWING	14-Dec-11		FLOWING	28-Jul-16		FLOWING
26-Jun-07		FLOWING	22-Dec-11		FLOWING	11-Aug-16		FLOWING
25-Jul-07		FLOWING	16-Jan-12		FLOWING	21-Sep-16		FLOWING
21-Aug-07		FLOWING	16-Feb-12		FLOWING	18-Oct-16		FLOWING
21-Sep-07		FLOWING	29-Mar-12		FLOWING	14-Nov-16		FLOWING
17-Oct-07		FLOWING	10-Apr-12		FLOWING	14-Dec-16		FLOWING
29-Nov-07		FLOWING	30-Apr-12		FLOWING	18-Jan-17		FLOWING
10-Dec-07		FLOWING	29-May-12		FLOWING	15-Feb-17		FLOWING
31-Jan-08		FLOWING	20-Jun-12		FLOWING	17-Mar-17		FLOWING
29-Feb-08		FLOWING	24-Jul-12		FLOWING	11-Apr-17		FLOWING
31-Mar-08		FLOWING	08-Aug-12		NO FLOW	18-May-17		FLOWING
28-Apr-08		FLOWING	21-Aug-12		FLOWING	14-Jun-17		FLOWING
28-May-08		FLOWING	18-Sep-12		FLOWING	20-Jul-17		FLOWING
25-Jun-08		FLOWING	23-Oct-12		FLOWING	09-Aug-17		FLOWING
16-Jul-08		FLOWING	28-Nov-12		FLOWING	12-Sep-17		FLOWING
20-Aug-08		FLOWING	06-Dec-12		FLOWING	12-Oct-17		FLOWING
26-Aug-08		FLOWING	19-Dec-12		FLOWING	21-Nov-17		FLOWING
19-Sep-08		FLOWING	16-Jan-13		FLOWING	19-Dec-17		FLOWING
10-Oct-08		FLOWING	20-Feb-13		FLOWING	16-Jan-18		FLOWING
05-Nov-08		FLOWING	21-Mar-13		FLOWING	26-Feb-18		FLOWING
17-Dec-08		FLOWING	04-Apr-13		FLOWING	26-Mar-18		FLOWING
06-Jan-09		FLOWING	25-Apr-13		FLOWING	24-Apr-18		FLOWING
27-Feb-09		FLOWING	23-May-13		FLOWING	18-May-18		FLOWING
11-Mar-09		FLOWING	13-Jun-13		FLOWING	12-Jun-18		FLOWING
14-Apr-09		FLOWING	31-Jul-13		FLOWING	27-Jul-18		FLOWING
21-May-09		FLOWING	29-Aug-13		FLOWING	22-Aug-18		FLOWING
16-Jun-09		FLOWING	25-Sep-13		FLOWING	12-Sep-18		FLOWING
31-Jul-09		FLOWING	22-Oct-13		FLOWING	30-Oct-18		FLOWING
25-Aug-09		FLOWING	28-Nov-13		FLOWING	21-Nov-18		FLOWING
28-Aug-09		FLOWING	10-Dec-13		FLOWING	20-Dec-18		FLOWING
28-Sep-09		FLOWING	15-Jan-14		FLOWING			
14-Oct-09		FLOWING	26-Feb-14		FLOWING			
11-Nov-09		FLOWING	26-Mar-14		FLOWING			
11-Dec-09		FLOWING	01-Apr-14		FLOWING			
13-Jan-10		FLOWING	15-May-14		FLOWING			
11-Feb-10		FLOWING	18-Jun-14		FLOWING			
11-Mar-10		FLOWING	29-Jul-14		FLOWING			
16-Apr-10		FLOWING	25-Aug-14		FLOWING			
21-May-10		FLOWING	18-Sep-14		FLOWING			
17-Jun-10		FLOWING	17-Oct-14		FLOWING			
15-Jul-10		FLOWING	27-Nov-14		FLOWING			
18-Aug-10		FLOWING	15-Dec-14		FLOWING			
31-Aug-10		FLOWING	21-Jan-15		FLOWING			
28-Sep-10		FLOWING	18-Feb-15		FLOWING			
20-Oct-10		FLOWING	25-Mar-15		FLOWING			
18-Nov-10		FLOWING	06-Apr-15		FLOWING			
08-Dec-10		FLOWING	20-May-15		FLOWING			
22-Dec-10		FLOWING	23-Jun-15		FLOWING			
19-Jan-11		FLOWING	22-Jul-15		FLOWING			
17-Feb-11		FLOWING	25-Aug-15		FLOWING			
16-Mar-11		FLOWING	24-Sep-15		FLOWING			
13-Apr-11		FLOWING	29-Oct-15		FLOWING			
21-Apr-11		FLOWING	25-Nov-15		FLOWING			
26-May-11		FLOWING	10-Dec-15		FLOWING			
16-Jun-11		FLOWING	20-Jan-16		FLOWING			
14-Jul-11		FLOWING	29-Feb-16		FLOWING			
11-Aug-11		FLOWING	17-Mar-16		FLOWING			

NOTES:
- BTOP — Below top of pipe
- NA — Not available
- m ASL — metres above sea level
- (F) — Frozen

TABLE B-1
WATER LEVEL DATA - GROUNDWATER MONITORS
MILL CREEK AGGREGATES PIT

TW16-79								
DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)
11-Aug-88	0.72	303.48	24-May-94	0.47	303.73	07-Apr-02	0.42	303.78
27-Sep-88	0.58	303.62	23-Jun-94	0.58	303.62	06-May-02	0.53	303.67
14-Dec-88	0.56	303.64	21-Jul-94	0.70	303.50	11-Jul-02	0.79	303.41
20-Jan-89	0.52	303.68	25-Aug-94	* 1.25		09-Aug-02	0.80	303.40
22-Feb-89	0.61	303.59	21-Sep-94	0.88	303.32	04-Sep-02	0.85	303.35
01-Apr-89	0.34	303.86	18-Oct-94	0.84	303.36	11-Oct-02	0.85	303.35
17-Apr-89	0.39	303.81	24-Nov-94	0.69	303.51	21-Nov-02	0.72	303.48
24-May-89	0.54	303.66	21-Dec-94	0.63	303.57	13-Dec-02	0.80	303.40
12-Jul-89	0.73	303.47	24-Jan-95	0.47	303.73	09-Jan-03	0.85	303.35
27-Jul-89	0.80	303.40	16-Feb-95	0.87	303.33	10-Feb-03	0.84	303.36
15-Aug-89	0.85	303.35	24-Mar-95	0.53	303.67	13-Mar-03	0.83	303.37
30-Aug-89	0.88	303.32	16-May-95	0.61	303.59	10-Apr-03	0.82	303.38
17-Oct-89	0.80	303.40	13-Jun-95	0.71	303.49	07-May-03	0.57	303.63
30-Nov-89	0.55	303.65	20-Jul-95	0.86	303.34	15-May-03	0.85	303.35
13-Dec-89	0.68	303.52	15-Aug-95	0.71	303.49	16-Jun-03	0.80	303.40
17-Jan-90	0.61	303.59	18-Oct-95	0.78	303.42	17-Jul-03	0.79	303.41
06-Mar-90	0.50	303.70	22-Nov-95	0.56	303.64	21-Aug-03	0.79	303.41
02-Apr-90	0.42	303.78	26-Mar-96	0.54	303.66	26-Aug-03	0.90	303.30
25-Jun-90	0.63	303.57	31-May-96	0.54	303.66	25-Sep-03	0.75	303.45
26-Jul-90	0.67	303.53	31-Jul-96	0.57	303.63	27-Oct-03	0.75	303.45
22-Aug-90	0.74	303.46	30-Sep-96	0.43	303.77	01-Dec-03	0.55	303.65
26-Sep-90	0.76	303.44	06-Nov-96	0.54	303.66	11-Dec-03	0.56	303.64
24-Oct-90	0.53	303.67	26-Mar-97	0.27	303.93	16-Dec-03	0.64	303.56
25-Nov-90	0.49	303.71	26-May-97	0.54	303.66	19-Jan-04	0.65	303.55
14-Dec-90	0.43	303.77	30-Jul-97	0.80	303.40	18-Feb-04	0.66	303.54
23-Jan-91	0.47	303.73	06-Nov-97	0.59	303.61	25-Mar-04	0.50	303.70
20-Feb-91	0.37	303.83	16-Dec-97	0.66	303.54	07-Apr-04	0.54	303.66
28-Mar-91	0.25	303.95	27-Mar-98	0.44	303.76	22-Apr-04	0.49	303.71
26-Apr-91	0.39	303.81	31-May-98	0.83	303.37	20-May-04	0.62	303.58
24-May-91	0.57	303.63	31-Jul-98	0.88	303.32	24-Jun-04	0.67	303.53
20-Jun-91	0.57	303.63	30-Sep-98	0.93	303.27	23-Jul-04	0.74	303.46
30-Jul-91	0.42	303.78	30-Dec-98	0.86	303.34	04-Aug-04	0.69	303.51
22-Aug-91	0.65	303.55	31-Mar-99	0.64	303.56	26-Aug-04	0.82	303.38
25-Sep-91	0.73	303.47	20-May-99	0.69	303.51	28-Sep-04	0.83	303.37
29-Oct-91	0.61	303.59	16-Jul-99	0.81	303.39	18-Oct-04	0.75	303.45
26-Nov-91	0.57	303.63	09-Sep-99	0.75	303.45	16-Nov-04	0.70	303.50
16-Dec-91	0.47	303.73	09-Nov-99	0.67	303.53	15-Dec-04	0.62	303.58
13-Mar-92	0.43	303.77	01-Mar-00	0.61	303.59	16-Dec-04	0.64	303.56
15-Apr-92	0.45	303.75	19-May-00	0.46	303.74	20-Jan-05	0.61	303.59
22-May-92	0.56	303.64	06-Jul-00	0.61	303.59	25-Feb-05	0.59	303.61
29-Jun-92	0.70	303.50	13-Sep-00	0.64	303.56	24-Mar-05	0.55	303.65
20-Jul-92	0.39	303.81	10-Oct-00	0.68	303.52	29-Apr-05	0.51	303.69
27-Aug-92	0.54	303.66	08-Nov-00	0.64	303.56	26-May-05	0.65	303.55
14-Sep-92	0.50	303.70	11-Dec-00	0.62	303.58	23-Jun-05	0.74	303.46
28-Oct-92	0.44	303.76	12-Jan-01	0.70	303.50	25-Jul-05	0.70	303.50
27-Nov-92	0.30	303.90	07-Feb-01	0.67	303.53	26-Aug-05	0.78	303.42
14-Dec-92	0.42	303.78	12-Mar-01	0.62	303.58	30-Sep-05	0.68	303.52
19-Jan-93	0.41	303.79	09-Apr-01	0.50	303.70	27-Oct-05	0.69	303.51
05-Mar-93	0.51	303.69	04-May-01	0.65	303.55	28-Nov-05	0.58	303.62
26-Mar-93	0.39	303.81	06-Jun-01	0.61	303.59	07-Dec-05	0.63	303.57
20-Apr-93	0.24	303.96	11-Jul-01	0.84	303.36	19-Dec-05	0.65	303.55
27-May-93	0.51	303.69	01-Aug-01	0.92	303.28	26-Jan-06	0.52	303.68
22-Jun-93	0.44	303.76	09-Aug-01	0.92	303.28	30-Mar-06	0.55	303.65
14-Jul-93	0.59	303.61	13-Aug-01	0.93	303.27	27-Apr-06	0.56	303.64
18-Aug-93	0.67	303.53	16-Aug-01	0.91	303.29	28-Apr-06	0.59	303.61
20-Sep-93	0.63	303.57	20-Aug-01	0.79	303.41	15-Jun-06	0.81	303.39
19-Oct-93	0.40	303.80	04-Sep-01	0.86	303.34	15-Jul-06	0.70	303.50
17-Nov-93	0.49	303.71	01-Oct-01	0.79	303.41	24-Aug-06	0.80	303.40
06-Dec-93	0.37	303.83	05-Nov-01	0.62	303.58	15-Sep-06	0.50	303.70
19-Jan-94	0.59	303.61	06-Dec-01	0.62	303.58	15-Oct-06	0.45	303.75
23-Feb-94	0.37	303.83	04-Jan-02	0.72	303.48	15-Nov-06	0.54	303.66
24-Mar-94	0.19	304.01	07-Feb-02	0.68	303.52	07-Dec-06	0.53	303.67
19-Apr-94	0.40	303.80	07-Mar-02	0.81	303.39			

NOTES:
- BTOP — Below top of pipe
- NA — Not available
- m ASL — metres above sea level
- (F) — Frozen
- * — Lowered water levels as a result of bridge construction

TABLE B-1
WATER LEVEL DATA - GROUNDWATER MONITORS
MILL CREEK AGGREGATES PIT

TW16-79								
DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)
17-Jan-07	0.53	303.67	14-Sep-11	0.72	303.48	27-Jun-16	0.47	303.73
22-Feb-07	0.56	303.64	27-Oct-11	0.50	303.70	28-Jul-16	0.68	303.52
30-Mar-07	0.51	303.69	14-Nov-11	0.56	303.64	11-Aug-16	0.77	303.43
26-Apr-07	0.54	303.66	14-Dec-11	0.35	303.85	21-Sep-16	0.64	303.56
16-May-07	0.59	303.61	22-Dec-11	0.46	303.74	18-Oct-16	0.62	303.58
26-Jun-07	0.74	303.46	16-Jan-12	0.54	303.66	14-Nov-16	0.59	303.61
25-Jul-07	0.87	303.33	16-Feb-12	0.52	303.68	14-Dec-16	0.57	303.63
21-Aug-07	0.88	303.32	29-Mar-12	0.57	303.63	18-Jan-17	0.43	303.77
21-Sep-07	0.88	303.32	10-Apr-12	0.60	303.60	15-Feb-17	0.52	303.68
17-Oct-07	0.75	303.46	30-Apr-12	0.59	303.61	17-Mar-17	0.52	303.68
29-Nov-07	0.61	303.59	29-May-12	0.74	303.46	11-Apr-17	0.44	303.76
10-Dec-07	0.64	303.56	20-Jun-12	0.76	303.44	18-May-17	0.53	303.67
31-Jan-08	0.58	303.62	24-Jul-12	0.83	303.37	14-Jun-17	0.62	303.59
29-Feb-08	0.57	303.63	08-Aug-12	0.87	303.33	20-Jul-17	0.55	303.65
31-Mar-08	0.30	303.90	21-Aug-12	0.78	303.42	09-Aug-17	0.60	303.60
28-Apr-08	0.57	303.63	18-Sep-12	0.63	303.57	12-Sep-17	0.64	303.56
28-May-08	0.67	303.53	23-Oct-12	0.47	303.73	12-Oct-17	0.51	303.69
25-Jun-08	0.65	303.55	28-Nov-12	0.63	303.57	21-Nov-17	0.47	303.73
16-Jul-08	0.64	303.56	06-Dec-12	0.54	303.66	19-Dec-17	0.51	303.69
20-Aug-08	0.60	303.60	19-Dec-12	0.55	303.65	16-Jan-18	0.47	303.73
26-Aug-08	0.69	303.51	16-Jan-13	0.47	303.73	26-Feb-18	0.39	303.81
19-Sep-08	0.43	303.77	20-Feb-13	0.50	303.70	26-Mar-18	0.55	303.65
10-Oct-08	0.57	303.63	21-Mar-13	0.45	303.75	24-Apr-18	0.39	303.81
05-Nov-08	0.56	303.64	04-Apr-13	0.47	303.73	18-May-18	0.52	303.68
17-Dec-08	0.48	303.72	25-Apr-13	0.45	303.75	12-Jun-18	0.65	303.55
06-Jan-09	0.48	303.72	23-May-13	0.55	303.65	27-Jul-18	0.73	303.47
27-Feb-09	0.51	303.69	13-Jun-13	0.46	303.74	22-Aug-18	0.59	303.61
11-Mar-09	0.37	303.83	31-Jul-13	0.57	303.63	12-Sep-18	0.67	303.53
14-Apr-09	0.49	303.71	29-Aug-13	0.59	303.61	30-Oct-18	0.61	303.59
21-May-09	0.53	303.67	25-Sep-13	0.56	303.64	21-Nov-18	0.54	303.66
16-Jun-09	0.58	303.62	22-Oct-13	0.43	303.77	20-Dec-18	0.58	303.62
31-Jul-09	0.51	303.69	28-Nov-13	0.50	303.70			
25-Aug-09	0.49	303.71	10-Dec-13	0.51	303.69			
28-Aug-09	0.52	303.68	15-Jan-14	0.36	303.84			
28-Sep-09	0.56	303.64	26-Feb-14	0.48	303.72			
14-Oct-09	0.54	303.66	26-Mar-14	0.44	303.76			
11-Nov-09	0.56	303.64	01-Apr-14	0.24	303.96			
11-Dec-09	0.53	303.67	15-May-14	0.40	303.80			
16-Dec-09	0.49	303.71	18-Jun-14	0.56	303.64			
13-Jan-10	0.59	303.61	29-Jul-14	0.39	303.81			
11-Feb-10	0.61	303.59	25-Aug-14	0.53	303.67			
11-Mar-10	0.70	303.50	18-Sep-14	0.45	303.75			
16-Apr-10	0.53	303.67	17-Oct-14	0.47	303.73			
21-May-10	0.61	303.59	27-Nov-14	0.44	303.76			
17-Jun-10	0.53	303.67	15-Dec-14	0.47	303.73			
15-Jul-10	0.69	303.51	21-Jan-15	0.53	303.67			
18-Aug-10	0.79	303.41	18-Feb-15	0.53	303.67			
31-Aug-10	0.73	303.47	25-Mar-15	0.41	303.79			
28-Sep-10	0.54	303.66	06-Apr-15	0.38	303.82			
20-Oct-10	0.57	303.63	20-May-15	0.58	303.62			
18-Nov-10	0.49	303.71	23-Jun-15	0.54	303.66			
08-Dec-10	0.59	303.61	22-Jul-15	0.59	303.61			
22-Dec-10	0.58	303.62	25-Aug-15	0.57	303.63			
19-Jan-11	0.59	303.61	24-Sep-15	0.66	303.54			
17-Feb-11	0.57	303.63	29-Oct-15	0.35	303.85			
16-Mar-11	0.37	303.83	25-Nov-15	0.55	303.65			
13-Apr-11	0.48	303.72	10-Dec-15	0.57	303.63			
21-Apr-11	0.33	303.87	20-Jan-16	0.51	303.69			
26-May-11	0.38	303.82	29-Feb-16	0.47	303.73			
16-Jun-11	0.52	303.68	17-Mar-16	0.38	303.82			
14-Jul-11	0.68	303.52	30-Mar-16	0.39	303.81			
11-Aug-11	0.67	303.53	27-Apr-16	0.47	303.73			
17-Aug-11	0.79	303.41	30-May-16	0.53	303.67			

NOTES:
- · BTOP — Below top of pipe
- · NA — Not available
- · m ASL — metres above sea level
- · (F) — Frozen
- · * — Lowered water levels as a result of bridge construction

TABLE B-1
WATER LEVEL DATA - GROUNDWATER MONITORS
MILL CREEK AGGREGATES PIT

OW1-84								
DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)
08-Jul-88	1.45	303.36	21-Jul-94	1.33	303.48	09-Aug-02	1.41	303.40
27-Sep-88	1.20	303.61	25-Aug-94	* 1.90		04-Sep-02	1.17	303.64
14-Dec-88	1.17	303.64	21-Sep-94	1.52	303.29	11-Oct-02	1.45	303.36
20-Jan-89	1.14	303.67	18-Oct-94	1.47	303.34	21-Nov-02	1.32	303.49
22-Feb-89	1.24	303.57	24-Nov-94	1.32	303.49	13-Dec-02	1.33	303.48
01-Apr-89	0.99	303.82	21-Dec-94	1.28	303.53	09-Jan-03	1.37	303.44
17-Apr-89	1.03	303.78	24-Jan-95	1.10	303.71	10-Feb-03	1.50	303.31
24-May-89	1.17	303.64	16-Feb-95	1.37	303.44	13-Mar-03	1.35	303.46
12-Jul-89	1.37	303.44	24-Mar-95	1.18	303.63	10-Apr-03	1.27	303.54
27-Jul-89	1.43	303.38	16-May-95	1.26	303.55	07-May-03	1.18	303.63
15-Aug-89	1.49	303.32	13-Jun-95	1.36	303.45	15-May-03	1.35	303.46
30-Aug-89	1.51	303.30	20-Jul-95	1.51	303.30	16-Jun-03	1.41	303.40
17-Oct-89	1.43	303.38	15-Aug-95	1.35	303.46	17-Jul-03	1.50	303.31
30-Nov-89	1.18	303.63	18-Oct-95	1.42	303.39	21-Aug-03	1.62	303.19
13-Dec-89	1.32	303.49	22-Nov-95	1.21	303.60	26-Aug-03	1.51	303.30
17-Jan-90	1.24	303.57	26-Mar-96	1.10	303.71	25-Sep-03	1.35	303.46
06-Mar-90	1.14	303.67	31-May-96	1.25	303.56	27-Oct-03	1.28	303.53
02-Apr-90	1.05	303.76	31-Jul-96	1.22	303.59	01-Dec-03	1.16	303.65
25-Jun-90	1.26	303.55	30-Sep-96	1.09	303.72	11-Dec-03	1.16	303.65
26-Jul-90	1.31	303.50	07-Nov-96	1.19	303.62	16-Dec-03	1.25	303.56
22-Aug-90	1.38	303.43	26-Mar-97	0.97	303.84	19-Jan-04	1.25	303.56
26-Sep-90	1.39	303.42	26-May-97	1.20	303.61	18-Feb-04	1.26	303.55
24-Oct-90	1.16	303.65	30-Jul-97	1.40	303.41	25-Mar-04	1.11	303.70
25-Nov-90	1.11	303.70	06-Nov-97	1.20	303.61	07-Apr-04	1.14	303.67
14-Dec-90	1.07	303.74	16-Dec-97	1.25	303.56	22-Apr-04	1.09	303.72
23-Jan-91	1.10	303.71	27-Mar-98	1.07	303.74	20-May-04	1.22	303.59
20-Feb-91	1.00	303.81	31-May-98	1.42	303.39	24-Jun-04	1.28	303.53
28-Mar-91	0.82	303.99	31-Jul-98	1.48	303.33	23-Jul-04	1.34	303.47
26-Apr-91	1.01	303.80	30-Sep-98	1.52	303.29	04-Aug-04	1.30	303.51
24-May-91	1.20	303.61	30-Dec-98	1.45	303.36	26-Aug-04	1.43	303.38
20-Jun-91	1.20	303.61	31-Mar-99	1.22	303.59	28-Sep-04	1.43	303.38
30-Jul-91	1.05	303.76	20-May-99	1.29	303.52	18-Oct-04	1.35	303.46
22-Aug-91	1.29	303.52	16-Jul-99	1.46	303.35	16-Nov-04	1.30	303.51
25-Sep-91	1.36	303.45	09-Sep-99	1.35	303.46	15-Dec-04	1.23	303.58
29-Oct-91	1.24	303.57	09-Nov-99	1.26	303.55	16-Dec-04	1.24	303.57
26-Nov-91	1.21	303.60	01-Mar-00	1.22	303.59	20-Jan-05	1.22	303.59
16-Dec-91	1.11	303.70	19-May-00	1.05	303.76	25-Feb-05	1.20	303.61
13-Mar-92	1.06	303.75	06-Jul-00	1.21	303.60	24-Mar-05	1.19	303.62
15-Apr-92	1.09	303.72	13-Sep-00	1.24	303.57	18-Apr-05	1.19	303.62
22-May-92	1.21	303.60	10-Oct-00	1.25	303.56	29-Apr-05	1.13	303.68
29-Jun-92	1.34	303.47	08-Nov-00	1.23	303.58	26-May-05	1.28	303.53
20-Jul-92	1.03	303.78	11-Dec-00	1.19	303.62	23-Jun-05	1.35	303.46
27-Aug-92	1.17	303.64	12-Jan-01	1.30	303.51	25-Jul-05	1.34	303.47
14-Sep-92	1.14	303.67	07-Feb-01	1.27	303.54	17-Aug-05	1.45	303.36
28-Oct-92	1.08	303.73	12-Mar-01	1.23	303.58	26-Aug-05	1.40	303.41
27-Nov-92	0.95	303.86	09-Apr-01	1.10	303.71	30-Sep-05	1.31	303.50
14-Dec-92	1.06	303.75	04-May-01	1.25	303.56	27-Oct-05	1.31	303.50
19-Jan-93	1.05	303.76	06-Jun-01	1.21	303.60	28-Nov-05	1.21	303.60
05-Mar-93	1.09	303.72	11-Jul-01	1.43	303.38	07-Dec-05	1.25	303.56
26-Mar-93	1.03	303.78	01-Aug-01	1.51	303.30	19-Dec-05	1.25	303.56
20-Apr-93	0.87	303.94	09-Aug-01	1.51	303.30	26-Jan-06	1.13	303.68
27-May-93	1.14	303.67	13-Aug-01	1.53	303.28	15-Feb-06	1.22	303.59
22-Jun-93	1.09	303.72	16-Aug-01	1.51	303.30	30-Mar-06	1.16	303.65
14-Jul-93	1.23	303.58	20-Aug-01	1.40	303.41	27-Apr-06	1.17	303.64
18-Aug-93	1.31	303.50	04-Sep-01	1.46	303.35	28-Apr-06	1.21	303.60
20-Sep-93	1.26	303.55	01-Oct-01	1.38	303.43	15-May-06	1.31	303.50
19-Oct-93	1.04	303.77	05-Nov-01	1.21	303.60	15-Jun-06	1.42	303.39
17-Nov-93	1.13	303.68	06-Dec-01	1.21	303.60	15-Jul-06	1.32	303.49
06-Dec-93	0.99	303.82	04-Jan-02	1.31	303.50	24-Aug-06	1.43	303.38
19-Jan-94	1.23	303.58	07-Feb-02	1.29	303.52	15-Sep-06	1.11	303.70
23-Feb-94	(F) 0.49		07-Mar-02	1.23	303.58	15-Oct-06	1.07	303.74
24-Mar-94	0.82	303.99	07-Apr-02	1.02	303.79	15-Nov-06	1.16	303.65
19-Apr-94	1.05	303.76	06-May-02	1.13	303.68	07-Dec-06	1.14	303.67
24-May-94	1.11	303.70	14-Jun-02	1.22	303.59			
23-Jun-94	1.32	303.49	11-Jul-02	1.39	303.42			

NOTES:
- · BTOP — Below top of pipe
- · NA — Not available
- · m ASL — metres above sea level
- · (F) — Frozen
- · * — Lowered water levels as a result of bridge construction

TABLE B-1
WATER LEVEL DATA - GROUNDWATER MONITORS
MILL CREEK AGGREGATES PIT

OW1-84								
DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)
17-Jan-07	1.15	303.66	17-Aug-11	1.37	303.44	27-Apr-16	1.09	303.72
22-Feb-07	1.17	303.64	14-Sep-11	1.34	303.47	30-May-16	1.06	303.75
30-Mar-07	1.12	303.69	27-Oct-11	1.13	303.68	27-Jun-16	1.32	303.49
26-Apr-07	1.16	303.65	14-Nov-11	1.19	303.62	28-Jul-16	1.51	303.30
16-May-07	1.22	303.59	14-Dec-11	0.98	303.83	11-Aug-16	1.40	303.41
26-Jun-07	1.37	303.44	22-Dec-11	1.08	303.73	21-Sep-16	1.27	303.54
21-Aug-07	1.50	303.31	16-Jan-12	1.16	303.65	18-Oct-16	1.26	303.55
21-Sep-07	1.50	303.31	16-Feb-12	1.14	303.67	14-Nov-16	1.21	303.60
17-Oct-07	1.36	303.45	29-Mar-12	1.19	303.62	14-Dec-16	1.20	303.61
15-Nov-07	1.33	303.48	10-Apr-12	1.22	303.59	18-Jan-17	1.05	303.76
29-Nov-07	1.23	303.58	30-Apr-12	1.20	303.61	15-Feb-17	1.13	303.68
10-Dec-07	1.25	303.56	29-May-12	1.36	303.45	17-Mar-17	1.14	303.67
31-Jan-08	1.21	303.60	20-Jun-12	1.39	303.42	11-Apr-17	1.06	303.75
29-Feb-08	1.19	303.62	24-Jul-12	1.45	303.36	18-May-17	1.14	303.67
31-Mar-08	0.92	303.89	08-Aug-12	1.49	303.32	14-Jun-17	1.23	303.58
28-Apr-08	1.19	303.62	21-Aug-12	1.40	303.41	20-Jul-17	1.17	303.64
28-May-08	1.27	303.54	18-Sep-12	1.27	303.54	09-Aug-17	1.21	303.60
25-Jun-08	1.28	303.53	23-Oct-12	1.09	303.72	12-Sep-17	1.27	303.54
16-Jul-08	1.25	303.56	28-Nov-12	1.24	303.57	12-Oct-17	1.27	303.54
20-Aug-08	1.23	303.58	06-Dec-12	1.16	303.65	21-Nov-17	1.10	303.71
26-Aug-08	1.29	303.52	19-Dec-12	1.17	303.64	19-Dec-17	1.13	303.68
19-Sep-08	1.06	303.75	16-Jan-13	1.09	303.72	16-Jan-18	1.08	303.73
10-Oct-08	1.20	303.61	20-Feb-13	1.12	303.69	26-Feb-18	1.00	303.81
05-Nov-08	1.19	303.62	21-Mar-13	1.08	303.73	26-Mar-18	1.17	303.64
17-Dec-08	1.10	303.71	04-Apr-13	1.09	303.72	24-Apr-18	1.01	303.80
06-Jan-09	1.10	303.71	25-Apr-13	1.06	303.75	18-May-18	1.13	303.68
27-Feb-09	1.13	303.68	23-May-13	1.17	303.64	12-Jun-18	1.28	303.53
11-Mar-09	0.99	303.82	13-Jun-13	1.07	303.74	27-Jul-18	1.35	303.46
14-Apr-09	1.10	303.71	31-Jul-13	1.05	303.76	22-Aug-18	1.21	303.60
21-May-09	1.16	303.65	29-Aug-13	1.21	303.60	12-Sep-18	1.29	303.52
16-Jun-09	1.21	303.60	25-Sep-13	1.17	303.64	30-Oct-18	1.23	303.58
31-Jul-09	1.14	303.67	22-Oct-13	1.05	303.76	21-Nov-18	1.17	303.64
25-Aug-09	1.11	303.70	28-Nov-13	1.13	303.68	20-Dec-18	1.19	303.62
28-Aug-09	1.14	303.67	10-Dec-13	1.13	303.68			
28-Sep-09	1.18	303.63	15-Jan-14	0.98	303.83			
14-Oct-09	1.17	303.64	26-Feb-14	1.10	303.71			
11-Nov-09	1.17	303.64	26-Mar-14	1.07	303.74			
11-Dec-09	1.15	303.66	01-Apr-14	0.88	303.93			
16-Dec-09	1.12	303.69	15-May-14	1.03	303.78			
13-Jan-10	1.21	303.60	18-Jun-14	1.20	303.61			
11-Feb-10	1.23	303.58	29-Jul-14	1.01	303.80			
11-Mar-10	1.09	303.72	25-Aug-14	1.16	303.65			
16-Apr-10	1.15	303.66	18-Sep-14	1.07	303.74			
21-May-10	1.24	303.57	17-Oct-14	1.08	303.73			
17-Jun-10	1.16	303.65	27-Nov-14	1.06	303.75			
15-Jul-10	1.32	303.49	15-Dec-14	1.09	303.72			
18-Aug-10	1.36	303.45	21-Jan-15	1.15	303.66			
31-Aug-10	1.36	303.45	18-Feb-15	1.17	303.64			
28-Sep-10	1.16	303.65	25-Mar-15	1.05	303.76			
20-Oct-10	1.20	303.61	06-Apr-15	0.99	303.82			
18-Nov-10	1.10	303.71	20-May-15	1.21	303.60			
08-Dec-10	1.18	303.63	23-Jun-15	1.16	303.65			
22-Dec-10	1.20	303.61	22-Jul-15	1.21	303.60			
19-Jan-11	1.21	303.60	25-Aug-15	1.19	303.62			
17-Feb-11	1.20	303.61	24-Sep-15	1.28	303.53			
16-Mar-11	1.00	303.81	29-Oct-15	1.00	303.81			
13-Apr-11	1.10	303.71	25-Nov-15	1.16	303.65			
21-Apr-11	0.90	303.91	10-Dec-15	1.18	303.63			
26-May-11	1.00	303.81	20-Jan-16	1.13	303.68			
16-Jun-11	1.14	303.67	29-Feb-16	1.08	303.73			
14-Jul-11	1.31	303.50	17-Mar-16	1.00	303.81			
11-Aug-11	1.31	303.50	30-Mar-16	1.01	303.80			

NOTES:
- · BTOP Below top of pipe
- · NA Not available
- · m ASL metres above sea level
- · (F) Frozen
- · * Lowered water levels as a result of bridge construction

TABLE B-1
WATER LEVEL DATA - GROUNDWATER MONITORS
MILL CREEK AGGREGATES PIT

OW2-84								
DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)
08-Jul-88	1.49	303.31	21-Jul-94	1.37	303.43	09-Aug-02	1.42	303.38
27-Sep-88	1.24	303.56	25-Aug-94	* 1.93		04-Sep-02	1.45	303.35
14-Dec-88	1.22	303.58	21-Sep-94	1.55	303.25	11-Oct-02	1.47	303.33
20-Jan-89	1.19	303.61	18-Oct-94	1.51	303.29	21-Nov-02	1.35	303.45
22-Feb-89	1.27	303.53	24-Nov-94	1.37	303.43	13-Dec-02	1.37	303.43
01-Apr-89	1.02	303.78	21-Dec-94	1.30	303.50	09-Jan-03	1.40	303.40
17-Apr-89	1.06	303.74	24-Jan-95	1.15	303.65	10-Feb-03	1.50	303.30
24-May-89	1.21	303.59	16-Feb-95	1.39	303.41	13-Mar-03	1.45	303.35
12-Jul-89	1.41	303.39	24-Mar-95	1.20	303.60	10-Apr-03	1.40	303.40
27-Jul-89	1.47	303.33	16-May-95	1.28	303.52	07-May-03	1.19	303.61
15-Aug-89	1.53	303.27	13-Jun-95	1.38	303.42	15-May-03	1.42	303.38
30-Aug-89	1.55	303.25	20-Jul-95	1.54	303.26	16-Jun-03	1.39	303.41
17-Oct-89	1.47	303.33	15-Aug-95	1.36	303.44	17-Jul-03	1.51	303.29
30-Nov-89	1.21	303.59	18-Oct-95	1.45	303.35	21-Aug-03	1.63	303.17
13-Dec-89	1.35	303.45	22-Nov-95	1.23	303.57	26-Aug-03	1.52	303.28
17-Jan-90	1.28	303.52	26-Mar-96	1.13	303.67	25-Sep-03	1.37	303.43
06-Mar-90	1.17	303.63	31-May-96	1.27	303.53	27-Oct-03	1.29	303.51
02-Apr-90	1.08	303.72	31-Jul-96	1.24	303.56	01-Dec-03	1.17	303.63
25-Jun-90	1.30	303.50	30-Sep-96	1.11	303.69	11-Dec-03	1.17	303.63
26-Jul-90	1.34	303.46	06-Nov-96	1.21	303.59	16-Dec-03	1.26	303.54
22-Aug-90	1.14	303.66	26-Mar-97	0.98	303.82	19-Jan-04	1.26	303.54
26-Sep-90	1.42	303.38	26-May-97	1.22	303.58	18-Feb-04	1.28	303.52
24-Oct-90	1.20	303.60	30-Jul-97	1.42	303.38	25-Mar-04	1.12	303.68
25-Nov-90	1.15	303.65	06-Nov-97	1.20	303.60	07-Apr-04	1.15	303.65
14-Dec-90	1.10	303.70	16-Dec-97	1.27	303.53	22-Apr-04	1.10	303.70
23-Jan-91	1.14	303.66	27-Mar-98	1.05	303.75	20-May-04	1.25	303.55
20-Feb-91	1.04	303.76	31-May-98	1.44	303.36	24-Jun-04	1.29	303.51
28-Mar-91	0.85	303.95	31-Jul-98	1.50	303.30	23-Jul-04	1.37	303.43
26-Apr-91	1.05	303.75	30-Sep-98	1.54	303.26	04-Aug-04	1.32	303.48
24-May-91	1.23	303.57	30-Dec-98	1.47	303.33	26-Aug-04	1.44	303.36
20-Jun-91	1.23	303.57	31-Mar-99	1.25	303.55	28-Sep-04	1.45	303.35
30-Jul-91	1.09	303.71	20-May-99	1.30	303.50	18-Oct-04	1.35	303.45
22-Aug-91	1.32	303.48	16-Jul-99	1.47	303.33	16-Nov-04	1.32	303.48
25-Sep-91	NA		09-Sep-99	1.37	303.43	15-Dec-04	1.23	303.57
29-Oct-91	1.28	303.52	09-Nov-99	1.28	303.52	16-Dec-04	1.25	303.55
26-Nov-91	1.24	303.56	01-Mar-00	1.24	303.56	20-Jan-05	1.23	303.57
16-Dec-91	1.15	303.65	19-May-00	1.07	303.73	25-Feb-05	1.19	303.61
13-Mar-92	1.10	303.70	06-Jul-00	1.23	303.57	24-Mar-05	1.18	303.62
15-Apr-92	1.12	303.68	13-Sep-00	1.25	303.55	18-Apr-05	1.19	303.61
22-May-92	1.24	303.56	10-Oct-00	1.27	303.53	29-Apr-05	1.13	303.67
29-Jun-92	1.38	303.42	08-Nov-00	1.25	303.55	26-May-05	1.29	303.51
20-Jul-92	1.06	303.74	11-Dec-00	1.23	303.57	23-Jun-05	1.35	303.45
27-Aug-92	1.21	303.59	12-Jan-01	1.32	303.48	25-Jul-05	1.35	303.45
14-Sep-92	1.17	303.63	07-Feb-01	1.29	303.51	17-Aug-05	1.45	303.35
28-Oct-92	1.16	303.64	12-Mar-01	1.24	303.56	26-Aug-05	1.41	303.39
27-Nov-92	0.98	303.82	09-Apr-01	1.12	303.68	30-Sep-05	1.31	303.49
14-Dec-92	1.10	303.70	04-May-01	1.26	303.54	27-Oct-05	1.31	303.49
19-Jan-93	1.09	303.71	06-Jun-01	1.22	303.58	28-Nov-05	1.20	303.60
05-Mar-93	1.13	303.67	11-Jul-01	1.45	303.35	07-Dec-05	1.25	303.55
26-Mar-93	1.06	303.74	01-Aug-01	1.52	303.28	19-Dec-05	1.25	303.55
20-Apr-93	0.91	303.89	09-Aug-01	1.54	303.26	26-Jan-06	1.12	303.68
27-May-93	1.18	303.62	13-Aug-01	1.54	303.26	15-Feb-06	1.24	303.56
22-Jun-93	1.11	303.69	16-Aug-01	1.53	303.27	30-Mar-06	1.16	303.64
14-Jul-93	1.26	303.54	20-Aug-01	1.40	303.40	27-Apr-06	1.16	303.64
18-Aug-93	1.34	303.46	04-Sep-01	1.48	303.32	28-Apr-06	1.21	303.59
20-Sep-93	1.30	303.50	01-Oct-01	1.39	303.41	15-May-06	1.30	303.50
19-Oct-93	1.08	303.72	05-Nov-01	1.23	303.57	15-Jun-06	1.42	303.38
17-Nov-93	1.16	303.64	06-Dec-01	1.23	303.57	15-Jul-06	1.31	303.49
06-Dec-93	1.03	303.77	04-Jan-02	NA		24-Aug-06	1.42	303.38
19-Jan-94	1.26	303.54	07-Feb-02	1.30	303.50	15-Sep-06	1.12	303.68
23-Feb-94	1.04	303.76	07-Mar-02	1.40	303.40	15-Oct-06	1.06	303.74
24-Mar-94	0.86	303.94	07-Apr-02	1.03	303.77	15-Nov-06	1.13	303.67
19-Apr-94	1.08	303.72	06-May-02	1.13	303.67	07-Dec-06	1.16	303.64
24-May-94	1.14	303.66	14-Jun-02	1.24	303.56			
23-Jun-94	1.35	303.45	11-Jul-02	1.40	303.40			

NOTES:
- · BTOP — Below top of pipe
- · NA — Not available
- · m ASL — metres above sea level
- · (F) — Frozen
- · * — Lowered water levels as a result of bridge construction

TABLE B-1
WATER LEVEL DATA - GROUNDWATER MONITORS
MILL CREEK AGGREGATES PIT

OW2-84								
DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)
17-Jan-07	1.14	303.66	14-Sep-11	1.34	303.46	11-Aug-16	1.42	303.38
22-Feb-07	1.16	303.64	27-Oct-11	1.12	303.68	21-Sep-16	1.27	303.53
30-Mar-07	1.12	303.68	14-Nov-11	1.18	303.62	18-Oct-16	1.26	303.54
26-Apr-07	1.15	303.65	14-Dec-11	0.98	303.82	14-Nov-16	1.22	303.58
16-May-07	1.22	303.58	22-Dec-11	1.08	303.72	14-Dec-16	1.21	303.59
26-Jun-07	1.35	303.45	16-Jan-12	1.17	303.63	18-Jan-17	1.08	303.72
25-Jul-07	1.46	303.35	16-Feb-12	1.15	303.65	15-Feb-17	1.15	303.65
07-Aug-07	1.42	303.38	29-Mar-12	1.19	303.61	17-Mar-17	1.17	303.63
21-Aug-07	1.50	303.31	10-Apr-12	1.23	303.57	11-Apr-17	1.08	303.72
21-Sep-07	1.50	303.30	30-Apr-12	1.21	303.59	18-May-17	1.16	303.64
17-Oct-07	1.36	303.44	29-May-12	1.37	303.43	14-Jun-17	1.25	303.55
15-Nov-07	1.33	303.47	20-Jun-12	1.40	303.40	20-Jul-17	1.19	303.61
29-Nov-07	1.22	303.58	24-Jul-12	1.47	303.33	09-Aug-17	1.24	303.56
10-Dec-07	1.25	303.55	08-Aug-12	1.50	303.30	12-Sep-17	1.29	303.51
31-Jan-08	1.19	303.61	21-Aug-12	1.40	303.40	12-Oct-17	1.25	303.55
29-Feb-08	1.18	303.62	18-Sep-12	1.27	303.53	21-Nov-17	1.12	303.68
31-Mar-08	0.91	303.89	23-Oct-12	1.10	303.70	19-Dec-17	1.15	303.65
28-Apr-08	1.17	303.63	28-Nov-12	1.26	303.54	16-Jan-18	1.10	303.70
28-May-08	1.27	303.53	06-Dec-12	1.17	303.63	26-Feb-18	1.03	303.77
25-Jun-08	1.27	303.53	19-Dec-12	1.18	303.62	26-Mar-18	1.19	303.61
16-Jul-08	1.26	303.54	16-Jan-13	1.01	303.79	24-Apr-18	1.03	303.77
20-Aug-08	1.22	303.58	20-Feb-13	1.13	303.67	18-May-18	1.15	303.65
26-Aug-08	1.29	303.51	21-Mar-13	1.08	303.72	12-Jun-18	1.27	303.53
19-Sep-08	1.06	303.74	04-Apr-13	1.09	303.71	27-Jul-18	1.37	303.43
10-Oct-08	1.20	303.60	25-Apr-13	1.07	303.73	22-Aug-18	1.23	303.57
05-Nov-08	1.19	303.61	23-May-13	1.17	303.63	12-Sep-18	1.31	303.49
17-Dec-08	1.09	303.71	13-Jun-13	1.08	303.72	30-Oct-18	1.25	303.55
06-Jan-09	1.10	303.70	31-Jul-13	1.05	303.75	21-Nov-18	1.18	303.62
27-Feb-09	1.13	303.67	29-Aug-13	1.21	303.59	20-Dec-18	1.20	303.60
11-Mar-09	0.99	303.81	25-Sep-13	1.19	303.61			
14-Apr-09	1.11	303.69	22-Oct-13	1.05	303.75			
21-May-09	1.16	303.64	28-Nov-13	1.13	303.67			
16-Jun-09	1.20	303.60	10-Dec-13	1.14	303.66			
31-Jul-09	1.14	303.66	15-Jan-14	0.99	303.81			
25-Aug-09	1.10	303.70	26-Feb-14	1.10	303.70			
28-Aug-09	1.14	303.66	26-Mar-14	1.07	303.73			
28-Sep-09	1.19	303.61	01-Apr-14	0.89	303.91			
14-Oct-09	1.16	303.64	15-May-14	1.03	303.77			
11-Nov-09	1.18	303.62	18-Jun-14	1.19	303.61			
11-Dec-09	1.14	303.66	29-Jul-14	1.02	303.78			
16-Dec-09	1.11	303.69	25-Aug-14	1.17	303.63			
13-Jan-10	1.20	303.60	18-Sep-14	1.08	303.72			
11-Feb-10	1.24	303.56	17-Oct-14	1.08	303.72			
11-Mar-10	1.09	303.71	27-Nov-14	1.08	303.72			
16-Apr-10	1.16	303.64	15-Dec-14	1.09	303.71			
21-May-10	1.24	303.56	21-Jan-15	1.15	303.65			
17-Jun-10	1.16	303.64	18-Feb-15	1.17	303.63			
15-Jul-10	1.32	303.48	25-Mar-15	1.06	303.74			
18-Aug-10	1.36	303.44	06-Apr-15	1.02	303.78			
31-Aug-10	1.35	303.45	20-May-15	1.23	303.57			
28-Sep-10	1.16	303.64	23-Jun-15	1.18	303.62			
20-Oct-10	1.20	303.60	22-Jul-15	1.23	303.57			
18-Nov-10	1.09	303.71	25-Aug-15	1.22	303.58			
08-Dec-10	1.18	303.62	24-Sep-15	1.31	303.49			
22-Dec-10	1.20	303.60	29-Oct-15	1.03	303.77			
19-Jan-11	1.21	303.59	25-Nov-15	1.19	303.61			
17-Feb-11	1.20	303.60	10-Dec-15	1.20	303.60			
16-Mar-11	1.00	303.80	20-Jan-16	1.16	303.64			
13-Apr-11	1.10	303.70	29-Feb-16	1.11	303.69			
21-Apr-11	0.96	303.84	17-Mar-16	1.02	303.78			
26-May-11	1.00	303.80	30-Mar-16	1.03	303.77			
16-Jun-11	1.14	303.66	27-Apr-16	1.10	303.70			
14-Jul-11	1.31	303.49	30-May-16	1.18	303.62			
11-Aug-11	1.30	303.50	27-Jun-16	1.33	303.47			
17-Aug-11	1.38	303.42	28-Jul-16	1.51	303.29			

NOTES:
- · BTOP — Below top of pipe
- · NA — Not available
- · m ASL — metres above sea level
- · (F) — Frozen
- · * — Lowered water levels as a result of bridge construction

TABLE B-1
WATER LEVEL DATA - GROUNDWATER MONITORS
MILL CREEK AGGREGATES PIT

OW4-84								
DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)
11-Aug-88	1.13	303.48	21-Jul-94	1.11	303.50	09-Aug-02	1.09	303.52
27-Sep-88	0.99	303.62	25-Aug-94	* 1.63		04-Sep-02	1.23	303.38
14-Dec-88	0.96	303.65	21-Sep-94	1.30	303.31	11-Oct-02	1.25	303.36
20-Jan-89	0.92	303.69	18-Oct-94	1.25	303.36	21-Nov-02	1.10	303.51
22-Feb-89	(F) 0.80	303.81	24-Nov-94	1.10	303.51	13-Dec-02	1.10	303.51
01-Apr-89	0.77	303.84	21-Dec-94	1.05	303.56	09-Jan-03	1.15	303.46
17-Apr-89	0.80	303.81	24-Jan-95	0.88	303.73	10-Feb-03	1.25	303.36
24-May-89	0.96	303.65	16-Feb-95	1.14	303.47	13-Mar-03	1.12	303.49
12-Jul-89	1.15	303.46	24-Mar-95	0.95	303.66	10-Apr-03	1.00	303.61
27-Jul-89	1.20	303.41	16-May-95	1.23	303.38	07-May-03	0.95	303.66
15-Aug-89	1.28	303.33	13-Jun-95	1.13	303.48	15-May-03	1.05	303.56
30-Aug-89	1.30	303.31	20-Jul-95	1.30	303.31	16-Jun-03	1.10	303.51
17-Oct-89	1.22	303.39	15-Aug-95	1.14	303.47	17-Jul-03	1.28	303.33
30-Nov-89	0.96	303.65	18-Oct-95	1.21	303.40	21-Aug-03	1.40	303.21
13-Dec-89	1.10	303.51	22-Nov-95	0.99	303.62	26-Aug-03	1.28	303.33
17-Jan-90	1.03	303.58	26-Mar-96	0.83	303.78	25-Sep-03	1.13	303.48
06-Mar-90	(F) 0.70	303.91	31-May-96	1.04	303.57	27-Oct-03	1.06	303.55
02-Apr-90	0.83	303.78	31-Jul-96	1.01	303.60	01-Dec-03	0.93	303.68
25-Jun-90	1.05	303.56	30-Sep-96	0.86	303.75	11-Dec-03	0.93	303.68
26-Jul-90	1.09	303.52	06-Nov-96	0.96	303.65	16-Dec-03	1.01	303.60
22-Aug-90	1.16	303.45	26-Mar-97	0.74	303.87	19-Jan-04	1.03	303.58
26-Sep-90	1.17	303.44	26-May-97	0.97	303.64	18-Feb-04	1.03	303.58
24-Oct-90	0.95	303.66	30-Jul-97	1.18	303.43	25-Mar-04	0.88	303.73
25-Nov-90	0.89	303.72	06-Nov-97	0.95	303.66	07-Apr-04	0.92	303.69
14-Dec-90	0.85	303.76	16-Dec-97	1.02	303.59	22-Apr-04	0.86	303.75
23-Jan-91	(F) 0.82	303.79	27-Mar-98	0.80	303.81	20-May-04	0.99	303.62
20-Feb-91	0.79	303.82	31-May-98	1.20	303.41	24-Jun-04	1.05	303.56
28-Mar-91	0.60	304.01	31-Jul-98	1.25	303.36	23-Jul-04	1.12	303.49
26-Apr-91	0.80	303.81	30-Sep-98	1.30	303.31	04-Aug-04	1.07	303.54
24-May-91	0.99	303.62	30-Dec-98	1.22	303.39	26-Aug-04	1.20	303.41
20-Jun-91	0.98	303.63	31-Mar-99	0.99	303.62	28-Sep-04	1.20	303.41
30-Jul-91	0.84	303.77	20-May-99	1.05	303.56	18-Oct-04	1.12	303.49
22-Aug-91	1.07	303.54	16-Jul-99	1.23	303.38	16-Nov-04	1.07	303.54
25-Sep-91	1.14	303.47	09-Sep-99	1.13	303.48	15-Dec-04	0.98	303.63
29-Oct-91	1.03	303.58	09-Nov-99	1.04	303.57	16-Dec-04	1.00	303.61
26-Nov-91	0.99	303.62	01-Mar-00	0.99	303.62	20-Jan-05	0.99	303.62
16-Dec-91	0.90	303.71	19-May-00	0.83	303.78	25-Feb-05	0.87	303.74
13-Mar-92	(F) 0.71	303.90	06-Jul-00	0.99	303.62	24-Mar-05	0.94	303.67
15-Apr-92	0.87	303.74	13-Sep-00	1.02	303.59	18-Apr-05	0.95	303.66
22-May-92	0.98	303.63	10-Oct-00	1.02	303.59	29-Apr-05	0.89	303.72
29-Jun-92	1.13	303.48	08-Nov-00	1.02	303.59	26-May-05	1.05	303.56
20-Jul-92	0.81	303.80	11-Dec-00	1.01	303.60	23-Jun-05	1.12	303.49
27-Aug-92	0.96	303.65	12-Jan-01	1.08	303.53	25-Jul-05	1.10	303.51
14-Sep-92	0.92	303.69	07-Feb-01	1.05	303.56	17-Aug-05	1.21	303.40
28-Oct-92	0.89	303.72	12-Mar-01	1.00	303.61	26-Aug-05	1.16	303.45
27-Nov-92	0.73	303.88	09-Apr-01	0.87	303.74	30-Sep-05	1.07	303.54
14-Dec-92	0.85	303.76	04-May-01	1.03	303.58	27-Oct-05	1.07	303.54
19-Jan-93	(F) 0.63	303.98	06-Jun-01	0.99	303.62	28-Nov-05	0.97	303.64
05-Mar-93	0.88	303.73	11-Jul-01	1.22	303.39	07-Dec-05	1.00	303.61
26-Mar-93	0.81	303.80	01-Aug-01	1.30	303.31	19-Dec-05	1.02	303.59
20-Apr-93	0.65	303.96	09-Aug-01	1.30	303.31	26-Jan-06	0.90	303.71
27-May-93	0.93	303.68	13-Aug-01	1.31	303.30	15-Feb-06	0.83	303.78
22-Jun-93	0.87	303.74	16-Aug-01	1.29	303.32	30-Mar-06	0.90	303.71
14-Jul-93	1.02	303.59	20-Aug-01	1.17	303.44	27-Apr-06	0.93	303.68
18-Aug-93	1.09	303.52	04-Sep-01	1.24	303.37	28-Apr-06	0.99	303.62
20-Sep-93	1.05	303.56	01-Oct-01	1.16	303.45	15-May-06	1.07	303.54
19-Oct-93	0.82	303.79	05-Nov-01	0.99	303.62	15-Jun-06	1.19	303.42
17-Nov-93	0.91	303.70	06-Dec-01	0.99	303.62	15-Jul-06	1.09	303.52
06-Dec-93	0.79	303.82	04-Jan-02	1.09	303.52	24-Aug-06	1.18	303.43
19-Jan-94	1.01	303.60	07-Feb-02	1.05	303.56	15-Sep-06	0.87	303.74
23-Feb-94	(F) 0.75	303.86	07-Mar-02	1.01	303.60	15-Oct-06	0.82	303.79
24-Mar-94	0.60	304.01	07-Apr-02	0.80	303.81	15-Nov-06	0.91	303.7
19-Apr-94	0.83	303.78	06-May-02	0.90	303.71	07-Dec-06	0.9	303.71
24-May-94	0.90	303.71	14-Jun-02	1.00	303.61			
23-Jun-94	1.10	303.51	11-Jul-02	1.07	303.54			

NOTES:
- · BTOP — Below top of pipe
- · NA — Not available
- · m ASL — metres above sea level
- · (F) — Frozen
- · * — Lowered water levels as a result of bridge construction

TABLE B-1
WATER LEVEL DATA - GROUNDWATER MONITORS
MILL CREEK AGGREGATES PIT

OW4-84								
DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)
17-Jan-07	0.91	303.71	27-Oct-11	0.88	303.73	21-Sep-16	1.04	303.57
22-Feb-07	0.92	303.69	14-Nov-11	0.93	303.68	18-Oct-16	1.03	303.58
30-Mar-07	0.88	303.73	14-Dec-11	0.73	303.88	14-Nov-16	0.98	303.63
26-Apr-07	0.91	303.70	22-Dec-11	0.84	303.77	14-Dec-16	0.99	303.62
16-May-07	0.97	303.64	16-Jan-12	0.92	303.69	18-Jan-17	0.82	303.79
26-Jun-07	1.12	303.49	16-Feb-12	0.89	303.72	15-Feb-17	0.90	303.71
25-Jul-07	1.22	303.40	29-Mar-12	0.96	303.65	17-Mar-17	(F)	
21-Aug-07	1.26	303.35	10-Apr-12	0.98	303.63	11-Apr-17	0.85	303.76
21-Sep-07	1.27	303.34	30-Apr-12	0.99	303.62	18-May-17	0.91	303.70
17-Oct-07	1.12	303.49	29-May-12	1.13	303.48	14-Jun-17	1.00	303.61
15-Nov-07	0.98	303.63	20-Jun-12	1.16	303.45	20-Jul-17	0.94	303.67
29-Nov-07	0.98	303.63	24-Jul-12	1.23	303.38	09-Aug-17	0.99	303.62
10-Dec-07	1.01	303.60	08-Aug-12	1.26	303.35	12-Sep-17	1.04	303.57
31-Jan-08	0.91	303.70	21-Aug-12	1.17	303.44	12-Oct-17	1.02	303.59
29-Feb-08	0.95	303.66	18-Sep-12	1.01	303.60	21-Nov-17	0.87	303.74
31-Mar-08	0.67	303.94	23-Oct-12	0.85	303.76	19-Dec-17	0.90	303.71
28-Apr-08	0.95	303.66	28-Nov-12	1.01	303.60	16-Jan-18	(F)	
28-May-08	1.04	303.57	06-Dec-12	0.92	303.69	26-Feb-18	0.78	303.83
25-Jun-08	1.03	303.58	19-Dec-12	0.93	303.68	26-Mar-18	(F)	
16-Jul-08	1.14	303.47	16-Jan-13	0.86	303.75	24-Apr-18	0.78	303.83
20-Aug-08	0.98	303.63	20-Feb-13	0.65	303.96	18-May-18	0.94	303.67
26-Aug-08	1.06	303.55	21-Mar-13	0.69	303.92	12-Jun-18	1.03	303.58
19-Sep-08	0.81	303.80	04-Apr-13	(F) 0.83	303.78	27-Jul-18	1.13	303.48
10-Oct-08	0.94	303.67	25-Apr-13	0.83	303.78	22-Aug-18	0.98	303.63
05-Nov-08	0.94	303.67	23-May-13	0.94	303.67	12-Sep-18	1.07	303.54
17-Dec-08	(F) 0.91	303.70	13-Jun-13	0.85	303.76	30-Oct-18	1.10	303.51
06-Jan-09	(F) 0.74	303.87	31-Jul-13	0.82	303.79	21-Nov-18	0.95	303.66
27-Feb-09	(F) 0.71	303.90	29-Aug-13	0.97	303.64	20-Dec-18	0.96	303.65
11-Mar-09	(F) 0.67	303.94	25-Sep-13	0.94	303.67			
14-Apr-09	0.88	303.73	22-Oct-13	0.82	303.79			
21-May-09	0.92	303.69	28-Nov-13	0.89	303.72			
16-Jun-09	0.96	303.65	10-Dec-13	0.90	303.71			
31-Jul-09	0.90	303.71	15-Jan-14	0.74	303.87			
25-Aug-09	0.86	303.75	26-Feb-14	0.87	303.74			
28-Aug-09	0.95	303.66	26-Mar-14	(F)0.68	303.93			
28-Sep-09	0.94	303.67	01-Apr-14	0.64	303.97			
14-Oct-09	1.11	303.50	15-May-14	0.81	303.80			
11-Nov-09	0.99	303.62	18-Jun-14	0.97	303.64			
11-Dec-09	0.97	303.64	29-Jul-14	0.77	303.84			
16-Dec-09	0.87	303.74	25-Aug-14	0.92	303.69			
13-Jan-10	0.97	303.64	18-Sep-14	0.85	303.76			
11-Feb-10	0.87	303.74	17-Oct-14	0.85	303.76			
11-Mar-10	0.85	303.76	27-Nov-14	0.83	303.78			
16-Apr-10	0.92	303.69	15-Dec-14	0.85	303.76			
21-May-10	1.00	303.61	21-Jan-15	0.92	303.69			
17-Jun-10	0.92	303.69	18-Feb-15	(F)				
15-Jul-10	1.07	303.54	25-Mar-15	(F)				
18-Aug-10	1.12	303.49	06-Apr-15	0.76	303.86			
31-Aug-10	1.12	303.49	20-May-15	0.98	303.63			
28-Sep-10	0.92	303.69	23-Jun-15	0.93	303.68			
20-Oct-10	0.96	303.65	22-Jul-15	0.97	303.64			
18-Nov-10	0.85	303.76	25-Aug-15	0.96	303.65			
08-Dec-10	0.93	303.68	24-Sep-15	1.06	303.55			
22-Dec-10	0.96	303.65	29-Oct-15	0.77	303.84			
19-Jan-11	0.97	303.64	25-Nov-15	0.92	303.69			
17-Feb-11	0.97	303.64	10-Dec-15	0.96	303.65			
16-Mar-11	0.93	303.68	20-Jan-16	0.91	303.70			
13-Apr-11	0.87	303.74	29-Feb-16	(F)				
21-Apr-11	0.72	303.89	17-Mar-16	0.77	303.84			
26-May-11	0.77	303.84	30-Mar-16	0.78	303.83			
16-Jun-11	0.90	303.71	27-Apr-16	0.86	303.75			
14-Jul-11	1.07	303.54	30-May-16	0.94	303.67			
11-Aug-11	1.06	303.55	27-Jun-16	1.29	303.32			
17-Aug-11	1.13	303.48	28-Jul-16	1.09	303.52			
14-Sep-11	1.11	303.50	11-Aug-16	1.17	303.44			

NOTES:
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- · NA — Not available
- · m ASL — metres above sea level
- · (F) — Frozen
- · * — Lowered water levels as a result of bridge construction

TABLE B-1
WATER LEVEL DATA - GROUNDWATER MONITORS
MILL CREEK AGGREGATES PIT

OW5-84								
DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)
14-Dec-88	0.81	303.59	19-Apr-94	0.70	303.70	05-Nov-01	0.86	303.54
20-Jan-89	(F) 0.80	303.60	24-May-94	0.76	303.64	06-Dec-01	0.86	303.54
22-Feb-89	(F) 0.70	303.70	23-Jun-94	0.97	303.43	04-Jan-02	0.99	303.41
01-Apr-89	0.62	303.78	21-Jul-94	0.98	303.42	07-Feb-02	0.93	303.47
17-Apr-89	0.67	303.73	25-Aug-94	* 1.51		07-Mar-02	0.87	303.53
24-May-89	0.82	303.58	21-Sep-94	1.16	303.24	07-Apr-02	0.66	303.74
12-Jul-89	1.01	303.39	18-Oct-94	1.12	303.28	06-May-02	0.80	303.60
27-Jul-89	1.08	303.32	24-Nov-94	0.97	303.43	24-May-02	0.81	303.59
15-Aug-89	1.13	303.27	21-Dec-94	0.92	303.48	27-May-02	0.83	303.57
30-Aug-89	1.16	303.24	24-Jan-95	0.75	303.65	31-May-02	0.86	303.54
17-Oct-89	1.07	303.33	16-Feb-95	0.77	303.63	04-Jun-02	0.90	303.50
30-Nov-89	0.82	303.58	23-Mar-95	0.80	303.60	07-Jun-02	0.91	303.49
13-Dec-89	0.96	303.44	16-May-95	0.90	303.50	11-Jun-02	0.89	303.51
17-Jan-90	0.56	303.84	13-Jun-95	1.00	303.40	14-Jun-02	0.87	303.53
06-Mar-90	0.72	303.68	20-Jul-95	1.15	303.25	18-Jun-02	0.92	303.48
02-Apr-90	0.69	303.71	15-Aug-95	1.00	303.40	21-Jun-02	0.95	303.45
25-Jun-90	0.91	303.49	18-Oct-95	1.07	303.33	02-Jul-02	0.94	303.46
26-Jul-90	0.95	303.45	22-Nov-95	0.84	303.56	05-Jul-02	0.98	303.42
22-Aug-90	1.03	303.37	26-Mar-96	0.74	303.66	08-Jul-02	1.01	303.39
26-Sep-90	1.04	303.36	31-May-96	0.89	303.51	11-Jul-02	1.04	303.36
24-Oct-90	0.81	303.59	31-Jul-96	0.91	303.49	15-Jul-02	1.07	303.33
25-Nov-90	0.75	303.65	30-Sep-96	0.73	303.67	18-Jul-02	1.07	303.33
14-Dec-90	0.71	303.69	06-Nov-96	0.83	303.57	23-Jul-02	1.06	303.34
23-Jan-91	(F) 0.68	303.72	26-Mar-97	0.61	303.79	26-Jul-02	1.06	303.34
20-Feb-91	0.77	303.63	26-May-97	0.83	303.57	30-Jul-02	1.02	303.38
28-Mar-91	0.47	303.93	30-Jul-97	1.04	303.36	09-Aug-02	1.08	303.32
26-Apr-91	0.66	303.74	06-Nov-97	0.82	303.58	16-Aug-02	1.09	303.31
24-May-91	0.85	303.55	16-Dec-97	0.89	303.51	21-Aug-02	1.09	303.31
20-Jun-91	0.85	303.55	27-Mar-98	0.67	303.73	23-Aug-02	1.09	303.31
30-Jul-91	0.70	303.70	31-May-98	1.06	303.34	28-Aug-02	1.12	303.28
22-Aug-91	0.93	303.47	31-Jul-98	1.12	303.28	30-Aug-02	1.10	303.30
25-Sep-91	1.01	303.39	30-Sep-98	1.16	303.24	04-Sep-02	1.12	303.28
29-Oct-91	0.89	303.51	30-Dec-98	1.10	303.30	10-Sep-02	1.13	303.27
26-Nov-91	0.85	303.55	31-Mar-99	0.86	303.54	12-Sep-02	1.13	303.27
16-Dec-91	0.75	303.65	20-May-99	0.92	303.48	17-Sep-02	1.11	303.29
13-Mar-92	(F) 0.58	303.82	16-Jul-99	1.10	303.30	20-Sep-02	1.13	303.27
15-Apr-92	0.73	303.67	09-Sep-99	0.98	303.42	25-Sep-02	1.14	303.26
22-May-92	0.85	303.55	09-Nov-99	0.90	303.50	27-Sep-02	1.12	303.28
29-Jun-92	0.99	303.41	01-Mar-00	0.86	303.54	04-Oct-02	1.13	303.27
20-Jul-92	0.68	303.72	19-May-00	0.70	303.70	08-Oct-02	1.10	303.30
27-Aug-92	0.82	303.58	06-Jul-00	0.85	303.55	11-Oct-02	1.12	303.28
14-Sep-92	0.78	303.62	13-Sep-00	0.88	303.52	15-Oct-02	1.12	303.28
28-Oct-92	0.73	303.67	10-Oct-00	0.90	303.50	18-Oct-02	1.13	303.27
27-Nov-92	0.59	303.81	06-Nov-00	0.89	303.51	23-Oct-02	1.10	303.30
14-Dec-92	0.71	303.69	11-Dec-00	0.87	303.53	29-Oct-02	1.13	303.27
19-Jan-93	(F) 0.63	303.77	12-Jan-01	NA		31-Oct-02	1.12	303.28
05-Mar-93	(F) 0.63	303.77	07-Feb-01	0.92	303.48	05-Nov-02	1.04	303.36
26-Mar-93	(F) 0.60	303.80	12-Mar-01	0.87	303.53	08-Nov-02	1.13	303.27
20-Apr-93	0.53	303.87	10-Apr-01	0.74	303.66	12-Nov-02	1.08	303.32
27-May-93	0.80	303.60	04-May-01	0.90	303.50	15-Nov-02	0.93	303.47
22-Jun-93	0.73	303.67	06-Jun-01	0.86	303.54	19-Nov-02	1.09	303.31
14-Jul-93	0.87	303.53	12-Jul-01	1.10	303.30	22-Nov-02	1.00	303.40
18-Aug-93	0.95	303.45	01-Aug-01	1.15	303.25	26-Nov-02	1.04	303.36
20-Sep-93	0.91	303.49	09-Aug-01	1.16	303.24	29-Nov-02	1.10	303.30
19-Oct-93	0.69	303.71	13-Aug-01	1.17	303.23	04-Dec-02	1.12	303.28
17-Nov-93	0.98	303.42	14-Aug-01	1.19	303.21	06-Dec-02	1.04	303.36
06-Dec-93	0.65	303.75	16-Aug-01	1.16	303.24	10-Dec-02	1.05	303.35
19-Jan-94	(F) 0.84	303.56	20-Aug-01	1.03	303.37	13-Dec-02	1.00	303.40
23-Feb-94	(F) 0.68	303.72	04-Sep-01	1.10	303.30	18-Dec-02	0.99	303.41
24-Mar-94	0.47	303.93	01-Oct-01	1.02	303.38	07-Jan-03	0.97	303.43

NOTES:
- · BTOP — Below top of pipe
- · NA — Not available
- · m ASL — metres above sea level
- · (F) — Frozen
- · * — Lowered water levels as a result of bridge construction

TABLE B-1
WATER LEVEL DATA - GROUNDWATER MONITORS
MILL CREEK AGGREGATES PIT

OW5-84								
DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)
09-Jan-03	1.05	303.35	27-Oct-03	0.91	303.49	12-Aug-04	1.05	303.35
14-Jan-03	1.07	303.33	30-Oct-03	0.94	303.46	16-Aug-04	1.07	303.33
21-Jan-03	1.09	303.31	3-Nov-03	0.92	303.48	19-Aug-04	1.07	303.33
24-Jan-03	1.15	303.25	6-Nov-03	0.92	303.48	23-Aug-04	1.09	303.31
28-Jan-03	1.15	303.25	10-Nov-03	0.92	303.48	26-Aug-04	1.08	303.32
31-Jan-03	1.13	303.27	13-Nov-03	0.90	303.50	30-Aug-04	0.99	303.41
05-Feb-03	1.10	303.30	17-Nov-03	0.86	303.54	2-Sep-04	1.01	303.39
10-Feb-03	1.10	303.30	20-Nov-03	0.84	303.56	6-Sep-04	1.07	303.33
14-Feb-03	1.10	303.30	24-Nov-03	0.83	303.57	9-Sep-04	0.92	303.48
17-Feb-03	1.15	303.25	1-Dec-03	0.81	303.59	13-Sep-04	1.01	303.39
21-Feb-03	1.15	303.25	8-Dec-03	0.92	303.48	16-Sep-04	1.05	303.35
24-Feb-03	1.15	303.25	11-Dec-03	0.81	303.59	20-Sep-04	1.04	303.36
13-Mar-03	0.95	303.45	15-Dec-03	0.87	303.53	23-Sep-04	1.08	303.32
20-Mar-03	0.76	303.64	22-Dec-03	0.90	303.50	27-Sep-04	1.09	303.31
24-Mar-03	0.81	303.59	6-Jan-04	0.81	303.59	30-Sep-04	1.07	303.33
27-Mar-03	0.82	303.58	8-Jan-04	0.85	303.55	4-Oct-04	1.08	303.32
10-Apr-03	1.00	303.40	12-Jan-04	0.89	303.51	7-Oct-04	1.08	303.32
11-Apr-03	0.83	303.57	15-Jan-04	0.88	303.52	11-Oct-04	1.06	303.34
21-Apr-03	0.85	303.55	19-Jan-04	0.90	303.50	14-Oct-04	1.04	303.36
24-Apr-03	0.90	303.50	26-Jan-04	0.90	303.50	18-Oct-04	1.01	303.39
28-Apr-03	1.00	303.40	5-Feb-04	0.89	303.51	21-Oct-04	1.01	303.39
5-May-03	1.01	303.39	9-Feb-04	0.90	303.50	25-Oct-04	0.99	303.41
7-May-03	0.83	303.57	16-Feb-04	0.92	303.48	28-Oct-04	1.00	303.40
8-May-03	0.98	303.42	19-Feb-04	0.92	303.48	1-Nov-04	1.00	303.40
12-May-03	0.95	303.45	4-Mar-04	0.64	303.76	4-Nov-04	0.84	303.56
15-May-03	0.97	303.43	8-Mar-04	0.71	303.69	8-Nov-04	0.88	303.52
16-May-03	0.98	303.42	11-Mar-04	0.70	303.70	11-Nov-04	0.92	303.48
23-May-03	1.00	303.40	15-Mar-04	0.81	303.59	15-Nov-04	0.94	303.46
26-May-03	0.98	303.42	18-Mar-04	0.81	303.59	18-Nov-04	0.95	303.45
29-May-03	0.99	303.41	22-Mar-04	0.81	303.59	22-Nov-04	0.94	303.46
2-Jun-03	0.97	303.43	25-Mar-04	0.76	303.64	25-Nov-04	0.93	303.47
5-Jun-03	0.89	303.51	1-Apr-04	0.70	303.70	29-Nov-04	0.92	303.48
9-Jun-03	0.90	303.50	5-Apr-04	0.77	303.63	2-Dec-04	0.85	303.55
13-Jun-03	0.94	303.46	07-Apr-04	0.79	303.61	6-Dec-04	0.91	303.49
16-Jun-03	0.97	303.43	8-Apr-04	0.79	303.61	9-Dec-04	0.86	303.54
17-Jun-03	0.96	303.44	15-Apr-04	0.83	303.57	13-Dec-04	0.88	303.52
19-Jun-03	0.97	303.43	22-Apr-04	0.75	303.65	15-Dec-04	0.88	303.52
23-Jun-03	0.99	303.41	26-Apr-04	0.78	303.62	16-Dec-04	0.89	303.51
26-Jun-03	1.00	303.40	3-May-04	0.76	303.64	20-Dec-04	0.97	303.43
3-Jul-03	0.97	303.43	10-May-04	0.74	303.66	23-Dec-04	1.01	303.39
7-Jul-03	0.99	303.41	6-May-04	0.80	303.60	20-Jan-05	0.86	303.54
10-Jul-03	1.01	303.39	13-May-04	0.86	303.54	25-Feb-05	0.82	303.58
17-Jul-03	1.17	303.23	17-May-04	0.92	303.48	24-Mar-05	0.83	303.57
22-Jul-03	1.11	303.29	20-May-04	0.88	303.52	18-Apr-05	0.83	303.57
25-Jul-03	1.09	303.31	25-May-04	0.82	303.58	29-Apr-05	0.77	303.63
28-Jul-03	1.10	303.30	27-May-04	0.87	303.53	26-May-05	0.91	303.49
31-Jul-03	1.10	303.30	31-May-04	0.93	303.47	23-Jun-05	0.99	303.41
7-Aug-03	1.10	303.30	3-Jun-04	0.89	303.51	25-Jul-05	0.97	303.43
11-Aug-03	1.09	303.31	7-Jun-04	0.98	303.42	26-Aug-05	1.04	303.36
18-Aug-03	1.10	303.30	10-Jun-04	1.00	303.40	30-Sep-05	0.94	303.46
21-Aug-03	1.17	303.23	14-Jun-04	0.95	303.45	27-Oct-05	0.95	303.45
25-Aug-03	1.10	303.30	17-Jun-04	0.95	303.45	28-Nov-05	0.85	303.55
26-Aug-03	1.16	303.24	21-Jun-04	0.95	303.45	07-Dec-05	0.88	303.52
29-Aug-03	1.20	303.20	24-Jun-04	0.94	303.46	19-Dec-05	0.90	303.50
11-Sep-03	1.17	303.23	28-Jun-04	0.95	303.45	26-Jan-06	0.90	303.50
15-Sep-03	1.14	303.26	5-Jul-04	1.03	303.37	30-Mar-06	0.81	303.59
18-Sep-03	1.15	303.25	8-Jul-04	0.91	303.49	27-Apr-06	0.82	303.58
22-Sep-03	1.15	303.25	12-Jul-04	0.99	303.41	28-Apr-06	0.85	303.55
25-Sep-03	1.00	303.40	15-Jul-04	0.89	303.51	15-May-06	0.93	303.47
26-Sep-03	1.09	303.31	19-Jul-04	0.97	303.43	15-Jun-06	1.05	303.35
29-Sep-03	0.96	303.44	22-Jul-04	1.01	303.39	15-Jul-06	0.95	303.45
2-Oct-03	1.00	303.40	23-Jul-04	0.98	303.42	24-Aug-06	1.06	303.34
6-Oct-03	1.01	303.39	26-Jul-04	1.05	303.35	15-Sep-06	0.75	303.65
9-Oct-03	1.02	303.38	29-Jul-04	0.97	303.43	15-Oct-06	0.71	303.69
13-Oct-03	0.95	303.45	2-Aug-04	0.92	303.48	15-Nov-06	0.80	303.60
16-Oct-03	0.92	303.48	4-Aug-04	0.97	303.43	07-Dec-06	0.78	303.62
20-Oct-03	0.97	303.43	5-Aug-04	0.99	303.41			
23-Oct-03	0.91	303.49	9-Aug-04	1.03	303.37			

NOTES:
- BTOP — Below top of pipe
- NA — Not available
- m ASL — metres above sea level
- (F) — Frozen
- * — Lowered water levels as a result of bridge construction

TABLE B-1
WATER LEVEL DATA - GROUNDWATER MONITORS
MILL CREEK AGGREGATES PIT

OW5-84								
DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)
17-Jan-07	0.79	303.61	11-Aug-11	0.97	303.43	30-May-16	0.74	303.66
22-Feb-07	0.79	303.61	17-Aug-11	1.00	303.40	27-Jun-16	1.05	303.35
30-Mar-07	0.76	303.64	14-Sep-11	0.97	303.43	28-Jul-16	1.13	303.27
26-Apr-07	0.80	303.60	27-Oct-11	0.76	303.64	11-Aug-16	1.03	303.37
16-May-07	0.84	303.56	14-Nov-11	0.80	303.60	21-Sep-16	0.90	303.50
26-Jun-07	0.98	303.42	14-Dec-11	0.60	303.80	18-Oct-16	0.87	303.53
25-Jul-07	1.09	303.31	22-Dec-11	0.71	303.69	14-Nov-16	0.85	303.55
07-Aug-07	1.09	303.31	16-Jan-12	0.78	303.62	14-Dec-16	0.83	303.57
21-Aug-07	1.14	303.26	16-Feb-12	0.76	303.64	18-Jan-17	0.69	303.71
21-Sep-07	1.14	303.26	29-Mar-12	0.72	303.68	15-Feb-17	0.76	303.64
17-Oct-07	1.00	303.40	10-Apr-12	0.85	303.55	17-Mar-17	0.78	303.62
15-Nov-07	0.98	303.42	30-Apr-12	0.83	303.57	11-Apr-17	0.69	303.71
29-Nov-07	0.86	303.54	29-May-12	0.96	303.44	18-May-17	0.78	303.62
10-Dec-07	0.89	303.51	20-Jun-12	0.92	303.48	14-Jun-17	0.87	303.53
31-Jan-08	0.83	303.57	24-Jul-12	0.96	303.44	20-Jul-17	0.81	303.59
29-Feb-08	0.82	303.58	08-Aug-12	1.12	303.28	09-Aug-17	0.86	303.54
31-Mar-08	0.55	303.85	21-Aug-12	1.03	303.37	12-Sep-17	0.90	303.50
28-Apr-08	0.82	303.58	18-Sep-12	0.87	303.53	12-Oct-17	0.88	303.52
28-May-08	0.92	303.48	23-Oct-12	0.74	303.66	21-Nov-17	0.73	303.67
25-Jun-08	0.91	303.49	28-Nov-12	0.87	303.53	19-Dec-17	0.77	303.63
16-Jul-08	0.90	303.50	06-Dec-12	0.80	303.60	16-Jan-18	(F)	
20-Aug-08	0.85	303.55	19-Dec-12	0.80	303.60	26-Feb-18	0.64	303.76
26-Aug-08	0.94	303.46	16-Jan-13	0.72	303.68	26-Mar-18	0.81	303.59
19-Sep-08	0.69	303.71	20-Feb-13	0.62	303.78	24-Apr-18	0.64	303.76
10-Oct-08	0.83	303.57	21-Mar-13	(F) 0.62	303.78	18-May-18	0.76	303.64
05-Nov-08	0.82	303.58	04-Apr-13	0.73	303.67	12-Jun-18	0.89	303.51
03-Dec-08	0.75	303.65	25-Apr-13	0.69	303.71	27-Jul-18	0.99	303.41
17-Dec-08	0.73	303.67	23-May-13	0.80	303.60	22-Aug-18	0.84	303.56
06-Jan-09	0.74	303.66	13-Jun-13	0.71	303.69	12-Sep-18	0.93	303.47
27-Feb-09	0.76	303.64	31-Jul-13	0.82	303.58	30-Oct-18	0.87	303.53
11-Mar-09	0.62	303.78	29-Aug-13	0.85	303.55	21-Nov-18	0.80	303.60
14-Apr-09	0.74	303.66	25-Sep-13	0.82	303.58	20-Dec-18	0.83	303.57
21-May-09	0.87	303.53	22-Oct-13	0.67	303.73			
16-Jun-09	0.84	303.56	28-Nov-13	0.75	303.65			
31-Jul-09	0.77	303.63	10-Dec-13	0.77	303.63			
25-Aug-09	0.73	303.67	15-Jan-14	0.61	303.79			
28-Aug-09	0.77	303.63	26-Feb-14	0.73	303.67			
28-Sep-09	0.82	303.58	26-Mar-14	0.59	303.81			
14-Oct-09	0.79	303.61	01-Apr-14	0.51	303.90			
11-Nov-09	0.80	303.60	15-May-14	0.66	303.74			
11-Dec-09	0.78	303.62	18-Jun-14	0.83	303.57			
16-Dec-09	0.75	303.65	29-Jul-14	0.65	303.75			
13-Jan-10	0.84	303.56	25-Aug-14	0.79	303.61			
11-Feb-10	0.81	303.59	18-Sep-14	0.71	303.69			
11-Mar-10	0.72	303.68	17-Oct-14	0.70	303.70			
16-Apr-10	0.78	303.62	27-Nov-14	0.70	303.70			
21-May-10	0.86	303.54	15-Dec-14	0.72	303.68			
17-Jun-10	0.79	303.61	21-Jan-15	0.80	303.60			
15-Jul-10	0.94	303.46	18-Feb-15	(F)				
18-Aug-10	0.98	303.42	25-Mar-15	(F)				
31-Aug-10	0.99	303.41	06-Apr-15	0.63	303.77			
28-Sep-10	0.79	303.61	20-May-15	0.85	303.55			
20-Oct-10	0.83	303.57	23-Jun-15	0.79	303.61			
18-Nov-10	0.73	303.67	22-Jul-15	0.79	303.61			
08-Dec-10	0.84	303.56	25-Aug-15	0.82	303.58			
22-Dec-10	0.83	303.57	24-Sep-15	0.91	303.49			
19-Jan-11	0.84	303.56	29-Oct-15	0.64	303.76			
17-Feb-11	(F)0.82		25-Nov-15	0.80	303.60			
16-Mar-11	0.74	303.66	10-Dec-15	0.82	303.58			
13-Apr-11	0.73	303.67	20-Jan-16	0.77	303.63			
21-Apr-11	0.59	303.81	29-Feb-16	(F)				
26-May-11	0.65	303.75	17-Mar-16	0.63	303.77			
16-Jun-11	0.76	303.64	30-Mar-16	0.64	303.76			
14-Jul-11	0.94	303.46	27-Apr-16	0.68	303.72			

NOTES:
- · BTOP — Below top of pipe
- · NA — Not available
- · m ASL — metres above sea level
- · (F) — Frozen
- · * — Lowered water levels as a result of bridge construction

TABLE B-1
WATER LEVEL DATA - GROUNDWATER MONITORS
MILL CREEK AGGREGATES PIT

OW16A-78								
DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)
11-Aug-88	1.05	303.45	23-Jun-94	1.02	303.48	14-Jun-02	0.90	303.60
27-Sep-88	0.90	303.60	21-Jul-94	1.04	303.46	11-Jul-02	1.02	303.48
14-Dec-88	0.88	303.62	25-Aug-94	* 1.55		09-Aug-02	1.03	303.47
20-Jan-89	(F) 0.72	303.78	21-Sep-94	1.24	303.26	04-Sep-02	1.13	303.37
22-Feb-89	(F) 0.70	303.80	18-Oct-94	1.17	303.33	11-Oct-02	1.11	303.39
01-Apr-89	(F) 0.65	303.85	24-Nov-94	1.02	303.48	21-Nov-02	1.00	303.50
17-Apr-89	0.72	303.78	21-Dec-94	0.96	303.54	13-Dec-02	1.00	303.50
24-May-89	0.87	303.63	24-Jan-95	0.80	303.70	09-Jan-03	1.05	303.45
12-Jul-89	1.07	303.43	16-Feb-95	0.85	303.65	10-Feb-03	1.05	303.45
27-Jul-89	1.13	303.37	24-Mar-95	0.88	303.62	13-Mar-03	1.06	303.44
15-Aug-89	1.19	303.31	16-May-95	0.94	303.56	10-Apr-03	1.07	303.43
30-Aug-89	1.21	303.29	13-Jun-95	1.13	303.37	07-May-03	0.85	303.65
17-Oct-89	1.12	303.38	20-Jul-95	1.20	303.30	15-May-03	1.05	303.45
30-Nov-89	0.87	303.63	15-Aug-95	1.02	303.48	16-Jun-03	1.03	303.47
13-Dec-89	1.01	303.49	18-Oct-95	1.11	303.39	17-Jul-03	1.04	303.46
17-Jan-90	(F) 0.95	303.55	22-Nov-95	0.88	303.62	21-Aug-03	1.05	303.45
06-Mar-90	(F) 0.82	303.68	26-Mar-96	0.73	303.77	26-Aug-03	1.18	303.32
02-Apr-90	0.73	303.77	31-May-96	0.94	303.56	25-Sep-03	1.05	303.45
25-Jun-90	0.95	303.55	31-Jul-96	0.89	303.61	27-Oct-03	0.95	303.55
26-Jul-90	1.00	303.50	30-Sep-96	0.76	303.74	01-Dec-03	0.82	303.68
22-Aug-90	1.07	303.43	06-Nov-96	0.86	303.64	11-Dec-03	0.83	303.67
26-Sep-90	1.08	303.42	26-Mar-97	0.70	303.80	18-Feb-04	0.92	303.58
24-Oct-90	0.85	303.65	26-May-97	0.87	303.63	25-Mar-04	0.77	303.73
25-Nov-90	0.80	303.70	30-Jul-97	1.06	303.44	07-Apr-04	0.82	303.68
14-Dec-90	0.76	303.74	06-Nov-97	0.85	303.65	22-Apr-04	0.76	303.74
23-Jan-91	(F) 0.61	303.89	16-Dec-97	0.92	303.58	20-May-04	0.89	303.61
20-Feb-91	(F) 0.69	303.81	27-Mar-98	0.70	303.80	24-Jun-04	0.95	303.55
28-Mar-91	0.51	303.99	31-May-98	1.10	303.40	23-Jul-04	1.00	303.50
26-Apr-91	0.70	303.80	31-Jul-98	1.16	303.34	04-Aug-04	0.95	303.55
24-May-91	0.89	303.61	30-Sep-98	1.19	303.31	26-Aug-04	1.10	303.40
20-Jun-91	0.89	303.61	30-Dec-98	1.13	303.37	28-Sep-04	1.11	303.39
30-Jul-91	0.74	303.76	31-Mar-99	0.92	303.58	18-Oct-04	1.02	303.48
22-Aug-91	0.98	303.52	20-May-99	0.95	303.55	16-Nov-04	0.97	303.53
25-Sep-91	1.15	303.35	16-Jul-99	1.20	303.30	15-Dec-04	0.88	303.62
29-Oct-91	0.95	303.55	09-Sep-99	1.03	303.47	16-Dec-04	0.90	303.60
26-Nov-91	0.90	303.60	09-Nov-99	0.94	303.56	20-Jan-05	0.86	303.64
16-Dec-91	0.80	303.70	01-Mar-00	0.90	303.60	25-Feb-05	0.82	303.68
13-Mar-92	(F) 0.74	303.76	19-May-00	0.73	303.77	24-Mar-05	0.83	303.67
15-Apr-92	0.78	303.72	06-Jul-00	0.89	303.61	18-Apr-05	0.84	303.66
22-May-92	0.91	303.59	13-Sep-00	0.91	303.59	29-Apr-05	0.79	303.71
29-Jun-92	1.04	303.46	10-Oct-00	0.92	303.58	26-May-05	0.93	303.57
20-Jul-92	0.73	303.77	06-Nov-00	0.92	303.58	23-Jun-05	1.02	303.48
27-Aug-92	0.87	303.63	11-Dec-00	0.91	303.59	25-Jul-05	0.98	303.52
14-Sep-92	0.84	303.66	12-Jan-01	0.98	303.52	17-Aug-05	1.11	303.39
28-Oct-92	0.77	303.73	07-Feb-01	0.94	303.56	26-Aug-05	1.06	303.44
27-Nov-92	0.64	303.86	12-Mar-01	(F) 0.74	303.76	30-Sep-05	0.96	303.54
14-Dec-92	0.75	303.75	09-Apr-01	0.77	303.73	27-Oct-05	0.97	303.53
19-Jan-93	(F) 0.50	304.00	04-May-01	0.93	303.57	28-Nov-05	0.86	303.64
05-Mar-93	(F) 0.50	304.00	06-Jun-01	0.89	303.61	07-Dec-05	0.90	303.60
26-Mar-93	(F) 0.50	304.00	11-Jul-01	1.11	303.39	19-Dec-05	0.91	303.59
20-Apr-93	0.57	303.93	01-Aug-01	1.19	303.31	26-Jan-06	0.95	303.55
27-May-93	0.84	303.66	09-Aug-01	1.20	303.30	15-Feb-06	0.73	303.77
22-Jun-93	0.78	303.72	13-Aug-01	1.21	303.29	30-Mar-06	0.79	303.71
14-Jul-93	0.93	303.57	16-Aug-01	1.19	303.31	27-Apr-06	0.83	303.67
18-Aug-93	1.01	303.49	20-Aug-01	1.07	303.43	28-Apr-06	0.89	303.61
20-Sep-93	0.97	303.53	04-Sep-01	1.14	303.36	15-May-06	0.96	303.54
19-Oct-93	0.74	303.76	01-Oct-01	1.06	303.44	15-Jun-06	1.09	303.41
17-Nov-93	0.83	303.67	05-Nov-01	0.89	303.61	15-Jul-06	0.99	303.51
06-Dec-93	0.69	303.81	06-Dec-01	0.87	303.63	24-Aug-06	1.09	303.41
19-Jan-94	(F) 0.81	303.69	04-Jan-02	0.97	303.53	15-Sep-06	0.77	303.73
23-Feb-94	(F) 0.82	303.68	07-Feb-02	0.97	303.53	15-Oct-06	0.71	303.79
24-Mar-94	0.52	303.98	07-Mar-02	1.05	303.45	15-Nov-06	0.81	303.69
19-Apr-94	0.74	303.76	07-Apr-02	0.70	303.80	07-Dec-06	0.79	303.71
24-May-94	0.81	303.69	06-May-02	0.70	303.80			

NOTES:
- BTOP — Below top of pipe
- NA — Not available
- m ASL — metres above sea level
- (F) — Frozen
- * — Lowered water levels as a result of bridge construction

TABLE B-1
WATER LEVEL DATA - GROUNDWATER MONITORS
MILL CREEK AGGREGATES PIT

OW16A-78								
DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)
17-Jan-07	0.75	303.75	17-Aug-11	0.99	303.51	27-Jun-16	0.95	303.55
22-Feb-07	0.65	303.85	14-Sep-11	0.99	303.51	28-Jul-16	0.97	303.53
30-Mar-07	0.75	303.75	27-Oct-11	0.77	303.73	11-Aug-16	1.06	303.44
26-Apr-07	0.81	303.69	14-Nov-11	0.83	303.67	21-Sep-16	0.92	303.58
16-May-07	0.87	303.63	14-Dec-11	0.62	303.88	18-Oct-16	0.91	303.59
26-Jun-07	1.01	303.49	22-Dec-11	0.74	303.76	14-Nov-16	0.87	303.63
25-Jul-07	1.11	303.39	16-Jan-12	0.81	303.69	14-Dec-16	0.86	303.64
07-Aug-07	1.07	303.43	16-Feb-12	(F)0.76	303.74	18-Jan-17	(F)	
21-Aug-07	1.16	303.34	29-Mar-12	0.85	303.65	15-Feb-17	(F)	
21-Sep-07	1.16	303.34	10-Apr-12	0.87	303.63	17-Mar-17	(F)	
17-Oct-07	1.02	303.48	30-Apr-12	0.87	303.63	11-Apr-17	0.71	303.79
15-Nov-07	0.98	303.52	29-May-12	1.03	303.47	18-May-17	0.80	303.70
29-Nov-07	0.88	303.62	20-Jun-12	1.04	303.46	14-Jun-17	0.89	303.61
10-Dec-07	0.90	303.60	24-Jul-12	1.11	303.39	20-Jul-17	0.82	303.68
31-Jan-08	0.80	303.70	08-Aug-12	1.15	303.35	09-Aug-17	0.88	303.62
29-Feb-08	0.66	303.84	21-Aug-12	1.05	303.45	12-Sep-17	0.92	303.58
31-Mar-08	0.57	303.93	18-Sep-12	0.90	303.60	12-Oct-17	0.90	303.60
28-Apr-08	0.83	303.67	23-Oct-12	0.74	303.76	21-Nov-17	0.76	303.74
28-May-08	0.93	303.57	28-Nov-12	0.90	303.60	19-Dec-17	0.79	303.71
25-Jun-08	0.93	303.57	06-Dec-12	0.81	303.69	16-Jan-18	(F)	
16-Jul-08	1.03	303.47	19-Dec-12	0.83	303.67	26-Feb-18	(F)	
20-Aug-08	0.87	303.63	16-Jan-13	0.75	303.75	26-Mar-18	(F)	
26-Aug-08	1.04	303.46	20-Feb-13	0.54	303.96	24-Apr-18	0.67	303.83
19-Sep-08	0.71	303.79	21-Mar-13	0.56	303.94	18-May-18	0.79	303.71
10-Oct-08	0.84	303.66	04-Apr-13	(F) 0.71	303.79	12-Jun-18	0.91	303.59
05-Nov-08	0.84	303.66	25-Apr-13	0.71	303.79	27-Jul-18	1.02	303.48
17-Dec-08	(F)0.64	303.86	23-May-13	0.82	303.68	22-Aug-18	0.87	303.63
06-Jan-09	(F)0.60	303.90	13-Jun-13	0.73	303.77	12-Sep-18	0.95	303.55
27-Feb-09	(F)0.63	303.87	31-Jul-13	0.70	303.80	30-Oct-18	0.90	303.60
11-Mar-09	(F)0.58	303.92	29-Aug-13	0.86	303.64	21-Nov-18	0.83	303.67
14-Apr-09	0.76	303.74	25-Sep-13	0.82	303.68	20-Dec-18	0.85	303.65
21-May-09	0.81	303.69	22-Oct-13	0.70	303.80			
16-Jun-09	0.86	303.64	28-Nov-13	0.77	303.73			
31-Jul-09	0.79	303.71	10-Dec-13	0.78	303.72			
25-Aug-09	0.76	303.74	15-Jan-14	(F)0.53	303.97			
28-Aug-09	0.79	303.71	26-Feb-14	(F)0.58	303.92			
28-Sep-09	0.82	303.68	26-Mar-14	(F)0.57	303.93			
14-Oct-09	1.00	303.50	01-Apr-14	0.52	303.98			
11-Nov-09	0.83	303.67	15-May-14	0.68	303.82			
11-Dec-09	0.79	303.71	18-Jun-14	0.85	303.65			
16-Dec-09	0.77	303.73	29-Jul-14	0.65	303.85			
13-Jan-10	0.77	303.73	25-Aug-14	0.81	303.69			
11-Feb-10	0.74	303.76	18-Sep-14	0.74	303.76			
11-Mar-10	0.78	303.72	17-Oct-14	0.73	303.77			
16-Apr-10	0.80	303.70	27-Nov-14	0.72	303.78			
21-May-10	0.88	303.62	15-Dec-14	0.74	303.76			
17-Jun-10	0.81	303.69	21-Jan-15	(F)				
15-Jul-10	0.96	303.54	18-Feb-15	(F)				
18-Aug-10	1.00	303.50	25-Mar-15	(F)				
31-Aug-10	1.01	303.49	06-Apr-15	0.65	303.85			
28-Sep-10	0.79	303.71	20-May-15	0.87	303.63			
20-Oct-10	0.84	303.66	23-Jun-15	0.81	303.69			
18-Nov-10	0.74	303.76	22-Jul-15	0.87	303.63			
08-Dec-10	0.82	303.68	25-Aug-15	0.85	303.65			
22-Dec-10	0.85	303.65	24-Sep-15	0.93	303.57			
19-Jan-11	(F)0.74		29-Oct-15	0.65	303.85			
17-Feb-11	(F)0.74		25-Nov-15	0.81	303.69			
16-Mar-11	0.97	303.53	10-Dec-15	0.85	303.65			
13-Apr-11	0.75	303.75	20-Jan-16	(F)				
21-Apr-11	0.60	303.90	29-Feb-16	(F)				
26-May-11	0.64	303.86	17-Mar-16	0.66	303.84			
16-Jun-11	0.79	303.71	30-Mar-16	0.67	303.83			
14-Jul-11	0.96	303.54	27-Apr-16	0.74	303.76			
11-Aug-11	0.94	303.56	30-May-16	0.81	303.69			

NOTES:
- · BTOP — Below top of pipe
- · NA — Not available
- · m ASL — metres above sea level
- · (F) — Frozen
- · * — Lowered water levels as a result of bridge construction

TABLE B-1
WATER LEVEL DATA - GROUNDWATER MONITORS
MILL CREEK AGGREGATES PIT

BH92-1

DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)
13-Mar-92	6.69	306.31	01-Mar-00	7.17	305.83	24-Mar-05	6.55	306.45
15-Apr-92	6.79	306.21	19-May-00	6.99	306.01	18-Apr-05	6.34	306.66
22-May-92	6.46	306.54	06-Jul-00	6.80	306.20	29-Apr-05	6.21	306.79
29-Jun-92	6.68	306.32	14-Sep-00	6.98	306.02	26-May-05	6.32	306.68
20-Jul-92	6.63	306.37	10-Oct-00	7.03	305.97	23-Jun-05	6.39	306.61
26-Aug-92	6.68	306.32	07-Nov-00	7.23	305.77	25-Jul-05	6.48	306.52
14-Sep-92	6.66	306.34	12-Dec-00	7.14	305.86	17-Aug-05	6.57	306.43
28-Oct-92	6.57	306.43	12-Jan-01	7.05	305.95	25-Aug-05	6.58	306.42
26-Nov-92	6.07	306.93	07-Feb-01	7.08	305.92	30-Sep-05	6.65	306.35
15-Dec-92	6.17	306.83	12-Mar-01	6.70	306.30	27-Oct-05	6.78	306.22
19-Jan-93	5.84	307.16	09-Apr-01	6.62	306.38	28-Nov-05	6.77	306.23
05-Mar-93	6.00	307.00	03-May-01	6.69	306.31	07-Dec-05	6.77	306.23
26-Mar-93	6.03	306.97	06-Jun-01	6.73	306.27	19-Dec-05	6.76	306.24
20-Apr-93	5.69	307.31	11-Jul-01	6.91	306.09	15-Feb-06	6.45	306.55
27-May-93	5.79	307.21	01-Aug-01	7.04	305.96	30-Mar-06	6.46	306.54
22-Jun-93	5.90	307.10	05-Sep-01	7.22	305.78	27-Apr-06	6.31	306.69
15-Jul-93	6.08	306.92	02-Oct-01	7.28	305.72	28-Apr-06	6.30	306.70
18-Aug-93	6.26	306.74	06-Nov-01	7.22	305.78	15-May-06	6.42	306.58
20-Sep-93	6.45	306.55	06-Dec-01	7.15	305.85	15-Jun-06	6.52	306.48
19-Oct-93	6.53	306.47	04-Jan-02	7.08	305.92	15-Jul-06	6.53	306.47
17-Nov-93	6.68	306.32	07-Feb-02	6.90	306.10	24-Aug-06	6.56	306.44
07-Dec-93	6.60	306.40	07-Mar-02	6.84	306.16	15-Sep-06	6.57	306.43
19-Jan-94	6.74	306.26	07-Apr-02	6.73	306.27	15-Oct-06	6.46	306.54
23-Feb-94	6.54	306.46	06-May-02	6.80	306.20	15-Nov-06	6.39	306.61
24-Mar-94	6.44	306.56	14-Jun-02	6.80	306.20	07-Dec-06	6.35	306.65
19-Apr-94	6.26	306.74	11-Jul-02	6.85	306.15	17-Jan-07	6.20	306.80
25-May-94	6.15	306.85	09-Aug-02	6.99	306.01	26-Apr-07	6.00	307.00
23-Jun-94	6.36	306.64	04-Sep-02	7.16	305.84	16-May-07	6.02	306.98
21-Jul-94	6.49	306.51	11-Oct-02	7.22	305.78	25-Jul-07	6.38	306.62
25-Aug-94	6.64	306.36	21-Nov-02	7.25	305.75	07-Aug-07	6.47	306.53
21-Sep-94	6.79	306.21	13-Dec-02	7.27	305.73	21-Aug-07	6.58	306.42
18-Oct-94	6.88	306.12	09-Jan-03	7.24	305.76	21-Sep-07	6.75	306.25
24-Nov-94	6.94	306.06	10-Feb-03	7.30	305.70	17-Oct-07	6.77	306.23
21-Dec-94	6.91	306.09	13-Mar-03	7.25	305.75	29-Nov-07	6.83	306.17
25-Jan-95	6.22	306.78	10-Apr-03	6.88	306.12	10-Dec-07	6.81	306.19
16-Feb-95	6.49	306.51	07-May-03	6.92	306.08	31-Jan-08	6.61	306.39
24-Mar-95	6.40	306.60	15-May-03	6.96	306.04	29-Feb-08	6.50	306.50
17-May-95	6.29	306.71	16-Jun-03	6.70	306.30	31-Mar-08	6.20	306.80
13-Jun-95	6.35	306.65	17-Jul-03	7.08	305.92	28-Apr-08	6.12	306.88
20-Jul-95	6.59	306.41	21-Aug-03	7.20	305.80	28-May-08	6.12	306.88
15-Aug-95	6.61	306.39	26-Aug-03	7.10	305.90	25-Jun-08	6.10	306.90
18-Oct-95	6.88	306.12	25-Sep-03	7.15	305.85	16-Jul-08	6.10	306.90
22-Nov-95	6.74	306.26	27-Oct-03	7.10	305.90	20-Aug-08	6.03	306.97
26-Mar-96	6.31	306.69	01-Dec-03	6.97	306.03	26-Aug-08	6.11	306.89
31-May-96	5.81	307.19	11-Dec-03	6.98	306.02	19-Sep-08	6.06	306.94
29-Jul-96	5.97	307.03	16-Dec-03	7.00	306.00	10-Oct-08	6.18	306.82
27-Sep-96	6.22	306.78	19-Jan-04	7.05	305.95	05-Nov-08	6.29	306.71
07-Nov-96	6.27	306.73	18-Feb-04	6.82	306.18	17-Dec-08	6.24	306.76
31-Mar-97	5.54	307.46	25-Mar-04	6.59	306.41	06-Jan-09	6.10	306.90
28-May-97	5.77	307.23	07-Apr-04	6.43	306.57	27-Feb-09	5.96	307.04
31-Jul-97	6.24	306.76	22-Apr-04	6.37	306.63	11-Mar-09	5.89	307.11
06-Nov-97	6.53	306.47	20-May-04	6.26	306.74	14-Apr-09	5.85	307.15
16-Dec-97	6.63	306.37	24-Jun-04	6.29	306.71	21-May-09	5.83	307.17
27-Mar-98	6.24	306.76	23-Jul-04	6.38	306.62	16-Jun-09	5.90	307.10
31-May-98	6.42	306.58	04-Aug-04	6.43	306.57	31-Jul-09	5.99	307.01
31-Jul-98	6.68	306.32	26-Aug-04	6.56	306.44	25-Aug-09	5.93	307.07
30-Sep-98	7.00	306.00	28-Sep-04	6.65	306.35	28-Aug-09	5.96	307.04
30-Dec-98	7.02	305.98	18-Oct-04	6.75	306.25	28-Sep-09	6.15	306.85
31-Mar-99	6.76	306.24	16-Nov-04	6.83	306.17	14-Oct-09	6.18	306.82
20-May-99	7.28	305.72	15-Dec-04	6.79	306.21	11-Nov-09	6.26	306.74
16-Jul-99	7.58	305.42	16-Dec-04	6.80	306.20	11-Dec-09	6.31	306.69
08-Sep-99	7.52	305.48	20-Jan-05	6.68	306.32	16-Dec-09	6.30	306.70
10-Nov-99	7.44	305.56	25-Feb-05	6.57	306.43			

NOTES:
- BTOP — Below top of pipe
- NA — Not available
- m ASL — metres above sea level
- (F) — Frozen

TABLE B-1
WATER LEVEL DATA - GROUNDWATER MONITORS
MILL CREEK AGGREGATES PIT

BH92-1

DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)
13-Jan-10	6.35	306.65	29-Jul-14	6.35	306.65			
11-Feb-10	6.40	306.60	25-Aug-14	6.37	306.63			
11-Mar-10	6.45	306.55	18-Sep-14	6.37	306.63			
16-Apr-10	6.23	306.77	17-Oct-14	6.38	306.62			
21-May-10	6.33	306.67	27-Nov-14	6.54	306.46			
17-Jun-10	6.39	306.61	15-Dec-14	6.55	306.45			
15-Jul-10	6.51	306.49	21-Jan-15	6.62	306.38			
18-Aug-10	6.59	306.41	18-Feb-15	6.65	306.35			
31-Aug-10	6.66	306.34	25-Mar-15	6.64	306.36			
28-Sep-10	6.80	306.20	06-Apr-15	6.63	306.37			
20-Oct-10	6.85	306.15	20-May-15	6.05	306.95			
18-Nov-10	6.90	306.10	23-Jun-15	6.47	306.53			
08-Dec-10	6.87	306.13	22-Jul-15	6.52	306.48			
22-Dec-10	6.90	306.10	25-Aug-15	6.55	306.45			
19-Jan-11	6.93	306.07	24-Sep-15	6.68	306.32			
17-Feb-11	6.92	306.08	29-Oct-15	6.73	306.27			
16-Mar-11	6.75	306.25	25-Nov-15	6.79	306.21			
13-Apr-11	6.21	306.79	10-Dec-15	6.83	306.17			
21-Apr-11	6.58	306.42	20-Jan-16	6.75	306.25			
26-May-11	6.26	306.74	29-Feb-16	6.74	306.26			
16-Jun-11	6.22	306.78	17-Mar-16	6.65	306.35			
14-Jul-11	6.33	306.67	30-Mar-16	6.53	306.47			
11-Aug-11	6.51	306.49	27-Apr-16	6.46	306.54			
17-Aug-11	6.55	306.45	30-May-16	6.43	306.57			
14-Sep-11	6.70	306.30	27-Jun-16	6.54	306.46			
27-Oct-11	6.72	306.28	28-Jul-16	6.67	306.33			
14-Nov-11	6.75	306.25	11-Aug-16	6.79	306.21			
22-Dec-11	6.60	306.40	21-Sep-16	6.81	306.19			
16-Jan-12	6.57	306.43	18-Oct-16	6.92	306.08			
16-Feb-12	6.54	306.46	14-Nov-16	6.96	306.04			
29-Mar-12	6.51	306.49	14-Dec-16	6.97	306.03			
10-Apr-12	6.53	306.47	18-Jan-17	6.78	306.22			
30-Apr-12	6.54	306.46	15-Feb-17	6.70	306.30			
29-May-12	6.60	306.40	17-Mar-17	6.56	306.44			
20-Jun-12	6.67	306.33	11-Apr-17	6.42	306.58			
24-Jul-12	6.91	306.09	18-May-17	6.23	306.77			
08-Aug-12	7.00	306.00	14-Jun-17	6.20	306.80			
21-Aug-12	6.99	306.01	20-Jul-17	6.21	306.79			
18-Sep-12	7.06	305.94	09-Aug-17	6.33	306.67			
23-Oct-12	7.10	305.90	12-Sep-17	6.51	306.49			
28-Nov-12	7.08	305.92	12-Oct-17	6.66	306.34			
06-Dec-12	7.11	305.89	21-Nov-17	6.78	306.22			
19-Dec-12	7.08	305.92	19-Dec-17	6.85	306.15			
16-Jan-13	7.00	306.00	16-Jan-18	6.83	306.17			
20-Feb-13	6.94	306.06	28-Feb-18	6.69	306.31			
21-Mar-13	6.81	306.19	26-Mar-18	6.68	306.32			
04-Apr-13	6.73	306.27	24-Apr-18	6.54	306.46			
25-Apr-13	6.56	306.44	18-May-18	6.45	306.55			
23-May-13	6.55	306.45	12-Jun-18	6.54	306.46			
13-Jun-13	6.45	306.55	27-Jul-18	6.71	306.29			
31-Jul-13	6.40	306.60	22-Aug-18	6.76	306.24			
29-Aug-13	6.57	306.43	12-Sep-18	6.77	306.23			
25-Sep-13	6.72	306.28						
22-Oct-13	6.63	306.37		Decommissioned				
28-Nov-13	6.30	306.70						
10-Dec-13	6.73	306.27						
15-Jan-14	6.65	306.35						
26-Feb-14	6.65	306.35						
26-Mar-14	6.63	306.37						
01-Apr-14	6.60	306.40						
15-May-14	6.19	306.81						
18-Jun-14	6.29	306.71						

NOTES:
- BTOP Below top of pipe
- NA Not available
- m ASL metres above sea level
- (F) Frozen

TABLE B-1
WATER LEVEL DATA - GROUNDWATER MONITORS
MILL CREEK AGGREGATES PIT

BH92-5								
DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)
13-Mar-92	2.45	306.74	06-Jul-00	2.96	306.23	10-Jan-02	NA	
15-Apr-92	2.54	306.65	14-Sep-00	3.14	306.05	14-Jan-02	NA	
22-May-92	2.46	306.73	11-Oct-00	3.18	306.01	17-Jan-02	NA	
29-Jun-92	2.62	306.57	07-Nov-00	3.37	305.82	21-Jan-02	NA	
20-Jul-92	2.35	306.84	12-Dec-00	3.21	305.98	24-Jan-02	2.10	306.10
26-Aug-92	2.53	306.66	11-Jan-01	3.10	306.09	28-Jan-02	2.10	306.10
14-Sep-92	2.48	306.71	07-Feb-01	3.07	306.12	01-Feb-02	NA	
28-Oct-92	2.43	306.76	12-Mar-01	2.84	306.35	04-Feb-02	2.07	306.13
27-Nov-92	2.05	307.14	09-Apr-01	2.75	306.44	07-Feb-02	2.07	306.13
15-Dec-92	2.21	306.98	03-May-01	2.84	306.35	11-Feb-02	2.10	306.10
19-Jan-93	2.20	306.99	06-Jun-01	2.88	306.31	15-Feb-02	2.09	306.11
05-Mar-93	NA		03-Jul-01	2.00	306.20	18-Feb-02	(F)	
26-Mar-93	2.35	306.84	05-Jul-01	2.03	306.17	21-Feb-02	2.00	306.20
20-Apr-93	1.83	307.36	09-Jul-01	2.02	306.18	25-Feb-02	2.15	306.05
28-May-93	1.96	307.23	12-Jul-01	2.04	306.16	05-Mar-02	2.06	306.14
23-Jun-93	2.06	307.13	16-Jul-01	2.01	306.19	07-Mar-02	1.95	306.25
15-Jul-93	2.22	306.97	19-Jul-01	2.05	306.15	11-Mar-02	1.86	306.34
18-Aug-93	2.25	306.94	23-Jul-01	2.10	306.10	15-Mar-02	1.88	306.32
20-Sep-93	2.48	306.71	26-Jul-01	2.11	306.09	19-Mar-02	1.91	306.29
19-Oct-93	2.39	306.80	30-Jul-01	2.13	306.07	21-Mar-02	1.88	306.32
17-Nov-93	2.62	306.57	02-Aug-01	2.17	306.03	26-Mar-02	1.89	306.31
07-Dec-93	2.42	306.77	07-Aug-01	2.18	306.02	28-Mar-02	1.98	306.22
19-Jan-94	2.51	306.68	09-Aug-01	2.21	305.99	01-Apr-02	2.07	306.13
23-Feb-94	2.36	306.83	13-Aug-01	2.31	305.89	05-Apr-02	2.04	306.16
24-Mar-94	2.26	306.93	16-Aug-01	2.31	305.89	07-Apr-02	1.81	306.39
19-Apr-94	2.22	306.97	20-Aug-01	2.27	305.93	11-Apr-02	1.84	306.36
24-May-94	2.23	306.96	23-Aug-01	2.30	305.90	19-Apr-02	2.09	306.11
23-Jun-94	2.44	306.75	27-Aug-01	2.35	305.85	23-Apr-02	2.09	306.11
19-Jul-94	2.47	306.72	30-Aug-01	2.35	305.85	29-Apr-02	2.03	306.17
25-Aug-94	2.55	306.64	31-Aug-01	2.33	305.87	06-May-02	1.95	306.25
21-Sep-94	2.69	306.50	04-Sep-01	2.30	305.90	10-May-02	1.99	306.21
19-Oct-94	2.75	306.44	06-Sep-01	2.33	305.87	14-May-02	1.94	306.26
24-Nov-94	2.75	306.44	10-Sep-01	2.34	305.86	17-May-02	1.90	306.30
22-Dec-94	2.64	306.55	13-Sep-01	2.38	305.82	21-May-02	1.90	306.30
24-Jan-95	2.20	306.99	17-Sep-01	2.39	305.81	24-May-02	1.92	306.28
16-Feb-95	2.35	306.84	20-Sep-01	2.41	305.79	27-May-02	1.92	306.28
23-Mar-95	2.20	306.99	24-Sep-01	2.35	305.85	31-May-02	1.93	306.27
13-Jun-95	2.27	306.92	27-Sep-01	2.37	305.83	04-Jun-02	1.95	306.25
20-Jul-95	2.52	306.67	01-Oct-01	2.36	305.84	07-Jun-02	1.89	306.31
15-Aug-95	2.44	306.75	04-Oct-01	2.40	305.80	14-Jun-02	1.99	306.21
18-Oct-95	2.69	306.50	09-Oct-01	2.32	305.88	21-Jun-02	1.98	306.22
22-Nov-95	2.54	306.65	11-Oct-01	2.34	305.86	25-Jun-02	1.96	306.24
26-Mar-96	2.17	307.02	15-Oct-01	2.32	305.88	05-Jul-02	1.98	306.22
31-May-96	1.95	307.24	19-Oct-01	2.26	305.94	11-Jul-02	2.02	306.18
29-Jul-96	2.02	307.17	22-Oct-01	2.25	305.95	15-Jul-02	2.05	306.15
27-Sep-96	2.14	307.05	26-Oct-01	2.30	305.90	23-Jul-02	2.03	306.17
07-Nov-96	2.21	306.98	29-Oct-01	2.26	305.94	26-Jul-02	2.04	306.16
25-Mar-97	1.77	307.42	01-Nov-01	2.24	305.96	05-Aug-02	2.14	306.06
26-May-97	1.81	307.38	05-Nov-01	2.21	305.99	09-Aug-02	2.01	306.19
30-Jul-97	2.20	306.99	08-Nov-01	2.24	305.96	16-Aug-02	2.19	306.01
06-Nov-97	2.41	306.78	12-Nov-01	2.25	305.95	21-Aug-02	2.22	305.98
12-Dec-97	2.54	306.65	15-Nov-01	2.27	305.93	23-Aug-02	2.23	305.97
27-Mar-98	2.21	306.98	19-Nov-01	2.26	305.94	04-Sep-02	2.30	305.90
31-May-98	2.45	306.74	22-Nov-01	2.23	305.97	17-Sep-02	2.28	305.92
31-Jul-98	2.79	306.40	26-Nov-01	2.20	306.00	11-Oct-02	2.30	305.90
30-Sep-98	3.16	306.03	29-Nov-01	2.16	306.04	18-Oct-02	2.38	305.82
30-Dec-98	3.15	306.04	03-Dec-01	2.11	306.09	08-Nov-02	2.40	305.80
31-Mar-99	2.79	306.40	06-Dec-01	2.12	306.08	22-Nov-02	2.36	305.84
20-May-99	3.37	305.82	10-Dec-01	2.13	306.07	13-Dec-02	2.36	305.84
16-Jul-99	3.73	305.46	13-Dec-01	2.12	306.08	09-Jan-03	2.40	305.80
10-Sep-99	3.67	305.52	17-Dec-01	2.08	306.12	10-Feb-03	2.45	305.75
09-Nov-99	3.48	305.71	20-Dec-01	2.06	306.14	13-Mar-03	2.35	305.85
01-Mar-00	3.19	306.00	02-Jan-02	2.13	306.07	10-Apr-03	2.21	305.99
19-May-00	3.09	306.10	07-Jan-02	NA		07-May-03	1.99	306.21

NOTES:
- · BTOP Below top of pipe
- · NA Not available
- · m ASL metres above sea level
- · (F) Frozen

TABLE B-1
WATER LEVEL DATA - GROUNDWATER MONITORS
MILL CREEK AGGREGATES PIT

BH92-5								
DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)
15-May-03	2.25	305.95	10-Dec-07	1.83	306.37	24-Jul-12	1.91	306.29
16-Jun-03	2.00	306.20	31-Jan-08	1.64	306.56	08-Aug-12	2.01	306.19
17-Jul-03	2.20	306.00	29-Feb-08	1.54	306.66	21-Aug-12	1.97	306.23
21-Aug-03	2.31	305.89	31-Mar-08	1.28	306.92	18-Sep-12	1.99	306.21
26-Aug-03	2.20	306.00	28-Apr-08	1.27	306.93	23-Oct-12	1.98	306.22
25-Sep-03	2.24	305.96	28-May-08	1.24	306.96	28-Nov-12	1.98	306.22
27-Oct-03	2.24	305.96	25-Jun-08	1.22	306.98	06-Dec-12	1.99	306.21
01-Dec-03	2.07	306.13	16-Jul-08	1.22	306.98	19-Dec-12	1.99	306.21
11-Dec-03	2.08	306.12	20-Aug-08	1.19	307.01	16-Jan-13	1.90	306.30
16-Dec-03	2.16	306.04	26-Aug-08	1.20	307.00	20-Feb-13	1.88	306.32
19-Jan-04	2.07	306.13	19-Sep-08	1.14	307.06	21-Mar-13	1.77	306.43
18-Feb-04	1.90	306.30	10-Oct-08	1.26	306.94	04-Apr-13	1.73	306.47
25-Mar-04	1.69	306.51	05-Nov-08	1.34	306.86	25-Apr-13	1.56	306.64
07-Apr-04	1.58	306.62	17-Dec-08	1.30	306.90	23-May-13	1.60	306.60
22-Apr-04	1.48	306.72	06-Jan-09	1.19	307.01	13-Jun-13	1.48	306.72
20-May-04	1.42	306.78	27-Feb-09	1.10	307.10	31-Jul-13	1.42	306.78
24-Jun-04	1.44	306.76	11-Mar-09	0.99	307.21	29-Aug-13	1.62	306.58
23-Jul-04	1.45	306.75	14-Apr-09	1.00	307.20	25-Sep-13	1.65	306.55
04-Aug-04	1.57	306.63	21-May-09	0.96	307.24	22-Oct-13	1.58	306.62
26-Aug-04	1.68	306.52	16-Jun-09	1.00	307.20	28-Nov-13	1.89	306.31
28-Sep-04	1.77	306.43	31-Jul-09	1.06	307.14	10-Dec-13	1.72	306.48
18-Oct-04	1.85	306.35	25-Aug-09	1.04	307.16	15-Jan-14	1.60	306.60
16-Nov-04	1.91	306.29	28-Aug-09	1.06	307.14	26-Feb-14	1.64	306.56
15-Dec-04	1.85	306.35	28-Sep-09	1.21	306.99	26-Mar-14	1.62	306.58
16-Dec-04	1.85	306.35	14-Oct-09	1.24	306.96	01-Apr-14	1.54	306.66
20-Jan-05	1.73	306.47	11-Nov-09	1.32	306.88	15-May-14	1.19	307.01
25-Feb-05	1.64	306.56	11-Dec-09	1.35	306.85	18-Jun-14	1.32	306.88
24-Mar-05	1.62	306.58	16-Dec-09	1.33	306.87	29-Jul-14	1.34	306.86
18-Apr-05	1.48	306.72	13-Jan-10	1.40	306.80	25-Aug-14	1.38	306.82
29-Apr-05	1.40	306.80	11-Feb-10	1.46	306.74	18-Sep-14	1.36	306.84
26-May-05	1.45	306.75	11-Mar-10	1.47	306.73	17-Oct-14	1.35	306.85
23-Jun-05	1.52	306.68	16-Apr-10	1.30	306.90	27-Nov-14	1.47	306.73
25-Jul-05	1.60	306.60	21-May-10	1.41	306.79	15-Dec-14	1.56	306.64
17-Aug-05	1.67	306.53	17-Jun-10	1.43	306.77	21-Jan-15	1.58	306.62
25-Aug-05	1.68	306.52	15-Jul-10	1.58	306.62	18-Feb-15	1.63	306.57
30-Sep-05	1.74	306.46	18-Aug-10	1.62	306.58	25-Mar-15	1.80	306.40
27-Oct-05	1.87	306.33	31-Aug-10	1.69	306.51	06-Apr-15	1.98	306.22
28-Nov-05	1.85	306.35	28-Sep-10	1.77	306.43	20-May-15	1.48	306.72
07-Dec-05	1.84	306.36	20-Oct-10	1.83	306.37	23-Jun-15	1.45	306.75
19-Dec-05	1.83	306.37	18-Nov-10	1.86	306.34	22-Jul-15	1.53	306.67
26-Jan-06	1.58	306.62	08-Dec-10	1.83	306.37	25-Aug-15	1.51	306.69
15-Feb-06	1.55	306.65	22-Dec-10	1.86	306.34	24-Sep-15	1.47	306.73
30-Mar-06	1.47	306.73	19-Jan-11	1.89	306.31	29-Oct-15	1.36	306.84
27-Apr-06	1.41	306.79	17-Feb-11	1.81	306.39	25-Nov-15	1.68	306.52
28-Apr-06	1.43	306.77	16-Mar-11	1.70	306.50	10-Dec-15	1.76	306.44
15-May-06	1.42	306.78	13-Apr-11	1.64	306.56	20-Jan-16	1.76	306.44
15-Jun-06	1.51	306.69	21-Apr-11	1.56	306.64	29-Feb-16	1.63	306.57
15-Jul-06	1.51	306.69	26-May-11	1.30	306.90	17-Mar-16	1.55	306.65
24-Aug-06	1.65	306.55	16-Jun-11	1.32	306.88	30-Mar-16	1.43	306.77
15-Sep-06	1.67	306.53	14-Jul-11	1.42	306.78	27-Apr-16	1.44	306.76
15-Oct-06	1.54	306.66	11-Aug-11	1.60	306.60	30-May-16	1.42	306.78
15-Nov-06	1.55	306.65	17-Aug-11	1.64	306.56	27-Jun-16	1.84	306.36
07-Dec-06	1.50	306.70	14-Sep-11	1.76	306.44	28-Jul-16	1.65	306.55
17-Jan-07	1.33	306.88	27-Oct-11	1.73	306.47	11-Aug-16	1.78	306.42
26-Apr-07	1.16	307.04	14-Nov-11	1.77	306.43	21-Sep-16	1.76	306.44
16-May-07	1.14	307.06	14-Dec-11	1.79	306.41	18-Oct-16	1.83	306.37
26-Jun-07	1.30	306.90	22-Dec-11	1.59	306.61	14-Nov-16	1.85	306.35
25-Jul-07	1.48	306.72	16-Jan-12	1.57	306.63	14-Dec-16	1.88	306.32
07-Aug-07	1.57	306.63	16-Feb-12	1.52	306.68	18-Jan-17	1.59	306.61
21-Aug-07	1.67	306.54	29-Mar-12	1.46	306.74	15-Feb-17	1.56	306.64
21-Sep-07	1.81	306.40	10-Apr-12	1.57	306.63	17-Mar-17	1.46	306.74
17-Oct-07	1.82	306.39	30-Apr-12	1.55	306.65	11-Apr-17	1.34	306.86
15-Nov-07	1.91	306.29	29-May-12	1.63	306.57	18-May-17	1.21	306.99
29-Nov-07	1.85	306.35	20-Jun-12	1.67	306.53	14-Jun-17	1.20	307.00

NOTES:
- BTOP — Below top of pipe
- NA — Not available
- m ASL — metres above sea level
- (F) — Frozen

TABLE B-1
WATER LEVEL DATA - GROUNDWATER MONITORS
MILL CREEK AGGREGATES PIT

BH92-5								
DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)
20-Jul-17	1.17	307.03						
09-Aug-17	1.28	306.92						
12-Sep-17	1.47	306.73						
12-Oct-17	1.60	306.60						
21-Nov-17	1.64	306.56						
19-Dec-17	1.71	306.49						
16-Jan-18	(F)							
26-Feb-18	1.66	306.54						
26-Mar-18	1.62	306.58						
24-Apr-18	1.48	306.72						
18-May-18	1.43	306.77						
12-Jun-18	1.50	306.70						
27-Jul-18	1.68	306.52						
22-Aug-18	1.71	306.49						
12-Sep-18	1.81	306.39						
30-Oct-18	2.01	306.19						
21-Nov-18	1.92	306.28						
20-Dec-18	1.71	306.49						

NOTES:
· BTOP Below top of pipe
· NA Not available
· m ASL metres above sea level
· (F) Frozen

TABLE B-1
WATER LEVEL DATA - GROUNDWATER MONITORS
MILL CREEK AGGREGATES PIT

BH92-8

DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)
13-Mar-92	2.95	306.35	20-May-99	3.40	305.90	04-Aug-04	3.28	306.02
15-Apr-92	3.05	306.25	16-Jul-99	3.68	305.62	26-Aug-04	3.28	306.02
22-May-92	2.93	306.37	10-Sep-99	3.64	305.66	28-Sep-04	3.36	305.94
29-Jun-92	3.14	306.16	09-Nov-99	3.68	305.62	18-Oct-04	3.46	305.84
20-Jul-92	2.91	306.39	01-Mar-00	3.43	305.87	16-Nov-04	3.44	305.86
26-Aug-92	3.06	306.24	19-May-00	3.20	306.10	15-Dec-04	3.38	305.92
14-Sep-92	3.01	306.29	06-Jul-00	3.23	306.07	16-Dec-04	3.38	305.92
28-Oct-92	2.94	306.36	14-Sep-00	3.43	305.87	20-Jan-05	3.27	306.03
26-Nov-92	2.47	306.83	10-Oct-00	3.46	305.84	25-Feb-05	3.20	306.10
14-Dec-92	2.69	306.61	08-Nov-00	3.61	305.69	24-Mar-05	3.19	306.11
19-Jan-93	2.49	306.81	12-Dec-00	3.52	305.78	18-Apr-05	3.02	306.28
05-Mar-93	NA		11-Jan-01	3.31	305.99	29-Apr-05	3.10	306.20
26-Mar-93	NA		07-Feb-01	3.40	305.90	26-May-05	plugged	
19-Apr-93	2.35	306.95	12-Mar-01	3.17	306.13	23-Jun-05	3.04	306.26
27-May-93	2.46	306.84	09-Apr-01	3.03	306.27	25-Jul-05	3.06	306.24
22-Jun-93	2.51	306.79	03-May-01	3.37	305.93	17-Aug-05	3.20	306.10
15-Jul-93	2.69	306.61	06-Jun-01	3.36	305.94	25-Aug-05	3.18	306.12
18-Aug-93	2.79	306.51	05-Jul-01	3.62	305.68	30-Sep-05	3.20	306.10
20-Sep-93	2.95	306.35	11-Jul-01	3.65	305.65	27-Oct-05	3.31	305.99
19-Oct-93	2.90	306.40	01-Aug-01	3.79	305.51	28-Nov-05	3.37	305.93
17-Nov-93	3.09	306.21	05-Sep-01	3.96	305.34	07-Dec-05	3.35	305.95
07-Dec-93	2.90	306.40	02-Oct-01	4.47	304.83	19-Dec-05	3.35	305.95
19-Jan-94	3.12	306.18	06-Nov-01	4.37	304.93	15-Feb-06	3.13	306.17
23-Feb-94	2.85	306.45	06-Dec-01	4.28	305.02	27-Apr-06	2.95	306.35
24-Mar-94	2.63	306.67	04-Jan-02	3.79	305.51	28-Apr-06	2.97	306.33
19-Apr-94	2.68	306.62	07-Feb-02	3.86	305.44	15-May-06	2.98	306.32
24-May-94	2.69	306.61	07-Mar-02	3.70	305.60	15-Jun-06	3.06	306.24
23-Jun-94	2.93	306.37	07-Apr-02	3.45	305.85	15-Jul-06	3.52	305.78
19-Jul-94	3.02	306.28	06-May-02	3.58	305.72	24-Aug-06	3.20	306.10
25-Aug-94	3.09	306.21	14-Jun-02	3.60	305.70	15-Nov-06	3.71	305.59
21-Sep-94	3.23	306.07	11-Jul-02	3.60	305.70	17-Jan-07	2.92	306.38
19-Oct-94	3.24	306.06	09-Aug-02	3.76	305.54	26-Apr-07	2.72	306.58
24-Nov-94	3.25	306.05	04-Sep-02	3.87	305.43	16-May-07	2.92	306.38
22-Dec-94	3.12	306.18	11-Oct-02	3.92	305.38	26-Jun-07	2.87	306.43
25-Jan-95	2.56	306.74	21-Nov-02	3.92	305.38	21-Sep-07	3.38	305.92
16-Feb-95	2.90	306.40	13-Dec-02	3.93	305.37	15-Nov-07	3.45	305.85
23-Mar-95	2.72	306.58	09-Jan-03	3.90	305.40	29-Nov-07	3.35	305.95
16-May-95	2.72	306.58	10-Feb-03	3.73	305.57	10-Dec-07	3.40	305.90
13-Jun-95	2.82	306.48	13-Mar-03	3.65	305.65	31-Mar-08	2.87	306.43
20-Jul-95	3.04	306.26	10-Apr-03	3.58	305.72	28-Apr-08	2.93	306.37
15-Aug-95	2.99	306.31	07-May-03	3.57	305.73	28-May-08	2.83	306.47
18-Oct-95	3.22	306.08	15-May-03	3.61	305.69	25-Jun-08	2.81	306.49
22-Nov-95	2.99	306.31	16-Jun-03	3.60	305.70	16-Jul-08	2.79	306.51
26-Mar-96	2.78	306.52	17-Jul-03	3.70	305.60	20-Aug-08	2.73	306.57
31-May-96	2.43	306.87	21-Aug-03	3.86	305.44	26-Aug-08	2.79	306.51
29-Jul-96	2.44	306.86	26-Aug-03	3.78	305.52	19-Sep-08	2.70	306.60
27-Sep-96	2.63	306.67	25-Sep-03	3.79	305.51	10-Oct-08	2.84	306.46
07-Nov-96	2.69	306.61	27-Oct-03	3.82	305.48	05-Nov-08	2.91	306.39
26-Mar-97	2.17	307.13	01-Dec-03	3.71	305.59	17-Dec-08	2.87	306.43
26-May-97	2.30	307.00	11-Dec-03	3.64	305.66	06-Jan-09	3.00	306.3
30-Jul-97	2.73	306.57	16-Dec-03	3.65	305.65	27-Feb-09	2.74	306.56
06-Nov-97	2.86	306.44	19-Jan-04	3.56	305.74	11-Mar-09	2.60	306.7
12-Dec-97	3.00	306.30	18-Feb-04	3.94	305.36	14-Apr-09	2.61	306.69
27-Mar-98	2.60	306.70	25-Mar-04	3.30	306.00	21-May-09	2.58	306.72
31-May-98	2.90	306.40	07-Apr-04	3.18	306.12	16-Jun-09	2.54	306.76
31-Jul-98	3.10	306.20	22-Apr-04	3.08	306.22	31-Jul-09	2.64	306.66
30-Sep-98	3.36	305.94	20-May-04	3.02	306.28	25-Aug-09	2.61	306.69
30-Dec-98	3.43	305.87	24-Jun-04	3.03	306.27	28-Aug-09	2.65	306.65
31-Mar-99	3.09	306.21	23-Jul-04	3.03	306.27	11-Nov-09	2.90	306.40
						16-Dec-09	2.93	306.37

NOTES:
- · BTOP Below top of pipe
- · NA Not available
- · m ASL metres above sea level
- · (F) Frozen

TABLE B-1
WATER LEVEL DATA - GROUNDWATER MONITORS
MILL CREEK AGGREGATES PIT

BH92-8								
DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)
13-Jan-10	3.06	306.24	04-Apr-13	3.48	306.17	18-Oct-16	3.58	306.07
11-Feb-10	2.80	306.50	25-Apr-13	3.27	306.38	14-Nov-16	3.56	306.09
11-Mar-10	3.04	306.26	23-May-13	3.33	306.32	14-Dec-16	3.58	306.07
16-Apr-10	2.87	306.43	13-Jun-13	3.20	306.45	18-Jan-17	3.55	306.10
21-May-10	2.93	306.37	31-Jul-13	3.15	306.50	15-Feb-17	3.53	306.12
17-Jun-10	3.07	306.23	29-Aug-13	3.40	306.25	17-Mar-17	3.47	306.18
15-Jul-10	3.18	306.12	25-Sep-13	3.43	306.22	11-Apr-17	3.28	306.37
18-Aug-10	3.24	306.06	22-Oct-13	3.49	306.16	18-May-17	3.15	306.50
31-Aug-10	3.33	305.97	28-Nov-13	3.53	306.12	14-Jun-17	3.18	306.47
20-Oct-10	3.30	306.00	10-Dec-13	3.52	306.13	20-Jul-17	3.15	306.50
18-Nov-10	3.41	305.89	15-Jan-14	3.40	306.25	09-Aug-17	3.14	306.51
08-Dec-10	3.65	305.65	26-Feb-14	3.39	306.26	12-Sep-17	3.18	306.47
22-Dec-10	3.51	305.79	26-Mar-14	3.40	306.25	12-Oct-17	3.29	306.36
19-Jan-11	3.55	305.75	01-Apr-14	3.33	306.32	21-Nov-17	3.28	306.37
17-Feb-11	3.57	305.73	15-May-14	3.08	306.57	19-Dec-17	3.42	306.23
16-Mar-11	3.32	305.98	18-Jun-14	3.16	306.49	16-Jan-18	(F)	
13-Apr-11	3.25	306.05	29-Jul-14	3.16	306.49	26-Feb-18	3.22	306.43
21-Apr-11	3.19	306.11	25-Aug-14	3.20	306.45	26-Mar-18	3.27	306.38
26-May-11	2.74	306.56	18-Sep-14	3.15	306.50	24-Apr-18	3.07	306.58
16-Jun-11	2.94	306.36	17-Oct-14	3.26	306.39	18-May-18	3.09	306.56
14-Jul-11	3.07	306.23	27-Nov-14	3.32	306.33	12-Jun-18	3.14	306.51
11-Aug-11	3.23	306.07	15-Dec-14	3.39	306.26	27-Jul-18	3.26	306.39
17-Aug-11	3.34	305.96	21-Jan-15	3.40	306.25	22-Aug-18	3.29	306.36
14-Sep-11	3.39	305.91	18-Feb-15	3.42	306.23	12-Sep-18	3.40	306.25
27-Oct-11	3.31	305.99	25-Mar-15	3.39	306.26	30-Oct-18	3.48	306.17
14-Nov-11	3.35	305.95	06-Apr-15	3.35	306.30	21-Nov-18	3.46	306.19
14-Dec-11	3.35	305.95	20-May-15	3.32	306.33	20-Dec-18	3.48	306.17
22-Dec-11	3.09	306.21	23-Jun-15	3.19	306.46			
16-Feb-12	3.22	306.08	22-Jul-15	3.35	306.30			
29-Mar-12	3.17	306.13	25-Aug-15	3.35	306.30			
10-Apr-12	3.28	306.02	24-Sep-15	3.55	306.10			
29-May-12	3.35	305.95	29-Oct-15	3.56	306.09			
20-Jun-12	3.41	305.89	25-Nov-15	3.57	306.08			
24-Jul-12	3.59	305.71	10-Dec-15	3.52	306.13			
08-Aug-12	3.69	305.61	20-Jan-16	3.56	306.09			
21-Aug-12	3.66	305.64	29-Feb-16	3.51	306.14			
18-Sep-12	3.40	305.90	17-Mar-16	3.47	306.18			
23-Oct-12	3.74	305.91	30-Mar-16	3.43	306.22			
28-Nov-12	3.75	305.90	27-Apr-16	3.42	306.23			
06-Dec-12	3.74	305.91	30-May-16	3.36	306.29			
19-Dec-12	3.74	305.91	27-Jun-16	3.19	306.46			
16-Jan-13	3.63	306.02	28-Jul-16	3.47	306.18			
20-Feb-13	3.61	306.04	11-Aug-16	3.56	306.09			
21-Mar-13	3.49	306.16	21-Sep-16	3.53	306.12			

NOTES:
- · BTOP Below top of pipe
- · NA Not available
- · m ASL metres above sea level
- · (F) Frozen

TABLE B-1
WATER LEVEL DATA - GROUNDWATER MONITORS
MILL CREEK AGGREGATES PIT

BH92-12A

DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)
06-Jun-01	2.33	305.68	24-Jan-02	2.45	305.56	17-Sep-02	2.59	305.42
25-Jun-01	2.41	305.60	28-Jan-02	2.40	305.61	20-Sep-02	2.60	305.41
28-Jun-01	2.41	305.60	01-Feb-02	2.42	305.59	25-Sep-02	2.61	305.40
03-Jul-01	2.46	305.55	04-Feb-02	2.45	305.56	27-Sep-02	2.58	305.43
05-Jul-01	2.46	305.55	07-Feb-02	2.46	305.55	02-Oct-02	2.59	305.42
09-Jul-01	2.48	305.53	11-Feb-02	2.45	305.56	04-Oct-02	2.60	305.41
12-Jul-01	2.48	305.53	15-Feb-02	2.46	305.55	08-Oct-02	2.61	305.40
16-Jul-01	2.52	305.49	18-Feb-02	2.45	305.56	11-Oct-02	2.60	305.41
19-Jul-01	2.51	305.50	21-Feb-02	2.30	305.71	15-Oct-02	2.60	305.41
23-Jul-01	2.52	305.49	25-Feb-02	2.35	305.66	18-Oct-02	2.60	305.41
26-Jul-01	2.53	305.48	05-Mar-02	2.32	305.69	23-Oct-02	2.58	305.43
30-Jul-01	2.55	305.46	07-Mar-02	2.38	305.63	29-Oct-02	2.60	305.41
02-Aug-01	2.56	305.45	11-Mar-02	2.29	305.72	31-Oct-02	2.58	305.43
07-Aug-01	2.58	305.43	15-Mar-02	2.34	305.67	05-Nov-02	2.60	305.41
09-Aug-01	2.59	305.42	19-Mar-02	2.37	305.64	08-Nov-02	2.59	305.42
13-Aug-01	2.62	305.39	21-Mar-02	2.34	305.67	12-Nov-02	2.47	305.54
16-Aug-01	2.61	305.40	26-Mar-02	2.38	305.63	15-Nov-02	2.51	305.50
20-Aug-01	2.52	305.49	28-Mar-02	2.39	305.62	19-Nov-02	2.50	305.51
23-Aug-01	2.55	305.46	01-Apr-02	2.30	305.71	22-Nov-02	2.55	305.46
27-Aug-01	2.60	305.41	05-Apr-02	2.26	305.75	26-Nov-02	2.57	305.44
30-Aug-01	2.59	305.42	07-Apr-02	2.31	305.70	29-Nov-02	2.55	305.46
04-Sep-01	2.61	305.40	11-Apr-02	2.20	305.81	04-Dec-02	2.60	305.41
06-Sep-01	2.63	305.38	17-Apr-02	2.22	305.79	06-Dec-02	2.58	305.43
10-Sep-01	2.65	305.36	19-Apr-02	2.19	305.82	10-Dec-02	2.58	305.43
13-Sep-01	2.65	305.36	23-Apr-02	2.35	305.66	13-Dec-02	2.58	305.43
17-Sep-01	2.67	305.34	29-Apr-02	2.30	305.71	18-Dec-02	2.58	305.43
20-Sep-01	2.64	305.37	06-May-02	2.35	305.66	07-Jan-03	2.55	305.46
24-Sep-01	2.60	305.41	10-May-02	2.35	305.66	09-Jan-03	2.56	305.45
27-Sep-01	2.59	305.42	14-May-02	2.29	305.72	14-Jan-03	2.57	305.44
01-Oct-01	2.62	305.39	17-May-02	2.17	305.84	21-Jan-03	2.58	305.43
04-Oct-01	2.63	305.38	21-May-02	2.29	305.72	24-Jan-03	2.60	305.41
09-Oct-01	2.52	305.49	24-May-02	2.31	305.70	28-Jan-03	2.58	305.43
11-Oct-01	2.55	305.46	27-May-02	2.36	305.65	31-Jan-03	2.54	305.47
15-Oct-01	2.45	305.56	31-May-02	2.38	305.63	05-Feb-03	2.48	305.53
19-Oct-01	2.45	305.56	04-Jun-02	2.39	305.62	10-Feb-03	2.51	305.50
22-Oct-01	2.50	305.51	07-Jun-02	2.38	305.63	14-Feb-03	2.48	305.53
26-Oct-01	2.50	305.51	14-Jun-02	2.42	305.59	17-Feb-03	2.58	305.43
29-Oct-01	2.52	305.49	18-Jun-02	2.42	305.59	21-Feb-03	2.51	305.50
01-Nov-01	2.54	305.47	21-Jun-02	2.44	305.57	24-Feb-03	2.52	305.49
05-Nov-01	2.49	305.52	25-Jun-02	2.39	305.62	13-Mar-03	2.43	305.58
08-Nov-01	2.52	305.49	02-Jul-02	2.40	305.61	10-Apr-03	2.33	305.68
12-Nov-01	2.54	305.47	05-Jul-02	2.41	305.60	28-Apr-03	2.31	305.70
15-Nov-01	2.53	305.48	08-Jul-02	2.42	305.59	5-May-03	2.31	305.70
19-Nov-01	2.56	305.45	11-Jul-02	2.44	305.57	7-May-03	2.39	305.62
22-Nov-01	2.56	305.45	15-Jul-02	2.50	305.51	8-May-03	2.31	305.70
26-Nov-01	2.47	305.54	18-Jul-02	2.48	305.53	12-May-03	2.38	305.63
29-Nov-01	2.47	305.54	23-Jul-02	2.49	305.52	16-May-03	2.38	305.63
03-Dec-01	2.35	305.66	26-Jul-02	2.46	305.55	23-May-03	2.38	305.63
06-Dec-01	2.42	305.59	30-Jul-02	2.45	305.56	26-May-03	2.38	305.63
10-Dec-01	2.47	305.54	05-Aug-02	2.55	305.46	29-May-03	2.38	305.63
13-Dec-01	2.48	305.53	09-Aug-02	2.55	305.46	02-Jun-03	2.39	305.62
17-Dec-01	2.45	305.56	16-Aug-02	2.59	305.42	05-Jun-03	2.40	305.61
20-Dec-01	2.41	305.60	21-Aug-02	2.60	305.41	09-Jun-03	2.43	305.58
02-Jan-02	2.49	305.52	23-Aug-02	2.61	305.40	13-Jun-03	2.47	305.54
07-Jan-02	2.39	305.62	28-Aug-02	2.62	305.39	17-Jun-03	2.50	305.51
10-Jan-02	2.49	305.52	30-Aug-02	2.61	305.40	19-Jun-03	2.51	305.50
14-Jan-02	2.25	305.76	04-Sep-02	2.62	305.39	23-Jun-03	2.56	305.45
17-Jan-02	2.49	305.52	10-Sep-02	2.64	305.37	26-Jun-03	2.57	305.44
21-Jan-02	2.50	305.51	12-Sep-02	2.63	305.38	03-Jul-03	2.61	305.40

NOTES:
- · BTOP Below top of pipe
- · NA Not available
- · m ASL metres above sea level
- · (F) Frozen

TABLE B-1
WATER LEVEL DATA - GROUNDWATER MONITORS
MILL CREEK AGGREGATES PIT

BH92-12A								
DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)
07-Jul-03	2.58	305.43	8-Mar-04	2.04	305.84	27-Sep-04	2.34	305.54
10-Jul-03	2.60	305.41	11-Mar-04	2.11	305.77	30-Sep-04	2.31	305.57
17-Jul-03	2.62	305.39	15-Mar-04	2.21	305.67	4-Oct-04	2.37	305.51
22-Jul-03	2.61	305.40	18-Mar-04	2.22	305.66	7-Oct-04	2.40	305.48
25-Jul-03	2.60	305.41	22-Mar-04	2.20	305.68	11-Oct-04	2.42	305.46
28-Jul-03	2.62	305.39	25-Mar-04	2.19	305.69	14-Oct-04	2.43	305.45
31-Jul-03	2.59	305.42	1-Apr-04	1.97	305.91	18-Oct-04	2.34	305.54
07-Aug-03	2.60	305.41	5-Apr-04	2.07	305.81	21-Oct-04	2.37	305.51
11-Aug-03	2.62	305.39	7-Apr-04	2.02	305.86	25-Oct-04	2.37	305.51
18-Aug-03	2.61	305.40	8-Apr-04	2.12	305.76	28-Oct-04	2.38	305.50
21-Aug-03	2.65	305.36	15-Apr-04	2.16	305.72	1-Nov-04	2.39	305.49
25-Aug-03	2.60	305.41	22-Apr-04	2.03	305.85	4-Nov-04	2.26	305.62
26-Aug-03	2.65	305.36	26-Apr-04	2.08	305.80	8-Nov-04	2.29	305.59
29-Aug-03	2.66	305.35	3-May-04	2.03	305.85	11-Nov-04	2.32	305.56
02-Sep-03	2.69	305.32	10-May-04	1.99	305.89	15-Nov-04	2.36	305.52
04-Sep-03	2.70	305.31	13-May-04	2.05	305.83	18-Nov-04	2.38	305.50
08-Sep-03	2.69	305.32	17-May-04	2.13	305.75	22-Nov-04	2.43	305.45
11-Sep-03	2.70	305.31	20-May-04	2.15	305.73	25-Nov-04	2.43	305.45
15-Sep-03	2.68	305.33	25-May-04	2.03	305.85	29-Nov-04	2.48	305.40
18-Sep-03	2.69	305.32	27-May-04	2.08	305.80	2-Dec-04	2.47	305.41
22-Sep-03	2.65	305.36	31-May-04	2.13	305.75	6-Dec-04	2.52	305.36
25-Sep-03	2.51	305.50	3-Jun-04	2.12	305.76	9-Dec-04	2.50	305.38
26-Sep-03	2.47	305.41	7-Jun-04	2.13	305.75	13-Dec-04	2.47	305.41
29-Sep-03	2.37	305.51	10-Jun-04	2.15	305.73	15-Dec-04	2.30	305.58
2-Oct-03	2.43	305.45	14-Jun-04	2.17	305.71	16-Dec-04	2.30	305.58
6-Oct-03	2.45	305.43	17-Jun-04	2.17	305.71	20-Dec-04	2.37	305.51
9-Oct-03	2.47	305.41	21-Jun-04	2.08	305.80	23-Dec-04	2.41	305.47
13-Oct-03	2.50	305.38	24-Jun-04	2.15	305.73	20-Jan-05	2.27	305.61
16-Oct-03	2.36	305.52	28-Jun-04	2.22	305.66	25-Feb-05	2.21	305.67
20-Oct-03	2.43	305.45	5-Jul-04	2.26	305.62	24-Mar-05	2.22	305.66
23-Oct-03	2.42	305.46	8-Jul-04	2.10	305.78	18-Apr-05	2.17	305.71
27-Oct-03	2.40	305.48	12-Jul-04	2.15	305.73	29-Apr-05	2.18	305.70
30-Oct-03	2.43	305.45	15-Jul-04	2.11	305.77	26-May-05	2.17	305.71
3-Nov-03	2.36	305.52	19-Jul-04	2.16	305.72	23-Jun-05	2.23	305.65
6-Nov-03	2.37	305.51	22-Jul-04	2.17	305.71	25-Jul-05	2.30	305.58
10-Nov-03	2.40	305.48	26-Jul-04	2.21	305.67	17-Aug-05	2.32	305.56
13-Nov-03	2.38	305.50	29-Jul-04	2.18	305.70	25-Aug-05	2.31	305.57
17-Nov-03	2.36	305.52	2-Aug-04	2.14	305.74	30-Sep-05	2.26	305.62
20-Nov-03	2.35	305.53	4-Aug-04	2.23	305.65	27-Oct-05	2.37	305.51
24-Nov-03	2.33	305.55	5-Aug-04	2.18	305.70	28-Nov-05	2.32	305.56
1-Dec-03	2.30	305.58	9-Aug-04	2.22	305.66	07-Dec-05	2.32	305.56
8-Dec-03	2.38	305.50	12-Aug-04	2.23	305.65	19-Dec-05	2.35	305.53
11-Dec-03	2.35	305.53	16-Aug-04	2.25	305.63	26-Jan-06	2.24	305.64
15-Dec-03	2.37	305.51	19-Aug-04	2.26	305.62	15-Feb-06	2.34	305.54
8-Jan-04	2.32	305.56	23-Aug-04	2.30	305.58	30-Mar-06	2.17	305.71
12-Jan-04	2.44	305.44	26-Aug-04	2.30	305.58	27-Apr-06	2.08	305.80
15-Jan-04	2.35	305.53	30-Aug-04	2.30	305.58	28-Apr-06	2.16	305.72
19-Jan-04	2.35	305.53	2-Sep-04	2.22	305.66	15-May-06	2.18	305.70
26-Jan-04	2.36	305.52	6-Sep-04	2.27	305.61	15-Jun-06	2.31	305.57
5-Feb-04	2.34	305.54	9-Sep-04	2.19	305.69	15-Jul-06	2.22	305.66
9-Feb-04	2.35	305.53	13-Sep-04	2.25	305.63	24-Aug-06	2.33	305.55
16-Feb-04	2.38	305.50	16-Sep-04	2.26	305.62	15-Oct-06	2.05	305.83
19-Feb-04	2.34	305.54	20-Sep-04	2.31	305.57	15-Nov-06	2.15	305.73
5-Mar-04	2.07	305.81	23-Sep-04	2.33	305.55	07-Dec-06	2.13	305.75

NOTES:
- · BTOP Below top of pipe
- · NA Not available
- · m ASL metres above sea level
- · (F) Frozen

TABLE B-1
WATER LEVEL DATA - GROUNDWATER MONITORS
MILL CREEK AGGREGATES PIT

BH92-12A								
DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)
17-Jan-07	2.13	305.76	31-Aug-10	2.47	305.41	15-Jan-14	2.36	305.52
22-Feb-07	2.17	305.72	28-Sep-10	2.47	305.41	26-Feb-14	2.45	305.43
30-Mar-07	2.04	305.84	20-Oct-10	2.49	305.39	26-Mar-14	2.43	305.45
26-Apr-07	2.03	305.85	18-Nov-10	2.41	305.47	01-Apr-14	2.26	305.62
16-May-07	2.05	305.83	08-Dec-10	2.43	305.45	15-May-14	2.24	305.64
26-Jun-07	2.18	305.70	22-Dec-10	2.48	305.40	18-Jun-14	2.36	305.52
25-Jul-07	2.29	305.59	19-Jan-11	2.52	305.36	29-Jul-14	2.27	305.61
07-Aug-07	2.35	305.53	17-Feb-11	2.43	305.45	25-Aug-14	2.37	305.51
21-Aug-07	2.35	305.53	16-Mar-11	2.24	305.64	18-Sep-14	2.61	305.27
21-Sep-07	2.42	305.46	13-Apr-11	2.29	305.59	17-Oct-14	2.36	305.52
17-Oct-07	2.37	305.51	21-Apr-11	2.17	305.71	27-Nov-14	2.30	305.58
15-Nov-07	2.40	305.48	26-May-11	2.10	305.78	15-Dec-14	2.43	305.45
29-Nov-07	2.33	305.55	16-Jun-11	2.19	305.69	21-Jan-15	2.44	305.44
10-Dec-07	2.37	305.51	14-Jul-11	2.33	305.55	18-Feb-15	2.49	305.39
31-Jan-08	2.27	305.61	11-Aug-11	2.40	305.48	25-Mar-15	2.42	305.46
29-Feb-08	2.27	305.61	17-Aug-11	2.44	305.44	06-Apr-15	2.36	305.52
31-Mar-08	2.06	305.82	14-Sep-11	2.47	305.41	20-May-15	2.39	305.49
28-Apr-08	2.13	305.75	27-Oct-11	2.34	305.54	23-Jun-15	2.24	305.64
28-May-08	2.15	305.73	14-Nov-11	2.41	305.47	22-Jul-15	2.24	305.64
25-Jun-08	2.09	305.79	14-Dec-11	2.34	305.54	25-Aug-15	2.44	305.44
16-Jul-08	2.11	305.77	22-Dec-11	2.29	305.59	24-Sep-15	2.50	305.38
20-Aug-08	2.14	305.74	16-Jan-12	2.32	305.56	29-Oct-15	2.31	305.57
26-Aug-08	2.14	305.74	16-Feb-12	2.36	305.52	25-Nov-15	2.50	305.38
19-Sep-08	1.91	305.97	29-Mar-12	2.31	305.57	10-Dec-15	2.55	305.33
10-Oct-08	2.11	305.77	10-Apr-12	2.38	305.50	20-Jan-16	2.50	305.38
05-Nov-08	2.15	305.73	30-Apr-12	2.34	305.54	29-Feb-16	2.56	305.32
03-Dec-08	2.09	305.79	29-May-12	2.41	305.47	17-Mar-16	2.33	305.55
17-Dec-08	2.09	305.79	20-Jun-12	2.48	305.40	30-Mar-16	2.28	305.60
06-Jan-09	2.10	305.78	24-Jul-12	2.57	305.31	27-Apr-16	2.28	305.60
27-Feb-09	2.11	305.77	08-Aug-12	2.63	305.25	30-May-16	2.38	305.50
11-Mar-09	1.79	306.09	21-Aug-12	2.53	305.35	27-Jun-16	2.34	305.54
14-Apr-09	2.01	305.87	18-Sep-12	2.55	305.33	28-Jul-16	2.52	305.36
21-May-09	2.06	305.82	23-Oct-12	2.55	305.33	11-Aug-16	2.57	305.31
16-Jun-09	2.09	305.79	28-Nov-12	2.54	305.34	21-Sep-16	2.53	305.35
31-Jul-09	2.00	305.88	06-Dec-12	2.55	305.33	18-Oct-16	2.57	305.31
25-Aug-09	2.00	305.88	19-Dec-12	2.57	305.31	14-Nov-16	2.53	305.35
28-Aug-09	2.05	305.83	16-Jan-13	2.40	305.48	14-Dec-16	2.56	305.32
28-Sep-09	2.13	305.75	20-Feb-13	2.41	305.47	18-Jan-17	2.41	305.47
14-Oct-09	2.12	305.76	21-Mar-13	2.44	305.44	15-Feb-17	2.48	305.40
11-Nov-09	2.18	305.70	04-Apr-13	2.43	305.45	17-Mar-17	2.44	305.44
11-Dec-09	2.18	305.70	25-Apr-13	2.32	305.56	11-Apr-17	2.26	305.62
16-Dec-09	2.15	305.73	23-May-13	2.40	305.48	18-May-17	2.27	305.61
13-Jan-10	2.30	305.58	13-Jun-13	2.32	305.56	14-Jun-17	2.33	305.55
11-Feb-10	2.35	305.53	31-Jul-13	2.31	305.57	20-Jul-17	2.31	305.57
11-Mar-10	2.25	305.63	29-Aug-13	2.46	305.42	09-Aug-17	2.35	305.53
16-Apr-10	2.08	305.80	25-Sep-13	2.44	305.44	12-Sep-17	2.34	305.54
21-May-10	2.25	305.63	22-Oct-13	2.35	305.53	12-Oct-17	2.38	305.50
17-Jun-10	2.22	305.66	28-Nov-13	2.48	305.40	21-Nov-17	2.34	305.54
15-Jul-10	2.42	305.46	10-Dec-13	2.50	305.38	19-Dec-17	2.47	305.41
18-Aug-10	2.44	305.44						

NOTES:
- BTOP — Below top of pipe
- NA — Not available
- m ASL — metres above sea level
- (F) — Frozen

TABLE B-1
WATER LEVEL DATA - GROUNDWATER MONITORS
MILL CREEK AGGREGATES PIT

BH92-12A								
DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)
16-Jan-18	2.37	305.51						
26-Feb-18	2.26	305.62						
26-Mar-18	2.45	305.43						
24-Apr-18	2.15	305.73						
18-May-18	2.28	305.60						
12-Jun-18	2.39	305.49						
27-Jul-18	2.44	305.44						
22-Aug-18	2.38	305.50						
12-Sep-18	2.44	305.44						
30-Oct-18	2.50	305.38						
21-Nov-18	2.47	305.41						
20-Dec-18	2.48	305.40						

NOTES:
- BTOP — Below top of pipe
- NA — Not available
- m ASL — metres above sea level
- (F) — Frozen

TABLE B-1
WATER LEVEL DATA - GROUNDWATER MONITORS
MILL CREEK AGGREGATES PIT

BH92-13

DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)
13-Mar-92	3.69	306.31	09-Nov-99	4.41	305.59	29-Apr-05	3.58	306.42
15-Apr-92	3.79	306.21	01-Mar-00	4.16	305.84	26-May-05	3.45	306.55
22-May-92	3.61	306.39	19-May-00	4.08	305.92	23-Jun-05	3.52	306.48
29-Jun-92	3.82	306.18	06-Jul-00	3.96	306.04	25-Jul-05	3.50	306.50
20-Jul-92	3.69	306.31	14-Sep-00	4.14	305.86	17-Aug-05	3.67	306.33
26-Aug-92	NA		11-Oct-00	4.14	305.86	25-Aug-05	3.69	306.31
15-Sep-92	3.74	306.26	07-Nov-00	4.32	305.68	30-Sep-05	3.74	306.26
28-Oct-92	NA		12-Dec-00	4.19	305.81	27-Oct-05	3.85	306.15
26-Nov-92	NA		11-Jan-01	4.11	305.89	28-Nov-05	3.84	306.16
14-Dec-92	3.33	306.67	06-Feb-01	4.06	305.94	07-Dec-05	3.82	306.18
19-Jan-93	NA		12-Mar-01	3.79	306.21	19-Dec-05	3.85	306.15
05-Mar-93	NA		09-Apr-01	3.72	306.28	26-Jan-06	3.58	306.42
31-Mar-93	2.73	307.27	03-May-01	3.84	306.16	15-Feb-06	3.57	306.43
19-Apr-93	2.93	307.07	06-Jun-01	3.87	306.13	30-Mar-06	3.45	306.55
27-May-93	NA		11-Jul-01	4.05	305.95	27-Apr-06	3.41	306.59
22-Jun-93	3.13	306.87	01-Aug-01	4.21	305.79	28-Apr-06	3.42	306.58
15-Jul-93	3.31	306.69	05-Sep-01	4.38	305.62	15-Jun-06	3.50	306.50
18-Aug-93	3.45	306.55	02-Oct-01	4.44	305.56	15-Jul-06	3.48	306.52
20-Sep-93	3.62	306.38	06-Nov-01	4.35	305.65	24-Aug-06	3.64	306.36
19-Oct-93	3.65	306.35	06-Dec-01	4.23	305.77	15-Sep-06	3.64	306.36
17-Nov-93	3.79	306.21	04-Jan-02	NA		15-Oct-06	3.54	306.46
07-Dec-93	3.62	306.38	07-Feb-02	NA		15-Nov-06	3.45	306.55
18-Jan-94	3.83	306.17	07-Mar-02	3.93	306.07	17-Jan-07	3.34	306.66
23-Feb-94	3.57	306.43	07-Apr-02	3.82	306.18	26-Apr-07	3.18	306.82
24-Mar-94	3.40	306.60	06-May-02	3.97	306.03	16-May-07	3.16	306.84
19-Apr-94	3.36	306.64	14-Jun-02	4.00	306.00	26-Jun-07	3.30	306.70
25-May-94	3.33	306.67	11-Jul-02	4.00	306.00	25-Jul-07	3.51	306.49
23-Jun-94	3.56	306.44	09-Aug-02	4.14	305.86	07-Aug-07	3.57	306.43
20-Jul-94	3.68	306.32	04-Sep-02	4.30	305.70	21-Aug-07	3.68	306.32
25-Aug-94	3.77	306.23	11-Oct-02	4.34	305.66	21-Sep-07	3.83	306.17
21-Sep-94	3.90	306.10	21-Nov-02	Dry		17-Oct-07	3.82	306.18
19-Oct-94	3.98	306.02	13-Dec-02	Dry		29-Nov-07	3.87	306.13
24-Nov-94	3.99	306.01	10-Apr-03	4.00	306.00	10-Dec-07	3.87	306.13
21-Dec-94	3.89	306.11	07-May-03	3.99	306.01	31-Jan-08	3.68	306.32
25-Jan-95	3.25	306.75	15-May-03	4.02	305.98	29-Feb-08	3.58	306.42
16-Feb-95	3.60	306.40	17-Jul-03	4.12	305.88	31-Mar-08	3.32	306.68
24-Mar-95	3.44	306.56	21-Aug-03	4.30	305.70	28-Apr-08	3.30	306.70
16-May-95	3.40	306.60	26-Aug-03	4.20	305.80	28-May-08	3.25	306.75
13-Jun-95	3.45	306.55	25-Sep-03	4.23	305.77	25-Jun-08	3.22	306.78
20-Jul-95	3.67	306.33	27-Oct-03	4.26	305.74	16-Jul-08	3.21	306.79
15-Aug-95	3.65	306.35	01-Dec-03	4.06	305.94	20-Aug-08	3.20	306.80
18-Oct-95	3.93	306.07	11-Dec-03	4.07	305.93	26-Aug-08	3.21	306.79
22-Nov-95	3.73	306.27	16-Dec-03	4.13	305.87	19-Sep-08	3.14	306.86
26-Mar-96	3.36	306.64	19-Jan-04	4.20	305.80	10-Oct-08	3.27	306.73
31-May-96	2.95	307.05	18-Feb-04	3.94	306.06	05-Nov-08	3.27	306.73
29-Jul-96	3.08	306.92	25-Mar-04	3.70	306.30	17-Dec-08	3.32	306.68
30-Sep-96	3.19	306.81	07-Apr-04	3.57	306.43	06-Jan-09	3.23	306.77
07-Nov-96	3.34	306.66	22-Apr-04	3.50	306.50	27-Feb-09	3.12	306.88
26-Mar-97	2.79	307.21	20-May-04	3.41	306.59	11-Mar-09	3.01	306.99
26-May-97	2.87	307.13	24-Jun-04	3.42	306.58	14-Apr-09	3.00	307.00
31-Jul-97	3.34	306.66	23-Jul-04	3.52	306.48	21-May-09	2.99	307.01
07-Nov-97	3.55	306.45	04-Aug-04	3.55	306.45	16-Jun-09	3.04	306.96
16-Dec-97	3.67	306.33	26-Aug-04	3.69	306.31	31-Jul-09	3.09	306.91
27-Mar-98	3.27	306.73	28-Sep-04	3.77	306.23	25-Aug-09	3.02	306.98
31-May-98	3.52	306.48	18-Oct-04	3.87	306.13	28-Aug-09	3.05	306.95
31-Jul-98	3.75	306.25	16-Nov-04	3.92	306.08	28-Sep-09	3.24	306.76
30-Sep-98	4.03	305.97	15-Dec-04	3.87	306.13	14-Oct-09	3.26	306.74
30-Dec-98	4.12	305.88	16-Dec-04	3.86	306.14	11-Nov-09	3.35	306.65
31-Mar-99	3.73	306.27	20-Jan-05	3.75	306.25	11-Dec-09	3.39	306.61
20-May-99	4.22	305.78	25-Feb-05	3.70	306.30	16-Dec-09	3.39	306.61
16-Jul-99	4.46	305.54	24-Mar-05	3.65	306.35			
08-Sep-99	4.54	305.46	18-Apr-05	3.49	306.51			

NOTES:
- · BTOP Below top of pipe
- · NA Not available
- · m ASL metres above sea level
- · (F) Frozen

TABLE B-1
WATER LEVEL DATA - GROUNDWATER MONITORS
MILL CREEK AGGREGATES PIT

BH92-13								
DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)
13-Jan-10	3.48	306.52	16-Jan-13	4.10	305.90	27-Jun-16	4.00	306.00
11-Feb-10	3.30	306.70	20-Feb-13	4.08	305.92	28-Jul-16	3.99	306.01
11-Mar-10	3.52	306.48	21-Mar-13	3.95	306.05	11-Aug-16	4.10	305.90
16-Apr-10	3.32	306.68	04-Apr-13	3.92	306.08	21-Sep-16	4.10	305.90
21-May-10	3.46	306.54	25-Apr-13	3.70	306.30	18-Oct-16	3.96	306.04
17-Jun-10	3.49	306.51	23-May-13	3.76	306.24	14-Nov-16	4.13	305.87
15-Jul-10	3.64	306.36	13-Jun-13	3.62	306.38	14-Dec-16	3.92	306.08
18-Aug-10	3.70	306.30	31-Jul-13	3.58	306.42	18-Jan-17	4.05	305.95
31-Aug-10	3.79	306.21	29-Aug-13	3.82	306.18	15-Feb-17	4.11	305.89
28-Sep-10	3.90	306.10	25-Sep-13	3.91	306.09	17-Mar-17	4.01	305.99
20-Oct-10	3.94	306.06	22-Oct-13	3.98	306.02	11-Apr-17	3.83	306.17
18-Nov-10	3.97	306.03	28-Nov-13	4.05	305.95	18-May-17	3.66	306.34
08-Dec-10	3.94	306.06	10-Dec-13	4.03	305.97	14-Jun-17	3.67	306.33
22-Dec-10	4.01	305.99	15-Jan-14	3.92	306.08	20-Jul-17	3.70	306.30
19-Jan-11	4.03	305.97	26-Feb-14	3.93	306.07	09-Aug-17	3.69	306.31
17-Feb-11	3.98	306.02	26-Mar-14	3.91	306.09	12-Sep-17	3.17	306.83
16-Mar-11	3.70	306.30	01-Apr-14	3.88	306.12	12-Oct-17	3.83	306.17
13-Apr-11	3.70	306.30	15-May-14	3.51	306.49	21-Nov-17	3.82	306.18
21-Apr-11	3.53	306.47	18-Jun-14	3.62	306.38	19-Dec-17	3.95	306.05
26-May-11	3.35	306.65	29-Jul-14	3.74	306.26	16-Jan-18	3.85	306.15
16-Jun-11	3.34	306.66	25-Aug-14	3.87	306.13	26-Feb-18	3.73	306.27
14-Jul-11	3.61	306.39	18-Sep-14	3.82	306.18	26-Mar-18	3.76	306.24
11-Aug-11	3.67	306.33	17-Oct-14	3.96	306.04	24-Apr-18	3.59	306.41
17-Aug-11	3.73	306.27	27-Nov-14	3.83	306.17	18-May-18	3.61	306.39
14-Sep-11	3.85	306.15	15-Dec-14	3.99	306.01	12-Jun-18	3.65	306.35
27-Oct-11	3.79	306.21	21-Jan-15	3.95	306.05	27-Jul-18	3.76	306.24
14-Nov-11	3.86	306.14	18-Feb-15	3.96	306.04	22-Aug-18	3.82	306.18
22-Dec-11	3.67	306.33	25-Mar-15	3.92	306.08	12-Sep-18	3.93	306.07
16-Jan-12	3.67	306.33	06-Apr-15	3.90	306.10	30-Oct-18	3.99	306.01
16-Feb-12	3.69	306.31	20-May-15	3.90	306.10	21-Nov-18	3.97	306.03
29-Mar-12	3.76	306.24	23-Jun-15	3.94	306.06	20-Dec-18	4.01	305.99
10-Apr-12	3.68	306.32	22-Jul-15	3.99	306.01			
30-Apr-12	3.89	306.11	25-Aug-15	4.02	305.98			
29-May-12	3.96	306.04	24-Sep-15	4.02	305.98			
20-Jun-12	4.01	305.99	29-Oct-15	4.15	305.85			
24-Jul-12	4.07	305.93	25-Nov-15	4.16	305.84			
08-Aug-12	4.15	305.85	10-Dec-15	4.07	305.93			
21-Aug-12	4.12	305.88	20-Jan-16	3.96	306.04			
18-Sep-12	4.20	305.80	29-Feb-16	3.96	306.04			
23-Oct-12	4.22	305.78	17-Mar-16	3.93	306.07			
28-Nov-12	4.22	305.78	30-Mar-16	3.95	306.05			
06-Dec-12	4.25	305.75	27-Apr-16	3.89	306.11			
19-Dec-12	4.24	305.76	30-May-16	3.98	306.02			

NOTES:
- BTOP Below top of pipe
- NA Not available
- m ASL metres above sea level
- (F) Frozen

TABLE B-1
WATER LEVEL DATA - GROUNDWATER MONITORS
MILL CREEK AGGREGATES PIT

BH92-14								
DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)
13-Mar-92	3.54	306.26	20-May-99	3.31	306.49	17-Aug-05	3.11	306.69
15-Apr-92	3.63	306.17	16-Jul-99	3.69	306.11	25-Aug-05	3.12	306.68
22-May-92	3.45	306.35	08-Sep-99	3.70	306.10	30-Sep-05	3.19	306.61
29-Jun-92	3.75	306.05	10-Nov-99	3.81	305.99	27-Oct-05	3.25	306.55
20-Jul-92	3.60	306.20	07-Mar-00	3.16	306.64	28-Nov-05	3.29	306.51
26-Aug-92	NA		19-May-00	3.42	306.38	07-Dec-05	3.22	306.58
15-Sep-92	3.17	306.63	06-Jul-00	3.33	306.47	19-Dec-05	3.28	306.52
28-Oct-92	NA		14-Sep-00	3.55	306.25	26-Jan-06	3.10	306.70
26-Nov-92	NA		11-Oct-00	3.56	306.24	15-Feb-06	3.10	306.70
14-Dec-92	2.77	307.03	07-Nov-00	3.73	306.07	30-Mar-06	2.89	306.91
19-Jan-93	NA		12-Dec-00	3.63	306.17	27-Apr-06	2.85	306.95
05-Mar-93	NA		11-Jan-01	3.55	306.25	28-Apr-06	2.85	306.95
31-Mar-93	NA		07-Feb-01	3.51	306.29	15-May-06	2.82	306.98
19-Apr-93	2.39	307.41	12-Mar-01	3.34	306.46	15-Jul-06	2.91	306.89
27-May-93	NA		09-Apr-01	3.14	306.66	24-Aug-06	3.06	306.74
22-Jun-93	2.59	307.21	03-May-01	3.25	306.55	15-Sep-06	3.04	306.76
15-Jul-93	2.76	307.04	06-Jun-01	3.26	306.54	15-Nov-06	2.88	306.92
18-Aug-93	2.90	306.90	11-Jul-01	3.47	306.33	07-Dec-06	2.88	306.92
20-Sep-93	3.07	306.73	01-Aug-01	3.61	306.19	17-Jan-07	2.79	307.01
19-Oct-93	3.06	306.74	05-Sep-01	3.79	306.01	26-Apr-07	2.64	307.16
17-Nov-93	3.21	306.59	02-Oct-01	3.85	305.95	25-Jul-07	2.95	306.85
07-Dec-93	3.05	306.75	06-Dec-01	3.60	306.20	07-Aug-07	3.04	306.76
18-Jan-94	3.27	306.53	04-Jan-02	3.57	306.23	21-Aug-07	3.08	306.72
23-Feb-94	2.99	306.81	07-Feb-02	3.49	306.31	17-Oct-07	3.22	306.58
24-Mar-94	2.81	306.99	07-Mar-02	3.35	306.45	29-Nov-07	3.29	306.51
19-Apr-94	2.79	307.01	07-Apr-02	3.25	306.55	10-Dec-07	3.29	306.51
25-May-94	2.77	307.03	06-May-02	3.37	306.43	31-Jan-08	3.09	306.71
23-Jun-94	3.01	306.79	14-Jun-02	3.37	306.43	31-Mar-08	2.70	307.10
20-Jul-94	3.11	306.69	11-Jul-02	3.41	306.39	28-Apr-08	2.72	307.08
25-Aug-94	3.22	306.58	09-Aug-02	3.56	306.24	28-May-08	2.67	307.13
21-Sep-94	3.35	306.45	04-Sep-02	3.72	306.08	25-Jun-08	2.68	307.12
19-Oct-94	3.41	306.39	11-Oct-02	3.75	306.05	16-Jul-08	2.57	307.23
24-Nov-94	3.42	306.38	21-Nov-02	Dry		20-Aug-08	2.54	307.26
21-Dec-94	3.32	306.48	13-Dec-02	Dry		26-Aug-08	2.66	307.14
25-Jan-95	2.68	307.12	07-May-03	3.40	306.40	19-Sep-08	2.56	307.24
16-Feb-95	3.02	306.78	26-Aug-03	3.50	306.30	10-Oct-08	2.71	307.09
24-Mar-95	2.88	306.92	11-Dec-03	3.51	306.29	05-Nov-08	2.70	307.10
16-May-95	2.80	307.00	18-Feb-04	3.30	306.50	22-Dec-08	2.76	307.04
13-Jun-95	2.90	306.90	25-Mar-04	3.11	306.69	06-Jan-09	2.66	307.14
20-Jul-95	3.15	306.65	07-Apr-04	3.00	306.80	27-Feb-09	2.57	307.23
15-Aug-95	3.12	306.68	22-Apr-04	2.92	306.88	11-Mar-09	2.44	307.36
18-Oct-95	3.38	306.42	20-May-04	2.86	306.94	14-Apr-09	2.46	307.34
22-Nov-95	3.15	306.65	24-Jun-04	2.89	306.91	21-May-09	2.45	307.35
26-Mar-96	2.80	307.00	23-Jul-04	2.98	306.82	16-Jun-09	2.51	307.29
31-May-96	2.43	307.37	04-Aug-04	3.05	306.75	31-Jul-09	2.53	307.27
29-Jul-96	2.58	307.22	26-Aug-04	3.14	306.66	25-Aug-09	2.48	307.32
30-Sep-96	2.62	307.18	28-Sep-04	3.22	306.58	28-Aug-09	2.52	307.28
07-Nov-96	2.79	307.01	18-Oct-04	3.28	306.52	28-Sep-09	2.67	307.13
26-Mar-97	2.26	307.54	16-Nov-04	3.32	306.48	14-Oct-09	2.69	307.11
26-May-97	2.35	307.45	15-Dec-04	3.28	306.52	11-Nov-09	2.79	307.01
31-Jul-97	2.81	306.99	16-Dec-04	3.28	306.52	11-Dec-09	2.82	306.98
07-Nov-97	2.99	306.81	20-Jan-05	3.20	306.60	16-Dec-09	2.82	306.98
16-Dec-97	3.11	306.69	25-Feb-05	3.17	306.63	13-Jan-10	2.92	306.88
27-Mar-98	2.71	307.09	24-Mar-05	3.15	306.65	11-Feb-10	2.99	306.81
31-May-98	2.98	306.82	18-Apr-05	2.96	306.84	11-Mar-10	2.93	306.87
31-Jul-98	3.21	306.59	29-Apr-05	3.08	306.72	16-Apr-10	2.76	307.04
30-Sep-98	3.48	306.32	26-May-05	2.91	306.89	21-May-10	2.91	306.89
30-Dec-98	3.56	306.24	23-Jun-05	3.00	306.80	17-Jun-10	2.94	306.86
31-Mar-99	3.17	306.63	25-Jul-05	3.03	306.77	15-Jul-10	3.06	306.74

NOTES:
- · BTOP Below top of pipe
- · NA Not available
- · m ASL metres above sea level
- · (F) Frozen

TABLE B-1
WATER LEVEL DATA - GROUNDWATER MONITORS
MILL CREEK AGGREGATES PIT

BH92-14								
DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)
18-Aug-10	3.19	306.61	04-Apr-13	3.40	306.40			
31-Aug-10	3.28	306.52	25-Apr-13	3.20	306.60			
28-Sep-10	3.38	306.42	23-May-13	3.19	306.61			
20-Oct-10	3.40	306.40	13-Jun-13	3.15	306.65			
18-Nov-10	3.41	306.39	31-Jul-13	3.13	306.67			
08-Dec-10	3.40	306.40	29-Aug-13	3.35	306.45			
22-Dec-10	3.32	306.48	25-Sep-13	3.47	306.33			
19-Jan-11	3.48	306.32	22-Oct-13	3.51	306.29			
17-Feb-11	3.39	306.41	28-Nov-13	3.55	306.25			
16-Mar-11	3.44	306.36	10-Dec-13	3.53	306.27			
13-Apr-11	3.15	306.65	15-Jan-14	3.42	306.38			
21-Apr-11	3.07	306.73	26-Feb-14	3.39	306.41			
26-May-11	2.77	307.03	26-Mar-14	3.41	306.39			
16-Jun-11	2.84	306.96	01-Apr-14	3.38	306.42			
14-Jul-11	3.00	306.80	15-May-14	3.51	306.29			
11-Aug-11	3.15	306.65						
17-Aug-11	3.20	306.60		Decommissioned				
14-Sep-11	3.31	306.49						
27-Oct-11	3.22	306.58						
14-Nov-11	3.29	306.51						
22-Dec-11	3.11	306.69						
16-Jan-12	3.11	306.69						
16-Feb-12	3.12	306.68						
29-Mar-12	3.15	306.65						
10-Apr-12	3.13	306.67						
30-Apr-12	3.14	306.66						
29-May-12	3.22	306.58						
20-Jun-12	3.27	306.53						
24-Jul-12	3.53	306.27						
08-Aug-12	3.61	306.19						
21-Aug-12	3.59	306.21						
18-Sep-12	3.69	306.11						
23-Oct-12	3.69	306.11						
28-Nov-12	3.68	306.12						
06-Dec-12	3.70	306.10						
19-Dec-12	3.69	306.11						
16-Jan-13	3.56	306.24						
20-Feb-13	3.54	306.26						
21-Mar-13	3.41	306.39						

NOTES:
- · BTOP — Below top of pipe
- · NA — Not available
- · m ASL — metres above sea level
- · (F) — Frozen

TABLE B-1
WATER LEVEL DATA - GROUNDWATER MONITORS
MILL CREEK AGGREGATES PIT

BH92-15

DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)
13-Mar-92	2.93	306.17	10-Nov-99	3.40	305.70	18-Apr-05	2.60	306.50
15-Apr-92	3.03	306.07	07-Mar-00	3.18	305.92	29-Apr-05	2.50	306.60
22-May-92	2.87	306.23	19-May-00	2.95	306.15	26-May-05	2.56	306.54
29-Jun-92	3.10	306.00	06-Jul-00	2.93	306.17	23-Jun-05	2.65	306.45
20-Jul-92	2.93	306.17	14-Sep-00	3.14	305.96	25-Jul-05	2.66	306.44
26-Aug-92	NA		11-Oct-00	3.16	305.94	17-Aug-05	2.75	306.35
15-Sep-92	NA		07-Nov-00	3.31	305.79	25-Aug-05	2.76	306.34
28-Oct-92	NA		12-Dec-00	3.24	305.86	30-Sep-05	2.80	306.30
26-Nov-92	NA		11-Jan-01	3.14	305.96	27-Oct-05	2.86	306.24
14-Dec-92	2.41	306.69	07-Feb-01	3.10	306.00	28-Nov-05	2.86	306.24
19-Jan-93	NA		12-Mar-01	2.88	306.22	07-Dec-05	2.82	306.28
05-Mar-93	NA		09-Apr-01	2.75	306.35	19-Dec-05	2.89	306.21
31-Mar-93	NA		03-May-01	2.85	306.25	30-Mar-06	2.53	306.57
19-Apr-93	2.04	307.06	06-Jun-01	2.85	306.25	27-Apr-06	2.47	306.63
27-May-93	NA		11-Jul-01	3.09	306.01	28-Apr-06	2.48	306.62
22-Jun-93	NA		01-Aug-01	3.21	305.89	15-May-06	2.45	306.65
15-Jul-93	2.41	306.69	05-Sep-01	3.39	305.71	15-Jun-06	2.59	306.51
18-Aug-93	2.54	306.56	02-Oct-01	3.43	305.67	15-Jul-06	2.53	306.57
20-Sep-93	2.70	306.40	06-Nov-01	3.32	305.78	24-Aug-06	2.68	306.42
19-Oct-93	2.67	306.43	06-Dec-01	3.20	305.90	15-Sep-06	2.63	306.47
17-Nov-93	2.83	306.27	04-Jan-02	3.19	305.91	15-Oct-06	2.56	306.54
07-Dec-93	2.69	306.41	07-Feb-02	3.10	306.00	15-Nov-06	2.59	306.51
18-Jan-94	2.85	306.25	07-Mar-02	2.95	306.15	07-Dec-06	2.50	306.60
23-Feb-94	2.67	306.43	07-Apr-02	2.85	306.25	17-Jan-07	2.42	306.69
24-Mar-94	2.39	306.71	06-May-02	2.97	306.13	26-Apr-07	2.46	306.64
19-Apr-94	2.41	306.69	14-Jun-02	2.99	306.11	26-Jun-07	2.26	306.84
25-May-94	2.41	306.69	11-Jul-02	3.20	305.90	25-Jul-07	2.77	306.33
23-Jun-94	2.65	306.45	09-Aug-02	3.34	305.76	07-Aug-07	2.85	306.25
20-Jul-94	2.75	306.35	04-Sep-02	3.51	305.59	21-Aug-07	2.86	306.24
25-Aug-94	2.86	306.24	11-Oct-02	3.53	305.57	21-Sep-07	3.01	306.09
21-Sep-94	2.98	306.12	21-Nov-02	3.54	305.56	17-Oct-07	2.98	306.12
19-Oct-94	3.03	306.07	13-Dec-02	3.57	305.53	29-Nov-07	3.07	306.03
24-Nov-94	3.05	306.05	09-Jan-03	3.53	305.57	10-Dec-07	3.07	306.03
21-Dec-94	2.95	306.15	10-Apr-03	2.89	306.21	31-Jan-08	2.89	306.21
25-Jan-95	2.32	306.78	07-May-03	2.99	306.11	29-Feb-08	2.82	306.28
16-Feb-95	2.62	306.48	15-May-03	3.09	306.01	31-Mar-08	2.48	306.62
24-Mar-95	2.46	306.64	16-Jun-03	3.00	306.10	28-Apr-08	2.53	306.57
16-May-95	2.46	306.64	17-Jul-03	3.19	305.91	28-May-08	2.51	306.59
13-Jun-95	2.55	306.55	21-Aug-03	3.54	305.56	25-Jun-08	2.49	306.61
20-Jul-95	2.79	306.31	26-Aug-03	3.26	305.84	16-Jul-08	2.48	306.62
15-Aug-95	2.76	306.34	25-Sep-03	3.24	305.86	20-Aug-08	2.46	306.64
18-Oct-95	3.00	306.10	27-Oct-03	3.30	305.80	26-Aug-08	2.46	306.64
22-Nov-95	2.75	306.35	01-Dec-03	3.26	305.84	19-Sep-08	2.34	306.76
26-Mar-96	2.42	306.68	11-Dec-03	3.11	305.99	10-Oct-08	2.51	306.59
31-May-96	2.11	306.99	16-Dec-03	3.18	305.92	05-Nov-08	2.42	306.68
29-Jul-96	2.25	306.85	18-Feb-04	3.18	305.92	22-Dec-08	2.56	306.54
30-Sep-96	2.26	306.84	25-Mar-04	2.73	306.37	06-Jan-09	2.47	306.63
07-Nov-96	2.42	306.68	07-Apr-04	2.62	306.48	27-Feb-09	2.39	306.71
26-Mar-97	1.89	307.21	22-Apr-04	2.55	306.55	11-Mar-09	2.25	306.85
26-May-97	2.04	307.06	20-May-04	2.52	306.58	14-Apr-09	2.28	306.82
31-Jul-97	2.47	306.63	24-Jun-04	2.55	306.55	21-May-09	2.28	306.82
07-Nov-97	2.60	306.50	23-Jul-04	2.63	306.47	16-Jun-09	2.33	306.77
16-Dec-97	2.74	306.36	04-Aug-04	3.02	306.08	31-Jul-09	2.35	306.75
27-Mar-98	2.32	306.78	26-Aug-04	2.80	306.30	25-Aug-09	2.29	306.81
31-May-98	2.63	306.47	28-Sep-04	2.85	306.25	28-Aug-09	2.33	306.77
31-Jul-98	2.85	306.25	18-Oct-04	2.92	306.18	28-Sep-09	2.31	306.79
30-Sep-98	3.15	305.95	16-Nov-04	2.95	306.15	14-Oct-09	2.50	306.60
30-Dec-98	3.20	305.90	15-Dec-04	2.90	306.20	11-Nov-09	2.60	306.50
31-Mar-99	2.88	306.22	16-Dec-04	2.90	306.20	11-Dec-09	2.55	306.55
20-May-99	2.71	306.39	20-Jan-05	2.80	306.30	16-Dec-09	2.55	306.55
16-Jul-99	3.06	306.04	25-Feb-05	2.72	306.38			
08-Sep-99	3.16	305.94	24-Mar-05	2.71	306.39			

NOTES:
- · BTOP — Below top of pipe
- · NA — Not available
- · m ASL — metres above sea level
- · (F) — Frozen

TABLE B-1
WATER LEVEL DATA - GROUNDWATER MONITORS
MILL CREEK AGGREGATES PIT

BH92-15								
DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)
13-Jan-10	2.71	306.39	30-Apr-12	3.08	306.02			
11-Feb-10	2.79	306.31	29-May-12	3.17	305.93			
11-Mar-10	2.71	306.39	20-Jun-12	3.19	305.91		Decommissioned	
16-Apr-10	2.58	306.52	24-Jul-12	3.37	305.73			
21-May-10	2.75	306.35	08-Aug-12	3.44	305.66			
17-Jun-10	2.78	306.32	21-Aug-12	3.50	305.60			
15-Jul-10	2.97	306.13	18-Sep-12	3.57	305.53			
18-Aug-10	3.04	306.06	23-Oct-12	3.55	305.55			
31-Aug-10	3.12	305.98	28-Nov-12	3.54	305.56			
28-Sep-10	3.23	305.87	06-Dec-12	3.56	305.54			
20-Oct-10	3.24	305.86	19-Dec-12	3.54	305.56			
18-Nov-10	3.32	305.78	16-Jan-13	3.39	305.71			
08-Dec-10	3.21	305.89	20-Feb-13	3.37	305.73			
22-Dec-10	3.26	305.84	21-Mar-13	3.24	305.86			
19-Jan-11	3.29	305.81	04-Apr-13	3.27	305.83			
17-Feb-11	3.18	305.92	25-Apr-13	3.06	306.04			
16-Mar-11	2.99	306.11	23-May-13	3.14	305.96			
13-Apr-11	2.96	306.14	13-Jun-13	3.05	306.05			
21-Apr-11	2.88	306.22	31-Jul-13	3.05	306.05			
26-May-11	2.66	306.44	29-Aug-13	3.27	305.83			
16-Jun-11	2.70	306.40	25-Sep-13	3.30	305.80			
14-Jul-11	2.86	306.24	22-Oct-13	3.40	305.70			
11-Aug-11	3.00	306.10	28-Nov-13	3.48	305.62			
17-Aug-11	3.05	306.05	10-Dec-13	3.45	305.65			
14-Sep-11	3.14	305.96	15-Jan-14	3.28	305.82			
27-Oct-11	3.02	306.08	26-Feb-14	3.27	305.83			
14-Nov-11	3.09	306.01	26-Mar-14	3.30	305.80			
14-Dec-11	2.96	306.14	01-Apr-14	3.24	305.86			
22-Dec-11	2.92	306.18	24-May-14	3.22	305.88			
16-Jan-12	2.93	306.17	30-Jun-14	3.36	305.74			
16-Feb-12	2.93	306.17	31-Jul-14	3.38	305.72			
29-Mar-12	2.87	306.23	25-Aug-14	3.44	305.66			
10-Apr-12	2.96	306.14						

NOTES:
- · BTOP — Below top of pipe
- · NA — Not available
- · m ASL — metres above sea level
- · (F) — Frozen

TABLE B-1
WATER LEVEL DATA - GROUNDWATER MONITORS
MILL CREEK AGGREGATES PIT

BH92-15A

DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)
06-Jun-01	3.04	306.23	15-Jul-06	2.71	306.56	13-Apr-11	(F)	
11-Jul-01	3.26	306.01	24-Aug-06	2.85	306.42	21-Apr-11	2.71	306.56
01-Aug-01	3.40	305.87	15-Sep-06	2.81	306.46	26-May-11	2.50	306.77
05-Sep-01	3.56	305.71	15-Oct-06	2.72	306.55	16-Jun-11	2.54	306.73
02-Oct-01	3.63	305.64	15-Nov-06	2.69	306.58	14-Jul-11	2.70	306.57
06-Nov-01	3.51	305.76	07-Dec-06	2.67	306.60	11-Aug-11	2.83	306.44
06-Dec-01	3.40	305.87	17-Jan-07	2.59	306.68	17-Aug-11	2.87	306.40
04-Jan-02	3.37	305.90	26-Apr-07	2.28	306.99	14-Sep-11	2.96	306.31
07-Feb-02	3.28	305.99	26-Jun-07	2.04	307.23	27-Oct-11	2.85	306.42
07-Mar-02	3.12	306.15	07-Aug-07	2.68	306.59	14-Nov-11	2.92	306.35
07-Apr-02	3.03	306.24	21-Aug-07	2.69	306.58	14-Dec-11	2.77	306.50
06-May-02	3.14	306.13	21-Sep-07	2.84	306.43	22-Dec-11	2.75	306.52
14-Jun-02	3.15	306.12	17-Oct-07	2.82	306.45	16-Jan-12	2.75	306.52
11-Jul-02	3.02	306.25	29-Nov-07	2.89	306.38	16-Feb-12	2.76	306.51
09-Aug-02	3.17	306.10	10-Dec-07	2.90	306.37	29-Mar-12	2.81	306.46
04-Sep-02	3.33	305.94	31-Jan-08	2.71	306.56	10-Apr-12	2.80	306.47
11-Oct-02	3.35	305.92	29-Feb-08	2.64	306.63	30-Apr-12	2.98	306.29
21-Nov-02	3.36	305.91	31-Mar-08	2.29	306.98	29-May-12	2.99	306.28
13-Dec-02	3.39	305.88	28-Apr-08	2.36	306.91	20-Jun-12	3.03	306.24
09-Jan-03	3.34	305.93	28-May-08	2.34	306.93	24-Jul-12	3.20	306.07
07-May-03	3.18	306.09	25-Jun-08	2.32	306.95	08-Aug-12	3.28	305.99
17-Jul-03	3.35	305.92	16-Jul-08	2.31	306.96	21-Aug-12	3.34	305.93
26-Aug-03	3.44	305.83	20-Aug-08	2.29	306.98	18-Sep-12	3.41	305.86
25-Sep-03	3.41	305.86	26-Aug-08	2.30	306.97	23-Oct-12	3.39	305.88
01-Dec-03	3.08	306.19	19-Sep-08	2.17	307.10	28-Nov-12	3.37	305.90
11-Dec-03	3.30	305.97	10-Oct-08	2.33	306.94	06-Dec-12	3.39	305.88
19-Jan-04	3.25	306.02	05-Nov-08	2.06	307.21	19-Dec-12	3.36	305.91
18-Feb-04	3.27	306.00	22-Dec-08	2.39	306.88	16-Jan-13	3.21	306.06
25-Mar-04	2.91	306.36	06-Jan-09	2.30	306.97	20-Feb-13	3.20	306.07
07-Apr-04	2.80	306.47	27-Feb-09	2.23	307.04	21-Mar-13	3.08	306.19
22-Apr-04	2.73	306.54	11-Mar-09	2.08	307.19	04-Apr-13	3.07	306.20
20-May-04	2.70	306.57	14-Apr-09	2.11	307.16	25-Apr-13	2.90	306.37
24-Jun-04	2.73	306.54	21-May-09	2.11	307.16	23-May-13	2.96	306.31
23-Jul-04	2.82	306.45	16-Jun-09	2.17	307.10	13-Jun-13	2.89	306.38
04-Aug-04	3.19	306.08	31-Jul-09	2.18	307.09	31-Jul-13	2.89	306.38
26-Aug-04	2.96	306.31	25-Aug-09	2.07	307.20	29-Aug-13	3.11	306.16
28-Sep-04	3.02	306.25	28-Aug-09	2.16	307.11	25-Sep-13	3.13	306.14
18-Oct-04	3.10	306.17	28-Sep-09	2.48	306.79	22-Oct-13	3.22	306.05
16-Nov-04	3.12	306.15	14-Oct-09	2.37	306.90	28-Nov-13	3.29	305.98
16-Dec-04	3.09	306.18	11-Nov-09	2.43	306.84	10-Dec-13	3.24	306.03
20-Jan-05	2.96	306.31	11-Dec-09	2.47	306.80	15-Jan-14	3.10	306.17
25-Feb-05	2.89	306.38	16-Dec-09	2.45	306.82	26-Feb-14	3.09	306.18
24-Mar-05	2.89	306.38	13-Jan-10	2.55	306.72	26-Mar-14	3.07	306.20
18-Apr-05	2.78	306.49	11-Feb-10	2.61	306.66	01-Apr-14	3.02	306.25
29-Apr-05	2.69	306.58	11-Mar-10	2.54	306.73	24-May-14	3.11	306.16
26-May-05	2.75	306.52	16-Apr-10	2.38	306.89	30-Jun-14	3.16	306.11
23-Jun-05	2.85	306.42	21-May-10	2.57	306.70	31-Jul-14	3.16	306.11
25-Jul-05	2.85	306.42	17-Jun-10	2.60	306.67	25-Aug-14	3.25	306.02
17-Aug-05	2.93	306.34	15-Jul-10	2.79	306.48			
25-Aug-05	2.94	306.33	18-Aug-10	2.88	306.39		Decommissioned	
30-Sep-05	2.98	306.29	31-Aug-10	2.95	306.32			
27-Oct-05	3.04	306.23	28-Sep-10	3.07	306.20			
28-Nov-05	3.04	306.23	20-Oct-10	3.06	306.21			
19-Dec-05	3.07	306.20	18-Nov-10	3.06	306.21			
30-Mar-06	2.71	306.56	08-Dec-10	3.04	306.23			
27-Apr-06	2.65	306.62	22-Dec-10	3.10	306.17			
28-Apr-06	2.65	306.62	19-Jan-11	dry				
15-May-06	2.61	306.66	17-Feb-11	3.02	306.25			
15-Jun-06	2.76	306.51	16-Mar-11	dry				

NOTES:
- BTOP Below top of pipe
- NA Not available
- m ASL metres above sea level
- (F) Frozen

TABLE B-1
WATER LEVEL DATA - GROUNDWATER MONITORS
MILL CREEK AGGREGATES PIT

BH92-26								
DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)
13-Mar-92	1.99	304.31	20-May-99	2.08	304.22	17-Sep-02	2.40	303.90
15-Apr-92	2.00	304.30	16-Jul-99	2.34	303.96	20-Sep-02	2.38	303.92
21-May-92	2.17	304.13	10-Sep-99	2.19	304.11	25-Sep-02	2.38	303.92
29-Jun-92	2.39	303.91	10-Nov-99	2.07	304.23	27-Sep-02	2.35	303.95
20-Jul-92	1.94	304.36	01-Mar-00	2.05	304.25	02-Oct-02	2.32	303.98
27-Aug-92	2.22	304.08	19-May-00	1.77	304.53	04-Oct-02	2.30	304.00
14-Sep-92	2.12	304.18	06-Jul-00	2.05	304.25	08-Oct-02	2.31	303.99
28-Oct-92	2.04	304.26	13-Sep-00	2.04	304.26	11-Oct-02	2.32	303.98
26-Nov-92	1.83	304.47	10-Oct-00	2.05	304.25	15-Oct-02	2.33	303.97
14-Dec-92	2.05	304.25	07-Nov-00	2.02	304.28	18-Oct-02	2.32	303.98
19-Jan-93	2.04	304.26	13-Dec-00	2.11	304.19	23-Oct-02	2.26	304.04
10-Mar-93	2.10	304.20	11-Jan-01	2.18	304.12	29-Oct-02	2.22	304.08
26-Mar-93	2.04	304.26	09-Feb-01	2.16	304.14	31-Oct-02	2.22	304.08
19-Apr-93	1.96	304.34	12-Mar-01	2.08	304.22	05-Nov-02	2.22	304.08
27-May-93	2.17	304.13	09-Apr-01	1.90	304.40	08-Nov-02	2.21	304.09
22-Jun-93	2.14	304.16	03-May-01	2.09	304.21	12-Nov-02	2.02	304.28
14-Jul-93	2.30	304.00	06-Jun-01	2.06	304.24	15-Nov-02	2.07	304.23
18-Aug-93	2.36	303.94	11-Jul-01	2.34	303.96	19-Nov-02	2.15	304.15
20-Sep-93	2.33	303.97	01-Aug-01	2.45	303.85	22-Nov-02	2.13	304.17
19-Oct-93	2.01	304.29	16-Aug-01	2.38	303.92	26-Nov-02	2.16	304.14
17-Nov-93	2.13	304.17	20-Aug-01	2.26	304.04	29-Nov-02	2.22	304.08
07-Dec-93	1.99	304.31	05-Sep-01	2.30	304.00	04-Dec-02	2.22	304.08
18-Jan-94	2.27	304.03	02-Oct-01	2.17	304.13	06-Dec-02	2.21	304.09
23-Feb-94	1.99	304.31	06-Nov-01	1.97	304.33	10-Dec-02	2.26	304.04
24-Mar-94	1.76	304.54	06-Dec-01	2.00	304.30	13-Dec-02	2.32	303.98
19-Apr-94	1.96	304.34	04-Jan-02	2.19	304.11	18-Dec-02	2.32	303.98
24-May-94	2.08	304.22	07-Feb-02	2.14	304.16	07-Jan-03	2.26	304.04
23-Jun-94	2.36	303.94	07-Mar-02	2.07	304.23	09-Jan-03	2.28	304.02
20-Jul-94	2.41	303.89	07-Apr-02	2.00	304.30	14-Jan-03	2.30	304.00
25-Aug-94	2.40	303.90	06-May-02	1.91	304.39	21-Jan-03	2.37	303.93
21-Sep-94	2.50	303.80	24-May-02	1.98	304.32	24-Jan-03	2.21	304.09
18-Oct-94	2.45	303.85	27-May-02	2.01	304.29	28-Jan-03	2.24	304.06
23-Nov-94	2.20	304.10	31-May-02	2.00	304.30	31-Jan-03	2.41	303.89
21-Dec-94	2.07	304.23	04-Jun-02	2.02	304.28	05-Feb-03	2.35	303.95
24-Jan-95	1.85	304.45	07-Jun-02	1.98	304.32	10-Feb-03	2.36	303.94
15-Feb-95	2.18	304.12	11-Jun-02	2.06	304.24	14-Feb-03	2.30	304.00
24-Mar-95	1.94	304.36	14-Jun-02	2.05	304.25	17-Feb-03	2.28	304.02
17-May-95	2.05	304.25	18-Jun-02	2.08	304.22	21-Feb-03	2.30	304.00
13-Jun-95	2.23	304.07	21-Jun-02	2.13	304.17	24-Feb-03	2.45	303.85
20-Jul-95	2.49	303.81	25-Jun-02	2.07	304.23	10-Mar-03	2.45	303.85
15-Aug-95	2.39	303.91	02-Jul-02	2.12	304.18	13-Mar-03	2.44	303.86
18-Oct-95	2.39	303.91	05-Jul-02	2.18	304.12	18-Mar-03	2.14	304.16
22-Nov-95	2.00	304.30	08-Jul-02	2.22	304.08	20-Mar-03	1.89	304.41
26-Mar-96	1.88	304.42	11-Jul-02	2.25	304.05	24-Mar-03	1.87	304.43
31-May-96	2.12	304.18	15-Jul-02	2.29	304.01	27-Mar-03	1.88	304.42
29-Jul-96	2.19	304.11	18-Jul-02	2.30	304.00	10-Apr-03	1.84	304.46
02-Oct-96	1.95	304.35	23-Jul-02	2.22	304.08	11-Apr-03	1.89	304.41
07-Nov-96	2.00	304.30	26-Jul-02	2.25	304.05	21-Apr-03	2.04	304.26
27-Mar-97	1.81	304.49	30-Jul-02	2.19	304.11	24-Apr-03	2.06	304.24
26-May-97	2.07	304.23	05-Aug-02	2.28	304.02	28-Apr-03	2.05	304.25
30-Jul-97	2.36	303.94	09-Aug-02	2.26	304.04	5-May-03	2.07	304.23
06-Nov-97	1.99	304.31	16-Aug-02	2.31	303.99	7-May-03	1.93	304.37
16-Dec-97	2.15	304.15	21-Aug-02	2.34	303.96	8-May-03	2.05	304.25
27-Mar-98	1.83	304.47	23-Aug-02	2.34	303.96	12-May-03	2.00	304.30
31-May-98	2.33	303.97	28-Aug-02	2.37	303.93	15-May-03	2.05	304.25
31-Jul-98	2.44	303.86	30-Aug-02	2.38	303.92	16-May-03	2.10	304.20
30-Sep-98	2.53	303.77	04-Sep-02	2.42	303.88	23-May-03	2.00	304.30
30-Dec-98	2.41	303.89	10-Sep-02	2.45	303.85	26-May-03	1.96	304.34
31-Mar-99	2.07	304.23	12-Sep-02	2.46	303.84	29-May-03	1.98	304.32

NOTES:
- · BTOP Below top of pipe
- · NA Not available
- · m ASL metres above sea level
- · (F) Frozen

TABLE B-1
WATER LEVEL DATA - GROUNDWATER MONITORS
MILL CREEK AGGREGATES PIT

BH92-26

DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)
2-Jun-03	1.99	304.31	19-Jan-04	2.17	304.13	20-Sep-04	2.39	303.91
5-Jun-03	2.00	304.30	26-Jan-04	2.19	304.11	23-Sep-04	2.38	303.92
9-Jun-03	2.04	304.26	5-Feb-04	2.18	304.12	27-Sep-04	2.40	303.90
13-Jun-03	2.07	304.23	9-Feb-04	2.18	304.12	30-Sep-04	2.43	303.87
16-Jun-03	2.24	304.06	16-Feb-04	2.18	304.12	4-Oct-04	2.45	303.85
17-Jun-03	2.10	304.20	19-Feb-04	2.19	304.11	7-Oct-04	2.46	303.84
19-Jun-03	2.14	304.16	4-Mar-04	1.58	304.72	11-Oct-04	2.46	303.84
23-Jun-03	2.19	304.11	8-Mar-04	1.75	304.55	14-Oct-04	2.45	303.85
26-Jun-03	2.24	304.06	11-Mar-04	1.70	304.60	18-Oct-04	2.33	303.97
3-Jul-03	2.30	304.00	15-Mar-04	1.97	304.33	21-Oct-04	2.36	303.94
7-Jul-03	2.22	304.08	18-Mar-04	2.00	304.30	25-Oct-04	2.34	303.96
10-Jul-03	2.26	304.04	22-Mar-04	1.97	304.33	28-Oct-04	2.32	303.98
17-Jul-03	2.40	303.90	25-Mar-04	1.94	304.36	1-Nov-04	2.28	304.02
22-Jul-03	2.30	304.00	1-Apr-04	1.78	304.52	4-Nov-04	2.16	304.14
25-Jul-03	2.31	303.99	5-Apr-04	1.91	304.39	8-Nov-04	2.11	304.19
28-Jul-03	2.30	304.00	7-Apr-04	1.95	304.35	11-Nov-04	2.16	304.14
31-Jul-03	2.32	303.98	8-Apr-04	1.96	304.34	15-Nov-04	2.21	304.09
7-Aug-03	2.32	303.98	15-Apr-04	2.04	304.26	18-Nov-04	2.23	304.07
11-Aug-03	2.38	303.92	22-Apr-04	1.89	304.41	22-Nov-04	2.21	304.09
14-Aug-03	2.25	304.05	26-Apr-04	1.99	304.31	25-Nov-04	2.19	304.11
18-Aug-03	2.33	303.97	3-May-04	1.92	304.38	29-Nov-04	2.10	304.20
21-Aug-03	2.40	303.90	10-May-04	1.88	304.42	2-Dec-04	1.93	304.37
26-Aug-03	2.44	303.86	13-May-04	2.04	304.26	6-Dec-04	2.09	304.21
29-Aug-03	2.47	303.83	17-May-04	2.16	304.14	9-Dec-04	1.94	304.36
2-Sep-03	2.50	303.80	20-May-04	2.11	304.19	13-Dec-04	1.97	304.33
4-Sep-03	2.53	303.77	25-May-04	2.02	304.28	15-Dec-04	2.06	304.24
8-Sep-03	2.54	303.76	27-May-04	2.09	304.21	16-Dec-04	2.05	304.25
11-Sep-03	2.56	303.74	31-May-04	2.21	304.09	20-Dec-04	2.14	304.16
15-Sep-03	2.55	303.75	3-Jun-04	2.17	304.13	23-Dec-04	2.14	304.16
18-Sep-03	2.56	303.74	7-Jun-04	2.29	304.01	20-Jan-05	2.05	304.25
22-Sep-03	2.52	303.78	10-Jun-04	2.30	304.00	25-Feb-05	2.04	304.26
25-Sep-03	2.15	304.15	14-Jun-04	2.32	303.98	24-Mar-05	2.05	304.25
26-Sep-03	2.33	303.97	17-Jun-04	2.31	303.99	18-Apr-05	2.05	304.25
29-Sep-03	2.09	304.21	21-Jun-04	2.30	304.00	29-Apr-05	1.92	304.38
2-Oct-03	2.15	304.15	24-Jun-04	2.18	304.12	26-May-05	2.18	304.12
6-Oct-03	2.14	304.16	28-Jun-04	2.37	303.93	23-Jun-05	2.29	304.01
9-Oct-03	2.22	304.08	5-Jul-04	2.44	303.86	25-Jul-05	2.28	304.02
13-Oct-03	2.25	304.05	8-Jul-04	2.40	303.90	17-Aug-05	2.39	303.91
16-Oct-03	2.08	304.22	12-Jul-04	2.38	303.92	25-Aug-05	2.35	303.95
20-Oct-03	2.17	304.13	15-Jul-04	2.33	303.97	30-Sep-05	2.20	304.10
23-Oct-03	2.15	304.15	19-Jul-04	2.38	303.92	27-Oct-05	2.20	304.10
27-Oct-03	2.11	304.19	22-Jul-04	2.44	303.86	28-Nov-05	2.10	304.20
30-Oct-03	2.11	304.19	26-Jul-04	2.48	303.82	07-Dec-05	2.08	304.22
3-Nov-03	2.13	304.17	29-Jul-04	2.42	303.88	19-Dec-05	2.16	304.14
6-Nov-03	2.13	304.17	2-Aug-04	2.30	304.00	26-Jan-06	1.92	304.38
10-Nov-03	2.09	304.21	4-Aug-04	2.23	304.07	15-Feb-06	2.22	304.08
13-Nov-03	2.05	304.25	5-Aug-04	2.37	303.93	30-Mar-06	2.11	304.19
17-Nov-03	2.00	304.30	9-Aug-04	2.46	303.84	27-Apr-06	2.02	304.28
20-Nov-03	1.97	304.33	12-Aug-04	2.40	303.90	28-Apr-06	2.17	304.13
24-Nov-03	1.94	304.36	16-Aug-04	2.38	303.92	15-May-06	2.31	303.99
1-Dec-03	1.89	304.41	19-Aug-04	2.40	303.90	15-Jun-06	2.53	303.77
8-Dec-03	2.11	304.19	23-Aug-04	2.44	303.86	15-Jul-06	2.41	303.89
11-Dec-03	2.00	304.30	26-Aug-04	2.41	303.89	24-Aug-06	2.31	303.99
15-Dec-03	2.09	304.21	30-Aug-04	2.39	303.91	15-Sep-06	1.97	304.33
22-Dec-03	2.10	304.20	2-Sep-04	2.41	303.89	15-Oct-06	1.76	304.54
6-Jan-04	2.01	304.29	6-Sep-04	2.47	303.83	15-Nov-06	1.95	304.35
8-Jan-04	2.06	304.24	9-Sep-04	2.39	303.91	07-Dec-06	1.92	304.38
12-Jan-04	2.14	304.16	13-Sep-04	2.39	303.91			
15-Jan-04	2.15	304.15	16-Sep-04	2.43	303.87			

NOTES:
- BTOP Below top of pipe
- NA Not available
- m ASL metres above sea level
- (F) Frozen

TABLE B-1
WATER LEVEL DATA - GROUNDWATER MONITORS
MILL CREEK AGGREGATES PIT

BH92-26								
DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)
17-Jan-07	1.97	304.33	13-Apr-11	1.45	304.85			
22-Feb-07	1.48	304.82	21-Apr-11	1.43	304.87			
26-Apr-07	2.00	304.30	26-May-11	1.51	304.79			
16-May-07	2.05	304.25	16-Jun-11	1.59	304.71			
26-Jun-07	2.20	304.10	14-Jul-11	1.85	304.45			
25-Jul-07	2.32	303.98	11-Aug-11	1.71	304.59			
07-Aug-07	2.37	303.93	17-Aug-11	1.63	304.67			
21-Aug-07	2.44	303.86	14-Sep-11	1.66	304.64			
21-Sep-07	2.43	303.87	27-Oct-11	1.58	304.72			
17-Oct-07	2.26	304.04	16-Nov-11	1.48	304.82			
15-Nov-07	2.24	304.06	22-Dec-11	1.45	304.85			
29-Nov-07	2.04	304.26	07-Mar-12	1.55	304.75			
10-Dec-07	2.13	304.17	10-Apr-12	1.73	304.57			
31-Jan-08	2.00	304.30	08-May-12	1.70	304.60			
29-Feb-08	2.01	304.29	22-Jun-12	1.71	304.59			
31-Mar-08	1.41	304.89	09-Jul-12	1.67	304.63			
28-Apr-08	2.03	304.27	08-Aug-12	1.49	304.81			
28-May-08	2.16	304.14	21-Sep-12	1.48	304.82			
25-Jun-08	2.13	304.17	26-Oct-12	1.82	304.48			
16-Jul-08	2.13	304.17	28-Nov-12	1.82	304.48			
20-Aug-08	2.07	304.23	06-Dec-12	1.68	304.62			
26-Aug-08	2.16	304.14	15-Jan-13	1.36	304.94			
19-Sep-08	1.80	304.50	25-Mar-13	1.01	305.29			
10-Oct-08	2.05	304.25	04-Apr-13	1.22	305.08			
05-Nov-08	2.04	304.26	20-Sep-13	1.69	304.61			
03-Dec-08	1.91	304.39	31-Jan-14	(F)0.79				
17-Dec-08	1.84	304.46	28-Feb-14	(F) 0.80				
06-Jan-09	1.93	304.37	29-Mar-14	(F)0.68				
27-Feb-09	1.95	304.35	01-Apr-14	(F)0.68				
11-Mar-09	1.72	304.58	23-Jan-15	(F)0.54				
14-Apr-09	1.86	304.44	26-Feb-15	(F)0.56				
21-May-09	1.99	304.31	20-Mar-15	(F)0.52				
16-Jun-09	2.01	304.29	30-Oct-15	1.17	305.13			
31-Jul-09	1.94	304.36						
25-Aug-09	1.86	304.44						
28-Aug-09	1.80	304.50						
28-Sep-09	1.98	304.32						
14-Oct-09	1.94	304.36						
11-Nov-09	1.97	304.33						
11-Dec-09	1.93	304.37						
16-Dec-09	1.83	304.47						
13-Jan-10	2.01	304.29						
11-Feb-10	2.06	304.24						
11-Mar-10	1.85	304.45						
16-Apr-10	1.95	304.35						
21-May-10	2.05	304.25						
17-Jun-10	1.90	304.40						
15-Jul-10	2.04	304.26						
18-Aug-10	2.11	304.19						
31-Aug-10	2.07	304.23						
28-Sep-10	1.94	304.36						
20-Oct-10	1.80	304.50						
18-Nov-10	1.75	304.55						
08-Dec-10	1.69	304.61						
22-Dec-10	1.73	304.57						
19-Jan-11	1.75	304.55						
17-Feb-11	1.79	304.51						
16-Mar-11	1.48	304.82						

NOTES:
- BTOP — Below top of pipe
- NA — Not available
- m ASL — metres above sea level
- (F) — Frozen

TABLE B-1
WATER LEVEL DATA - GROUNDWATER MONITORS
MILL CREEK AGGREGATES PIT

BH92-27								
DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)
13-Mar-92	1.52	304.38	20-May-99	1.48	304.42	26-Aug-04	1.64	304.26
15-Apr-92	1.55	304.35	16-Jul-99	1.65	304.25	28-Sep-04	1.63	304.27
21-May-92	1.71	304.19	08-Sep-99	1.58	304.32	18-Oct-04	1.57	304.33
29-Jun-92	1.89	304.01	10-Nov-99	1.41	304.49	16-Nov-04	1.48	304.42
20-Jul-92	1.49	304.41	01-Mar-00	1.35	304.55	15-Dec-04	1.34	304.56
26-Aug-92	NA		19-May-00	1.14	304.76	16-Dec-04	1.34	304.56
14-Sep-92	NA		06-Jul-00	1.36	304.54	20-Jan-05	1.32	304.58
28-Oct-92	NA		13-Sep-00	1.45	304.45	25-Feb-05	1.32	304.58
26-Nov-92	NA		11-Oct-00	1.45	304.45	24-Mar-05	1.34	304.56
14-Dec-92	1.30	304.60	07-Nov-00	1.45	304.45	18-Apr-05	1.32	304.58
19-Jan-93	NA		13-Dec-00	1.48	304.42	29-Apr-05	1.20	304.70
05-Mar-93	NA		11-Jan-01	1.50	304.40	26-May-05	1.42	304.48
31-Mar-93	NA		09-Feb-01	1.47	304.43	23-Jun-05	1.54	304.36
19-Apr-93	1.19	304.71	12-Mar-01	1.42	304.48	25-Jul-05	1.53	304.37
27-May-93	NA		09-Apr-01	1.22	304.68	17-Aug-05	1.66	304.24
22-Jun-93	1.37	304.53	03-May-01	1.40	304.50	25-Aug-05	1.59	304.31
14-Jul-93	1.53	304.37	06-Jun-01	1.37	304.53	30-Sep-05	1.47	304.43
18-Aug-93	1.60	304.30	11-Jul-01	1.64	304.26	27-Oct-05	1.47	304.43
20-Sep-93	1.58	304.32	01-Aug-01	1.75	304.15	28-Nov-05	1.38	304.52
19-Oct-93	1.32	304.58	05-Sep-01	1.68	304.22	07-Dec-05	1.36	304.54
17-Nov-93	1.41	304.49	02-Oct-01	1.59	304.31	19-Dec-05	1.43	304.47
07-Dec-93	1.24	304.66	06-Nov-01	1.35	304.55	26-Jan-06	1.22	304.68
18-Jan-94	1.56	304.34	06-Dec-01	1.33	304.57	15-Feb-06	1.41	304.49
23-Feb-94	1.29	304.61	04-Jan-02	1.48	304.42	30-Mar-06	1.31	304.59
24-Mar-94	1.11	304.79	07-Feb-02	1.45	304.45	27-Apr-06	1.29	304.61
19-Apr-94	1.23	304.67	07-Mar-02	1.36	304.54	28-Apr-06	1.35	304.55
24-May-94	1.33	304.57	07-Apr-02	1.30	304.60	15-May-06	1.47	304.43
23-Jun-94	1.60	304.30	06-May-02	1.25	304.65	15-Jun-06	1.65	304.25
20-Jul-94	1.66	304.24	14-Jun-02	1.39	304.51	15-Jul-06	1.54	304.36
25-Aug-94	1.64	304.26	11-Jul-02	1.60	304.30	24-Aug-06	1.62	304.28
21-Sep-94	1.72	304.18	09-Aug-02	1.64	304.26	15-Sep-06	1.35	304.55
19-Oct-94	1.67	304.23	04-Sep-02	1.78	304.12	15-Oct-06	1.12	304.78
23-Nov-94	1.47	304.43	11-Oct-02	1.66	304.24	15-Nov-06	1.26	304.64
21-Dec-94	1.36	304.54	21-Nov-02	1.48	304.42	07-Dec-06	1.22	304.68
24-Jan-95	1.17	304.73	13-Dec-02	1.60	304.30	17-Jan-07	1.20	304.70
15-Feb-95	1.49	304.41	09-Jan-03	1.55	304.35	26-Apr-07	1.29	304.61
24-Mar-95	1.23	304.67	10-Feb-03	1.68	304.22	16-May-07	1.35	304.55
16-May-95	1.28	304.62	13-Mar-03	1.59	304.31	26-Jun-07	1.51	304.39
13-Jun-95	1.48	304.42	10-Apr-03	1.20	304.70	25-Jul-07	1.65	304.25
20-Jul-95	1.72	304.18	07-May-03	1.28	304.62	07-Aug-07	1.66	304.24
15-Aug-95	1.59	304.31	15-May-03	1.35	304.55	21-Aug-07	1.70	304.20
18-Oct-95	1.62	304.28	16-Jun-03	1.50	304.40	21-Sep-07	1.70	304.20
22-Nov-95	1.29	304.61	17-Jul-03	1.55	304.35	17-Oct-07	1.53	304.37
26-Mar-96	1.17	304.73	21-Aug-03	1.82	304.08	29-Nov-07	1.42	304.48
31-May-96	1.33	304.57	26-Aug-03	1.70	304.20	10-Dec-07	1.49	304.41
30-Jul-96	1.42	304.48	25-Sep-03	1.46	304.44	31-Jan-08	1.32	304.58
02-Oct-96	1.23	304.67	27-Oct-03	1.44	304.46	29-Feb-08	1.32	304.58
07-Nov-96	1.26	304.64	01-Dec-03	1.26	304.64	31-Mar-08	0.88	305.02
27-Mar-97	1.08	304.82	11-Dec-03	1.36	304.54	28-Apr-08	1.30	304.60
26-May-97	1.30	304.60	16-Dec-03	1.38	304.52	28-May-08	1.40	304.50
30-Jul-97	1.60	304.30	19-Jan-04	1.44	304.46	25-Jun-08	1.39	304.51
06-Nov-97	1.27	304.63	18-Feb-04	1.46	304.44	16-Jul-08	1.40	304.50
16-Dec-97	1.41	304.49	25-Mar-04	1.25	304.65	20-Aug-08	1.36	304.54
27-Mar-98	1.13	304.77	07-Apr-04	1.22	304.68	26-Aug-08	1.47	304.43
31-May-98	1.59	304.31	22-Apr-04	1.20	304.70	19-Sep-08	1.17	304.73
31-Jul-98	1.72	304.18	20-May-04	1.36	304.54	10-Oct-08	1.32	304.58
30-Sep-98	1.76	304.14	24-Jun-04	1.44	304.46	05-Nov-08	1.31	304.59
30-Dec-98	1.65	304.25	23-Jul-04	1.45	304.45	17-Dec-08	1.26	304.64
31-Mar-99	1.35	304.55	04-Aug-04	1.49	304.41			

NOTES:
- · BTOP Below top of pipe
- · NA Not available
- · m ASL metres above sea level
- · (F) Frozen

TABLE B-1
WATER LEVEL DATA - GROUNDWATER MONITORS
MILL CREEK AGGREGATES PIT

BH92-27								
DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)
06-Jan-09	1.21	304.69	23-Oct-12	1.13	304.77	18-Jan-17	1.05	304.85
27-Feb-09	1.24	304.66	28-Nov-12	1.22	304.68	15-Feb-17	1.12	304.78
11-Mar-09	0.99	304.91	06-Dec-12	1.11	304.79	17-Mar-17	1.09	304.81
14-Apr-09	1.15	304.75	19-Dec-12	1.08	304.82	11-Apr-17	0.99	304.91
21-May-09	1.24	304.66	16-Jan-13	0.96	304.94	18-May-17	1.02	304.88
16-Jun-09	1.32	304.58	20-Feb-13	0.96	304.94	14-Jun-17	1.14	304.76
31-Jul-09	1.27	304.63	21-Mar-13	(F) 0.82		20-Jul-17	1.15	304.75
25-Aug-09	1.16	304.74	04-Apr-13	(F) 0.89		09-Aug-17	1.23	304.67
28-Aug-09	1.38	304.52	25-Apr-13	0.75	305.15	12-Sep-17	1.30	304.60
28-Sep-09	1.37	304.53	23-May-13	0.81	305.09	12-Oct-17	1.35	304.55
14-Oct-09	1.27	304.63	13-Jun-13	0.84	305.06	21-Nov-17	1.27	304.63
11-Nov-09	1.30	304.60	31-Jul-13	1.00	304.90	19-Dec-17	1.33	304.57
11-Dec-09	1.25	304.65	29-Aug-13	1.04	304.86	16-Jan-18	1.22	304.68
16-Dec-09	1.23	304.67	25-Sep-13	1.06	304.84	26-Feb-18	1.10	304.80
13-Jan-10	1.34	304.56	22-Oct-13	1.01	304.89	26-Mar-18	1.23	304.67
11-Feb-10	1.49	304.41	28-Nov-13	0.95	304.95	24-Apr-18	1.07	304.83
11-Mar-10	1.17	304.73	10-Dec-13	0.91	304.99	18-May-18	1.13	304.77
16-Apr-10	1.25	304.65	15-Jan-14	(F)		12-Jun-18	1.27	304.63
21-May-10	1.37	304.53	26-Feb-14	(F)		27-Jul-18	1.41	304.49
17-Jun-10	1.27	304.63	26-Mar-14	(F)		22-Aug-18	1.34	304.56
15-Jul-10	1.40	304.5	01-Apr-14	(F)		12-Sep-18	1.42	304.48
18-Aug-10	1.45	304.45	15-May-14	0.80	305.10	30-Oct-18	1.42	304.48
31-Aug-10	1.46	304.44	18-Jun-14	0.92	304.98	21-Nov-18	1.33	304.57
28-Sep-10	1.28	304.62	29-Jul-14	0.78	305.12	20-Dec-18	1.33	304.57
20-Oct-10	1.28	304.62	25-Aug-14	0.85	305.05			
18-Nov-10	1.21	304.69	18-Sep-14	0.79	305.11			
08-Dec-10	1.26	304.64	17-Oct-14	0.80	305.10			
22-Dec-10	1.31	304.59	27-Nov-14	0.81	305.09			
19-Jan-11	1.33	304.57	15-Dec-14	0.75	305.15			
17-Feb-11	1.33	304.57	21-Jan-15	(F)				
16-Mar-11	0.99	304.91	18-Feb-15	(F)				
13-Apr-11	1.12	304.78	25-Mar-15	(F)				
21-Apr-11	1.00	304.90	06-Apr-15	(F)				
26-May-11	1.04	304.86	20-May-15	0.89	305.01			
16-Jun-11	1.18	304.72	23-Jun-15	0.87	305.03			
14-Jul-11	1.40	304.50	22-Jul-15	0.87	305.03			
11-Aug-11	1.35	304.55	25-Aug-15	1.03	304.87			
17-Aug-11	1.39	304.51	24-Sep-15	1.10	304.80			
14-Sep-11	1.30	304.60	29-Oct-15	1.02	304.88			
27-Oct-11	1.11	304.79	25-Nov-15	1.17	304.73			
14-Nov-11	1.15	304.75	10-Dec-15	1.22	304.68			
14-Dec-11	1.02	304.88	20-Jan-16	0.94	304.96			
22-Dec-11	1.06	304.84	29-Feb-16	0.90	305.00			
16-Jan-12	1.08	304.82	17-Mar-16	0.86	305.04			
16-Feb-12	1.10	304.80	30-Mar-16	0.85	305.05			
29-Mar-12	1.25	304.65	27-Apr-16	0.72	305.18			
10-Apr-12	1.23	304.67	30-May-16	0.80	305.10			
30-Apr-12	1.28	304.62	27-Jun-16	0.93	304.97			
29-May-12	1.28	304.62	28-Jul-16	1.03	304.87			
20-Jun-12	1.25	304.65	11-Aug-16	1.05	304.85			
24-Jul-12	1.22	304.68	21-Sep-16	0.97	304.93			
08-Aug-12	1.25	304.65	18-Oct-16	1.09	304.81			
21-Aug-12	1.22	304.68	14-Nov-16	1.14	304.76			
18-Sep-12	1.27	304.63	14-Dec-16	1.20	304.70			

NOTES:
- · BTOP Below top of pipe
- · NA Not available
- · m ASL metres above sea level
- · (F) Frozen

TABLE B-1
WATER LEVEL DATA - GROUNDWATER MONITORS
MILL CREEK AGGREGATES PIT

BH92-28								
DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)
13-Mar-92	2.04	304.56	13-Dec-00	2.22	304.38	01-Apr-02	2.02	304.58
15-Apr-92	2.07	304.53	11-Jan-01	2.24	304.36	05-Apr-02	1.97	304.63
21-May-92	2.23	304.37	09-Feb-01	2.21	304.39	07-Apr-02	2.03	304.57
29-Jun-92	2.40	304.20	12-Mar-01	2.14	304.46	11-Apr-02	1.90	304.70
20-Jul-92	2.02	304.58	09-Apr-01	1.97	304.63	17-Apr-02	1.93	304.67
27-Aug-92	2.21	304.39	03-May-01	2.17	304.43	19-Apr-02	1.89	304.71
14-Sep-92	2.12	304.48	06-Jun-01	2.14	304.46	23-Apr-02	2.10	304.50
28-Oct-92	2.05	304.55	11-Jul-01	2.39	304.21	29-Apr-02	2.06	304.54
26-Nov-92	1.84	304.76	01-Aug-01	2.46	304.14	06-May-02	2.03	304.57
14-Dec-92	2.09	304.51	16-Aug-01	2.50	304.10	10-May-02	2.08	304.52
19-Jan-93	2.07	304.53	20-Aug-01	2.40	304.20	14-May-02	2.05	304.55
05-Mar-93	NA		23-Aug-01	2.38	304.22	17-May-02	1.83	304.77
26-Mar-93	2.08	304.52	27-Aug-01	2.40	304.20	21-May-02	2.00	304.60
19-Apr-93	2.00	304.60	30-Aug-01	2.39	304.21	24-May-02	2.06	304.54
27-May-93	2.18	304.42	05-Sep-01	2.42	304.18	27-May-02	2.11	304.49
22-Jun-93	2.16	304.44	10-Sep-01	2.46	304.14	31-May-02	2.17	304.43
14-Jul-93	2.29	304.31	13-Sep-01	2.45	304.15	04-Jun-02	2.25	304.35
18-Aug-93	2.37	304.23	18-Sep-01	2.46	304.14	07-Jun-02	2.23	304.37
20-Sep-93	2.32	304.28	20-Sep-01	2.43	304.17	11-Jun-02	2.21	304.39
19-Oct-93	2.07	304.53	24-Sep-01	2.34	304.26	14-Jun-02	2.22	304.38
17-Nov-93	2.16	304.44	27-Sep-01	2.32	304.28	18-Jun-02	2.24	304.36
06-Dec-93	2.00	304.60	01-Oct-01	2.33	304.27	21-Jun-02	2.27	304.33
18-Jan-94	2.27	304.33	04-Oct-01	2.35	304.25	25-Jun-02	2.22	304.38
23-Feb-94	2.03	304.57	09-Oct-01	2.18	304.42	02-Jul-02	2.22	304.38
24-Mar-94	1.81	304.79	11-Oct-01	2.20	304.40	05-Jul-02	2.23	304.37
19-Apr-94	1.99	304.61	15-Oct-01	2.03	304.57	08-Jul-02	2.34	304.26
24-May-94	2.10	304.50	19-Oct-01	2.02	304.58	11-Jul-02	2.38	304.22
23-Jun-94	2.36	304.24	22-Oct-01	2.09	304.51	15-Jul-02	2.41	304.19
20-Jul-94	2.39	304.21	26-Oct-01	2.07	304.53	18-Jul-02	2.41	304.19
25-Aug-94	2.34	304.26	29-Oct-01	2.11	304.49	23-Jul-02	2.42	304.18
21-Sep-94	2.42	304.18	01-Nov-01	2.14	304.46	26-Jul-02	2.42	304.18
19-Oct-94	2.36	304.24	05-Nov-01	2.06	304.54	30-Jul-02	2.38	304.22
23-Nov-94	2.16	304.44	08-Nov-01	2.11	304.49	05-Aug-02	2.41	304.19
21-Dec-94	2.06	304.54	12-Nov-01	2.15	304.45	09-Aug-02	2.43	304.17
24-Jan-95	1.90	304.70	15-Nov-01	2.15	304.45	16-Aug-02	2.43	304.17
15-Feb-95	2.25	304.35	19-Nov-01	2.17	304.43	21-Aug-02	2.45	304.15
24-Mar-95	1.97	304.63	22-Nov-01	2.18	304.42	23-Aug-02	2.45	304.15
17-May-95	2.17	304.43	26-Nov-01	2.11	304.49	28-Aug-02	2.47	304.13
13-Jun-95	2.22	304.38	29-Nov-01	2.10	304.50	30-Aug-02	2.47	304.13
20-Jul-95	2.42	304.18	03-Dec-01	1.92	304.68	04-Sep-02	2.50	304.10
15-Aug-95	2.33	304.27	06-Dec-01	2.03	304.57	10-Sep-02	2.51	304.09
18-Oct-95	2.31	304.29	10-Dec-01	2.11	304.49	12-Sep-02	2.51	304.09
22-Nov-95	2.00	304.60	13-Dec-01	2.14	304.46	17-Sep-02	2.45	304.15
26-Mar-96	1.84	304.76	17-Dec-01	2.10	304.50	20-Sep-02	2.42	304.18
31-May-96	2.09	304.51	20-Dec-01	1.98	304.62	25-Sep-02	2.42	304.18
30-Jul-96	2.20	304.40	02-Jan-02	2.20	304.40	27-Sep-02	2.42	304.18
02-Oct-96	1.96	304.64	07-Jan-02	2.15	304.45	02-Oct-02	2.38	304.22
07-Nov-96	2.05	304.55	10-Jan-02	2.22	304.38	04-Oct-02	2.37	304.23
27-Mar-97	1.80	304.80	14-Jan-02	2.21	304.39	08-Oct-02	2.36	304.24
26-May-97	2.07	304.53	17-Jan-02	2.20	304.40	11-Oct-02	2.37	304.23
30-Jul-97	2.34	304.26	21-Jan-02	2.22	304.38	15-Oct-02	2.36	304.24
06-Nov-97	1.98	304.62	24-Jan-02	2.19	304.41	18-Oct-02	2.37	304.23
16-Dec-97	2.16	304.44	28-Jan-02	2.02	304.58	23-Oct-02	2.31	304.29
27-Mar-98	1.90	304.70	01-Feb-02	2.10	304.50	29-Oct-02	2.36	304.24
31-May-98	2.36	304.24	04-Feb-02	2.15	304.45	31-Oct-02	2.37	304.23
31-Jul-98	2.41	304.19	07-Feb-02	2.16	304.44	05-Nov-02	2.28	304.32
30-Sep-98	2.39	304.21	11-Feb-02	2.17	304.43	08-Nov-02	2.28	304.32
30-Dec-98	2.32	304.28	15-Feb-02	2.18	304.42	12-Nov-02	2.08	304.52
31-Mar-99	2.07	304.53	18-Feb-02	2.20	304.40	15-Nov-02	2.16	304.44
20-May-99	2.28	304.32	21-Feb-02	1.93	304.67	19-Nov-02	2.25	304.35
16-Jul-99	2.48	304.12	25-Feb-02	2.00	304.60	22-Nov-02	2.22	304.38
10-Sep-99	2.27	304.33	05-Mar-02	2.01	304.59	26-Nov-02	2.22	304.38
10-Nov-99	2.09	304.51	07-Mar-02	2.08	304.52	29-Nov-02	2.25	304.35
01-Mar-00	2.00	304.60	11-Mar-02	1.99	304.61	04-Dec-02	2.25	304.35
19-May-00	1.87	304.73	15-Mar-02	2.06	304.54	06-Dec-02	2.27	304.33
06-Jul-00	2.14	304.46	19-Mar-02	2.11	304.49	10-Dec-02	2.32	304.28
13-Sep-00	2.27	304.33	21-Mar-02	2.07	304.53	13-Dec-02	2.31	304.29
12-Oct-00	2.17	304.43	26-Mar-02	2.15	304.45	18-Dec-02	2.30	304.30
07-Nov-00	2.25	304.35	28-Mar-02	2.15	304.45			

NOTES:
- · BTOP Below top of pipe
- · NA Not available
- · m ASL metres above sea level
- · (F) Frozen

TABLE B-1
WATER LEVEL DATA - GROUNDWATER MONITORS
MILL CREEK AGGREGATES PIT

BH92-28

DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)
07-Jan-03	2.20	304.40	23-Oct-03	2.12	304.48	19-Aug-04	2.38	304.22
09-Jan-03	2.25	304.35	27-Oct-03	2.11	304.49	23-Aug-04	2.38	304.22
14-Jan-03	2.28	304.32	30-Oct-03	2.11	304.49	26-Aug-04	2.37	304.23
21-Jan-03	2.32	304.28	3-Nov-03	1.95	304.65	30-Aug-04	2.34	304.26
24-Jan-03	2.25	304.35	6-Nov-03	1.95	304.65	2-Sep-04	2.35	304.25
28-Jan-03	2.24	304.36	10-Nov-03	2.06	304.54	6-Sep-04	2.40	304.20
31-Jan-03	2.35	304.25	13-Nov-03	2.06	304.54	9-Sep-04	2.36	304.24
05-Feb-03	2.31	304.29	17-Nov-03	2.05	304.55	13-Sep-04	2.33	304.27
10-Feb-03	2.25	304.35	20-Nov-03	2.01	304.59	16-Sep-04	2.36	304.24
14-Feb-03	2.25	304.35	24-Nov-03	2.00	304.60	20-Sep-04	2.41	304.19
17-Feb-03	2.28	304.32	1-Dec-03	1.88	304.72	23-Sep-04	2.39	304.21
21-Feb-03	2.29	304.31	8-Dec-03	2.11	304.49	27-Sep-04	2.34	304.26
24-Feb-03	2.35	304.25	11-Dec-03	2.11	304.49	30-Sep-04	2.37	304.23
10-Mar-03	2.39	304.21	15-Dec-03	2.12	304.48	4-Oct-04	2.35	304.25
13-Mar-03	2.15	304.45	22-Dec-03	2.13	304.47	7-Oct-04	2.34	304.26
24-Mar-03	1.86	304.74	6-Jan-04	2.03	304.57	11-Oct-04	2.33	304.27
27-Mar-03	1.91	304.69	8-Jan-04	2.08	304.52	14-Oct-04	2.31	304.29
10-Apr-03	1.85	304.75	12-Jan-04	2.20	304.40	18-Oct-04	2.27	304.33
11-Apr-03	2.02	304.58	15-Jan-04	2.27	304.33	21-Oct-04	2.31	304.29
21-Apr-03	2.07	304.53	19-Jan-04	2.20	304.40	25-Oct-04	2.30	304.30
24-Apr-03	2.11	304.49	26-Jan-04	2.22	304.38	28-Oct-04	2.29	304.31
28-Apr-03	2.15	304.45	5-Feb-04	2.21	304.39	1-Nov-04	2.26	304.34
5-May-03	2.14	304.46	9-Feb-04	2.21	304.39	4-Nov-04	2.16	304.44
7-May-03	1.98	304.62	16-Feb-04	2.20	304.40	8-Nov-04	2.09	304.51
8-May-03	2.16	304.44	19-Feb-04	2.23	304.37	11-Nov-04	2.15	304.45
12-May-03	2.09	304.51	4-Mar-04	1.64	304.96	15-Nov-04	2.19	304.41
15-May-03	2.16	304.44	8-Mar-04	1.79	304.81	18-Nov-04	2.22	304.38
16-May-03	2.10	304.50	11-Mar-04	2.15	304.45	22-Nov-04	2.20	304.40
23-May-03	2.09	304.51	15-Mar-04	1.99	304.61	25-Nov-04	2.15	304.45
26-May-03	2.00	304.60	18-Mar-04	2.03	304.57	29-Nov-04	2.11	304.49
29-May-03	2.05	304.55	22-Mar-04	1.93	304.67	2-Dec-04	1.94	304.66
2-Jun-03	2.07	304.53	25-Mar-04	2.03	304.57	6-Dec-04	2.09	304.51
5-Jun-03	2.08	304.52	1-Apr-04	1.77	304.83	9-Dec-04	2.11	304.49
9-Jun-03	2.10	304.50	5-Apr-04	1.90	304.70	13-Dec-04	2.08	304.52
13-Jun-03	2.15	304.45	7-Apr-04	1.96	304.64	15-Dec-04	2.07	304.53
16-Jun-03	2.35	304.25	8-Apr-04	1.98	304.62	16-Dec-04	2.07	304.53
17-Jun-03	2.20	304.40	15-Apr-04	2.09	304.51	20-Dec-04	2.17	304.43
19-Jun-03	2.23	304.37	22-Apr-04	1.98	304.62	23-Dec-04	2.21	304.39
23-Jun-03	2.28	304.32	26-Apr-04	2.06	304.54	20-Jan-05	2.06	304.54
26-Jun-03	2.34	304.26	3-May-04	1.88	304.72	25-Feb-05	2.07	304.53
7-Jul-03	2.30	304.30	10-May-04	1.92	304.68	24-Mar-05	2.09	304.51
10-Jul-03	2.36	304.24	13-May-04	2.02	304.58	18-Apr-05	2.09	304.51
17-Jul-03	2.38	304.22	17-May-04	2.15	304.45	29-Apr-05	1.94	304.66
22-Jul-03	2.40	304.20	20-May-04	2.14	304.46	26-May-05	2.20	304.40
25-Jul-03	2.48	304.12	25-May-04	2.11	304.49	23-Jun-05	2.29	304.31
28-Jul-03	2.36	304.24	27-May-04	2.12	304.48	25-Jul-05	2.28	304.32
7-Aug-03	2.35	304.25	31-May-04	2.22	304.38	17-Aug-05	2.33	304.27
11-Aug-03	2.40	304.20	3-Jun-04	2.22	304.38	25-Aug-05	2.30	304.30
18-Aug-03	2.33	304.27	7-Jun-04	2.29	304.31	30-Sep-05	2.17	304.43
21-Aug-03	2.38	304.22	10-Jun-04	2.29	304.31	27-Oct-05	2.16	304.44
25-Aug-03	2.36	304.24	14-Jun-04	2.29	304.31	28-Nov-05	2.11	304.49
26-Aug-03	2.40	304.20	17-Jun-04	2.35	304.25	07-Dec-05	2.08	304.52
29-Aug-03	2.40	304.20	21-Jun-04	2.35	304.25	19-Dec-05	2.17	304.43
2-Sep-03	2.44	304.16	24-Jun-04	2.21	304.39	26-Jan-06	1.95	304.65
4-Sep-03	2.45	304.15	28-Jun-04	2.36	304.24	15-Feb-06	2.30	304.30
8-Sep-03	2.46	304.14	5-Jul-04	2.43	304.17	30-Mar-06	2.25	304.35
11-Sep-03	2.49	304.11	8-Jul-04	2.31	304.29	27-Apr-06	2.03	304.57
15-Sep-03	2.45	304.15	12-Jul-04	2.37	304.23	28-Apr-06	2.25	304.35
18-Sep-03	2.44	304.16	15-Jul-04	2.34	304.26	15-May-06	2.35	304.25
22-Sep-03	2.40	304.20	19-Jul-04	2.38	304.22	15-Jun-06	2.48	304.12
25-Sep-03	2.12	304.48	22-Jul-04	2.43	304.17	15-Jul-06	2.41	304.19
26-Sep-03	2.25	304.35	26-Jul-04	2.45	304.15	24-Aug-06	2.36	304.24
29-Sep-03	2.06	304.54	29-Jul-04	2.41	304.19	15-Sep-06	2.09	304.51
2-Oct-03	2.12	304.48	2-Aug-04	2.32	304.28	15-Oct-06	1.82	304.78
6-Oct-03	2.10	304.50	4-Aug-04	2.25	304.35	15-Nov-06	2.05	304.55
9-Oct-03	2.19	304.41	5-Aug-04	2.36	304.24	07-Dec-06	1.98	304.62
13-Oct-03	2.19	304.41	9-Aug-04	2.33	304.27			
16-Oct-03	2.09	304.51	12-Aug-04	2.35	304.25			
20-Oct-03	2.12	304.48	16-Aug-04	2.37	304.23			

NOTES:
- · BTOP — Below top of pipe
- · NA — Not available
- · m ASL — metres above sea level
- · (F) — Frozen

TABLE B-1
WATER LEVEL DATA - GROUNDWATER MONITORS
MILL CREEK AGGREGATES PIT

BH92-28								
DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)
17-Jan-07	2.04	304.56	18-Nov-10	2.09	304.51	18-Jun-14	1.83	304.77
26-Apr-07	2.08	304.52	08-Dec-10	2.06	304.54	29-Jul-14	1.70	304.90
16-May-07	2.14	304.46	22-Dec-10	2.13	304.47	25-Aug-14	1.78	304.82
26-Jun-07	2.30	304.30	19-Jan-11	2.15	304.45	18-Sep-14	1.70	304.90
25-Jul-07	2.38	304.22	17-Feb-11	2.15	304.45	17-Oct-14	1.73	304.87
07-Aug-07	2.37	304.23	16-Mar-11	1.77	304.83	27-Nov-14	1.72	304.88
21-Aug-07	2.40	304.20	13-Apr-11	2.00	304.60	15-Dec-14	1.60	305.00
21-Sep-07	2.39	304.21	21-Apr-11	1.79	304.81	21-Jan-15	1.69	304.91
17-Oct-07	2.24	304.36	26-May-11	1.96	304.64	18-Feb-15	1.73	304.87
15-Nov-07	2.18	304.42	16-Jun-11	2.06	304.54	25-Mar-15	1.62	304.98
29-Nov-07	2.05	304.55	14-Jul-11	2.24	304.36	06-Apr-15	1.60	305.00
10-Dec-07	2.12	304.48	11-Aug-11	2.22	304.38	20-May-15	1.67	304.93
31-Jan-08	2.07	304.53	17-Aug-11	2.24	304.36	23-Jun-15	1.77	304.83
29-Feb-08	2.08	304.52	14-Sep-11	2.18	304.42	22-Jul-15	1.81	304.79
31-Mar-08	1.54	305.06	27-Oct-11	1.90	304.70	25-Aug-15	1.88	304.72
28-Apr-08	2.13	304.47	14-Nov-11	1.98	304.62	24-Sep-15	1.94	304.66
28-May-08	2.17	304.43	14-Dec-11	1.87	304.73	29-Oct-15	1.80	304.80
25-Jun-08	2.17	304.43	22-Dec-11	1.90	304.70	25-Nov-15	2.04	304.56
16-Jul-08	2.16	304.44	16-Jan-12	1.94	304.66	10-Dec-15	2.04	304.56
20-Aug-08	2.25	304.35	16-Feb-12	1.96	304.64	20-Jan-16	1.87	304.73
26-Aug-08	2.20	304.40	29-Mar-12	2.08	304.52	29-Feb-16	1.81	304.79
19-Sep-08	1.89	304.71	10-Apr-12	2.06	304.54	17-Mar-16	1.73	304.87
10-Oct-08	2.17	304.43	30-Apr-12	2.11	304.49	30-Mar-16	1.73	304.87
05-Nov-08	2.14	304.46	29-May-12	2.16	304.44	27-Apr-16	1.67	304.93
03-Dec-08	2.00	304.60	20-Jun-12	2.13	304.47	30-May-16	1.70	304.90
17-Dec-08	1.96	304.64	24-Jul-12	2.10	304.50	27-Jun-16	1.83	304.77
06-Jan-09	2.03	304.57	08-Aug-12	2.11	304.49	28-Jul-16	1.87	304.73
27-Feb-09	2.05	304.55	21-Aug-12	2.04	304.56	11-Aug-16	1.86	304.74
11-Mar-09	1.75	304.85	18-Sep-12	2.00	304.60	21-Sep-16	1.81	304.79
14-Apr-09	1.98	304.62	23-Oct-12	2.00	304.60	18-Oct-16	1.92	304.68
21-May-09	2.10	304.50	28-Nov-12	2.05	304.55	14-Nov-16	1.95	304.65
16-Jun-09	2.17	304.43	06-Dec-12	1.94	304.66	14-Dec-16	1.93	304.67
31-Jul-09	2.12	304.48	19-Dec-12	1.93	304.67	18-Jan-17	1.86	304.74
25-Aug-09	1.92	304.68	16-Jan-13	1.81	304.79	15-Feb-17	1.95	304.65
28-Aug-09	1.92	304.68	20-Feb-13	1.83	304.77	17-Mar-17	1.93	304.67
28-Sep-09	2.16	304.44	21-Mar-13	1.76	304.84	11-Apr-17	1.82	304.78
14-Oct-09	2.05	304.55	04-Apr-13	1.75	304.85	18-May-17	1.88	304.72
11-Nov-09	2.08	304.52	25-Apr-13	1.71	304.89	14-Jun-17	1.98	304.62
11-Dec-09	2.02	304.58	23-May-13	1.78	304.82	20-Jul-17	1.98	304.62
16-Dec-09	1.99	304.61	13-Jun-13	1.79	304.81	09-Aug-17	2.05	304.55
13-Jan-10	2.13	304.47	31-Jul-13	1.86	304.74	12-Sep-17	2.11	304.49
11-Feb-10	2.16	304.44	29-Aug-13	1.91	304.69	12-Oct-17	2.12	304.48
11-Mar-10	1.99	304.61	25-Sep-13	1.90	304.70	21-Nov-17	2.04	304.56
16-Apr-10	2.07	304.53	22-Oct-13	1.83	304.77	19-Dec-17	2.12	304.48
21-May-10	2.18	304.42	28-Nov-13	1.85	304.75	16-Jan-18	1.98	304.62
17-Jun-10	2.13	304.47	10-Dec-13	1.81	304.79	26-Feb-18	1.89	304.71
15-Jul-10	2.24	304.36	15-Jan-14	1.66	304.94	26-Mar-18	2.05	304.55
18-Aug-10	2.31	304.29	26-Feb-14	1.70	304.90	24-Apr-18	1.85	304.75
31-Aug-10	2.26	304.34	26-Mar-14	1.69	304.91	18-May-18	1.97	304.63
28-Sep-10	2.11	304.49	01-Apr-14	1.57	305.03	12-Jun-18	2.08	304.52
20-Oct-10	2.11	304.49	15-May-14	1.71	304.89	27-Jul-18	2.18	304.42

NOTES:
- BTOP Below top of pipe
- NA Not available
- m ASL metres above sea level
- (F) Frozen

TABLE B-1
WATER LEVEL DATA - GROUNDWATER MONITORS
MILL CREEK AGGREGATES PIT

BH92-28								
DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)
22-Aug-18	2.13	304.47						
12-Sep-18	2.19	304.41						
30-Oct-18	2.18	304.42						
21-Nov-18	2.11	304.49						
20-Dec-18	2.10	304.50						

NOTES:
- BTOP Below top of pipe
- NA Not available
- m ASL metres above sea level
- (F) Frozen

TABLE B-1
WATER LEVEL DATA - GROUNDWATER MONITORS
MILL CREEK AGGREGATES PIT

BH92-29

DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)
13-Mar-92	2.15	304.75	16-Jul-99	2.67	304.23	18-Oct-04	2.52	304.38
15-Apr-92	2.19	304.71	10-Sep-99	2.53	304.37	16-Nov-04	2.40	304.50
21-May-92	2.37	304.53	10-Nov-99	2.27	304.63	15-Dec-04	2.23	304.67
29-Jun-92	2.61	304.29	01-Mar-00	2.18	304.72	16-Dec-04	2.24	304.66
20-Jul-92	2.17	304.73	19-May-00	2.01	304.89	20-Jan-05	2.22	304.68
27-Aug-92	2.42	304.48	06-Jul-00	2.30	304.60	25-Feb-05	2.21	304.69
14-Sep-92	2.31	304.59	13-Sep-00	2.48	304.42	24-Mar-05	2.22	304.68
28-Oct-92	2.22	304.68	12-Oct-00	2.45	304.45	18-Apr-05	2.23	304.67
26-Nov-92	1.98	304.92	07-Nov-00	2.45	304.45	29-Apr-05	2.09	304.81
14-Dec-92	2.24	304.66	13-Dec-00	2.42	304.48	26-May-05	2.38	304.52
19-Jan-93	2.21	304.69	11-Jan-01	2.43	304.47	23-Jun-05	2.50	304.40
05-Mar-93	NA		09-Feb-01	2.41	304.49	25-Jul-05	2.50	304.40
26-Mar-93	2.25	304.65	12-Mar-01	2.30	304.60	17-Aug-05	2.57	304.33
19-Apr-93	2.13	304.77	09-Apr-01	2.11	304.79	25-Aug-05	2.54	304.36
27-May-93	2.37	304.53	04-May-01	2.33	304.57	30-Sep-05	2.41	304.49
22-Jun-93	2.37	304.53	06-Jun-01	2.30	304.60	27-Oct-05	2.38	304.52
14-Jul-93	2.52	304.38	11-Jul-01	2.60	304.30	28-Nov-05	2.28	304.62
18-Aug-93	2.58	304.32	01-Aug-01	2.71	304.19	07-Dec-05	2.24	304.66
20-Sep-93	2.56	304.34	05-Sep-01	2.68	304.22	19-Dec-05	2.35	304.55
19-Oct-93	2.27	304.63	02-Oct-01	2.58	304.32	26-Jan-06	2.08	304.82
17-Nov-93	2.35	304.55	06-Nov-01	2.28	304.62	15-Feb-06	2.39	304.51
06-Dec-93	2.15	304.75	06-Dec-01	2.19	304.71	30-Mar-06	2.28	304.62
18-Jan-94	2.49	304.41	04-Jan-02	2.37	304.53	27-Apr-06	2.19	304.71
23-Feb-94	2.20	304.70	07-Feb-02	2.30	304.60	28-Apr-06	2.31	304.59
24-Mar-94	1.98	304.92	07-Mar-02	2.22	304.68	15-May-06	2.44	304.46
19-Apr-94	2.11	304.79	07-Apr-02	2.18	304.72	15-Jun-06	2.74	304.16
24-May-94	2.24	304.66	06-May-02	2.17	304.73	15-Jul-06	2.55	304.35
23-Jun-94	2.58	304.32	14-Jun-02	2.38	304.52	24-Aug-06	2.61	304.29
20-Jul-94	2.64	304.26	11-Jul-02	2.58	304.32	15-Sep-06	2.34	304.56
25-Aug-94	2.58	304.32	09-Aug-02	2.61	304.29	15-Oct-06	1.97	304.93
21-Sep-94	2.68	304.22	04-Sep-02	2.74	304.16	15-Nov-06	2.18	304.72
19-Oct-94	2.62	304.28	11-Oct-02	2.63	304.27	07-Dec-06	2.13	304.77
23-Nov-94	2.38	304.52	21-Nov-02	2.42	304.48	17-Jan-07	2.18	304.72
21-Dec-94	2.24	304.66	13-Dec-02	2.55	304.35	26-Apr-07	2.22	304.68
24-Jan-95	1.95	304.95	09-Jan-03	2.50	304.40	16-May-07	2.31	304.59
15-Feb-95	2.40	304.50	10-Feb-03	2.62	304.28	26-Jun-07	2.51	304.39
24-Mar-95	2.11	304.79	13-Mar-03	2.31	304.59	25-Jul-07	2.63	304.27
17-May-95	2.22	304.68	10-Apr-03	2.01	304.89	07-Aug-07	2.64	304.26
13-Jun-95	2.40	304.50	07-May-03	2.16	304.74	21-Aug-07	2.68	304.22
20-Jul-95	2.67	304.23	15-May-03	2.31	304.59	21-Sep-07	2.66	304.24
15-Aug-95	2.59	304.31	16-Jun-03	2.40	304.50	17-Oct-07	2.47	304.43
18-Oct-95	2.56	304.34	17-Jul-03	2.53	304.37	15-Nov-07	2.42	304.48
22-Nov-95	2.17	304.73	21-Aug-03	2.74	304.16	29-Nov-07	2.21	304.69
26-Mar-96	2.02	304.88	26-Aug-03	2.64	304.26	10-Dec-07	2.28	304.62
31-May-96	2.24	304.66	25-Sep-03	2.35	304.55	31-Jan-08	2.09	304.81
30-Jul-96	2.40	304.50	27-Oct-03	2.36	304.54	29-Feb-08	2.24	304.66
02-Oct-96	2.11	304.79	01-Dec-03	2.10	304.80	31-Mar-08	1.53	305.37
07-Nov-96	2.19	304.71	11-Dec-03	2.26	304.64	28-Apr-08	2.27	304.63
27-Mar-97	1.94	304.96	16-Dec-03	2.28	304.62	28-May-08	2.35	304.55
26-May-97	2.21	304.69	19-Jan-04	2.36	304.54	25-Jun-08	2.36	304.54
30-Jul-97	2.57	304.33	18-Feb-04	2.40	304.50	16-Jul-08	2.37	304.53
06-Nov-97	2.13	304.77	25-Mar-04	2.17	304.73	20-Aug-08	2.30	304.60
16-Dec-97	2.33	304.57	07-Apr-04	2.09	304.81	26-Aug-08	2.40	304.50
27-Mar-98	2.02	304.88	22-Apr-04	2.13	304.77	19-Sep-08	1.96	304.94
31-May-98	2.55	304.35	20-May-04	2.30	304.60	10-Oct-08	2.29	304.61
31-Jul-98	2.66	304.24	24-Jun-04	2.39	304.51	05-Nov-08	2.28	304.62
30-Sep-98	2.66	304.24	23-Jul-04	2.49	304.41	03-Dec-08	2.09	304.81
30-Dec-98	2.57	304.33	04-Aug-04	2.45	304.45	22-Dec-08	2.20	304.70
31-Mar-99	2.22	304.68	26-Aug-04	2.59	304.31			
20-May-99	2.50	304.40	28-Sep-04	2.58	304.32			

NOTES:
- · BTOP Below top of pipe
- · NA Not available
- · m ASL metres above sea level
- · (F) Frozen

TABLE B-1
WATER LEVEL DATA - GROUNDWATER MONITORS
MILL CREEK AGGREGATES PIT

BH92-29

DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)
06-Jan-09	2.18	304.72	20-Jun-12	2.24	304.66	30-Mar-16	1.64	305.26
27-Feb-09	2.20	304.70	24-Jul-12	2.13	304.77	27-Apr-16	1.32	305.58
11-Mar-09	1.88	305.02	08-Aug-12	2.12	304.78	30-May-16	1.36	305.54
14-Apr-09	2.11	304.79	21-Aug-12	2.10	304.80	27-Jun-16	1.42	305.48
21-May-09	2.24	304.66	18-Sep-12	2.09	304.81	28-Jul-16	1.62	305.28
16-Jun-09	2.54	304.36	23-Oct-12	2.07	304.83	11-Aug-16	1.55	305.35
31-Jul-09	2.31	304.59	28-Nov-12	2.10	304.80	21-Sep-16	1.58	305.32
25-Aug-09	2.08	304.82	06-Dec-12	1.97	304.93	18-Oct-16	1.74	305.16
28-Aug-09	2.21	304.69	19-Dec-12	1.92	304.98	14-Nov-16	1.84	305.06
28-Sep-09	2.39	304.51	16-Jan-13	1.79	305.11	14-Dec-16	1.93	304.97
14-Oct-09	2.22	304.68	20-Feb-13	1.68	305.22	18-Jan-17	1.75	305.15
11-Nov-09	2.25	304.65	21-Mar-13	(F)1.61		15-Feb-17	1.84	305.06
11-Dec-09	2.16	304.74	04-Apr-13	1.60	305.30	17-Mar-17	1.79	305.11
16-Dec-09	2.14	304.76	25-Apr-13	1.57	305.33	11-Apr-17	1.73	305.17
13-Jan-10	2.32	304.58	23-May-13	1.60	305.30	18-May-17	1.77	305.13
11-Feb-10	2.36	304.54	13-Jun-13	1.63	305.27	14-Jun-17	1.87	305.03
11-Mar-10	2.12	304.78	31-Jul-13	1.77	305.13	20-Jul-17	1.94	304.96
16-Apr-10	2.20	304.70	29-Aug-13	1.80	305.10	09-Aug-17	2.04	304.86
21-May-10	2.37	304.53	25-Sep-13	1.82	305.08	12-Sep-17	2.16	304.74
17-Jun-10	2.30	304.60	22-Oct-13	1.80	305.10	12-Oct-17	2.24	304.66
15-Jul-10	2.42	304.48	28-Nov-13	1.71	305.19	21-Nov-17	2.20	304.70
18-Aug-10	2.46	304.44	10-Dec-13	1.67	305.23	19-Dec-17	2.24	304.66
31-Aug-10	2.45	304.45	15-Jan-14	1.47	305.43	16-Jan-18	2.10	304.80
28-Sep-10	2.28	304.62	26-Feb-14	1.43	305.47	26-Feb-18	1.98	304.92
20-Oct-10	2.29	304.61	26-Mar-14	(F)1.41		26-Mar-18	2.05	304.85
18-Nov-10	2.20	304.70	01-Apr-14	(F)1.38		24-Apr-18	1.92	304.98
08-Dec-10	2.21	304.69	15-May-14	1.59	305.31	18-May-18	1.93	304.97
22-Dec-10	2.30	304.60	18-Jun-14	1.66	305.24	12-Jun-18	2.05	304.85
19-Jan-11	2.34	304.56	29-Jul-14	1.59	305.31	27-Jul-18	2.25	304.65
17-Feb-11	2.33	304.57	25-Aug-14	1.63	305.27	22-Aug-18	2.27	304.63
16-Mar-11	1.87	305.03	18-Sep-14	1.54	305.36	12-Sep-18	2.34	304.56
13-Apr-11	2.12	304.78	17-Oct-14	1.53	305.37	30-Oct-18	2.38	304.52
21-Apr-11	1.91	304.99	27-Nov-14	1.45	305.45	21-Nov-18	2.28	304.62
26-May-11	2.01	304.89	15-Dec-14	1.34	305.56	20-Dec-18	2.24	304.66
16-Jun-11	2.19	304.71	21-Jan-15	(F)				
14-Jul-11	2.43	304.47	18-Feb-15	(F)				
11-Aug-11	2.40	304.50	25-Mar-15	(F)				
17-Aug-11	2.43	304.47	06-Apr-15	(F)				
14-Sep-11	2.38	304.52	20-May-15	1.51	305.39			
27-Oct-11	2.03	304.87	23-Jun-15	1.51	305.39			
14-Nov-11	2.14	304.76	22-Jul-15	1.51	305.39			
14-Dec-11	1.99	304.91	25-Aug-15	1.72	305.18			
22-Dec-11	2.03	304.87	24-Sep-15	1.78	305.12			
16-Jan-12	2.09	304.81	29-Oct-15	1.83	305.07			
16-Feb-12	2.07	304.83	25-Nov-15	1.98	304.92			
29-Mar-12	2.17	304.73	10-Dec-15	2.03	304.87			
10-Apr-12	2.17	304.73	20-Jan-16	1.73	305.17			
30-Apr-12	2.30	304.60	29-Feb-16	1.64	305.26			
29-May-12	2.30	304.60	17-Mar-16	1.60	305.30			

NOTES:
- BTOP Below top of pipe
- NA Not available
- m ASL metres above sea level
- (F) Frozen

TABLE B-1
WATER LEVEL DATA - GROUNDWATER MONITORS
MILL CREEK AGGREGATES PIT

BH92-32

DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)
13-Mar-92	1.06	304.34	10-Sep-99	1.23	304.17	15-Dec-04	1.03	304.37
15-Apr-92	1.07	304.33	10-Nov-99	1.09	304.31	16-Dec-04	1.03	304.37
21-May-92	1.21	304.19	01-Mar-00	1.03	304.37	20-Jan-05	1.02	304.38
29-Jun-92	1.40	304.00	19-May-00	0.80	304.60	25-Feb-05	1.00	304.40
20-Jul-92	0.98	304.42	06-Jul-00	1.03	304.37	24-Mar-05	1.01	304.39
27-Aug-92	1.08	304.32	13-Sep-00	1.09	304.31	18-Apr-05	0.99	304.41
14-Sep-92	1.01	304.39	10-Oct-00	1.09	304.31	29-Apr-05	0.89	304.51
28-Oct-92	1.14	304.26	07-Nov-00	1.08	304.32	26-May-05	1.30	304.10
26-Nov-92	0.95	304.45	13-Dec-00	1.14	304.26	23-Jun-05	1.45	303.95
14-Dec-92	0.96	304.44	11-Jan-01	1.20	304.20	25-Jul-05	1.45	303.95
19-Jan-93	0.92	304.48	09-Feb-01	1.18	304.22	17-Aug-05	1.33	304.07
10-Mar-93	1.00	304.40	12-Mar-01	0.94	304.46	25-Aug-05	1.27	304.13
26-Mar-93	0.94	304.46	09-Apr-01	0.89	304.51	30-Sep-05	1.15	304.25
19-Apr-93	0.85	304.55	03-May-01	1.06	304.34	27-Oct-05	1.16	304.24
27-May-93	1.05	304.35	06-Jun-01	1.05	304.35	28-Nov-05	1.06	304.34
22-Jun-93	1.02	304.38	11-Jul-01	1.33	304.07	07-Dec-05	1.04	304.36
14-Jul-93	1.17	304.23	01-Aug-01	1.44	303.96	19-Dec-05	1.11	304.29
18-Aug-93	1.25	304.15	05-Sep-01	1.35	304.05	26-Jan-06	0.90	304.50
20-Sep-93	1.23	304.17	02-Oct-01	1.25	304.15	15-Feb-06	1.37	304.03
19-Oct-93	0.98	304.42	06-Nov-01	1.03	304.37	30-Mar-06	1.26	304.14
17-Nov-93	1.07	304.33	06-Dec-01	1.02	304.38	27-Apr-06	0.97	304.43
06-Dec-93	0.92	304.48	04-Jan-02	1.17	304.23	28-Apr-06	1.32	304.08
18-Jan-94	1.19	304.21	07-Feb-02	1.13	304.27	15-May-06	1.45	303.95
23-Feb-94	0.95	304.45	07-Mar-02	1.10	304.30	15-Jun-06	1.62	303.78
24-Mar-94	0.76	304.64	07-Apr-02	0.99	304.41	15-Jul-06	1.51	303.89
19-Apr-94	0.89	304.51	06-May-02	0.94	304.46	24-Aug-06	1.30	304.10
24-May-94	0.98	304.42	14-Jun-02	1.05	304.35	15-Sep-06	0.82	304.58
23-Jun-94	1.26	304.14	11-Jul-02	1.41	303.99	15-Oct-06	0.81	304.59
20-Jul-94	1.31	304.09	09-Aug-02	1.45	303.95	15-Nov-06	1.10	304.30
25-Aug-94	1.29	304.11	04-Sep-02	1.47	303.93	07-Dec-06	1.65	303.75
21-Sep-94	1.39	304.01	11-Oct-02	1.40	304.00	17-Jan-07	1.11	304.29
18-Oct-94	1.44	303.96	21-Nov-02	1.15	304.25	22-Feb-07	0.72	304.69
23-Nov-94	1.12	304.28	13-Dec-02	1.30	304.10	26-Apr-07	1.14	304.26
21-Dec-94	1.04	304.36	09-Jan-03	1.25	304.15	16-May-07	1.19	304.22
24-Jan-95	0.80	304.60	10-Feb-03	1.60	303.80	26-Jun-07	1.33	304.07
15-Feb-95	1.09	304.31	13-Mar-03	1.30	304.10	25-Jul-07	1.44	303.96
24-Mar-95	0.88	304.52	10-Apr-03	0.87	304.53	07-Aug-07	1.48	303.92
17-May-95	0.96	304.44	07-May-03	0.94	304.46	21-Aug-07	1.53	303.87
13-Jun-95	1.12	304.28	15-May-03	1.03	304.37	21-Sep-07	1.53	303.87
20-Jul-95	1.39	304.01	16-Jun-03	1.10	304.30	17-Oct-07	1.35	304.05
15-Aug-95	1.25	304.15	17-Jul-03	1.25	304.15	15-Nov-07	1.32	304.08
18-Oct-95	1.29	304.11	21-Aug-03	1.55	303.85	29-Nov-07	1.15	304.25
22-Nov-95	0.96	304.44	26-Aug-03	1.40	304.00	10-Dec-07	1.23	304.17
26-Mar-96	0.85	304.55	25-Sep-03	1.16	304.24	31-Jan-08	1.13	304.27
31-May-96	0.99	304.41	27-Oct-03	1.13	304.27	29-Feb-08	1.16	304.24
29-Jul-96	1.25	304.15	01-Dec-03	0.94	304.46	31-Mar-08	0.47	304.93
02-Oct-96	1.07	304.33	11-Dec-03	1.04	304.36	28-Apr-08	1.15	304.25
07-Nov-96	1.09	304.31	16-Dec-03	1.07	304.33	28-May-08	1.27	304.13
27-Mar-97	0.75	304.65	19-Jan-04	1.14	304.26	25-Jun-08	1.25	304.15
26-May-97	0.97	304.43	18-Feb-04	1.15	304.25	16-Jul-08	1.25	304.15
30-Jul-97	1.28	304.12	25-Mar-04	0.93	304.47	20-Aug-08	1.18	304.22
06-Nov-97	0.95	304.45	07-Apr-04	0.91	304.49	26-Aug-08	1.27	304.13
16-Dec-97	1.10	304.30	22-Apr-04	0.89	304.51	19-Sep-08	0.90	304.50
27-Mar-98	0.80	304.60	20-May-04	1.05	304.35	10-Oct-08	1.15	304.25
31-May-98	1.27	304.13	24-Jun-04	1.32	304.08	05-Nov-08	1.14	304.26
31-Jul-98	1.41	303.99	23-Jul-04	1.40	304.00	03-Dec-08	1.04	304.36
30-Sep-98	1.46	303.94	04-Aug-04	1.17	304.23	22-Dec-08	1.28	304.12
30-Dec-98	1.35	304.05	26-Aug-04	1.52	303.88			
31-Mar-99	1.08	304.32	28-Sep-04	1.51	303.89			
20-May-99	1.10	304.30	18-Oct-04	1.26	304.14			
16-Jul-99	1.30	304.10	16-Nov-04	1.17	304.23			

NOTES:
- · BTOP Below top of pipe
- · NA Not available
- · m ASL metres above sea level
- · (F) Frozen

TABLE B-1
WATER LEVEL DATA - GROUNDWATER MONITORS
MILL CREEK AGGREGATES PIT

BH92-32

DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)
06-Jan-09	1.07	304.33	04-Apr-13	0.86	304.54	16-Jan-18	1.17	304.23
27-Feb-09	1.10	304.30	25-Apr-13	0.84	304.56	26-Feb-18	1.06	304.34
11-Mar-09	0.87	304.53	23-May-13	0.88	304.52	26-Mar-18	1.19	304.21
14-Apr-09	1.21	304.19	13-Jun-13	0.88	304.52	24-Apr-18	1.03	304.37
21-May-09	1.13	304.27	31-Jul-13	0.99	304.41	18-May-18	1.13	304.27
16-Jun-09	1.16	304.24	29-Aug-13	1.02	304.38	12-Jun-18	1.25	304.15
31-Jul-09	1.08	304.32	25-Sep-13	1.17	304.23	27-Jul-18	1.37	304.03
25-Aug-09	1.06	304.34	22-Oct-13	1.11	304.29	22-Aug-18	1.19	304.21
28-Aug-09	0.92	304.48	28-Nov-13	1.13	304.27	12-Sep-18	1.28	304.12
28-Sep-09	1.10	304.30	10-Dec-13	0.94	304.46	30-Oct-18	1.27	304.13
14-Oct-09	1.07	304.33	15-Jan-14	0.79	304.61	21-Nov-18	1.23	304.17
11-Nov-09	1.10	304.30	26-Feb-14	0.82	304.58	20-Dec-18	1.21	304.19
11-Dec-09	1.06	304.34	26-Mar-14	0.83	304.57			
16-Dec-09	1.03	304.37	01-Apr-14	0.74	304.66			
13-Jan-10	1.14	304.26	15-May-14	0.90	304.50			
11-Feb-10	1.19	304.21	18-Jun-14	0.99	304.41			
11-Mar-10	0.97	304.43	29-Jul-14	0.85	304.55			
16-Apr-10	1.10	304.30	25-Aug-14	0.91	304.49			
21-May-10	1.20	304.20	18-Sep-14	0.87	304.53			
17-Jun-10	1.02	304.38	17-Oct-14	0.90	304.50			
15-Jul-10	1.20	304.20	27-Nov-14	0.95	304.45			
18-Aug-10	1.26	304.14	15-Dec-14	0.92	304.48			
31-Aug-10	1.30	304.10	21-Jan-15	0.93	304.47			
28-Sep-10	1.03	304.37	18-Feb-15	0.97	304.43			
20-Oct-10	0.98	304.42	25-Mar-15	0.96	304.44			
18-Nov-10	0.91	304.49	06-Apr-15	0.76	304.64			
08-Dec-10	1.01	304.39	20-May-15	0.92	304.48			
22-Dec-10	1.03	304.37	23-Jun-15	1.00	304.40			
19-Jan-11	0.98	304.42	22-Jul-15	1.03	304.37			
17-Feb-11	0.96	304.44	25-Aug-15	1.08	304.32			
16-Mar-11	0.90	304.50	24-Sep-15	1.16	304.24			
13-Apr-11	0.77	304.63	29-Oct-15	1.00	304.40			
21-Apr-11	0.70	304.70	25-Nov-15	1.21	304.19			
26-May-11	0.76	304.64	10-Dec-15	1.22	304.18			
16-Jun-11	0.88	304.52	20-Jan-16	1.18	304.22			
14-Jul-11	1.09	304.31	29-Feb-16	1.15	304.25			
11-Aug-11	0.97	304.43	17-Mar-16	1.05	304.35			
17-Aug-11	1.13	304.27	30-Mar-16	1.02	304.38			
14-Sep-11	0.93	304.47	27-Apr-16	1.06	304.34			
27-Oct-11	0.84	304.56	30-May-16	1.09	304.31			
14-Nov-11	0.81	304.59	27-Jun-16	1.07	304.33			
14-Dec-11	0.73	304.67	28-Jul-16	1.10	304.30			
22-Dec-11	0.85	304.55	11-Aug-16	1.08	304.32			
16-Jan-12	0.79	304.61	21-Sep-16	1.12	304.28			
16-Feb-12	0.84	304.56	18-Oct-16	1.18	304.22			
29-Mar-12	1.01	304.39	14-Nov-16	1.12	304.28			
10-Apr-12	1.20	304.20	14-Dec-16	1.21	304.19			
30-Apr-12	1.27	304.13	18-Jan-17	1.09	304.31			
29-May-12	1.22	304.18	15-Feb-17	1.17	304.23			
20-Jun-12	1.26	304.14	17-Mar-17	1.14	304.26			
24-Jul-12	1.13	304.27	11-Apr-17	1.00	304.40			
08-Aug-12	1.12	304.28	18-May-17	1.10	304.30			
21-Aug-12	1.10	304.30	14-Jun-17	1.20	304.20			
18-Sep-12	1.01	304.39	20-Jul-17	1.17	304.23			
23-Oct-12	0.97	304.43	09-Aug-17	1.22	304.18			
28-Nov-12	1.13	304.27	12-Sep-17	1.28	304.12			
06-Dec-12	1.15	304.25	12-Oct-17	1.29	304.11			
19-Dec-12	1.13	304.27	21-Nov-17	1.20	304.20			
16-Jan-13	0.95	304.45	19-Dec-17	1.23	304.17			
20-Feb-13	0.92	304.48						
21-Mar-13	0.88	304.52						

NOTES:
- BTOP — Below top of pipe
- NA — Not available
- m ASL — metres above sea level
- (F) — Frozen

TABLE B-1
WATER LEVEL DATA - GROUNDWATER MONITORS
MILL CREEK AGGREGATES PIT

BH92-33								
DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)
13-Mar-92	1.87	304.33	01-Mar-00	1.74	304.46	24-Mar-05	1.72	304.48
15-Apr-92	1.89	304.31	19-May-00	1.54	304.66	18-Apr-05	1.70	304.50
21-May-92	1.88	304.32	06-Jul-00	1.74	304.46	29-Apr-05	1.60	304.60
29-Jun-92	2.05	304.15	13-Sep-00	1.83	304.37	26-May-05	1.81	304.39
20-Jul-92	1.70	304.50	11-Oct-00	1.83	304.37	23-Jun-05	1.91	304.29
27-Aug-92	NA		07-Nov-00	1.82	304.38	25-Jul-05	1.90	304.30
14-Sep-92	NA		13-Dec-00	1.82	304.38	17-Aug-05	1.99	304.21
28-Oct-92	NA		11-Jan-01	1.88	304.32	25-Aug-05	1.96	304.24
26-Nov-92	NA		09-Feb-01	1.85	304.35	30-Sep-05	1.85	304.35
14-Dec-92	1.70	304.50	12-Mar-01	1.76	304.44	27-Oct-05	1.85	304.35
19-Jan-93	NA		09-Apr-01	1.60	304.60	28-Nov-05	1.77	304.43
10-Mar-93	NA		03-May-01	1.78	304.42	07-Dec-05	1.74	304.46
31-Mar-93	NA		06-Jun-01	1.75	304.45	19-Dec-05	1.81	304.39
19-Apr-93	1.59	304.61	11-Jul-01	2.04	304.16	26-Jan-06	1.61	304.59
27-May-93	NA		01-Aug-01	2.12	304.08	15-Feb-06	1.78	304.42
22-Jun-93	1.75	304.45	05-Sep-01	2.06	304.14	30-Mar-06	1.68	304.52
14-Jul-93	1.90	304.30	02-Oct-01	1.96	304.24	27-Apr-06	1.67	304.53
18-Aug-93	1.97	304.23	06-Nov-01	1.73	304.47	28-Apr-06	1.72	304.48
20-Sep-93	1.94	304.26	06-Dec-01	1.71	304.49	15-May-06	1.87	304.33
19-Oct-93	1.70	304.50	04-Jan-02	1.96	304.24	15-Jun-06	2.01	304.19
17-Nov-93	1.79	304.41	07-Feb-02	1.82	304.38	15-Jul-06	1.92	304.28
06-Dec-93	1.63	304.57	07-Mar-02	1.74	304.46	24-Aug-06	1.99	304.21
18-Jan-94	1.90	304.30	07-Apr-02	1.69	304.51	15-Oct-06	1.52	304.68
23-Feb-94	1.69	304.51	06-May-02	1.65	304.55	15-Nov-06	1.56	304.64
24-Mar-94	1.51	304.69	14-Jun-02	1.77	304.43	07-Dec-06	1.63	304.57
19-Apr-94	1.63	304.57	11-Jul-02	1.95	304.25	17-Jan-07	1.60	304.60
24-May-94	1.72	304.48	09-Aug-02	2.00	304.20	26-Apr-07	1.67	304.53
23-Jun-94	1.98	304.22	04-Sep-02	2.15	304.05	16-May-07	1.73	304.47
20-Jul-94	2.02	304.18	11-Oct-02	2.05	304.15	26-Jun-07	1.89	304.31
25-Aug-94	1.99	304.21	21-Nov-02	2.05	304.15	25-Jul-07	2.02	304.18
21-Sep-94	2.08	304.12	13-Dec-02	2.00	304.20	07-Aug-07	2.04	304.16
19-Oct-94	2.03	304.17	09-Jan-03	1.95	304.25	21-Aug-07	2.08	304.12
23-Nov-94	1.85	304.35	10-Feb-03	2.07	304.13	21-Sep-07	2.08	304.12
21-Dec-94	1.74	304.46	13-Mar-03	1.80	304.40	17-Oct-07	1.91	304.29
24-Jan-95	1.52	304.68	10-Apr-03	1.60	304.60	29-Nov-07	1.74	304.46
15-Feb-95	1.85	304.35	07-May-03	1.67	304.53	10-Dec-07	1.80	304.40
24-Mar-95	1.62	304.58	15-May-03	1.75	304.45	31-Jan-08	1.71	304.49
16-May-95	1.69	304.51	16-Jun-03	1.78	304.42	29-Feb-08	1.71	304.49
13-Jun-95	1.85	304.35	17-Jul-03	1.95	304.25	31-Mar-08	1.30	304.90
20-Jul-95	2.07	304.13	21-Aug-03	2.20	304.00	28-Apr-08	1.69	304.51
15-Aug-95	1.94	304.26	26-Aug-03	2.08	304.12	28-May-08	1.79	304.41
18-Oct-95	1.98	304.22	25-Sep-03	1.86	304.34	25-Jun-08	1.77	304.43
22-Nov-95	1.67	304.53	27-Oct-03	1.83	304.37	16-Jul-08	1.78	304.42
26-Mar-96	1.56	304.64	01-Dec-03	1.66	304.54	20-Aug-08	1.73	304.47
31-May-96	1.70	304.50	11-Dec-03	1.74	304.46	26-Aug-08	1.81	304.39
29-Jul-96	1.78	304.42	16-Dec-03	1.77	304.43	19-Sep-08	1.49	304.71
02-Oct-96	1.62	304.58	19-Jan-04	1.82	304.38	10-Oct-08	1.71	304.49
07-Nov-96	1.64	304.56	18-Feb-04	1.78	304.42	05-Nov-08	1.70	304.50
27-Mar-97	1.47	304.73	25-Mar-04	1.64	304.56	17-Dec-08	1.65	304.55
26-May-97	1.68	304.52	07-Apr-04	1.61	304.59	06-Jan-09	1.61	304.59
30-Jul-97	1.97	304.23	22-Apr-04	1.60	304.60	27-Feb-09	1.62	304.58
06-Nov-97	1.65	304.55	20-May-04	1.75	304.45	11-Mar-09	1.40	304.80
16-Dec-97	1.79	304.41	24-Jun-04	1.82	304.38	14-Apr-09	1.55	304.65
27-Mar-98	1.54	304.66	23-Jul-04	1.90	304.30	21-May-09	1.64	304.56
31-May-98	1.96	304.24	04-Aug-04	1.86	304.34	16-Jun-09	1.71	304.49
31-Jul-98	2.09	304.11	26-Aug-04	2.00	304.20	31-Jul-09	1.66	304.54
30-Sep-98	2.13	304.07	28-Sep-04	2.00	304.20	25-Aug-09	1.55	304.65
30-Dec-98	2.03	304.17	18-Oct-04	1.94	304.26	28-Aug-09	1.53	304.67
31-Mar-99	1.73	304.47	16-Nov-04	1.85	304.35	28-Sep-09	1.75	304.45
20-May-99	1.85	304.35	15-Dec-04	1.73	304.47	14-Oct-09	1.66	304.54
16-Jul-99	2.04	304.16	16-Dec-04	1.73	304.47	11-Nov-09	1.69	304.51
08-Sep-99	1.95	304.25	20-Jan-05	1.71	304.49	11-Dec-09	1.65	304.55
10-Nov-99	1.79	304.41	25-Feb-05	1.70	304.50	16-Dec-09	1.62	304.58

NOTES:
- · BTOP Below top of pipe
- · NA Not available
- · m ASL metres above sea level
- · (F) Frozen

TABLE B-1
WATER LEVEL DATA - GROUNDWATER MONITORS
MILL CREEK AGGREGATES PIT

BH92-33								
DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)
13-Jan-10	1.73	304.47	25-Apr-13	1.28	304.92	17-Mar-17	1.53	304.67
11-Feb-10	1.77	304.43	23-May-13	1.34	304.86	11-Apr-17	1.45	304.75
11-Mar-10	1.60	304.60	13-Jun-13	1.33	304.87	18-May-17	1.47	304.73
16-Apr-10	1.66	304.54	31-Jul-13	1.46	304.74	14-Jun-17	1.57	304.63
21-May-10	1.78	304.42	29-Aug-13	1.50	304.70	20-Jul-17	1.57	304.63
17-Jun-10	1.66	304.54	25-Sep-13	1.49	304.71	09-Aug-17	1.65	304.55
15-Jul-10	1.79	304.41	22-Oct-13	1.43	304.77	12-Sep-17	1.71	304.49
18-Aug-10	1.84	304.36	28-Nov-13	1.42	304.78	12-Oct-17	1.76	304.44
31-Aug-10	1.85	304.35	10-Dec-13	1.40	304.80	21-Nov-17	1.67	304.53
28-Sep-10	1.70	304.50	15-Jan-14	1.25	304.95	19-Dec-17	1.74	304.46
20-Oct-10	1.68	304.52	26-Feb-14	1.29	304.91	16-Jan-18	1.64	304.56
18-Nov-10	1.62	304.58	26-Mar-14	1.25	304.95	26-Feb-18	1.53	304.67
08-Dec-10	1.66	304.54	01-Apr-14	1.17	305.03	26-Mar-18	1.66	304.54
22-Dec-10	1.70	304.50	15-May-14	1.30	304.90	24-Apr-18	1.50	304.70
19-Jan-11	1.73	304.47	18-Jun-14	1.42	304.78	18-May-18	1.57	304.63
17-Feb-11	1.77	304.43	29-Jul-14	1.31	304.89	12-Jun-18	1.70	304.50
16-Mar-11	1.43	304.77	25-Aug-14	1.40	304.80	27-Jul-18	1.84	304.36
13-Apr-11	1.44	304.76	18-Sep-14	1.31	304.89	22-Aug-18	1.77	304.43
21-Apr-11	1.42	304.78	17-Oct-14	1.28	304.92	12-Sep-18	1.84	304.36
26-May-11	1.46	304.74	27-Nov-14	1.29	304.91	30-Oct-18	1.84	304.36
16-Jun-11	1.60	304.60	15-Dec-14	1.29	304.91	21-Nov-18	1.75	304.45
14-Jul-11	1.79	304.41	21-Jan-15	1.29	304.91	20-Dec-18	1.73	304.47
11-Aug-11	1.77	304.43	18-Feb-15	1.28	304.92			
17-Aug-11	1.80	304.40	25-Mar-15	1.20	305.00			
14-Sep-11	1.77	304.43	06-Apr-15	1.16	305.04			
27-Oct-11	1.56	304.64	20-May-15	1.27	304.93			
14-Nov-11	1.61	304.59	23-Jun-15	1.37	304.83			
14-Dec-11	1.47	304.73	22-Jul-15	1.40	304.80			
22-Dec-11	1.52	304.68	25-Aug-15	1.47	304.73			
16-Jan-12	1.55	304.65	24-Sep-15	1.53	304.67			
16-Feb-12	1.56	304.64	29-Oct-15	1.44	304.76			
29-Mar-12	1.70	304.50	25-Nov-15	1.58	304.62			
10-Apr-12	1.67	304.53	10-Dec-15	1.62	304.58			
30-Apr-12	1.71	304.49	20-Jan-16	1.43	304.77			
29-May-12	1.72	304.48	29-Feb-16	1.41	304.79			
20-Jun-12	1.69	304.51	17-Mar-16	1.35	304.85			
24-Jul-12	1.66	304.54	30-Mar-16	1.35	304.85			
08-Aug-12	1.70	304.50	27-Apr-16	1.26	304.94			
21-Aug-12	1.67	304.53	30-May-16	1.33	304.87			
18-Sep-12	1.62	304.58	27-Jun-16	1.41	304.79			
23-Oct-12	1.62	304.58	28-Jul-16	1.49	304.71			
28-Nov-12	1.65	304.55	11-Aug-16	1.51	304.69			
06-Dec-12	1.55	304.65	21-Sep-16	1.44	304.76			
19-Dec-12	1.52	304.68	18-Oct-16	1.54	304.66			
16-Jan-13	1.43	304.77	14-Nov-16	1.56	304.64			
20-Feb-13	1.47	304.73	14-Dec-16	1.61	304.59			
21-Mar-13	1.34	304.86	18-Jan-17	1.49	304.71			
04-Apr-13	1.34	304.86	15-Feb-17	1.54	304.66			

NOTES:
- · BTOP Below top of pipe
- · NA Not available
- · m ASL metres above sea level
- · (F) Frozen

TABLE B-2
WATER LEVEL DATA - RESIDENTIAL WELLS
MILL CREEK AGGREGATES PIT

NORTH FARMHOUSE WELL (MOE WELL 4794)					
DATE	Water Level BTOC (m)	DATE	Water Level BTOC (m)	DATE	Water Level BTOC (m)
25-Aug-94	5.07	21-Nov-02	5.78	17-Feb-11	5.36
21-Sep-94	5.22	13-Dec-02	5.70	16-Mar-11	5.19
18-Oct-94	5.35	07-May-03	5.42	13-Apr-11	5.03
23-Nov-94	5.53	26-Aug-03	5.62	21-Apr-11	5.04
21-Dec-94	5.40	11-Dec-03	5.47	26-May-11	4.76
24-Jan-95	4.48	07-Apr-04	4.91	16-Jun-11	4.72
16-Feb-95	4.95	20-May-04	4.75	14-Jul-11	4.80
23-Mar-95	4.78	24-Jun-04	4.93	11-Aug-11	4.20
17-May-95	NA	23-Jul-04	5.04	17-Aug-11	4.16
13-Jun-95	4.92	26-Aug-04	5.09	14-Sep-11	5.12
20-Jul-95	4.99	08-Sep-04	5.14	27-Oct-11	5.16
15-Aug-95	5.06	28-Sep-04	5.34	14-Nov-11	5.25
18-Oct-95	5.34	18-Oct-04	5.37	22-Dec-11	5.08
22-Nov-95	5.21	16-Nov-04	5.45	16-Jan-12	5.03
26-Mar-96	4.79	15-Dec-04	5.33	16-Feb-12	5.01
31-May-96	4.26	16-Dec-04	5.44	10-Apr-12	5.00
29-Jul-96	4.40	20-Jan-05	well cap frozen	30-Apr-12	5.01
27-Sep-96	4.77	25-Feb-05	well cap frozen	29-May-12	5.09
07-Nov-96	4.81	24-Mar-05	5.15	20-Jun-12	5.16
31-Mar-97	4.02	18-Apr-05	4.85	24-Jul-12	5.36
26-May-97	4.24	29-Apr-05	5.01	08-Aug-12	5.46
31-Jul-97	4.65	26-May-05	4.94	21-Aug-12	5.44
06-Nov-97	5.04	23-Jun-05	5.02	18-Sep-12	5.53
16-Dec-97	5.20	25-Jul-05	5.00	23-Oct-12	5.59
27-Mar-98	4.65	17-Aug-05	5.09	28-Nov-12	5.57
31-May-98	4.84	25-Aug-05	5.10	06-Dec-12	5.58
31-Jul-98	5.19	30-Sep-05	5.26	19-Dec-12	5.57
30-Sep-98	5.55	27-Oct-05	5.35	16-Jan-13	5.52
30-Dec-98	5.61	23-Nov-05	5.32	20-Feb-13	well cap frozen
31-Mar-99	5.25	7-Dec-05	well cap frozen	21-Mar-13	well cap frozen
20-May-99	5.54	19-Dec-05	well cap frozen	04-Apr-13	5.30
16-Jul-99	5.77	30-Mar-06	4.89	25-Apr-13	5.07
08-Sep-99	5.85	27-Apr-06	4.80	23-May-13	5.02
10-Nov-99	5.85	28-Apr-06	4.87	13-Jun-13	5.00
07-Mar-00	5.68	23-Oct-06	4.45	31-Jul-13	4.94
19-May-00	4.84	07-Aug-07	4.95	29-Aug-13	NA
06-Jul-00	5.14	15-Nov-07	5.00	25-Sep-13	5.12
14-Sep-00	5.41	28-Apr-08	4.62	22-Oct-13	5.11
11-Oct-00	5.47	26-Aug-08	4.64	28-Nov-13	5.17
08-Nov-00	5.76	17-Dec-08	4.80	10-Dec-13	NA
11-Dec-00	5.77	14-Apr-09	4.32	15-Jan-14	well cap frozen
12-Jan-01	NA	25-Aug-09	4.58	26-Feb-14	well cap frozen
07-Feb-01	NA	16-Dec-09	4.90	26-Mar-14	5.11
13-Mar-01	NA	16-Apr-10	4.79	01-Apr-14	5.10
10-Apr-01	5.07	21-May-10	4.68	15-May-14	4.77
04-May-01	5.10	17-Jun-10	4.93	18-Jun-14	4.82
14-Jun-01	5.22	15-Jul-10	5.03	29-Jul-14	4.88
11-Jul-01	5.50	18-Aug-10	5.13	25-Aug-14	NA
01-Aug-01	5.57	31-Aug-10	5.18	18-Sep-14	4.90
05-Sep-01	5.65	28-Sep-10	5.24	17-Oct-14	4.94
06-Dec-01	5.80	20-Oct-10	5.31	27-Nov-14	NA
24-May-02	5.21	18-Nov-10	5.37	15-Dec-14	NA
09-Aug-02	5.52	08-Dec-10	5.38		
04-Sep-02	5.60	22-Dec-10	5.39		
11-Oct-02	5.75	19-Jan-11	5.38		

NOTES:
· BTOC Below top of concrete crib
· NA Not available

TABLE B-2
WATER LEVEL DATA - RESIDENTIAL WELLS
MILL CREEK AGGREGATES PIT

NORTH FARMHOUSE WELL (MOE WELL 4794)					
DATE	Water Level BTOC (m)	DATE	Water Level BTOC (m)	DATE	Water Level BTOC (m)
21-Jan-15	well cap frozen	18-Jan-17	NA		
18-Feb-15	well cap frozen	15-Feb-17	NA		
25-Mar-15	5.11	17-Mar-17	NA		
06-Apr-15	NA	11-Apr-17	NA		
20-May-15	5.03	18-May-17	NA		
23-Jun-15	5.02	14-Jun-17	4.81		
22-Jul-15	4.97	20-Jul-17	4.83		
25-Aug-15	NA	09-Aug-17	4.89		
24-Sep-15	5.14	12-Sep-17	5.04		
29-Oct-15	5.30	12-Oct-17	5.20		
25-Nov-15	NA	21-Nov-17	5.27		
10-Dec-15	NA	19-Dec-17	5.33		
20-Jan-16	well cap frozen	16-Jan-18	NA		
29-Feb-16	well cap frozen	26-Feb-18	NA		
17-Mar-16	5.03	26-Mar-18	5.19		
30-Mar-16	5.16	24-Apr-18	NA		
27-Apr-16	5.12	18-May-18	NA		
30-May-16	4.96	12-Jun-18	5.05		
27-Jun-16	4.84	27-Jul-18	5.20		
28-Jul-16	NA	22-Aug-18	5.23		
11-Aug-16	NA	12-Sep-18	5.28		
21-Sep-16	NA	30-Oct-18	5.41		
18-Oct-16	NA	21-Nov-18	5.35		
14-Nov-16	NA	20-Dec-18	5.45		
14-Dec-16	NA				

NOTES:
· BTOC Below top of concrete crib
· NA Not available

TABLE B-2
WATER LEVEL DATA - RESIDENTIAL WELLS
MILL CREEK AGGREGATES PIT

SMITH WELL					
DATE	Water Level BTOC (m)	DATE	Water Level BTOC (m)	DATE	Water Level BTOC (m)
21-Jul-94	5.85	11-Jul-02	6.27	07-Dec-06	5.79
25-Aug-94	5.99	09-Aug-02	6.40	17-Jan-07	5.85
21-Sep-94	6.18	04-Sep-02	6.57	30-Mar-07	5.87
18-Oct-94	6.28	11-Oct-02	6.67	26-Apr-07	5.41
23-Nov-94	6.39	21-Nov-02	6.73	16-May-07	5.97
21-Dec-94	6.38	13-Dec-02	6.77	26-Jun-07	5.58
24-Jan-95	5.75	09-Jan-03	6.76	25-Jul-07	5.80
16-Feb-95	5.90	10-Feb-03	6.60	07-Aug-07	5.87
23-Mar-95	5.82	13-Mar-03	6.45	21-Aug-07	6.00
17-May-95	5.70	10-Apr-03	6.31	21-Sep-07	6.28
13-Jun-95	5.74	07-May-03	6.43	17-Oct-07	6.20
20-Jul-95	5.96	15-May-03	6.23	15-Nov-07	6.30
15-Aug-95	6.03	16-Jun-03	6.60	29-Nov-07	6.28
18-Oct-95	6.32	17-Jul-03	6.70	10-Dec-07	6.28
22-Nov-95	6.23	21-Aug-03	6.85	31-Jan-08	6.12
26-Mar-96	5.75	26-Aug-03	6.57	29-Feb-08	5.99
31-May-96	5.19	25-Sep-03	6.61	31-Mar-08	5.60
29-Jul-96	5.37	27-Oct-03	6.65	28-Apr-08	5.55
30-Sep-96	5.61	11-Dec-03	6.45	28-May-08	5.56
07-Nov-96	5.72	15-Dec-03	6.51	25-Jun-08	5.54
31-Mar-97	4.92	19-Jan-04	6.31	16-Jul-08	5.54
28-May-97	5.09	18-Feb-04	6.28	20-Aug-08	5.52
30-Jul-97	5.58	25-Mar-04	6.14	26-Aug-08	5.52
07-Nov-97	6.02	07-Apr-04	5.84	19-Sep-08	5.50
16-Dec-97	6.13	22-Apr-04	5.79	10-Oct-08	5.61
27-Mar-98	5.69	20-May-04	5.68	05-Nov-08	5.65
31-May-98	5.84	24-Jun-04	5.73	17-Dec-08	5.69
31-Jul-98	6.12	23-Jul-04	5.82	06-Jan-09	5.60
30-Sep-98	6.59	04-Aug-04	5.84	27-Feb-09	5.49
30-Dec-98	6.65	26-Aug-04	5.96	11-Mar-09	5.38
31-Mar-99	6.35	28-Sep-04	6.03	14-Apr-09	5.21
20-May-99	6.65	18-Oct-04	6.08	21-May-09	5.24
16-Jul-99	6.93	16-Nov-04	6.14	16-Jun-09	5.29
10-Sep-99	7.01	15-Dec-04	6.25	31-Jul-09	5.36
10-Nov-99	7.00	16-Dec-04	6.25	25-Aug-09	5.35
01-Mar-00	6.70	20-Jan-05	6.23	28-Aug-09	5.41
19-May-00	6.46	25-Feb-05	6.19	28-Sep-09	5.56
06-Jul-00	6.20	24-Mar-05	6.10	14-Oct-09	5.63
14-Sep-00	6.39	18-Apr-05	5.78	11-Nov-09	5.73
11-Oct-00	6.49	26-May-05	5.78	11-Dec-09	5.78
08-Nov-00	6.65	23-Jun-05	5.83	16-Dec-09	5.76
13-Dec-00	6.67	25-Jul-05	5.87	13-Jan-10	5.81
12-Jan-01	6.63	17-Aug-05	6.00	11-Feb-10	5.88
07-Feb-01	6.61	25-Aug-05	5.97	11-Mar-10	5.96
13-Mar-01	6.25	30-Sep-05	6.06	16-Apr-10	5.70
09-Apr-01	6.12	27-Oct-05	6.17	21-May-10	5.76
03-May-01	6.12	23-Nov-05	6.12	17-Jun-10	5.83
06-Jun-01	6.18	7-Dec-05	6.22	15-Jul-10	5.90
11-Jul-01	6.35	19-Dec-05	6.20	18-Aug-10	5.98
01-Aug-01	6.48	26-Jan-06	5.95	31-Aug-10	6.04
05-Sep-01	6.68	15-Feb-06	5.91	28-Sep-10	6.15
02-Oct-01	6.74	30-Mar-06	5.87	20-Oct-10	6.18
06-Nov-01	6.72	27-Apr-06	5.78	18-Nov-10	6.37
06-Dec-01	6.67	28-Apr-06	5.76	08-Dec-10	6.27
04-Jan-02	6.62	15-Jun-06	5.83	22-Dec-10	6.30
07-Feb-02	6.55	15-Jul-06	5.86		
07-Mar-02	6.39	24-Aug-06	5.97		
07-Apr-02	6.20	15-Sep-06	6.03		
06-May-02	6.20	15-Oct-06	5.96		
14-Jun-02	6.20	15-Nov-06	5.80		

NOTES: · BTOC Below top of concrete crib

TABLE B-2
WATER LEVEL DATA - RESIDENTIAL WELLS
MILL CREEK AGGREGATES PIT

SMITH WELL					
DATE	Water Level BTOC (m)	DATE	Water Level BTOC (m)	DATE	Water Level BTOC (m)
19-Jan-11	6.32	25-Aug-15	6.00		
17-Feb-11	6.29	24-Sep-15	6.13		
16-Mar-11	6.09	29-Oct-15	6.22		
13-Apr-11	6.05	25-Nov-15	6.37		
21-Apr-11	6.00	10-Dec-15	6.30		
26-May-11	5.72	20-Jan-16	6.29		
16-Jun-11	5.63	29-Feb-16	6.26		
14-Jul-11	5.72	17-Mar-16	6.22		
11-Aug-11	5.86	30-Mar-16	6.10		
17-Aug-11	5.87	27-Apr-16	5.97		
14-Sep-11	6.04	30-May-16	5.94		
27-Oct-11	6.08	27-Jun-16	6.09		
14-Nov-11	6.15	28-Jul-16	6.14		
22-Dec-11	6.04	11-Aug-16	6.25		
16-Jan-12	6.00	21-Sep-16	6.34		
16-Feb-12	5.99	18-Oct-16	6.48		
29-Mar-12	5.90	14-Nov-16	6.53		
10-Apr-12	5.93	14-Dec-16	6.59		
30-Apr-12	5.95	18-Jan-17	6.44		
29-May-12	6.00	15-Feb-17	6.49		
20-Jun-12	6.05	17-Mar-17	6.24		
24-Jul-12	6.24	11-Apr-17	6.12		
8-Aug-12	6.31	18-May-17	5.89		
21-Aug-12	6.34	14-Jun-17	5.93		
18-Sep-12	6.41	20-Jul-17	5.92		
23-Oct-12	6.47	09-Aug-17	5.90		
28-Nov-12	6.48	12-Sep-17	6.03		
6-Dec-12	6.51	12-Oct-17	6.20		
19-Dec-12	6.49	21-Nov-17	6.32		
16-Jan-13	6.46	19-Dec-17	6.40		
20-Feb-13	6.42	16-Jan-18	6.38		
21-Mar-13	6.30	26-Feb-18	6.28		
4-Apr-13	6.28	26-Mar-18	6.27		
25-Apr-13	6.08	24-Apr-18	6.13		
23-May-13	6.00	18-May-18	6.07		
13-Jun-13	5.96	12-Jun-18	6.10		
31-Jul-13	5.89	27-Jul-18	6.23		
29-Aug-13	5.99	22-Aug-18	6.30		
25-Sep-13	6.54	12-Sep-18	6.34		
22-Oct-13	6.37	30-Oct-18	6.49		
28-Nov-13	6.10	21-Nov-18	6.47		
10-Dec-13	6.14	20-Dec-18	6.50		
15-Jan-14	6.09				
26-Feb-14	6.10				
26-Mar-14	6.07				
01-Apr-14	6.03				
15-May-14	5.77				
18-Jun-14	5.76				
29-Jul-14	5.80				
25-Aug-14	5.78				
18-Sep-14	5.83				
17-Oct-14	5.85				
27-Nov-14	5.97				
15-Dec-14	5.99				
21-Jan-15	6.06				
18-Feb-15	6.06				
25-Mar-15	6.04				
06-Apr-15	6.04				
20-May-15	5.99				
23-Jun-15	6.04				
22-Jul-15	NA				

NOTES: · BTOC Below top of concrete crib

TABLE B-3
WATER LEVEL DATA - WETLAND DRIVE POINTS
MILL CREEK AGGREGATES PIT

DP6								
DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)
19-Jul-89	1.24	305.58	24-May-94	0.81	306.01	12-Jul-01	1.28	305.54
27-Jul-89	1.27	305.55	23-Jun-94	1.08	305.74	16-Jul-01	1.31	305.51
15-Aug-89	1.32	305.50	19-Jul-94	1.15	305.67	19-Jul-01	1.32	305.50
30-Aug-89	1.36	305.46	25-Aug-94	1.17	305.65	23-Jul-01	1.34	305.48
17-Oct-89	1.39	305.43	21-Sep-94	1.26	305.56	26-Jul-01	1.35	305.47
30-Nov-89	1.24	305.58	18-Oct-94	1.27	305.55	30-Jul-01	1.37	305.45
13-Dec-89	1.35	305.47	23-Nov-94	NA	NA	02-Aug-01	1.38	305.44
17-Jan-90	1.30	305.52	21-Dec-94	1.08	305.74	07-Aug-01	1.42	305.40
06-Mar-90	1.07	305.75	24-Jan-95	0.60	306.22	09-Aug-01	1.42	305.40
02-Apr-90	0.91	305.91	15-Feb-95	1.00	305.82	13-Aug-01	1.45	305.37
25-Jun-90	1.14	305.68	23-Mar-95	0.76	306.06	14-Aug-01	1.46	305.36
26-Jul-90	1.20	305.62	17-May-95	0.86	305.96	16-Aug-01	1.46	305.36
22-Aug-90	1.26	305.56	13-Jun-95	0.96	305.86	20-Aug-01	1.38	305.44
26-Sep-90	1.32	305.50	20-Jul-95	1.15	305.67	23-Aug-01	1.40	305.42
24-Oct-90	1.15	305.67	15-Aug-95	1.03	305.79	27-Aug-01	1.44	305.38
25-Nov-90	1.10	305.72	18-Oct-95	1.22	305.60	30-Aug-01	1.43	305.39
14-Dec-90	0.99	305.83	22-Nov-95	0.95	305.87	31-Aug-01	1.45	305.37
23-Jan-91	0.89	305.93	26-Mar-96	0.70	306.12	04-Sep-01	1.47	305.35
20-Feb-91	0.83	305.99	31-May-96	0.65	306.17	06-Sep-01	1.48	305.34
28-Mar-91	0.40	306.42	29-Jul-96	0.79	306.03	10-Sep-01	1.51	305.31
26-Apr-91	0.47	306.35	27-Sep-96	0.74	306.08	13-Sep-01	1.52	305.30
24-May-91	0.71	306.11	07-Nov-96	0.75	306.07	17-Sep-01	1.54	305.28
20-Jun-91	0.76	306.06	26-Mar-97	0.39	306.43	18-Sep-01	1.55	305.27
30-Jul-91	0.78	306.04	26-May-97	0.55	306.27	20-Sep-01	1.51	305.31
22-Aug-91	0.98	305.84	31-Jul-97	0.94	305.88	24-Sep-01	1.45	305.37
25-Sep-91	1.11	305.71	06-Nov-97	0.82	306.00	27-Sep-01	1.45	305.37
29-Oct-91	1.11	305.71	12-Dec-97	1.00	305.82	01-Oct-01	1.48	305.34
26-Nov-91	1.13	305.69	27-Mar-98	0.58	306.24	04-Oct-01	1.49	305.33
16-Dec-91	1.01	305.81	31-May-98	1.06	305.76	09-Oct-01	1.39	305.43
13-Mar-92	0.91	305.91	31-Jul-98	1.16	305.66	11-Oct-01	1.40	305.42
15-Apr-92	0.99	305.83	30-Sep-98	1.30	305.52	15-Oct-01	1.28	305.54
22-May-92	0.98	305.84	30-Dec-98	1.33	305.49	19-Oct-01	1.26	305.56
29-Jun-92	1.18	305.64	31-Mar-99	1.00	305.82	22-Oct-01	1.32	305.50
20-Jul-92	0.86	305.96	20-May-99	1.20	305.62	26-Oct-01	1.31	305.51
26-Aug-92	1.10	305.72	16-Jul-99	1.43	305.39	29-Oct-01	1.35	305.47
14-Sep-92	1.02	305.80	10-Sep-99	1.30	305.52	01-Nov-01	1.38	305.44
29-Oct-92	0.94	305.88	10-Nov-99	1.39	305.43	05-Nov-01	1.33	305.49
26-Nov-92	0.56	306.26	01-Mar-00	1.16	305.66	08-Nov-01	1.36	305.46
14-Dec-92	0.78	306.04	19-May-00	0.93	305.89	12-Nov-01	1.38	305.44
19-Jan-93	0.65	306.17	06-Jul-00	1.12	305.70	15-Nov-01	1.36	305.46
05-Mar-93	NA	NA	14-Sep-00	1.30	305.52	19-Nov-01	1.41	305.41
26-Mar-93	NA	NA	12-Oct-00	1.32	305.50	22-Nov-01	1.40	305.42
19-Apr-93	0.53	306.29	07-Nov-00	1.41	305.41	26-Nov-01	1.31	305.51
27-May-93	0.69	306.13	13-Dec-00	1.36	305.46	29-Nov-01	1.26	305.56
22-Jun-93	0.70	306.12	11-Jan-01	1.29	305.53	03-Dec-01	1.15	305.67
15-Jul-93	0.88	305.94	07-Feb-01	1.27	305.55	06-Dec-01	1.23	305.59
18-Aug-93	0.98	305.84	12-Mar-01	1.10	305.72	10-Dec-01	1.28	305.54
20-Sep-93	1.06	305.76	09-Apr-01	0.86	305.96	13-Dec-01	1.30	305.52
19-Oct-93	0.90	305.92	03-May-01	1.08	305.74	17-Dec-01	1.24	305.58
17-Nov-93	1.07	305.75	06-Jun-01	1.04	305.78	20-Dec-01	1.16	305.66
07-Dec-93	0.86	305.96	25-Jun-01	1.17	305.65	02-Jan-02	1.28	305.54
18-Jan-94	1.15	305.67	28-Jun-01	1.17	305.65	08-Jan-02	1.38	305.44
23-Feb-94	0.90	305.92	03-Jul-01	1.23	305.59	10-Jan-02	1.30	305.52
24-Mar-94	0.64	306.18	05-Jul-01	1.24	305.58	14-Jan-02	1.29	305.53
19-Apr-94	0.74	306.08	09-Jul-01	1.28	305.54	17-Jan-02	NA	NA

NOTES:
- · BTOP — Below top of pipe
- · NA — Not available
- · m ASL — metres above sea level
- · (F) — Frozen

TABLE B-3
WATER LEVEL DATA - WETLAND DRIVE POINTS
MILL CREEK AGGREGATES PIT

DP6								
DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)
14-Jan-02	1.29	305.53	28-Aug-02	1.44	305.38	23-May-03	1.07	305.75
17-Jan-02	(F)		30-Aug-02	1.46	305.36	26-May-03	1.04	305.78
21-Jan-02	1.28	305.54	04-Sep-02	1.46	305.36	29-May-03	1.05	305.77
24-Jan-02	1.22	305.60	10-Sep-02	1.49	305.33	2-Jun-03	1.05	305.77
28-Jan-02	1.16	305.66	12-Sep-02	1.48	305.34	5-Jun-03	1.06	305.76
01-Feb-02	1.09	305.73	17-Sep-02	1.45	305.37	9-Jun-03	1.08	305.74
04-Feb-02	1.20	305.62	20-Sep-02	1.45	305.37	13-Jun-03	1.10	305.72
07-Feb-02	1.22	305.60	25-Sep-02	1.45	305.37	16-Jun-03	1.21	305.61
11-Feb-02	1.20	305.62	27-Sep-02	1.34	305.48	17-Jun-03	1.15	305.67
15-Feb-02	1.22	305.60	02-Oct-02	1.42	305.40	19-Jun-03	1.16	305.66
18-Feb-02	1.22	305.60	04-Oct-02	1.41	305.41	23-Jun-03	1.18	305.64
21-Feb-02	1.06	305.76	08-Oct-02	1.43	305.39	26-Jun-03	1.20	305.62
25-Feb-02	1.05	305.77	11-Oct-02	1.44	305.38	3-Jul-03	1.21	305.61
05-Mar-02	0.97	305.85	15-Oct-02	1.44	305.38	7-Jul-03	1.19	305.63
07-Mar-02	1.09	305.73	18-Oct-02	1.46	305.36	10-Jul-03	1.19	305.63
11-Mar-02	0.98	305.84	23-Oct-02	1.43	305.39	17-Jul-03	1.27	305.55
15-Mar-02	1.04	305.78	29-Oct-02	1.46	305.36	22-Jul-03	1.32	305.50
19-Mar-02	1.07	305.75	31-Oct-02	1.44	305.38	25-Jul-03	1.32	305.50
21-Mar-02	1.05	305.77	05-Nov-02	1.44	305.38	28-Jul-03	1.31	305.51
26-Mar-02	1.10	305.72	08-Nov-02	1.45	305.37	31-Jul-03	1.32	305.50
28-Mar-02	1.14	305.68	12-Nov-02	1.31	305.51	7-Aug-03	1.32	305.50
01-Apr-02	1.01	305.81	15-Nov-02	1.37	305.45	11-Aug-03	1.31	305.51
05-Apr-02	0.97	305.85	19-Nov-02	1.39	305.43	18-Aug-03	1.34	305.48
07-Apr-02	0.99	305.83	22-Nov-02	1.39	305.43	21-Aug-03	1.44	305.38
11-Apr-02	0.89	305.93	26-Nov-02	1.41	305.41	25-Aug-03	1.32	305.50
17-Apr-02	0.92	305.90	29-Nov-02	1.42	305.40	26-Aug-03	1.37	305.45
19-Apr-02	0.91	305.91	04-Dec-02	1.45	305.37	29-Aug-03	1.40	305.42
23-Apr-02	1.07	305.75	06-Dec-02	1.43	305.39	2-Sep-03	1.42	305.40
29-Apr-02	1.06	305.76	10-Dec-02	1.45	305.37	4-Sep-03	1.40	305.42
06-May-02	1.03	305.79	13-Dec-02	1.44	305.38	8-Sep-03	1.40	305.42
10-May-02	1.09	305.73	18-Dec-02	1.45	305.37	11-Sep-03	1.44	305.38
14-May-02	1.02	305.80	7-Jan-03	1.41	305.41	15-Sep-03	1.44	305.38
17-May-02	0.93	305.89	9-Jan-03	1.42	305.40	18-Sep-03	1.43	305.39
21-May-02	1.01	305.81	14-Jan-03	1.42	305.40	22-Sep-03	1.40	305.42
24-May-02	1.05	305.77	21-Jan-03	1.44	305.38	25-Sep-03	1.32	305.50
27-May-02	1.05	305.77	24-Jan-03	1.47	305.35	26-Sep-03	1.40	305.42
31-May-02	1.10	305.72	28-Jan-03	1.45	305.37	29-Sep-03	1.28	305.54
04-Jun-02	1.11	305.71	31-Jan-03	1.43	305.39	2-Oct-03	1.32	305.50
07-Jun-02	1.12	305.70	5-Feb-03	1.39	305.43	6-Oct-03	1.34	305.48
11-Jun-02	1.17	305.65	10-Feb-03	1.41	305.41	9-Oct-03	1.39	305.43
14-Jun-02	0.96	305.86	14-Feb-03	1.47	305.35	13-Oct-03	1.39	305.43
18-Jun-02	0.99	305.83	17-Feb-03	1.45	305.37	16-Oct-03	1.28	305.54
21-Jun-02	1.22	305.60	21-Feb-03	1.46	305.36	20-Oct-03	1.29	305.53
25-Jun-02	1.16	305.66	24-Feb-03	1.47	305.35	23-Oct-03	1.30	305.52
02-Jul-02	1.18	305.64	13-Mar-03	1.19	305.63	27-Oct-03	1.32	305.50
05-Jul-02	1.19	305.63	24-Mar-03	1.10	305.72	30-Oct-03	1.33	305.49
08-Jul-02	1.23	305.59	27-Mar-03	1.11	305.71	3-Nov-03	1.22	305.60
11-Jul-02	1.22	305.60	10-Apr-03	1.16	305.66	6-Nov-03	1.22	305.60
15-Jul-02	1.30	305.52	11-Apr-03	1.09	305.73	10-Nov-03	1.29	305.53
18-Jul-02	1.26	305.56	21-Apr-03	1.12	305.70	13-Nov-03	1.27	305.55
23-Jul-02	1.24	305.58	24-Apr-03	1.16	305.66	17-Nov-03	1.24	305.58
26-Jul-02	1.25	305.57	28-Apr-03	1.15	305.67	20-Nov-03	1.17	305.65
30-Jul-02	1.38	305.44	5-May-03	1.16	305.66	24-Nov-03	1.13	305.69
05-Aug-02	1.34	305.48	7-May-03	1.06	305.76	1-Dec-03	1.07	305.75
09-Aug-02	1.34	305.48	8-May-03	1.18	305.64	8-Dec-03	1.25	305.57
16-Aug-02	1.40	305.42	12-May-03	1.11	305.71	11-Dec-03	1.19	305.63
21-Aug-02	1.40	305.42	15-May-03	1.05	305.77	15-Dec-03	1.24	305.58
23-Aug-02	1.42	305.40	16-May-03	1.08	305.74	22-Dec-03	1.25	305.57

NOTES:
- · BTOP — Below top of pipe
- · NA — Not available
- · m ASL — metres above sea level
- · (F) — Frozen

TABLE B-3
WATER LEVEL DATA - WETLAND DRIVE POINTS
MILL CREEK AGGREGATES PIT

DP6								
DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)
6-Jan-04	1.15	305.67	23-Aug-04	1.10	305.72	27-Apr-06	0.73	306.09
8-Jan-04	1.16	305.66	26-Aug-04	1.06	305.76	28-Apr-06	0.78	306.04
12-Jan-04	1.21	305.61	30-Aug-04	1.08	305.74	15-May-06	0.88	305.94
15-Jan-04	1.23	305.59	2-Sep-04	1.11	305.71	15-Jun-06	1.09	305.73
19-Jan-04	1.32	305.50	6-Sep-04	1.17	305.65	15-Jul-06	0.87	305.95
26-Jan-04	1.18	305.64	9-Sep-04	1.06	305.76	24-Aug-06	1.00	305.82
5-Feb-04	1.15	305.67	13-Sep-04	1.14	305.68	15-Sep-06	0.88	305.94
9-Feb-04	1.16	305.66	16-Sep-04	1.07	305.75	15-Oct-06	0.71	306.11
16-Feb-04	1.18	305.64	20-Sep-04	1.11	305.71	15-Nov-06	0.83	305.99
19-Feb-04	1.17	305.65	23-Sep-04	1.20	305.62	07-Dec-06	0.84	305.98
5-Mar-04	0.84	305.98	27-Sep-04	1.17	305.65	17-Jan-07	0.84	305.99
8-Mar-04	0.85	305.97	30-Sep-04	1.18	305.64	30-Mar-07	0.72	306.11
11-Mar-04	0.91	305.91	4-Oct-04	1.19	305.63	26-Apr-07	0.60	306.22
15-Mar-04	0.94	305.88	7-Oct-04	1.21	305.61	16-May-07	0.67	306.15
18-Mar-04	0.95	305.87	11-Oct-04	1.23	305.59	26-Jun-07	0.79	306.03
22-Mar-04	0.94	305.88	14-Oct-04	1.24	305.58	25-Jul-07	0.96	305.86
25-Mar-04	0.91	305.91	18-Oct-04	1.17	305.65	07-Aug-07	1.04	305.78
1-Apr-04	0.72	306.10	21-Oct-04	1.14	305.68	21-Aug-07	1.04	305.78
5-Apr-04	0.79	306.03	25-Oct-04	1.14	305.68	21-Sep-07	1.17	305.65
7-Apr-04	0.82	306.00	28-Oct-04	1.14	305.68	17-Oct-07	1.06	305.76
8-Apr-04	0.82	306.00	1-Nov-04	1.15	305.67	15-Nov-07	1.09	305.73
15-Apr-04	0.87	305.95	4-Nov-04	1.05	305.77	29-Nov-07	1.04	305.78
22-Apr-04	0.78	306.04	8-Nov-04	1.09	305.73	10-Dec-07	1.07	305.75
26-Apr-04	0.79	306.03	11-Nov-04	1.12	305.70	31-Jan-08	(F)0.80	(F)306.02
3-May-04	0.68	306.14	15-Nov-04	1.17	305.65	29-Feb-08	0.93	305.89
10-May-04	0.70	306.12	18-Nov-04	1.20	305.62	31-Mar-08	0.58	306.24
13-May-04	0.76	306.06	22-Nov-04	1.21	305.61	28-Apr-08	0.71	306.11
17-May-04	0.84	305.98	25-Nov-04	1.20	305.62	28-May-08	0.73	306.09
20-May-04	0.87	305.95	29-Nov-04	1.20	305.62	25-Jun-08	0.64	306.18
25-May-04	0.76	306.06	2-Dec-04	1.14	305.68	16-Jul-08	0.68	306.14
27-May-04	0.88	305.94	6-Dec-04	1.21	305.61	20-Aug-08	0.63	306.19
31-May-04	0.86	305.96	9-Dec-04	1.18	305.64	26-Aug-08	0.71	306.11
3-Jun-04	0.86	305.96	13-Dec-04	1.15	305.67	19-Sep-08	0.53	306.29
7-Jun-04	0.91	305.91	15-Dec-04	1.05	305.77	10-Oct-08	0.75	306.07
10-Jun-04	0.93	305.89	16-Dec-04	1.12	305.70	05-Nov-08	0.80	306.02
14-Jun-04	0.90	305.92	20-Dec-04	1.25	305.57	03-Dec-08	0.70	306.12
17-Jun-04	0.91	305.91	23-Dec-04	1.27	305.55	17-Dec-08	(F)0.57	(F)306.25
21-Jun-04	0.87	305.95	20-Jan-05	cap frozen		06-Jan-09	(F)0.50	(F)306.32
24-Jun-04	0.87	305.95	25-Feb-05	cap frozen		27-Feb-09	(F)0.47	(F)306.35
28-Jun-04	0.98	305.84	24-Mar-05	1.02	305.80	11-Mar-09	0.43	306.39
5-Jul-04	1.03	305.79	18-Apr-05	0.83	305.99	14-Apr-09	0.55	306.27
8-Jul-04	0.95	305.87	29-Apr-05	0.77	306.05	21-May-09	0.56	306.26
12-Jul-04	1.01	305.81	26-May-05	0.90	305.92	16-Jun-09	0.62	306.20
15-Jul-04	0.94	305.88	23-Jun-05	1.00	305.82	31-Jul-09	0.59	306.23
19-Jul-04	1.01	305.81	25-Jul-05	1.05	305.77	25-Aug-09	0.55	306.27
22-Jul-04	1.02	305.80	17-Aug-05	1.04	305.78	28-Aug-09	0.58	306.24
26-Jul-04	1.08	305.74	26-Aug-05	1.08	305.74	28-Sep-09	0.63	306.19
29-Jul-04	1.04	305.78	30-Sep-05	1.03	305.79	14-Oct-09	0.65	306.17
2-Aug-04	0.99	305.83	27-Oct-05	0.93	305.89	11-Nov-09	0.74	306.08
4-Aug-04	0.95	305.87	28-Nov-05	1.03	305.79	11-Dec-09	0.75	306.07
5-Aug-04	1.04	305.78	07-Dec-05	1.01	305.81	16-Dec-09	0.74	306.08
9-Aug-04	1.11	305.71	19-Dec-05	1.08	305.74			
12-Aug-04	1.11	305.71	26-Jan-06	1.09	305.73			
16-Aug-04	1.13	305.69	15-Feb-06	0.94	305.88			
19-Aug-04	1.15	305.67	30-Mar-06	0.80	306.02			

NOTES:
- · BTOP Below top of pipe
- · NA Not available
- · m ASL metres above sea level
- · (F) Frozen

TABLE B-3
WATER LEVEL DATA - WETLAND DRIVE POINTS
MILL CREEK AGGREGATES PIT

DP6								
DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)
13-Jan-10	0.88	305.94	28-Nov-13	1.29	305.53	18-May-18	0.80	305.72
11-Feb-10	0.93	305.89	10-Dec-13	(F)1.30	(F)305.52	12-Jun-18	0.97	305.85
11-Mar-10	0.75	306.07	15-Jan-14	(F)1.34	(F)305.48	27-Jul-18	1.02	305.80
16-Apr-10	0.70	306.12	26-Feb-14	(F)1.20	(F)305.62	22-Aug-18	0.95	305.87
21-May-10	0.86	305.96	26-Mar-14	1.16	305.66	12-Sep-18	1.06	305.76
17-Jun-10	0.82	306.00	01-Apr-14	0.98	305.84	30-Oct-18	1.07	305.75
15-Jul-10	1.08	305.74	15-May-14	0.98	305.84	21-Nov-18	1.05	305.77
18-Aug-10	1.12	305.70	18-Jun-14	1.13	305.69	20-Dec-18	1.10	305.72
31-Aug-10	1.19	305.63	29-Jul-14	1.02	305.80			
28-Sep-10	1.12	305.70	25-Aug-14	1.12	305.70			
20-Oct-10	1.20	305.62	18-Sep-14	1.00	305.82			
18-Nov-10	1.09	305.73	17-Oct-14	1.11	305.71			
08-Dec-10	1.17	305.65	27-Nov-14	1.02	305.80			
22-Dec-10	1.24	305.58	15-Dec-14	1.11	305.71			
19-Jan-11	1.31	305.51	21-Jan-15	1.12	305.70			
17-Feb-11	1.18	305.64	18-Feb-15	1.13	305.69			
16-Mar-11	1.23	305.59	25-Mar-15	1.03	305.79			
13-Apr-11	0.96	305.86	06-Apr-15	0.97	305.85			
21-Apr-11	0.84	305.98	20-May-15	1.10	305.72			
26-May-11	0.75	306.07	23-Jun-15	1.01	305.81			
16-Jun-11	0.87	305.95	22-Jul-15	1.01	305.81			
14-Jul-11	1.01	305.81	25-Aug-15	1.18	305.64			
11-Aug-11	1.11	305.71	24-Sep-15	1.33	305.49			
17-Aug-11	1.17	305.65	29-Oct-15	1.06	305.76			
14-Sep-11	1.20	305.62	25-Nov-15	1.21	305.61			
27-Oct-11	1.03	305.79	10-Dec-15	1.19	305.63			
14-Nov-11	1.18	305.64	20-Jan-16	1.17	305.65			
14-Dec-11	0.99	305.83	29-Feb-16	1.05	305.77			
22-Dec-11	0.93	305.89	17-Mar-16	0.96	305.86			
16-Jan-12	0.99	305.83	30-Mar-16	0.98	305.84			
16-Feb-12	1.03	305.79	27-Apr-16	1.07	305.75			
29-Mar-12	0.98	305.84	30-May-16	1.16	305.66			
10-Apr-12	1.05	305.77	27-Jun-16	1.15	305.67			
30-Apr-12	1.05	305.77	28-Jul-16	1.20	305.62			
29-May-12	1.25	305.57	11-Aug-16	1.28	305.54			
20-Jun-12	1.26	305.56	21-Sep-16	1.24	305.58			
24-Jul-12	1.35	305.47	18-Oct-16	1.19	305.63			
08-Aug-12	1.43	305.39	14-Nov-16	1.21	305.61			
21-Aug-12	1.48	305.34	14-Dec-16	1.19	305.63			
18-Sep-12	1.4	305.42	18-Jan-17	1.10	305.72			
23-Oct-12	1.34	305.48	15-Feb-17	1.18	305.64			
28-Nov-12	1.49	305.33	17-Mar-17	1.15	305.67			
06-Dec-12	1.46	305.36	11-Apr-17	0.90	305.92			
19-Dec-12	1.43	305.39	18-May-17	0.95	305.87			
16-Jan-13	1.34	305.48	14-Jun-17	1.05	305.77			
20-Feb-13	1.34	305.48	20-Jul-17	1.00	305.82			
21-Mar-13	1.20	305.62	09-Aug-17	1.01	305.81			
04-Apr-13	1.18	305.64	12-Sep-17	0.94	305.88			
25-Apr-13	1.06	305.76	12-Oct-17	0.98	305.84			
23-May-13	1.20	305.62	21-Nov-17	0.92	305.90			
13-Jun-13	1.07	305.75	19-Dec-17	1.08	305.74			
31-Jul-13	1.10	305.72	16-Jan-18	0.95	305.87			
29-Aug-13	1.31	305.51	26-Feb-18	0.80	306.02			
25-Sep-13	1.27	305.55	26-Mar-18	1.00	305.82			
22-Oct-13	1.16	305.66	24-Apr-18	0.71	306.11			

NOTES:
- BTOP — Below top of pipe
- NA — Not available
- m ASL — metres above sea level
- (F) — Frozen

TABLE B-3
WATER LEVEL DATA - WETLAND DRIVE POINTS
MILL CREEK AGGREGATES PIT

DP7

DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)
19-Jul-89	1.84	305.79	18-Oct-94	1.92	305.71	11-Oct-02	2.01	305.62
27-Jul-89	1.88	305.75	23-Nov-94	1.85	305.78	22-Nov-02	2.04	305.59
15-Aug-89	1.94	305.69	21-Dec-94	1.75	305.88	13-Dec-02	2.05	305.58
30-Aug-89	1.98	305.65	24-Jan-95	1.24	306.39	09-Jan-03	2.08	305.55
17-Oct-89	2.05	305.58	15-Feb-95	1.61	306.02	10-Feb-03	2.07	305.56
30-Nov-89	1.92	305.71	23-Mar-95	1.39	306.24	13-Mar-03	1.84	305.79
13-Dec-89	2.01	305.62	17-May-95	1.58	306.05	10-Apr-03	1.72	305.91
17-Jan-90	1.99	305.64	13-Jun-95	1.55	306.08	07-May-03	1.78	305.85
06-Mar-90	1.70	305.93	20-Jul-95	1.75	305.88	15-May-03	1.76	305.87
02-Apr-90	1.53	306.10	15-Aug-95	1.63	306.00	16-Jun-03	1.80	305.83
25-Jun-90	1.73	305.90	18-Oct-95	1.88	305.75	17-Jul-03	1.94	305.69
26-Jul-90	1.81	305.82	22-Nov-95	1.60	306.03	21-Aug-03	2.14	305.49
22-Aug-90	1.89	305.74	26-Mar-96	1.30	306.33	26-Aug-03	2.06	305.57
26-Sep-90	1.95	305.68	31-May-96	1.21	306.42	25-Sep-03	2.00	305.63
24-Oct-90	1.80	305.83	29-Jul-96	1.34	306.29	27-Oct-03	2.02	305.61
25-Nov-90	1.75	305.88	30-Sep-96	1.22	306.41	01-Dec-03	1.80	305.83
14-Dec-90	1.60	306.03	07-Nov-96	1.36	306.27	11-Dec-03	1.87	305.76
23-Jan-91	1.49	306.14	26-Mar-97	1.01	306.62	15-Dec-03	1.89	305.74
20-Feb-91	1.43	306.20	26-May-97	1.14	306.49	19-Jan-04	1.97	305.66
28-Mar-91	1.00	306.63	31-Jul-97	1.50	306.13	25-Mar-04	1.58	306.05
26-Apr-91	1.05	306.58	07-Nov-97	1.48	306.15	07-Apr-04	1.48	306.15
24-May-91	1.25	306.38	16-Dec-97	1.66	305.97	22-Apr-04	1.42	306.21
20-Jun-91	1.31	306.32	27-Mar-98	1.24	306.39	20-May-04	1.54	306.09
30-Jul-91	1.36	306.27	31-May-98	1.63	306.00	24-Jun-04	1.60	306.03
22-Aug-91	1.54	306.09	31-Jul-98	1.78	305.85	23-Jul-04	1.68	305.95
25-Sep-91	1.70	305.93	30-Sep-98	1.97	305.66	04-Aug-04	1.59	306.04
29-Oct-91	1.73	305.90	30-Dec-98	1.95	305.68	26-Aug-04	1.76	305.87
26-Nov-91	1.77	305.86	31-Mar-99	1.61	306.02	28-Sep-04	1.84	305.79
16-Dec-91	1.65	305.98	20-May-99	1.82	305.81	18-Oct-04	1.77	305.86
13-Mar-92	1.54	306.09	16-Jul-99	2.03	305.60	16-Nov-04	1.68	305.95
15-Apr-92	1.63	306.00	10-Sep-99	1.99	305.64	15-Dec-04	1.72	305.91
22-May-92	1.57	306.06	10-Nov-99	2.13	305.50	16-Dec-04	1.53	306.10
29-Jun-92	1.77	305.86	01-Mar-00	1.90	305.73	20-Jan-05	1.54	306.09
20-Jul-92	1.51	306.12	19-May-00	1.66	305.97	25-Feb-05	1.58	306.05
26-Aug-92	1.70	305.93	06-Jul-00	1.78	305.85	24-Mar-05	1.60	306.03
14-Sep-92	1.63	306.00	14-Sep-00	1.97	305.66	18-Apr-05	1.48	306.15
29-Oct-92	1.55	306.08	12-Oct-00	2.00	305.63	29-Apr-05	1.38	306.25
26-Nov-92	1.15	306.48	07-Nov-00	2.10	305.53	26-May-05	1.50	306.13
14-Dec-92	1.35	306.28	13-Dec-00	2.07	305.56	23-Jun-05	1.62	306.01
19-Jan-93	0.92	306.71	11-Jan-01	2.05	305.58	25-Jul-05	1.68	305.95
05-Mar-93	NA	NA	07-Feb-01	1.98	305.65	17-Aug-05	1.66	305.97
26-Mar-93	NA	NA	12-Mar-01	1.78	305.85	26-Aug-05	1.78	305.85
19-Apr-93	1.10	306.53	10-Apr-01	1.54	306.09	27-Oct-05	1.75	305.88
27-May-93	1.23	306.40	03-May-01	1.71	305.92	28-Nov-05	1.69	305.94
22-Jun-93	1.26	306.37	06-Jun-01	1.68	305.95	07-Dec-05	1.68	305.95
15-Jul-93	1.42	306.21	11-Jul-01	1.92	305.71	19-Dec-05	1.73	305.90
18-Aug-93	1.53	306.10	01-Aug-01	2.03	305.60	15-Feb-06	1.57	306.06
20-Sep-93	1.63	306.00	05-Sep-01	2.18	305.45	30-Mar-06	1.44	306.19
19-Oct-93	1.52	306.11	02-Oct-01	2.19	305.44	27-Apr-06	1.36	306.27
17-Nov-93	1.70	305.93	06-Nov-01	2.08	305.55	28-Apr-06	1.40	306.23
07-Dec-93	1.50	306.13	06-Dec-01	1.97	305.66	15-May-06	1.43	306.20
18-Jan-94	1.76	305.87	04-Jan-02	1.99	305.64	15-Jun-06	1.51	306.12
23-Feb-94	1.53	306.10	07-Feb-02	1.92	305.71	15-Jul-06	1.48	306.15
24-Mar-94	1.28	306.35	07-Mar-02	1.78	305.85	24-Aug-06	1.62	306.01
19-Apr-94	1.35	306.28	07-Apr-02	1.70	305.93	15-Sep-06	1.23	306.40
24-May-94	1.39	306.24	06-May-02	1.76	305.87	15-Oct-06	1.39	306.24
23-Jun-94	1.65	305.98	14-Jun-02	1.80	305.83	15-Nov-06	1.43	306.20
19-Jul-94	1.73	305.90	11-Jul-02	1.88	305.75	07-Dec-06	1.39	306.24
25-Aug-94	1.78	305.85	09-Aug-02	2.01	305.62			
19-Sep-94	1.88	305.75	04-Sep-02	2.11	305.52			

NOTES:
- · BTOP — Below top of pipe
- · NA — Not available
- · m ASL — metres above sea level
- · (F) — Frozen

TABLE B-3
WATER LEVEL DATA - WETLAND DRIVE POINTS
MILL CREEK AGGREGATES PIT

DP7								
DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)
17-Jan-07	(F) 1.33	(F) 306.30	21-Apr-11	1.59	306.04	24-Sep-15	1.95	305.68
22-Feb-07	(F) 1.26	(F) 306.37	26-May-11	1.44	306.19	29-Oct-15	1.96	305.67
30-Mar-07	(F) 1.27	(F) 306.36	16-Jun-11	1.53	306.10	25-Nov-15	1.98	305.65
26-Apr-07	1.23	306.40	14-Jul-11	1.70	305.93	10-Dec-15	1.87	305.76
16-May-07	1.28	306.35	11-Aug-11	1.79	305.84	20-Jan-16	1.88	305.75
26-Jun-07	1.42	306.21	17-Aug-11	1.86	305.77	29-Feb-16	1.87	305.76
25-Jul-07	1.57	306.06	14-Sep-11	1.90	305.73	17-Mar-16	1.83	305.80
07-Aug-07	1.64	305.99	27-Oct-11	1.74	305.89	30-Mar-16	1.81	305.82
21-Aug-07	1.63	306.00	14-Nov-11	1.79	305.84	27-Apr-16	1.84	305.79
21-Sep-07	1.76	305.87	14-Dec-11	1.67	305.96	30-May-16	1.85	305.78
17-Oct-07	1.70	305.93	22-Dec-11	1.64	305.99	27-Jun-16	1.88	305.75
15-Nov-07	1.78	305.85	16-Jan-12	1.67	305.96	28-Jul-16	1.90	305.73
29-Nov-07	1.71	305.92	16-Feb-12	1.69	305.94	11-Aug-16	1.97	305.66
10-Dec-07	1.73	305.90	29-Mar-12	1.63	306.00	21-Sep-16	1.96	305.67
31-Jan-08	1.59	306.04	10-Apr-12	1.73	305.90	18-Oct-16	1.93	305.70
29-Feb-08	1.54	306.09	30-Apr-12	1.76	305.87	14-Nov-16	1.93	305.70
31-Mar-08	1.15	306.48	29-May-12	1.96	305.67	14-Dec-16	1.89	305.74
28-Apr-08	1.32	306.31	20-Jun-12	1.97	305.66	18-Jan-17	1.91	305.72
28-May-08	1.34	306.29	24-Jul-12	2.07	305.56	15-Feb-17	1.93	305.70
25-Jun-08	1.30	306.33	08-Aug-12	2.12	305.51	17-Mar-17	1.91	305.72
16-Jul-08	1.30	306.33	21-Aug-12	2.29	305.34	11-Apr-17	1.90	305.73
20-Aug-08	1.24	306.39	18-Sep-12	2.28	305.35	18-May-17	1.65	305.98
26-Aug-08	1.28	306.35	23-Oct-12	2.25	305.38	14-Jun-17	1.78	305.85
19-Sep-08	1.15	306.48	28-Nov-12	2.30	305.33	20-Jul-17	1.74	305.89
10-Oct-08	1.31	306.32	06-Dec-12	2.23	305.40	09-Aug-17	1.66	305.97
05-Nov-08	1.36	306.27	19-Dec-12	2.21	305.42	12-Sep-17	1.60	306.03
17-Dec-08	(F)1.24	(F)306.39	16-Jan-13	2.05	305.58	12-Oct-17	1.65	305.98
06-Jan-09	(F)1.14	(F)306.49	20-Feb-13	2.07	305.56	21-Nov-17	1.60	306.03
27-Feb-09	(F)0.97	(F)306.66	21-Mar-13	1.96	305.67	19-Dec-17	1.76	305.87
11-Mar-09	(F)1.06	(F)306.57	04-Apr-13	1.95	305.68	16-Jan-18	1.65	305.98
14-Apr-09	1.14	306.49	25-Apr-13	1.85	305.78	26-Feb-18	1.50	306.13
21-May-09	1.18	306.45	23-May-13	1.93	305.70	26-Mar-18	1.64	305.99
16-Jun-09	1.19	306.44	13-Jun-13	1.86	305.77	24-Apr-18	1.40	306.23
31-Jul-09	1.18	306.45	31-Jul-13	1.91	305.72	18-May-18	1.49	306.14
25-Aug-09	1.15	306.48	29-Aug-13	2.12	305.51	12-Jun-18	1.55	306.08
28-Aug-09	1.16	306.47	25-Sep-13	1.98	305.65	27-Jul-18	1.66	305.97
28-Sep-09	1.27	306.36	22-Oct-13	2.03	305.60	22-Aug-18	1.63	306.00
14-Oct-09	1.28	306.35	28-Nov-13	2.07	305.56	12-Sep-18	1.74	305.89
11-Nov-09	1.37	306.26	10-Dec-13	2.05	305.58	30-Oct-18	1.73	305.90
11-Dec-09	1.40	306.23	15-Jan-14	1.89	305.74	21-Nov-18	1.73	305.90
16-Dec-09	(F)1.37	(F)306.26	26-Feb-14	1.89	305.74	20-Dec-18	1.80	305.83
13-Jan-10	1.51	306.12	26-Mar-14	1.88	305.75			
11-Feb-10	1.56	306.07	01-Apr-14	1.77	305.86			
11-Mar-10	1.43	306.20	15-May-14	1.76	305.87			
16-Apr-10	1.33	306.30	18-Jun-14	1.90	305.73			
21-May-10	1.53	306.10	29-Jul-14	1.85	305.78			
17-Jun-10	1.56	306.07	25-Aug-14	1.89	305.74			
15-Jul-10	1.75	305.88	18-Sep-14	1.83	305.80			
18-Aug-10	1.81	305.82	17-Oct-14	1.92	305.71			
31-Aug-10	1.90	305.73	27-Nov-14	1.80	305.83			
28-Sep-10	1.96	305.67	15-Dec-14	1.84	305.79			
20-Oct-10	1.88	305.75	21-Jan-15	1.81	305.82			
18-Nov-10	1.89	305.74	18-Feb-15	1.81	305.82			
08-Dec-10	1.90	305.73	25-Mar-15	1.75	305.88			
22-Dec-10	1.95	305.68	06-Apr-15	1.72	305.91			
19-Jan-11	1.98	305.65	20-May-15	1.87	305.76			
17-Feb-11	1.94	305.69	23-Jun-15	1.74	305.89			
16-Mar-11	1.69	305.94	22-Jul-15	1.96	305.67			
13-Apr-11	1.69	305.94	25-Aug-15	1.98	305.65			

NOTES:
- · BTOP — Below top of pipe
- · NA — Not available
- · m ASL — metres above sea level
- · (F) — Frozen

TABLE B-3
WATER LEVEL DATA - WETLAND DRIVE POINTS
MILL CREEK AGGREGATES PIT

DP8

DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)
19-Jul-89	* 2.42	* 304.78	23-Nov-94	1.52	305.68	13-Dec-02	1.68	305.52
27-Jul-89	1.57	305.63	21-Dec-94	1.44	305.76	09-Jan-03	1.60	305.60
15-Aug-89	1.64	305.56	24-Jan-95	1.00	306.20	10-Feb-03	2.03	305.17
30-Aug-89	1.68	305.52	15-Feb-95	1.30	305.90	13-Mar-03	1.47	305.73
17-Oct-89	1.73	305.47	23-Mar-95	1.10	306.10	10-Apr-03	1.35	305.85
30-Nov-89	1.58	305.62	17-May-95	NA	NA	07-May-03	1.42	305.78
13-Dec-89	1.67	305.53	13-Jun-95	1.25	305.95	15-May-03	1.45	305.75
17-Jan-90	1.68	305.52	20-Jul-95	1.45	305.75	16-Jun-03	1.50	305.70
06-Mar-90	1.38	305.82	15-Aug-95	1.40	305.80	17-Jul-03	1.68	305.52
02-Apr-90	1.23	305.97	18-Oct-95	1.56	305.64	21-Aug-03	1.85	305.35
25-Jun-90	1.43	305.77	22-Nov-95	1.29	305.91	26-Aug-03	1.73	305.47
26-Jul-90	1.50	305.70	26-Mar-96	1.07	306.13	25-Sep-03	1.58	305.62
22-Aug-90	1.58	305.62	31-May-96	0.95	306.25	27-Oct-03	1.61	305.59
26-Sep-90	1.67	305.53	29-Jul-96	1.06	306.14	01-Dec-03	1.50	305.70
24-Oct-90	1.48	305.72	30-Sep-96	0.93	306.27	11-Dec-03	1.52	305.68
25-Nov-90	1.43	305.77	07-Nov-96	1.15	306.05	15-Dec-03	1.46	305.74
14-Dec-90	1.30	305.90	26-Mar-97	0.75	306.45	19-Jan-04	1.53	305.67
23-Jan-91	1.19	306.01	26-May-97	0.88	306.32	18-Feb-04	1.62	305.58
20-Feb-91	1.18	306.02	31-Jul-97	1.22	305.98	25-Mar-04	1.41	305.79
28-Mar-91	0.78	306.42	07-Nov-97	1.18	306.02	07-Apr-04	1.16	306.04
26-Apr-91	0.80	306.40	16-Dec-97	1.35	305.85	22-Apr-04	1.03	306.17
24-May-91	1.00	306.20	27-Mar-98	0.96	306.24	20-May-04	1.15	306.05
20-Jun-91	1.06	306.14	31-May-98	1.62	305.58	24-Jun-04	1.23	305.97
30-Jul-91	1.14	306.06	31-Jul-98	1.67	305.53	23-Jul-04	1.31	305.89
22-Aug-91	1.22	305.98	30-Sep-98	1.65	305.55	26-Aug-04	1.40	305.80
25-Sep-91	1.41	305.79	30-Dec-98	1.60	305.60	08-Sep-04	1.39	305.81
29-Oct-91	1.44	305.76	31-Mar-99	1.37	305.83	28-Sep-04	1.45	305.75
26-Nov-91	1.45	305.75	20-May-99	1.48	305.72	18-Oct-04	1.39	305.81
16-Dec-91	1.34	305.86	16-Jul-99	1.71	305.49	16-Nov-04	1.28	305.92
13-Mar-92	1.25	305.95	10-Sep-99	1.65	305.55	15-Dec-04	1.38	305.82
15-Apr-92	1.32	305.88	10-Nov-99	1.72	305.48	16-Dec-04	1.14	306.06
22-May-92	1.27	305.93	01-Mar-00	1.51	305.69	20-Jan-05	1.12	306.08
29-Jun-92	1.48	305.72	19-May-00	1.31	305.89	25-Feb-05	1.10	306.10
20-Jul-92	1.22	305.98	06-Jul-00	1.43	305.77	24-Mar-05	1.56	305.64
26-Aug-92	1.40	305.80	14-Sep-00	1.64	305.56	18-Apr-05	1.17	306.03
14-Sep-92	1.35	305.85	12-Oct-00	1.66	305.54	29-Apr-05	1.41	305.79
28-Oct-92	1.26	305.94	07-Nov-00	1.74	305.46	26-May-05	1.62	305.58
26-Nov-92	0.89	306.31	13-Dec-00	1.67	305.53	23-Jun-05	1.73	305.47
15-Dec-92	1.09	306.11	12-Jan-01	1.65	305.55	25-Jul-05	1.70	305.50
19-Jan-93	(F) 0.63	(F) 306.57	07-Feb-01	1.35	305.85	17-Aug-05	1.37	305.83
05-Mar-93	NA	NA	12-Mar-01	1.42	305.78	26-Aug-05	1.79	305.41
26-Mar-93	NA	NA	10-Apr-01	1.21	305.99	30-Sep-05	1.66	305.54
19-Apr-93	0.86	306.34	03-May-01	1.38	305.82	27-Oct-05	1.52	305.68
27-May-93	0.99	306.21	06-Jun-01	1.30	305.90	28-Nov-05	1.61	305.59
22-Jun-93	1.00	306.20	11-Jul-01	2.04	305.16	07-Dec-05	1.32	305.88
15-Jul-93	1.17	306.03	01-Aug-01	2.15	305.05	19-Dec-05	1.55	305.65
18-Aug-93	1.27	305.93	19-Sep-01	1.91	305.29	26-Jan-06	1.19	306.01
20-Sep-93	1.36	305.84	02-Oct-01	1.91	305.29	15-Feb-06	0.99	306.21
19-Oct-93	1.25	305.95	06-Nov-01	1.50	305.70	30-Mar-06	1.18	306.02
17-Nov-93	1.40	305.80	06-Dec-01	1.38	305.82	27-Apr-06	1.08	306.12
07-Dec-93	1.20	306.00	04-Jan-02	1.45	305.75	28-Apr-06	1.13	306.07
18-Jan-94	1.46	305.74	07-Feb-02	1.38	305.82	15-May-06	1.15	306.05
23-Feb-94	1.23	305.97	07-Mar-02	1.25	305.95	15-Jun-06	1.28	305.92
24-Mar-94	1.06	306.14	07-Apr-02	1.35	305.85	15-Jul-06	1.22	305.98
19-Apr-94	1.06	306.14	06-May-02	1.39	305.81	24-Aug-06	1.70	305.50
24-May-94	1.10	306.10	14-Jun-02	1.50	305.70	15-Sep-06	1.52	305.68
23-Jun-94	1.35	305.85	11-Jul-02	1.46	305.74	15-Oct-06	1.24	305.96
21-Jul-94	1.43	305.77	09-Aug-02	1.58	305.62	15-Nov-06	1.79	305.41
25-Aug-94	1.48	305.72	04-Sep-02	1.70	305.50	07-Dec-06	0.95	306.25
21-Sep-94	1.57	305.63	11-Oct-02	1.63	305.57			
18-Oct-94	1.60	305.60	22-Nov-02	1.61	305.59			

NOTES:
- BTOP — Below top of pipe
- NA — Not available
- m ASL — metres above sea level
- (F) — Frozen
- * — Obtained before drive point was developed - not included in analyses

TABLE B-3
WATER LEVEL DATA - WETLAND DRIVE POINTS
MILL CREEK AGGREGATES PIT

DP8								
DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)
17-Jan-07	1.05	306.15	14-Jul-11	1.51	305.69	20-Jan-16	1.55	305.65
22-Feb-07	(F) 0.93	(F) 306.27	11-Aug-11	1.76	305.44	29-Feb-16	1.57	305.63
30-Mar-07	(F) 1.02	(F) 306.18	17-Aug-11	1.80	305.40	17-Mar-16	1.82	305.38
26-Apr-07	0.89	306.31	14-Sep-11	1.87	305.33	30-Mar-16	1.48	305.72
16-May-07	1.08	306.12	27-Oct-11	1.64	305.56	27-Apr-16	1.46	305.74
25-Jul-07	1.39	305.81	14-Nov-11	1.59	305.61	30-May-16	1.56	305.64
07-Aug-07	0.96	306.24	14-Dec-11	1.45	305.75	27-Jun-16	1.63	305.57
21-Aug-07	1.47	305.73	22-Dec-11	1.41	305.79	28-Jul-16	1.90	305.30
21-Sep-07	1.55	305.65	16-Jan-12	1.40	305.80	11-Aug-16	1.96	305.24
17-Oct-07	1.46	305.74	16-Feb-12	1.40	305.80	21-Sep-16	1.87	305.33
29-Nov-07	1.42	305.78	29-Mar-12	1.39	305.81	18-Oct-16	1.84	305.36
10-Dec-07	1.42	305.78	10-Apr-12	1.46	305.74	14-Nov-16	1.74	305.46
31-Jan-08	1.31	305.89	30-Apr-12	1.51	305.69	14-Dec-16	1.65	305.55
29-Feb-08	(F)1.50	(F)305.70	29-May-12	1.70	305.50	18-Jan-17	1.54	305.66
31-Mar-08	(F)1.10	(F)306.10	20-Jun-12	1.79	305.41	15-Feb-17	1.56	305.64
28-Apr-08	1.13	306.07	24-Jul-12	1.99	305.21	17-Mar-17	1.53	305.67
28-May-08	1.15	306.05	08-Aug-12	2.05	305.15	11-Apr-17	1.43	305.77
25-Jun-08	1.10	306.10	21-Aug-12	2.06	305.14	18-May-17	1.40	305.80
16-Jul-08	1.11	306.09	18-Sep-12	2.10	305.10	14-Jun-17	1.51	305.69
20-Aug-08	1.06	306.14	23-Oct-12	2.02	305.18	20-Jul-17	1.54	305.66
26-Aug-08	1.09	306.11	28-Nov-12	1.93	305.27	09-Aug-17	1.54	305.66
19-Sep-08	0.97	306.23	06-Dec-12	1.90	305.30	12-Sep-17	1.48	305.72
10-Oct-08	1.10	306.10	19-Dec-12	1.85	305.35	12-Oct-17	1.52	305.68
05-Nov-08	1.13	306.07	16-Jan-13	1.77	305.43	21-Nov-17	1.41	305.79
17-Dec-08	(F)1.03	(F)306.17	20-Feb-13	1.73	305.47	19-Dec-17	1.49	305.71
06-Jan-09	(F)0.95	(F)306.25	21-Mar-13	1.64	305.56	16-Jan-18	1.44	305.76
27-Feb-09	(F)0.83	(F)306.37	04-Apr-13	1.64	305.56	26-Feb-18	1.34	305.86
11-Mar-09	(F)0.77	(F)306.43	25-Apr-13	1.55	305.65	26-Mar-18	1.41	305.79
14-Apr-09	1.01	306.19	23-May-13	1.67	305.53	24-Apr-18	1.23	305.97
21-May-09	1.04	306.16	13-Jun-13	1.84	305.36	18-May-18	1.30	305.90
16-Jun-09	1.05	306.15	31-Jul-13	1.74	305.46	12-Jun-18	1.37	305.83
31-Jul-09	1.04	306.16	29-Aug-13	1.91	305.29	27-Jul-18	1.53	305.67
25-Aug-09	1.00	306.20	25-Sep-13	1.65	305.55	22-Aug-18	1.49	305.71
28-Aug-09	1.02	306.18	22-Oct-13	1.77	305.43	12-Sep-18	1.54	305.66
28-Sep-09	1.09	306.11	28-Nov-13	1.73	305.47	30-Oct-18	1.53	305.67
14-Oct-09	1.09	306.11	10-Dec-13	1.74	305.46	21-Nov-18	1.45	305.75
11-Nov-09	1.15	306.05	15-Jan-14	1.63	305.57	20-Dec-18	1.46	305.74
11-Dec-09	1.16	306.04	26-Feb-14	1.63	305.57			
16-Dec-09	1.15	306.05	26-Mar-14	1.61	305.59			
13-Jan-10	1.25	305.95	01-Apr-14	1.57	305.63			
11-Feb-10	(F)1.22	(F)305.98	15-May-14	1.52	305.68			
11-Mar-10	(F)1.13	(F)306.07	18-Jun-14	1.69	305.51			
16-Apr-10	1.15	306.05	29-Jul-14	1.79	305.41			
21-May-10	1.25	305.95	25-Aug-14	1.69	305.51			
17-Jun-10	1.35	305.85	18-Sep-14	1.58	305.62			
15-Jul-10	1.52	305.68	17-Oct-14	1.62	305.58			
18-Aug-10	1.63	305.57	27-Nov-14	1.57	305.63			
31-Aug-10	1.65	305.55	15-Dec-14	1.58	305.62			
28-Sep-10	1.69	305.51	21-Jan-15	1.55	305.65			
20-Oct-10	1.63	305.57	18-Feb-15	1.56	305.64			
18-Nov-10	1.62	305.58	25-Mar-15	1.51	305.69			
08-Dec-10	1.58	305.62	06-Apr-15	1.48	305.72			
22-Dec-10	1.61	305.59	20-May-15	1.56	305.64			
19-Jan-11	1.57	305.63	23-Jun-15	1.51	305.69			
17-Feb-11	1.70	305.50	22-Jul-15	1.67	305.53			
16-Mar-11	1.50	305.70	25-Aug-15	1.82	305.38			
13-Apr-11	1.40	305.80	24-Sep-15	1.68	305.52			
21-Apr-11	1.34	305.86	29-Oct-15	1.70	305.50			
26-May-11	1.25	305.95	25-Nov-15	1.67	305.53			
16-Jun-11	1.32	305.88	10-Dec-15	1.64	305.56			

NOTES:
- · BTOP — Below top of pipe
- · NA — Not available
- · m ASL — metres above sea level
- · (F) — Frozen
- · * — Obtained before drive point was developed - not included in analyses

TABLE B-3
WATER LEVEL DATA - WETLAND DRIVE POINTS
MILL CREEK AGGREGATES PIT

DP9

DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)
19-Jul-89	1.61	305.19	18-Oct-94	1.65	305.15	11-Oct-02	1.83	304.97
27-Jul-89	1.64	305.16	23-Nov-94	1.30	305.50	22-Nov-02	1.70	305.10
15-Aug-89	1.70	305.10	21-Dec-94	1.22	305.58	13-Dec-02	1.75	305.05
30-Aug-89	1.74	305.06	24-Jan-95	0.90	305.90	09-Jan-03	1.70	305.10
17-Oct-89	1.73	305.07	15-Feb-95	1.00	305.80	10-Feb-03	1.79	305.01
30-Nov-89	1.30	305.50	23-Mar-95	0.97	305.83	13-Mar-03	1.50	305.30
13-Dec-89	1.51	305.29	17-May-95	1.34	305.46	10-Apr-03	1.25	305.55
17-Jan-90	1.49	305.31	13-Jun-95	1.21	305.59	07-May-03	1.19	305.61
06-Mar-90	1.21	305.59	20-Jul-95	1.57	305.23	15-May-03	1.30	305.50
02-Apr-90	1.04	305.76	15-Aug-95	1.52	305.28	16-Jun-03	1.61	305.19
25-Jun-90	1.36	305.44	18-Oct-95	1.57	305.23	17-Jul-03	1.69	305.11
26-Jul-90	1.52	305.28	22-Nov-95	1.12	305.68	21-Aug-03	1.87	304.93
22-Aug-90	1.62	305.18	26-Mar-96	1.00	305.80	26-Aug-03	1.70	305.10
26-Sep-90	1.64	305.16	31-May-96	0.95	305.85	25-Sep-03	1.60	305.20
24-Oct-90	1.27	305.53	29-Jul-96	1.04	305.76	27-Oct-03	1.63	305.17
25-Nov-90	1.18	305.62	30-Sep-96	0.90	305.90	01-Dec-03	1.20	305.60
14-Dec-90	1.11	305.69	07-Nov-96	0.95	305.85	11-Dec-03	1.26	305.54
23-Jan-91	1.09	305.71	26-Mar-97	0.77	306.03	15-Dec-03	1.50	305.30
20-Feb-91	1.08	305.72	26-May-97	0.87	305.93	19-Jan-04	1.60	305.20
28-Mar-91	0.83	305.97	31-Jul-97	1.40	305.40	18-Feb-04	1.69	305.11
26-Apr-91	0.85	305.95	07-Nov-97	1.05	305.75	25-Mar-04	1.11	305.69
24-May-91	1.00	305.80	16-Dec-97	1.21	305.59	07-Apr-04	1.01	305.79
20-Jun-91	1.09	305.71	27-Mar-98	0.87	305.93	22-Apr-04	1.06	305.74
30-Jul-91	1.06	305.74	31-May-98	1.46	305.34	20-May-04	1.18	305.62
22-Aug-91	1.38	305.42	31-Jul-98	1.58	305.22	24-Jun-04	1.24	305.56
25-Sep-91	1.55	305.25	30-Sep-98	1.71	305.09	23-Jul-04	1.32	305.48
29-Oct-91	1.40	305.40	30-Dec-98	1.61	305.19	04-Aug-04	1.33	305.47
26-Nov-91	1.29	305.51	31-Mar-99	1.08	305.72	26-Aug-04	1.42	305.38
16-Dec-91	1.14	305.66	20-May-99	1.37	305.43	28-Sep-04	1.45	305.35
13-Mar-92	(F) 1.01	(F) 305.79	16-Jul-99	1.62	305.18	18-Oct-04	1.48	305.32
15-Apr-92	1.07	305.73	10-Sep-99	1.60	305.20	16-Nov-04	1.36	305.44
22-May-92	1.11	305.69	10-Nov-99	1.35	305.45	15-Dec-04	1.20	305.60
29-Jun-92	1.50	305.30	01-Mar-00	1.27	305.53	16-Dec-04	1.21	305.59
20-Jul-92	1.06	305.74	19-May-00	1.06	305.74	20-Jan-05	1.19	305.61
26-Aug-92	1.35	305.45	06-Jul-00	1.27	305.53	25-Feb-05	1.20	305.60
14-Sep-92	1.23	305.57	14-Sep-00	1.67	305.13	24-Mar-05	1.22	305.58
29-Oct-92	1.10	305.70	12-Oct-00	1.69	305.11	18-Apr-05	1.07	305.73
26-Nov-92	0.86	305.94	07-Nov-00	1.71	305.09	29-Apr-05	0.98	305.82
14-Dec-92	0.99	305.81	12-Dec-00	1.61	305.19	26-May-05	1.19	305.61
19-Jan-93	(F) 0.75	(F) 306.05	12-Jan-01	1.58	305.22	23-Jun-05	1.33	305.47
05-Mar-93	NA	NA	07-Feb-01	1.38	305.42	25-Jul-05	1.38	305.42
26-Mar-93	NA	NA	12-Mar-01	1.25	305.55	17-Aug-05	1.55	305.25
19-Apr-93	0.85	305.95	09-Apr-01	0.95	305.85	26-Aug-05	1.48	305.32
27-May-93	0.95	305.85	03-May-01	1.23	305.57	30-Sep-05	1.30	305.50
22-Jun-93	1.00	305.80	06-Jun-01	1.27	305.53	27-Oct-05	1.45	305.35
15-Jul-93	1.22	305.58	11-Jul-01	1.70	305.10	28-Nov-05	1.52	305.28
18-Aug-93	1.40	305.40	01-Aug-01	1.83	304.97	07-Dec-05	1.13	305.67
20-Sep-93	1.42	305.38	05-Sep-01	1.81	304.99	19-Dec-05	1.46	305.34
19-Oct-93	1.12	305.68	02-Oct-01	1.85	304.95	26-Jan-06	1.00	305.80
17-Nov-93	1.22	305.58	06-Nov-01	1.75	305.05	30-Mar-06	1.06	305.74
07-Dec-93	1.08	305.72	06-Dec-01	1.32	305.48	27-Apr-06	0.99	305.81
18-Jan-94	1.46	305.34	04-Jan-02	1.40	305.40	28-Apr-06	1.06	305.74
23-Feb-94	1.23	305.57	07-Feb-02	1.36	305.44	15-May-06	1.16	305.64
24-Mar-94	1.01	305.79	07-Mar-02	1.62	305.18	15-Jun-06	1.44	305.36
19-Apr-94	0.89	305.91	07-Apr-02	1.19	305.61	15-Jul-06	1.30	305.50
24-May-94	0.98	305.82	06-May-02	1.19	305.61	24-Aug-06	1.57	305.23
23-Jun-94	1.44	305.36	14-Jun-02	1.56	305.24	15-Sep-06	1.19	305.61
21-Jul-94	1.53	305.27	11-Jul-02	1.70	305.10	15-Oct-06	0.94	305.86
25-Aug-94	1.54	305.26	09-Aug-02	1.78	305.02	15-Nov-06	0.97	305.83
21-Sep-94	1.66	305.14	04-Sep-02	1.85	304.95	07-Dec-06	0.97	305.83

NOTES:
- BTOP — Below top of pipe
- NA — Not available
- m ASL — metres above sea level
- (F) — Frozen

TABLE B-3
WATER LEVEL DATA - WETLAND DRIVE POINTS
MILL CREEK AGGREGATES PIT

DP9								
DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)
17-Jan-07	0.99	305.81	14-Jul-11	1.50	305.30	10-Dec-15	1.37	305.43
22-Feb-07	(F) 0.81	(F) 305.99	11-Aug-11	1.57	305.23	20-Jan-16	1.30	305.50
26-Apr-07	0.90	305.90	17-Aug-11	1.61	305.19	29-Feb-16	1.26	305.54
26-Jun-07	1.26	305.54	14-Sep-11	1.62	305.18	17-Mar-16	1.05	305.75
25-Jul-07	1.56	305.24	27-Oct-11	1.21	305.59	30-Mar-16	1.04	305.76
07-Aug-07	1.58	305.22	14-Nov-11	1.25	305.55	27-Apr-16	1.18	305.62
21-Aug-07	1.59	305.21	14-Dec-11	1.03	305.77	30-May-16	1.35	305.45
21-Sep-07	1.62	305.18	22-Dec-11	1.11	305.69	27-Jun-16	1.58	305.22
17-Oct-07	1.32	305.48	16-Jan-12	1.17	305.63	28-Jul-16	1.62	305.18
29-Nov-07	1.19	305.61	16-Feb-12	1.22	305.58	11-Aug-16	1.66	305.14
10-Dec-07	1.20	305.60	29-Mar-12	1.15	305.65	21-Sep-16	1.61	305.19
31-Jan-08	1.16	305.64	10-Apr-12	1.24	305.56	18-Oct-16	1.60	305.20
29-Feb-08	(F)1.13	(F)305.67	30-Apr-12	1.27	305.53	14-Nov-16	1.41	305.39
31-Mar-08	0.98	305.82	29-May-12	1.66	305.14	14-Dec-16	1.36	305.44
28-Apr-08	1.02	305.78	20-Jun-12	1.70	305.10	18-Jan-17	1.10	305.70
28-May-08	1.07	305.73	24-Jul-12	1.82	304.98	15-Feb-17	1.27	305.53
25-Jun-08	1.04	305.76	08-Aug-12	1.84	304.96	17-Mar-17	1.25	305.55
16-Jul-08	1.03	305.77	21-Aug-12	1.87	304.93	11-Apr-17	1.06	305.74
20-Aug-08	1.08	305.72	18-Sep-12	1.73	305.07	18-May-17	1.15	305.65
26-Aug-08	1.06	305.74	23-Oct-12	1.53	305.27	14-Jun-17	1.39	305.41
19-Sep-08	0.91	305.89	28-Nov-12	1.61	305.19	20-Jul-17	1.34	305.46
10-Oct-08	0.97	305.83	06-Dec-12	1.41	305.39	09-Aug-17	1.44	305.36
05-Nov-08	1.00	305.80	19-Dec-12	1.45	305.35	12-Sep-17	1.46	305.34
17-Dec-08	(F)0.89	(F)305.91	16-Jan-13	1.30	305.50	12-Oct-17	1.51	305.29
06-Jan-09	(F)0.87	(F)305.93	20-Feb-13	1.39	305.41	21-Nov-17	1.13	305.67
27-Feb-09	(F)0.82	(F)305.98	21-Mar-13	1.28	305.52	19-Dec-17	1.27	305.53
11-Mar-09	1.10	305.70	04-Apr-13	1.23	305.57	16-Jan-18	(F)	
14-Apr-09	0.91	305.89	25-Apr-13	1.17	305.63	26-Feb-18	0.97	305.83
21-May-09	0.93	305.87	23-May-13	1.40	305.40	26-Mar-18	1.27	305.53
16-Jun-09	0.96	305.84	13-Jun-13	1.30	305.50	24-Apr-18	0.97	305.83
31-Jul-09	1.09	305.71	31-Jul-13	1.59	305.21	18-May-18	1.08	305.72
25-Aug-09	0.94	305.86	29-Aug-13	1.73	305.07	12-Jun-18	1.30	305.50
28-Aug-09	0.94	305.86	25-Sep-13	1.67	305.13	27-Jul-18	1.57	305.23
28-Sep-09	1.05	305.75	22-Oct-13	1.36	305.44	22-Aug-18	1.49	305.31
14-Oct-09	0.94	305.86	28-Nov-13	1.41	305.39	12-Sep-18	1.54	305.26
11-Nov-09	1.03	305.77	10-Dec-13	1.44	305.36	30-Oct-18	1.34	305.46
11-Dec-09	(F)0.99	(F)305.81	15-Jan-14	1.29	305.51	21-Nov-18	1.21	305.59
16-Dec-09	(F)0.97	(F)305.83	26-Feb-14	1.42	305.38	20-Dec-18	1.24	305.56
13-Jan-10	(F)0.91	(F)305.89	26-Mar-14	1.31	305.49			
11-Feb-10	(F)0.86	(F)305.94	01-Apr-14	1.18	305.62			
11-Mar-10	1.20	305.60	15-May-14	1.19	305.61			
16-Apr-10	0.98	305.82	18-Jun-14	1.54	305.26			
21-May-10	1.19	305.61	29-Jul-14	1.30	305.50			
17-Jun-10	1.15	305.65	25-Aug-14	1.42	305.38			
15-Jul-10	1.45	305.35	18-Sep-14	1.30	305.50			
18-Aug-10	1.52	305.28	17-Oct-14	1.32	305.48			
31-Aug-10	1.58	305.22	27-Nov-14	1.21	305.59			
28-Sep-10	1.36	305.44	15-Dec-14	1.29	305.51			
20-Oct-10	1.35	305.45	21-Jan-15	1.35	305.45			
18-Nov-10	1.26	305.54	18-Feb-15	1.36	305.44			
08-Dec-10	1.28	305.52	25-Mar-15	1.18	305.62			
22-Dec-10	1.37	305.43	06-Apr-15	1.07	305.73			
19-Jan-11	1.44	305.36	20-May-15	1.35	305.45			
17-Feb-11	1.59	305.21	23-Jun-15	1.31	305.49			
16-Mar-11	1.14	305.66	22-Jul-15	1.48	305.32			
13-Apr-11	1.04	305.76	25-Aug-15	1.43	305.37			
21-Apr-11	1.03	305.77	24-Sep-15	1.67	305.13			
26-May-11	0.97	305.83	29-Oct-15	1.22	305.58			
16-Jun-11	1.13	305.67	25-Nov-15	1.34	305.46			

NOTES:
- · BTOP — Below top of pipe
- · NA — Not available
- · m ASL — metres above sea level
- · (F) — Frozen

TABLE B-3
WATER LEVEL DATA - WETLAND DRIVE POINTS
MILL CREEK AGGREGATES PIT

DP10

DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)
19-Jul-89	2.67	304.73	18-Oct-94	2.64	304.76	11-Oct-02	2.65	304.75
27-Jul-89	2.69	304.71	23-Nov-94	2.56	304.84	22-Nov-02	2.62	304.78
15-Aug-89	2.71	304.69	21-Dec-94	2.53	304.87	13-Dec-02	2.68	304.72
30-Aug-89	2.72	304.68	24-Jan-95	2.24	305.16	09-Jan-03	2.62	304.78
17-Oct-89	2.69	304.71	15-Feb-95	2.59	304.81	10-Feb-03	2.60	304.80
30-Nov-89	2.60	304.80	23-Mar-95	2.38	305.02	13-Mar-03	2.34	305.06
13-Dec-89	2.67	304.73	17-May-95	2.48	304.92	10-Apr-03	2.25	305.15
17-Jan-90	2.62	304.78	13-Jun-95	2.58	304.82	07-May-03	2.44	304.96
06-Mar-90	2.55	304.85	20-Jul-95	2.62	304.78	15-May-03	2.45	304.95
02-Apr-90	2.48	304.92	15-Aug-95	2.49	304.91	16-Jun-03	2.51	304.89
25-Jun-90	2.60	304.80	18-Oct-95	2.61	304.79	17-Jul-03	2.68	304.72
26-Jul-90	2.63	304.77	22-Nov-95	2.46	304.94	21-Aug-03	2.69	304.71
22-Aug-90	2.64	304.76	26-Mar-96	NA	NA	26-Aug-03	2.60	304.80
26-Sep-90	2.67	304.73	31-May-96	2.41	304.99	25-Sep-03	2.71	304.69
24-Oct-90	2.55	304.85	31-Jul-96	2.36	305.04	27-Oct-03	2.70	304.70
25-Nov-90	2.52	304.88	02-Oct-96	2.37	305.03	01-Dec-03	2.60	304.80
14-Dec-90	2.45	304.95	07-Nov-96	2.40	305.00	11-Dec-03	2.46	304.94
23-Jan-91	2.49	304.91	31-Mar-97	1.88	305.52	19-Jan-04	2.60	304.80
20-Feb-91	2.41	304.99	26-May-97	2.39	305.01	18-Feb-04	2.54	304.86
28-Mar-91	1.84	305.56	30-Jul-97	2.54	304.86	25-Mar-04	2.31	305.09
26-Apr-91	2.23	305.17	06-Nov-97	2.41	304.99	07-Apr-04	2.31	305.09
24-May-91	2.47	304.93	12-Dec-97	2.55	304.85	22-Apr-04	2.28	305.12
20-Jun-91	2.46	304.94	27-Mar-98	2.29	305.11	20-May-04	2.47	304.93
30-Jul-91	2.28	305.12	31-May-98	2.49	304.91	24-Jun-04	2.51	304.89
22-Aug-91	2.55	304.85	31-Jul-98	2.60	304.80	23-Jul-04	2.56	304.84
25-Sep-91	2.58	304.82	30-Sep-98	2.61	304.79	04-Aug-04	2.54	304.86
29-Oct-91	2.54	304.86	30-Dec-98	2.67	304.73	26-Aug-04	2.57	304.83
26-Nov-91	2.55	304.85	31-Mar-99	2.27	305.13	28-Sep-04	2.60	304.80
16-Dec-91	2.47	304.93	20-May-99	2.64	304.76	18-Oct-04	2.57	304.83
13-Mar-92	2.43	304.97	16-Jul-99	3.04	304.36	16-Nov-04	2.58	304.82
15-Apr-92	2.46	304.94	09-Sep-99	2.55	304.85	15-Dec-04	2.51	304.89
21-May-92	2.52	304.88	09-Nov-99	2.57	304.83	16-Dec-04	2.52	304.88
29-Jun-92	2.61	304.79	01-Mar-00	2.49	304.91	20-Jan-05	2.49	304.91
20-Jul-92	2.30	305.10	19-May-00	2.31	305.09	25-Feb-05	2.46	304.94
27-Aug-92	2.48	304.92	06-Jul-00	2.56	304.84	24-Mar-05	2.49	304.91
14-Sep-92	2.49	304.91	13-Sep-00	2.60	304.80	18-Apr-05	2.42	304.98
29-Oct-92	2.46	304.94	10-Oct-00	2.62	304.78	29-Apr-05	2.45	304.95
26-Nov-92	2.18	305.22	07-Nov-00	2.65	304.75	26-May-05	2.53	304.87
14-Dec-92	2.42	304.98	11-Dec-00	2.64	304.76	23-Jun-05	2.51	304.89
19-Jan-93	2.38	305.02	11-Jan-01	2.64	304.76	25-Jul-05	2.50	304.90
05-Mar-93	NA	NA	09-Feb-01	2.62	304.78	17-Aug-05	2.60	304.80
26-Mar-93	2.42	304.98	12-Mar-01	2.52	304.88	26-Aug-05	2.54	304.86
19-Apr-93	2.32	305.08	10-Apr-01	2.29	305.11	30-Sep-05	2.49	304.91
27-May-93	2.46	304.94	03-May-01	2.57	304.83	27-Oct-05	2.45	304.95
22-Jun-93	2.40	305.00	07-Jun-01	2.56	304.84	28-Nov-05	2.50	304.90
14-Jul-93	2.51	304.89	12-Jul-01	2.68	304.72	07-Dec-05	2.51	304.89
18-Aug-93	2.50	304.90	02-Aug-01	2.71	304.69	19-Dec-05	2.56	304.84
20-Sep-93	2.58	304.82	04-Sep-01	2.70	304.70	15-Feb-06	2.53	304.87
19-Oct-93	2.44	304.96	01-Oct-01	2.68	304.72	30-Mar-06	2.42	304.98
17-Nov-93	2.54	304.86	05-Nov-01	2.56	304.84	27-Apr-06	2.36	305.04
07-Dec-93	2.44	304.96	06-Dec-01	2.44	304.96	28-Apr-06	2.46	304.94
18-Jan-94	2.63	304.77	04-Jan-02	2.50	304.90	15-May-06	2.52	304.88
23-Feb-94	2.50	304.90	07-Feb-02	2.50	304.90	15-Jun-06	2.57	304.83
24-Mar-94	2.26	305.14	07-Mar-02	2.44	304.96	15-Jul-06	2.52	304.88
19-Apr-94	2.38	305.02	07-Apr-02	2.24	305.16	24-Aug-06	2.59	304.81
24-May-94	2.48	304.92	06-May-02	2.45	304.95	15-Sep-06	2.31	305.09
23-Jun-94	2.64	304.76	14-Jun-02	2.36	305.04	15-Oct-06	2.21	305.19
19-Jul-94	2.66	304.74	11-Jul-02	2.61	304.79	15-Nov-06	2.40	305.00
25-Aug-94	2.64	304.76	09-Aug-02	2.66	304.74	07-Dec-06	2.36	305.04
21-Sep-94	2.67	304.73	04-Sep-02	2.71	304.69			

NOTES:
- BTOP — Below top of pipe
- NA — Not available
- m ASL — metres above sea level
- (F) — Frozen

TABLE B-3
WATER LEVEL DATA - WETLAND DRIVE POINTS
MILL CREEK AGGREGATES PIT

DP10								
DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)
17-Jan-07	2.40	305.00	14-Jul-11	2.58	304.82	20-Jan-16	2.52	304.88
22-Feb-07	2.48	304.92	11-Aug-11	2.59	304.81	29-Feb-16	2.46	304.94
26-Apr-07	2.23	305.17	17-Aug-11	2.61	304.79	17-Mar-16	2.29	305.11
26-Jun-07	2.57	304.83	14-Sep-11	2.62	304.78	30-Mar-16	2.25	305.15
25-Jul-07	2.62	304.78	27-Oct-11	2.40	305.00	27-Apr-16	2.43	304.97
07-Aug-07	2.57	304.83	14-Nov-11	2.50	304.90	30-May-16	2.48	304.92
21-Aug-07	2.62	304.78	14-Dec-11	2.30	305.10	27-Jun-16	2.60	304.80
21-Sep-07	2.64	304.76	22-Dec-11	2.37	305.03	28-Jul-16	2.59	304.81
17-Oct-07	2.59	304.81	16-Jan-12	2.48	304.92	11-Aug-16	2.64	304.76
15-Nov-07	2.59	304.81	16-Feb-12	2.50	304.90	21-Sep-16	2.56	304.84
29-Nov-07	2.51	304.89	29-Mar-12	2.50	304.90	18-Oct-16	2.57	304.83
10-Dec-07	2.54	304.86	10-Apr-12	2.54	304.86	14-Nov-16	2.55	304.85
31-Jan-08	2.47	304.93	30-Apr-12	2.54	304.86	14-Dec-16	2.55	304.85
29-Feb-08	2.39	305.01	29-May-12	2.75	304.65	18-Jan-17	2.37	305.03
31-Mar-08	2.30	305.10	20-Jun-12	2.66	304.74	15-Feb-17	2.51	304.89
28-Apr-08	2.40	305.00	24-Jul-12	2.67	304.73	17-Mar-17	2.50	304.90
28-May-08	2.48	304.92	08-Aug-12	2.68	304.72	11-Apr-17	2.32	305.08
25-Jun-08	2.46	304.94	21-Aug-12	2.68	304.72	18-May-17	2.44	304.96
16-Jul-08	2.46	304.94	18-Sep-12	2.59	304.81	14-Jun-17	2.54	304.86
20-Aug-08	2.39	305.01	23-Oct-12	2.47	304.93	20-Jul-17	2.48	304.92
26-Aug-08	2.46	304.94	28-Nov-12	2.67	304.73	09-Aug-17	2.49	304.91
19-Sep-08	2.07	305.33	06-Dec-12	2.56	304.84	12-Sep-17	2.30	305.10
10-Oct-08	2.41	304.99	19-Dec-12	2.61	304.79	12-Oct-17	2.26	305.14
05-Nov-08	2.41	304.99	16-Jan-13	2.47	304.93	21-Nov-17	2.34	305.06
17-Dec-08	2.29	305.11	20-Feb-13	2.56	304.84	19-Dec-17	2.45	304.95
06-Jan-09	2.32	305.08	21-Mar-13	2.50	304.90	16-Jan-18	2.38	305.02
27-Feb-09	2.37	305.03	04-Apr-13	2.44	304.96	26-Feb-18	2.20	305.20
11-Mar-09	1.82	305.58	25-Apr-13	2.41	304.99	26-Mar-18	2.51	304.89
14-Apr-09	2.28	305.12	23-May-13	2.57	304.83	24-Apr-18	2.09	305.31
21-May-09	2.41	304.99	13-Jun-13	2.43	304.97	18-May-18	2.44	304.96
16-Jun-09	2.45	304.95	31-Jul-13	2.56	304.84	12-Jun-18	2.44	304.96
31-Jul-09	2.37	305.03	29-Aug-13	2.59	304.81	27-Jul-18	2.46	304.94
25-Aug-09	2.19	305.21	25-Sep-13	2.53	304.87	22-Aug-18	2.34	305.06
28-Aug-09	2.31	305.09	22-Oct-13	2.43	304.97	12-Sep-18	2.38	305.02
28-Sep-09	2.42	304.98	28-Nov-13	2.55	304.85	30-Oct-18	2.32	305.08
14-Oct-09	2.36	305.04	10-Dec-13	(F)2.55	(F)304.85	21-Nov-18	2.51	304.89
11-Nov-09	2.38	305.02	15-Jan-14	2.36	305.04	20-Dec-18	2.45	304.95
11-Dec-09	2.42	304.98	26-Feb-14	2.53	304.87			
16-Dec-09	2.38	305.02	26-Mar-14	2.45	304.95			
13-Jan-10	2.50	304.90	01-Apr-14	2.24	305.16			
11-Feb-10	2.52	304.88	15-May-14	2.34	305.06			
11-Mar-10	2.39	305.01	18-Jun-14	2.55	304.85			
16-Apr-10	2.41	304.99	29-Jul-14	2.32	305.08			
21-May-10	2.53	304.87	25-Aug-14	2.52	304.88			
17-Jun-10	2.44	304.96	18-Sep-14	2.49	304.91			
15-Jul-10	2.57	304.83	17-Oct-14	2.41	304.99			
18-Aug-10	2.59	304.81	27-Nov-14	2.34	305.06			
31-Aug-10	2.60	304.80	15-Dec-14	2.34	305.06			
28-Sep-10	2.45	304.95	21-Jan-15	2.42	304.98			
20-Oct-10	2.55	304.85	18-Feb-15	2.43	304.97			
18-Nov-10	2.43	304.97	25-Mar-15	2.31	305.09			
08-Dec-10	2.55	304.85	06-Apr-15	2.24	305.16			
22-Dec-10	2.58	304.82	20-May-15	2.25	305.15			
19-Jan-11	2.61	304.79	23-Jun-15	2.32	305.08			
17-Feb-11	2.61	304.79	22-Jul-15	2.53	304.87			
16-Mar-11	2.24	305.16	25-Aug-15	2.52	304.88			
13-Apr-11	2.41	304.99	24-Sep-15	2.59	304.81			
21-Apr-11	2.22	305.18	29-Oct-15	2.27	305.13			
26-May-11	2.26	305.14	25-Nov-15	2.52	304.88			
16-Jun-11	2.45	304.95	10-Dec-15	2.54	304.86			

NOTES:
- BTOP — Below top of pipe
- NA — Not available
- m ASL — metres above sea level
- (F) — Frozen

TABLE B-3
WATER LEVEL DATA - WETLAND DRIVE POINTS
MILL CREEK AGGREGATES PIT

DP11

DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)
27-Jul-89	2.08	304.72	23-Nov-94	1.92	304.88	22-Nov-02	2.10	304.70
15-Aug-89	2.16	304.64	21-Dec-94	1.81	304.99	13-Dec-02	2.11	304.69
30-Aug-89	2.18	304.62	24-Jan-95	1.45	305.35	09-Jan-03	1.95	304.85
17-Oct-89	2.06	304.74	15-Feb-95	1.95	304.85	10-Feb-03	1.80	305.00
30-Nov-89	1.85	304.95	23-Mar-95	1.61	305.19	13-Mar-03	1.75	305.05
13-Dec-89	2.02	304.78	17-May-95	1.70	305.10	10-Apr-03	1.62	305.18
17-Jan-90	1.85	304.95	13-Jun-95	1.95	304.85	07-May-03	1.69	305.11
06-Mar-90	1.19	305.61	20-Jul-95	2.01	304.79	15-May-03	1.70	305.10
02-Apr-90	1.65	305.15	15-Aug-95	1.84	304.96	16-Jun-03	1.80	305.00
25-Jun-90	1.99	304.81	18-Oct-95	2.06	304.74	17-Jul-03	2.10	304.70
26-Jul-90	2.02	304.78	22-Nov-95	1.71	305.09	21-Aug-03	2.35	304.45
22-Aug-90	2.05	304.75	26-Mar-96	(F) 1.17	(F) 305.63	26-Aug-03	2.09	304.71
26-Sep-90	2.09	304.71	31-May-96	1.65	305.15	25-Sep-03	2.02	304.78
24-Oct-90	1.78	305.02	31-Jul-96	1.76	305.04	27-Oct-03	2.06	304.74
25-Nov-90	1.73	305.07	02-Oct-96	1.62	305.18	01-Dec-03	1.74	305.06
14-Dec-90	1.64	305.16	07-Nov-96	1.61	305.19	11-Dec-03	1.81	304.99
23-Jan-91	1.70	305.10	27-Mar-97	1.40	305.40	15-Dec-03	1.90	304.90
20-Feb-91	1.66	305.14	26-May-97	1.60	305.20	19-Jan-04	1.98	304.82
28-Mar-91	1.31	305.49	30-Jul-97	2.01	304.79	25-Mar-04	1.63	305.17
26-Apr-91	1.46	305.34	06-Nov-97	1.69	305.11	07-Apr-04	1.57	305.23
24-May-91	1.77	305.03	16-Dec-97	1.86	304.94	22-Apr-04	1.64	305.16
20-Jun-91	1.83	304.97	27-Mar-98	1.58	305.22	20-May-04	1.78	305.02
30-Jul-91	1.71	305.09	31-May-98	2.05	304.75	24-Jun-04	1.87	304.93
22-Aug-91	1.98	304.82	31-Jul-98	2.11	304.69	23-Jul-04	1.95	304.85
25-Sep-91	2.02	304.78	30-Sep-98	2.11	304.69	04-Aug-04	1.97	304.83
29-Oct-91	1.94	304.86	30-Dec-98	2.13	304.67	26-Aug-04	2.02	304.78
26-Nov-91	1.92	304.88	31-Mar-99	1.72	305.08	28-Sep-04	2.02	304.78
16-Dec-91	1.70	305.10	08-Jun-99	2.14	304.66	18-Oct-04	1.98	304.82
13-Mar-92	1.64	305.16	16-Jul-99	2.39	304.41	16-Nov-04	1.87	304.93
15-Apr-92	1.67	305.13	09-Sep-99	2.03	304.77	15-Dec-04	1.78	305.02
21-May-92	1.77	305.03	10-Nov-99	1.89	304.91	16-Dec-04	1.78	305.02
29-Jun-92	2.05	304.75	01-Mar-00	1.81	304.99	20-Jan-05	1.75	305.05
20-Jul-92	1.58	305.22	19-May-00	1.60	305.20	25-Feb-05	1.73	305.07
27-Aug-92	1.92	304.88	06-Jul-00	1.82	304.98	24-Mar-05	1.75	305.05
14-Sep-92	1.80	305.00	13-Sep-00	2.09	304.71	18-Apr-05	1.68	305.12
28-Oct-92	1.69	305.11	12-Oct-00	2.09	304.71	29-Apr-05	1.63	305.17
26-Nov-92	1.44	305.36	07-Nov-00	2.11	304.69	26-May-05	1.85	304.95
14-Dec-92	1.66	305.14	13-Dec-00	2.09	304.71	23-Jun-05	1.96	304.84
19-Jan-93	1.63	305.17	11-Jan-01	2.05	304.75	25-Jul-05	1.97	304.83
05-Mar-93	NA	NA	09-Feb-01	2.00	304.80	17-Aug-05	2.10	304.70
26-Mar-93	NA	NA	12-Mar-01	1.81	304.99	26-Aug-05	2.03	304.77
19-Apr-93	1.54	305.26	10-Apr-01	1.59	305.21	30-Sep-05	1.95	304.85
27-May-93	1.79	305.01	04-May-01	1.84	304.96	27-Oct-05	1.90	304.90
22-Jun-93	1.75	305.05	06-Jun-01	1.85	304.95	28-Nov-05	1.76	305.04
14-Jul-93	1.97	304.83	11-Jul-01	2.17	304.63	07-Dec-05	1.76	305.04
18-Aug-93	2.02	304.78	01-Aug-01	2.22	304.58	19-Dec-05	1.80	305.00
20-Sep-93	2.04	304.76	05-Sep-01		dry	26-Jan-06	1.62	305.18
19-Oct-93	1.78	305.02	02-Oct-01	2.19	304.61	15-Feb-06	1.85	304.95
17-Nov-93	1.86	304.94	06-Nov-01	2.05	304.75	30-Mar-06	1.70	305.10
07-Dec-93	1.66	305.14	06-Dec-01	1.77	305.03	27-Apr-06	1.69	305.11
18-Jan-94	2.06	304.74	04-Jan-02	1.85	304.95	15-May-06	1.87	304.93
23-Feb-94	(F) 1.11	(F) 305.69	07-Feb-02	1.75	305.05	15-Jun-06	2.07	304.73
24-Mar-94	1.53	305.27	07-Mar-02	1.72	305.08	15-Jul-06	2.00	304.80
19-Apr-94	1.58	305.22	07-Apr-02	1.70	305.10	24-Aug-06	2.10	304.70
24-May-94	1.70	305.10	06-May-02	1.72	305.08	15-Sep-06	2.23	304.57
23-Jun-94	2.09	304.71	14-Jun-02	1.94	304.86	15-Oct-06	2.23	304.57
20-Jul-94	2.15	304.65	11-Jul-02	1.72	305.08	15-Nov-06	1.67	305.13
25-Aug-94	2.13	304.67	09-Aug-02	1.79	305.01	07-Dec-06	1.59	305.21
21-Sep-94	2.16	304.64	04-Sep-02	2.08	304.72			
18-Oct-94	2.11	304.69	11-Oct-02	2.20	304.60			

NOTES:
- · BTOP — Below top of pipe
- · NA — Not available
- · m ASL — metres above sea level
- · (F) — Frozen

TABLE B-3
WATER LEVEL DATA - WETLAND DRIVE POINTS
MILL CREEK AGGREGATES PIT

DP11								
DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)
17-Jan-07	1.66	305.14	14-Jul-11	1.94	304.86	20-Jan-16	1.76	305.04
22-Feb-07	(F) 1.12	(F) 305.68	11-Aug-11	1.98	304.82	29-Feb-16	1.71	305.09
26-Apr-07	1.54	305.26	17-Aug-11	2.01	304.79	17-Mar-16	1.85	304.95
16-May-07	2.02	304.78	14-Sep-11	2.01	304.79	30-Mar-16	1.51	305.29
26-Jun-07	2.03	304.77	27-Oct-11	1.65	305.15	27-Apr-16	1.55	305.25
25-Jul-07	2.13	304.67	14-Nov-11	1.73	305.07	30-May-16	1.57	305.23
21-Aug-07	2.12	304.68	14-Dec-11	1.53	305.27	27-Jun-16	1.81	304.99
21-Sep-07	2.15	304.65	22-Dec-11	1.58	305.22	28-Jul-16	1.94	304.86
17-Oct-07	2.00	304.80	16-Jan-12	1.70	305.10	11-Aug-16	2.00	304.80
15-Nov-07	2.01	304.79	16-Feb-12	1.71	305.09	21-Sep-16	1.78	305.02
29-Nov-07	1.77	305.03	29-Mar-12	1.81	304.99	18-Oct-16	1.83	304.97
10-Dec-07	1.83	304.97	10-Apr-12	1.94	304.86	14-Nov-16	1.83	304.97
31-Jan-08	1.76	305.04	30-Apr-12	2.00	304.80	14-Dec-16	1.90	304.90
29-Feb-08	1.70	305.10	29-May-12	2.12	304.68	18-Jan-17	1.67	305.13
31-Mar-08	1.60	305.20	20-Jun-12	2.12	304.68	15-Feb-17	1.79	305.01
28-Apr-08	1.66	305.14	24-Jul-12	2.12	304.68	17-Mar-17	1.80	305.00
28-May-08	1.77	305.03	08-Aug-12	2.15	304.65	11-Apr-17	1.63	305.17
25-Jun-08	1.79	305.01	21-Aug-12	2.12	304.68	18-May-17	1.75	305.05
16-Jul-08	1.83	304.97	18-Sep-12	1.98	304.82	14-Jun-17	1.95	304.85
20-Aug-08	1.85	304.95	23-Oct-12	1.83	304.97	20-Jul-17	1.90	304.90
26-Aug-08	1.84	304.96	28-Nov-12	2.08	304.72	09-Aug-17	1.95	304.85
19-Sep-08	1.53	305.27	06-Dec-12	1.91	304.89	12-Sep-17	1.85	304.95
10-Oct-08	1.78	305.02	19-Dec-12	1.97	304.83	12-Oct-17	1.84	304.96
05-Nov-08	1.77	305.03	16-Jan-13	1.72	305.08	21-Nov-17	1.81	304.99
17-Dec-08	1.59	305.21	20-Feb-13	1.76	305.04	19-Dec-17	1.87	304.93
06-Jan-09	1.60	305.20	21-Mar-13	1.68	305.12	16-Jan-18	1.77	305.03
27-Feb-09	1.63	305.17	04-Apr-13	1.66	305.14	26-Feb-18	1.60	305.20
11-Mar-09	1.40	305.40	25-Apr-13	1.62	305.18	26-Mar-18	1.95	304.85
14-Apr-09	1.54	305.26	23-May-13	1.78	305.02	24-Apr-18	1.47	305.33
21-May-09	1.65	305.15	13-Jun-13	1.72	305.08	18-May-18	1.27	305.53
16-Jun-09	1.90	304.90	31-Jul-13	1.88	304.92	12-Jun-18	1.89	304.91
31-Jul-09	1.82	304.98	29-Aug-13	1.97	304.83	27-Jul-18	1.99	304.81
25-Aug-09	1.58	305.22	25-Sep-13	1.91	304.89	22-Aug-18	1.89	304.91
28-Aug-09	1.65	305.15	22-Oct-13	1.77	305.03	12-Sep-18	1.95	304.85
28-Sep-09	1.95	304.85	28-Nov-13	1.81	304.99	30-Oct-18	1.90	304.90
14-Oct-09	1.72	305.08	10-Dec-13	(F)1.80	(F) 305.00	21-Nov-18	1.94	304.86
11-Nov-09	1.75	305.05	15-Jan-14	1.58	305.22	20-Dec-18	1.95	304.85
11-Dec-09	1.70	305.10	26-Feb-14	1.72	305.08			
16-Dec-09	1.67	305.13	26-Mar-14	(F)	(F)			
13-Jan-10	1.85	304.95	01-Apr-14	(F)1.25	(F) 305.55			
11-Feb-10	1.92	304.88	15-May-14	1.65	305.15			
11-Mar-10	1.76	305.04	18-Jun-14	1.82	304.98			
16-Apr-10	1.65	305.15	29-Jul-14	1.54	305.26			
21-May-10	1.91	304.89	25-Aug-14	1.75	305.05			
17-Jun-10	1.79	305.01	18-Sep-14	1.69	305.11			
15-Jul-10	1.96	304.84	17-Oct-14	1.65	305.15			
18-Aug-10	1.98	304.82	27-Nov-14	1.52	305.28			
31-Aug-10	2.00	304.80	15-Dec-14	1.53	305.27			
28-Sep-10	1.76	305.04	21-Jan-15	1.57	305.23			
20-Oct-10	1.80	305.00	18-Feb-15	1.58	305.22			
18-Nov-10	1.69	305.11	25-Mar-15	1.79	305.01			
08-Dec-10	1.78	305.02	06-Apr-15	1.45	305.35			
22-Dec-10	1.85	304.95	20-May-15	1.67	305.13			
19-Jan-11	1.95	304.85	23-Jun-15	1.66	305.14			
17-Feb-11	1.98	304.82	22-Jul-15	1.77	305.03			
16-Mar-11	1.73	305.07	25-Aug-15	1.81	304.99			
13-Apr-11	1.61	305.19	24-Sep-15	1.99	304.81			
21-Apr-11	1.49	305.31	29-Oct-15	1.64	305.16			
26-May-11	1.51	305.29	25-Nov-15	1.85	304.95			
16-Jun-11	1.65	305.15	10-Dec-15	1.94	304.86			

NOTES:
- BTOP — Below top of pipe
- NA — Not available
- m ASL — metres above sea level
- (F) — Frozen

TABLE B-3
WATER LEVEL DATA - WETLAND DRIVE POINTS
MILL CREEK AGGREGATES PIT

DP12

DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)
27-Jul-89	1.89	304.81	23-Nov-94	1.63	305.07	22-Nov-02	2.05	304.65
15-Aug-89	2.00	304.70	21-Dec-94	1.46	305.24	13-Dec-02	2.06	304.64
30-Aug-89	2.03	304.67	24-Jan-95	1.05	305.65	09-Jan-03	1.75	304.95
17-Oct-89	1.91	304.79	15-Feb-95	1.50	305.20	10-Feb-03	1.60	305.10
30-Nov-89	1.55	305.15	23-Mar-95	1.15	305.55	13-Mar-03	1.37	305.33
13-Dec-89	1.76	304.94	17-May-95	1.19	305.51	10-Apr-03	1.28	305.42
17-Jan-90	1.74	304.96	13-Jun-95	1.25	305.45	07-May-03	1.28	305.42
06-Mar-90	1.42	305.28	20-Jul-95	1.94	304.76	15-May-03	1.29	305.41
02-Apr-90	1.18	305.52	15-Aug-95	1.60	305.10	16-Jun-03	1.58	305.12
25-Jun-90	1.76	304.94	18-Oct-95	1.86	304.84	17-Jul-03	1.87	304.83
26-Jul-90	1.82	304.88	22-Nov-95	1.30	305.40	21-Aug-03	1.99	304.71
22-Aug-90	1.89	304.81	26-Mar-96	1.17	305.53	26-Aug-03	1.86	304.84
26-Sep-90	1.93	304.77	31-May-96	1.16	305.54	25-Sep-03	1.79	304.91
24-Oct-90	1.53	305.17	31-Jul-96	1.44	305.26	27-Oct-03	1.82	304.88
25-Nov-90	1.43	305.27	02-Oct-96	1.15	305.55	01-Dec-03	1.47	305.23
14-Dec-90	1.24	305.46	07-Nov-96	1.18	305.52	11-Dec-03	1.48	305.22
23-Jan-91	1.29	305.41	27-Mar-97	0.92	305.78	15-Dec-03	1.64	305.06
20-Feb-91	1.26	305.44	26-May-97	1.08	305.62	19-Jan-04	1.73	304.97
28-Mar-91	0.98	305.72	30-Jul-97	1.81	304.89	18-Feb-04	1.75	304.95
26-Apr-91	1.08	305.62	06-Nov-97	1.28	305.42	25-Mar-04	1.16	305.54
24-May-91	1.47	305.23	16-Dec-97	1.57	305.13	07-Apr-04	1.11	305.59
20-Jun-91	1.60	305.10	27-Mar-98	1.08	305.62	22-Apr-04	1.20	305.50
30-Jul-91	1.36	305.34	31-May-98	1.81	304.89	20-May-04	1.35	305.35
22-Aug-91	1.76	304.94	31-Jul-98	1.95	304.75	24-Jun-04	1.46	305.24
25-Sep-91	1.86	304.84	30-Sep-98	1.97	304.73	23-Jul-04	1.53	305.17
29-Oct-91	1.73	304.97	30-Dec-98	1.90	304.80	04-Aug-04	1.64	305.06
26-Nov-91	1.66	305.04	31-Mar-99	1.29	305.41	26-Aug-04	1.57	305.13
16-Dec-91	1.38	305.32	20-May-99	1.88	304.82	28-Sep-04	1.56	305.14
13-Mar-92	1.27	305.43	16-Jul-99	2.25	304.45	18-Oct-04	1.50	305.20
15-Apr-92	1.30	305.40	09-Sep-99	1.95	304.75	16-Nov-04	1.41	305.29
21-May-92	1.37	305.33	10-Nov-99	1.61	305.09	15-Dec-04	1.38	305.32
29-Jun-92	1.85	304.85	01-Mar-00	1.53	305.17	16-Dec-04	1.37	305.33
20-Jul-92	1.23	305.47	19-May-00	1.19	305.51	20-Jan-05	1.35	305.35
27-Aug-92	1.66	305.04	06-Jul-00	1.54	305.16	25-Feb-05	1.32	305.38
14-Sep-92	1.57	305.13	13-Sep-00	1.79	304.91	24-Mar-05	1.34	305.36
29-Oct-92	1.33	305.37	12-Oct-00	1.80	304.90	18-Apr-05	1.16	305.54
26-Nov-92	1.11	305.59	07-Nov-00	1.80	304.90	29-Apr-05	1.22	305.48
14-Dec-92	1.31	305.39	13-Dec-00	1.67	305.03	26-May-05	1.48	305.22
19-Jan-93	1.25	305.45	11-Jan-01	1.61	305.09	23-Jun-05	1.65	305.05
05-Mar-93	NA	NA	09-Feb-01	1.52	305.18	25-Jul-05	1.61	305.09
26-Mar-93	1.31	305.39	12-Mar-01	1.33	305.37	17-Aug-05	1.88	304.82
19-Apr-93	1.08	305.62	10-Apr-01	1.12	305.58	26-Aug-05	1.70	305.00
27-May-93	1.37	305.33	04-May-01	1.40	305.30	30-Sep-05	1.62	305.08
22-Jun-93	1.41	305.29	06-Jun-01	1.52	305.18	27-Oct-05	1.57	305.13
14-Jul-93	1.73	304.97	11-Jul-01	1.85	304.85	28-Nov-05	1.34	305.36
18-Aug-93	1.80	304.90	01-Aug-01	1.97	304.73	07-Dec-05	1.33	305.37
20-Sep-93	1.81	304.89	05-Sep-01	2.02	304.68	19-Dec-05	1.38	305.32
19-Oct-93	1.44	305.26	02-Oct-01	1.97	304.73	26-Jan-06	1.16	305.54
17-Nov-93	1.57	305.13	06-Nov-01	1.84	304.86	30-Mar-06	1.18	305.52
07-Dec-93	1.25	305.45	06-Dec-01	1.47	305.23	27-Apr-06	1.18	305.52
18-Jan-94	1.74	304.96	04-Jan-02	1.57	305.13	28-Apr-06	1.26	305.44
23-Feb-94	1.42	305.28	07-Feb-02	1.54	305.16	15-May-06	1.57	305.13
24-Mar-94	1.14	305.56	07-Mar-02	1.78	304.92	15-Jun-06	1.88	304.82
19-Apr-94	1.07	305.63	07-Apr-02	1.28	305.42	15-Jul-06	1.76	304.94
24-May-94	1.16	305.54	06-May-02	1.26	305.44	24-Aug-06	1.93	304.77
23-Jun-94	1.83	304.87	14-Jun-02	1.59	305.11	15-Sep-06	1.56	305.14
20-Jul-94	NA	NA	11-Jul-02	1.76	304.94	15-Oct-06	1.13	305.57
25-Aug-94	1.86	304.84	09-Aug-02	1.84	304.86	15-Nov-06	1.18	305.52
21-Sep-94	1.98	304.72	04-Sep-02	2.02	304.68	07-Dec-06	1.13	305.57
18-Oct-94	1.92	304.78	11-Oct-02	2.08	304.62			

NOTES:
- · BTOP — Below top of pipe
- · NA — Not available
- · m ASL — metres above sea level
- · (F) — Frozen

TABLE B-3
WATER LEVEL DATA - WETLAND DRIVE POINTS
MILL CREEK AGGREGATES PIT

DP12

DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)
17-Jan-07	1.20	305.50	14-Jul-11	1.50	305.20	20-Jan-16	1.41	305.29
22-Feb-07	1.47	305.23	11-Aug-11	1.55	305.15	29-Feb-16	1.35	305.35
26-Apr-07	1.10	305.60	17-Aug-11	1.60	305.10	17-Mar-16	1.22	305.48
16-May-07	1.26	305.44	14-Sep-11	1.63	305.07	30-Mar-16	1.20	305.50
26-Jun-07	1.72	304.98	27-Oct-11	1.27	305.43	27-Apr-16	1.21	305.49
25-Jul-07	1.96	304.74	14-Nov-11	1.34	305.36	30-May-16	1.25	305.45
07-Aug-07	1.93	304.77	14-Dec-11	1.15	305.55	27-Jun-16	1.34	305.36
21-Aug-07	1.95	304.75	22-Dec-11	1.18	305.52	28-Jul-16	1.42	305.28
21-Sep-07	1.96	304.74	16-Jan-12	1.30	305.40	11-Aug-16	1.44	305.26
17-Oct-07	1.71	304.99	16-Feb-12	1.31	305.39	21-Sep-16	1.37	305.33
15-Nov-07	1.68	305.02	29-Mar-12	1.60	305.10	18-Oct-16	1.49	305.21
29-Nov-07	1.45	305.25	10-Apr-12	1.71	304.99	14-Nov-16	1.53	305.17
10-Dec-07	1.51	305.19	30-Apr-12	1.87	304.83	14-Dec-16	1.58	305.12
31-Jan-08	1.37	305.33	29-May-12	2.00	304.70	18-Jan-17	1.34	305.36
29-Feb-08	1.35	305.35	20-Jun-12	1.95	304.75	15-Feb-17	1.50	305.20
31-Mar-08	1.18	305.52	24-Jul-12	1.88	304.82	17-Mar-17	1.50	305.20
28-Apr-08	1.21	305.49	08-Aug-12	1.91	304.79	11-Apr-17	1.28	305.42
28-May-08	1.34	305.36	21-Aug-12	1.90	304.80	18-May-17	1.38	305.32
25-Jun-08	1.42	305.28	18-Sep-12	1.83	304.87	14-Jun-17	1.62	305.08
16-Jul-08	1.48	305.22	23-Oct-12	1.70	305.00	20-Jul-17	1.60	305.10
20-Aug-08	1.30	305.40	28-Nov-12	1.87	304.83	09-Aug-17	1.75	304.95
26-Aug-08	1.50	305.20	06-Dec-12	1.70	305.00	12-Sep-17	1.80	304.90
19-Sep-08	1.11	305.59	19-Dec-12	1.68	305.02	12-Oct-17	1.87	304.83
10-Oct-08	1.14	305.56	16-Jan-13	1.51	305.19	21-Nov-17	1.83	304.87
05-Nov-08	1.15	305.55	20-Feb-13	1.47	305.23	19-Dec-17	1.89	304.81
17-Dec-08	1.15	305.55	21-Mar-13	1.34	305.36	16-Jan-18	1.78	304.92
06-Jan-09	(F)1.00	(F)305.70	04-Apr-13	1.31	305.39	26-Feb-18	1.62	305.08
27-Feb-09	1.19	305.51	25-Apr-13	1.22	305.48	26-Mar-18	1.78	304.92
11-Mar-09	1.05	305.65	23-May-13	1.46	305.24	24-Apr-18	1.49	305.21
14-Apr-09	1.30	305.40	13-Jun-13	1.41	305.29	18-May-18	1.49	305.21
21-May-09	1.15	305.55	31-Jul-13	1.58	305.12	12-Jun-18	1.79	304.91
16-Jun-09	1.75	304.95	29-Aug-13	1.66	305.04	27-Jul-18	1.97	304.73
31-Jul-09	1.66	305.04	25-Sep-13	1.54	305.16	22-Aug-18	1.92	304.78
25-Aug-09	1.14	305.56	22-Oct-13	1.54	305.16	12-Sep-18	2.01	304.69
28-Aug-09	1.18	305.52	28-Nov-13	1.51	305.19	30-Oct-18	2.04	304.66
28-Sep-09	1.70	305.00	10-Dec-13	(F)1.49	(F)305.21	21-Nov-18	1.96	304.74
14-Oct-09	1.34	305.36	15-Jan-14	1.27	305.43	20-Dec-18	1.94	304.76
11-Nov-09	1.51	305.19	26-Feb-14	1.33	305.37			
11-Dec-09	1.45	305.25	26-Mar-14	1.28	305.42			
16-Dec-09	1.38	305.32	01-Apr-14	1.18	305.52			
13-Jan-10	1.58	305.12	15-May-14	1.32	305.38			
11-Feb-10	1.64	305.06	18-Jun-14	1.05	305.65			
11-Mar-10	1.29	305.41	29-Jul-14	1.33	305.37			
16-Apr-10	1.18	305.52	25-Aug-14	1.44	305.26			
21-May-10	1.66	305.04	18-Sep-14	1.30	305.40			
17-Jun-10	1.54	305.16	17-Oct-14	1.32	305.38			
15-Jul-10	1.53	305.17	27-Nov-14	1.24	305.46			
18-Aug-10	1.56	305.14	15-Dec-14	1.22	305.48			
31-Aug-10	1.59	305.11	21-Jan-15	(F)				
28-Sep-10	1.45	305.25	18-Feb-15	(F)				
20-Oct-10	1.48	305.22	25-Mar-15	(F)				
18-Nov-10	1.32	305.38	06-Apr-15	1.09	305.61			
08-Dec-10	1.42	305.28	20-May-15	1.31	305.39			
22-Dec-10	1.52	305.18	23-Jun-15	1.21	305.49			
19-Jan-11	1.58	305.12	22-Jul-15	1.39	305.31			
17-Feb-11	1.56	305.14	25-Aug-15	1.43	305.27			
16-Mar-11	1.25	305.45	24-Sep-15	1.56	305.14			
13-Apr-11	1.16	305.54	29-Oct-15	1.34	305.36			
21-Apr-11	1.12	305.58	25-Nov-15	1.85	304.85			
26-May-11	1.12	305.58	10-Dec-15	1.65	305.05			
16-Jun-11	1.19	305.51						

NOTES:
- BTOP — Below top of pipe
- NA — Not available
- m ASL — metres above sea level
- (F) — Frozen

TABLE B-3
WATER LEVEL DATA - WETLAND DRIVE POINTS
MILL CREEK AGGREGATES PIT

DP16								
DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)
30-Aug-89	1.31	303.69	24-Jan-95	0.68	304.32	09-Jan-03	1.00	304.00
17-Oct-89	1.24	303.76	15-Feb-95	NA	NA	10-Feb-03	1.17	303.83
30-Nov-89	0.87	304.13	23-Mar-95	0.67	304.33	13-Mar-03	1.00	304.00
13-Dec-89	1.05	303.95	17-May-95	0.76	304.24	10-Apr-03	0.71	304.29
17-Jan-90	1.02	303.98	13-Jun-95	0.96	304.04	07-May-03	0.66	304.34
06-Mar-90	0.86	304.14	20-Jul-95	1.21	303.79	15-May-03	0.88	304.12
02-Apr-90	0.74	304.26	15-Aug-95	1.06	303.94	16-Jun-03	0.98	304.02
25-Jun-90	1.04	303.96	18-Oct-95	1.11	303.89	17-Jul-03	0.70	304.30
26-Jul-90	1.08	303.92	22-Nov-95	0.73	304.27	21-Aug-03	1.31	303.69
22-Aug-90	1.17	303.83	26-Mar-96	0.62	304.38	26-Aug-03	1.18	303.82
26-Sep-90	1.18	303.82	31-May-96	0.83	304.17	25-Sep-03	0.91	304.09
24-Oct-90	0.86	304.14	30-Jul-96	0.88	304.12	27-Oct-03	0.85	304.15
25-Nov-90	0.80	304.20	02-Oct-96	0.67	304.33	01-Dec-03	0.85	304.15
14-Dec-90	0.72	304.28	07-Nov-96	0.67	304.33	11-Dec-03	0.72	304.28
23-Jan-91	(F) 0.74	(F) 304.26	27-Mar-97	0.55	304.45	15-Dec-03	0.81	304.19
20-Feb-91	0.70	304.30	26-May-97	0.78	304.22	19-Jan-04	0.89	304.11
28-Mar-91	0.42	304.58	30-Jul-97	1.11	303.89	18-Feb-04	0.90	304.10
26-Apr-91	0.67	304.33	06-Nov-97	0.73	304.27	25-Mar-04	0.64	304.36
24-May-91	0.93	304.07	16-Dec-97	0.86	304.14	07-Apr-04	0.67	304.33
20-Jun-91	0.96	304.04	27-Mar-98	0.55	304.45	22-Apr-04	0.63	304.37
30-Jul-91	0.85	304.15	31-May-98	1.06	303.94	20-May-04	0.81	304.19
22-Aug-91	1.06	303.94	31-Jul-98	1.19	303.81	24-Jun-04	0.91	304.09
25-Sep-91	1.16	303.84	30-Sep-98	1.25	303.75	23-Jul-04	1.01	303.99
29-Oct-91	1.01	303.99	30-Dec-98	1.12	303.88	04-Aug-04	0.95	304.05
26-Nov-91	0.95	304.05	31-Mar-99	0.80	304.20	26-Aug-04	1.13	303.87
16-Dec-91	0.79	304.21	20-May-99	0.76	304.24	28-Sep-04	1.11	303.89
13-Mar-92	0.71	304.29	16-Jul-99	1.01	303.99	18-Oct-04	1.03	303.97
15-Apr-92	0.73	304.27	10-Sep-99	0.89	304.11	16-Nov-04	0.93	304.07
21-May-92	0.89	304.11	10-Nov-99	0.79	304.21	15-Dec-04	0.77	304.23
29-Jun-92	1.11	303.89	01-Mar-00	0.76	304.24	16-Dec-04	0.77	304.23
20-Jul-92	0.66	304.34	19-May-00	0.50	304.50	20-Jan-05	0.42	304.58
27-Aug-92	0.92	304.08	06-Jul-00	0.76	304.24	25-Feb-05	cap frozen	
14-Sep-92	0.84	304.16	13-Sep-00	0.73	304.27	24-Mar-05	0.76	304.24
28-Oct-92	0.76	304.24	10-Oct-00	0.74	304.26	18-Apr-05	0.76	304.24
26-Nov-92	0.57	304.43	07-Nov-00	0.74	304.26	29-Apr-05	0.68	304.32
14-Dec-92	0.77	304.23	13-Dec-00	0.82	304.18	26-May-05	0.90	304.10
19-Jan-93	0.76	304.24	11-Jan-01	0.89	304.11	23-Jun-05	1.00	304.00
10-Mar-93	(F) 0.72	(F) 304.28	09-Feb-01	0.87	304.13	25-Jul-05	1.02	303.98
26-Mar-93	0.74	304.26	12-Mar-01	0.77	304.23	17-Aug-05	1.11	303.89
19-Apr-93	0.68	304.32	10-Apr-01	0.60	304.40	26-Aug-05	1.07	303.93
27-May-93	0.88	304.12	03-May-01	0.79	304.21	30-Sep-05	0.93	304.07
22-Jun-93	0.84	304.16	06-Jun-01	0.77	304.23	27-Oct-05	0.95	304.05
14-Jul-93	1.01	303.99	11-Jul-01	1.06	303.94	28-Nov-05	0.81	304.19
18-Aug-93	1.08	303.92	01-Aug-01	1.16	303.84	07-Dec-05	0.80	304.20
20-Sep-93	1.04	303.96	05-Sep-01	1.01	303.99	19-Dec-05	0.87	304.13
19-Oct-93	0.73	304.27	02-Oct-01	0.87	304.13	26-Jan-06	0.65	304.35
17-Nov-93	0.84	304.16	06-Nov-01	0.70	304.30	15-Feb-06	0.86	304.14
07-Dec-93	0.70	304.30	06-Dec-01	0.72	304.28	30-Mar-06	0.73	304.27
18-Jan-94	0.83	304.17	04-Jan-02	0.91	304.09	27-Apr-06	0.74	304.26
23-Feb-94	0.71	304.29	07-Feb-02	0.88	304.12	28-Apr-06	0.81	304.19
24-Mar-94	0.40	304.60	07-Mar-02	0.96	304.04	15-May-06	0.96	304.04
19-Apr-94	0.69	304.31	07-Apr-02	0.70	304.30	15-Jun-06	1.16	303.84
24-May-94	0.80	304.20	06-May-02	0.62	304.38	15-Jul-06	1.04	303.96
23-Jun-94	1.07	303.93	14-Jun-02	0.76	304.24	24-Aug-06	1.03	303.97
20-Jul-94	1.13	303.87	11-Jul-02	0.96	304.04	15-Sep-06	0.68	304.32
25-Aug-94	1.12	303.88	09-Aug-02	1.03	303.97	15-Oct-06	0.52	304.48
21-Sep-94	1.23	303.77	04-Sep-02	1.17	303.83	15-Nov-06	0.66	304.34
18-Oct-94	1.18	303.82	11-Oct-02	1.05	303.95	07-Dec-06	0.63	304.37
23-Nov-94	0.92	304.08	21-Nov-02	0.85	304.15			
21-Dec-94	0.81	304.19	13-Dec-02	1.05	303.95			

NOTES:
- BTOP — Below top of pipe
- NA — Not available
- m ASL — metres above sea level
- (F) — Frozen

TABLE B-3
WATER LEVEL DATA - WETLAND DRIVE POINTS
MILL CREEK AGGREGATES PIT

DP16								
DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)
17-Jan-07	0.67	304.33	16-Jun-11	0.30	304.70	10-Dec-15	0.74	304.26
22-Feb-07	0.35	304.65 (F)	14-Jul-11	0.59	304.41	20-Jan-16	(F)	
26-Apr-07	0.71	304.29	11-Aug-11	0.56	304.44	29-Feb-16	0.58	304.42
16-May-07	0.75	304.25	17-Aug-11	0.52	304.48	17-Mar-16	0.46	304.54
26-Jun-07	0.93	304.07	14-Sep-11	0.62	304.38	30-Mar-16	0.51	304.49
25-Jul-07	1.06	303.94	27-Oct-11	0.47	304.53	27-Apr-16	0.49	304.51
07-Aug-07	1.09	303.91	14-Nov-11	0.38	304.62	30-May-16	0.52	304.48
21-Aug-07	1.16	303.84	14-Dec-11	0.40	304.60	27-Jun-16	0.53	304.47
21-Sep-07	1.16	303.84	22-Dec-11	0.45	304.55	28-Jul-16	0.67	304.33
17-Oct-07	0.97	304.03	16-Jan-12	(F)0.45	(F)304.55	11-Aug-16	0.69	304.31
15-Nov-07	0.91	304.09	16-Feb-12	0.51	304.49	21-Sep-16	0.59	304.41
29-Nov-07	0.76	304.24	29-Mar-12	0.66	304.34	18-Oct-16	0.69	304.31
10-Dec-07	0.85	304.15	10-Apr-12	0.64	304.36	14-Nov-16	0.70	304.30
31-Jan-08	(F)0.54	(F)304.46	30-Apr-12	0.70	304.30	14-Dec-16	0.72	304.28
29-Feb-08	(F)0.53	(F)304.47	29-May-12	0.76	304.24	18-Jan-17	(F)	
31-Mar-08	0.34	304.66	20-Jun-12	0.76	304.24	15-Feb-17	(F)	
28-Apr-08	0.72	304.28	24-Jul-12	0.70	304.30	17-Mar-17	0.67	304.33
28-May-08	0.88	304.12	08-Aug-12	0.72	304.28	11-Apr-17	0.58	304.42
25-Jun-08	0.86	304.14	21-Aug-12	0.67	304.33	18-May-17	0.63	304.37
16-Jul-08	0.84	304.16	18-Sep-12	0.54	304.46	14-Jun-17	0.73	304.27
20-Aug-08	0.81	304.19	23-Oct-12	0.50	304.50	20-Jul-17	0.68	304.32
26-Aug-08	0.87	304.13	28-Nov-12	0.64	304.36	09-Aug-17	0.75	304.25
19-Sep-08	0.53	304.47	06-Dec-12	0.63	304.37	12-Sep-17	0.81	304.19
10-Oct-08	0.75	304.25	19-Dec-12	0.57	304.43	12-Oct-17	0.83	304.17
05-Nov-08	0.74	304.26	16-Jan-13	0.47	304.53	21-Nov-17	0.72	304.28
17-Dec-08	(F)0.45	(F)304.55	20-Feb-13	0.34	304.66	19-Dec-17	0.80	304.20
06-Jan-09	0.83	304.17	21-Mar-13	0.31	304.69	16-Jan-18	(F)	
27-Feb-09	(F)0.78	(F)304.23	04-Apr-13	0.41	304.59	26-Feb-18	0.57	304.43
11-Mar-09	(F)0.72	(F)304.28	25-Apr-13	0.40	304.60	26-Mar-18	0.74	304.26
14-Apr-09	0.60	304.40	23-May-13	0.44	304.56	24-Apr-18	0.57	304.43
21-May-09	0.70	304.30	13-Jun-13	0.39	304.61	18-May-18	0.68	304.32
16-Jun-09	0.72	304.28	31-Jul-13	0.50	304.50	12-Jun-18	0.81	304.19
31-Jul-09	0.66	304.34	29-Aug-13	0.53	304.47	27-Jul-18	0.92	304.08
25-Aug-09	0.60	304.40	25-Sep-13	0.53	304.47	22-Aug-18	0.78	304.22
28-Aug-09	0.67	304.33	22-Oct-13	0.48	304.52	12-Sep-18	0.89	304.11
28-Sep-09	0.70	304.30	28-Nov-13	0.53	304.47	30-Oct-18	0.89	304.11
14-Oct-09	0.66	304.34	10-Dec-13	0.50	304.50	21-Nov-18	0.82	304.18
11-Nov-09	0.68	304.32	15-Jan-14	(F)0.36	(F)304.64	20-Dec-18	0.81	304.19
11-Dec-09	0.66	304.34	26-Feb-14	(F)0.39	(F)304.61			
16-Dec-09	(F)0.60	(F)304.40	26-Mar-14	0.26	304.74			
13-Jan-10	(F)0.65	(F)304.35	01-Apr-14	0.28	304.72			
11-Feb-10	(F)0.55	(F)304.45	15-May-14	0.42	304.58			
11-Mar-10	0.52	304.48	18-Jun-14	0.49	304.51			
16-Apr-10	0.66	304.34	29-Jul-14	0.33	304.67			
21-May-10	0.76	304.24	25-Aug-14	0.45	304.55			
17-Jun-10	0.63	304.37	18-Sep-14	0.38	304.62			
15-Jul-10	0.77	304.23	17-Oct-14	0.42	304.58			
18-Aug-10	0.81	304.19	27-Nov-14	0.47	304.53			
31-Aug-10	0.70	304.30	15-Dec-14	0.47	304.53			
28-Sep-10	0.63	304.37	21-Jan-15	(F)				
20-Oct-10	0.94	304.06	18-Feb-15	(F)				
18-Nov-10	0.45	304.55	25-Mar-15	0.38	304.62			
08-Dec-10	(F)0.43	(F)304.57	06-Apr-15	0.36	304.64			
22-Dec-10	(F)0.44	(F)304.56	20-May-15	0.53	304.47			
19-Jan-11	(F)0.38	(F)304.62	23-Jun-15	0.62	304.38			
17-Feb-11	0.49	304.51	22-Jul-15	0.53	304.47			
16-Mar-11	0.26	304.74	25-Aug-15	0.58	304.42			
13-Apr-11	0.25	304.75	24-Sep-15	0.67	304.33			
21-Apr-11	0.20	304.80	29-Oct-15	0.51	304.49			
26-May-11	0.22	304.78	25-Nov-15	0.69	304.31			

NOTES:
- BTOP — Below top of pipe
- NA — Not available
- m ASL — metres above sea level
- (F) — Frozen

TABLE B-3
WATER LEVEL DATA - WETLAND DRIVE POINTS
MILL CREEK AGGREGATES PIT

DP113

DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)
26-Sep-00	1.80	306.07	17-Dec-01	1.54	306.33	09-Jan-03	1.91	305.96
10-Oct-00	1.82	306.05	20-Dec-01	1.53	306.34	10-Feb-03	1.74	306.13
08-Nov-00	2.00	305.87	02-Jan-02	2.08	305.79	13-Mar-03	1.62	306.25
14-Nov-00	1.89	305.98	07-Jan-02	2.02	305.85	10-Apr-03	1.55	306.32
11-Dec-00	1.86	306.01	10-Jan-02	1.98	305.89	07-May-03	1.53	306.34
11-Jan-01	1.87	306.00	14-Jan-02	2.19	305.68	15-May-03	1.60	306.27
09-Feb-01	1.72	306.15	17-Jan-02	1.76	306.11	16-Jun-03	1.76	306.11
12-Mar-01	1.44	306.43	21-Jan-02	1.77	306.10	17-Jul-03	1.83	306.04
09-Apr-01	1.40	306.47	24-Jan-02	2.13	305.74	21-Aug-03	1.93	305.94
04-May-01	1.56	306.31	28-Jan-02	2.15	305.72	26-Aug-03	1.88	305.99
07-Jun-01	1.59	306.28	01-Feb-02	2.10	305.77	25-Sep-03	1.84	306.03
25-Jun-01	1.66	306.21	04-Feb-02	1.68	306.19	27-Oct-03	1.82	306.05
28-Jun-01	1.65	306.22	07-Feb-02	1.72	306.15	01-Dec-03	1.70	306.17
03-Jul-01	1.67	306.20	11-Feb-02	1.64	306.23	11-Dec-03	1.65	306.22
05-Jul-01	1.69	306.18	15-Feb-02	1.78	306.09	15-Dec-03	1.65	306.22
09-Jul-01	1.68	306.19	18-Feb-02	1.85	306.02	19-Jan-04	2.10	305.77
12-Jul-01	1.66	306.21	21-Feb-02	1.60	306.27	18-Feb-04	1.55	306.32
16-Jul-01	1.67	306.20	25-Feb-02	1.70	306.17	25-Mar-04	1.34	306.53
19-Jul-01	1.68	306.19	07-Mar-02	1.76	306.11	07-Apr-04	1.22	306.65
23-Jul-01	1.74	306.13	11-Mar-02	1.50	306.37	22-Apr-04	1.11	306.76
26-Jul-01	1.74	306.13	15-Mar-02	1.52	306.35	20-May-04	1.16	306.71
30-Jul-01	1.77	306.10	19-Mar-02	1.56	306.31	24-Jun-04	1.18	306.69
02-Aug-01	1.83	306.04	21-Mar-02	1.53	306.34	23-Jul-04	1.29	306.58
07-Aug-01	1.80	306.07	26-Mar-02	1.55	306.32	04-Aug-04	1.32	306.55
09-Aug-01	1.81	306.06	28-Mar-02	1.55	306.32	26-Aug-04	1.41	306.46
13-Aug-01	1.97	305.90	01-Apr-02	1.47	306.40	28-Sep-04	1.47	306.40
16-Aug-01	1.91	305.96	05-Apr-02	1.42	306.45	18-Oct-04	1.52	306.35
20-Aug-01	1.87	306.00	07-Apr-02	1.47	306.40	16-Nov-04	1.56	306.31
23-Aug-01	1.87	306.00	11-Apr-02	1.71	306.16	15-Dec-04	1.49	306.38
27-Aug-01	1.97	305.90	19-Apr-02	1.72	306.15	16-Dec-04	1.48	306.39
30-Aug-01	1.95	305.92	23-Apr-02	1.90	305.97	20-Jan-05	1.39	306.48
04-Sep-01	1.89	305.98	29-Apr-02	1.83	306.04	25-Feb-05	1.31	306.56
06-Sep-01	1.89	305.98	06-May-02	1.56	306.31	24-Mar-05	1.28	306.59
10-Sep-01	1.92	305.95	10-May-02	1.60	306.27	18-Apr-05	1.23	306.64
13-Sep-01	1.94	305.93	14-May-02	1.50	306.37	29-Apr-05	1.17	306.70
17-Sep-01	1.97	305.90	17-May-02	1.40	306.47	26-May-05	1.19	306.68
20-Sep-01	1.96	305.91	21-May-02	1.53	306.34	23-Jun-05	1.25	306.62
24-Sep-01	1.92	305.95	24-May-02	1.55	306.32	25-Jul-05	1.23	306.64
27-Sep-01	1.91	305.96	27-May-02	1.58	306.29	17-Aug-05	1.38	306.49
01-Oct-01	1.93	305.94	31-May-02	1.60	306.27	25-Aug-05	1.30	306.57
04-Oct-01	1.97	305.90	04-Jun-02	1.60	306.27	30-Sep-05	1.41	306.46
09-Oct-01	1.85	306.02	07-Jun-02	1.62	306.25	27-Oct-05	1.45	306.42
11-Oct-01	1.88	305.99	14-Jun-02	1.65	306.22	28-Nov-05	1.46	306.41
15-Oct-01	1.88	305.99	21-Jun-02	1.68	306.19	07-Dec-05	(F)1.48	
19-Oct-01	1.78	306.09	25-Jun-02	1.66	306.21	19-Dec-05	1.48	306.39
22-Oct-01	1.78	306.09	05-Jul-02	1.68	306.19	26-Jan-06	1.27	306.60
26-Oct-01	1.78	306.09	11-Jul-02	1.72	306.15	15-Feb-06	1.28	306.59
29-Oct-01	1.70	306.17	15-Jul-02	1.76	306.11	30-Mar-06	1.15	306.72
01-Nov-01	1.73	306.14	23-Jul-02	1.77	306.10	27-Apr-06	1.09	306.78
05-Nov-01	1.69	306.18	05-Aug-02	1.82	306.05	28-Apr-06	1.16	306.71
08-Nov-01	1.71	306.16	09-Aug-02	1.86	306.01	15-May-06	1.15	306.72
12-Nov-01	1.74	306.13	16-Aug-02	1.90	305.97	15-Jun-06	1.26	306.61
15-Nov-01	1.75	306.12	21-Aug-02	1.93	305.94	15-Jul-06	1.25	306.62
19-Nov-01	1.74	306.13	23-Aug-02	1.93	305.94	24-Aug-06	1.39	306.48
22-Nov-01	1.76	306.11	04-Sep-02	1.98	305.89	15-Sep-06	1.16	306.71
26-Nov-01	1.67	306.20	17-Sep-02	1.95	305.92	15-Oct-06	1.13	306.74
29-Nov-01	1.64	306.23	02-Oct-02	1.95	305.92	15-Nov-06	1.14	306.73
03-Dec-01	1.53	306.34	11-Oct-02	1.98	305.89	07-Dec-06	1.12	306.75
06-Dec-01	1.59	306.28	18-Oct-02	2.00	305.87			
10-Dec-01	1.64	306.23	22-Nov-02	1.96	305.91			
13-Dec-01	1.61	306.26	13-Dec-02	1.95	305.92			

NOTES:
- BTOP — Below top of pipe
- NA — Not available
- m ASL — metres above sea level

TABLE B-3
WATER LEVEL DATA - WETLAND DRIVE POINTS
MILL CREEK AGGREGATES PIT

DP113								
DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)	DATE	Water Level BTOP (m)	Groundwater Elevation (m ASL)
17-Jan-07	1.06	306.81	29-May-12	1.32	306.55	18-Jan-17	1.40	306.47
30-Mar-07	0.93	306.95	20-Jun-12	1.35	306.52	15-Feb-17	1.39	306.48
26-Apr-07	0.81	307.06	24-Jul-12	1.59	306.28	17-Mar-17	1.11	306.76
16-May-07	0.89	306.98	08-Aug-12	1.66	306.21	11-Apr-17	1.00	306.87
26-Jun-07	1.09	306.78	21-Aug-12	1.62	306.25	18-May-17	0.90	306.97
25-Jul-07	1.25	306.62	18-Sep-12	1.62	306.25	14-Jun-17	0.93	306.94
21-Aug-07	1.39	306.48	23-Oct-12	1.61	306.26	20-Jul-17	0.87	307.00
21-Sep-07	1.51	306.36	28-Nov-12	1.58	306.29	09-Aug-17	0.92	306.95
17-Oct-07	1.47	306.40	06-Dec-12	1.58	306.29	12-Sep-17	1.08	306.79
29-Nov-07	1.43	306.44	19-Dec-12	1.58	306.29	12-Oct-17	1.19	306.68
10-Dec-07	1.46	306.41	16-Jan-13	1.45	306.42	21-Nov-17	1.25	306.62
31-Jan-08	1.28	306.59	20-Feb-13	1.48	306.39	19-Dec-17	1.34	306.53
29-Feb-08	1.23	306.64	21-Mar-13	1.33	306.54	16-Jan-18	(F)	
31-Mar-08	1.00	306.87	04-Apr-13	1.39	306.48	26-Feb-18	1.16	306.71
28-Apr-08	1.00	306.87	25-Apr-13	1.18	306.69	26-Mar-18	1.34	306.53
28-May-08	1.03	306.84	23-May-13	1.27	306.60	24-Apr-18	1.10	306.77
25-Jun-08	0.98	306.89	13-Jun-13	1.20	306.67	18-May-18	1.14	306.73
16-Jul-08	1.00	306.87	31-Jul-13	1.32	306.55	12-Jun-18	1.23	306.64
20-Aug-08	0.97	306.90	29-Aug-13	1.31	306.56	27-Jul-18	1.76	306.11
26-Aug-08	1.02	306.85	25-Sep-13	1.30	306.57	22-Aug-18	1.35	306.52
19-Sep-08	0.86	307.01	22-Oct-13	1.20	306.67	12-Sep-18	1.42	306.45
10-Oct-08	1.06	306.81	28-Nov-13	1.26	306.61	30-Oct-18	1.55	306.32
05-Nov-08	1.07	306.80	10-Dec-13	(F)1.37	(F)306.50	21-Nov-18	1.48	306.39
17-Dec-08	1.01	306.86	15-Jan-14	1.29	306.58	20-Dec-18	1.45	306.42
06-Jan-09	0.95	306.92	26-Feb-14	1.32	306.55			
27-Feb-09	0.89	306.98	26-Mar-14	(F)0.69	(F)307.18			
11-Mar-09	0.70	307.17	01-Apr-14	(F)0.86	(F)307.01			
14-Apr-09	0.83	307.04	15-May-14	0.91	306.96			
21-May-09	0.81	307.06	18-Jun-14	1.08	306.79			
16-Jun-09	0.85	307.02	29-Jul-14	1.02	306.85			
31-Jul-09	0.85	307.02	25-Aug-14	1.07	306.80			
25-Aug-09	0.84	307.03	18-Sep-14	0.98	306.89			
28-Aug-09	0.83	307.04	17-Oct-14	1.05	306.82			
28-Sep-09	0.95	306.92	27-Nov-14	1.07	306.80			
14-Oct-09	0.96	306.91	15-Dec-14	1.23	306.64			
11-Nov-09	1.04	306.83	21-Jan-15	1.26	306.61			
11-Dec-09	1.04	306.83	18-Feb-15	(F)				
16-Dec-09	1.04	306.83	25-Mar-15	1.21	306.66			
13-Jan-10	1.13	306.74	06-Apr-15	1.25	306.62			
16-Apr-10	1.05	306.82	20-May-15	1.14	306.73			
31-Aug-10	1.14	306.73	23-Jun-15	1.09	306.78			
22-Dec-10	1.53	306.34	22-Jul-15	1.14	306.73			
19-Jan-11	1.54	306.33	25-Aug-15	1.15	306.72			
17-Feb-11	1.54	306.33	24-Sep-15	1.94	305.93			
16-Mar-11	1.22	306.65	29-Oct-15	1.24	306.63			
13-Apr-11	1.31	306.56	25-Nov-15	1.21	306.66			
21-Apr-11	1.18	306.69	10-Dec-15	1.35	306.52			
26-May-11	0.98	306.89	20-Jan-16	1.36	306.51			
16-Jun-11	1.04	306.83	29-Feb-16	1.22	306.65			
14-Jul-11	1.15	306.72	17-Mar-16	1.20	306.67			
11-Aug-11	1.29	306.58	30-Mar-16	1.11	306.76			
17-Aug-11	1.36	306.51	27-Apr-16	1.06	306.81			
14-Sep-11	1.44	306.43	30-May-16	1.13	306.74			
27-Oct-11	1.32	306.55	27-Jun-16	1.11	306.76			
14-Nov-11	1.41	306.46	28-Jul-16	1.44	306.43			
22-Dec-11	1.24	306.63	11-Aug-16	1.41	306.46			
16-Jan-12	1.25	306.62	21-Sep-16	1.42	306.45			
16-Feb-12	1.24	306.63	18-Oct-16	1.44	306.43			
29-Mar-12	1.18	306.69	14-Nov-16	1.43	306.44			
10-Apr-12	1.24	306.63	14-Dec-16	1.45	306.42			
30-Apr-12	1.26	306.61						

NOTES:
- BTOP — Below top of pipe
- NA — Not available
- m ASL — metres above sea level

TABLE B-4
WATER LEVEL DATA - SURFACE WATER STATIONS
MILL CREEK AGGREGATES PIT

SW1								
DATE	Water Level On Gauge (m)	Surface Water Elevation (m ASL)	DATE	Water Level On Gauge (m)	Surface Water Elevation (m ASL)	DATE	Water Level On Gauge (m)	Surface Water Elevation (m ASL)
07-Jul-88	0.12	305.80	07-Dec-93	0.21	305.89	10-Apr-01	0.39	306.07
07-Sep-88	0.21	305.89	19-Jan-94	(F) 0.36	(F) 306.04	04-May-01	0.17	305.85
27-Sep-88	0.15	305.83	24-Feb-94	0.27	305.95	07-Jun-01	0.18	305.86
03-Dec-88	0.20	305.88	24-Mar-94	0.35	306.03	25-Jun-01	0.16	305.84
20-Jan-89	0.17	305.85	19-Apr-94	0.25	305.93	28-Jun-01	0.15	305.83
22-Feb-89	0.14	305.82	24-May-94	0.19	305.87	03-Jul-01	0.10	305.78
01-Apr-89	0.28	305.96	23-Jun-94	0.11	305.79	05-Jul-01	0.11	305.79
17-Apr-89	0.23	305.91	19-Jul-94	NA	NA	09-Jul-01	0.10	305.78
24-May-89	0.16	305.84	25-Aug-94	0.11	305.79	12-Jul-01	0.10	305.78
12-Jul-89	0.08	305.76	21-Sep-94	0.09	305.77	16-Jul-01	0.10	305.78
27-Jul-89	0.17	305.85	18-Oct-94	0.13	305.81	19-Jul-01	0.10	305.78
15-Aug-89	0.12	305.80	23-Nov-94	0.20	305.88	23-Jul-01	0.09	305.77
30-Aug-89	0.13	305.81	21-Dec-94	NA	NA	26-Jul-01	0.10	305.78
17-Oct-89	0.12	305.80	24-Jan-95	0.37	306.05	30-Jul-01	0.08	305.76
30-Nov-89	0.19	305.87	15-Feb-95	NA	NA	02-Aug-01	0.07	305.75
13-Dec-89	0.15	305.83	23-Mar-95	0.27	305.95	07-Aug-01	0.06	305.74
06-Mar-90	0.14	305.82	17-May-95	0.21	305.89	09-Aug-01	0.06	305.74
02-Apr-90	0.22	305.90	13-Jun-95	0.15	305.83	13-Aug-01	0.06	305.74
25-Jun-90	0.16	305.84	20-Jul-95	0.12	305.80	16-Aug-01	0.07	305.75
26-Jul-90	0.15	305.83	15-Aug-95	0.20	305.88	20-Aug-01	0.18	305.86
22-Aug-90	0.17	305.85	18-Oct-95	0.15	305.83	23-Aug-01	0.10	305.78
26-Sep-90	0.14	305.82	22-Nov-95	0.23	305.91	27-Aug-01	0.08	305.76
24-Oct-90	0.18	305.86	26-Mar-96	0.32	306.00	30-Aug-01	0.09	305.77
25-Nov-90	0.21	305.89	31-May-96	0.22	305.90	04-Sep-01	0.10	305.78
14-Dec-90	0.24	305.92	31-Jul-96	0.26	305.94	06-Sep-01	0.08	305.76
23-Jan-91	(F) 0.28	(F) 305.96	27-Sep-96	0.28	305.96	10-Sep-01	0.08	305.76
20-Feb-91	0.28	305.96	06-Nov-96	0.24	305.92	13-Sep-01	0.06	305.74
28-Mar-91	0.63	306.31	31-Mar-97	0.52	306.20	17-Sep-01	0.06	305.74
26-Apr-91	0.32	306.00	26-May-97	0.24	305.92	20-Sep-01	0.10	305.78
24-May-91	0.20	305.88	30-Jul-97	0.18	305.86	24-Sep-01	0.14	305.82
20-Jun-91	0.19	305.87	06-Nov-97	0.25	305.93	27-Sep-01	0.16	305.84
30-Jul-91	0.35	306.03	12-Dec-97	0.16	305.84	01-Oct-01	0.10	305.78
22-Aug-91	0.17	305.85	27-Mar-98	0.33	306.01	04-Oct-01	0.09	305.77
25-Sep-91	0.16	305.84	30-Apr-98	0.20	305.88	09-Oct-01	0.18	305.86
29-Oct-91	0.19	305.87	31-May-98	0.14	305.82	11-Oct-01	0.16	305.84
26-Nov-91	0.18	305.86	30-Jun-98	0.18	305.86	15-Oct-01	0.20	305.88
16-Dec-91	0.22	305.90	31-Jul-98	0.12	305.80	19-Oct-01	0.22	305.90
13-Mar-92	0.23	305.91	30-Sep-98	0.16	305.84	22-Oct-01	0.18	305.86
15-Apr-92	0.22	305.90	27-Nov-98	0.14	305.82	26-Oct-01	0.20	305.88
21-May-92	0.18	305.86	31-Mar-99	0.26	305.94	29-Oct-01	0.18	305.86
29-Jun-92	0.14	305.82	20-May-99	0.13	305.81	01-Nov-01	0.16	305.84
20-Jul-92	0.31	305.99	16-Jul-99	0.10	305.78	05-Nov-01	0.21	305.89
27-Aug-92	0.29	305.97	09-Sep-99	0.19	305.87	08-Nov-01	0.18	305.86
14-Sep-92	0.24	305.92	09-Nov-99	0.20	305.88	12-Nov-01	0.17	305.85
28-Oct-92	0.25	305.93	01-Mar-00	0.25	305.93	15-Nov-01	0.20	305.88
27-Nov-92	0.38	306.06	18-May-00	0.37	306.05	19-Nov-01	0.18	305.86
15-Dec-92	0.28	305.96	15-Jun-00	0.41	306.09	22-Nov-01	0.16	305.84
19-Jan-93	0.30	305.98	06-Jul-00	0.18	305.86	26-Nov-01	0.22	305.90
05-Mar-93	NA	NA	08-Aug-00	0.19	305.87	29-Nov-01	0.22	305.90
26-Mar-93	0.26	305.94	13-Sep-00	0.15	305.83	03-Dec-01	0.28	305.96
20-Apr-93	0.38	306.06	26-Sep-00	0.18	305.86	06-Dec-01	0.22	305.90
28-May-93	0.22	305.90	10-Oct-00	0.16	305.84	10-Dec-01	0.18	305.86
23-Jun-93	0.25	305.93	08-Nov-00	0.13	305.81	13-Dec-01	0.20	305.88
14-Jul-93	0.21	305.89	14-Nov-00	0.20	305.88	17-Dec-01	0.24	305.92
18-Aug-93	0.17	305.85	11-Dec-00	(F)		20-Dec-01	0.26	305.94
20-Sep-93	0.16	305.84	11-Jan-01	(F)		02-Jan-02	0.20	305.88
19-Oct-93	0.25	305.93	09-Feb-01	0.18	305.86	07-Jan-02	0.20	305.88
17-Nov-93	0.19	305.87	13-Mar-01	0.21	305.89	10-Jan-02	0.22	305.90

NOTES:
- NA — Not available
- m ASL — metres above sea level
- (F) — Frozen

TABLE B-4
WATER LEVEL DATA - SURFACE WATER STATIONS
MILL CREEK AGGREGATES PIT

SW1

DATE	Water Level On Gauge (m)	Surface Water Elevation (m ASL)	DATE	Water Level On Gauge (m)	Surface Water Elevation (m ASL)	DATE	Water Level On Gauge (m)	Surface Water Elevation (m ASL)
14-Jan-02	0.16	305.84	27-Oct-03	0.24	305.92	11-Nov-09	0.34	306.02
17-Jan-02	0.18	305.86	11-Dec-03	0.35	306.03	11-Dec-09	0.39	306.07
21-Jan-02	0.18	305.86	25-Mar-04	0.30	305.98	16-Dec-09	0.34	306.02
24-Jan-02	0.20	305.88	07-Apr-04	0.37	306.05	11-Mar-10	0.31	305.99
28-Jan-02	0.22	305.90	22-Apr-04	0.41	306.09	16-Apr-10	0.22	305.90
01-Feb-02	0.18	305.86	20-May-04	0.23	305.91	21-May-10	0.15	305.83
04-Feb-02	0.20	305.88	24-Jun-04	0.22	305.90	17-Jun-10	0.29	305.97
07-Feb-02	0.22	305.90	23-Jul-04	0.20	305.88	15-Jul-10	0.17	305.85
07-Mar-02	0.28	305.96	04-Aug-04	0.21	305.89	18-Aug-10	0.13	305.81
11-Mar-02	0.28	305.96	26-Aug-04	0.19	305.87	31-Aug-10	0.14	305.82
15-Mar-02	0.24	305.92	28-Sep-04	0.18	305.86	28-Sep-10	0.29	305.97
19-Mar-02	0.20	305.88	18-Oct-04	0.23	305.91	20-Oct-10	0.22	305.90
21-Mar-02	0.22	305.90	16-Nov-04	0.21	305.89	18-Nov-10	0.32	306.00
26-Mar-02	0.18	305.86	15-Dec-04	0.26	305.94	08-Dec-10	0.23	305.91
28-Mar-02	0.18	305.86	16-Dec-04	0.25	305.93	22-Dec-10	0.22	305.90
01-Apr-02	0.26	305.94	20-Jan-05	0.40	306.08	19-Jan-11	0.09	305.77
05-Apr-02	0.28	305.96	25-Feb-05	0.29	305.97	17-Feb-11	0.29	305.97
07-Apr-02	0.23	305.91	24-Mar-05	0.25	305.93	16-Mar-11	0.43	306.11
11-Apr-02	0.32	306.00	29-Apr-05	0.20	305.88	13-Apr-11	0.27	305.95
19-Apr-02	0.25	305.93	26-May-05	0.19	305.87	21-Apr-11	0.41	306.09
23-Apr-02	0.20	305.88	23-Jun-05	0.18	305.86	26-May-11	0.39	306.07
29-Apr-02	0.30	305.98	25-Jul-05	0.15	305.83	16-Jun-11	0.21	305.89
06-May-02	0.24	305.92	25-Aug-05	0.16	305.84	14-Jul-11	0.13	305.81
10-May-02	0.24	305.92	30-Sep-05	0.23	305.91	11-Aug-11	0.15	305.83
14-May-02	0.31	305.99	27-Oct-05	0.17	305.85	17-Aug-11	0.13	305.81
17-May-02	0.42	306.10	28-Nov-05	0.25	305.93	14-Sep-11	0.14	305.82
21-May-02	0.26	305.94	7-Dec-05	0.24	305.92	27-Oct-11	0.32	306.00
24-May-02	0.23	305.91	19-Dec-05	0.23	305.91	14-Nov-11	0.22	305.90
27-May-02	0.14	305.82	26-Jan-06	0.35	306.03	14-Dec-11	0.37	306.05
31-May-02	0.20	305.88	27-Apr-06	0.16	305.84	22-Dec-11	0.32	306.00
04-Jun-02	0.18	305.86	24-Aug-06	0.22	305.90	16-Jan-12	0.29	305.97
07-Jun-02	0.19	305.87	07-Dec-06	0.38	306.06	16-Feb-12	0.22	305.90
14-Jun-02	0.16	305.84	29-Feb-08	0.16	305.84	29-Mar-12	0.22	305.90
21-Jun-02	0.16	305.84	31-Mar-08	0.32	306.00	10-Apr-12	0.20	305.88
25-Jun-02	0.17	305.85	28-Apr-08	0.24	305.92	30-Apr-12	0.19	305.87
05-Jul-02	0.11	305.79	28-May-08	0.18	305.86	29-May-12	0.14	305.82
11-Jul-02	0.10	305.78	25-Jun-08	0.19	305.87	20-Jun-12	0.15	305.83
15-Jul-02	0.10	305.78	16-Jul-08	0.18	305.86	24-Jul-12	0.12	305.80
18-Jul-02	0.10	305.78	20-Aug-08	0.30	305.98	08-Aug-12	0.12	305.80
26-Jul-02	0.12	305.80	26-Aug-08	0.18	305.86	21-Aug-12	0.09	305.77
05-Aug-02	0.06	305.74	19-Sep-08	0.44	306.12	18-Sep-12	0.10	305.78
09-Aug-02	0.10	305.78	10-Oct-08	0.22	305.90	23-Oct-12	0.34	306.02
16-Aug-02	0.08	305.76	05-Nov-08	0.29	305.97	28-Nov-12	0.17	305.85
21-Aug-02	0.08	305.76	03-Dec-08	0.34	306.02	06-Dec-12	0.23	305.91
23-Aug-02	0.08	305.76	17-Dec-08	0.35	306.03	19-Dec-12	0.20	305.88
04-Sep-02	0.06	305.74	06-Jan-09	0.25	305.93	16-Jan-13	0.27	305.92
17-Sep-02	0.10	305.78	27-Feb-09	0.09	305.77	20-Feb-13	0.21	305.86
02-Oct-02	0.08	305.76	11-Mar-09	0.67	306.35	21-Mar-13	0.23	305.88
12-Oct-02	0.10	305.78	14-Apr-09	0.32	306.00	25-Apr-13	0.29	305.94
18-Oct-02	0.10	305.78	21-May-09	0.25	305.93	23-May-13	0.25	305.90
22-Nov-02	0.14	305.82	16-Jun-09	0.23	305.91	13-Jun-13	0.32	305.97
13-Dec-02	0.10	305.78	31-Jul-09	0.27	305.95	31-Jul-13	0.25	305.90
07-May-03	0.26	305.94	25-Aug-09	0.33	306.01	29-Aug-13	0.25	305.90
17-Jul-03	0.14	305.82	28-Aug-09	0.28	305.96	25-Sep-13	0.25	305.90
26-Aug-03	0.26	305.94	28-Sep-09	0.38	306.06	22-Oct-13	0.38	306.03
25-Sep-03	0.17	305.85	14-Oct-09	0.29	305.97	28-Nov-13	0.29	305.94
						10-Dec-13	0.27	305.92

NOTES:
- NA — Not available
- m ASL — metres above sea level
- (F) — Frozen

TABLE B-4
WATER LEVEL DATA - SURFACE WATER STATIONS
MILL CREEK AGGREGATES PIT

SW1								
DATE	Water Level On Gauge (m)	Surface Water Elevation (m ASL)	DATE	Water Level On Gauge (m)	Surface Water Elevation (m ASL)	DATE	Water Level On Gauge (m)	Surface Water Elevation (m ASL)
15-Jan-14	(F)		16-Jan-18	(F)				
26-Feb-14	(F)		26-Feb-18	0.39	306.04			
26-Mar-14	0.34	305.99	26-Mar-18	0.21	305.86			
01-Apr-14	0.45	306.10	24-Apr-18	0.43	306.08			
15-May-14	0.42	306.07	18-May-18	0.28	305.93			
18-Jun-14	0.26	305.91	12-Jun-18	0.19	305.84			
29-Jul-14	0.43	306.08	27-Jul-18	0.20	305.85			
25-Aug-14	0.25	305.90	22-Aug-18	0.26	305.91			
18-Sep-14	0.32	305.97	12-Sep-18	0.22	305.87			
17-Oct-14	0.33	305.98	30-Oct-18	0.29	305.94			
27-Nov-14	0.39	306.04	21-Nov-18	0.35	306.00			
15-Dec-14	0.31	305.96	20-Dec-18	0.26	305.91			
21-Jan-15	0.30	305.95						
18-Feb-15	0.42	306.07						
25-Mar-15	0.30	305.95						
06-Apr-15	0.35	306.00						
20-May-15	0.19	305.84						
23-Jun-15	0.22	305.87						
22-Jul-15	0.22	305.87						
25-Aug-15	0.22	305.87						
24-Sep-15	0.21	305.86						
29-Oct-15	0.24	305.89						
25-Nov-15	0.28	305.93						
10-Dec-15	0.24	305.89						
20-Jan-16	0.29	305.94						
29-Feb-16	(F)							
17-Mar-16	0.46	306.11						
30-Mar-16	0.46	306.11						
27-Apr-16	0.31	305.96						
30-May-16	0.24	305.89						
27-Jun-16	0.17	305.82						
28-Jul-16	0.00	305.65						
11-Aug-16	0.15	305.80						
21-Sep-16	0.19	305.84						
18-Oct-16	0.19	305.84						
14-Nov-16	0.25	305.90						
14-Dec-16	0.20	305.85						
18-Jan-17	0.11	305.76						
15-Feb-17	0.08	305.73						
17-Mar-17	0.24	305.89						
11-Apr-17	0.34	305.99						
18-May-17	0.27	305.92						
14-Jun-17	0.21	305.86						
20-Jul-17	0.26	305.91						
09-Aug-17	0.22	305.87						
12-Sep-17	0.21	305.86						
12-Oct-17	0.19	305.84						
21-Nov-17	0.31	305.96						
19-Dec-17	0.23	305.88						

NOTES:
- NA — Not available
- m ASL — metres above sea level
- (F) — Frozen

TABLE B-4
WATER LEVEL DATA - SURFACE WATER STATIONS
MILL CREEK AGGREGATES PIT

SW2 (DP5A)

DATE	Water Level BTOP (m)	Surface Water Elevation (m ASL)	DATE	Water Level BTOP (m)	Surface Water Elevation (m ASL)	DATE	Water Level BTOP (m)	Surface Water Elevation (m ASL)
07-Jul-88	*	303.01	19-Apr-94	0.47	303.12	20-Aug-01	0.52	303.07
07-Sep-88	*	303.09	24-May-94	0.54	303.05	04-Sep-01	0.56	303.03
27-Sep-88	0.58	303.01	23-Jun-94	0.61	302.98	01-Oct-01	0.54	303.05
03-Dec-88	0.53	303.06	19-Jul-94	0.61	302.98	05-Nov-01	0.48	303.11
20-Jan-89	0.52	303.07	25-Aug-94	NA	NA	06-Dec-01	0.47	303.12
22-Feb-89	0.57	303.02	21-Sep-94	NA	NA	04-Jan-02	0.53	303.06
01-Apr-89	0.43	303.16	18-Oct-94	0.54	303.05	07-Feb-02	0.49	303.10
17-Apr-89	0.49	303.10	23-Nov-94	0.50	303.09	07-Mar-02	0.51	303.08
24-May-89	0.57	303.02	21-Dec-94	0.50	303.09	07-Apr-02	0.31	303.28
12-Jul-89	0.61	302.98	24-Jan-95	0.32	303.27	06-May-02	0.47	303.12
15-Aug-89	0.61	302.98	15-Feb-95	0.54	303.05	24-May-02	0.48	303.11
30-Aug-89	0.61	302.98	23-Mar-95	0.42	303.17	27-May-02	0.47	303.12
17-Oct-89	0.59	303.00	17-May-95	0.48	303.11	31-May-02	0.46	303.13
30-Nov-89	0.53	303.06	13-Jun-95	0.52	303.07	04-Jun-02	0.46	303.13
13-Dec-89	0.58	303.01	20-Jul-95	0.55	303.04	07-Jun-02	0.47	303.12
17-Jan-90	0.57	303.02	15-Aug-95	0.43	303.16	11-Jun-02	0.47	303.12
06-Mar-90	0.50	303.09	18-Oct-95	0.52	303.07	14-Jun-02	0.47	303.12
02-Apr-90	0.51	303.08	22-Nov-95	0.45	303.14	18-Jun-02	0.52	303.07
25-Jun-90	0.57	303.02	26-Mar-96	0.32	303.27	21-Jun-02	0.55	303.04
26-Jul-90	0.58	303.01	31-May-96	0.42	303.17	25-Jun-02	0.52	303.07
22-Aug-90	0.57	303.02	31-Jul-96	0.42	303.17	02-Jul-02	0.48	303.11
26-Sep-90	0.58	303.01	27-Sep-96	0.43	303.16	05-Jul-02	0.54	303.05
24-Oct-90	0.51	303.08	06-Nov-96	0.44	303.15	08-Jul-02	0.55	303.04
25-Nov-90	0.49	303.10	31-Mar-97	0.05	303.54	11-Jul-02	0.56	303.03
14-Dec-90	0.47	303.12	26-May-97	0.43	303.16	15-Jul-02	0.56	303.03
23-Jan-91	0.49	303.10	30-Jul-97	0.51	303.08	18-Jul-02	0.57	303.02
20-Feb-91	0.42	303.17	06-Nov-97	0.42	303.17	23-Jul-02	0.55	303.04
28-Mar-91	-0.01	303.60	12-Dec-97	0.49	303.10	26-Jul-02	0.55	303.04
26-Apr-91	0.41	303.18	27-Mar-98	0.35	303.24	30-Jul-02	0.54	303.05
24-May-91	0.52	303.07	30-Apr-98	0.48	303.11	09-Aug-02	0.54	303.05
20-Jun-91	0.52	303.07	31-May-98	0.53	303.06	16-Aug-02	0.53	303.06
30-Jul-91	0.31	303.28	30-Jun-98	0.49	303.10	21-Aug-02	0.54	303.05
22-Aug-91	0.55	303.04	31-Jul-98	0.51	303.08	23-Aug-02	0.55	303.04
25-Sep-91	0.55	303.04	30-Sep-98	0.49	303.10	28-Aug-02	0.56	303.03
29-Oct-91	0.52	303.07	27-Nov-98	0.51	303.08	30-Aug-02	0.55	303.04
26-Nov-91	0.52	303.07	31-Mar-99	0.42	303.17	04-Sep-02	0.52	303.07
16-Dec-91	0.50	303.09	20-May-99	0.55	303.04	10-Sep-02	0.53	303.06
13-Mar-92	0.49	303.10	16-Jul-99	0.68	302.91	12-Sep-02	0.52	303.07
15-Apr-92	0.51	303.08	09-Sep-99	0.48	303.11	17-Sep-02	0.52	303.07
21-May-92	0.53	303.06	09-Nov-99	0.49	303.10	20-Sep-02	0.52	303.07
29-Jun-92	0.56	303.03	01-Mar-00	0.45	303.14	25-Sep-02	0.57	303.02
20-Jul-92	0.39	303.20	18-May-00	0.26	303.33	27-Sep-02	0.54	303.05
27-Aug-92	0.45	303.14	15-Jun-00	0.21	303.38	04-Oct-02	0.52	303.07
14-Sep-92	0.48	303.11	06-Jul-00	0.49	303.10	08-Oct-02	0.56	303.03
28-Oct-92	0.46	303.13	08-Aug-00	0.49	303.10	11-Oct-02	0.58	303.01
26-Nov-92	0.30	303.29	13-Sep-00	0.51	303.08	15-Oct-02	0.57	303.02
15-Dec-92	0.42	303.17	26-Sep-00	0.49	303.10	18-Oct-02	0.58	303.01
19-Jan-93	0.40	303.19	10-Oct-00	0.52	303.07	23-Oct-02	0.56	303.03
05-Mar-93	NA	NA	08-Nov-00	0.52	303.07	29-Oct-02	0.56	303.03
26-Mar-93	0.42	303.17	14-Nov-00	0.48	303.11	31-Oct-02	0.57	303.02
20-Apr-93	0.32	303.27	11-Dec-00	(F)		05-Nov-02	0.54	303.05
27-May-93	0.48	303.11	11-Jan-01	0.51	303.08	08-Nov-02	0.56	303.03
22-Jun-93	0.42	303.17	09-Feb-01	0.51	303.08	12-Nov-02	0.50	303.09
14-Jul-93	0.49	303.10	13-Mar-01	0.49	303.10	15-Nov-02	0.50	303.09
18-Aug-93	0.52	303.07	10-Apr-01	0.32	303.27	19-Nov-02	0.55	303.04
20-Sep-93	0.54	303.05	04-May-01	0.55	303.04	22-Nov-02	0.55	303.04
19-Oct-93	0.43	303.16	07-Jun-01	0.52	303.07	26-Nov-02	0.56	303.03
17-Nov-93	0.50	303.09	12-Jul-01	0.57	303.02	06-Dec-02	(F) 0.43	(F) 303.16
06-Dec-93	0.45	303.14	02-Aug-01	0.57	303.02	10-Dec-02	(F) 0.43	(F) 303.16
18-Jan-94	0.49	303.10	09-Aug-01	0.58	303.01	13-Dec-02	0.56	303.03
24-Feb-94	0.41	303.18	13-Aug-01	0.58	303.01	18-Dec-02	0.56	303.03
24-Mar-94	0.17	303.42	16-Aug-01	0.58	303.01			

NOTES:
- BTOP Below top of pipe
- NA Not available
- m ASL metres above sea level
- (F) Frozen
- SW2 is measured from the top of DP5A
- * Surface water elevation surveyed in directly, prior to the installation of DP5A

TABLE B-4
WATER LEVEL DATA - SURFACE WATER STATIONS
MILL CREEK AGGREGATES PIT

SW2 (DP5A/DP5B/C/D)								
DATE	Water Level BTOP (m)	Surface Water Elevation (m ASL)	DATE	Water Level BTOP (m)	Surface Water Elevation (m ASL)	DATE	Water Level BTOP (m)	Surface Water Elevation (m ASL)
07-Jan-03	0.56	303.03	15-Sep-06	0.34	303.25	28-Sep-10	0.48	303.11
09-Jan-03	0.58	303.01	15-Oct-06	0.31	303.28	20-Oct-10	0.54	303.05
10-Feb-03	0.56	303.03	15-Nov-06	0.46	303.13	18-Nov-10	0.44	303.15
13-Mar-03	0.56	303.03	07-Dec-06	0.44	303.15	08-Dec-10	0.48	303.11
10-Apr-03	0.47	303.12	17-Jan-07	0.43	303.16	22-Dec-10	0.56	303.03
07-May-03	0.46	303.13	22-Feb-07	0.48	303.11	19-Jan-11	0.57	303.02
15-May-03	0.47	303.12	30-Mar-07	0.44	303.15	17-Feb-11	0.57	303.02
16-Jun-03	0.56	303.03	26-Apr-07	0.36	303.23	16-Mar-11	0.32	303.27
17-Jul-03	0.58	303.01	16-May-07	0.48	303.11	13-Apr-11	0.49	303.10
21-Aug-03	0.58	303.01	26-Jun-07	0.5	303.09	21-Apr-11	0.33	303.26
26-Aug-03	0.50	303.09	25-Jul-07	0.58	303.01	26-May-11	0.25	303.34
25-Sep-03	0.52	303.07	07-Aug-07	0.59	303.00	16-Jun-11	0.53	303.06
27-Oct-03	0.44	303.15	21-Aug-07	0.58	303.01	14-Jul-11	0.57	303.02
01-Dec-03	0.38	303.21	21-Sep-07	0.57	303.02	11-Aug-11	0.57	303.02
11-Dec-03	0.42	303.17	17-Oct-07	0.56	303.03	16-Nov-11	0.60	302.90
15-Dec-03	0.38	303.21	15-Nov-07	NA		14-Dec-11	0.43	303.07
19-Jan-04	0.46	303.13	29-Nov-07	0.53	303.06	22-Dec-11	0.50	303.00
18-Feb-04	0.48	303.11	10-Dec-07	0.54	303.05	16-Jan-12	0.60	302.90
25-Mar-04	0.45	303.14	31-Jan-08	0.51	303.08	16-Feb-12	0.59	302.91
07-Apr-04	0.43	303.16	29-Feb-08	0.54	303.05	29-Mar-12	1.32	302.94
22-Apr-04	0.36	303.23	31-Mar-08	0.29	303.30	10-Apr-12	1.39	302.87
20-May-04	0.52	303.07	28-Apr-08	0.50	303.09	30-Apr-12	1.37	302.89
24-Jun-04	0.53	303.06	28-May-08	0.55	303.04	29-May-12	1.45	302.81
23-Jul-04	0.56	303.03	25-Jun-08	0.52	303.07	20-Jun-12	1.44	302.82
04-Aug-04	0.54	303.05	16-Jul-08	0.55	303.04	21-Aug-12	1.29	302.82
27-Aug-04	0.55	303.04	20-Aug-08	0.53	303.06	18-Sep-12	1.22	302.89
28-Sep-04	0.56	303.03	26-Aug-08	0.52	303.07	23-Oct-12	0.90	303.21
18-Oct-04	0.54	303.05	19-Sep-08	0.25	303.34	28-Nov-12	1.01	303.10
16-Nov-04	0.54	303.05	10-Oct-08	0.50	303.09	06-Dec-12	0.97	303.14
15-Dec-04	0.52	303.07	05-Nov-08	0.47	303.12	19-Dec-12	0.99	303.12
16-Dec-04	0.53	303.06	03-Dec-08	0.43	303.16	16-Jan-13	0.88	303.23
20-Jan-05	0.47	303.12	17-Dec-08	0.41	303.18	20-Feb-13	0.97	303.14
25-Feb-05	0.43	303.16	06-Jan-09	0.30	303.29	21-Mar-13	1.00	303.11
24-Mar-05	0.51	303.08	27-Feb-09	0.49	303.10	04-Apr-13	0.99	303.12
18-Apr-05	0.48	303.11	11-Mar-09	0.26	303.33	25-Apr-13	0.97	303.14
29-Apr-05	0.35	303.24	14-Apr-09	0.44	303.15	23-May-13	1.10	303.01
26-May-05	0.52	303.07	21-May-09	0.47	303.12	13-Jun-13	0.94	303.17
23-Jun-05	0.54	303.05	16-Jun-09	0.49	303.10	31-Jul-13	1.15	302.96
25-Jul-05	0.56	303.03	31-Jul-09	0.42	303.17	29-Aug-13	NA	NA
17-Aug-05	0.56	303.03	25-Aug-09	0.39	303.2	25-Sep-13	0.78	303.33
25-Aug-05	0.54	303.05	28-Aug-09	0.46	303.13	22-Oct-13	0.70	303.41
30-Sep-05	0.47	303.12	28-Sep-09	0.47	303.12	28-Nov-13	0.75	303.36
27-Oct-05	0.45	303.14	14-Oct-09	0.48	303.11	19-Dec-13	(F)0.81	(F)303.30
28-Nov-05	0.50	303.09	11-Nov-09	0.46	303.13	15-Jan-14	0.44	303.38
7-Dec-05	0.48	frozen	11-Dec-09	0.49	303.1	26-Feb-14	0.73	303.09
19-Dec-05	0.54	303.05	16-Dec-09	0.47	303.12	26-Mar-14	0.78	303.04
26-Jan-06	0.44	303.15	13-Jan-10	0.52	303.07	01-Apr-14	0.59	303.23
15-Feb-06	0.53	303.06	11-Feb-10	0.54	303.05	15-May-14	0.77	303.05
30-Mar-06	0.49	303.10	11-Mar-10	0.48	303.11	18-Jun-14	0.99	302.83
27-Apr-06	0.45	303.14	16-Apr-10	0.52	303.07	29-Jul-14	0.77	303.05
28-Apr-06	0.52	303.07	21-May-10	0.54	303.05	25-Aug-14	0.99	302.83
15-May-06	0.52	303.07	17-Jun-10	0.47	303.12	18-Sep-14	0.90	302.92
15-Jun-06	0.55	303.04	15-Jul-10	0.55	303.04	17-Oct-14	0.92	302.90
15-Jul-06	0.44	303.15	18-Aug-10	0.57	303.02	27-Nov-14	0.90	302.92
24-Aug-06	0.52	303.07	31-Aug-10	0.58	303.01	15-Dec-14	0.94	302.88

NOTES:
- BTOP Below top of pipe
- NA Not available
- m ASL metres above sea level
- (F) Frozen
- SW2 is measured from the top of DP5A, DP5B, DB5C or DP5D

TABLE B-4
WATER LEVEL DATA - SURFACE WATER STATIONS
MILL CREEK AGGREGATES PIT

SW2 (DP5A/DP5B/C/D/CR)								
DATE	Water Level BTOP (m)	Surface Water Elevation (m ASL)	DATE	Water Level BTOP (m)	Surface Water Elevation (m ASL)	DATE	Water Level BTOP (m)	Surface Water Elevation (m ASL)
21-Jan-15	(F)		09-Aug-17	0.78	302.93			
18-Feb-15	0.94	302.88	12-Sep-17	0.79	302.92			
25-Mar-15	(F)		12-Oct-17	0.77	302.94			
06-Apr-15	0.87	302.95	21-Nov-17	0.66	303.05			
20-May-15	1.11	302.71	19-Dec-17	0.75	302.96			
23-Jun-15	1.07	302.75	16-Jan-18	(F)				
22-Jul-15	1.10	302.72	26-Feb-18	0.59	303.12			
25-Aug-15	1.09	302.73	26-Mar-18	0.80	302.91			
24-Sep-15	1.13	302.69	24-Apr-18	0.53	303.18			
29-Oct-15	0.81	303.01	18-May-18	0.67	303.04			
25-Nov-15	1.05	302.77	12-Jun-18	0.92	302.79			
10-Dec-15	1.07	302.75	27-Jul-18	0.84	302.87			
20-Jan-16	0.99	302.83	22-Aug-18	0.75	302.96			
29-Feb-16	0.97	302.85	12-Sep-18	0.81	302.90			
17-Mar-16	0.84	302.98	30-Oct-18	0.79	302.92			
30-Mar-16	0.81	303.01	21-Nov-18	0.76	302.95			
27-Apr-16	0.95	302.87	20-Dec-18	0.76	302.95			
30-May-16	1.06	302.76						
27-Jun-16	1.15	302.67						
28-Jul-16	1.16	302.66						
11-Aug-16	1.18	302.64						
21-Sep-16	1.15	302.67						
18-Oct-16	1.13	302.69						
14-Nov-16	1.12	302.70						
14-Dec-16	1.16	302.66						
18-Jan-17	0.92	302.90						
15-Feb-17	1.13	302.69						
17-Mar-17	1.05	302.77						
11-Apr-17	0.91	302.91						
18-May-17	0.71	303.00						
14-Jun-17	0.80	302.91						
20-Jul-17	0.75	302.96						

NOTES:
- BTOP Below top of pipe
- NA Not available
- m ASL metres above sea level
- (F) Frozen
- SW2 is measured from the top of DP5A, DP5B, DB5C, DP5D or DP5CR

TABLE B-4
WATER LEVEL DATA - SURFACE WATER STATIONS
MILL CREEK AGGREGATES PIT

Trench (west)								
DATE	Water Level FBOG (m)	Surface Water Elevation (m ASL)	DATE	Water Level FBOG (m)	Surface Water Elevation (m ASL)	DATE	Water Level FBOG (m)	Surface Water Elevation (m ASL)
25-Jun-01	1.00	306.44	13-Dec-01	1.34	306.78	23-Jul-02	0.60	306.04
28-Jun-01	1.05	306.49	17-Dec-01	1.39	306.83	05-Aug-02	0.56	306.00
03-Jul-01	1.05	306.49	20-Dec-01	1.41	306.85	09-Aug-02	0.55	305.99
05-Jul-01	1.00	306.44	02-Jan-02	(F) 1.10		16-Aug-02	0.48	305.92
09-Jul-01	1.00	306.44	07-Jan-02	(F) 1.10		21-Aug-02	0.46	305.90
12-Jul-01	1.01	306.45	10-Jan-02	(F) 1.10		23-Aug-02	0.44	305.88
16-Jul-01	1.11	306.55	14-Jan-02	(F) 0.60		04-Sep-02	0.38	305.82
19-Jul-01	1.10	306.54	17-Jan-02	(F) 0.60		11-Oct-02	0.36	305.80
23-Jul-01	0.99	306.43	21-Jan-02	(F) 0.60		21-Nov-02	0.38	305.82
26-Jul-01	1.02	306.46	24-Jan-02	(F) 0.60		13-Dec-02	0.36	305.80
30-Jul-01	1.02	306.46	28-Jan-02	(F) 0.68		07-May-03	0.82	306.26
02-Aug-01	0.98	306.42	01-Feb-02	(F) 0.70		26-Aug-03	0.59	306.03
07-Aug-01	1.00	306.44	04-Feb-02	(F) 0.70		11-Dec-03	0.76	306.20
09-Aug-01	0.99	306.43	07-Feb-02	(F) 0.70		07-Apr-04	1.21	306.65
13-Aug-01	0.66	306.10	11-Feb-02	(F) 0.70		24-Jun-04	1.14	306.58
14-Aug-01	0.92	306.36	15-Feb-02	(F) 0.70		23-Jul-04	1.11	306.55
16-Aug-01	0.89	306.33	18-Feb-02	(F) 0.70		04-Aug-04	1.24	306.68
20-Aug-01	0.90	306.34	21-Feb-02	(F) 0.70		27-Aug-04	1.09	306.53
23-Aug-01	0.90	306.34	25-Feb-02	(F) 0.74		28-Sep-04	1.05	306.49
27-Aug-01	0.60	306.04	05-Mar-02	(F) 0.80		18-Oct-04	0.96	306.40
30-Aug-01	0.70	306.14	07-Mar-02	(F) 0.80		16-Nov-04	0.91	306.35
31-Aug-01	0.86	306.30	11-Mar-02	(F) 0.80		15-Dec-04	1.20	306.64
04-Sep-01	0.94	306.38	15-Mar-02	0.80	306.24	16-Dec-04	0.97	306.41
06-Sep-01	0.92	306.36	19-Mar-02	0.80	306.24	20-Jan-05	1.00	306.44
10-Sep-01	0.90	306.34	21-Mar-02	0.81	306.25	25-Feb-05	1.00	306.44
13-Sep-01	0.87	306.31	26-Mar-02	0.80	306.24	24-Mar-05	1.75	307.19
17-Sep-01	0.87	306.31	28-Mar-02	0.80	306.24	29-Apr-05	1.60	307.04
20-Sep-01	0.88	306.32	01-Apr-02	0.84	306.28	26-May-05	1.36	306.80
24-Sep-01	0.92	306.36	05-Apr-02	0.90	306.34	23-Jun-05	1.30	306.74
27-Sep-01	0.92	306.36	07-Apr-02	0.90	306.34	25-Jul-05	1.20	306.64
01-Oct-01	0.95	306.39	11-Apr-02	0.88	306.32	25-Aug-05	1.16	306.60
04-Oct-01	0.92	306.36	17-Apr-02	0.83	306.27	30-Sep-05	1.11	306.55
09-Oct-01	1.02	306.46	19-Apr-02	0.82	306.26	27-Oct-05	1.00	306.44
11-Oct-01	1.00	306.44	23-Apr-02	0.76	306.20	28-Nov-05	1.00	306.44
15-Oct-01	0.69	306.13	29-Apr-02	0.76	306.20	7-Dec-05	frozen	
19-Oct-01	1.10	306.54	06-May-02	0.73	306.17	19-Dec-05	1.05	306.49
22-Oct-01	1.16	306.60	10-May-02	0.71	306.15	26-Jan-06	frozen	
26-Oct-01	1.10	306.54	14-May-02	0.74	306.18	15-Feb-06	1.45	306.89
29-Oct-01	1.28	306.72	17-May-02	0.80	306.24	30-Mar-06	1.47	306.91
01-Nov-01	1.24	306.68	21-May-02	0.80	306.24	27-Apr-06	1.51	306.95
05-Nov-01	1.27	306.71	24-May-02	0.75	306.19	28-Apr-06	1.47	306.91
08-Nov-01	1.22	306.66	27-May-02	0.76	306.20	15-Jun-06	1.49	306.93
12-Nov-01	1.23	306.67	31-May-02	0.76	306.20	15-Jul-06	1.40	306.84
15-Nov-01	1.20	306.64	04-Jun-02	0.78	306.22	24-Aug-06	1.27	306.71
19-Nov-01	1.21	306.65	07-Jun-02	0.74	306.18	15-Oct-06	1.38	306.82
22-Nov-01	1.25	306.69	14-Jun-02	0.76	306.20	15-Nov-06	1.48	306.92
26-Nov-01	1.28	306.72	21-Jun-02	0.70	306.14	07-Dec-06	1.51	306.95
29-Nov-01	1.32	306.76	25-Jun-02	0.74	306.18			
03-Dec-01	1.36	306.80	05-Jul-02	0.71	306.15			
06-Dec-01	1.33	306.77	11-Jul-02	0.78	306.22			
10-Dec-01	1.33	306.77	15-Jul-02	0.64	306.08			

Notes:
- ·FBOG — from bottom of gauge
- ·m ASL — metres above sea level
- ·(F) — Frozen

TABLE B-4
WATER LEVEL DATA - SURFACE WATER STATIONS
MILL CREEK AGGREGATES PIT

Trench (west)

DATE	Water Level FBOG (m)	Surface Water Elevation (m ASL)	DATE	Water Level FBOG (m)	Surface Water Elevation (m ASL)	DATE	Water Level FBOG (m)	Surface Water Elevation (m ASL)
17-Jan-07	frozen		16-Mar-11	Frozen		27-Nov-14	1.58	307.02
26-Apr-07	1.73	307.17	13-Apr-11	1.35	306.79	15-Dec-14	1.45	306.89
26-Jun-07	1.60	307.04	21-Apr-11	1.45	306.89	21-Jan-15	Frozen	
25-Jul-07	1.55	306.99	26-May-11	1.69	307.13	18-Feb-15	Frozen	
07-Aug-07	1.30	306.74	16-Jun-11	1.67	307.11	25-Mar-15	Frozen	
21-Aug-07	1.25	306.69	11-Aug-11	1.38	306.82	06-Apr-15	1.43	306.87
21-Sep-07	1.12	306.56	17-Aug-11	1.33	306.77	20-May-15	1.51	306.95
17-Oct-07	1.10	306.54	14-Sep-11	1.23	306.67	23-Jun-15	1.53	306.97
29-Nov-07	1.10	306.54	27-Oct-11	1.27	306.71	22-Jul-15	1.49	306.93
10-Dec-07	Frozen		14-Nov-11	1.23	306.67	25-Aug-15	1.52	306.96
28-Apr-08	1.56	307.00	14-Dec-11	1.40	306.84	24-Sep-15	1.46	306.90
28-May-08	1.68	307.12	22-Dec-11	1.41	306.85	29-Oct-15	1.47	306.91
25-Jun-08	1.70	307.14	16-Jan-12	Frozen		25-Nov-15	1.34	306.78
16-Jul-08	1.69	307.13	16-Feb-12	Frozen		10-Dec-15	1.27	306.71
20-Aug-08	1.71	307.15	29-Mar-12	1.52	306.96	20-Jan-16	Frozen	
26-Aug-08	1.71	307.15	10-Apr-12	1.41	306.85	29-Feb-16	Frozen	
19-Sep-08	1.80	307.24	30-Apr-12	1.41	306.85	17-Mar-16	1.48	306.92
10-Oct-08	1.66	307.10	29-May-12	1.36	306.80	30-Mar-16	1.60	307.04
05-Nov-08	1.59	307.03	20-Jun-12	1.29	306.73	27-Apr-16	1.55	306.99
17-Dec-08	Frozen		24-Jul-12	1.07	306.51	30-May-16	1.52	306.96
06-Jan-09	Frozen		08-Aug-12	0.98	306.42	27-Jun-16	1.47	306.91
27-Feb-09	Frozen		21-Aug-12	1.04	306.48	28-Jul-16	1.38	306.82
11-Mar-09	**higher than gauge**		18-Sep-12	0.98	306.42	11-Aug-16	1.22	306.66
14-Apr-09	1.93	307.37	23-Oct-12	1.02	306.46	21-Sep-16	1.34	306.78
21-May-09	1.92	307.36	28-Nov-12	1.00	306.44	18-Oct-16	1.34	306.78
16-Jun-09	2.10	307.54	06-Dec-12	1.03	306.47	14-Nov-16	1.20	306.64
31-Jul-09	2.05	307.49	19-Dec-12	1.00	306.44	14-Dec-16	1.33	306.77
25-Aug-09	1.90	307.34	16-Jan-13	1.11	306.55	18-Jan-17	Frozen	
28-Aug-09	1.98	307.42	20-Feb-13	1.18	306.62	15-Feb-17	Frozen	
28-Sep-09	1.74	307.18	21-Mar-13	Frozen		17-Mar-17	Frozen	
14-Oct-09	1.70	307.14	04-Apr-13	1.25	306.69	11-Apr-17	1.69	307.13
11-Nov-09	1.62	307.06	25-Apr-13	1.44	306.88	18-May-17	1.76	307.20
11-Dec-09	1.62	307.06	23-May-13	1.38	306.82	14-Jun-17	1.78	307.22
16-Dec-09	Frozen		13-Jun-13	1.51	306.95	20-Jul-17	1.83	307.27
13-Jan-10	Frozen		31-Jul-13	1.44	306.88	9-Aug-17	1.71	307.15
11-Feb-10	1.59	307.03	29-Aug-13	1.37	306.81	12-Sep-17	1.55	306.99
11-Mar-10	1.53	306.97	25-Sep-13	1.34	306.78	12-Oct-17	1.41	306.85
16-Apr-10	1.67	307.11	22-Oct-13	1.42	306.86	21-Nov-17	1.40	306.84
21-May-10	1.57	307.01	28-Nov-13	1.32	306.76	19-Dec-17	Frozen	
17-Jun-10	1.55	306.99	10-Dec-13	1.28	306.72	16-Jan-18	Frozen	
15-Jul-10	1.41	306.85	15-Jan-14	Frozen		26-Feb-18	Frozen	
18-Aug-10	1.32	306.76	26-Feb-14	Frozen		26-Mar-18	1.40	306.84
31-Aug-10	1.28	306.72	26-Mar-14	Frozen		24-Apr-18	1.56	307.00
28-Sep-10	1.20	306.64	01-Apr-14	(F)1.47	306.91	18-May-18	1.50	306.94
20-Oct-10	1.15	306.59	15-May-14	1.82	307.26	12-Jun-18	1.49	306.93
18-Nov-10	1.12	306.56	18-Jun-14	1.69	307.13	27-Jul-18	NA	
08-Dec-10	1.19	306.63	29-Jul-14	1.68	307.12	22-Aug-18	NA	
22-Dec-10	Frozen		25-Aug-14	1.65	307.09	12-Sep-18	1.22	306.66
19-Jan-11	Frozen		18-Sep-14	1.67	307.11	30-Oct-18	NA	
17-Feb-11	1.22	306.66	17-Oct-14	1.66	307.10	21-Nov-18	Frozen	
						20-Dec-18	Frozen	

Notes:
- ·FBOG from bottom of gauge
- ·m ASL metres above sea level
- ·(F) Frozen
- ·NA Not Available

TABLE B-4
WATER LEVEL DATA - SURFACE WATER STATIONS
MILL CREEK AGGREGATES PIT

PHASE 1 POND

DATE	Water Level FBOG (m)	Surface Water Elevation (m ASL)	Water Temperature at Surface (°C)	DATE	Water Level FBOG (m)	Surface Water Elevation (m ASL)	Water Temperature at Surface (°C)
19-Apr-99	0.54	306.08		07-May-01	1.12	306.27	
27-Apr-99	0.39	305.93		14-May-01	1.10	306.25	
03-May-99	0.38	305.92		22-May-01	0.68	306.21	
11-May-99	0.25	305.79		28-May-01	0.72	306.25	
17-May-99	0.25	305.79		04-Jun-01	0.70	306.23	
25-May-99	0.31	305.85		07-Jun-01	0.62	306.15	7.0
06-Jun-99	0.19	305.73		11-Jun-01	0.68	306.21	
14-Jun-99	0.20	305.74		18-Jun-01	0.66	306.19	
21-Jun-99	0.12	305.66		25-Jun-01	0.59	306.12	
28-Jun-99	0.11	305.65		28-Jun-01	0.52	306.05	
05-Jul-99	0.10	305.64		03-Jul-01	0.52	306.05	
12-Jul-99	0.04	305.58		05-Jul-01	0.48	306.01	
20-Jul-99	<0.00	<305.54		09-Jul-01	0.50	306.03	
26-Jul-99	<0.00	<305.54		12-Jul-01	0.44	305.97	16.6
03-Aug-99	<0.00	<305.54		16-Jul-01	0.45	305.98	
09-Aug-99	<0.00	<305.54		19-Jul-01	0.37	305.90	
16-Aug-99	<0.00	<305.54		23-Jul-01	0.38	305.91	
23-Aug-99	<0.00	<305.54		26-Jul-01	0.30	305.83	
30-Aug-99	<0.00	<305.54		30-Jul-01	0.35	305.88	
07-Sep-99	<0.00	<305.54		01-Aug-01	0.30	305.83	
13-Sep-99	<0.00	<305.54		02-Aug-01	0.27	305.80	24.6
20-Sep-99	<0.00	<305.54		07-Aug-01	0.26	305.79	
10-Oct-99	<0.00	<305.54		09-Aug-01	0.20	305.73	
19-Oct-99	<0.00	<305.54		13-Aug-01	0.21	305.74	
28-Oct-99	<0.00	<305.54		14-Aug-01	0.18	305.71	
02-Nov-99	0.10	305.64		15-Aug-01	0.18	305.71	
10-Nov-99	0.16	305.70		16-Aug-01	0.11	305.64	
22-Nov-99	0.16	305.70		17-Aug-01	0.12	305.65	
30-Nov-99	0.16	305.70		20-Aug-01	0.18	305.71	
21-Dec-99	0.16	305.70		21-Aug-01	0.19	305.72	
14-Jan-00	0.20(snow)	305.74		23-Aug-01	0.14	305.67	
25-Jan-00	0.20(snow)	305.74		27-Aug-01	0.18	305.71	
07-Feb-00	0.24(snow)	305.78		30-Aug-01	0.14	305.67	
21-Feb-00	0.42(snow)	305.96		31-Aug-01	0.12	305.65	
08-Mar-00	0.36	305.90		04-Sep-01	0.16	305.69	21.5
24-Mar-00	0.34	305.88		06-Sep-01	0.12	305.65	
30-May-00	0.46	306.00		10-Sep-01	0.10	305.63	
05-Jun-00	0.44	305.98		13-Sep-01	0.06	305.59	
15-Jun-00	0.47	306.01		17-Sep-01	0.06	305.59	
06-Jul-00	0.58	306.12		20-Sep-01	0.02	305.55	
06-Jul-00	0.54	306.08		24-Sep-01	0.10	305.63	
19-Jul-00	0.88	306.03		27-Sep-01	0.04	305.57	
31-Jul-00	0.92	306.07		01-Oct-01	0.10	305.63	14.6
08-Aug-00	0.98	306.13	24.9	04-Oct-01	0.06	305.59	
10-Aug-00	0.90	306.05		09-Oct-01	0.12	305.65	
14-Aug-00	0.89	306.04		11-Oct-01	0.11	305.64	
21-Aug-00	0.91	306.06		15-Oct-01	0.20	305.73	
30-Aug-00	0.84	305.99		19-Oct-01	0.14	305.67	
30-Aug-00	0.83	305.98		22-Oct-01	0.16	305.69	
30-Aug-00	0.81	305.96		26-Oct-01	0.16	305.69	
13-Sep-00	0.78	305.93	20.9	29-Oct-01	0.18	305.71	
13-Sep-00	0.76	305.91	20.4	01-Nov-01	0.14	305.67	
25-Sep-00	0.79	305.94		05-Nov-01	0.16	305.69	8.0
26-Sep-00	0.73	305.88		08-Nov-01	0.10	305.63	
10-Oct-00	0.80	305.95	14.1	12-Nov-01	0.11	305.64	
11-Oct-00	0.76	305.91	13.9	15-Nov-01	0.08	305.61	
08-Nov-00	0.55	305.70	11.3	19-Nov-01	0.13	305.66	
14-Nov-00	0.63	305.78		22-Nov-01	0.16	305.69	
11-Dec-00	0.75	305.90	1.4	26-Nov-01	0.18	305.71	
11-Jan-01	0.98	306.13	(F)	29-Nov-01	0.20	305.73	
09-Feb-01	0.94	306.09	(F)	03-Dec-01	0.26	305.79	
13-Mar-01	na		(F)	06-Dec-01	0.26	305.79	7.6
02-Apr-01	1.22	306.37		10-Dec-01	0.27	305.80	
10-Apr-01	1.19	306.34	3.7	13-Dec-01	0.27	305.80	
11-Apr-01	1.18	306.33		17-Dec-01	0.30	305.83	
16-Apr-01	1.21	306.36		20-Dec-01	0.32	305.85	
23-Apr-01	1.18	306.33		02-Jan-02	0.38	305.91	
27-Apr-01	1.15	306.30		07-Jan-02	0.38	305.91	
04-May-01	1.07	306.22	15.7	10-Jan-02	0.34	305.87	

Note: ·FBOG from bottom of gauge
· (F) Frozen

TABLE B-4
WATER LEVEL DATA - SURFACE WATER STATIONS
MILL CREEK AGGREGATES PIT

PHASE 1 POND							
DATE	Water Level FBOG (m)	Surface Water Elevation (m ASL)	Water Temperature at Surface (°C)	DATE	Water Level FBOG (m)	Surface Water Elevation (m ASL)	Water Temperature at Surface (°C)
14-Jan-02	0.34	305.87	0	30-Jul-02	0.42	305.98	
17-Jan-02	0.38	305.91	0	05-Aug-02	0.36	305.92	
21-Jan-02	0.38	305.91	0	09-Aug-02	0.34	305.90	
24-Jan-02	0.34	305.87	0	16-Aug-02	0.28	305.84	
28-Jan-02	0.34	305.87	0	21-Aug-02	0.28	305.84	
01-Feb-02	0.40	305.93	0	23-Aug-02	0.28	305.84	17.1
04-Feb-02	0.40	305.93	0	28-Aug-02	0.20	305.76	
07-Feb-02	0.40	305.93	0	30-Aug-02	0.18	305.74	
11-Feb-02	0.40	305.93	0	04-Sep-02	0.18	305.74	17.0
15-Feb-02	0.40	305.93	0	10-Sep-02	0.14	305.70	
18-Feb-02	0.40	305.93	0	12-Sep-02	0.12	305.68	
21-Feb-02	0.46	305.99	0	17-Sep-02	0.18	305.74	
25-Feb-02	0.48	306.01	0	20-Sep-02	0.18	305.74	
05-Mar-02	0.48	306.01	0	25-Sep-02	0.16	305.72	
07-Mar-02	0.42	305.95	0	27-Sep-02	0.16	305.72	
11-Mar-02	Fallen			02-Oct-02	0.18	305.74	
15-Mar-02	Fallen			04-Oct-02	0.18	305.74	
19-Mar-02	Fallen			08-Oct-02	0.16	305.72	
21-Mar-02	Fallen			11-Oct-02	0.15	305.71	12.0
26-Mar-02	Fallen			15-Oct-02	0.14	305.70	
28-Mar-02	Fallen			18-Oct-02	0.10	305.66	
01-Apr-02	Fallen			23-Oct-02	0.14	305.70	
05-Apr-02	Fallen			29-Oct-02	0.14	305.70	
07-Apr-02	Fallen		5.4	31-Oct-02	0.14	305.70	
11-Apr-02	0.70	306.26		05-Nov-02	0.11	305.67	
17-Apr-02	0.68	306.24		08-Nov-02	0.16	305.72	
23-Apr-02	0.50	306.06		12-Nov-02	0.17	305.73	
29-Apr-02	0.50	306.06		15-Nov-02	0.16	305.72	
06-May-02	0.47	306.03	11.3	19-Nov-02	0.13	305.69	
10-May-02	0.43	305.99		22-Nov-02	0.12	305.68	4.1
14-May-02	0.45	306.01		26-Nov-02	0.15	305.71	
17-May-02	0.50	306.06		29-Nov-02	0.15	305.71	
21-May-02	0.56	306.12		04-Dec-02	0.12	305.68	
24-May-02	0.54	306.10		06-Dec-02	0.16	305.72	
27-May-02	0.56	306.12		10-Dec-02	0.18	305.74	
31-May-02	0.56	306.12		13-Dec-02	0.15	305.71	Frozen
04-Jun-02	0.54	306.10		18-Dec-02	0.15	305.71	
07-Jun-02	0.50	306.06		7-Jan-03	0.30	305.86	
11-Jun-02	0.51	306.07		9-Jan-03	0.35	305.91	
14-Jun-02	0.50	306.06	17.4	14-Jan-03	0.35	305.91	
18-Jun-02	0.50	306.06		21-Jan-03	0.35	305.91	
21-Jun-02	0.50	306.06		24-Jan-03	0.35	305.91	
25-Jun-02	0.50	306.06		28-Jan-03	0.35	305.91	
02-Jul-02	0.54	306.10		31-Jan-03	0.35	305.91	
05-Jul-02	0.50	306.06		5-Feb-03	0.35	305.91	
08-Jul-02	0.50	306.06		10-Feb-03	0.35	305.91	
11-Jul-02	0.48	306.04		14-Feb-03	0.35	305.91	
15-Jul-02	0.44	306.00	24.4	17-Feb-03	0.35	305.91	
18-Jul-02	0.42	305.98		21-Feb-03	0.35	305.91	
23-Jul-02	0.40	305.96		24-Feb-03	0.35	305.91	
26-Jul-02	0.40	305.96		6-Mar-03	0.35	305.91	

Note: ·FBOG from bottom of gauge

TABLE B-4
WATER LEVEL DATA - SURFACE WATER STATIONS
MILL CREEK AGGREGATES PIT

PHASE 1 POND							
DATE	Water Level FBOG (m)	Surface Water Elevation (m ASL)	Water Temperature at Surface (°C)	DATE	Water Level FBOG (m)	Surface Water Elevation (m ASL)	Water Temperature at Surface (°C)
10-Mar-03	0.35	305.91		6-Oct-03	0.10	305.85	
13-Mar-03	0.35	305.91		9-Oct-03	0.10	305.85	
18-Mar-03	0.35	305.91		13-Oct-03	0.10	305.85	
20-Mar-03	0.35	305.91		16-Oct-03	0.10	305.85	
24-Mar-03	0.35	305.91		20-Oct-03	0.10	305.85	
27-Mar-03	0.35	305.91		23-Oct-03	0.10	305.85	
28-Mar-03	0.35	305.91		27-Oct-03	0.09	305.84	
29-Mar-03	0.35	305.91		30-Oct-03	0.10	305.85	
30-Mar-03	0.35	305.91		3-Nov-03	0.12	305.87	
31-Mar-03	0.35	305.91		6-Nov-03	0.10	305.85	
1-Apr-03	0.35	305.91		10-Nov-03	0.11	305.86	
2-Apr-03	0.35	305.91		13-Nov-03	0.12	305.87	
3-Apr-03	0.35	305.91		17-Nov-03	0.15	305.90	
10-Apr-03	0.41	305.97		20-Nov-03	0.17	305.92	
21-Apr-03	0.46	306.02		24-Nov-03	0.20	305.95	
24-Apr-03	0.50	306.06		1-Dec-03	0.30	306.05	
28-Apr-03	0.45	306.01		8-Dec-03	0.24	305.99	
5-May-03	0.48	306.04		11-Dec-03	0.28	306.03	2.6
7-May-03	0.37	305.93	11.5	15-Dec-03	0.30	306.05	
8-May-03	0.49	306.05		22-Dec-03	0.30	306.05	
12-May-03	0.50	306.06		19-Jan-04			frozen
15-May-03	0.44	306.00		18-Feb-04			frozen
16-May-03	0.38	305.94		25-Mar-04			frozen
23-May-03	0.40	305.96		7-Apr-04			5.2
26-May-03	0.41	305.97		15-Apr-04	0.70	306.27	
29-May-03	0.45	306.01		19-Apr-04	0.70	306.27	
13-Jun-03	0.42	305.98		22-Apr-04	0.76	306.33	
16-Jun-03	0.44	306.00		26-Apr-04	0.77	306.34	
17-Jun-03	0.48	306.04		29-Apr-04	0.76	306.33	
19-Jun-03	0.45	306.01		3-May-04	0.81	306.38	
23-Jun-03	0.44	306.00		4-May-04	0.79	306.36	
26-Jun-03	0.39	305.95		5-May-04	0.80	306.37	
3-Jul-03	0.41	305.97		6-May-04	0.82	306.39	
7-Jul-03	0.40	305.96		7-May-04	0.82	306.39	
10-Jul-03	0.39	305.95		10-May-04	0.84	306.41	
17-Jul-03	0.34	305.90		11-May-04	0.85	306.42	
22-Jul-03	0.30	305.86		12-May-04	0.88	306.45	
25-Jul-03	0.32	305.88		13-May-04	0.88	306.45	
28-Jul-03	0.30	305.86		14-May-04	0.88	306.45	
31-Jul-03	0.28	305.84		17-May-04	0.86	306.43	
7-Aug-03	0.28	305.84		18-May-04	0.88	306.45	
11-Aug-03	0.30	305.86		19-May-04	0.88	306.45	
14-Aug-03	0.28	305.84		20-May-04	0.86	306.43	
18-Aug-03	0.28	305.84		21-May-04	0.87	306.44	
21-Aug-03	0.28	305.84		25-May-04	0.88	306.45	
25-Aug-03	0.29	305.85		26-May-04	0.88	306.45	
26-Aug-03	0.20	305.76	26.0	27-May-04	0.89	306.46	
29-Aug-03	0.23	305.79		28-May-04	0.88	306.45	
2-Sep-03	0.20	305.76		31-May-04	0.86	306.43	
11-Sep-03	0.02	305.77		2-Jun-04	0.88	306.45	
15-Sep-03	0.04	305.79		4-Jun-04	0.88	306.45	
18-Sep-03	0.03	305.78		7-Jun-04	0.88	306.45	
22-Sep-03	0.04	305.79		9-Jun-04	0.88	306.45	
25-Sep-03	0.24	305.99		11-Jun-04	0.84	306.41	
26-Sep-03	0.06	305.81		14-Jun-04	0.86	306.43	
29-Sep-03	0.12	305.87		16-Jun-04	0.82	306.39	
2-Oct-03	0.10	305.85		18-Jun-04	0.87	306.44	

Note: ·FBOG from bottom of gauge

TABLE B-4
WATER LEVEL DATA - SURFACE WATER STATIONS
MILL CREEK AGGREGATES PIT

PHASE 1 POND							
DATE	Water Level FBOG (m)	Surface Water Elevation (m ASL)	Water Temperature at Surface (°C)	DATE	Water Level FBOG (m)	Surface Water Elevation (m ASL)	Water Temperature at Surface (°C)
21-Jun-04	0.85	306.42		15-Oct-04	0.39	305.96	
23-Jun-04	0.84	306.41	17.5	18-Oct-04	0.37	305.94	14.7
25-Jun-04	0.81	306.38		20-Oct-04	0.47	306.04	
28-Jun-04	0.80	306.37		22-Oct-04	0.41	305.98	
30-Jun-04	0.80	306.37		25-Oct-04	0.38	305.95	
2-Jul-04	0.79	306.36		27-Oct-04	0.39	305.96	
5-Jul-04	0.79	306.36		29-Oct-04	0.39	305.96	
7-Jul-04	0.80	306.37		1-Nov-04	0.35	305.92	
9-Jul-04	0.79	306.36		3-Nov-04	0.37	305.94	
12-Jul-04	0.79	306.36		5-Nov-04	0.37	305.94	
14-Jul-04	0.77	306.34		8-Nov-04	0.38	305.95	
16-Jul-04	0.77	306.34		10-Nov-04	0.38	305.95	
19-Jul-04	0.74	306.31		12-Nov-04	0.36	305.93	
21-Jul-04	0.76	306.33		15-Nov-04	0.30	305.87	7.2
23-Jul-04	0.75	306.32	22.7	17-Nov-04	0.34	305.91	
26-Jul-04	0.69	306.26		19-Nov-04	0.34	305.91	
28-Jul-04	0.73	306.30		22-Nov-04	0.34	305.91	
30-Jul-04	0.68	306.25		24-Nov-04	0.31	305.88	
2-Aug-04	0.70	306.27		26-Nov-04	0.34	305.91	
4-Aug-04	0.72	306.29	24.5	29-Nov-04	0.30	305.87	
6-Aug-04	0.69	306.26		1-Dec-04	0.36	305.93	
9-Aug-04	0.66	306.23		3-Dec-04	0.38	305.95	
11-Aug-04	0.65	306.22		6-Dec-04	0.38	305.95	
13-Aug-04	0.62	306.19		8-Dec-04	0.39	305.96	
16-Aug-04	0.62	306.19		10-Dec-04	0.38	305.95	
18-Aug-04	0.62	306.19		13-Dec-04	0.39	305.96	
20-Aug-04	0.60	306.17		15-Dec-04	0.41	305.98	2.8
23-Aug-04	0.57	306.14		17-Dec-04	0.40	305.97	2.7
25-Aug-04	0.57	306.14	19.8	20-Dec-04	0.40	305.97	
27-Aug-04	0.56	306.13		22-Dec-04	0.40	305.97	
30-Aug-04	0.60	306.17		20-Jan-05	0.40	305.97	0
1-Sep-04	0.58	306.15		25-Feb-05	0.40	305.97	0
3-Sep-04	0.57	306.14		24-Mar-05	0.40	305.97	0
7-Sep-04	0.55	306.12		01-Apr-05	0.41	305.98	
9-Sep-04	0.56	306.13		04-Apr-05	0.43	306.00	
11-Sep-04	0.56	306.13		06-Apr-05	0.45	306.02	
13-Sep-04	0.56	306.13		08-Apr-05	0.45	306.02	
15-Sep-04	0.56	306.13		11-Apr-05	0.51	306.08	
17-Sep-04	0.57	306.14		13-Apr-05	0.61	306.18	9.2
20-Sep-04	0.52	306.09		15-Apr-05	0.66	306.23	
22-Sep-04	0.49	306.06		18-Apr-05	0.69	306.26	
24-Sep-04	0.50	306.07		18-Apr-05	0.69	306.26	
27-Sep-04	0.49	306.06		20-Apr-05	0.71	306.28	
29-Sep-04	0.50	306.07	18.9	22-Apr-05	0.76	306.33	
1-Oct-04	0.48	306.05		25-Apr-05	0.78	306.35	
4-Oct-04	0.46	306.03		27-Apr-05	0.80	306.37	
6-Oct-04	0.42	305.99		29-Apr-05	0.80	306.37	
8-Oct-04	0.41	305.98		29-Apr-05	0.74	306.31	8.8
11-Oct-04	0.40	305.97		02-May-05	0.80	306.37	
13-Oct-04	0.40	305.97		04-May-05	0.81	306.39	

Note: ·FBOG from bottom of gauge

TABLE B-4
WATER LEVEL DATA - SURFACE WATER STATIONS
MILL CREEK AGGREGATES PIT

PHASE 1 POND							
DATE	Water Level FBOG (m)	Surface Water Elevation (m ASL)	Water Temperature at Surface (°C)	DATE	Water Level FBOG (m)	Surface Water Elevation (m ASL)	Water Temperature at Surface (°C)
06-May-05	0.83	306.40		19-Dec-05	0.30	306.25	0
09-May-05	0.81	306.39		26-Jan-06	0.43	306.24	0
11-May-05	0.83	306.41		15-Feb-06	0.44	306.25	0
13-May-05	0.81	306.39		30-Mar-06	0.68	306.49	8.5
16-May-05	0.81	306.38		27-Apr-06	0.85	306.66	11.7
18-May-05	0.83	306.41		15-May-06	0.84	306.65	20.8
20-May-05	0.81	306.38		15-Jun-06	0.86	306.67	20
23-May-05	0.76	306.34		15-Jul-06	0.80	306.61	23.5
25-May-05	0.78	306.35		24-Aug-06	0.61	306.42	20.5
26-May-05	0.70	306.27	16.8	15-Sep-06	0.58	306.39	19
27-May-05	0.80	306.37		15-Oct-06	0.66	306.47	14
30-May-05	0.79	306.36		15-Nov-06	1.06	306.87	5.5
01-Jun-05	0.75	306.33		07-Dec-06	0.85	306.66	2
03-Jun-05	0.75	306.32		26-Apr-07	0.96	306.79	13
06-Jun-05	0.74	306.31		26-Jun-07	0.80	306.63	
08-Jun-05	0.74	306.31		07-Aug-07	0.48	306.31	24.9
10-Jun-05	0.75	306.32		21-Aug-07	0.35	306.18	19.6
13-Jun-05	0.73	306.30		21-Sep-07	0.20	306.03	20.3
15-Jun-05	0.74	306.31		17-Oct-07	0.19	306.02	15.4
17-Jun-05	0.73	306.30		29-Nov-07	0.18	306.01	3.6
20-Jun-05	0.70	306.28		10-Dec-07	0.20	306.03	0
22-Jun-05	0.74	306.31		28-Apr-08	0.65	306.94	8.0
24-Jun-05	0.74	306.31		28-May-08	0.70	306.99	14.7
27-Jun-05	0.69	306.27		25-Jun-08	0.70	306.99	22.2
29-Jun-05	0.69	306.26		16-Jul-08	0.70	306.99	25.2
01-Jul-05	0.66	306.23		20-Aug-08	0.78	307.07	22.6
04-Jul-05	0.70	306.28		26-Aug-08	0.73	307.02	22.6
06-Jul-05	0.61	306.18		19-Sep-08	0.76	307.05	19.8
08-Jul-05	0.59	306.16		10-Oct-08	0.70	306.99	16.5
11-Jul-05	0.55	306.12		05-Nov-08	0.59	306.88	10.9
13-Jul-05	0.54	306.11		06-Jan-09	frozen		
15-Jul-05	0.61	306.18		27-Feb-09	frozen		
18-Jul-05	0.66	306.23		11-Mar-09	frozen		
20-Jul-05	0.70	306.28		14-Apr-09	0.82	307.11	8.9
22-Jul-05	0.66	306.23		21-May-09	0.85	307.14	18.5
23-Jun-05	0.66	306.23	21.6	16-Jun-09	0.80	307.09	21.1
25-Jul-05	0.63	306.20		31-Jul-09	0.74	307.03	22.9
25-Jul-05	0.57	306.14	23.0	25-Aug-09	0.78	307.07	23.0
27-Jul-05	0.66	306.23		28-Aug-09	0.75	307.04	22.5
29-Jul-05	0.63	306.20		28-Sep-09	0.59	306.88	16.9
17-Aug-05	0.49	306.06	25.3	14-Oct-09	0.54	306.83	12.7
25-Aug-05	0.49	306.06	19.1	11-Nov-09	0.49	306.78	12.6
25-Aug-05	0.70	306.27	19.3	11-Dec-09	0.46	306.75	3.0
30-Sep-05	0.40	305.97	18.8	16-Dec-09	0.46	306.75	2.4
27-Oct-05	0.28	306.23	12.6				
28-Nov-05	0.30	306.25	4.5				
7-Dec-05	0.31	306.26	1.8				

Note: ·FBOG from bottom of gauge

TABLE B-4
WATER LEVEL DATA - SURFACE WATER STATIONS
MILL CREEK AGGREGATES PIT

PHASE 1 POND							
DATE	Water Level FBOG (m)	Surface Water Elevation (m ASL)	Water Temperature at Surface (°C)	DATE	Water Level FBOG (m)	Surface Water Elevation (m ASL)	Water Temperature at Surface (°C)
13-Jan-10	frozen			25-Apr-13	0.44	306.61	7.8
11-Feb-10	frozen			23-May-13	0.39	306.56	21.5
11-Mar-10	frozen			13-Jun-13	0.53	306.70	20.6
16-Apr-10	0.31	306.92	11.7	31-Jul-13	0.59	306.76	17.9
21-May-10	0.2	306.81	17.7	29-Aug-13	0.38	306.55	23.6
17-Jun-10	0.17	306.78	20.7	25-Sep-13	0.34	306.51	14.8
15-Jul-10	0.05	306.66	25.2	22-Oct-13	0.39	306.56	13.2
18-Aug-10	0.00	306.61	24.0	28-Nov-13	frozen		
31-Aug-10	-0.11	306.5	25.0	10-Dec-13			1.2
28-Sep-10	-0.10	306.51	16.3	15-Jan-14	frozen		
20-Oct-10	-0.27	306.34	13.6	26-Feb-14	frozen		
18-Nov-10	-0.37	306.24	9.3	26-Mar-14	frozen		
08-Dec-10	frozen			01-Apr-14			3.6
22-Dec-10	frozen			15-May-14	0.35	307.25	13.3
19-Jan-11	frozen			18-Jun-14	0.31	307.21	22.7
17-Feb-11	frozen			29-Jul-14	0.39	306.73	18.4
16-Mar-11	frozen			25-Aug-14	0.42	306.76	23.2
13-Apr-11	n/a		9.1	18-Sep-14	0.46	306.80	16.1
21-Apr-11	0.88	306.55	7.0	17-Oct-14	0.44	306.78	14.5
26-May-11	1.03	306.70	15.3	27-Nov-14	0.40	306.74	2.3
16-Jun-11	1.02	306.69	20.1	15-Dec-14	0.40	306.74	2.1
11-Aug-11	0.67	306.72	24.7	21-Jan-15	frozen		
17-Aug-11	0.50	306.55	24.3	18-Feb-15	frozen		
14-Sep-11	0.41	306.46	19.5	25-Mar-15	frozen		
27-Oct-11	0.42	306.47	11.5	06-Apr-15			2.5
14-Nov-11	0.40	306.45	8.3	20-May-15	0.49	306.74	15.3
14-Dec-11			5.5	23-Jun-15	0.56	306.81	21.4
22-Dec-11			4.5	22-Jul-15	0.47	306.72	23.4
16-Jan-12				25-Aug-15	0.49	306.74	22.8
16-Feb-12				24-Sep-15	0.30	306.55	17.1
29-Mar-12	0.38	306.79	7.5	29-Oct-15	0.34	306.59	11.6
10-Apr-12	0.20	306.61	8.4	25-Nov-15	0.28	306.53	5.2
30-Apr-12	0.25	306.66	9.3	10-Dec-15	0.20	306.45	5.7
29-May-12	0.17	306.58	17.1	20-Jan-16	frozen		
20-Jun-12	0.12	306.53	24.5	29-Feb-16	frozen		
24-Jul-12	-0.15	306.26	25.5	17-Mar-16	0.71	306.60	4.3
08-Aug-12			25.4	30-Mar-16	0.86	306.75	5.3
21-Aug-12	-0.15	306.26	21.3	27-Apr-16	0.34	306.70	8.8
18-Sep-12	-0.13	306.28	19.7	30-May-16	0.34	306.70	14.2
23-Oct-12	-0.09	306.32	11.2	27-Jun-16	0.13	306.49	23.1
28-Nov-12	-0.02	306.39	5	28-Jul-16	0.13	306.49	24.2
06-Dec-12			6	11-Aug-16	0.43	306.32	25.8
19-Dec-12			0.9	21-Sep-16	0.52	306.41	21.3
16-Jan-13	frozen			18-Oct-16	0.42	306.31	17.3
20-Feb-13	frozen			14-Nov-16	0.43	306.32	10.6
21-Mar-13	frozen			14-Dec-16	0.32	306.21	4.3
04-Apr-13			1.3				

Note: ·FBOG from bottom of gauge

TABLE B-4
WATER LEVEL DATA - SURFACE WATER STATIONS
MILL CREEK AGGREGATES PIT

PHASE 1 POND							
DATE	Water Level FBOG (m)	Surface Water Elevation (m ASL)	Water Temperature at Surface (°C)	DATE	Water Level FBOG (m)	Surface Water Elevation (m ASL)	Water Temperature at Surface (°C)
18-Jan-17	frozen						
15-Feb-17	frozen						
17-Mar-17	0.865	306.75	2.3				
11-Apr-17	0.27	306.80	8.9				
18-May-17	0.43	306.91	16.3				
14-Jun-17	0.47	306.95	23.3				
20-Jul-17	0.51	306.99	24.1				
9-Aug-17	0.31	306.79	23.3				
12-Sep-17	0.15	306.63	19.5				
12-Oct-17	0.05	306.63	17.1				
21-Nov-17	0.61	306.45	6.8				
19-Dec-17	frozen						
16-Jan-18	frozen						
26-Feb-18	frozen						
26-Mar-18	0.32	306.16	7.0				
24-Apr-18	0.87	306.68	10.4				
18-May-18	0.96	306.77	14.5				
12-Jun-18	0.84	306.65	15.8				
27-Jul-18	0.68	306.49	23.9				
22-Aug-18	0.66	306.47	23.8				
12-Sep-18	0.55	306.36	21.1				
30-Oct-18	0.28	306.09	10.0				
21-Nov-18	0.40	306.21	4.3				
20-Dec-18	0.55	306.36	0.8				

Note: ·FBOG from bottom of gauge

TABLE B-4
WATER LEVEL DATA - SURFACE WATER STATIONS
MILL CREEK AGGREGATES PIT

PHASE 2 POND

DATE	Water Level FBOG (m)	Surface Water Elevation (m ASL)	Water Temperature at Surface (°C)	DATE	Water Level FBOG (m)	Surface Water Elevation (m ASL)	Water Temperature at Surface (°C)
06-Oct-03		305.12		1-Sep-04	0.17	305.81	
03-Nov-03		304.95		3-Sep-04	0.15	305.79	
16-Dec-03		305.27		7-Sep-04	0.13	305.77	
18-Feb-04			frozen	9-Sep-04	0.11	305.75	
25-Mar-04			frozen	11-Sep-04	0.10	305.74	
1-Apr-04		306.22		13-Sep-04	0.10	305.74	
5-Apr-04		306.22		15-Sep-04	0.09	305.73	
8-Apr-04		306.22	4.4	17-Sep-04	0.09	305.73	
12-Apr-04		306.22		20-Sep-04	0.08	305.72	
15-Apr-04		306.22		22-Sep-04	0.08	305.72	
19-Apr-04		306.22		24-Sep-04	0.05	305.69	
22-Apr-04		306.22		27-Sep-04	0.02	305.66	16.9
26-Apr-04		306.22		29-Sep-04	0.01	305.65	
29-Apr-04		306.22		1-Oct-04	0.01	305.65	
3-May-04		306.27		4-Oct-04	0.31	305.95	
6-May-04		306.27		6-Oct-04	0.25	305.89	
10-May-04		306.27		8-Oct-04	0.23	305.87	
13-May-04		306.27		11-Oct-04	0.24	305.88	
17-May-04		306.27		13-Oct-04	0.24	305.88	
20-May-04		306.27		15-Oct-04	0.23	305.87	
25-May-04		306.27		18-Oct-04	0.23	305.87	11.3
27-May-04		306.27		20-Oct-04	0.22	305.86	
31-May-04		306.27		22-Oct-04	0.22	305.86	
3-Jun-04		306.25		25-Oct-04	0.21	305.85	
7-Jun-04		306.20		27-Oct-04	0.20	305.84	
10-Jun-04		306.10		29-Oct-04	0.20	305.84	
14-Jun-04	0.29	305.93		1-Nov-04	0.19	305.83	
17-Jun-04	0.27	305.91		3-Nov-04	0.18	305.82	
21-Jun-04	0.25	305.89		5-Nov-04	0.17	305.81	
24-Jun-04	0.24	305.88		8-Nov-04	0.15	305.79	
28-Jun-04	0.22	305.86		10-Nov-04	0.14	305.78	
5-Jul-04	0.20	305.84		12-Nov-04	0.14	305.78	
8-Jul-04	0.19	305.83		15-Nov-04	0.13	305.77	
12-Jul-04	0.18	305.82		17-Nov-04	0.13	305.77	6.8
15-Jul-04	0.16	305.80		19-Nov-04	0.12	305.76	
19-Jul-04	0.14	305.78		22-Nov-04	0.12	305.76	
22-Jul-04	0.13	305.77		24-Nov-04	0.10	305.74	
26-Jul-04	0.12	305.76		26-Nov-04	0.09	305.73	
29-Jul-04	0.12	305.76		29-Nov-04	0.12	305.76	
2-Aug-04	0.11	305.75		1-Dec-04	0.18	305.82	
5-Aug-04	0.10	305.74	23.3	3-Dec-04	0.20	305.84	
9-Aug-04	0.09	305.73		6-Dec-04	0.22	305.86	
12-Aug-04	0.07	305.71		8-Dec-04	0.23	305.87	
16-Aug-04	0.04	305.68		10-Dec-04	0.25	305.89	
19-Aug-04	0.02	305.66		13-Dec-04	0.25	305.89	
23-Aug-04	0.17	305.81		15-Dec-04	0.27	305.91	1.7
26-Aug-04	0.16	305.80	18.8	17-Dec-04	0.26	305.90	0.8
30-Aug-04	0.16	305.80		20-Dec-04	0.26	305.90	
				22-Dec-04	0.26	305.90	

Notes:
- ·FBOG — from bottom of gauge
- ·m ASL — metres above sea level
- ·(F) — Frozen

TABLE B-4
WATER LEVEL DATA - SURFACE WATER STATIONS
MILL CREEK AGGREGATES PIT

PHASE 2 POND

DATE	Water Level FBOG (m)	Surface Water Elevation (m ASL)	Water Temperature at Surface (°C)	DATE	Water Level FBOG (m)	Surface Water Elevation (m ASL)	Water Temperature at Surface (°C)
20-Jan-05	0.26	305.90	0.0	20-Jul-05	0.34	305.98	
25-Feb-05	0.26	305.90	0.0	22-Jul-05	0.32	305.96	
24-Mar-05	0.26	305.90	0.0	25-Jul-05	0.30	305.94	
06-Apr-05	0.02	305.66		25-Jul-05	0.22	305.86	24.5
08-Apr-05	0.12	305.76		27-Jul-05	0.32	305.96	
11-Apr-05	0.32	305.96		29-Jul-05	0.31	305.95	
13-Apr-05	0.38	306.02		17-Aug-05	0.09	305.73	24.4
15-Apr-05	0.42	306.06		25-Aug-05	0.06	305.70	19.5
18-Apr-05	0.44	306.08		30-Sep-05	0.22	305.56	18.8
18-Apr-05	0.44	306.08	16.3	27-Oct-05	0.21	305.67	13.2
20-Apr-05	0.48	306.12		28-Nov-05	0.23	305.69	3.3
22-Apr-05	0.53	306.17		7-Dec-05	0.28	305.74	1.7
25-Apr-05	0.58	306.22		19-Dec-05	0.23	305.69	0
27-Apr-05	0.58	306.22		26-Jan-06	0.14	305.70	0
29-Apr-05	0.63	306.27		15-Feb-06	0.13	305.69	0
29-Apr-05	0.55	306.19	9.0	30-Mar-06	0.13	305.69	9
02-May-05	0.70	306.34		27-Apr-06	0.74	306.30	15.2
04-May-05	0.63	306.27		15-May-06	0.84	306.4	18
06-May-05	0.60	306.24		15-Jun-06	0.76	306.32	25
09-May-05	0.62	306.26		15-Jul-06	0.74	306.30	22
11-May-05	0.61	306.25		24-Aug-06	0.63	306.19	23
13-May-05	0.58	306.22		15-Sep-06	0.33	305.89	18
16-May-05	0.58	306.22		15-Oct-06	0.38	305.94	12
18-May-05	0.56	306.20		15-Nov-06	0.95	306.51	4
20-May-05	0.53	306.17		7-Dec-06	0.76	306.32	2
24-May-05	0.52	306.16		26-Jun-07	0.42	305.87	
25-May-05	0.48	306.12		21-Aug-07	0.5	305.95	19.7
26-May-05	0.40	306.04	17.0	21-Sep-07	-0.03	305.42	20.1
27-May-05	0.50	306.14		17-Oct-07	-0.09	305.36	15.9
30-May-05	0.51	306.15		29-Nov-07	-0.14	305.31	3.6
01-Jun-05	0.51	306.15		28-Apr-08	0.74	306.45	12.8
03-Jun-05	0.46	306.10		28-May-08	0.78	306.49	14.9
06-Jun-05	0.44	306.08		25-Jun-08	0.78	306.49	22
08-Jun-05	0.38	306.02		16-Jul-08	0.76	306.47	24.4
10-Jun-05	0.36	306.00		20-Aug-08	0.79	306.50	19.5
13-Jun-05	0.44	306.08		26-Aug-08	0.81	306.52	24.4
15-Jun-05	0.44	306.08		19-Sep-08	0.80	306.51	19
17-Jun-05	0.45	306.09		10-Oct-08	0.78	306.49	15.7
20-Jun-05	0.46	306.10		5-Nov-08	0.70	306.41	10.1
22-Jun-05	0.45	306.09		6-Jan-09	frozen		
23-Jun-05	0.33	305.97	24.7	27-Feb-09	frozen		
24-Jun-05	0.38	306.02		11-Mar-09	frozen		
27-Jun-05	0.38	306.02		14-Apr-09	0.95	306.81	6.5
29-Jun-05	0.32	305.96		21-May-09	0.92	306.78	17.7
01-Jul-05	0.31	305.95		16-Jun-09	0.82	306.68	20.9
04-Jul-05	0.30	305.94		31-Jul-09	0.73	306.59	22.9
06-Jul-05	0.32	305.96		25-Aug-09	0.71	306.57	23.1
08-Jul-05	0.27	305.91		28-Aug-09	0.68	306.54	20.7
11-Jul-05	0.28	305.92		28-Sep-09	0.52	306.37	16.1
13-Jul-05	0.27	305.91		14-Oct-09	0.49	306.35	12.7
15-Jul-05	0.24	305.88		11-Nov-09	0.45	306.31	9.6
18-Jul-05	0.34	305.98		11-Dec-09	0.41	306.27	4.8
				16-Dec-09	0.42	306.28	2.8

Notes:
- ·FBOG — from bottom of gauge
- ·m ASL — metres above sea level
- ·(F) — Frozen

TABLE B-4
WATER LEVEL DATA - SURFACE WATER STATIONS
MILL CREEK AGGREGATES PIT

PHASE 2 POND

DATE	Water Level FBOG (m)	Surface Water Elevation (m ASL)	Water Temperature at Surface (°C)	DATE	Water Level FBOG (m)	Surface Water Elevation (m ASL)	Water Temperature at Surface (°C)
13-Jan-10	frozen			22-Oct-13	0.24	306.18	13.7
11-Feb-10	frozen			28-Nov-13	frozen		
11-Mar-10	frozen			15-Jan-14	frozen		
16-Apr-10	0.44	306.50	13.6	26-Feb-14	frozen		
21-May-10	0.36	306.42	18.2	26-Mar-14	frozen		
17-Jun-10	0.36	306.42	20.4	01-Apr-14	frozen		
15-Jul-10	0.25	306.31	26.0	15-May-14	0.40	306.55	13.8
18-Aug-10	0.16	306.22	24.0	18-Jun-14	0.37	306.52	22.0
31-Aug-10	0.12	306.18	25.6	29-Jul-14	0.30	306.45	16.3
28-Sep-10	0.02	306.08	16.6	25-Aug-14	0.28	306.43	23.4
20-Oct-10	0	306.06	12.5	18-Sep-14	0.28	306.43	17.2
18-Nov-10	-0.05	306.01	8.8	17-Oct-14	0.24	306.39	14.7
08-Dec-10	frozen			27-Nov-14	0.14	306.29	0.7
22-Dec-10	frozen			15-Dec-14	0.12	306.27	3.2
19-Jan-11	frozen			21-Jan-15	frozen		
17-Feb-11	frozen			18-Feb-15	frozen		
16-Mar-11	frozen			25-Mar-15	frozen		
13-Apr-11	0.82	306.26	9.4	06-Apr-15	0.06	306.21	1.6
21-Apr-11	0.86	306.30	5.4	20-May-15	0.15	306.27	14.6
26-May-11			15.4	23-Jun-15	0.19	306.31	19.6
16-Jun-11			19.4	22-Jul-15	0.16	306.28	21.6
11-Aug-11	0.57	306.44	24.9	25-Aug-15	0.12	306.24	23.0
17-Aug-11	0.52	306.39	24.2	24-Sep-15	0.02	306.14	16.4
14-Sep-11	0.35	306.22	19.4	29-Oct-15	0.01	306.13	11.3
27-Oct-11	0.30	306.17	11.6	25-Nov-15	0.01	306.13	4.8
14-Nov-11	0.18	306.05	8.0	10-Dec-15	-0.06	306.06	6.6
14-Dec-11			3.6	20-Jan-16	frozen		
22-Dec-11			3.8	29-Feb-16	frozen		
16-Jan-12	frozen			17-Mar-16			4.2
16-Feb-12	frozen			30-Mar-16	0.19	306.10	5.7
29-Mar-12	0.68	306.45	6.9	27-Apr-16	0.36	306.30	8.5
10-Apr-12	0.65	306.42	7.4	30-May-16	0.40	306.34	15.6
30-Apr-12	0.58	306.35	9.5	27-Jun-16	0.32	306.26	22.4
29-May-12	0.53	306.30	17.3	28-Jul-16	0.27	306.08	24.9
20-Jun-12	0.42	306.19	24.7	11-Aug-16	0.19	306.00	26.5
24-Jul-12	0.26	306.03	25.4	21-Sep-16	0.13	305.94	20.2
08-Aug-12	0.18	305.95	24.9	18-Oct-16	0.20	305.81	18.1
21-Aug-12	0.15	305.92	20.1	14-Nov-16	0.13	305.74	10.1
18-Sep-12	0.04	305.81	19.8	14-Dec-16			3.1
23-Oct-12	-0.03	305.74	12.4	18-Jan-17	frozen		
28-Nov-12	0.03	305.80	4.8	15-Feb-17	frozen		
06-Dec-12			4.5	17-Mar-17			1.9
19-Dec-12			1.0	11-Apr-17	0.56	306.16	9.1
16-Jan-13	frozen			18-May-17	0.76	306.36	15.8
20-Feb-13	frozen			14-Jun-17	0.79	306.39	23.2
21-Mar-13	frozen			20-Jul-17	0.76	306.36	23.6
04-Apr-13	frozen			09-Aug-17	0.71	306.31	22.9
25-Apr-13	0.27	306.23	8.6	12-Sep-17	0.55	306.15	23.7
23-May-13	0.33	306.29	17.3	12-Oct-17	0.39	305.99	17.1
13-Jun-13	0.34	306.30	19.4	21-Nov-17	0.29	305.88	6.8
31-Jul-13	0.38	306.34	16.4	19-Dec-17			1.6
29-Aug-13	0.31	306.25	23.3				
25-Sep-13	0.22	306.16	15.4				

Notes:
- ·FBOG — from bottom of gauge
- ·m ASL — metres above sea level
- ·(F) — Frozen

TABLE B-4
WATER LEVEL DATA - SURFACE WATER STATIONS
MILL CREEK AGGREGATES PIT

PHASE 2 POND							
DATE	Water Level FBOG (m)	Surface Water Elevation (m ASL)	Water Temperature at Surface (^{o}C)	DATE	Water Level FBOG (m)	Surface Water Elevation (m ASL)	Water Temperature at Surface (^{o}C)
16-Jan-18	frozen						
26-Feb-18	frozen						
26-Mar-18	frozen						
24-Apr-18	0.85	306.14	8.4				
18-May-18	0.89	306.18	15.3				
12-Jun-18	0.87	306.16	22.2				
27-Jul-18	0.75	306.04	24.3				
22-Aug-18	0.71	306.00	24.2				
12-Sep-18	0.65	305.94	21.0				
30-Oct-18	0.48	305.77	9.4				
21-Nov-18	0.53	305.82	4.3				
20-Dec-18	0.50	305.79	1.4				

Notes:
- ·FBOG from bottom of gauge
- ·m ASL metres above sea level
- ·(F) Frozen

TABLE B-4
WATER LEVEL DATA - SURFACE WATER STATIONS
MILL CREEK AGGREGATES PIT

PHASE 3 POND

DATE	Water Level FBOG (m)	Surface Water Elevation (m ASL)	Water Temperature at Surface (°C)	DATE	Water Level FBOG (m)	Surface Water Elevation (m ASL)	Water Temperature at Surface (°C)
28-Apr-08	0.66	304.73	11.0	20-Jun-12	0.40	304.76	27.5
28-May-08	0.59	304.66	18.7	24-Jul-12	0.59	304.95	26.1
25-Jun-08	0.50	304.57	23.2	08-Aug-12	0.57	304.93	27.8
16-Jul-08	0.53	304.60	25.4	21-Aug-12	0.62	304.98	21.0
20-Aug-08	0.60	304.67	23.5	18-Sep-12	0.61	304.97	19.9
26-Aug-08	0.54	304.61	23.9	23-Oct-12	0.61	304.97	11.7
19-Sep-08	0.63	304.70	19.6	28-Nov-12	0.61	304.97	3.3
10-Oct-08	0.66	304.73	13.8	06-Dec-12			2.3
05-Nov-08	0.59	304.66	10.3	19-Dec-12			1.0
14-Apr-09	0.83	305.03	6.0	16-Jan-13	frozen		
21-May-09	0.61	304.81	18.3	20-Feb-13	frozen		
16-Jun-09	0.67	304.87	20.4	21-Mar-13	frozen		
31-Jul-09	0.58	304.78	23.8	04-Apr-13	0.58	305.52	2.4
25-Aug-09	0.63	304.83	24.6	25-Apr-13	0.64	305.53	8.0
28-Aug-09	0.63	304.83	22.0	23-May-13	0.59	305.48	19.8
28-Sep-09	0.53	304.73	17.3	13-Jun-13	0.57	305.41	21.2
14-Oct-09	0.55	304.75	9.9	31-Jul-13	0.47	305.31	18.6
11-Nov-09	0.57	304.77	10.2	29-Aug-13	0.37	305.21	24.2
11-Dec-09	0.59	304.79	3.2	25-Sep-13	0.40	305.24	14.6
13-Jan-10	frozen			22-Oct-13	0.33	305.17	12.8
11-Feb-10	frozen			28-Nov-13	frozen		
11-Mar-10	frozen			15-Jan-14	frozen		
16-Apr-10	0.74	305.01	13.4	26-Feb-14	frozen		
21-May-10	0.62	304.89	17.1	26-Mar-14	frozen		
17-Jun-10	0.75	305.02	21.8	01-Apr-14	frozen		
15-Jul-10	0.71	304.98	25.9	15-May-14	0.29	305.51	12.6
18-Aug-10	0.53	304.80	24.4	18-Jun-14	0.20	305.42	
31-Aug-10	0.63	304.90	26.6	29-Jul-14	0.42	305.34	17.6
28-Sep-10	0.62	304.89	15.7	25-Aug-14	0.44	305.36	22.2
20-Oct-10	0.62	304.89	12.7	18-Sep-14	0.60	305.52	16.9
18-Nov-10	0.68	304.95	7.2	17-Oct-14	0.57	305.49	13.6
08-Dec-10	frozen			27-Nov-14	0.50	305.42	2.2
22-Dec-10	frozen			15-Dec-14	frozen		
19-Jan-11	frozen			21-Jan-15	frozen		
17-Feb-11	frozen			18-Feb-15	frozen		
16-Mar-11	frozen			25-Mar-15	frozen		
13-Apr-11	0.581	305.09	10.2	06-Apr-15			2.0
21-Apr-11	0.64	305.15	6.6	20-May-15	0.27	305.61	16.6
26-May-11	0.51	305.02	16.3	23-Jun-15	0.27	305.61	22.1
16-Jun-11	0.53	305.04	21.2	22-Jul-15	0.25	305.59	24.4
11-Aug-11	0.28	304.79	NA	25-Aug-15	0.10	305.44	22.0
17-Aug-11	0.35	304.86	25.1	24-Sep-15	0.34	305.43	16.5
14-Sep-11	0.28	304.79	18.4	29-Oct-15	0.21	305.30	10.2
27-Oct-11	0.44	304.95	9.8	25-Nov-15	0.13	305.22	4.4
14-Nov-11	0.47	304.98	6.4	10-Dec-15	0.09	305.18	5.6
14-Dec-11			5.1	20-Jan-16	frozen		
22-Dec-11			3.0	29-Feb-16	frozen		
16-Jan-12	frozen			17-Mar-16			3.6
16-Feb-12	frozen			30-Mar-16	0.37	305.51	8.4
29-Mar-12	0.52	304.88	7.6	27-Apr-16	0.65	305.79	9.8
10-Apr-12	0.49	304.85	8.5	30-May-16	0.59	305.73	17.3
30-Apr-12	0.36	304.72	11.1	27-Jun-16	0.58	305.72	23.6
29-May-12	0.40	304.76	21.6	28-Jul-16	0.41	305.55	24.7

Notes:
- ·FBOG — from bottom of gauge
- ·m ASL — metres above sea level
- ·(F) — Frozen
- · NA — Not available

TABLE B-4
WATER LEVEL DATA - SURFACE WATER STATIONS
MILL CREEK AGGREGATES PIT

PHASE 3 POND							
DATE	Water Level FBOG (m)	Surface Water Elevation (m ASL)	Water Temperature at Surface (°C)	DATE	Water Level FBOG (m)	Surface Water Elevation (m ASL)	Water Temperature at Surface (°C)
11-Aug-16	0.45	305.59	27.9	26-Mar-18	0.40	304.98	7.6
21-Sep-16	0.49	305.63	21.6	24-Apr-18	0.80	305.04	8.6
18-Oct-16	0.28	305.42	16.4	18-May-18	0.80	305.04	18.6
14-Nov-16	0.17	305.31	10.3	12-Jun-18	0.71	304.95	20.2
14-Dec-16			3.1	27-Jul-18	0.54	304.78	25.2
18-Jan-17	frozen			22-Aug-18	0.49	304.73	23.6
15-Feb-17	frozen			12-Sep-18	0.43	304.67	20.2
17-Mar-17			1.5	30-Oct-18	0.38	304.62	10.1
11-Apr-17	0.51	305.28	10.5	21-Nov-18	0.46	304.70	2.7
18-May-17	0.49	305.26	18.4	20-Dec-18	frozen		
14-Jun-17	0.39	305.16	22.5				
20-Jul-17	0.30	305.07	25.3				
09-Aug-17	0.23	305.00	22.4				
12-Sep-17	0.33	304.91	20.2				
12-Oct-17	0.23	304.81	16.6				
21-Nov-17	0.29	304.87	5.6				
19-Dec-17	frozen						
16-Jan-18	frozen						
26-Feb-18	frozen						

Notes:
- ·FBOG — from bottom of gauge
- ·m ASL — metres above sea level
- ·(F) — Frozen
- · NA — Not available

TABLE B-4
WATER LEVEL DATA - SURFACE WATER STATIONS
MILL CREEK AGGREGATES PIT

PHASE 4 POND							
DATE	Water Level FBOG (m)	Surface Water Elevation (m ASL)	Water Temperature at Surface (^{o}C)	DATE	Water Level FBOG (m)	Surface Water Elevation (m ASL)	Water Temperature at Surface (^{o}C)
25-Sep-13	0.49	305.25	13.7	20-Jan-16	frozen		
22-Oct-13	0.50	305.26	12.8	29-Feb-16	frozen		
28-Nov-13	frozen			17-Mar-16	0.48	305.76	3.1
15-Jan-14	frozen			30-Mar-16	0.47	305.75	7.9
26-Feb-14	frozen			27-Apr-16	0.49	305.81	7.4
26-Mar-14	frozen			30-May-16	0.5	305.82	16.3
01-Apr-14	frozen			27-Jun-16	0.51	305.83	21.9
15-May-14	0.23	305.53	11.3	28-Jul-16	0.49	305.81	24.1
18-Jun-14	0.15	305.45	22.3	11-Aug-16	0.46	305.78	28.8
29-Jul-14	0.67	305.50	18.6	21-Sep-16	0.5	305.82	20.7
25-Aug-14	0.67	305.50	22.2	18-Oct-16	0.49	305.81	16.5
18-Sep-14	0.69	305.52	15.8	14-Nov-16	0.48	305.80	10.1
17-Oct-14	0.65	305.48	13.4	14-Dec-16	0.56	305.88	4.3
27-Nov-14	0.53	305.36	2.2	18-Jan-17	frozen		
15-Dec-14	frozen			15-Feb-17	frozen		
21-Jan-15	frozen			17-Mar-17	0.42	305.74	2.1
18-Feb-15	frozen			11-Apr-17	0.59	305.85	11.2
25-Mar-15	frozen			18-May-17	0.69	305.95	18.0
06-Apr-15			7.1	14-Jun-17	0.62	305.88	23.2
20-May-15	0.26	305.69	14.2	20-Jul-17	0.59	305.85	24.5
23-Jun-15	0.32	305.75	21.2	09-Aug-17	0.79	306.05	20.9
22-Jul-15	0.19	305.62	22.4	12-Sep-17	0.88	306.14	19.3
25-Aug-15	0.25	305.68	22.3	12-Oct-17	0.80	306.06	14.4
24-Sep-15	0.20	305.43	15.9	21-Nov-17	0.86	306.12	4.7
29-Oct-15	0.11	305.59	11.1	19-Dec-17	frozen		
25-Nov-15	0.23	305.71	4.7	16-Jan-18	frozen		
10-Dec-15	0.40	305.88	5.9	26-Feb-18	frozen		

Note:
- ·FBOG — from bottom of gauge
- ·m ASL — metres above sea level
- ·(F) — Frozen
- · NA — Not available

TABLE B-4
WATER LEVEL DATA - SURFACE WATER STATIONS
MILL CREEK AGGREGATES PIT

PHASE 4 POND							
DATE	Water Level FBOG (m)	Surface Water Elevation (m ASL)	Water Temperature at Surface (^{o}C)	DATE	Water Level FBOG (m)	Surface Water Elevation (m ASL)	Water Temperature at Surface (^{o}C)
26-Mar-18	0.84	306.09	6.8				
24-Apr-18	0.90	306.37	8.7				
18-May-18	0.82	306.29	16.6				
12-Jun-18	0.84	306.31	22.6				
27-Jul-18	0.75	306.22	24.4				
22-Aug-18	0.68	306.15	23.2				
12-Sep-18	0.56	306.03	19.9				
30-Oct-18	0.61	306.08	10.2				
21-Nov-18	0.59	306.06	3.6				
20-Dec-18	frozen		1.3				

Note:
- ·FBOG — from bottom of gauge
- ·m ASL — metres above sea level
- ·(F) — Frozen
- · NA — Not available

TABLE B-5
SUMMARY OF CREEK BASED DRIVE POINT DATA
MILL CREEK AGGREGATES PIT

MONITOR LOCATION	DATE	G.W. LEVEL BTOP (m)	S.W. LEVEL BTOP (m)	GROUND-WATER ELEVATION (m ASL)	SURFACE WATER ELEVATION (m ASL)	HYDRAULIC HEAD IN GROUND-WATER (m)	VERTICAL HYDRAULIC GRADIENT	CALCULATED GROUNDWATER FLUX TO CREEK (L/s/m2)	TEMPERATURE	
									GROUND-WATER (°C)	SURFACE WATER (°C)
DP1	27-Sep-88	0.76	1.11	304.10	303.75	0.35	0.25	9.64E-03		11.0
	03-Dec-88	0.69	1.07	304.17	303.80	0.38	0.27	1.03E-02	8.0	2.0
	14-Dec-88	0.72	1.10	304.14	303.76	0.38	0.27	1.05E-02		
	20-Jan-89	0.75	1.19	304.11	303.67	0.44	0.32	1.21E-02		
	22-Feb-89	0.82	1.12	304.04	303.74	0.30	0.22	8.26E-03	6.3	2.5
	01-Apr-89	0.59	0.98	304.27	303.89	0.39	0.28	1.06E-02	6.5	2.1
	17-Apr-89	0.66	1.02	304.20	303.84	0.36	0.26	9.91E-03		
	24-May-89	0.77	1.10	304.09	303.76	0.33	0.24	9.09E-03	11.0	11.0
	05-Jun-89	0.69	1.04	304.17	303.82	0.35	0.25	9.64E-03	9.5	15.0
	12-Jul-89	0.89	1.16	303.97	303.70	0.27	0.19	7.43E-03	9.0	17.0
	27-Jul-89	0.96	NA	303.90						
	15-Aug-89	0.99	1.16	303.87	303.70	0.17	0.12	4.68E-03	10.0	13.0
	30-Aug-89	1.01	1.15	303.85	303.71	0.14	0.10	3.85E-03	7.0	13.0
	17-Oct-89	0.94	1.13	303.92	303.73	0.19	0.14	5.23E-03	6.0	5.0
	30-Nov-89	0.72	1.08	304.14	303.78	0.36	0.26	9.91E-03	6.0	
	13-Dec-89	0.84	1.13	304.02	303.73	0.29	0.21	7.98E-03	5.0	
	17-Jan-90	0.84	1.12	304.02	303.74	0.28	0.20	7.71E-03	6.5	3.0
	06-Mar-90	0.72	1.07	304.14	303.79	0.35	0.25	9.64E-03	6.0	
	02-Apr-90	0.68	1.00	304.18	303.86	0.32	0.23	8.81E-03	7.0	4.5
	25-Jun-90	0.85	1.11	304.01	303.75	0.26	0.19	7.16E-03	10.0	16.0
	26-Jul-90	0.86	1.14	304.00	303.72	0.28	0.20	7.71E-03	10.5	18.0
	22-Aug-90	0.91	1.12	303.95	303.74	0.21	0.15	5.78E-03	11.0	17.0
	26-Sep-90	0.91	1.12	303.95	303.74	0.21	0.15	5.78E-03	10.0	13.0
	24-Oct-90	0.71	1.07	304.15	303.79	0.36	0.26	9.91E-03	9.5	8.0
	25-Nov-90	0.69	1.07	304.17	303.79	0.38	0.27	1.05E-02	7.0	4.5
	14-Dec-90	0.64	1.02	304.22	303.84	0.38	0.27	1.05E-02	7.0	1.0
	23-Jan-91	0.71	1.05	304.15	303.81	0.34	0.24	9.36E-03	6.5	0.5
	20-Feb-91	0.63	0.98	304.23	303.88	0.35	0.25	9.64E-03	7.2	2.0
	28-Mar-91	0.25	0.49	304.61	304.37	0.24	0.17	6.61E-03	7.6	6.0
	26-Apr-91	0.60	0.94	304.26	303.92	0.34	0.24	9.36E-03	8.5	9.8
	24-May-91	0.78	1.09	304.08	303.77	0.31	0.22	8.54E-03	10.5	16.0
	20-Jun-91	0.79	1.08	304.07	303.78	0.29	0.21	7.98E-03	11.0	20.0
	30-Jul-91	0.71	0.80	304.15	304.06	0.09	0.06	2.48E-03	11.5	17.0
	22-Aug-91	0.85	1.10	304.01	303.76	0.25	0.18	6.88E-03	11.0	16.0
	25-Sep-91	0.91	1.12	303.95	303.74	0.21	0.15	5.78E-03	11.0	11.0
	29-Oct-91	0.80	1.09	304.06	303.77	0.29	0.21	7.98E-03	9.5	7.5
	26-Nov-91	0.77	1.08	304.09	303.78	0.31	0.22	8.54E-03	8.2	2.9
	16-Dec-91	0.67	1.05	304.19	303.81	0.38	0.27	1.05E-02	7.0	0.5
	13-Mar-92	0.65	1.04	304.21	303.83	0.39	0.28	1.06E-02	7.0	2.5
	15-Apr-92	0.66	1.04	304.20	303.82	0.38	0.27	1.05E-02	7.5	4.4
	21-May-92	0.76	1.09	304.10	303.77	0.33	0.24	9.09E-03	9.3	20.4
	29-Jun-92	0.89	1.10	303.97	303.76	0.21	0.15	5.78E-03	9.7	13.8
	20-Jul-92	0.57	0.89	304.29	303.97	0.32	0.23	8.81E-03	10.2	17.5
	27-Aug-92	0.75	1.00	304.11	303.86	0.25	0.18	6.88E-03	10.5	18.0
	14-Sep-92	0.70	1.03	304.16	303.83	0.33	0.24	9.09E-03	10.5	14.0
	28-Oct-92	0.65	1.02	304.21	303.84	0.37	0.27	1.02E-02	10.0	9.0
	26-Nov-92	0.65	0.80	304.21	304.06	0.15	0.11	4.13E-03	6.0	4.0
	15-Dec-92	0.67	0.98	304.19	303.88	0.31	0.22	8.54E-03	7.1	1.7
	19-Jan-93	(F) 0.57	1.00	(F) 304.29	303.86					
	26-Mar-93	0.68	1.00	304.18	303.86	0.32	0.23	8.81E-03	2.0	1.0
	19-Apr-93	0.63	0.95	304.23	303.91	0.32	0.23	8.81E-03	7.5	8.0
	27-May-93	0.75	1.06	304.11	303.80	0.31	0.22	8.54E-03		11.0
	22-Jun-93	0.72	0.98	304.14	303.88	0.26	0.19	7.16E-03	10.5	20.2
	14-Jul-93	0.83	1.07	304.03	303.79	0.24	0.17	6.61E-03	10.2	18.2
	18-Aug-93	0.87	1.10	303.99	303.76	0.23	0.17	6.33E-03	10.0	16.3
	20-Sep-93	0.84	1.11	304.02	303.75	0.27	0.19	7.43E-03	10.1	10.4
	19-Oct-93	0.63	0.97	304.23	303.89	0.34	0.24	9.36E-03	8.8	8.0
	17-Nov-93	0.72	1.05	304.14	303.81	0.33	0.24	9.09E-03	7.5	5.3
	06-Dec-93	0.75	1.00	304.11	303.86	0.25	0.18	6.88E-03	7.0	3.8
	18-Jan-94	0.82	1.05	304.04	303.81	0.23	0.17	6.33E-03	4.1	0.2
	24-Feb-94	0.66	1.02	304.20	303.84	0.36	0.26	9.91E-03	7.0	1.0
	24-Mar-94	0.48	0.79	304.38	304.07	0.31	0.22	8.54E-03	7.2	4.5
	19-Apr-94	0.64	0.99	304.22	303.87	0.35	0.25	9.64E-03	6.0	6.0
	24-May-94	0.72	1.05	304.14	303.81	0.33	0.24	9.09E-03	8.0	14.0
	23-Jun-94	0.89	1.12	303.97	303.74	0.23	0.17	6.33E-03	9.0	15.0
	19-Jul-94	0.91	1.12	303.95	303.74	0.21	0.15	5.78E-03	9.0	15.0
	25-Aug-94	0.87	1.13	303.99	303.73	0.26	0.19	7.16E-03	12.0	16.0
	21-Sep-94	0.95	1.12	303.91	303.74	0.17	0.12	4.68E-03	8.0	13.0
	18-Oct-94	0.90	1.09	303.96	303.77	0.19	0.14	5.23E-03	7.0	8.0
	23-Nov-94	(F) 0.70	1.24	(F) 304.16	303.62					4.0
	21-Dec-94	0.70	1.06	304.16	303.80	0.36	0.26	9.91E-03	8.0	4.0
	24-Jan-95	0.58	0.86	304.28	304.00	0.28	0.20	7.71E-03	7.0	4.0
	15-Feb-95	0.65	1.08	304.21	303.78	0.43	0.31	1.18E-02	8.0	2.0
	23-Mar-95	0.62	0.97	304.24	303.89	0.35	0.25	9.64E-03	4.0	
	17-May-95	0.70	1.02	304.16	303.84	0.32	0.23	8.81E-03	9.0	13.0
	13-Jun-95	0.80	1.09	304.06	303.77	0.29	0.21	7.98E-03	10.0	14.0
	20-Jul-95	0.94	1.13	303.92	303.73	0.19	0.14	5.23E-03	12.0	17.0
	15-Aug-95	0.83	1.00	304.03	303.86	0.17	0.12	4.68E-03	12.0	18.0
	18-Oct-95	0.85	1.11	304.01	303.75	0.26	0.19	7.16E-03	9.5	8.0
	22-Nov-95	0.65	1.02	304.21	303.84	0.37	0.27	1.02E-02		1.0

NOTES:
· m ASL — metres above sea level
· (F) — Frozen
· L/s/m² — Litres per second per square metre
· Depth of screen midpoint below the creek bed is 1.39 m
· Assumed vertical permeability is 3.80E-05 m/s

TABLE B-5
SUMMARY OF CREEK BASED DRIVE POINT DATA
MILL CREEK AGGREGATES PIT

MONITOR LOCATION	DATE	G.W. LEVEL BTOP (m)	S.W. LEVEL BTOP (m)	GROUND-WATER ELEVATION (m ASL)	SURFACE WATER ELEVATION (m ASL)	HYDRAULIC HEAD IN GROUND-WATER (m)	VERTICAL HYDRAULIC GRADIENT	CALCULATED GROUNDWATER FLUX TO CREEK (L/s/m2)	TEMPERATURE	
									GROUND-WATER (°C)	SURFACE WATER (°C)
DP1	26-Mar-96	0.54	0.89	(F) 304.32	303.97					1.0
(cont'd)	31-May-96	0.72	1.12	304.14	303.74	0.40	0.29	1.10E-02	11.0	17.0
	28-Jun-96	0.70	1.02	304.16	303.84	0.32	0.23	8.81E-03	12.0	19.0
	31-Jul-96	0.73	0.98	304.13	303.88	0.25	0.18	6.88E-03	11.0	18.0
	30-Aug-96	0.85	1.07	304.01	303.79	0.22	0.16	6.06E-03	11.0	16.0
	27-Sep-96	0.64	0.98	304.22	303.88	0.34	0.24	9.36E-03	11.0	13.0
	06-Nov-96	0.63	1.00	304.23	303.86	0.37	0.27	1.02E-02	8.0	6.0
	31-Mar-97	0.25	0.58	(F) 304.61	304.28					2.0
	30-Apr-97	0.68	0.97	304.18	303.89	0.29	0.21	7.98E-03	7.0	12.5
	26-May-97	0.69	1.00	304.17	303.86	0.31	0.22	8.54E-03	8.0	13.0
	27-Jun-97	0.71	1.04	304.15	303.82	0.33	0.24	9.09E-03	9.0	17.0
	30-Jul-97	0.88	1.07	303.98	303.79	0.19	0.14	5.23E-03	11.5	19.0
	31-Aug-97	0.78	1.07	304.08	303.79	0.29	0.21	7.98E-03	10.5	14.5
	03-Oct-97	0.78	1.06	304.08	303.80	0.28	0.20	7.71E-03	10.3	12.0
	06-Nov-97	0.80	0.97	304.06	303.89	0.17	0.12	4.68E-03	8.5	6.0
	12-Dec-97	0.62	1.06	(F) 304.24	303.80					2.0
	27-Mar-98	0.81	0.91	304.05	303.95	0.10	0.07	2.75E-03	4.5	2.5
	30-Apr-98	0.73	1.06	304.13	303.80	0.33	0.24	9.09E-03	5.5	12.5
	31-May-98	0.86	1.10	304.00	303.76	0.24	0.17	6.61E-03	8.5	14.0
	30-Jun-98	0.79	1.08	304.07	303.78	0.29	0.21	7.98E-03	11.0	17.0
	31-Jul-98	0.92	1.11	303.94	303.75	0.19	0.14	5.23E-03	12.0	19.0
	30-Sep-98	0.94	1.08	303.92	303.78	0.14	0.10	3.85E-03	11.0	12.0
	27-Nov-98	0.89	1.11	303.97	303.75	0.22	0.16	6.06E-03	6.5	5.0
	31-Mar-99	0.98	1.24	303.88	303.62	0.26	0.19	7.16E-03	7.0	11.0
	20-May-99	0.76	1.11	304.10	303.75	0.35	0.25	9.64E-03	10.2	17.5
	29-Jun-99	0.77	1.10	304.09	303.76	0.33	0.24	9.09E-03	13.0	20.0
	16-Jul-99	0.88	1.16	303.98	303.70	0.28	0.20	7.71E-03		21.5
	11-Aug-99	0.83	1.13	304.03	303.73	0.30	0.22	8.26E-03	11.5	18.4
	09-Sep-99	0.76	1.08	304.10	303.78	0.32	0.23	8.81E-03	11.7	19.5
	09-Nov-99	0.67	1.08	304.19	303.78	0.41	0.29	1.13E-02	9.6	9.3
	01-Mar-00	0.69	1.02	304.17	303.84	0.33	0.24	9.09E-03	5.0	3.0
	18-May-00	0.51	0.81	304.35	304.05	0.30	0.22	8.26E-03	8.5	12.0
	15-Jun-00	0.49	0.74	304.37	304.12	0.25	0.18	6.88E-03	10.0	18.0
	06-Jul-00	0.71	1.09	304.15	303.77	0.38	0.27	1.05E-02	10.7	17.9
	08-Aug-00	0.67	1.09	304.19	303.77	0.42	0.30	1.16E-02	11.6	20.1
	13-Sep-00	0.72	1.10	304.14	303.76	0.38	0.27	1.05E-02	10.8	14.5
	10-Oct-00	0.70	1.10	304.16	303.76	0.40	0.29	1.10E-02	10.1	9.8
	08-Nov-00	0.70	1.12	304.16	303.74	0.42	0.30	1.16E-02	9.8	9.7
	14-Nov-00	0.62	1.06	304.24	303.80	0.44	0.32	1.21E-02		
	11-Dec-00	0.67	1.11	(F) 304.19	(F) 303.75					
	11-Jan-01	0.61	1.10	(F) 304.25	303.76					2.0
	09-Feb-01	0.67	1.08	304.19	303.78	0.41	0.29	1.13E-02	3.8	1.7
	13-Mar-01	0.70	1.06	304.16	303.80	0.36	0.26	9.91E-03	3.6	1.9
	10-Apr-01	0.57	0.86	304.29	304.00	0.29	0.21	7.98E-03	7.3	6.2
	04-May-01	0.85	1.11	304.01	303.75	0.26	0.19	7.16E-03	13.1	16.4
	07-Jun-01	0.71	1.09	304.15	303.77	0.38	0.27	1.05E-02	4.0	9.0
	12-Jul-01	0.89	1.13	303.97	303.73	0.24	0.17	6.61E-03	11.9	16.0
	02-Aug-01	0.95	1.14	303.91	303.72	0.19	0.14	5.23E-03	16.3	18.9
	04-Sep-01	0.87	1.14	303.99	303.72	0.27	0.19	7.43E-03	11.6	15.7
	01-Oct-01	0.77	1.13	304.09	303.73	0.36	0.26	9.91E-03	10.4	9.8
	05-Nov-01	0.62	1.07	304.24	303.79	0.45	0.32	1.24E-02	8.5	7.0
	06-Dec-01	0.64	1.05	304.22	303.81	0.41	0.29	1.13E-02	8.3	8.5
	04-Jan-02	F	1.14	(F)	303.72					0.5
	07-Feb-02	0.64	1.08	304.22	303.78	0.44	0.32	1.21E-02		0.4
	07-Mar-02	0.59	1.07	304.27	303.79	0.48	0.35	1.33E-02		2.3
	07-Apr-02	0.84	1.03	304.02	303.83	0.19	0.14	5.23E-03	5.6	5.7
	06-May-02	0.64	1.02	304.22	303.84	0.38	0.28	1.05E-02	10.4	12.8
	14-Jun-02	0.73	1.02	304.13	303.84	0.29	0.21	8.05E-03	10.4	15.9
	11-Jul-02	0.84	1.14	304.02	303.72	0.30	0.22	8.26E-03	16.8	22.8
	09-Aug-02	0.96	1.26	303.90	303.60	0.30	0.22	8.26E-03	16.5	17.9
	04-Sep-02	0.95	1.17	303.91	303.69	0.22	0.16	6.06E-03	15.2	19.3
	11-Oct-02	0.85	1.04	304.01	303.82	0.19	0.14	5.23E-03	13.1	11.0
	21-Nov-02	0.72	1.12	304.14	303.74	0.40	0.29	1.10E-02	6.6	4.0
	13-Dec-02	0.70	1.20	304.16	303.66	0.50	0.36	1.38E-02	5.7	2.5

NOTES:
· m ASL metres above sea level
· (F) Frozen
· L/s/m² Litres per second per square metre
· Depth of screen midpoint below the creek bed is 1.39 m
· Assumed vertical permeability is 3.80E-05 m/s

TABLE B-5
SUMMARY OF CREEK BASED DRIVE POINT DATA
MILL CREEK AGGREGATES PIT

MONITOR LOCATION	DATE	G.W. LEVEL BTOP (m)	S.W. LEVEL BTOP (m)	GROUND-WATER ELEVATION (m ASL)	SURFACE WATER ELEVATION (m ASL)	HYDRAULIC HEAD IN GROUND-WATER (m)	VERTICAL HYDRAULIC GRADIENT	CALCULATED GROUNDWATER FLUX TO CREEK (L/s/m2)	TEMPERATURE	
									GROUND-WATER (°C)	SURFACE WATER (°C)
DP1	09-Jan-03	0.80	1.15	304.06	303.71	0.35	0.25	9.64E-03	2.4	2.2
(cont'd)	10-Feb-03	0.70	1.00	(F)	303.86					0.2
	13-Mar-03	0.70	1.00	(F)	303.86					0.2
	10-Apr-03	0.80	0.97	304.06	303.89	0.17	0.12	4.68E-03	5.0	12.0
	07-May-03	0.62	0.99	304.24	303.87	0.37	0.27	1.02E-02	8.0	10.0
	15-May-03	0.70	1.05	304.16	303.81	0.35	0.25	9.64E-03	8.0	10.0
	16-Jun-03	0.78	1.00	304.08	303.86	0.22	0.16	6.06E-03	12.0	13.0
	17-Jul-03	0.79	1.10	304.07	303.76	0.31	0.22	8.54E-03	13.0	15.0
	21-Aug-03	1.00	1.07	303.86	303.79	0.07	0.05	1.93E-03	14.0	16.0
	26-Aug-03	0.88	1.02	303.98	303.84	0.14	0.10	3.85E-03	13.7	19.9
	25-Sep-03	0.72	1.09	304.14	303.77	0.37	0.27	1.02E-02	7.3	7.4
	27-Oct-03	0.69	1.04	304.17	303.82	0.35	0.25	9.64E-03	9.8	7.6
	01-Dec-03	0.65	1.00	304.21	303.86	0.35	0.25	9.64E-03	6.0	2.0
	11-Dec-03	0.65	0.93	304.21	303.93	0.28	0.20	7.71E-03	6.1	2.8
	15-Dec-03	0.65	1.00	304.21	303.86	0.35	0.25	9.64E-03		2.0
	19-Jan-04	0.59	1.07	(F)304.27	(F)303.79					
	18-Feb-04	0.57	1.07	(F)304.29	(F)303.79					
	25-Mar-04	0.64	0.95	304.22	303.91	0.31	0.22	8.54E-03	4.1	3.9
	07-Apr-04	0.61	0.93	304.25	303.93	0.32	0.23	8.81E-03	6.2	4.3
	22-Apr-04	0.57	0.84	304.29	304.02	0.27	0.19	7.43E-03	5.1	7.0
	20-May-04	0.71	1.04	304.15	303.82	0.33	0.24	9.09E-03	9.8	13.5
	24-Jun-04	0.73	1.06	304.13	303.80	0.33	0.24	9.09E-03	11.1	15.3
	23-Jul-04	0.80	1.09	304.06	303.77	0.29	0.21	7.98E-03	12.1	19.3
	04-Aug-04	0.76	1.10	304.10	303.76	0.34	0.24	9.36E-03	14.0	19.0
	27-Aug-04	0.86	1.09	304.00	303.77	0.23	0.17	6.33E-03	12.6	17.6
	28-Sep-04	0.85	1.10	304.01	303.76	0.25	0.18	6.88E-03	9.0	11.8
	18-Oct-04	0.79	1.06	304.07	303.80	0.27	0.19	7.43E-03	8.0	6.7
	16-Nov-04	0.91	1.05	303.95	303.81	0.14	0.10	3.85E-03	6.8	5.5
	15-Dec-04	0.53	1.04	(F)304.33	303.82					1.8
	16-Dec-04	0.62	1.06	(F)304.24	303.80					1.5
	20-Jan-05	0.44	1.14	(F)304.42	303.72					0.8
	25-Feb-05	0.35	0.83	(F)304.51	304.03					0.5
	24-Mar-05	0.60	1.06	304.26	303.80	0.46	0.33	1.27E-02	2.9	2.5
	18-Apr-05	0.68	1.01	304.18	303.85	0.33	0.24	9.09E-03	9.9	13.4
	29-Apr-05	0.59	0.91	304.27	303.95	0.32	0.23	8.81E-03	7.5	7.0
	26-May-05	0.75	1.10	304.11	303.76	0.35	0.25	9.64E-03	13.1	13.0
	23-Jun-05	0.80	1.11	304.06	303.75	0.31	0.22	8.54E-03	10.8	17.1
	25-Jul-05	0.80	1.12	304.06	303.74	0.32	0.23	8.81E-03	13.0	16.0
	17-Aug-05	0.84	1.13	304.02	303.73	0.29	0.21	7.98E-03	13.1	17.9
	25-Aug-05	0.82	1.12	304.04	303.74	0.30	0.22	8.26E-03	13.0	15.0
	30-Sep-05	0.71	1.04	304.15	303.82	0.33	0.24	9.09E-03	12.5	11.8
	27-Oct-05	0.68	0.99	304.18	303.87	0.31	0.22	8.54E-03	7.1	8.2
	28-Nov-05	0.92	1.05	303.94	303.81	0.13	0.09	3.58E-03	7.0	4.4
	07-Dec-05	0.47	1.05	(F)304.39	(F)303.81					
	19-Dec-05	0.55	1.07	(F)304.31	303.79					0.3
	26-Jan-06	0.60	0.94	304.26	303.92	0.34	0.24	9.36E-03	8.6	3.3
	15-Feb-06	0.56	0.96	(F) 304.30	303.90					1.1
	30-Mar-06	0.69	1.01	304.17	303.85	0.32	0.23	8.81E-03	8.3	7.3
	27-Apr-06	0.64	0.94	304.22	303.92	0.30	0.22	8.26E-03	9.8	11.1
	28-Apr-06	0.71	1.03	304.15	303.83	0.32	0.23	8.81E-03	10.8	15.4
	15-May-06	0.77	1.06	304.09	303.80	0.29	0.21	7.98E-03	11	16.9
	15-Jun-06	0.87	0.99	303.99	303.87	0.12	0.09	3.30E-03	14.5	16.5
	15-Jul-06	0.80	1.07	304.06	303.79	0.27	0.19	7.43E-03	14	19.4
	24-Aug-06	0.83	1.11	304.03	303.75	0.28	0.20	7.71E-03	16.5	19.9
	15-Sep-06	0.58	0.87	304.28	303.99	0.29	0.21	7.98E-03	12.3	16.1
	15-Oct-06	0.45	0.79	304.41	304.07	0.34	0.24	9.36E-03	10.5	12
	15-Nov-06	0.64	0.98	304.22	303.88	0.34	0.24	9.36E-03	4.4	4.4
	07-Dec-06	0.55	0.96	(F) 304.31	303.90					1.6

NOTES:
- · m ASL metres above sea level
- · (F) Frozen
- · L/s/m² Litres per second per square metre
- · Depth of screen midpoint below the creek bed is 1.39 m
- · Assumed vertical permeability is 3.80E-05 m/s

TABLE B-5
SUMMARY OF CREEK BASED DRIVE POINT DATA
MILL CREEK AGGREGATES PIT

MONITOR LOCATION	DATE	G.W. LEVEL BTOP (m)	S.W. LEVEL BTOP (m)	GROUND-WATER ELEVATION (m ASL)	SURFACE WATER ELEVATION (m ASL)	HYDRAULIC HEAD IN GROUND-WATER (m)	VERTICAL HYDRAULIC GRADIENT	CALCULATED GROUNDWATER FLUX TO CREEK (L/s/m2)	TEMPERATURE	
									GROUND-WATER (°C)	SURFACE WATER (°C)
	17-Jan-07	0.58	0.955	(F) 304.28	303.91					0.7
DP1	22-Feb-07									0.55
(cont'd)	26-Apr-07	0.57	0.85	304.29	304.01	0.28	0.20	7.71E-03	10.4	10.9
	16-May-07	0.69	1.00	304.17	303.86	0.31	0.22	8.54E-03	11.1	15
	26-Jun-07	0.80	1.1	304.06	303.76	0.30	0.22	8.26E-03		20
	25-Jul-07	0.86	1.12	304.00	303.74	0.26	0.19	7.16E-03	16.6	18.8
	07-Aug-07	0.88	1.09	303.98	303.77	0.21	0.15	5.78E-03		22.4
	21-Aug-07	0.89	1.13	303.97	303.73	0.24	0.17	6.61E-03	12.8	13.9
	21-Sep-07	0.89	1.11	303.97	303.75	0.22	0.16	6.06E-03	15.3	13.8
	17-Oct-07	0.77	1.09	304.09	303.77	0.32	0.23	8.81E-03	11.6	12.6
	15-Nov-07	0.77		304.09						
	29-Nov-07	Frozen	Frozen							2.7
	10-Dec-07	Frozen	Frozen							2.7
	31-Jan-08	0.66	1.00	(F)304.20	303.86					0.4
	29-Feb-08	0.55	1.02	(F)304.31	303.84					0.2
	31-Mar-08	0.30	0.64	304.56	304.22	0.34	0.24	9.36E-03	4.7	2.7
	28-Apr-08	0.68	0.98	304.18	303.88	0.30	0.22	8.26E-03	9.0	9.0
	28-May-08	0.75	1.04	304.11	303.82	0.29	0.21	7.98E-03	11.2	16.4
	25-Jun-08	0.72	1.00	304.14	303.86	0.28	0.20	7.71E-03	10.9	18.3
	16-Jul-08	0.73	1.05	304.13	303.81	0.32	0.23	8.81E-03	12.9	20.3
	20-Aug-08	0.68	1.02	304.18	303.84	0.34	0.24	9.36E-03		19.6
	26-Aug-08	0.74	1.05	304.12	303.81	0.31	0.22	8.54E-03	14.1	17.2
	19-Sep-08	0.40	0.67	304.46	304.19	0.27	0.19	7.43E-03	11.0	16.8
	10-Oct-08	0.64	0.97	304.22	303.89	0.33	0.24	9.09E-03	10.1	12.1
	05-Nov-08	0.63	0.96	304.23	303.90	0.33	0.24	9.09E-03	9.4	9.0
	17-Dec-08	0.44	0.86	(F)304.42	304.00					2.2
	06-Jan-09	0.33	0.93	(F)304.53	303.93					1.2
	27-Feb-09	0.64	0.94	304.22	303.92	0.30	0.22	8.26E-03	4.6	2.1
	11-Mar-09	0.29	0.63	(F)304.57	304.23					0.0
	14-Apr-09	0.60	0.91	304.26	303.95	0.31	0.22	8.54E-03	9.6	8.7
	21-May-09	0.65	0.96	304.21	303.90	0.31	0.22	8.54E-03	10.2	17.0
	16-Jun-09	0.67	0.99	304.19	303.87	0.32	0.23	8.81E-03	10.9	17.9
	31-Jul-09	0.62	0.93	304.24	303.93	0.31	0.22	8.54E-03	11.0	18.8
	25-Aug-09	0.52	0.84	304.34	304.02	0.32	0.23	8.81E-03	12.9	17.4
	28-Aug-09	0.61	0.96	304.25	303.90	0.35	0.25	9.64E-03	11.6	15.7
	28-Sep-09	0.95	0.97	303.91	303.89	0.02	0.01	5.51E-04	9.6	11.1
	14-Oct-09	0.61	0.97	304.25	303.89	0.36	0.26	9.91E-03	8.2	6.2
	11-Nov-09	0.62	0.94	304.24	303.92	0.32	0.23	8.81E-03	9.5	10.0
	11-Dec-09	Frozen	0.98		303.88					3.4
	16-Dec-09	0.41	0.94	(F)304.45	303.92					1.2
	13-Jan-10	Frozen	1.03		303.83					1.6
	11-Feb-10	Frozen	1.04		303.82					1.3
	11-Mar-10	0.57	0.93	304.29	303.93	0.36	0.26	9.91E-03	7.6	5.9
	16-Apr-10	0.65	1.02	304.21	303.84	0.37	0.27	1.02E-02	9.2	13.6
	21-May-10	0.71	1.07	304.15	303.79	0.36	0.26	9.91E-03	9.3	15.6
	17-Jun-10	0.61	0.97	304.25	303.89	0.36	0.26	9.91E-03	10.5	17.5
	15-Jul-10	0.73	1.11	304.13	303.75	0.38	0.27	1.05E-02	12.8	20.9
	18-Aug-10	0.75	1.10	304.11	303.76	0.35	0.25	9.64E-03	11.4	18.0
	31-Aug-10	0.73	1.10	304.13	303.76	0.37	0.27	1.02E-02	11.1	17.4
	28-Sep-10	0.58	0.97	304.28	303.89	0.39	0.28	1.07E-02	10.6	13.9
	20-Oct-10	0.58	1.04	304.28	303.82	0.46	0.33	1.27E-02	9.1	8.8
	18-Nov-10	0.53	0.95	304.33	303.91	0.42	0.30	1.16E-02	8.9	7.2
	08-Dec-10	(F)0.43	1.06	(F)304.43	303.80					0.5
	22-Dec-10	(F)0.42	1.08	(F)304.44	303.78					1.5

NOTES:
- m ASL — metres above sea level
- (F) — Frozen
- L/s/m² — Litres per second per square metre
- Depth of screen midpoint below the creek bed is 1.39 m
- Assumed vertical permeability is 3.80E-05 m/s

TABLE B-5
SUMMARY OF CREEK BASED DRIVE POINT DATA
MILL CREEK AGGREGATES PIT

MONITOR LOCATION	DATE	G.W. LEVEL BTOP (m)	S.W. LEVEL BTOP (m)	GROUND-WATER ELEVATION (m ASL)	SURFACE WATER ELEVATION (m ASL)	HYDRAULIC HEAD IN GROUND-WATER (m)	VERTICAL HYDRAULIC GRADIENT	CALCULATED GROUNDWATER FLUX TO CREEK (L/s/m2)	TEMPERATURE	
									GROUND-WATER (°C)	SURFACE WATER (°C)
DP1	19-Jan-11	Frozen	1.09							
(cont'd)	17-Feb-11	0.64	1.08	304.22	303.78	0.44	0.32	1.21E-02	7.5	4.0
	16-Mar-11	0.86	0.93	304.00	303.93	0.07	0.05	1.93E-03	7.7	4.7
	13-Apr-11	0.52	0.99	304.34	303.87	0.47	0.34	1.29E-02	8.9	8.3
	21-Apr-11	0.43	0.83	304.43	304.03	0.40	0.29	1.10E-02	7.8	4.4
	26-May-11	0.46	0.87	304.40	303.99	0.41	0.29	1.13E-02	9.9	14.8
	16-Jun-11	0.56	1.04	304.30	303.82	0.48	0.35	1.32E-02	10.4	18.2
	14-Jul-11	0.69	1.10	304.17	303.76	0.41	0.29	1.13E-02	11.5	17.5
	11-Aug-11	0.61	1.11	304.25	303.75	0.50	0.36	1.38E-02	12.1	17.9
	17-Aug-11	0.61	1.10	304.25	303.76	0.49	0.35	1.35E-02	10.5	17.7
	14-Sep-11	0.56	1.11	304.30	303.75	0.55	0.40	1.51E-02	10.3	14.9
	27-Oct-11	0.48	0.95	304.38	303.91	0.47	0.34	1.29E-02	8.2	6.9
	14-Nov-11	0.50	1.03	304.36	303.83	0.53	0.38	1.46E-02	7.7	5.2
	14-Dec-11	0.39	0.92	304.47	303.94	0.53	0.38	1.46E-02	8.4	6.2
	22-Dec-11	0.63	0.94	304.23	303.92	0.31	0.22	8.54E-03	8.2	3.2
	16-Jan-12	Frozen	1.03		303.83					0.5
	16-Feb-12	0.78	1.05	304.08	303.81	0.27	0.19	7.43E-03	7.9	3.1
	29-Mar-12	0.69	1.03	304.17	303.83	0.34	0.24	9.36E-03	9.0	5.4
	10-Apr-12	0.61	1.05	304.25	303.81	0.44	0.32	1.21E-02	9.2	7.0
	30-Apr-12	0.65	1.06	304.21	303.8	0.41	0.29	1.13E-02	9.2	8.0
	29-May-12	0.67	1.06	304.19	303.8	0.39	0.28	1.07E-02	16.7	10.9
	20-Jun-12	0.65	1.10	304.21	303.76	0.45	0.32	1.24E-02	11.9	21.9
	24-Jul-12	0.63	1.12	304.23	303.74	0.49	0.35	1.35E-02	11.7	19.9
	08-Aug-12	0.63	1.12	304.23	303.74	0.49	0.35	1.35E-02	13.5	19.6
	21-Aug-12	0.62	1.13	304.24	303.73	0.51	0.37	1.40E-02	11.3	17.1
	18-Sep-12	0.56	1.07	304.30	303.79	0.51	0.37	1.40E-02	9.7	13.2
	23-Oct-12	0.52	0.95	304.34	303.91	0.43	0.31	1.18E-02	8.9	10.1
	28-Nov-12	0.78	1.09	304.08	303.77	0.31	0.22	8.54E-03	7.6	3.2
	06-Dec-12	Frozen	1.02		303.84					2.5
	19-Dec-12	0.72	1.07	304.14	303.79	0.35	0.25	9.64E-03	5.6	3.4
	16-Jan-13	Frozen	1.00		303.86					1.3
	20-Feb-13	Frozen	1.04		303.82					1.3
	21-Mar-13	Frozen	0.99		303.87					1.6
	04-Apr-13	Frozen	0.97		303.89					4.6
	25-Apr-13	0.40	0.95	304.46	303.91	0.55	0.40	1.51E-02	10.4	8.5
	23-May-13	0.46	1.08	304.40	303.78	0.62	0.45	1.71E-02	12.8	19.5
	13-Jun-13	0.43	0.96	304.43	303.90	0.53	0.38	1.46E-02	11.4	17.8
	31-Jul-13	0.53	1.05	304.33	303.81	0.52	0.37	1.43E-02	10.6	16.8
	29-Aug-13	0.57	1.05	304.29	303.81	0.48	0.35	1.32E-02	14.1	19.9
	25-Sep-13	0.54	1.03	304.32	303.83	0.49	0.35	1.35E-02	10.1	13.9
	22-Oct-13	0.52	0.91	304.34	303.95	0.39	0.28	1.07E-02	8.8	8
	28-Nov-13	Frozen	1.01		303.85					1.4
	10-Dec-13	Frozen	1.04		303.82					1.1
	15-Jan-14	(F)0.28	0.90		303.96					1.1
	26-Feb-14	(F)0.30	1.05		303.81					0.7
	26-Mar-14	(F)0.29	0.99		303.87					0.2
	01-Apr-14	0.32	0.80	304.54	304.06	0.48	0.35	1.32E-02	9.2	2.2
	15-May-14	0.41	0.88	304.45	303.98	0.47	0.34	1.29E-02	11.6	16.9
	18-Jun-14	0.52	1.05	304.34	303.81	0.53	0.38	1.46E-02	11.5	19.0
	29-Jul-14	0.38	0.88	304.48	303.98	0.50	0.36	1.38E-02	11.0	17.0
	25-Aug-14	0.48	1.04	304.38	303.82	0.56	0.40	1.54E-02	13.1	16.9
	18-Sep-14	0.44	0.95	304.42	303.91	0.51	0.37	1.40E-02	12.3	15.8
	17-Oct-14	0.48	0.98	304.38	303.88	0.50	0.36	1.38E-02	10.4	13.2
	27-Nov-14	Frozen	0.93		303.93					1.3
	15-Dec-14	0.47	1.00	304.39	303.86	0.53	0.38	1.46E-02	10.6	4.7

NOTES:
- m ASL — metres above sea level
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- L/s/m² — Litres per second per square metre
- Depth of screen midpoint below the creek bed is 1.39 m
- Assumed vertical permeability is 3.80E-05 m/s

TABLE B-5
SUMMARY OF CREEK BASED DRIVE POINT DATA

MONITOR LOCATION	DATE	G.W. LEVEL BTOP (m)	S.W. LEVEL BTOP (m)	GROUND-WATER ELEVATION (m ASL)	SURFACE WATER ELEVATION (m ASL)	HYDRAULIC HEAD IN GROUND-WATER (m)	VERTICAL HYDRAULIC GRADIENT	CALCULATED GROUNDWATER FLUX TO CREEK (L/s/m2)	TEMPERATURE	
									GROUND-WATER (°C)	SURFACE WATER (°C)
DP1	21-Jan-15	(F)	1.07		303.79					0.1
(cont'd)	18-Feb-15	(F)	(F)							0.3
	25-Mar-15	0.42	1.00	304.44	303.86	0.58	0.42	1.60E-02	8.8	2.5
	06-Apr-15	0.67	0.95	304.19	303.91	0.28	0.20	7.71E-03	10.1	4.9
	20-May-15	0.56	1.10	304.30	303.76	0.54	0.39	1.49E-02	12.7	11.1
	23-Jun-15	0.52	1.08	304.34	303.78	0.56	0.40	1.54E-02	11.5	18.4
	22-Jul-15	0.52	1.08	304.34	303.78	0.56	0.40	1.54E-02	12.0	18.2
	25-Aug-15	0.57	1.07	304.29	303.79	0.50	0.36	1.38E-02	12.6	15.3
	24-Sep-15	0.63	1.10	304.23	303.76	0.47	0.34	1.29E-02	11.4	15.6
	29-Oct-15	0.49	0.82	304.37	304.04	0.33	0.24	9.09E-03	8.9	8.6
	25-Nov-15	0.60	1.05	304.26	303.81	0.45	0.32	1.24E-02	8.6	6.1
	10-Dec-15	0.68	1.06	304.18	303.80	0.38	0.27	1.05E-02	9.1	5.7
	20-Jan-16	(F)	1.07		303.79					1.1
	29-Feb-16	(F)	1.04		303.82					1.4
	17-Mar-16	0.46	0.85	304.40	304.01	0.39	0.28	1.07E-02	6.9	4.8
	30-Mar-16	0.77	0.86	304.09	304.00	0.09	0.06	2.48E-03	9.0	5.4
	27-Apr-16	0.45	1.02	304.41	303.84	0.57	0.41	1.57E-02	9.3	7.7
	30-May-16	0.49	1.05	304.37	303.81	0.56	0.40	1.54E-02	13.4	20.2
	27-Jun-16	0.56	1.12	304.30	303.74	0.56	0.40	1.54E-02	12.3	18.3
	28-Jul-16	0.60	1.10	304.26	303.76	0.50	0.36	1.38E-02	12.5	20.2
	11-Aug-16	0.61	1.10	304.25	303.76	0.49	0.35	1.35E-02	13.8	17.4
	21-Sep-16	0.58	1.1	304.28	303.76	0.52	0.37	1.43E-02	12.0	16.3
	18-Oct-16	0.62	1.1	304.24	303.76	0.48	0.35	1.32E-02	11.7	16.7
	14-Nov-16	0.64	1.06	304.22	303.80	0.42	0.30	1.16E-02	10.5	6.9
	14-Dec-16	(F)	1.04		303.82					4.6
	18-Jan-17	(F)	0.94		303.92					2.8
	15-Feb-17	(F)	1.04		303.82					2.2
	17-Mar-17	(F)	0.94		303.92					2.8
	11-Apr-17	0.54	0.93	304.32	303.93	0.39	0.28	1.07E-02	8.7	7.8
	18-May-17	0.59	1.00	304.27	303.86	0.41	0.29	1.13E-02	11.0	16.0
	14-Jun-17	0.65	1.03	304.21	303.83	0.38	0.27	1.05E-02	12.0	15.8
	20-Jul-17	0.62	0.99	304.24	303.87	0.37	0.27	1.02E-02	15.4	18.4
	09-Aug-17	0.66	1.03	304.20	303.83	0.37	0.27	1.02E-02	12.4	15.6
	12-Sep-17	0.71	1.04	304.15	303.82	0.33	0.24	9.09E-03	11.3	11.9
	12-Oct-17	0.71	1.04	304.15	303.82	0.33	0.24	9.09E-03	12.1	11.3
	21-Nov-17	0.75	0.97	304.11	303.89	0.22	0.16	6.06E-03	8.9	3.9
	19-Dec-17	0.73	1.05	304.13	303.81	0.32	0.23	8.81E-03	7.8	2.4
	16-Jan-18	(F)	(F)							
	26-Feb-18	0.53	0.87	304.33	303.99	0.34	0.24	9.36E-03	7.7	2.1
	26-Mar-18	0.65	1.07	304.21	303.79	0.42	0.30	1.16E-02		2.7
	24-Apr-18	0.50	0.85	304.36	304.01	0.35	0.25	9.64E-03	8.7	8.3
	18-May-18	0.60	1.03	304.26	303.83	0.43	0.31	1.18E-02	10.9	14.6
	12-Jun-18	0.69	1.09	304.17	303.77	0.40	0.29	1.10E-02	11.6	14.3
	27-Jul-18	0.75	1.09	304.11	303.77	0.34	0.24	9.36E-03	13.4	18.4
	22-Aug-18	0.68	1.04	304.18	303.82	0.36	0.26	9.91E-03	13.0	17.9
	12-Sep-18	0.74	1.08	304.12	303.78	0.34	0.24	9.36E-03	12.1	14.6
	30-Oct-18	0.73	1.07	304.13	303.79	0.34	0.24	9.36E-03	10.0	6.5
	21-Nov-18	(F)	1.05		303.82					2.1
	20-Dec-18	(F)	1.06		303.80					3.1
2018 AVERAGE VALUES						0.37	0.27	1.02E-02	10.9	9.5
OVERALL AVERAGE VALUES						0.34	0.24	9.28E-03	9.7	10.1

NOTES:
- m ASL metres above sea level
- (F) Frozen
- L/s/m² Litres per second per square metre
- Depth of screen midpoint below the creek bed is 1.39 m
- Assumed vertical permeability is 3.80E-05 m/s

TABLE B-5
SUMMARY OF CREEK BASED DRIVE POINT DATA
MILL CREEK AGGREGATES PIT

MONITOR LOCATION	DATE	G.W. LEVEL BTOP (m)	S.W. LEVEL BTOP (m)	GROUND-WATER ELEVATION (m ASL)	SURFACE WATER ELEVATION (m ASL)	HYDRAULIC HEAD IN GROUND-WATER (m)	VERTICAL HYDRAULIC GRADIENT	CALCULATED GROUNDWATER FLUX TO CREEK (L/s/m2)	TEMPERATURE	
									GROUND-WATER (°C)	SURFACE WATER (°C)
DP2	27-Sep-88	0.79	1.08	303.92	303.63	0.29	0.24	2.07E-03		11.0
	03-Dec-88	0.73	1.00	303.98	303.71	0.27	0.23	1.93E-03	8.0	2.0
	14-Dec-88	0.75	1.06	303.96	303.65	0.31	0.26	2.21E-03		
	20-Jan-89	0.81	1.05	303.90	303.66	0.24	0.20	1.71E-03		
	22-Feb-89	0.83	1.09	303.88	303.62	0.26	0.22	1.86E-03	5.0	2.5
	01-Apr-89	0.62	0.91	304.09	303.80	0.29	0.24	2.07E-03	4.5	2.0
	17-Apr-89	0.68	0.98	304.03	303.73	0.30	0.25	2.14E-03		
	24-May-89	0.77	1.08	303.94	303.63	0.31	0.26	2.21E-03		12.0
	05-Jun-89	0.70	0.99	304.01	303.72	0.29	0.24	2.07E-03	8.0	15.0
	12-Jul-89	0.94	1.18	303.77	303.53	0.24	0.20	1.71E-03	9.0	17.5
	27-Jul-89	1.00	NA	303.71						
	15-Aug-89	1.04	1.17	303.67	303.54	0.13	0.11	9.29E-04	10.0	12.0
	30-Aug-89	1.06	1.17	303.65	303.54	0.11	0.09	7.86E-04	7.0	12.0
	17-Oct-89	0.89	1.07	303.82	303.64	0.18	0.15	1.29E-03	7.0	5.0
	30-Nov-89	0.71	0.98	304.00	303.73	0.27	0.23	1.93E-03	7.0	
	13-Dec-89	0.82	1.04	303.89	303.67	0.22	0.18	1.57E-03	5.0	
	17-Jan-90	0.81	1.04	303.90	303.67	0.23	0.19	1.64E-03	6.0	3.0
	06-Mar-90	0.71	0.98	304.00	303.73	0.27	0.23	1.93E-03	4.5	
	02-Apr-90	0.66	0.91	304.05	303.80	0.25	0.21	1.79E-03	5.0	4.5
	25-Jun-90	0.84	1.09	303.87	303.62	0.25	0.21	1.79E-03	10.0	17.0
	26-Jul-90	0.85	1.13	303.86	303.58	0.28	0.24	2.00E-03	10.5	18.0
	22-Aug-90	0.88	1.11	303.83	303.60	0.23	0.19	1.64E-03	11.0	17.0
	26-Sep-90	0.88	1.12	303.83	303.59	0.24	0.20	1.71E-03	10.0	14.0
	24-Oct-90	0.73	1.04	303.98	303.67	0.31	0.26	2.21E-03	10.0	8.0
	25-Nov-90	0.72	1.03	303.99	303.68	0.31	0.26	2.21E-03	8.0	4.5
	14-Dec-90	0.67	0.98	304.04	303.73	0.31	0.26	2.21E-03	7.0	1.0
	23-Jan-91	0.72	1.03	303.99	303.68	0.31	0.26	2.21E-03	4.5	1.0
	20-Feb-91	0.88	0.93	303.83	303.78	0.05	0.04	3.57E-04	6.0	2.2
	28-Mar-91	0.31	0.44	304.40	304.27	0.13	0.11	9.29E-04	6.1	6.0
	26-Apr-91	0.62	0.90	304.09	303.81	0.28	0.24	2.00E-03	7.9	10.0
	24-May-91	0.80	1.05	303.91	303.66	0.25	0.21	1.79E-03	10.2	15.5
	20-Jun-91	0.81	1.07	303.90	303.64	0.26	0.22	1.86E-03	11.0	20.0
	30-Jul-91	0.60	0.75	304.11	303.96	0.15	0.13	1.07E-03	12.0	17.0
	22-Aug-91	0.88	1.10	303.83	303.61	0.22	0.18	1.57E-03	12.0	16.0
	25-Sep-91	0.91	1.09	303.80	303.62	0.18	0.15	1.29E-03	12.0	11.0
	29-Oct-91	0.80	1.04	303.91	303.67	0.24	0.20	1.71E-03	10.0	7.5
	26-Nov-91	0.78	1.07	303.93	303.64	0.29	0.24	2.07E-03	8.4	2.9
	16-Dec-91	0.74	1.04	303.97	303.67	0.30	0.25	2.14E-03	6.8	
	13-Mar-92	0.71	1.00	304.00	303.71	0.29	0.24	2.07E-03	5.3	2.5
	15-Apr-92	0.71	1.00	304.00	303.71	0.29	0.24	2.07E-03	5.9	4.7
	21-May-92	0.81	1.09	303.90	303.62	0.28	0.24	2.00E-03	8.3	20.3
	29-Jun-92	0.92	1.14	303.79	303.57	0.22	0.18	1.57E-03	9.9	13.5
	20-Jul-92	0.62	0.85	304.09	303.86	0.23	0.19	1.64E-03	10.5	17.3
	27-Aug-92	0.76	0.96	303.95	303.75	0.20	0.17	1.43E-03	11.5	18.0
	14-Sep-92	0.73	1.01	303.98	303.70	0.28	0.24	2.00E-03	12.0	14.0
	28-Oct-92	0.72	0.97	303.99	303.74	0.25	0.21	1.79E-03	10.0	9.0
	26-Nov-92	0.55	0.73	304.16	303.98	0.18	0.15	1.29E-03	6.5	9.0
	15-Dec-92	0.69	0.93	304.02	303.78	0.24	0.20	1.71E-03	7.0	1.9
	19-Jan-93	0.69	0.96	304.02	303.75	0.27	0.23	1.93E-03		
	26-Mar-93	0.71	0.95	304.00	303.76	0.24	0.20	1.71E-03	6.0	6.0
	19-Apr-93	0.66	0.92	304.05	303.79	0.26	0.22	1.86E-03	6.0	8.0
	27-May-93	0.78	1.03	303.93	303.68	0.25	0.21	1.79E-03	8.5	11.0
	22-Jun-93	0.72	0.95	303.99	303.76	0.23	0.19	1.64E-03	11.0	19.0
	14-Jul-93	0.86	1.08	303.85	303.63	0.22	0.18	1.57E-03	10.8	18.1
	18-Aug-93	0.94	1.12	303.77	303.59	0.18	0.15	1.29E-03	11.5	16.2
	20-Sep-93	0.89	1.12	303.82	303.59	0.23	0.19	1.64E-03	11.1	10.4
	19-Oct-93	0.70	0.94	304.01	303.77	0.24	0.20	1.71E-03	9.6	8.1
	17-Nov-93	0.77	1.05	303.94	303.66	0.28	0.24	2.00E-03	7.4	5.1
	06-Dec-93	0.83	0.96	303.88	303.75	0.13	0.11	9.29E-04	6.9	3.8
	18-Jan-94	0.84	1.09	303.87	303.62	0.25	0.21	1.79E-03	4.3	0.1
	24-Feb-94	0.74	1.02	303.97	303.69	0.28	0.24	2.00E-03	6.0	1.0
	24-Mar-94	0.55	0.75	304.16	303.96	0.20	0.17	1.43E-03	5.4	4.5
	19-Apr-94	0.74	0.98	303.97	303.73	0.24	0.20	1.71E-03	5.0	6.0
	24-May-94	0.84	1.07	303.87	303.64	0.23	0.19	1.64E-03	8.0	14.0
	23-Jun-94	1.02	1.18	303.69	303.53	0.16	0.13	1.14E-03	9.0	15.0
	19-Jul-94	1.02	1.17	303.69	303.54	0.15	0.13	1.07E-03	9.0	15.0
	25-Aug-94	0.98	1.16	303.73	303.55	0.18	0.15	1.29E-03	12.0	16.0
	21-Sep-94	1.03	1.17	303.68	303.54	0.14	0.12	1.00E-03	8.0	13.0
	18-Oct-94	0.94	1.12	303.77	303.59	0.18	0.15	1.29E-03	8.0	9.0
	23-Nov-94	0.84	1.07	303.87	303.64	0.23	0.19	1.64E-03	8.0	4.0
	21-Dec-94	0.81	1.06	303.90	303.65	0.25	0.21	1.79E-03	8.0	4.0
	24-Jan-95	0.66	0.85	304.05	303.86	0.19	0.16	1.36E-03	6.0	4.0
	15-Feb-95	0.87	1.11	303.84	303.60	0.24	0.20	1.71E-03	6.0	2.0
	23-Mar-95	0.76	0.93	303.95	303.78	0.17	0.14	1.21E-03	4.0	
	17-May-95	0.82	1.04	303.89	303.67	0.22	0.18	1.57E-03	8.0	14.0
	13-Jun-95	0.92	1.13	303.79	303.58	0.21	0.18	1.50E-03	11.0	14.0
	20-Jul-95	1.06	1.16	303.65	303.55	0.10	0.08	7.14E-04	14.0	17.0
	15-Aug-95	0.82	0.97	303.89	303.74	0.15	0.13	1.07E-03	14.0	18.0
	18-Oct-95	0.93	1.12	303.78	303.59	0.19	0.16	1.36E-03	10.0	8.0
	22-Nov-95	0.78	1.02	303.93	303.69	0.24	0.20	1.71E-03	7.0	2.0
	26-Mar-96	0.65	0.86	(F) 304.06	303.85					1.0
	31-May-96	0.83	1.00	303.88	303.71	0.17	0.14	1.21E-03	12.0	17.0
	28-Jun-96	0.80	1.01	303.91	303.70	0.21	0.18	1.50E-03	12.0	20.0
	31-Jul-96	0.81	0.97	303.90	303.74	0.16	0.13	1.14E-03	13.0	18.0
	30-Aug-96	0.97	1.10	303.74	303.61	0.13	0.11	9.29E-04	13.0	15.0
	27-Sep-96	0.77	0.98	303.94	303.73	0.21	0.18	1.50E-03	13.0	13.5
	06-Nov-96	0.78	0.99	303.93	303.72	0.21	0.18	1.50E-03	9.0	6.0
	31-Mar-97	0.51	0.58	304.20	304.13	0.07	0.06	5.00E-04	4.0	2.0
	30-Apr-97	0.75	0.96	303.96	303.75	0.21	0.18	1.50E-03	6.0	11.0

NOTES:
· m ASL metres above sea level
· (F) Frozen
· L/s/m² Litres per second per square metre
· Depth of screen midpoint below the creek bed is 1.19 m
· Assumed vertical permeability is 8.50E-06 m/s

TABLE B-5
SUMMARY OF CREEK BASED DRIVE POINT DATA
MILL CREEK AGGREGATES PIT

MONITOR LOCATION	DATE	G.W. LEVEL BTOP (m)	S.W. LEVEL BTOP (m)	GROUND-WATER ELEVATION (m ASL)	SURFACE WATER ELEVATION (m ASL)	HYDRAULIC HEAD IN GROUND-WATER (m)	VERTICAL HYDRAULIC GRADIENT	CALCULATED GROUND WATER FLUX TO CREEK (L/s/m2)	TEMPERATURE	
									GROUND-WATER (°C)	SURFACE WATER (°C)
	26-May-97	0.80	1.01	303.91	303.70	0.21	0.18	1.50E-03	8.0	13.0
DP2	27-Jun-97	0.85	1.06	303.86	303.65	0.21	0.18	1.50E-03	10.0	16.0
(cont'd)	30-Jul-97	0.98	1.13	303.73	303.58	0.15	0.13	1.07E-03	10.5	19.0
	31-Aug-97	0.88	1.10	303.83	303.61	0.22	0.18	1.57E-03	11.5	14.5
	03-Oct-97	0.88	1.08	303.83	303.63	0.20	0.17	1.43E-03	11.8	12.0
	06-Nov-97	0.77	0.97	303.94	303.74	0.20	0.17	1.43E-03	8.5	6.0
	12-Dec-97	0.75	1.08	(F) 303.96	303.63					2.0
	27-Mar-98	0.77	0.91	303.94	303.80	0.14	0.12	1.00E-03	2.8	2.5
	30-Apr-98	0.85	1.09	303.86	303.62	0.24	0.20	1.71E-03	5.0	12.5
	31-May-98	1.00	1.15	303.71	303.56	0.15	0.13	1.07E-03	9.5	14.0
	30-Jun-98	0.91	1.12	303.80	303.59	0.21	0.18	1.50E-03	12.0	17.0
	31-Jul-98	1.03	1.16	303.68	303.55	0.13	0.11	9.29E-04	14.0	19.0
	30-Sep-98	0.97	1.09	303.74	303.62	0.12	0.10	8.57E-04	12.0	12.0
	27-Nov-98	0.95	1.13	303.76	303.58	0.18	0.15	1.29E-03	7.5	5.0
	31-Mar-99	0.98	1.06	303.73	303.65	0.08	0.07	5.71E-04	7.0	11.0
	20-May-99	0.94	1.16	303.77	303.55	0.22	0.18	1.57E-03	12.1	17.4
	29-Jun-99	0.95	1.17	303.76	303.54	0.22	0.18	1.57E-03	13.0	20.0
	16-Jul-99	1.04	1.24	303.67	303.47	0.20	0.17	1.43E-03		21.0
	11-Aug-99	1.05	1.19	303.66	303.52	0.14	0.12	1.00E-03	13.5	18.2
	09-Sep-99	0.86	1.09	303.85	303.62	0.23	0.19	1.64E-03	13.7	19.2
	09-Nov-99	0.90	1.09	303.81	303.62	0.19	0.16	1.36E-03	10.1	8.8
	01-Mar-00	0.90	1.00	303.81	303.71	0.10	0.08	7.14E-04	5.0	3.0
	18-May-00	0.72	0.75	303.99	303.96	0.03	0.03	2.14E-04	9.5	12.0
	15-Jun-00	0.58	0.69	304.13	304.02	0.11	0.09	7.86E-04	11.0	18.5
	06-Jul-00	0.86	1.09	303.85	303.62	0.23	0.19	1.64E-03	12.1	17.6
	08-Aug-00	0.87	1.10	303.84	303.61	0.23	0.19	1.64E-03	13.6	20.0
	13-Sep-00	0.92	1.12	303.79	303.59	0.20	0.17	1.43E-03	12.1	14.2
	10-Oct-00	0.98	1.12	303.73	303.59	0.14	0.12	1.00E-03	11.5	9.7
	08-Nov-00	0.91	1.15	303.80	303.56	0.24	0.20	1.71E-03	10.4	9.6
	14-Nov-00	0.80	1.07	303.91	303.64	0.27	0.23	1.93E-03		
	11-Dec-00	0.89	1.12	(F) 303.82	(F) 303.59					
	11-Jan-01	0.96	1.14	(F) 303.75	303.57					1.8
	09-Feb-01	1.00	1.10	303.71	303.61	0.10	0.08	7.14E-04	4.1	1.5
	13-Mar-01	0.93	1.05	303.78	303.66	0.12	0.10	8.57E-04	3.7	2.0
	10-Apr-01	0.74	0.82	303.97	303.89	0.08	0.07	5.71E-04	6.1	6.1
	04-May-01	0.90	1.13	303.81	303.58	0.23	0.19	1.64E-03	9.9	17.3
	07-Jun-01	0.90	1.00	303.81	303.71	0.10	0.08	7.14E-04	6.0	9.0
	12-Jul-01	1.07	1.18	303.64	303.53	0.11	0.09	7.86E-04	13.5	16.0
	02-Aug-01	1.10	1.20	303.61	303.51	0.10	0.08	7.14E-04	16.0	18.7
	04-Sep-01	1.05	1.19	303.66	303.52	0.14	0.12	1.00E-03	13.5	15.6
	01-Oct-01	0.95	1.17	303.76	303.54	0.22	0.18	1.57E-03	11.1	9.8
	05-Nov-01	0.86	1.06	303.85	303.65	0.20	0.17	1.43E-03	8.4	6.9
	06-Dec-01	0.90	1.06	303.81	303.65	0.16	0.13	1.14E-03	8.2	8.7
	04-Jan-02	F	1.12	(F)	303.59					0.2
	07-Feb-02	0.84	1.12	303.87	303.59	0.28	0.24	2.00E-03		0.4
	07-Mar-02	0.93	1.10	303.78	303.61	0.18	0.15	1.27E-03		2.4
	07-Apr-02	0.90	1.07	303.81	303.64	0.17	0.14	1.21E-03	6.5	5.3
	06-May-02	0.85	1.03	303.86	303.68	0.18	0.15	1.28E-03	11.2	12.2
	14-Jun-02	0.94	1.03	303.77	303.68	0.09	0.07	6.34E-04	12.9	15.7
	11-Jul-02	1.07	1.21	303.64	303.50	0.14	0.12	1.00E-03	12.3	18.1
	09-Aug-02	1.19	1.33	303.52	303.38	0.14	0.12	1.00E-03	14.5	17.1
	04-Sep-02	1.21	1.38	303.50	303.33	0.17	0.14	1.21E-03	15.4	18.0
	11-Oct-02	1.10	1.21	303.61	303.50	0.11	0.09	7.86E-04	13.2	11.2
	21-Nov-02	1.01	1.11	303.70	303.60	0.10	0.08	7.14E-04	6.5	4.0
	13-Dec-02	1.10	1.20	303.61	303.51	0.10	0.08	7.14E-04	5.7	2.3

NOTES:
- m ASL — metres above sea level
- (F) — Frozen
- L/s/m² — Litres per second per square metre
- Depth of screen midpoint below the creek bed is 1.85 m
- Assumed vertical permeability is 8.50E-06 m/s

TABLE B-5
SUMMARY OF CREEK BASED DRIVE POINT DATA
MILL CREEK AGGREGATES PIT

MONITOR LOCATION	DATE	G.W. LEVEL BTOP (m)	S.W. LEVEL BTOP (m)	GROUND-WATER ELEVATION (m ASL)	SURFACE WATER ELEVATION (m ASL)	HYDRAULIC HEAD IN GROUND-WATER (m)	VERTICAL HYDRAULIC GRADIENT	CALCULATED GROUND WATER FLUX TO CREEK (L/s/m2)	TEMPERATURE	
									GROUND-WATER (°C)	SURFACE WATER (°C)
DP2	09-Jan-03	1.00	1.20	303.71	303.51	0.20	0.17	1.43E-03	2.4	4.4
(cont'd)	10-Feb-03	1.10	1.00	(F)	303.71					0.2
	13-Mar-03	1.10	1.00	(F)	303.71					0.2
	10-Apr-03	0.76	0.97	303.95	303.74	0.21	0.18	1.50E-03	5.0	12.0
	07-May-03	0.88	1.03	303.83	303.68	0.15	0.13	1.07E-03	7.5	10.0
	15-May-03	0.90	1.07	303.81	303.64	0.17	0.14	1.21E-03	6.5	10.0
	16-Jun-03	1.00	1.02	303.71	303.69	0.02	0.02	1.43E-04	11.5	13.0
	17-Jul-03	1.05	1.10	303.66	303.61	0.05	0.04	3.57E-04	13.0	14.0
	21-Aug-03	1.15	1.25	303.56	303.46	0.10	0.08	7.14E-04	13.5	15.0
	26-Aug-03	0.99	1.05	303.72	303.66	0.06	0.05	4.29E-04	15.3	20.2
	25-Sep-03	0.94	1.14	303.77	303.57	0.20	0.17	1.43E-03	10.8	7.4
	27-Oct-03	0.91	1.09	303.80	303.62	0.18	0.15	1.29E-03	10.0	7.5
	01-Dec-03	0.83	1.00	303.88	303.71	0.17	0.14	1.21E-03	6.0	2.0
	11-Dec-03	0.83	1.00	na	na					2.8
	15-Dec-03	0.83	1.00	303.88	303.71	0.17	0.14	1.21E-03		2.0
	19-Jan-04	0.86	1.19	(F)303.85	(F)303.52					
	18-Feb-04	0.88	1.17	(F)303.83	(F)303.54					
	25-Mar-04	0.35	0.82	304.17	303.70	0.47	0.25	2.16E-03	4.0	4.0
	07-Apr-04	0.37	0.78	304.15	303.74	0.41	0.22	1.88E-03	5.1	4.2
	22-Apr-04	0.31	0.69	304.21	303.83	0.38	0.21	1.75E-03	4.6	6.9
	20-May-04	0.47	0.93	304.05	303.59	0.46	0.25	2.11E-03	9.9	13.4
	24-Jun-04	0.50	0.95	304.02	303.57	0.45	0.24	2.07E-03	12.7	15.1
	23-Jul-04	0.59	0.99	303.93	303.53	0.40	0.22	1.84E-03	12.0	19.4
	04-Aug-04	0.54	0.96	303.98	303.56	0.42	0.23	1.93E-03	15.0	19.0
	27-Aug-04	0.69	0.97	303.83	303.55	0.28	0.15	1.29E-03	14.0	17.0
	28-Sep-04	0.67	1.00	303.85	303.52	0.33	0.18	1.52E-03	9.0	11.8
	18-Oct-04	0.60	0.92	303.92	303.60	0.32	0.17	1.47E-03	8.0	6.7
	16-Nov-04	0.79	0.95	303.73	303.57	0.16	0.09	7.35E-04	6.8	5.5
	15-Dec-04	0.29	0.91	(F)304.23	303.61					2.7
	16-Dec-04	0.57	0.93	(F)303.95	303.59					1.4
	20-Jan-05	0.31	1.01	(F)304.21	303.70					0.7
	25-Feb-05	0.35	0.74	(F)304.17	303.97					0.5
	24-Mar-05	0.00	1.05	(F)304.52	303.66					2.3
	18-Apr-05	0.43	0.87	304.09	303.65	0.44	0.24	2.02E-03	7.9	12.8
	29-Apr-05	0.65	0.72	304.06	303.99	0.07	0.04	3.22E-04	7.4	7.1
	26-May-05	0.85	1.15	303.86	303.56	0.30	0.16	1.38E-03	12.5	12.0
	23-Jun-05	0.91	1.18	303.80	303.53	0.27	0.15	1.24E-03	11.1	17.6
	25-Jul-05	0.90	1.18	303.81	303.53	0.28	0.15	1.29E-03	13.0	18.0
	17-Aug-05	0.67	1.03	303.85	303.49	0.36	0.19	1.65E-03	14.4	17.9
	25-Aug-05	0.93	1.19	303.78	303.52	0.26	0.14	1.19E-03	14.0	16.0
	30-Sep-05	0.87	1.11	303.84	303.60	0.24	0.13	1.10E-03	12.0	11.5
	27-Oct-05	0.80	1.01	303.91	303.70	0.21	0.11	9.65E-04	7.3	8.4
	28-Nov-05	0.92	1.10	303.79	303.61	0.18	0.10	8.27E-04	7.1	4.4
	07-Dec-05	0.23	0.95	(F)304.29	(F)303.57					
	19-Dec-05	0.32	0.97	(F)304.20	303.55					0.3
	26-Jan-06	0.52	0.8	304.00	303.72	0.28	0.15	1.29E-03	5.4	3.0
	15-Feb-06	0.4	0.95	(F) 304.12	303.57					1.4
	30-Mar-06	0.41	0.89	304.11	303.63	0.48	0.26	2.21E-03	7.3	7.4
	27-Apr-06	0.39	0.84	304.13	303.68	0.45	0.24	2.07E-03	9.4	11.2
	28-Apr-06	0.47	0.91	304.05	303.61	0.44	0.24	2.02E-03	9.7	15.5
	15-May-06	0.57	0.94	303.95	303.58	0.37	0.20	1.70E-03	11.7	16.8
	15-Jun-06	0.73	1.01	303.79	303.51	0.28	0.15	1.29E-03	17	18
	15-Jul-06	0.62	0.97	303.90	303.55	0.35	0.19	1.61E-03	15.8	19.8
	24-Aug-06	0.65	1.03	303.87	303.49	0.38	0.21	1.75E-03	16.7	19.8
	15-Sep-06	0.35	0.81	304.17	303.71	0.46	0.25	2.11E-03	13.4	15.4
	15-Oct-06	0.22	0.64	304.30	303.88	0.42	0.23	1.93E-03	10	10.5
	15-Nov-06	0.41	0.83	304.11	303.69	0.42	0.23	1.93E-03	4.4	6.1
	07-Dec-06	0.29	0.84	(F) 304.23	303.68					1.6

NOTES:
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- (F) — Frozen
- L/s/m² — Litres per second per square metre
- Depth of screen midpoint below the creek bed is 1.85 m
- Assumed vertical permeability is 8.50E-06 m/s

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SUMMARY OF CREEK BASED DRIVE POINT DATA
MILL CREEK AGGREGATES PIT

MONITOR LOCATION	DATE	G.W. LEVEL BTOP (m)	S.W. LEVEL BTOP (m)	GROUND-WATER ELEVATION (m ASL)	SURFACE WATER ELEVATION (m ASL)	HYDRAULIC HEAD IN GROUND-WATER (m)	VERTICAL HYDRAULIC GRADIENT	CALCULATED GROUND WATER FLUX TO CREEK (L/s/m2)	TEMPERATURE	
									GROUND-WATER (°C)	SURFACE WATER (°C)
	17-Jan-07	0.31	0.85	(F) 304.21	303.67					0.7
DP2	26-Apr-07	0.3	0.72	304.22	303.80	0.42	0.23	1.93E-03	10.1	10.6
(cont'd)	16-May-07	0.435	0.9	304.09	303.62	0.46	0.25	2.14E-03	10.7	15.2
	26-Jun-07	0.59	1.03	303.93	303.49	0.44	0.24	2.02E-03		19.6
	25-Jul-07	0.68	1.06	303.84	303.46	0.38	0.21	1.75E-03	16.2	19.1
	07-Aug-07									22.5
	21-Aug-07	0.74	1.07	303.78	303.45	0.33	0.18	1.52E-03	14.3	13.9
	21-Sep-07	0.73	1.06	303.79	303.46	0.33	0.18	1.52E-03	15.7	15.4
	17-Oct-07	0.57	1.01	303.95	303.51	0.44	0.24	2.02E-03	13.0	12.5
	15-Nov-07	0.97		303.55					8.2	7.6
	29-Nov-07	Frozen	0.94		303.58					2.8
	10-Dec-07	Frozen	0.98		303.54					2.4
	31-Jan-08	0.37	0.98	(F)304.15	303.54					0.2
	29-Feb-08	0.41	0.91	(F)304.11	303.61					0.2
	31-Mar-08	0.24	0.40	304.28	304.12	0.16	0.09	7.35E-04	4.1	2.4
	28-Apr-08	0.43	0.90	304.09	303.62	0.47	0.25	2.16E-03	8.0	9.5
	28-May-08	0.53	0.99	303.99	303.53	0.46	0.25	2.11E-03	11.3	16.3
	25-Jun-08	0.5	0.89	304.02	303.63	0.39	0.21	1.79E-03	11.2	18.9
	16-Jul-08	0.5	0.95	304.02	303.57	0.45	0.24	2.07E-03	15.1	20.6
	20-Aug-08	0.45	0.9	304.07	303.62	0.45	0.24	2.07E-03	14.3	18.1
	26-Aug-08	0.52	0.96	304.00	303.56	0.44	0.24	2.02E-03	14.3	17.3
	19-Sep-08	0.2	0.55	304.32	303.97	0.35	0.19	1.61E-03	12.3	16.5
	10-Oct-08	0.41	0.88	304.11	303.64	0.47	0.25	2.16E-03	11.4	12.3
	05-Nov-08	0.39	0.87	304.13	303.65	0.48	0.26	2.21E-03	9.7	9.1
	17-Dec-08	0.18	0.74	(F)304.34	303.78					2.2
	06-Jan-09	0.15	0.83	(F)304.37	303.69					1.2
	27-Feb-09	0.87	1.07	303.65	303.45	0.20	0.11	9.19E-04	4.8	2.8
	11-Mar-09	0.11	0.54	(F)304.41	303.98					0.1
	14-Apr-09	0.34	0.82	304.18	303.7	0.48	0.26	2.21E-03	7	7.0
	21-May-09	0.40	0.86	304.12	303.66	0.46	0.25	2.11E-03	10.1	17.2
	16-Jun-09	0.43	0.90	304.09	303.62	0.47	0.25	2.16E-03	11.3	18.0
	31-Jul-09	0.35	0.83	304.17	303.69	0.48	0.26	2.21E-03	12.2	18.7
	25-Aug-09	0.29	0.72	304.23	303.8	0.43	0.23	1.98E-03	12.5	17.6
	28-Aug-09	0.37	0.86	304.15	303.66	0.49	0.26	2.25E-03	12.7	15.6
	28-Sep-09	0.38	0.9	304.14	303.62	0.52	0.28	2.39E-03	11.1	11.3
	14-Oct-09	0.36	0.87	304.16	303.65	0.51	0.28	2.34E-03	9.3	6.6
	11-Nov-09	0.36	0.84	304.16	303.68	0.48	0.26	2.21E-03	9.5	10.0
	11-Dec-09	Frozen	0.91		303.61					3.4
	16-Dec-09	0.30	0.85	(F)304.22	303.67					1.4
	13-Jan-10	0.52	0.95	(F)304.00	303.57					1.6
	11-Feb-10	Frozen	0.94							1.3
	11-Mar-10	0.29	0.85	304.23	303.67	0.56	0.30	2.57E-03	6.4	6.0
	16-Apr-10	0.40	0.94	304.12	303.58	0.54	0.29	2.48E-03	8.2	13.3
	21-May-10	0.45	1.00	304.07	303.52	0.55	0.30	2.53E-03	9.8	15.9
	17-Jun-10	0.35	0.89	304.17	303.63	0.54	0.29	2.48E-03	17.9	11.7
	15-Jul-10	0.47	1.02	304.05	303.50	0.55	0.30	2.53E-03	15.0	20.9
	18-Aug-10	0.51	1.03	304.01	303.49	0.52	0.28	2.39E-03	13.8	18.1
	31-Aug-10	0.48	1.02	304.04	303.50	0.54	0.29	2.48E-03	13.1	17.6
	28-Sep-10	0.32	0.85	304.20	303.67	0.53	0.29	2.44E-03	11.9	14.1
	20-Oct-10	0.29	0.95	304.23	303.57	0.66	0.36	3.03E-03	9.9	9.0
	18-Nov-10	0.24	0.85	304.28	303.67	0.61	0.33	2.80E-03	8.7	7.2
	08-Dec-10	Frozen	0.94		303.58					0.5
	22-Dec-10	(F)0.23	0.99	(F)304.29	303.53					1.9

NOTES:
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- Depth of screen midpoint below the creek bed is 1.85 m
- Assumed vertical permeability is 8.50E-06 m/s

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MILL CREEK AGGREGATES PIT

MONITOR LOCATION	DATE	G.W. LEVEL BTOP (m)	S.W. LEVEL BTOP (m)	GROUND-WATER ELEVATION (m ASL)	SURFACE WATER ELEVATION (m ASL)	HYDRAULIC HEAD IN GROUND-WATER (m)	VERTICAL HYDRAULIC GRADIENT	CALCULATED GROUND WATER FLUX TO CREEK (L/s/m2)	TEMPERATURE	
									GROUND-WATER (°C)	SURFACE WATER (°C)
	19-Jan-11	Frozen	1.05							1.2
DP2	17-Feb-11	0.92	1.00	303.60	303.52	0.08	0.04	3.68E-04	5.9	3.2
(cont'd)	16-Mar-11	0.18	0.69	304.34	303.83	0.51	0.28	2.34E-03	6.0	4.8
	13-Apr-11	0.21	0.87	304.31	303.65	0.66	0.36	3.03E-03	6.5	8.3
	21-Apr-11	0.15	0.70	304.37	303.82	0.55	0.30	2.53E-03	5.8	4.4
	26-May-11	0.15	0.74	304.37	303.78	0.59	0.32	2.71E-03	10.4	15.1
	16-Jun-11	0.26	0.92	304.26	303.60	0.66	0.36	3.03E-03	11.5	18.6
	14-Jul-11	0.40	1.01	304.12	303.51	0.61	0.33	2.80E-03	12.4	17.6
	11-Aug-11	0.32	1.02	304.20	303.50	0.70	0.38	3.22E-03	12.0	14.7
	17-Aug-11	0.30	1.02	304.22	303.50	0.72	0.39	3.31E-03	12.3	18.2
	14-Sep-11	0.29	1.02	304.23	303.50	0.73	0.39	3.35E-03	11.8	15.0
	27-Oct-11	0.21	0.82	304.31	303.70	0.61	0.33	2.80E-03	9.4	7.0
	14-Nov-11	0.21	0.92	304.31	303.60	0.71	0.38	3.26E-03	8.2	5.4
	14-Dec-11	0.13	0.67	304.39	303.85	0.54	0.29	2.48E-03	8.0	6.3
	22-Dec-11	0.66	0.81	303.86	303.71	0.15	0.08	6.89E-04	7.6	3.1
	16-Jan-12	Frozen	0.92		303.6					0.7
	16-Feb-12	0.76	0.95	303.76	303.57	0.19	0.10	8.73E-04	5.7	3.4
	29-Mar-12	0.36	0.93	304.16	303.59	0.57	0.31	2.62E-03	7.0	5.7
	10-Apr-12	0.34	0.96	304.18	303.56	0.62	0.34	2.85E-03	7.7	7.1
	30-Apr-12	0.38	0.98	304.14	303.54	0.6	0.32	2.76E-03	7.4	8.3
	29-May-12	0.42	1.04	304.10	303.48	0.62	0.34	2.85E-03	11.3	17.6
	20-Jun-12	0.40	1.04	304.12	303.48	0.64	0.35	2.94E-03	12.9	21.9
	24-Jul-12	0.40	1.06	304.12	303.46	0.66	0.36	3.03E-03	13.2	20.4
	08-Aug-12	0.39	1.06	304.13	303.46	0.67	0.36	3.08E-03	13.3	19.7
	21-Aug-12	0.40	1.07	304.12	303.45	0.67	0.36	3.08E-03	13.3	17.1
	18-Sep-12	0.29	0.98	304.23	303.54	0.69	0.37	3.17E-03	11.8	13.0
	23-Oct-12	0.25	0.83	304.27	303.69	0.58	0.31	2.66E-03	10.3	10.1
	28-Nov-12	0.36	1.02	304.16	303.5	0.66	0.36	3.03E-03	7.7	3.1
	06-Dec-12	Frozen	0.93		303.59					2.5
	19-Dec-12	Frozen	0.99		303.53					3.2
	16-Jan-13	Frozen	0.88		303.64					1.2
	20-Feb-13	Frozen	0.95		303.57					1.2
	21-Mar-13	Frozen	0.89		303.63					1.7
	04-Apr-13	Frozen	0.85		303.67					4.6
	25-Apr-13	0.18	0.80	304.34	303.72	0.62	0.34	2.85E-03	7.0	8.6
	23-May-13	0.22	0.97	304.30	303.55	0.75	0.41	3.45E-03	11.3	19.9
	13-Jun-13	0.19	0.82	304.33	303.7	0.63	0.34	2.89E-03	11.4	18.0
	31-Jul-13	0.26	0.89	304.26	303.63	0.63	0.34	2.89E-03	13.0	17.0
	29-Aug-13	0.30	0.88	304.22	303.64	0.58	0.31	2.66E-03	15.8	20.0
	25-Sep-13	0.30	0.87	304.22	303.65	0.57	0.31	2.62E-03	12.1	13.9
	22-Oct-13	0.26	0.76	304.26	303.76	0.50	0.27	2.30E-03	10.4	8.1
	28-Nov-13	Frozen	0.87		303.65					1.3
	10-Dec-13	Frozen	0.91		303.61					0.7
	15-Jan-14	(F)0.09	0.72		303.8					0.9
	26-Feb-14	Frozen	0.70		303.82					0.6
	26-Mar-14	(F)0.12	0.8		303.72					0.4
	01-Apr-14	0.11	0.64	304.41	303.88	0.53	0.29	2.44E-03	5.8	2.2
	15-May-14	0.18	0.73	304.34	303.79	0.55	0.30	2.53E-03	9.2	16.8
	18-Jun-14	0.27	0.97	304.25	303.55	0.70	0.38	3.22E-03	11.7	19.3
	29-Jul-14	0.15	0.71	304.37	303.81	0.56	0.30	2.57E-03	12.7	17.4
	25-Aug-14	0.22	0.92	304.30	303.60	0.70	0.38	3.22E-03	14.7	17.7
	18-Sep-14	0.19	0.78	304.33	303.74	0.59	0.32	2.71E-03	13.2	15.4
	17-Oct-14	0.19	0.84	304.33	303.68	0.65	0.35	2.99E-03	11.8	13.3
	27-Nov-14	Frozen	0.80		303.72					0.7
	15-Dec-14	0.80	0.87	303.72	303.65	0.07	0.04	3.22E-04	9.1	4.6

NOTES:
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- L/s/m² — Litres per second per square metre
- Depth of screen midpoint below the creek bed is 1.85 m
- Assumed vertical permeability is 8.50E-06 m/s

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MILL CREEK AGGREGATES PIT

MONITOR LOCATION	DATE	G.W. LEVEL BTOP (m)	S.W. LEVEL BTOP (m)	GROUND-WATER ELEVATION (m ASL)	SURFACE WATER ELEVATION (m ASL)	HYDRAULIC HEAD IN GROUND-WATER (m)	VERTICAL HYDRAULIC GRADIENT	CALCULATED GROUND WATER FLUX TO CREEK (L/s/m2)	TEMPERATURE GROUND-WATER (°C)	TEMPERATURE SURFACE WATER (°C)
DP2	21-Jan-15	(F)	0.98		303.54					0.5
(cont'd)	18-Feb-15	(F)	(F)							0.3
	25-Mar-15	0.17	0.89	304.35	303.63	0.72	0.39	3.31E-03	4.6	2.4
	06-Apr-15	0.19	0.84	304.33	303.68	0.65	0.35	2.99E-03	6.2	5.0
	20-May-15	0.29	1.02	304.23	303.50	0.73	0.39	3.35E-03	9.7	13.9
	23-Jun-15	0.26	0.97	304.26	303.55	0.71	0.38	3.26E-03	12.0	18.9
	22-Jul-15	0.26	0.97	304.26	303.55	0.71	0.38	3.26E-03	12.7	18.4
	25-Aug-15	0.31	0.94	304.21	303.58	0.63	0.34	2.89E-03	13.5	15.4
	24-Sep-15	0.36	0.99	304.16	303.53	0.63	0.34	2.89E-03	12.7	15.8
	29-Oct-15	0.24	0.67	304.28	303.85	0.43	0.23	1.98E-03	9.6	8.8
	25-Nov-15	0.34	0.93	304.18	303.59	0.59	0.32	2.71E-03	8.4	6.3
	10-Dec-15	0.41	0.96	304.11	303.56	0.55	0.30	2.53E-03	8.9	5.8
	20-Jan-16	(F)	0.98		303.54					1.4
	29-Feb-16	(F)	0.94		303.58					1.6
	17-Mar-16	0.20	0.73	304.32	303.79	0.53	0.29	2.44E-03	5.0	6.8
	30-Mar-16	0.38	0.70	304.14	303.82	0.32	0.17	1.47E-03	7.4	5.4
	27-Apr-16	0.21	0.89	304.31	303.63	0.68	0.37	3.12E-03	7.6	7.8
	30-May-16	0.24	0.92	304.28	303.60	0.68	0.37	3.12E-03	12.1	20.2
	27-Jun-16	0.32	1.03	304.20	303.49	0.71	0.38	3.26E-03	12.8	18.7
	28-Jul-16	0.34	1.00	304.18	303.52	0.66	0.36	3.03E-03	12.9	20.3
	11-Aug-16	0.38	1.00	304.14	303.52	0.62	0.34	2.85E-03	13.8	18.2
	21-Sep-16	0.32	1.00	304.20	303.52	0.68	0.37	3.12E-03	13.6	16.5
	18-Oct-16	0.39	0.98	304.13	303.54	0.59	0.32	2.71E-03	12.7	15.8
	14-Nov-16	0.39	0.96	304.13	303.56	0.57	0.31	2.62E-03	10.4	6.9
	14-Dec-16	(F)	0.94		303.58					4.2
	18-Jan-17	(F)	0.79		303.73					2.3
	15-Feb-17	(F)	0.92		303.60					2.2
	17-Mar-17	0.61	1.04	303.91	303.48	0.43	0.23	1.98E-03	8.5	2.9
	11-Apr-17	0.29	0.79	304.23	303.73	0.50	0.27	2.30E-03		7.8
	18-May-17	0.34	0.89	304.18	303.63	0.55	0.30	2.53E-03		16.0
	14-Jun-17	0.41	0.91	304.11	303.61	0.50	0.27	2.30E-03	11.3	15.8
	20-Jul-17	0.36	0.85	304.16	303.67	0.49	0.26	2.25E-03	15.3	18.2
	09-Aug-17	0.41	0.90	304.11	303.62	0.49	0.26	2.25E-03	13.2	15.6
	12-Sep-17	0.45	0.92	304.07	303.60	0.47	0.25	2.16E-03	12.1	11.9
	12-Oct-17	0.46	0.93	304.06	303.59	0.47	0.25	2.16E-03	12.5	11.1
	21-Nov-17	0.67	0.85	303.85	303.67	0.18	0.10	8.27E-04	8.3	4.0
	19-Dec-17	0.42	0.94	304.10	303.58	0.52	0.28	2.39E-03	6.2	2.3
	16-Jan-18	(F)	(F)							
	26-Feb-18	0.28	0.73	304.24	303.79	0.45	0.24	2.07E-03	5.7	2.2
	26-Mar-18	(F)	0.99		303.53				5.3	2.7
	24-Apr-18	0.26	0.70	304.26	303.82	0.44	0.24	2.02E-03	7.0	8.3
	18-May-18	0.35	0.92	304.17	303.60	0.57	0.31	2.62E-03	9.9	14.6
	12-Jun-18	0.44	1.03	304.08	303.49	0.59	0.32	2.71E-03	12.5	14.6
	27-Jul-18	0.53	1.01	303.99	303.51	0.48	0.26	2.21E-03	15.5	18.6
	22-Aug-18	0.42	0.90	304.10	303.62	0.48	0.26	2.21E-03	13.2	18.0
	12-Sep-18	0.50	0.96	304.02	303.56	0.46	0.25	2.11E-03	13.3	14.1
	30-Oct-18	0.50	0.95	304.02	303.57	0.45	0.24	2.07E-03	10.3	6.3
	21-Nov-18	(F)	0.92		303.61					2.2
	20-Dec-18	(F)	0.93		303.59					2.8
2018 AVERAGE VALUES						0.49	0.26	2.25E-03	10.3	9.5
OVERALL AVERAGE VALUES						0.34	0.21	1.82E-03	9.8	10.1

NOTES:
- m ASL — metres above sea level
- (F) — Frozen
- L/s/m² — Litres per second per square metre
- Depth of screen midpoint below the creek bed is 1.85 m
- Assumed vertical permeability is 8.50E-06 m/s

TABLE B-5
SUMMARY OF CREEK BASED DRIVE POINT DATA
MILL CREEK AGGREGATES PIT

MONITOR LOCATION	DATE	G.W. LEVEL BTOP (m)	S.W. LEVEL BTOP (m)	GROUND-WATER ELEVATION (m ASL)	SURFACE WATER ELEVATION (m ASL)	HYDRAULIC HEAD IN GROUND-WATER (m)	VERTICAL HYDRAULIC GRADIENT	CALCULATED GROUNDWATER FLUX TO CREEK (L/s/m2)	TEMPERATURE	
									GROUND-WATER (°C)	SURFACE WATER (°C)
DP3	27-Sep-88	1.02	1.06	304.67	304.63	0.04	0.03	1.18E-03		16.0
	03-Dec-88	0.98	1.01	304.71	304.68	0.03	0.02	8.88E-04	8.0	2.3
	14-Dec-88	1.02	1.06	304.67	304.63	0.04	0.03	1.18E-03		
	20-Jan-89	1.01	1.04	304.68	304.65	0.03	0.02	8.88E-04		
	22-Feb-89	1.04	1.08	304.65	304.61	0.04	0.03	1.18E-03	6.5	2.5
	01-Apr-89	0.87	0.90	304.82	304.79	0.03	0.02	8.88E-04	7.0	4.0
	17-Apr-89	0.93	0.98	304.76	304.71	0.05	0.03	1.48E-03		
	24-May-89	1.02	1.06	304.67	304.63	0.04	0.03	1.18E-03		16.5
	05-Jun-89	0.93	1.00	304.76	304.69	0.07	0.05	2.07E-03	8.5	16.5
	12-Jul-89	1.09	1.14	304.60	304.55	0.05	0.03	1.48E-03	7.0	20.0
	27-Jul-89	1.09	NA	304.60						
	15-Aug-89	1.10	1.12	304.59	304.57	0.02	0.01	5.92E-04	6.0	14.0
	30-Aug-89	1.11	1.14	304.58	304.55	0.03	0.02	8.88E-04	5.5	13.0
	17-Oct-89	1.07	1.12	304.62	304.57	0.05	0.03	1.48E-03	5.0	4.5
	30-Nov-89	1.01	1.06	304.68	304.63	0.05	0.03	1.48E-03	6.5	1.0
	13-Dec-89	1.07	1.12	304.62	304.57	0.05	0.03	1.48E-03	4.0	
	17-Jan-90	1.02	1.06	304.67	304.63	0.04	0.03	1.18E-03	7.0	2.0
	06-Mar-90	0.98	1.01	304.71	304.68	0.03	0.02	8.88E-04	7.0	
	02-Apr-90	0.95	1.00	304.74	304.69	0.05	0.03	1.48E-03	7.0	4.5
	25-Jun-90	1.02	1.07	304.67	304.62	0.05	0.03	1.48E-03	9.0	15.0
	26-Jul-90	1.03	1.09	304.66	304.60	0.06	0.04	1.78E-03	10.0	18.0
	22-Aug-90	1.03	1.08	304.66	304.61	0.05	0.03	1.48E-03	9.0	18.0
	26-Sep-90	1.05	1.10	304.64	304.59	0.05	0.03	1.48E-03	9.0	12.0
	24-Oct-90	0.97	1.02	304.72	304.67	0.05	0.03	1.48E-03	9.0	7.0
	25-Nov-90	0.94	1.02	304.75	304.67	0.08	0.05	2.37E-03	8.0	4.5
	14-Dec-90	0.91	0.96	304.78	304.73	0.05	0.03	1.48E-03	7.5	1.0
	23-Jan-91	0.96	1.02	304.73	304.67	0.06	0.04	1.78E-03	6.0	
	20-Feb-91	0.88	0.93	304.81	304.76	0.05	0.03	1.48E-03	7.0	2.0
	28-Mar-91	0.42	0.47	305.27	305.22	0.05	0.03	1.48E-03	8.0	6.0
	26-Apr-91	0.76	0.82	304.93	304.87	0.06	0.04	1.78E-03	8.4	10.5
	24-May-91	0.95	1.03	304.74	304.66	0.08	0.05	2.37E-03	8.6	17.0
	20-Jun-91	0.92	1.01	304.77	304.68	0.09	0.06	2.66E-03	8.5	20.0
	30-Jul-91	0.67	0.73	305.02	304.96	0.06	0.04	1.78E-03	9.5	17.0
	22-Aug-91	0.98	1.06	304.71	304.63	0.08	0.05	2.37E-03	10.0	15.0
	25-Sep-91	0.98	1.06	304.71	304.63	0.08	0.05	2.37E-03	11.0	11.2
	29-Oct-91	0.94	1.01	304.75	304.68	0.07	0.05	2.07E-03	9.0	7.5
	26-Nov-91	0.96	1.04	304.73	304.65	0.08	0.05	2.37E-03	8.3	2.5
	16-Dec-91	0.90	0.96	304.79	304.73	0.06	0.04	1.78E-03	7.1	0.2
	13-Mar-92	0.90	0.97	304.79	304.72	0.07	0.05	2.07E-03	7.2	2.5
	15-Apr-92	0.92	0.98	304.77	304.71	0.06	0.04	1.78E-03	7.2	4.4
	21-May-92	0.97	1.06	304.72	304.63	0.09	0.06	2.66E-03	8.2	19.9
	29-Jun-92	1.01	1.08	304.68	304.61	0.07	0.05	2.07E-03	8.7	15.9
	20-Jul-92	0.75	0.84	304.94	304.85	0.09	0.06	2.66E-03	8.8	18.6
	27-Aug-92	0.86	0.91	304.83	304.78	0.05	0.03	1.48E-03	9.5	19.0
	14-Sep-92	0.91	0.98	304.78	304.71	0.07	0.05	2.07E-03	10.0	16.0
	28-Oct-92	0.89	0.96	304.80	304.73	0.07	0.05	2.07E-03	9.0	6.0
	26-Nov-92	0.68	0.76	305.01	304.93	0.08	0.05	2.37E-03	7.0	4.0
	15-Dec-92	0.87	0.96	304.82	304.73	0.09	0.06	2.66E-03	7.9	2.5
	19-Jan-93	0.81	0.94	304.88	304.75	0.13	0.09	3.85E-03	5.0	
	26-Mar-93	0.90	0.97	304.79	304.72	0.07	0.05	2.07E-03	7.0	3.5
	19-Apr-93	0.84	0.90	304.85	304.79	0.06	0.04	1.78E-03	7.5	8.5
	27-May-93	0.95	1.05	304.74	304.64	0.10	0.07	2.96E-03	7.5	11.5
	22-Jun-93	0.87	0.92	304.82	304.77	0.05	0.03	1.48E-03	9.0	21.0
	14-Jul-93	0.95	1.03	304.74	304.66	0.08	0.05	2.37E-03	8.7	18.9
	18-Aug-93	0.98	1.05	304.71	304.64	0.07	0.05	2.07E-03	9.1	18.6
	20-Sep-93	1.00	1.08	304.69	304.61	0.08	0.05	2.37E-03	9.5	10.9
	19-Oct-93	0.88	0.96	304.81	304.73	0.08	0.05	2.37E-03	9.5	9.0
	17-Nov-93	0.96	1.05	304.73	304.64	0.09	0.06	2.66E-03	7.7	5.1
	06-Dec-93	0.90	1.00	304.79	304.69	0.10	0.07	2.96E-03	7.7	3.5
	18-Jan-94	1.03	1.10	304.66	304.59	0.07	0.05	2.07E-03		0.4
	24-Feb-94	0.95	1.01	304.74	304.68	0.06	0.04	1.78E-03	8.0	1.0
	24-Mar-94	0.75	0.80	304.94	304.89	0.05	0.03	1.48E-03	7.8	4.7
	19-Apr-94	0.89	0.97	304.80	304.72	0.08	0.05	2.37E-03	6.5	7.0
	24-May-94	0.96	1.03	304.73	304.66	0.07	0.05	2.07E-03	8.0	15.0
	23-Jun-94	1.07	1.12	304.62	304.57	0.05	0.03	1.48E-03	8.0	18.0
	19-Jul-94	1.07	1.13	304.62	304.56	0.06	0.04	1.78E-03	7.0	18.0
	25-Aug-94	1.04	1.11	304.65	304.58	0.07	0.05	2.07E-03	10.0	17.0
	21-Sep-94	1.06	1.13	304.63	304.56	0.07	0.05	2.07E-03	7.0	14.0
	18-Oct-94	1.04	1.10	304.65	304.59	0.06	0.04	1.78E-03	7.0	9.0
	23-Nov-94	0.97	1.05	304.72	304.64	0.08	0.05	2.37E-03	9.0	4.0
	21-Dec-94	0.98	1.03	304.71	304.66	0.05	0.03	1.48E-03	9.0	4.0
	24-Jan-95	0.76	0.82	304.93	304.87	0.06	0.04	1.78E-03	7.0	3.0
	15-Feb-95	1.00	1.10	304.69	304.59	0.10	0.07	2.96E-03	6.0	4.0
	23-Mar-95	0.87	0.95	304.82	304.74	0.08	0.05	2.37E-03	4.0	1.0
	17-May-95	0.95	1.00	304.74	304.69	0.05	0.03	1.48E-03	9.0	14.0
	13-Jun-95	1.02	1.06	304.67	304.63	0.04	0.03	1.18E-03	11.0	15.0
	20-Jul-95	1.02	1.08	304.67	304.61	0.06	0.04	1.78E-03	12.0	20.0
	15-Aug-95	0.82	0.87	304.87	304.82	0.05	0.03	1.48E-03	11.0	20.0
	18-Oct-95	1.01	1.08	304.68	304.61	0.07	0.05	2.07E-03	9.5	8.5
	22-Nov-95	0.92	0.97	304.77	304.72	0.05	0.03	1.48E-03	6.0	2.0
	26-Mar-96	0.79	0.86	304.90	304.83	0.07	0.05	2.07E-03	6.0	1.0
	31-May-96	0.91	0.98	304.78	304.71	0.07	0.05	2.07E-03	10.0	19.0
	28-Jun-96	0.87	0.96	304.82	304.73	0.09	0.06	2.66E-03	11.0	19.0
	31-Jul-96	0.79	0.86	304.90	304.83	0.07	0.05	2.07E-03	14.0	21.0
	30-Aug-96	0.92	0.97	304.77	304.72	0.05	0.03	1.48E-03	10.5	18.0
	27-Sep-96	0.81	0.88	304.88	304.81	0.07	0.05	2.07E-03	11.0	14.0
	06-Nov-96	0.86	0.94	304.83	304.75	0.08	0.05	2.37E-03	9.0	7.0

NOTES:
· m ASL metres above sea level
· (F) Frozen
· L/s/m² Litres per second per square metre
· Depth of screen midpoint below the creek bed is 1.52 m
· Assumed vertical permeability is 5.00E-05 m/s

TABLE B-5
SUMMARY OF CREEK BASED DRIVE POINT DATA
MILL CREEK AGGREGATES PIT

MONITOR LOCATION	DATE	G.W. LEVEL BTOP (m)	S.W. LEVEL BTOP (m)	GROUND-WATER ELEVATION (m ASL)	SURFACE WATER ELEVATION (m ASL)	HYDRAULIC HEAD IN GROUND-WATER (m)	VERTICAL HYDRAULIC GRADIENT	CALCULATED GROUNDWATER FLUX TO CREEK (L/s/m2)	TEMPERATURE	
									GROUND-WATER (°C)	SURFACE WATER (°C)
	31-Mar-97	0.49	0.60	305.19	305.08	0.11	0.07	3.26E-03	6.0	3.0
DP3	30-Apr-97	0.87	0.94	304.81	304.74	0.07	0.05	2.07E-03	8.0	14.0
(con't)	26-May-97	0.90	0.97	304.78	304.71	0.07	0.05	2.07E-03	8.0	16.0
	27-Jun-97	0.94	1.01	304.74	304.67	0.07	0.05	2.07E-03	8.5	19.5
	30-Jul-97	0.96	1.03	304.72	304.65	0.07	0.05	2.07E-03	9.0	19.5
	31-Aug-97	0.92	0.99	304.76	304.69	0.07	0.05	2.07E-03	9.5	16.5
	03-Oct-97	0.97	1.02	304.71	304.66	0.05	0.03	1.48E-03	10.3	14.0
	06-Nov-97	0.87	0.93	304.81	304.75	0.06	0.04	1.78E-03	8.8	7.5
	12-Dec-97	0.90	1.04	(F) 304.79	304.64					1.5
	27-Mar-98	0.88	0.87	304.80	304.81	-0.01	-0.01	-2.96E-04	5.0	4.5
	30-Apr-98	0.96	1.03	304.72	304.65	0.07	0.05	2.07E-03	5.5	12.5
	31-May-98	1.01	1.01	304.67	304.67	0.00	0.00	0.00E+00	8.0	17.0
	30-Jun-98	0.93	0.99	304.75	304.69	0.06	0.04	1.78E-03	10.0	20.0
	31-Jul-98	1.00	1.05	304.68	304.63	0.05	0.03	1.48E-03	11.0	21.0
	30-Sep-98	0.99	1.04	304.69	304.64	0.05	0.03	1.48E-03	11.0	13.0
	27-Nov-98	1.02	1.08	304.66	304.60	0.06	0.04	1.78E-03	8.5	5.5
	31-Mar-99	0.88	0.93	304.80	304.75	0.05	0.03	1.48E-03	7.0	9.0
	20-May-99	1.05	1.10	304.63	304.58	0.05	0.03	1.48E-03	8.8	15.9
	29-Jun-99	1.05	1.14	304.63	304.54	0.09	0.06	2.66E-03	12.0	20.0
	16-Jul-99	1.15	1.19	304.53	304.49	0.04	0.03	1.18E-03		21.0
	11-Aug-99	1.05	1.11	304.63	304.57	0.06	0.04	1.78E-03	11.0	19.3
	09-Sep-99	0.92	0.97	304.76	304.71	0.05	0.03	1.48E-03	11.3	20.5
	09-Nov-99	0.97	1.02	304.71	304.66	0.05	0.03	1.48E-03	9.7	8.4
	01-Mar-00	0.93	0.99	304.75	304.69	0.06	0.04	1.78E-03	3.0	2.5
	18-May-00	0.76	0.82	304.92	304.86	0.06	0.04	1.78E-03	9.0	11.0
	15-Jun-00	0.71	0.78	304.97	304.90	0.07	0.05	2.07E-03	9.5	18.5
	06-Jul-00	0.99	1.06	304.69	304.62	0.07	0.05	2.07E-03	11.8	20.1
	08-Aug-00	0.97	1.04	304.71	304.64	0.07	0.05	2.07E-03	11.7	21.0
	13-Sep-00	0.98	1.04	304.70	304.64	0.06	0.04	1.78E-03	11.1	16.8
	10-Oct-00	1.00	1.06	304.68	304.62	0.06	0.04	1.78E-03	10.0	9.0
	08-Nov-00	1.04	1.10	304.64	304.58	0.06	0.04	1.78E-03	9.7	9.4
	14-Nov-00	0.97	1.03	304.71	304.65	0.06	0.04	1.78E-03		
	11-Dec-00	1.05	1.09	304.63	304.59	0.04	0.03	1.18E-03	2.3	0.4
	11-Jan-01	1.02	1.10	(F) 304.67	304.58					1.7
	09-Feb-01	1.00	1.08	304.68	304.60	0.08	0.05	2.37E-03	3.6	1.6
	13-Mar-01	0.95	1.04	304.73	304.64	0.09	0.06	2.66E-03	3.3	2.0
	10-Apr-01	0.75	0.81	304.93	304.87	0.06	0.04	1.78E-03	7.4	5.9
	04-May-01	1.02	1.10	304.66	304.58	0.08	0.05	2.37E-03	9.5	17.5
	07-Jun-01	1.00	1.02	304.68	304.66	0.02	0.01	5.92E-04	4.0	9.0
	25-Jun-01	1.04	1.12	304.64	304.56	0.08	0.05	2.37E-03		
	28-Jun-01	1.06	1.11	304.62	304.57	0.05	0.03	1.48E-03		
	03-Jul-01	1.07	1.13	304.61	304.55	0.06	0.04	1.78E-03		
	05-Jul-01	1.07	1.13	304.61	304.55	0.06	0.04	1.78E-03		
	09-Jul-01	1.07	1.13	304.61	304.55	0.06	0.04	1.78E-03		
	12-Jul-01	1.07	1.14	304.61	304.54	0.07	0.05	2.07E-03	10.8	16.9
	16-Jul-01	1.08	1.14	304.60	304.54	0.06	0.04	1.78E-03		
	19-Jul-01	1.08	1.14	304.60	304.54	0.06	0.04	1.78E-03		
	23-Jul-01	1.08	1.14	304.60	304.54	0.06	0.04	1.78E-03		
	26-Jul-01	1.08	1.14	304.60	304.54	0.06	0.04	1.78E-03		
	30-Jul-01	1.09	1.15	304.59	304.53	0.06	0.04	1.78E-03		
	02-Aug-01	1.09	1.16	304.59	304.52	0.07	0.05	2.07E-03	12.8	21.2
	07-Aug-01	1.09	1.16	304.59	304.52	0.07	0.05	2.07E-03		
	09-Aug-01	1.10	1.17	304.58	304.51	0.07	0.05	2.07E-03		
	13-Aug-01	1.10	1.17	304.58	304.51	0.07	0.05	2.07E-03		
	16-Aug-01	1.10	1.16	304.58	304.52	0.06	0.04	1.78E-03		
	20-Aug-01	0.99	1.05	304.69	304.63	0.06	0.04	1.78E-03		
	23-Aug-01	1.05	1.11	304.63	304.57	0.06	0.04	1.78E-03		
	27-Aug-01	1.06	1.11	304.62	304.57	0.05	0.03	1.48E-03		
	30-Aug-01	1.06	1.11	304.62	304.57	0.05	0.03	1.48E-03		
	04-Sep-01	1.07	1.12	304.61	304.56	0.05	0.03	1.48E-03	11.0	17.3
	06-Sep-01	1.07	1.12	304.61	304.56	0.05	0.03	1.48E-03		
	10-Sep-01	1.09	1.13	304.59	304.55	0.04	0.03	1.18E-03		
	13-Sep-01	1.09	1.13	304.59	304.55	0.04	0.03	1.18E-03		
	17-Sep-01	1.10	1.14	304.58	304.54	0.04	0.03	1.18E-03		
	18-Sep-01	1.10	1.14	304.58	304.54	0.04	0.03	1.18E-03		
	20-Sep-01	1.07	1.13	304.61	304.55	0.06	0.04	1.78E-03		
	24-Sep-01	1.02	1.06	304.66	304.62	0.04	0.03	1.18E-03		
	27-Sep-01	1.01	1.06	304.67	304.62	0.05	0.03	1.48E-03		
	01-Oct-01	1.05	1.11	304.63	304.57	0.06	0.04	1.78E-03	10.0	10.4
	04-Oct-01	1.06	1.13	304.62	304.55	0.07	0.05	2.07E-03		
	09-Oct-01	0.99	1.04	304.69	304.64	0.05	0.03	1.48E-03		
	11-Oct-01	1.00	1.05	304.68	304.63	0.05	0.03	1.48E-03		
	15-Oct-01	0.94	1.02	304.74	304.66	0.08	0.05	2.37E-03		
	19-Oct-01	0.94	1.01	304.74	304.67	0.07	0.05	2.07E-03		
	22-Oct-01	0.98	1.06	304.70	304.62	0.08	0.05	2.37E-03		
	26-Oct-01	0.96	1.01	304.72	304.67	0.05	0.03	1.48E-03		
	29-Oct-01	0.99	1.05	304.69	304.63	0.06	0.04	1.78E-03		
	01-Nov-01	1.00	1.05	304.68	304.63	0.05	0.03	1.48E-03		
	05-Nov-01	0.95	1.02	304.73	304.66	0.07	0.05	2.07E-03	8.6	7.3
	08-Nov-01	0.98	1.04	304.70	304.64	0.06	0.04	1.78E-03		
	12-Nov-01	0.99	1.04	304.69	304.64	0.05	0.03	1.48E-03		
	15-Nov-01	0.98	1.02	304.70	304.66	0.04	0.03	1.18E-03		
	19-Nov-01	0.99	1.05	304.69	304.63	0.06	0.04	1.78E-03		
	22-Nov-01	0.98	1.05	304.70	304.63	0.07	0.05	2.07E-03		
	26-Nov-01	0.94	1.00	304.74	304.68	0.06	0.04	1.78E-03		
	29-Nov-01	0.89	0.96	304.79	304.72	0.07	0.05	2.07E-03		
	03-Dec-01	0.76	0.82	304.92	304.86	0.06	0.04	1.78E-03		

NOTES:
· m ASL metres above sea level
· (F) Frozen
· L/s/m² Litres per second per square metre
· Depth of screen midpoint below the creek bed is 1.52 m
· Assumed vertical permeability is 5.00E-05 m/s

TABLE B-5
SUMMARY OF CREEK BASED DRIVE POINT DATA
MILL CREEK AGGREGATES PIT

MONITOR LOCATION	DATE	G.W. LEVEL BTOP (m)	S.W. LEVEL BTOP (m)	GROUND-WATER ELEVATION (m ASL)	SURFACE WATER ELEVATION (m ASL)	HYDRAULIC HEAD IN GROUND-WATER (m)	VERTICAL HYDRAULIC GRADIENT	CALCULATED GROUNDWATER FLUX TO CREEK (L/s/m2)	TEMPERATURE GROUND-WATER (°C)	TEMPERATURE SURFACE WATER (°C)
	06-Dec-01	0.81	0.87	304.87	304.81	0.06	0.04	1.78E-03	8.6	7.6
DP3	10-Dec-01	0.85	0.89	304.83	304.79	0.04	0.03	1.18E-03		
(con't)	13-Dec-01	0.83	0.87	304.85	304.81	0.04	0.03	1.18E-03		
	17-Dec-01	0.79	0.85	304.89	304.83	0.06	0.04	1.78E-03		
	20-Dec-01	0.76	0.81	304.92	304.87	0.05	0.03	1.48E-03		
	02-Jan-02	F	0.96	(F)	304.72					0.3
	08-Jan-02	F	0.96	(F)	304.72					
	10-Jan-02	0.83	0.90	304.85	304.78	0.07	0.05	2.07E-03		
	14-Jan-02	F	0.98	(F)	304.70					
	17-Jan-02	0.80	0.91	304.88	304.77	0.11	0.07	3.26E-03		
	21-Jan-02	F	0.94	(F)	304.74					
	24-Jan-02	F	0.87	(F)	304.81					
	28-Jan-02	0.84	0.87	304.84	304.81	0.03	0.02	8.88E-04		
	01-Feb-02	0.85	0.89	304.83	304.79	0.04	0.03	1.18E-03		
	04-Feb-02	0.80	0.91	304.88	304.77	0.11	0.07	3.26E-03		
	07-Feb-02	0.86	0.92	304.82	304.76	0.06	0.04	1.78E-03	5.3	0.1
	11-Feb-02	0.83	0.92	304.85	304.76	0.09	0.06	2.66E-03		
	15-Feb-02	0.88	0.93	304.80	304.75	0.05	0.03	1.48E-03		
	18-Feb-02	0.85	0.91	304.83	304.77	0.06	0.04	1.78E-03		
	21-Feb-02	0.80	0.90	304.88	304.78	0.10	0.07	2.96E-03		
	25-Feb-02	0.78	0.85	304.90	304.83	0.07	0.05	2.07E-03		
	11-Mar-02	0.97	1.00	304.71	304.68	0.03	0.02	8.88E-04		
	19-Mar-02	0.90	0.96	304.78	304.72	0.06	0.04	1.78E-03		
	21-Mar-02	0.87	0.97	304.81	304.71	0.10	0.07	2.96E-03		
	26-Mar-02	0.84	0.95	304.84	304.73	0.11	0.07	3.26E-03		
	28-Mar-02	0.91	1.00	304.77	304.68	0.09	0.06	2.66E-03		
	01-Apr-02	0.85	0.92	304.83	304.76	0.07	0.05	2.07E-03		
	05-Apr-02	0.83	0.89	304.85	304.79	0.06	0.04	1.78E-03		
	07-Apr-02	0.70	0.75	304.98	304.93	0.05	0.03	1.48E-03	8.3	8.1
	11-Apr-02	0.75	0.82	304.93	304.86	0.07	0.05	2.07E-03		
	17-Apr-02	0.77	0.84	304.91	304.84	0.07	0.05	2.07E-03		
	19-Apr-02	0.73	0.78	304.95	304.90	0.05	0.03	1.48E-03		
	23-Apr-02	0.83	0.91	304.85	304.77	0.08	0.05	2.37E-03		
	29-Apr-02	0.79	0.88	304.89	304.80	0.09	0.06	2.66E-03		
	06-May-02	0.88	0.94	304.80	304.74	0.06	0.04	1.78E-03	11.0	12.9
	10-May-02	0.88	0.94	304.80	304.74	0.06	0.04	1.78E-03		
	14-May-02	0.8	0.86	304.88	304.82	0.06	0.04	1.78E-03		
	17-May-02	0.75	0.8	304.93	304.88	0.05	0.03	1.48E-03		
	21-May-02	0.84	0.92	304.84	304.76	0.08	0.05	2.37E-03		
	24-May-02	0.9	0.96	304.78	304.72	0.06	0.04	1.78E-03		
	27-May-02	0.98	1.06	304.70	304.62	0.08	0.05	2.37E-03		
	31-May-02	0.98	1.05	304.70	304.63	0.07	0.05	2.07E-03		
	04-Jun-02	0.97	1.02	304.71	304.66	0.05	0.03	1.48E-03		
	07-Jun-02	0.95	1.08	304.73	304.60	0.13	0.09	3.85E-03		
	11-Jun-02	0.97	1.05	304.71	304.63	0.08	0.05	2.37E-03		
	14-Jun-02	0.95	1.02	304.73	304.66	0.07	0.05	2.07E-03	13.6	17.9
	18-Jun-02	0.96	1.03	304.72	304.65	0.07	0.05	2.07E-03		
	21-Jun-02	0.98	1.05	304.70	304.63	0.07	0.05	2.07E-03		
	25-Jun-02	0.94	1.01	304.74	304.67	0.07	0.05	2.07E-03		
	02-Jul-02	0.95	1.01	304.73	304.67	0.06	0.04	1.78E-03		
	05-Jul-02	0.98	1.04	304.70	304.64	0.06	0.04	1.78E-03		
	08-Jul-02	0.99	1.06	304.69	304.62	0.07	0.05	2.07E-03		
	11-Jul-02	1	1.07	304.68	304.61	0.07	0.05	2.07E-03	14.1	19.2
	15-Jul-02	1.01	1.08	304.67	304.60	0.07	0.05	2.07E-03		
	18-Jul-02	1.02	1.08	304.66	304.60	0.06	0.04	1.78E-03		
	23-Jul-02	1	1.05	304.68	304.63	0.05	0.03	1.48E-03		
	26-Jul-02	1.02	1.05	304.66	304.63	0.03	0.02	8.88E-04		
	30-Jul-02	0.99	1	304.69	304.68	0.01	0.01	2.96E-04		
	05-Aug-02	1	1.03	304.68	304.65	0.03	0.02	8.88E-04		
	09-Aug-02	1.03	1.09	304.65	304.59	0.06	0.04	1.78E-03	12.5	16.1
	16-Aug-02	1.04	1.1	304.64	304.58	0.06	0.04	1.78E-03		
	21-Aug-02	1.03	1.11	304.65	304.57	0.08	0.05	2.37E-03		
	23-Aug-02	1.03	1.1	304.65	304.58	0.07	0.05	2.07E-03		
	28-Aug-02	1.07	1.14	304.61	304.54	0.07	0.05	2.07E-03		
	30-Aug-02	1.07	1.14	304.61	304.54	0.07	0.05	2.07E-03		
	04-Sep-02	1.08	1.15	304.60	304.53	0.07	0.05	2.07E-03	13.5	16.6
	10-Sep-02	1.09	1.13	304.59	304.55	0.04	0.03	1.18E-03		
	12-Sep-02	1.09	1.15	304.59	304.53	0.06	0.04	1.78E-03		
	17-Sep-02	1.07	1.12	304.61	304.56	0.05	0.03	1.48E-03		
	20-Sep-02	1.07	1.09	304.61	304.59	0.02	0.01	5.92E-04		
	25-Sep-02	1.06	1.09	304.62	304.59	0.03	0.02	8.88E-04		
	27-Sep-02	1.02	1.04	304.66	304.64	0.02	0.01	5.92E-04		
	02-Oct-02	1	1.01	304.68	304.67	0.01	0.01	2.96E-04		
	04-Oct-02	1	1	304.68	304.68	0.00	0.00	0.00E+00		
	08-Oct-02	1.04	1.09	304.64	304.59	0.05	0.03	1.48E-03		
	11-Oct-02	1.04	1.11	304.64	304.57	0.07	0.05	2.07E-03	13.9	12.0
	15-Oct-02	1.04	1.1	304.64	304.58	0.06	0.04	1.78E-03		
	23-Oct-02	1.03	1.08	304.65	304.60	0.05	0.03	1.48E-03		
	29-Oct-02	1.04	1.1	304.64	304.58	0.06	0.04	1.78E-03		
	31-Oct-02	1.03	1.1	304.65	304.58	0.07	0.05	2.07E-03		

NOTES:
- m ASL — metres above sea level
- (F) — Frozen
- L/s/m² — Litres per second per square metre
- Depth of screen midpoint below the creek bed is 1.52 m
- Assumed vertical permeability is 5.00E-05 m/s

TABLE B-5
SUMMARY OF CREEK BASED DRIVE POINT DATA
MILL CREEK AGGREGATES PIT

MONITOR LOCATION	DATE	G.W. LEVEL BTOP (m)	S.W. LEVEL BTOP (m)	GROUND-WATER ELEVATION (m ASL)	SURFACE WATER ELEVATION (m ASL)	HYDRAULIC HEAD IN GROUND-WATER (m)	VERTICAL HYDRAULIC GRADIENT	CALCULATED GROUNDWATER FLUX TO CREEK (L/s/m2)	TEMPERATURE	
									GROUND-WATER (°C)	SURFACE WATER (°C)
	05-Nov-02	1.02	1.03	304.66	304.65	0.01	0.01	2.96E-04		
DP3	08-Nov-02	1.02	1.09	304.66	304.59	0.07	0.05	2.07E-03		
(con't)	12-Nov-02	0.96	0.98	304.72	304.70	0.02	0.01	5.92E-04		
	15-Nov-02	0.99	1	304.69	304.68	0.01	0.01	2.96E-04		
	19-Nov-02	1	1.02	304.68	304.66	0.02	0.01	5.92E-04		
	22-Nov-02	1.02	1.09	304.66	304.59	0.07	0.05	2.07E-03	6.5	4.3
	26-Nov-02	1.03	1.1	304.65	304.58	0.07	0.05	2.07E-03		
	29-Nov-02	1	1	(F)	(F)					
	04-Dec-02	1	1	(F)	(F)					
	06-Dec-02	1	0.9	(F)	(F)					
	10-Dec-02	1	0.9	(F)	(F)					
	13-Dec-02	1.06	1.11	(F)	(F)					
	18-Dec-02	1.06	1.11	(F)	(F)					
	07-Jan-03	1.06	1.11	304.62	304.57	0.05	0.03	1.48E-03		
	09-Jan-03	1.05	1.11	304.65	304.58	0.07	0.05	2.07E-03	2.4	0.4
	10-Feb-03	1	1.1	304.68	304.58	0.10	0.07	2.96E-03	3.4	4.5
	13-Mar-03	1	1.09	304.68	304.59	0.09	0.06	2.66E-03	4.0	7.5
	10-Apr-03	0.98	1	304.70	304.68	0.02	0.01	5.92E-04	4.5	8.0
	07-May-03	0.89	0.96	304.79	304.72	0.07	0.05	2.07E-03	7.5	10.5
	15-May-03	1	1.1	304.68	304.58	0.10	0.07	2.96E-03	7.5	10.0
	16-Jun-03	1.02	1.12	304.66	304.56	0.10	0.07	2.96E-03	12.0	13.0
	17-Jul-03	1.03	1.06	304.65	304.62	0.03	0.02	8.88E-04	12.0	14.0
	21-Aug-03	1.09	1.14	304.59	304.54	0.05	0.03	1.48E-03	13.8	17.8
	26-Aug-03	0.92	0.95	304.76	304.73	0.03	0.02	8.88E-04	12.3	19.9
	25-Sep-03	0.99	1.06	304.69	304.62	0.07	0.05	2.07E-03	10.0	9.0
	27-Oct-03	1	1.05	304.68	304.63	0.05	0.03	1.48E-03	10.0	8.0
	01-Dec-03	0.79	0.87	304.89	304.81	0.08	0.05	2.37E-03	6.0	2.0
	11-Dec-03	0.86	0.91	304.82	304.77	0.05	0.03	1.48E-03	7.2	2.8
	15-Dec-03	0.79	0.87	304.83	304.71	0.12	0.08	3.55E-03		1.0
	19-Jan-04	0.89	1.05	(F)304.79	(F)304.63					
	18-Feb-04	0.91	1.05	(F)304.77	(F)304.63					
	25-Mar-04	0.87	0.95	304.81	304.73	0.08	0.05	2.37E-03	5.9	4.6
	07-Apr-04	0.80	0.89	304.88	304.79	0.09	0.06	2.66E-03	7.1	3.7
	22-Apr-04	0.74	0.82	304.94	304.86	0.08	0.05	2.37E-03	8.9	12.3
	20-May-04	0.94	1.02	304.74	304.66	0.08	0.05	2.37E-03	9.9	13.6
	24-Jun-04	0.97	1.04	304.71	304.64	0.07	0.05	2.07E-03	12.0	19.9
	23-Jul-04	1.00	1.07	304.68	304.61	0.07	0.05	2.07E-03	13.0	19.6
	04-Aug-04	0.97	1.05	304.71	304.63	0.08	0.05	2.37E-03	14.0	20.0
	27-Aug-04	0.99	1.05	304.69	304.63	0.06	0.04	1.78E-03	15.7	18.6
	28-Sep-04	1.01	1.08	304.67	304.60	0.07	0.05	2.07E-03	9.0	12.0
	18-Oct-04	0.98	1.06	304.70	304.62	0.08	0.05	2.37E-03	7.8	6.6
	16-Nov-04	1.00	1.07	304.68	304.61	0.07	0.05	2.07E-03	6.7	5.2
	15-Dec-04	0.83	1.04	(F)304.85	304.64					0.8
	16-Dec-04	0.92	1.05	(F)304.76	304.63					1.2
	20-Jan-05	0.66	1.04	(F)305.02	304.64					0.7
	25-Feb-05	0.63	0.97	(F)305.05	304.71					0.6
	24-Mar-05	0.95	1.02	304.73	304.66	0.07	0.05	2.07E-03	3.2	2.7
	18-Apr-05	0.89	0.97	304.79	304.71	0.08	0.05	2.37E-03	9.4	12.8
	29-Apr-05	0.79	0.89	304.89	304.79	0.10	0.07	2.96E-03	8.5	10.6
	26-May-05	0.99	1.07	304.69	304.61	0.08	0.05	2.37E-03	8.3	14.5
	23-Jun-05	1.02	1.10	304.66	304.58	0.08	0.05	2.37E-03	12.4	18.9
	25-Jul-05	0.98	1.05	304.70	304.63	0.07	0.05	2.07E-03	12.7	17.0
	17-Aug-05	1.01	1.09	304.67	304.59	0.08	0.05	2.37E-03	10.9	18.1
	25-Aug-05	0.98	1.06	304.70	304.62	0.08	0.05	2.37E-03	13.5	18.3
	30-Sep-05	0.91	1.01	304.77	304.67	0.10	0.07	2.96E-03	11.0	13.3
	27-Oct-05	0.84	0.91	304.85	304.77	0.08	0.05	2.37E-03	8.2	8.7
	28-Nov-05	0.94	1.01	304.75	304.67	0.08	0.05	2.37E-03	7.3	4.2
	07-Dec-05	0.86	1.03	(F)304.83	(F)304.65					
	19-Dec-05	0.83	1.06	(F)304.86	304.62					0.3
	26-Jan-06	0.83	0.93	304.85	304.75	0.10	0.07	2.96E-03	6.7	3.5
	15-Feb-06	0.89	1.07		304.61					1.4
	30-Mar-06	0.88	0.97	304.80	304.71	0.09	0.06	2.66E-03	9.3	6.4
	27-Apr-06	0.84	0.94	304.84	304.74	0.10	0.07	2.96E-03	9.5	10.7
	28-Apr-06	0.95	1.05	304.73	304.63	0.10	0.07	2.96E-03	9.7	14.7
	15-May-06	0.98	1.11	304.70	304.57	0.13	0.09	3.85E-03	9.9	16.9
	15-Jun-06	1.00	1.11	304.68	304.57	0.11	0.07	3.26E-03	13	18
	15-Jul-06	0.96	1.05	304.72	304.63	0.09	0.06	2.66E-03	11.9	20.6
	24-Aug-06	1.00	1.09	304.68	304.59	0.09	0.06	2.66E-03	12.3	18.6
	15-Sep-06	0.75	0.8	304.93	304.88	0.05	0.03	1.48E-03	11.6	16.4
	15-Oct-06	0.68	0.77	305.00	304.91	0.09	0.06	2.66E-03	10	11
	15-Nov-06	0.81	0.91	304.87	304.77	0.10	0.07	2.96E-03	4.4	5
	07-Dec-06	0.79	0.9	(F) 304.89	304.78					1.3
	17-Jan-07	0.83	0.93	(F) 304.85	304.75					0.3
	22-Feb-07	0.94	1.04	304.74	304.64	0.10	0.07	2.96E-03	6.6	0.8
	30-Mar-07	0.82		304.86						
	26-Apr-07	0.73	0.83	304.95	304.85	0.10	0.07	2.96E-03	9.8	10.5
	16-May-07	0.905	0.99	304.78	304.69	0.09	0.06	2.52E-03	10.3	18.8
	26-Jun-07	1.02	1.12	304.66	304.56	0.10	0.07	2.96E-03	13.2	22.3
	25-Jul-07	1.04	1.12	304.64	304.56	0.08	0.05	2.37E-03	10.9	19.1
	07-Aug-07	1.00	1.08	304.68	304.60	0.08	0.05	2.37E-03		22.7
	21-Aug-07	1.04	1.12	304.64	304.56	0.08	0.05	2.37E-03	16.5	11.6
	21-Sep-07	1.05	1.13	304.63	304.55	0.08	0.05	2.37E-03	13.8	17.7
	17-Oct-07	1.02	1.1	304.66	304.58	0.08	0.05	2.37E-03	11.1	12.5
	15-Nov-07	1.00	1.08	304.68	304.6	0.08	0.05	2.37E-03		
	29-Nov-07	0.95	1.03	304.73	304.65	0.08	0.05	2.37E-03	6.4	2.7
	10-Dec-07	0.99	1.08	304.69	304.6	0.09	0.06	2.66E-03	6.2	1.3

NOTES:
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- Depth of screen midpoint below the creek bed is 1.52 m
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TABLE B-5
SUMMARY OF CREEK BASED DRIVE POINT DATA
MILL CREEK AGGREGATES PIT

MONITOR LOCATION	DATE	G.W. LEVEL BTOP (m)	S.W. LEVEL BTOP (m)	GROUND-WATER ELEVATION (m ASL)	SURFACE WATER ELEVATION (m ASL)	HYDRAULIC HEAD IN GROUND-WATER (m)	VERTICAL HYDRAULIC GRADIENT	CALCULATED GROUNDWATER FLUX TO CREEK (L/s/m2)	TEMPERATURE	
									GROUND-WATER (°C)	SURFACE WATER (°C)
DP3	31-Jan-08	0.89	0.99	(F)304.79	304.69					0.1
(con't)	29-Feb-08	0.93	1.03	(F)304.75	304.65					0.1
	31-Mar-08	0.79	0.89	304.89	304.79	0.10	0.07	2.96E-03	5.3	3.2
	28-Apr-08	0.88	0.98	304.80	304.70	0.10	0.07	2.96E-03	10.0	11.0
	28-May-08	0.97	1.06	304.71	304.62	0.09	0.06	2.66E-03	10.7	15.4
	25-Jun-08	0.93	1.03	304.75	304.65	0.10	0.07	2.96E-03	12.5	20.9
	16-Jul-08	0.94	1.04	304.74	304.64	0.10	0.07	2.96E-03	12.9	22.6
	20-Aug-08	0.87	0.96	304.81	304.72	0.09	0.06	2.66E-03	13.0	17.3
	26-Aug-08	0.95	1.02	304.73	304.66	0.07	0.05	2.07E-03	13.0	16.5
	19-Sep-08	0.56	0.65	305.12	305.03	0.09	0.06	2.66E-03	11.1	16.8
	10-Oct-08	0.87	0.96	304.81	304.72	0.09	0.06	2.66E-03	10.7	12.2
	05-Nov-08	0.85	0.94	304.83	304.74	0.09	0.06	2.66E-03	10.4	9.3
	03-Dec-08	0.86	0.96	304.82	304.72	0.10	0.07	2.96E-03		
	17-Dec-08	0.61	0.87	(F)305.07	304.81					2.0
	06-Jan-09	0.42	0.88	(F)305.26	304.80					0.2
	27-Feb-09	0.85	0.95	304.83	304.73	0.10	0.07	2.96E-03	6.3	1.8
	11-Mar-09	0.37	0.47	305.31	305.21	0.10	0.07	2.96E-03	5.7	2.2
	14-Apr-09	0.79	0.9	304.89	304.78	0.11	0.07	3.26E-03	7.0	6.0
	21-May-09	0.90	0.92	304.78	304.76	0.02	0.01	5.92E-04	8.4	18.4
	16-Jun-09	0.92	1.03	304.76	304.65	0.11	0.07	3.26E-03	14.5	17.7
	31-Jul-09	0.8	0.91	304.88	304.77	0.11	0.07	3.26E-03	11.2	19.3
	25-Aug-09	0.71	0.81	304.97	304.87	0.1	0.07	2.96E-03	12.9	19.4
	28-Aug-09	0.8	0.91	304.88	304.77	0.11	0.07	3.26E-03	11.4	17.9
	28-Sep-09	0.87	0.96	304.81	304.72	0.09	0.06	2.66E-03	10.4	11.6
	14-Oct-09	0.85	0.95	304.83	304.73	0.1	0.07	2.96E-03	9.1	6.2
	11-Nov-09	0.81	0.91	304.87	304.77	0.1	0.07	2.96E-03	10.3	7.7
	11-Dec-09	0.89	0.98	304.79	304.7	0.09	0.06	2.66E-03	7.6	2.8
	16-Dec-09	0.83	0.85	(F)304.85	304.83					1.4
	13-Jan-10	0.93	1.05	304.75	304.63	0.12	0.08	3.55E-03		0.1
	11-Feb-10	(F)0.95	1.06	(F)304.73	304.62					0.8
	11-Mar-10	0.85	0.95	304.83	304.73	0.1	0.07	2.96E-03	8.0	7.1
	16-Apr-10	0.91	1.02	304.77	304.66	0.11	0.07	3.26E-03	9.1	13.9
	21-May-10	0.98	1.08	304.70	304.60	0.1	0.07	2.96E-03	9.8	16.0
	17-Jun-10	0.88	0.98	304.80	304.70	0.1	0.07	2.96E-03	11.4	19.1
	15-Jul-10	0.88	1.09	304.80	304.59	0.21	0.14	6.22E-03	11.4	11.4
	18-Aug-10	1.00	1.09	304.68	304.59	0.09	0.06	2.66E-03	11.5	18.5
	31-Aug-10	1.00	1.08	304.68	304.60	0.08	0.05	2.37E-03	11.4	20.5
	28-Sep-10	0.84	0.91	304.84	304.77	0.07	0.05	2.07E-03	11.4	13.6
	20-Oct-10	0.96	1.03	304.72	304.65	0.07	0.05	2.07E-03	10.0	8.8
	18-Nov-10	0.84	0.93	304.84	304.75	0.09	0.06	2.66E-03	9.5	7.1
	08-Dec-10	(F)0.88	1.06	(F)304.80	304.62					0.4
	22-Dec-10	(F)0.97	1.09	(F)304.71	304.59					1.4
	19-Jan-11	(F)0.99	1.10	(F)304.69	304.58					0.7
	17-Feb-11	1.01	1.09	304.67	304.59	0.08	0.05	2.37E-03	7.2	2.6
	16-Mar-11	0.71	0.77	304.97	304.91	0.06	0.04	1.78E-03	7.6	4.4
	13-Apr-11	0.87	0.97	304.81	304.71	0.10	0.07	2.96E-03	8.2	9.8
	21-Apr-11	0.68	0.78	305.00	304.90	0.10	0.07	2.96E-03	7.5	4.4
	26-May-11	0.72	0.82	304.96	304.86	0.10	0.07	2.96E-03	10.2	15.1
	16-Jun-11	0.96	1.03	304.72	304.65	0.07	0.05	2.07E-03	10.4	19.1
	14-Jul-11	1.01	1.09	304.67	304.59	0.08	0.05	2.37E-03	12.1	19.8
	11-Aug-11	1.00	1.10	304.68	304.58	0.10	0.07	2.96E-03	13.0	17.5
	17-Aug-11	1.01	1.10	304.67	304.58	0.09	0.06	2.66E-03	10.9	20.0
	14-Sep-11	1.02	1.10	304.66	304.58	0.08	0.05	2.37E-03	10.9	15.5
	27-Oct-11	0.83	0.92	304.85	304.76	0.09	0.06	2.66E-03	9.3	6.9
	14-Nov-11	0.92	1.01	304.76	304.67	0.09	0.06	2.66E-03	8.8	5.4
	14-Dec-11	0.74	0.82	304.94	304.86	0.08	0.05	2.37E-03	9.4	6.2
	22-Dec-11	0.82	0.91	304.86	304.77	0.09	0.06	2.66E-03	7.8	3.1
	16-Jan-12	(F)0.79	1.05		304.63					0.9
	16-Feb-12	0.95	1.02	304.73	304.66	0.07	0.05	2.07E-03	7.5	2.7
	29-Mar-12	0.91	1.02	304.77	304.66	0.11	0.07	3.26E-03	7.8	5.8
	10-Apr-12	0.97	1.07	304.71	304.61	0.10	0.07	2.96E-03	8.9	7.0
	30-Apr-12	0.96	1.05	304.72	304.63	0.09	0.06	2.66E-03	8.2	8.3
	29-May-12	0.99	1.12	304.69	304.56	0.13	0.09	3.85E-03	10.1	18.4
	20-Jun-12	1.05	1.13	304.63	304.55	0.08	0.05	2.37E-03	12.2	24.3
	24-Jul-12	1.04	1.15	304.64	304.53	0.11	0.07	3.26E-03	11.7	21.3
	08-Aug-12	1.05	1.13	304.63	304.55	0.08	0.05	2.37E-03	12.2	22.2
	21-Aug-12	1.02	1.12	304.66	304.56	0.10	0.07	2.96E-03	11.6	18.1
	18-Sep-12	0.94	1.01	304.74	304.67	0.07	0.05	2.07E-03	10.6	13.3
	23-Oct-12	0.84	0.89	304.84	304.79	0.05	0.03	1.48E-03	10.1	10.2
	28-Nov-12	1.02	1.08	304.66	304.60	0.06	0.04	1.78E-03	8.7	2.2
	06-Dec-12	(F)0.91	1.01		304.67					2.1
	19-Dec-12	1.01	1.07	304.67	304.61	0.06	0.04	1.78E-03	8.2	2.6

NOTES:
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- Depth of screen midpoint below the creek bed is 1.52 m
- Assumed vertical permeability is 5.00E-05 m/s

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MILL CREEK AGGREGATES PIT

MONITOR LOCATION	DATE	G.W. LEVEL BTOP (m)	S.W. LEVEL BTOP (m)	GROUND-WATER ELEVATION (m ASL)	SURFACE WATER ELEVATION (m ASL)	HYDRAULIC HEAD IN GROUND-WATER (m)	VERTICAL HYDRAULIC GRADIENT	CALCULATED GROUNDWATER FLUX TO CREEK (L/s/m2)	TEMPERATURE	
									GROUND-WATER (°C)	SURFACE WATER (°C)
DP3	16-Jan-13	Frozen	0.99		304.69					0.9
(con't)	20-Feb-13	Frozen	1.03		304.65					0.7
	21-Mar-13	Frozen	0.99		304.69					1.4
	04-Apr-13	0.86	0.95	304.82	304.73	0.09	0.06	2.66E-03	8.0	3.9
	25-Apr-13	0.83	0.90	304.85	304.78	0.07	0.05	2.07E-03	7.9	8.2
	23-May-13	0.97	1.05	304.71	304.63	0.08	0.05	2.37E-03	10.8	20.2
	13-Jun-13	0.82	0.92	304.86	304.76	0.10	0.07	2.96E-03	10.7	18.2
	31-Jul-13	0.93	1.02	304.75	304.66	0.09	0.06	2.66E-03	11.1	17.9
	29-Aug-13	0.95	1.03	304.73	304.65	0.08	0.05	2.37E-03	14.7	21.0
	25-Sep-13	0.95	1.01	304.73	304.67	0.06	0.04	1.78E-03	10.5	14.4
	22-Oct-13	0.81	0.88	304.87	304.80	0.07	0.05	2.07E-03	9.8	8.1
	28-Nov-13	Frozen	1.03		304.65					0.9
	10-Dec-13	Frozen	1.02		304.66					0.0
	15-Jan-14	Frozen	0.84		304.84					0.3
	26-Feb-14	(F)0.93	1.03		304.65					0.9
	26-Mar-14	(F)0.63	0.94		304.74					0.3
	01-Apr-14	0.64	0.73	305.04	304.95	0.09	0.06	2.66E-03	8.4	2.4
	15-May-14	0.73	0.81	304.95	304.87	0.08	0.05	2.37E-03	9.5	17.5
	18-Jun-14	0.95	1.05	304.73	304.63	0.10	0.07	2.96E-03	10.5	19.8
	29-Jul-14	0.74	0.84	304.94	304.84	0.10	0.07	2.96E-03	10.9	17.6
	25-Aug-14	0.92	1.02	304.76	304.66	0.10	0.07	2.96E-03	14.3	19.4
	18-Sep-14	0.97	0.99	304.71	304.69	0.02	0.01	5.92E-04	12.7	16.3
	17-Oct-14	0.78	0.86	304.90	304.82	0.08	0.05	2.37E-03	11.3	13.5
	27-Nov-14	Frozen	0.85		304.83					0.1
	15-Dec-14	0.79	0.87	304.89	304.81	0.08	0.05	2.37E-03	9.5	4.0
	21-Jan-15	(F)	0.91		304.77					0.4
	18-Feb-15	(F)	(F)							
	25-Mar-15	0.92	0.82	304.76	304.86	-0.1	-0.07	-2.96E-03	6.5	2.4
	06-Apr-15	0.65	0.74	305.03	304.94	0.09	0.06	2.66E-03	7.2	3.9
	20-May-15	0.85	0.70	304.83	304.98	-0.15	-0.10	-4.44E-03	9.3	14.4
	23-Jun-15	0.70	0.77	304.98	304.91	0.07	0.05	2.07E-03	10.6	18.5
	22-Jul-15	0.70	1.05	304.98	304.63	0.35	0.23	1.04E-02	11.0	19.0
	25-Aug-15	0.91	1.01	304.77	304.67	0.1	0.07	2.96E-03	11.7	16.5
	24-Sep-15	0.96	1.05	304.72	304.63	0.09	0.06	2.66E-03	11.2	16.1
	29-Oct-15	0.66	0.72	305.02	304.96	0.06	0.04	1.78E-03	9.5	8.4
	25-Nov-15	0.90	1.09	304.78	304.59	0.19	0.12	5.62E-03	9.3	5.4
	10-Dec-15	0.95	1.04	304.73	304.64	0.09	0.06	2.66E-03	9.5	5.4
	20-Jan-16	(F)	1.04		304.64					0.9
	29-Feb-16	(F)	0.99		304.69					0.9
	17-Mar-16	0.71	0.80	304.97	304.88	0.09	0.06	2.66E-03	7.7	5.0
	30-Mar-16	0.67	0.76	305.01	304.92	0.09	0.06	2.66E-03	8.3	4.9
	27-Apr-16	0.85	0.95	304.83	304.73	0.10	0.07	2.96E-03	7.9	8.1
	30-May-16	0.90	1.00	304.78	304.68	0.10	0.07	2.96E-03	10.9	20.6
	27-Jun-16	1.02	1.11	304.66	304.57	0.09	0.06	2.66E-03	13.1	18.6
	28-Jul-16	1.00	1.11	304.68	304.57	0.11	0.07	3.26E-03	11.4	21.9
	11-Aug-16	1.04	1.13	304.64	304.55	0.09	0.06	2.66E-03	13.7	21.3
	21-Sep-16	0.98	1.07	304.70	304.61	0.09	0.06	2.66E-03	11.6	17.1
	18-Oct-16	0.96	1.07	304.72	304.61	0.11	0.07	3.26E-03	12.3	17.1
	14-Nov-16	0.96	1.05	304.72	304.63	0.09	0.06	2.66E-03	10.8	6.4
	14-Dec-16	(F)	1.06		304.62					0.8
	18-Jan-17	0.78	0.79	304.90	304.89	0.01	0.01	2.96E-04	7.8	2.6
	15-Feb-17	0.93	1.01	304.75	304.67	0.08	0.05	2.37E-03	7.2	2.0
	17-Mar-17	0.92	1.02	304.76	304.66	0.1	0.07	2.96E-03	7.6	1.3
	11-Apr-17	0.76	0.86	304.92	304.82	0.1	0.07	2.96E-03	8.0	7.5
	18-May-17	0.88	0.98	304.80	304.70	0.1	0.07	2.96E-03	10.3	15.3
	14-Jun-17	0.96	1.06	304.72	304.62	0.1	0.07	2.96E-03	11.1	16.4
	20-Jul-17	0.98	0.98	304.70	304.70	0	0.00	0.00E+00	12.4	20.0
	09-Aug-17	0.89	0.98	304.79	304.70	0.09	0.06	2.66E-03	13.5	19.1
	12-Sep-17	0.65	0.72	305.03	304.96	0.07	0.05	2.07E-03	11.6	13.2
	12-Oct-17	0.61	0.67	305.07	305.01	0.06	0.04	1.78E-03	11.1	11.3
	21-Nov-17	0.76	0.85	304.92	304.83	0.09	0.06	2.66E-03	9.6	4.2
	19-Dec-17	0.97	0.94	304.71	304.74	-0.03	-0.02	-8.88E-04	5.1	0.8

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- Assumed vertical permeability is 5.00E-05 m/s

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MONITOR LOCATION	DATE	G.W. LEVEL BTOP (m)	S.W. LEVEL BTOP (m)	GROUND-WATER ELEVATION (m ASL)	SURFACE WATER ELEVATION (m ASL)	HYDRAULIC HEAD IN GROUND-WATER (m)	VERTICAL HYDRAULIC GRADIENT	CALCULATED GROUNDWATER FLUX TO CREEK (L/s/m2)	TEMPERATURE	
									GROUND-WATER (°C)	SURFACE WATER (°C)
DP3	16-Jan-18	(F)	(F)							
(con't)	26-Feb-18	0.66	0.77	305.02	304.91	0.11	0.07	3.26E-03	6.8	2.3
	26-Mar-18	0.95	1.06	304.73	304.62	0.11	0.07	3.26E-03	8.1	5.2
	24-Apr-18	0.55	0.65	305.13	305.03	0.10	0.07	2.96E-03	9.0	8.6
	18-May-18	0.78	0.89	304.90	304.79	0.11	0.07	3.26E-03	10.8	14.0
	12-Jun-18	0.83	0.96	304.85	304.72	0.13	0.09	3.85E-03	12.2	16.1
	27-Jul-18	0.84	0.94	304.84	304.74	0.10	0.07	2.96E-03	11.6	19.3
	22-Aug-18	0.71	0.83	304.97	304.85	0.12	0.08	3.55E-03	13.2	19.4
	12-Sep-18	0.73	0.88	304.95	304.80	0.15	0.10	4.44E-03	14.6	15.4
	30-Oct-18	0.67	0.79	305.01	304.89	0.12	0.08	3.55E-03	8.7	5.0
	21-Nov-18	0.80	0.96	304.88	304.72	0.16	0.11	4.74E-03	6.5	1.5
	20-Dec-18	0.84	0.79	304.84	304.89	-0.05	-0.03	-1.48E-03	7.7	2.6
2018 AVERAGE VALUES						0.11	0.07	3.12E-03	9.9	9.9
OVERALL AVERAGE VALUES						0.07	0.05	2.12E-03	9.5	10.6

NOTES:
- m ASL
- (F)
- L/s/m²
- Depth of screen midpoint below the creek bed is 1.52 m
- Assumed vertical permeability is 5.00E-05 m/s

TABLE B-5
SUMMARY OF CREEK BASED DRIVE POINT DATA
MILL CREEK AGGREGATES PIT

MONITOR LOCATION	DATE	G.W. LEVEL BTOP (m)	S.W. LEVEL BTOP (m)	GROUND-WATER ELEVATION (m ASL)	SURFACE WATER ELEVATION (m ASL)	HYDRAULIC HEAD IN GROUND-WATER (m)	VERTICAL HYDRAULIC GRADIENT	CALCULATED GROUNDWATER FLUX TO CREEK (L/s/m2)	TEMPERATURE	
									GROUND-WATER (°C)	SURFACE WATER (°C)
DP4	27-Sep-88	1.17	1.23	305.63	305.57	0.06	0.05	1.81E-03		16.0
	03-Dec-88	1.13	1.21	305.67	305.59	0.08	0.07	2.41E-03	8.0	2.3
	14-Dec-88	1.18	1.25	305.62	305.55	0.07	0.06	2.11E-03		
	20-Jan-89	1.18	1.20	305.62	305.60	0.02	0.02	6.02E-04		
	22-Feb-89	1.22	1.26	305.58	305.54	0.04	0.04	1.20E-03	5.0	2.5
	01-Apr-89	1.04	1.14	305.76	305.66	0.10	0.09	3.01E-03	5.0	4.0
	17-Apr-89	1.09	1.17	305.71	305.63	0.08	0.07	2.41E-03		
	24-May-89	1.18	1.24	305.62	305.56	0.06	0.05	1.81E-03		18.0
	05-Jun-89	1.09	1.20	305.71	305.60	0.11	0.10	3.31E-03	9.0	17.0
	12-Jul-89	1.25	1.29	305.55	305.51	0.04	0.04	1.20E-03	9.5	20.0
	27-Jul-89	1.26	NA	305.54						
	15-Aug-89	1.29	1.28	305.51	305.52	-0.01	-0.01	-3.01E-04	12.0	15.0
	30-Aug-89	1.30	1.28	305.50	305.52	-0.02	-0.02	-6.02E-04	12.0	14.5
	17-Oct-89	1.28	1.26	305.52	305.54	-0.02	-0.02	-6.02E-04	7.0	5.0
	30-Nov-89	1.20	1.21	305.60	305.59	0.01	0.01	3.01E-04	6.0	1.0
	13-Dec-89	1.25	1.25	305.55	305.55	0.00	0.00	0.00E+00	3.0	
	17-Jan-90	1.21	1.25	305.59	305.55	0.04	0.04	1.20E-03	2.0	1.5
	06-Mar-90	1.17	1.19	305.63	305.61	0.02	0.02	6.02E-04	5.5	
	02-Apr-90	1.15	1.19	305.65	305.61	0.04	0.04	1.20E-03	5.0	4.5
	25-Jun-90	1.23	1.26	305.57	305.54	0.03	0.03	9.03E-04	10.0	16.0
	26-Jul-90	1.24	1.28	305.56	305.52	0.04	0.04	1.20E-03	12.0	18.0
	22-Aug-90	1.26	1.25	305.54	305.55	-0.01	-0.01	-3.01E-04	14.0	17.0
	26-Sep-90	1.28	1.26	305.52	305.54	-0.02	-0.02	-6.02E-04	12.0	12.0
	24-Oct-90	1.20	1.23	305.60	305.57	0.03	0.03	9.03E-04	10.0	7.0
	25-Nov-90	1.18	1.23	305.62	305.57	0.05	0.04	1.50E-03	7.5	4.2
	14-Dec-90	1.12	1.19	305.68	305.61	0.07	0.06	2.11E-03	7.0	1.0
	23-Jan-91	1.14	1.20	305.66	305.60	0.06	0.05	1.81E-03	6.0	
	20-Feb-91	1.10	1.16	305.70	305.64	0.06	0.05	1.81E-03	7.0	2.2
	28-Mar-91	0.76	0.87	306.04	305.93	0.11	0.10	3.31E-03	7.9	6.0
	26-Apr-91	1.00	1.15	305.80	305.65	0.15	0.13	4.51E-03	8.0	10.6
	24-May-91	1.14	1.24	305.66	305.56	0.10	0.09	3.01E-03	9.2	17.2
	20-Jun-91	1.13	1.24	305.67	305.56	0.11	0.10	3.31E-03	10.5	20.0
	30-Jul-91	1.03	1.10	305.77	305.70	0.07	0.06	2.11E-03	11.5	17.0
	22-Aug-91	1.18	1.25	305.62	305.55	0.07	0.06	2.11E-03	11.5	16.0
	25-Sep-91	1.21	1.25	305.59	305.55	0.04	0.04	1.20E-03	11.8	12.0
	29-Oct-91	1.18	1.24	305.62	305.56	0.06	0.05	1.81E-03	10.5	9.0
	26-Nov-91	1.20	1.26	305.60	305.54	0.06	0.05	1.81E-03	7.6	2.2
	16-Dec-91	1.15	1.21	305.65	305.59	0.06	0.05	1.81E-03	7.0	0.2
	13-Mar-92	1.12	1.21	305.68	305.59	0.09	0.08	2.71E-03	5.5	2.1
	15-Apr-92	1.14	1.20	305.66	305.60	0.06	0.05	1.81E-03	6.5	7.1
	21-May-92	1.18	1.24	305.62	305.56	0.06	0.05	1.81E-03	8.2	20.5
	29-Jun-92	1.24	1.26	305.56	305.54	0.02	0.02	6.02E-04	10.9	16.3
	20-Jul-92	1.02	1.10	305.78	305.70	0.08	0.07	2.41E-03	10.9	19.0
	26-Aug-92	1.18	1.22	305.62	305.58	0.04	0.04	1.20E-03	12.0	21.0
	14-Sep-92	1.12	1.19	305.68	305.61	0.07	0.06	2.11E-03	12.5	16.0
	28-Oct-92	1.15	1.20	305.65	305.60	0.05	0.04	1.50E-03	10.0	7.0
	26-Nov-92	0.94	1.09	305.86	305.71	0.15	0.13	4.51E-03	7.0	4.0
	15-Dec-92	1.08	1.19	305.72	305.61	0.11	0.10	3.31E-03	7.4	2.2
	19-Jan-93	1.19	1.22	305.61	305.58	0.03	0.03	9.03E-04	5.0	
	26-Mar-93	1.04	1.18	305.76	305.62	0.14	0.12	4.21E-03	5.5	2.8
	19-Apr-93	1.01	1.16	305.79	305.64	0.15	0.13	4.51E-03	6.5	9.0
	27-May-93	1.08	1.21	305.72	305.59	0.13	0.12	3.91E-03	8.0	13.0
	22-Jun-93	1.04	1.16	305.76	305.64	0.12	0.11	3.61E-03	10.0	21.5
	14-Jul-93	1.13	1.21	305.67	305.59	0.08	0.07	2.41E-03	10.6	19.3
	18-Aug-93	1.16	1.22	305.64	305.58	0.06	0.05	1.81E-03	11.4	19.6
	20-Sep-93	1.19	1.25	305.61	305.55	0.06	0.05	1.81E-03	12.0	11.1
	19-Oct-93	1.07	1.20	305.73	305.60	0.13	0.12	3.91E-03	10.0	9.5
	17-Nov-93	1.18	1.23	305.62	305.57	0.05	0.04	1.50E-03	7.8	5.1
	06-Dec-93	1.09	1.21	305.71	305.59	0.12	0.11	3.61E-03	7.1	3.3
	18-Jan-94	(F) 1.23	(F) 1.18	(F) 305.57	(F) 305.62					
	24-Feb-94	1.14	1.26	305.66	305.54	0.12	0.11	3.61E-03	6.0	1.0
	24-Mar-94	1.00	1.16	305.80	305.64	0.16	0.14	4.81E-03	6.2	4.0
	19-Apr-94	1.11	1.25	305.69	305.55	0.14	0.12	4.21E-03	6.0	8.0
	24-May-94	1.16	1.29	305.64	305.51	0.13	0.12	3.91E-03	8.0	15.0
	23-Jun-94	1.28	1.35	305.52	305.45	0.07	0.06	2.11E-03	10.0	19.0
	19-Jul-94	1.30	1.36	305.50	305.44	0.06	0.05	1.81E-03	10.0	17.0
	25-Aug-94	1.30	1.34	305.50	305.46	0.04	0.04	1.20E-03	10.0	18.0
	21-Sep-94	1.33	1.35	305.47	305.45	0.02	0.02	6.02E-04	10.0	15.0
	18-Oct-94	1.31	1.33	305.49	305.47	0.02	0.02	6.02E-04	8.0	9.0
	23-Nov-94	1.23	1.30	305.57	305.50	0.07	0.06	2.11E-03	8.0	4.0
	21-Dec-94	1.21	1.29	305.59	305.51	0.08	0.07	2.41E-03	8.0	4.0
	24-Jan-95	1.01	1.17	305.79	305.63	0.16	0.14	4.81E-03	7.0	3.0
	15-Feb-95	1.21	1.29	305.59	305.51	0.08	0.07	2.41E-03	7.0	2.0
	23-Mar-95	1.10	1.21	305.70	305.59	0.11	0.10	3.31E-03	5.5	4.0
	17-May-95	1.14	1.26	305.66	305.54	0.12	0.11	3.61E-03	9.0	15.0
	13-Jun-95	1.21	1.30	305.59	305.50	0.09	0.08	2.71E-03	10.0	16.0
	20-Jul-95	1.28	1.32	305.52	305.48	0.04	0.04	1.20E-03	14.0	21.0
	15-Aug-95	1.16	1.23	305.64	305.57	0.07	0.06	2.11E-03	14.0	20.0
	18-Oct-95	1.28	1.33	305.52	305.47	0.05	0.04	1.50E-03	10.5	8.5
	22-Nov-95	1.17	1.27	305.63	305.53	0.10	0.09	3.01E-03	6.0	1.0
	26-Mar-96	1.04	1.02	305.76	305.78	-0.02	-0.02	-6.02E-04	5.0	1.0

NOTES:
· m ASL metres above sea level
· (F) Frozen
· L/s/m² Litres per second per square metre
· Depth of screen midpoint below the creek bed is 1.13 m
· Assumed vertical permeability is 3.30E-05 m/s

TABLE B-5
SUMMARY OF CREEK BASED DRIVE POINT DATA
MILL CREEK AGGREGATES PIT

MONITOR LOCATION	DATE	G.W. LEVEL BTOP (m)	S.W. LEVEL BTOP (m)	GROUND-WATER ELEVATION (m ASL)	SURFACE WATER ELEVATION (m ASL)	HYDRAULIC HEAD IN GROUND-WATER (m)	VERTICAL HYDRAULIC GRADIENT	CALCULATED GROUNDWATER FLUX TO CREEK (L/s/m2)	TEMPERATURE	
									GROUND-WATER (°C)	SURFACE WATER (°C)
	31-May-96	1.10	1.13	305.70	305.67	0.03	0.03	9.03E-04	10.0	19.0
DP4	28-Jun-96	1.09	1.25	305.71	305.55	0.16	0.14	4.81E-03	11.0	20.0
(cont'd)	31-Jul-96	1.09	1.21	305.71	305.59	0.12	0.11	3.61E-03	14.0	19.0
	30-Aug-96	1.19	1.28	305.61	305.52	0.09	0.08	2.71E-03	12.0	17.0
	27-Sep-96	1.10	1.24	305.70	305.56	0.14	0.12	4.21E-03	11.0	14.0
	06-Nov-96	1.11	1.23	305.69	305.57	0.12	0.11	3.61E-03	9.0	6.0
	31-Mar-97	0.81	0.99	305.99	305.81	0.18	0.16	5.42E-03	6.0	2.0
	30-Apr-97	1.04	1.23	305.76	305.57	0.19	0.17	5.72E-03	8.0	12.0
	26-May-97	1.05	1.24	305.75	305.56	0.19	0.17	5.72E-03	8.5	15.0
	27-Jun-97	1.11	1.27	305.69	305.53	0.16	0.14	4.81E-03	9.0	18.0
	30-Jul-97	1.20	1.30	305.60	305.50	0.10	0.09	3.01E-03	11.0	21.0
	31-Aug-97	1.18	1.28	305.62	305.52	0.10	0.09	3.01E-03	11.0	16.5
	03-Oct-97	1.23	1.30	305.57	305.50	0.07	0.06	2.11E-03	11.5	14.0
	06-Nov-97	1.10	1.23	305.70	305.58	0.13	0.11	3.76E-03	9.0	6.5
	12-Dec-97	1.11	1.29	(F) 305.69	305.51					1.5
	27-Mar-98	1.01	1.18	305.79	305.62	0.17	0.15	5.12E-03	4.0	3.5
	30-Apr-98	1.15	1.28	305.65	305.52	0.13	0.12	3.91E-03	5.5	13.5
	31-May-98	1.23	1.32	305.57	305.48	0.09	0.08	2.71E-03	9.5	15.5
	30-Jun-98	1.22	1.29	305.58	305.51	0.07	0.06	2.11E-03	12.0	19.0
	31-Jul-98	1.30	1.32	305.50	305.48	0.02	0.02	6.02E-04	15.0	21.0
	30-Sep-98	1.32	1.30	305.48	305.50	-0.02	-0.02	-6.02E-04	13.0	13.0
	27-Nov-98	1.32	1.32	305.48	305.48	0.00	0.00	0.00E+00	8.5	5.5
	31-Mar-99	1.17	1.22	305.63	305.58	0.05	0.04	1.50E-03	6.0	6.0
	20-May-99	1.34	1.33	305.46	305.47	-0.01	-0.01	-3.01E-04	12.2	15.6
	29-Jun-99	1.35	1.33	305.45	305.47	-0.02	-0.02	-6.02E-04	16.0	20.0
	16-Jul-99	1.47	1.39	305.33	305.41	-0.08	-0.07	-2.41E-03	19.2	20.0
	11-Aug-99	1.39	1.35	305.41	305.45	-0.04	-0.04	-1.20E-03	19.2	19.3
	09-Sep-99	1.29	1.29	305.51	305.51	0.00	0.00	0.00E+00	20.1	20.8
	09-Nov-99	1.31	1.31	305.49	305.49	0.00	0.00	0.00E+00	9.4	7.8
	01-Mar-00	1.27	1.24	305.53	305.56	-0.03	-0.03	-9.03E-04	2.0	2.5
	18-May-00	1.09	1.14	305.71	305.66	0.05	0.04	1.50E-03	9.0	12.0
	15-Jun-00	1.05	1.13	305.75	305.67	0.08	0.07	2.41E-03	11.0	18.5
	06-Jul-00	1.26	1.32	305.54	305.48	0.06	0.05	1.81E-03	11.6	18.0
	08-Aug-00	1.27	1.32	305.53	305.48	0.05	0.04	1.50E-03	14.1	21.0
	13-Sep-00	1.33	1.33	305.47	305.47	0.00	0.00	0.00E+00	15.6	16.7
	10-Oct-00	1.33	1.33	305.47	305.47	0.00	0.00	0.00E+00	11.1	8.5
	08-Nov-00	1.37	1.34	305.43	305.46	-0.03	-0.03	-9.03E-04	9.1	9.2
	14-Nov-00	1.30	1.30	305.50	305.50	0.00	0.00	0.00E+00		
	11-Dec-00	1.34	1.35	(F) 305.46	(F) 305.45					
	11-Jan-01	1.13	1.13	(F) 305.67	(F) 305.67					
	09-Feb-01	1.17	1.24	305.63	305.56	0.07	0.06	2.11E-03	3.4	1.6
	13-Mar-01	1.25	1.30	305.55	305.50	0.05	0.04	1.50E-03	3.1	1.8
	10-Apr-01	1.10	1.15	305.70	305.65	0.05	0.04	1.50E-03	6.3	5.4
	04-May-01	1.29	1.34	305.51	305.46	0.05	0.04	1.50E-03	9.5	17.4
	07-Jun-01	1.27	1.32	305.53	305.48	0.05	0.04	1.50E-03	5.0	8.0
	25-Jun-01	1.31	1.35	305.49	305.45	0.04	0.04	1.20E-03		
	28-Jun-01	1.32	1.35	305.48	305.45	0.03	0.03	9.03E-04		
	03-Jul-01	1.35	1.37	305.45	305.43	0.02	0.02	6.02E-04		
	05-Jul-01	1.35	1.37	305.45	305.43	0.02	0.02	6.02E-04		
	09-Jul-01	1.36	1.37	305.44	305.43	0.01	0.01	3.01E-04		
	12-Jul-01	1.35	1.36	305.45	305.44	0.01	0.01	3.01E-04	14.5	17.3
	16-Jul-01	1.37	1.37	305.43	305.43	0.00	0.00	0.00E+00		
	19-Jul-01	1.36	1.37	305.44	305.43	0.01	0.01	3.01E-04		
	23-Jul-01	1.37	1.37	305.43	305.43	0.00	0.00	0.00E+00		
	26-Jul-01	1.38	1.37	305.42	305.43	-0.01	-0.01	-3.01E-04		
	30-Jul-01	1.40	1.38	305.40	305.42	-0.02	-0.02	-6.02E-04		
	02-Aug-01	1.40	1.38	305.40	305.42	-0.02	-0.02	-6.02E-04	20.7	22.0
	07-Aug-01	1.41	1.38	305.39	305.42	-0.03	-0.03	-9.03E-04		
	09-Aug-01	1.42	1.38	305.38	305.42	-0.04	-0.04	-1.20E-03		
	13-Aug-01	1.42	1.38	305.38	305.42	-0.04	-0.04	-1.20E-03		
	16-Aug-01	1.43	1.38	305.37	305.42	-0.05	-0.04	-1.50E-03		
	20-Aug-01	1.34	1.35	305.46	305.45	0.01	0.01	3.01E-04		
	23-Aug-01	1.39	1.36	305.41	305.44	-0.03	-0.03	-9.03E-04		
	27-Aug-01	1.41	1.37	305.39	305.43	-0.04	-0.04	-1.20E-03		
	30-Aug-01	1.40	1.37	305.40	305.43	-0.03	-0.03	-9.03E-04		
	04-Sep-01	1.41	1.37	305.39	305.43	-0.04	-0.04	-1.20E-03	18.0	17.8
	06-Sep-01	1.42	1.37	305.38	305.43	-0.05	-0.04	-1.50E-03		
	10-Sep-01	1.43	1.37	305.37	305.43	-0.06	-0.05	-1.81E-03		
	13-Sep-01	1.44	1.38	305.36	305.42	-0.06	-0.05	-1.81E-03		
	20-Sep-01	1.41	1.37	305.39	305.43	-0.04	-0.04	-1.20E-03		
	24-Sep-01	1.38	1.36	305.42	305.44	-0.02	-0.02	-6.02E-04		
	27-Sep-01	1.37	1.35	305.43	305.45	-0.02	-0.02	-6.02E-04		
	01-Oct-01	1.41	1.37	305.39	305.43	-0.04	-0.04	-1.20E-03	11.3	10.3
	04-Oct-01	1.42	1.38	305.38	305.42	-0.04	-0.04	-1.20E-03		
	09-Oct-01	1.33	1.34	305.47	305.46	0.01	0.01	3.01E-04		
	11-Oct-01	1.36	1.35	305.44	305.45	-0.01	-0.01	-3.01E-04		
	15-Oct-01	1.28	1.30	305.52	305.50	0.02	0.02	6.02E-04		
	19-Oct-01	1.29	1.30	305.51	305.50	0.01	0.01	3.01E-04		
	22-Oct-01	1.33	1.34	305.47	305.46	0.01	0.01	3.01E-04		
	26-Oct-01	1.31	1.32	305.49	305.48	0.01	0.01	3.01E-04		

NOTES:
· m ASL metres above sea level
· (F) Frozen
· L/s/m² Litres per second per square metre
· Depth of screen midpoint below the creek bed is 1.13 m
· Assumed vertical permeability is 3.30E-05 m/s

TABLE B-5
SUMMARY OF CREEK BASED DRIVE POINT DATA
MILL CREEK AGGREGATES PIT

MONITOR LOCATION	DATE	G.W. LEVEL BTOP (m)	S.W. LEVEL BTOP (m)	GROUND-WATER ELEVATION (m ASL)	SURFACE WATER ELEVATION (m ASL)	HYDRAULIC HEAD IN GROUND-WATER (m)	VERTICAL HYDRAULIC GRADIENT	CALCULATED GROUNDWATER FLUX TO CREEK (L/s/m2)	TEMPERATURE GROUND-WATER (°C)	TEMPERATURE SURFACE WATER (°C)
	29-Oct-01	1.33	1.34	305.47	305.46	0.01	0.01	3.01E-04		
DP4	01-Nov-01	1.35	1.34	305.45	305.46	-0.01	-0.01	-3.01E-04		
(cont'd)	05-Nov-01	1.31	1.33	305.49	305.47	0.02	0.02	6.02E-04	8.5	6.0
	08-Nov-01	1.33	1.34	305.47	305.46	0.01	0.01	3.01E-04		
	12-Nov-01	1.35	1.34	305.45	305.46	-0.01	-0.01	-3.01E-04		
	15-Nov-01	1.32	1.33	305.48	305.47	0.01	0.01	3.01E-04		
	19-Nov-01	1.36	1.35	305.44	305.45	-0.01	-0.01	-3.01E-04		
	22-Nov-01	1.36	1.35	305.44	305.45	-0.01	-0.01	-3.01E-04		
	26-Nov-01	1.29	1.31	305.51	305.49	0.02	0.02	6.02E-04		
	29-Nov-01	1.26	1.31	305.54	305.49	0.05	0.04	1.50E-03		
	03-Dec-01	1.21	1.29	305.59	305.51	0.08	0.07	2.41E-03		
	06-Dec-01	1.27	1.32	305.53	305.48	0.05	0.04	1.50E-03	9.2	8.3
	10-Dec-01	1.31	1.33	305.49	305.47	0.02	0.02	6.02E-04		
	13-Dec-01	1.31	1.32	305.49	305.48	0.01	0.01	3.01E-04		
	17-Dec-01	1.28	1.32	305.52	305.48	0.04	0.04	1.20E-03		
	20-Dec-01	1.22	1.24	305.58	305.56	0.02	0.02	6.02E-04		
	02-Jan-02	F	1.26	(F)	305.54					
	07-Jan-02	F	1.26	(F)	305.54					
	10-Jan-02	F	1.28	(F)	305.52					
	14-Jan-02	1.34	1.37	305.46	305.43	0.03	0.03	9.03E-04		
	17-Jan-02	1.33	1.34	305.47	305.46	0.01	0.01	3.01E-04		
	21-Jan-02	F	F	(F)	(F)					
	24-Jan-02	F	1.32	(F)	305.48					
	28-Jan-02	1.27	1.32	305.53	305.48	0.05	0.04	1.50E-03		
	01-Feb-02	1.24	1.29	305.56	305.51	0.05	0.04	1.50E-03		
	04-Feb-02	1.28	1.33	305.52	305.47	0.05	0.04	1.50E-03		
	07-Feb-02	1.28	1.34	305.52	305.46	0.06	0.05	1.81E-03		0.1
	11-Feb-02	1.28	1.29	305.52	305.51	0.01	0.01	3.01E-04		
	15-Feb-02	1.50	1.38	(F)	305.42					
	18-Feb-02	1.29	1.16	305.51	(F)					
	21-Feb-02	1.23	1.30	305.57	305.50	0.07	0.06	2.11E-03		
	25-Feb-02	1.30	1.38	305.50	305.42	0.08	0.07	2.41E-03		
	07-Mar-02	1.50	1.31	(F)	305.49					2.1
	11-Mar-02	1.42	1.25	(F)	305.55					
	15-Mar-02	1.46	1.31	(F)	305.49					
	19-Mar-02	1.25	1.29	305.55	305.51	0.04	0.04	1.20E-03		
	21-Mar-02	1.24	1.28	305.56	305.52	0.04	0.04	1.20E-03		
	26-Mar-02	1.18	1.33	305.62	305.47	0.15	0.13	4.51E-03		
	28-Mar-02	1.26	1.32	305.54	305.48	0.06	0.05	1.81E-03		
	01-Apr-02	1.20	1.26	305.60	305.54	0.06	0.05	1.81E-03		
	05-Apr-02	1.18	1.24	305.62	305.56	0.06	0.05	1.81E-03		
	07-Apr-02	1.08	1.19	305.72	305.61	0.11	0.10	3.31E-03	7.6	8.0
	11-Apr-02	1.11	1.2	305.69	305.60	0.09	0.08	2.71E-03		
	19-Apr-02	1.06	1.11	305.74	305.69	0.05	0.04	1.50E-03		
	23-Apr-02	1.22	1.25	305.58	305.55	0.03	0.03	9.03E-04		
	29-Apr-02	1.18	1.19	305.62	305.61	0.01	0.01	3.01E-04		
	06-May-02	1.22	1.24	305.58	305.56	0.02	0.02	7.40E-04	9.8	13.1
	10-May-02	1.23	1.27	305.57	305.53	0.04	0.04	1.20E-03		
	14-May-02	1.17	1.21	305.63	305.59	0.04	0.04	1.20E-03		
	17-May-02	1.12	1.17	305.68	305.63	0.05	0.04	1.50E-03		
	21-May-02	1.19	1.27	305.61	305.53	0.08	0.07	2.41E-03		
	24-May-02	1.23	1.28	305.57	305.52	0.05	0.04	1.50E-03		
	27-May-02	1.28	1.34	305.52	305.46	0.06	0.05	1.81E-03		
	31-May-02	1.27	1.32	305.53	305.48	0.05	0.04	1.50E-03		
	04-Jun-02	1.28	1.30	305.52	305.50	0.02	0.02	6.02E-04		
	07-Jun-02	1.29	1.35	305.51	305.45	0.06	0.05	1.81E-03		
	14-Jun-02	1.32	1.35	305.48	305.45	0.03	0.03	9.03E-04		
	21-Jun-02	1.32	1.35	305.48	305.45	0.03	0.03	9.03E-04		
	25-Jun-02	1.33	1.35	305.47	305.45	0.02	0.02	6.02E-04		
	05-Jul-02	1.32	1.36	305.48	305.44	0.04	0.04	1.20E-03		
	11-Jul-02	1.34	1.38	305.46	305.42	0.04	0.04	1.20E-03	18.6	19.1
	15-Jul-02	1.36	1.40	305.44	305.40	0.04	0.04	1.20E-03		
	23-Jul-02	1.35	1.40	305.45	305.40	0.05	0.04	1.50E-03		
	05-Aug-02	1.39	1.38	305.41	305.42	-0.01	-0.01	-3.01E-04		
	09-Aug-02	1.39	1.37	305.41	305.43	-0.02	-0.02	-6.02E-04	17.6	17.0
	16-Aug-02	1.34	1.37	305.46	305.43	0.03	0.03	9.03E-04		
	21-Aug-02	1.33	1.38	305.47	305.42	0.05	0.04	1.50E-03		
	23-Aug-02	1.33	1.37	305.47	305.43	0.04	0.04	1.20E-03		
	04-Sep-02	1.43	1.38	305.37	305.42	-0.05	-0.04	-1.50E-03	19.7	17.6
	17-Sep-02	1.42	1.38	305.38	305.42	-0.04	-0.04	-1.20E-03		
	02-Oct-02	1.4	1.36	305.40	305.44	-0.04	-0.04	-1.20E-03		
	11-Oct-02	1.41	1.36	305.39	305.44	-0.05	-0.04	-1.50E-03	14.2	12.1
	21-Nov-02	1.35	1.37	305.45	305.43	0.02	0.02	6.02E-04	6.5	4.0
	13-Dec-02	1.28	1.18	305.52	(F)				5.7	
	09-Jan-03	1.37	1.37	305.43	(F)				2.4	
	10-Feb-03	1.35	1.37	305.45	305.43	0.02	0.02	6.02E-04	3.4	4.5
	13-Mar-03	1.3	1.33	305.50	305.47	0.03	0.03	9.03E-04	4.0	7.5
	10-Apr-03	1.28	1.34	305.52	305.46	0.06	0.05	1.81E-03	5.0	12.0
	07-May-03	1.21	1.30	305.59	305.50	0.09	0.08	2.71E-03	6.5	10.5
	15-May-03	1.33	1.35	305.47	305.45	0.02	0.02	6.02E-04	8.5	10.0
	16-Jun-03	1.33	1.35	305.47	305.45	0.02	0.02	6.02E-04	12.5	13.0
	17-Jul-03	1.39	1.38	305.41	305.42	-0.01	-0.01	-3.01E-04	13.0	14.0
	21-Aug-03	1.09	1.14	305.71	305.66	0.05	0.04	1.50E-03	19.4	20.0
	26-Aug-03	1.34	1.31	305.46	305.49	-0.03	-0.03	-9.03E-04	17.6	19.7
	25-Sep-03	1.33	1.35	305.47	305.45	0.02	0.02	6.02E-04	10.8	7.0
	27-Oct-03	1.32	1.35	305.48	305.45	0.03	0.03	9.03E-04	11.2	7.9
	01-Dec-03	1.17	1.24	305.63	305.56	0.07	0.06	2.11E-03	6.0	2.0
	11-Dec-03	1.24	1.27	305.56	305.53	0.03	0.03	9.03E-04	7.0	2.7
	15-Dec-03	1.17	1.24	305.52	305.47	0.05	0.04	1.50E-03		1.0

NOTES:
- m ASL — metres above sea level
- (F) — Frozen
- L/s/m² — Litres per second per square metre
- Depth of screen midpoint below the creek bed is 1.13 m
- Assumed vertical permeability is 3.30E-05 m/s

TABLE B-5
SUMMARY OF CREEK BASED DRIVE POINT DATA
MILL CREEK AGGREGATES PIT

MONITOR LOCATION	DATE	G.W. LEVEL BTOP (m)	S.W. LEVEL BTOP (m)	GROUND-WATER ELEVATION (m ASL)	SURFACE WATER ELEVATION (m ASL)	HYDRAULIC HEAD IN GROUND-WATER (m)	VERTICAL HYDRAULIC GRADIENT	CALCULATED GROUNDWATER FLUX TO CREEK (L/s/m2)	TEMPERATURE	
									GROUND-WATER (°C)	SURFACE WATER (°C)
	19-Jan-04	1.2	1.30	(F)305.60	(F)305.50					
DP4	18-Feb-04	1.3	1.35	(F)305.50	(F)305.45					
(cont'd)	25-Mar-04	1.2	1.28	305.60	305.52	0.08	0.07	2.41E-03	6.2	4.7
	07-Apr-04	1.14	1.26	305.66	305.54	0.12	0.11	3.61E-03	5.8	3.4
	22-Apr-04	1.1	1.19	305.70	305.61	0.09	0.08	2.71E-03	9.5	10.9
	20-May-04	1.2	1.34	305.60	305.46	0.14	0.12	4.21E-03	10.3	14.6
	24-Jun-04	1.21	1.34	305.59	305.46	0.13	0.12	3.91E-03	11.3	20.0
	23-Jul-04	1.26	1.36	305.54	305.44	0.10	0.09	3.01E-03	15.4	21.4
	04-Aug-04	1.19	1.36	305.61	305.44	0.17	0.15	5.12E-03	15.0	20.0
	27-Aug-04	1.28	1.37	305.52	305.43	0.09	0.08	2.71E-03	14.2	20.1
	28-Sep-04	1.31	1.38	305.49	305.42	0.07	0.06	2.11E-03	9.2	11.9
	18-Oct-04	1.29	1.36	305.51	305.44	0.07	0.06	2.11E-03	8.0	6.9
	16-Nov-04	1.31	1.37	305.49	305.43	0.06	0.05	1.81E-03	6.9	5.1
	15-Dec-04	1.25	1.35	(F)305.55	305.45					0.9
	16-Dec-04	1.25	1.35	(F)305.55	305.45					0.6
	20-Jan-05	1.07	1.33	(F)305.73	305.47					0.4
	25-Feb-05	1.21	1.28	(F)305.59	305.52					0.4
	24-Mar-05	1.22	1.33	305.58	305.47	0.11	0.10	3.31E-03	3.5	2.2
	18-Apr-05	1.2	1.31	305.60	305.49	0.11	0.10	3.31E-03	13.6	12.1
	29-Apr-05	1.11	1.26	305.69	305.54	0.15	0.13	4.51E-03	8.8	10.7
	26-May-05	1.23	1.36	305.57	305.44	0.13	0.12	3.91E-03	8.4	14.4
	23-Jun-05	1.26	1.37	305.54	305.43	0.11	0.10	3.31E-03	10.3	18.4
	25-Jul-05	1.27	1.38	305.53	305.42	0.11	0.10	3.31E-03	12.9	17.3
	17-Aug-05	1.3	1.39	305.50	305.41	0.09	0.08	2.71E-03	13.6	12.1
	25-Aug-05	1.29	1.38	305.51	305.42	0.09	0.08	2.71E-03	13.3	17.9
	30-Sep-05	1.25	1.35	305.55	305.45	0.10	0.09	3.01E-03	13	13.3
	27-Oct-05	1.27	1.37	305.53	305.43	0.10	0.09	3.01E-03	7.7	8.8
	28-Nov-05	1.34	1.35	305.46	305.45	0.01	0.01	3.01E-04	7.4	4.3
	07-Dec-05	1.11	1.31	(F)305.69	305.49					1.8
	19-Dec-05	1.18	1.36	(F)305.62	305.44					0.4
	26-Jan-06	1.16	1.29	305.64	305.51	0.13	0.12	3.91E-03	7.0	3.3
	15-Feb-06	1.15	1.36		305.44					0.0
	30-Mar-06	1.18	1.32	305.62	305.48	0.14	0.12	4.21E-03	11.7	5.9
	27-Apr-06	1.12	1.29	305.68	305.51	0.17	0.15	5.12E-03	10.5	10.9
	28-Apr-06	1.19	1.32	305.61	305.48	0.13	0.12	3.91E-03	15.1	14.3
	15-May-06	1.22	1.35	305.58	305.45	0.13	0.12	3.91E-03	15.1	17.1
	15-Jun-06	1.25	1.37	305.55	305.43	0.12	0.11	3.61E-03	15.1	20.0
	15-Jul-06	1.22	1.36	305.58	305.44	0.14	0.12	4.21E-03	15.5	21.6
	24-Aug-06	1.29	1.39	305.51	305.41	0.10	0.09	3.01E-03	15.0	18.5
	15-Sep-06	1.11	1.25	305.69	305.55	0.14	0.12	4.21E-03	12.0	16.6
	15-Oct-06	1.07	1.19	305.73	305.61	0.12	0.11	3.61E-03	10.0	10.7
	15-Nov-06	1.21	1.32	305.59	305.48	0.11	0.10	3.31E-03	4.4	5.0
	07-Dec-06	1	1.31	(F) 305.80	305.49					1.3
	17-Jan-07	1.09	1.27	(F) 305.71	305.53					0.2
	22-Feb-07	1.15	1.34	305.65	305.47	0.19	0.16	5.57E-03		0.8
	30-Mar-07	1.08	1.27	305.72	305.54	0.19	0.16	5.57E-03		3.2
	26-Apr-07	1	1.26	305.80	305.64	0.16	0.14	4.81E-03	9.5	10.1
	16-May-07	1.09	1.22	305.71	305.58	0.13	0.12	3.91E-03	13.2	18.4
	26-Jun-07	1.19	1.35	305.61	305.45	0.16	0.14	4.81E-03		22.8
	25-Jul-07	1.25	1.40	305.55	305.40	0.15	0.13	4.51E-03		19.6
	07-Aug-07	1.24	1.37	305.56	305.43	0.13	0.12	3.91E-03		23.1
	21-Aug-07	1.28	1.40	305.52	305.40	0.12	0.11	3.61E-03		17.3
	21-Sep-07	1.32	1.41	305.48	305.39	0.09	0.08	2.71E-03		18.3
	17-Oct-07	1.28	1.38	305.52	305.42	0.10	0.09	3.01E-03		12.8
	15-Nov-07	1.28	1.36	305.52	305.44	0.08	0.07	2.41E-03		
	29-Nov-07	1.23	1.36	305.57	305.44	0.13	0.12	3.91E-03		2.6
	10-Dec-07	1.29	1.37	305.51	305.43	0.08	0.07	2.41E-03		0.7
	31-Jan-08	1.18	1.32	(F)305.62	305.48					0.1
	29-Feb-08	1.17	1.36	(F)305.63	305.44					0.1
	31-Mar-08	1.04	1.28	305.76	305.52	0.24	0.21	7.22E-03		3.0
	28-Apr-08	1.10	1.32	305.70	305.48	0.22	0.19	6.62E-03		11.1
	28-May-08	1.15	1.36	305.65	305.44	0.21	0.19	6.32E-03		15.2
	25-Jun-08	1.13	1.35	305.67	305.45	0.22	0.19	6.62E-03		21.4
	16-Jul-08	1.13	1.36	305.67	305.44	0.23	0.20	6.92E-03		23.4
	20-Aug-08	1.09	1.32	305.71	305.48	0.23	0.20	6.92E-03	14.7	17.5
	26-Aug-08	1.13	1.35	305.67	305.45	0.22	0.19	6.62E-03	16.5	16.8
	19-Sep-08	0.93	1.18	305.87	305.62	0.25	0.22	7.52E-03	14.7	17.4
	10-Oct-08	1.10	1.33	305.70	305.47	0.23	0.20	6.92E-03	10.7	12.4
	05-Nov-08	1.10	1.33	305.70	305.47	0.23	0.20	6.92E-03	11.3	9.4
	17-Dec-08	0.97	1.27	(F)305.83	305.53					1.3
	06-Jan-09	0.84	1.28	(F)305.96	305.52					0.0
	27-Feb-09	1.16	1.30	(F)305.64	305.5					1.4
	11-Mar-09	0.98	1.05	305.82	305.75	0.07	0.06	2.11E-03	4.3	1.9
	14-Apr-09	1.00	1.27	305.80	305.53	0.27	0.24	8.12E-03	7.5	6.0
	21-May-09	1.06	1.32	305.74	305.48	0.26	0.23	7.82E-03	14.1	18.6
	16-Jun-09	1.07	1.33	305.73	305.47	0.26	0.23	7.82E-03		17.9
	31-Jul-09	1.03	1.31	305.77	305.49	0.28	0.25	8.42E-03		19.7
	25-Aug-09	1.01	1.30	305.79	305.5	0.29	0.26	8.73E-03	12.5	19.0
	28-Aug-09	1.03	1.32	305.77	305.48	0.29	0.26	8.73E-03	14.4	18.6
	28-Sep-09	1.09	1.34	305.71	305.46	0.25	0.22	7.52E-03	11.7	11.1
	14-Oct-09	1.07	1.34	305.73	305.46	0.27	0.24	8.12E-03	8.4	6.3
	11-Nov-09	1.09	1.28	305.71	305.52	0.19	0.17	5.72E-03	10.2	7.7
	11-Dec-09	0.93	1.33	(F)305.87	305.47					2.3
	16-Dec-09	1.07	1.32	(F)305.73	305.48					0.8

NOTES:
· m ASL metres above sea level
· (F) Frozen
· L/s/m² Litres per second per square metre
· Depth of screen midpoint below the creek bed is 1.13 m
· Assumed vertical permeability is 3.30E-05 m/s

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SUMMARY OF CREEK BASED DRIVE POINT DATA
MILL CREEK AGGREGATES PIT

MONITOR LOCATION	DATE	G.W. LEVEL BTOP (m)	S.W. LEVEL BTOP (m)	GROUND-WATER ELEVATION (m ASL)	SURFACE WATER ELEVATION (m ASL)	HYDRAULIC HEAD IN GROUND-WATER (m)	VERTICAL HYDRAULIC GRADIENT	CALCULATED GROUNDWATER FLUX TO CREEK (L/s/m2)	TEMPERATURE	
									GROUND-WATER (°C)	SURFACE WATER (°C)
DP4	13-Jan-10	(F)0.99	1.35	(F)305.81	305.45					-0.2
(cont'd)	11-Feb-10	(F)1.15	1.36	(F)305.65	305.44					0.2
	11-Mar-10	1.09	1.33	305.71	305.47	0.24	0.21	7.22E-03	7.5	5.6
	16-Apr-10	1.10	1.35	305.70	305.45	0.25	0.22	7.52E-03	11.9	14.0
	21-May-10	1.14	1.36	305.66	305.44	0.22	0.19	6.62E-03	11.1	16.1
	17-Jun-10	1.11	1.33	305.69	305.47	0.22	0.19	6.62E-03	13.2	18.7
	15-Jul-10	1.24	1.38	305.56	305.42	0.14	0.12	4.21E-03	15.6	22.0
	18-Aug-10	1.27	1.39	305.53	305.41	0.12	0.11	3.61E-03	15.5	19.0
	31-Aug-10	1.29	1.38	305.51	305.42	0.09	0.08	2.71E-03	15.4	21.4
	28-Sep-10	1.18	1.32	305.62	305.48	0.14	0.12	4.21E-03	13.3	13.8
	20-Oct-10	1.25	1.37	305.55	305.43	0.12	0.11	3.61E-03	10.6	8.8
	18-Nov-10	1.18	1.31	305.62	305.49	0.13	0.12	3.91E-03	8.4	6.8
	08-Dec-10	(F)1.18	1.34	(F)305.62	305.46					0.5
	22-Dec-10	(F)1.24	1.37	(F)305.56	305.43					0.4
	19-Jan-11	(F)1.18	1.27	(F)305.62	305.53					0.3
	17-Feb-11	1.42	1.33	305.38	305.47	-0.09	-0.08	-2.71E-03	3.4	2.4
	16-Mar-11	1.25	1.23	305.55	305.57	-0.02	-0.02	-6.02E-04	5.9	4.3
	13-Apr-11	1.16	1.33	305.64	305.47	0.17	0.15	5.12E-03	10.0	10.5
	21-Apr-11	0.99	1.19	305.81	305.61	0.20	0.18	6.02E-03	6.0	4.3
	26-May-11	1.00	1.25	305.80	305.55	0.25	0.22	7.52E-03	11.3	15.1
	16-Jun-11	1.11	1.35	305.69	305.45	0.24	0.21	7.22E-03	12.2	18.3
	14-Jul-11	1.22	1.38	305.58	305.42	0.16	0.14	4.81E-03	14.1	20.7
	11-Aug-11	1.25	1.39	305.55	305.41	0.14	0.12	4.21E-03	14.9	18.1
	17-Aug-11	1.28	1.39	305.52	305.41	0.11	0.10	3.31E-03	15.8	20.9
	14-Sep-11	1.29	1.40	305.51	305.40	0.11	0.10	3.31E-03	14.0	16.2
	27-Oct-11	1.14	1.31	305.66	305.49	0.17	0.15	5.12E-03	9.8	6.9
	14-Nov-11	1.20	1.33	305.60	305.47	0.13	0.12	3.91E-03	8.3	5.4
	14-Dec-11	1.14	1.37	305.66	305.43	0.23	0.20	6.92E-03	8.7	6.6
	22-Dec-11	1.13	1.29	305.67	305.51	0.16	0.14	4.81E-03	7.9	3.1
	16-Jan-12	(F) 1.13	1.34		305.46					0.7
	16-Feb-12	1.22	1.34	305.58	305.46	0.12	0.11	3.61E-03	5.4	2.7
	29-Mar-12	1.16	1.34	305.64	305.46	0.18	0.16	5.42E-03	6.9	5.7
	10-Apr-12	1.24	1.36	305.56	305.44	0.12	0.11	3.61E-03	9.4	8.1
	30-Apr-12	1.19	1.36	305.61	305.44	0.17	0.15	5.12E-03	8	8
	29-May-12	1.26	1.39	305.54	305.41	0.13	0.12	3.91E-03	12.9	18.7
	20-Jun-12	1.30	1.40	305.50	305.40	0.10	0.09	3.01E-03	16.4	25.4
	24-Jul-12	1.35	1.43	305.45	305.37	0.08	0.07	2.41E-03	17.3	22.2
	08-Aug-12	1.39	1.41	305.41	305.39	0.02	0.02	6.02E-04	18.3	23.4
	21-Aug-12	1.38	1.41	305.42	305.39	0.03	0.03	9.03E-04	15.9	18.6
	18-Sep-12	1.30	1.37	305.50	305.43	0.07	0.06	2.11E-03	13.9	13.6
	23-Oct-12	1.27	1.31	305.53	305.49	0.04	0.04	1.20E-03	10.9	10.2
	28-Nov-12	1.33	1.38	305.47	305.42	0.05	0.04	1.50E-03	5.6	2.1
	06-Dec-12	(F)1.26	1.34		305.46					1.9
	19-Dec-12	(F)1.32	1.36		305.44				5.5	2.2
	16-Jan-13	(F)1.22	1.35		305.45					1.1
	20-Feb-13	(F)1.16	1.33		305.47					1.6
	21-Mar-13	(F)1.16	1.32		305.48					1.2
	04-Apr-13	1.24	1.28	305.56	305.52	0.04	0.04	1.20E-03	6.3	3.5
	25-Apr-13	1.14	1.29	305.66	305.51	0.15	0.13	4.51E-03	7.3	8.0
	23-May-13	1.23	1.36	305.57	305.44	0.13	0.12	3.91E-03	12.6	19.9
	13-Jun-13	1.14	1.28	305.66	305.52	0.14	0.12	4.21E-03	18.6	18.6
	31-Jul-13	1.22	1.37	305.58	305.43	0.15	0.13	4.51E-03	14.4	18.1
	29-Aug-13	1.26	1.38	305.54	305.42	0.12	0.11	3.61E-03	17.8	21.4
	25-Sep-13	1.23	1.37	305.57	305.43	0.14	0.12	4.21E-03	13.6	14.6
	22-Oct-13	1.15	1.28	305.65	305.52	0.13	0.12	3.91E-03	9.6	8.1
	28-Nov-13	(F)1.14	1.34		305.46					0.7
	10-Dec-13	(F)1.23	1.32		305.48					0.2

NOTES:
- m ASL — metres above sea level
- (F) — Frozen
- L/s/m² — Litres per second per square metre
- Depth of screen midpoint below the creek bed is 1.13 m
- Assumed vertical permeability is 3.30E-05 m/s

TABLE B-5
SUMMARY OF CREEK BASED DRIVE POINT DATA
MILL CREEK AGGREGATES PIT

MONITOR LOCATION	DATE	G.W. LEVEL BTOP (m)	S.W. LEVEL BTOP (m)	GROUND-WATER ELEVATION (m ASL)	SURFACE WATER ELEVATION (m ASL)	HYDRAULIC HEAD IN GROUND-WATER (m)	VERTICAL HYDRAULIC GRADIENT	CALCULATED GROUNDWATER FLUX TO CREEK (L/s/m2)	TEMPERATURE	
									GROUND-WATER (°C)	SURFACE WATER (°C)
DP4	15-Jan-14	0.71	1.27		305.53					0.2
(cont'd)	26-Feb-14	1.07	1.21		305.59					0.7
	26-Mar-14	1.09	1.30		305.50					0.3
	01-Apr-14	1.03	1.19	305.77	305.61	0.16	0.14	4.81E-03	5.2	2.3
	15-May-14	1.04	1.25	305.76	305.55	0.21	0.19	6.32E-03	10.8	17.5
	18-Jun-14	1.18	1.35	305.62	305.45	0.17	0.15	5.12E-03	15.6	19.9
	29-Jul-14	1.04	1.26	305.76	305.54	0.22	0.19	6.62E-03	13.0	18.1
	25-Aug-14	1.18	1.36	305.62	305.44	0.18	0.16	5.42E-03	16.4	20.0
	18-Sep-14	1.07	1.32	305.73	305.48	0.25	0.22	7.52E-03	14.9	16.2
	17-Oct-14	1.15	1.36	305.65	305.44	0.21	0.19	6.32E-03	13.8	14.1
	27-Nov-14	Frozen	1.29		305.51					0.5
	15-Dec-14	1.19	1.34	305.61	305.46	0.15	0.13	4.51E-03	7.9	4.3
	21-Jan-15	(F)	1.38		305.42					0.1
	18-Feb-15	(F)	(F)							
	25-Mar-15	(F)	1.32		305.48				3.9	2.2
	06-Apr-15	1.11	1.27	305.69	305.53	0.16	0.14	4.81E-03	4.0	3.6
	20-May-15	1.18	1.38	305.62	305.42	0.20	0.18	6.02E-03		14.9
	23-Jun-15	1.16	1.36	305.64	305.44	0.20	0.18	6.02E-03		19.1
	22-Jul-15	1.21	1.37	305.59	305.43	0.16	0.14	4.81E-03		19.1
	25-Aug-15	1.22	1.37	305.58	305.43	0.15	0.13	4.51E-03	14.5	16.8
	24-Sep-15	1.27	1.40	305.53	305.40	0.13	0.12	3.91E-03	13.5	16.8
	29-Oct-15	1.05	1.26	305.75	305.54	0.21	0.19	6.32E-03	10.0	9.5
	25-Nov-15	1.23	1.35	305.57	305.45	0.12	0.11	3.61E-03	8.6	5.1
	10-Dec-15	1.26	1.36	305.54	305.44	0.10	0.09	3.01E-03	8.3	5.0
	20-Jan-16	(F)	(F)							
	29-Feb-16	(F)	(F)							
	17-Mar-16	1.05	1.23	305.75	305.57	0.18	0.16	5.42E-03	4.5	5.0
	30-Mar-16	1.25	1.23	305.55	305.57	-0.02	-0.02	-6.02E-04	7.6	1.2
	27-Apr-16	1.14	1.32	305.66	305.48	0.18	0.16	5.42E-03	7.6	8.1
	30-May-16	1.16	1.35	305.64	305.45	0.19	0.17	5.72E-03	13.1	20.9
	27-Jun-16	1.32	1.41	305.48	305.39	0.09	0.08	2.71E-03	15.5	19.2
	28-Jul-16	1.27	1.41	305.53	305.39	0.14	0.12	4.21E-03	17.7	23.0
	11-Aug-16	1.34	1.41	305.46	305.39	0.07	0.06	2.11E-03	17.8	22.6
	21-Sep-16	1.28	1.40	305.52	305.40	0.12	0.11	3.61E-03	17.6	16.7
	18-Oct-16	1.28	1.39	305.52	305.41	0.11	0.10	3.31E-03		17.1
	14-Nov-16	1.27	1.39	305.53	305.41	0.12	0.11	3.61E-03	11.0	6.2
	14-Dec-16	(F)	1.41		305.39					0.9
	18-Jan-17	1.14	1.32	305.66	305.48	0.18	0.16	5.42E-03	5.7	2.4
	15-Feb-17	1.21	1.36	305.59	305.44	0.15	0.13	4.51E-03	3.6	2.0
	17-Mar-17	1.21	1.36	305.59	305.44	0.15	0.13	4.51E-03	6.4	1.0
	11-Apr-17	1.07	1.25	305.73	305.55	0.18	0.16	5.42E-03	7.7	7.4
	18-May-17	1.12	1.35	305.68	305.45	0.23	0.20	6.92E-03	12.2	16.0
	14-Jun-17	1.15	1.38	305.65	305.42	0.23	0.20	6.92E-03	14.3	17.0
	20-Jul-17	1.12	1.35	305.68	305.45	0.23	0.20	6.92E-03	17.2	19.9
	09-Aug-17	1.16	1.38	305.64	305.42	0.22	0.19	6.62E-03	16.8	19.7
	12-Sep-17	1.16	1.38	305.64	305.42	0.22	0.19	6.62E-03	12.8	13.5
	12-Oct-17	1.17	1.40	305.63	305.40	0.23	0.20	6.92E-03	12.1	11.6
	21-Nov-17	1.13	1.32	305.67	305.48	0.19	0.17	5.72E-03	9.7	3.9
	19-Dec-17	1.46	1.38	305.34	305.42	-0.08	-0.07	-2.41E-03	0.6	0.7
	16-Jan-18	(F)	(F)							
	26-Feb-18	1.27	1.24	305.53	305.56	-0.03	-0.03	-9.03E-04	4.8	2.4
	26-Mar-18	1.22	1.36	305.58	305.44	0.14	0.12	4.21E-03	8.5	4.8
	24-Apr-18	1.00	1.20	305.80	305.60	0.20	0.18	6.02E-03	10.2	9.2
	18-May-18	1.11	1.29	305.69	305.51	0.18	0.16	5.42E-03	12.5	14.6
	12-Jun-18	1.20	1.40	305.60	305.40	0.20	0.18	6.02E-03	17.0	17.0
	27-Jul-18	1.25	1.40	305.55	305.40	0.15	0.13	4.51E-03	20.0	20.2
	22-Aug-18	1.18	1.36	305.62	305.44	0.18	0.16	5.42E-03	17.5	19.8
	12-Sep-18	1.23	1.38	305.57	305.42	0.15	0.13	4.51E-03	16.9	15.6
	30-Oct-18	1.23	1.38	305.57	305.42	0.15	0.13	4.51E-03	8.3	4.8
	21-Nov-18	1.23	1.37	305.57	305.43	0.14	0.12	4.21E-03	1.5	1.3
	20-Dec-18	(F)	1.38		305.42				3.1	2.3
2018 AVERAGE VALUES						0.15	0.13	4.39E-03	10.9	10.2
OVERALL AVERAGE VALUES						0.08	0.07	2.53E-03	10.3	10.8

NOTES:
- m ASL — metres above sea level
- (F) — Frozen
- L/s/m² — Litres per second per square metre
- Depth of screen midpoint below the creek bed is 1.13 m
- Assumed vertical permeability is 3.30E-05 m/s

TABLE B-5
SUMMARY OF CREEK BASED DRIVE POINT DATA
MILL CREEK AGGREGATES PIT

MONITOR LOCATION	DATE	G.W. LEVEL BTOP (m)	S.W. LEVEL BTOP (m)	GROUND-WATER ELEVATION (m ASL)	SURFACE WATER ELEVATION (m ASL)	HYDRAULIC HEAD IN GROUND-WATER (m)	VERTICAL HYDRAULIC GRADIENT	CALCULATED GROUNDWATER FLUX TO CREEK (L/s/m2)	TEMPERATURE GROUND-WATER (°C)	TEMPERATURE SURFACE WATER (°C)
DP5	27-Sep-88	0.34	0.58	303.16	302.92	0.24	0.22	1.10E-03	12.5	11.0
	03-Dec-88	0.26	0.53	303.24	302.97	0.27	0.25	1.24E-03	6.5	1.5
	14-Dec-88	0.31	0.56	303.19	302.94	0.25	0.23	1.15E-03		
	20-Jan-89	0.30	0.52	303.20	302.98	0.22	0.20	1.01E-03		
	22-Feb-89	0.34	0.57	303.16	302.93	0.23	0.21	1.06E-03	4.0	2.0
	01-Apr-89	0.17	0.43	303.33	303.07	0.26	0.24	1.19E-03	4.0	1.3
	17-Apr-89	0.18	0.49	303.32	303.01	0.31	0.28	1.42E-03		
	24-May-89	0.28	0.57	303.22	302.93	0.29	0.27	1.33E-03	11.0	11.0
	05-Jun-89	0.22	0.51	303.28	302.99	0.29	0.27	1.33E-03	11.0	15.0
	12-Jul-89	0.39	0.61	303.11	302.89	0.22	0.20	1.01E-03	12.0	17.5
	27-Jul-89	0.42	NA	303.08						
	15-Aug-89	0.44	0.61	303.06	302.89	0.17	0.16	7.80E-04	11.0	12.0
	30-Aug-89	0.46	0.61	303.04	302.89	0.15	0.14	6.88E-04	9.0	12.0
	17-Oct-89	0.39	0.59	303.11	302.91	0.20	0.18	9.17E-04	7.0	5.0
	30-Nov-89	0.27	0.53	303.23	302.97	0.26	0.24	1.19E-03	6.0	0
	13-Dec-89	0.37	0.58	303.13	302.92	0.21	0.19	9.63E-04	3.0	0
	17-Jan-90	0.36	0.57	303.14	302.93	0.21	0.19	9.63E-04	4.5	3.0
	06-Mar-90	0.27	0.50	303.23	303.00	0.23	0.21	1.06E-03	3.5	0
	02-Apr-90	0.21	0.51	303.29	302.99	0.30	0.28	1.38E-03	5.0	4.5
	25-Jun-90	0.33	0.57	303.17	302.93	0.24	0.22	1.10E-03	12.5	15.5
	26-Jul-90	0.35	0.58	303.15	302.92	0.23	0.21	1.06E-03	13.0	18.0
	22-Aug-90	0.37	0.57	303.13	302.93	0.20	0.18	9.17E-04	13.0	17.0
	26-Sep-90	0.37	0.58	303.13	302.92	0.21	0.19	9.63E-04	12.0	12.0
	24-Oct-90	0.24	0.51	303.26	302.99	0.27	0.25	1.24E-03	10.0	8.0
	25-Nov-90	0.23	0.49	303.27	303.01	0.26	0.24	1.19E-03	7.0	4.0
	14-Dec-90	0.22	0.47	303.28	303.03	0.25	0.23	1.15E-03	5.0	1.0
	23-Jan-91	0.22	0.49	303.28	303.01	0.27	0.25	1.24E-03	3.0	0
	20-Feb-91	0.15	0.42	303.35	303.08	0.27	0.25	1.24E-03	4.5	2.0
	28-Mar-91	0.00	-0.01	303.50	303.51	-0.01	-0.01	-4.59E-05	6.0	6.0
	26-Apr-91	0.14	0.41	303.36	303.09	0.27	0.25	1.24E-03	8.0	9.8
	24-May-91	0.29	0.52	303.21	302.98	0.23	0.21	1.06E-03	13.0	16.0
	20-Jun-91	0.28	0.52	303.22	302.98	0.24	0.22	1.10E-03	14.0	19.5
	30-Jul-91	0.11	0.31	303.39	303.19	0.20	0.18	9.17E-04	14.0	17.0
	22-Aug-91	0.31	0.55	303.19	302.95	0.24	0.22	1.10E-03	14.5	16.0
	25-Sep-91	0.35	0.55	303.15	302.95	0.20	0.18	9.17E-04	12.0	10.3
	29-Oct-91	0.28	0.52	303.22	302.98	0.24	0.22	1.10E-03	10.0	8.5
	26-Nov-91	0.28	0.52	303.22	302.98	0.24	0.22	1.10E-03	7.1	2.6
	16-Dec-91	0.25	0.50	303.25	303.00	0.25	0.23	1.15E-03	4.4	
	13-Mar-92	0.21	0.49	303.29	303.01	0.28	0.26	1.28E-03	4.4	1.7
	15-Apr-92	0.23	0.51	303.27	302.99	0.28	0.26	1.28E-03	5.8	4.7
	21-May-92	0.29	0.53	303.21	302.97	0.24	0.22	1.10E-03	12.0	16.2
	29-Jun-92	0.36	0.56	303.14	302.94	0.20	0.18	9.17E-04	12.3	13.4
	20-Jul-92	0.14	0.39	303.36	303.11	0.25	0.23	1.15E-03	13.1	18.5
	27-Aug-92	0.23	0.45	303.27	303.05	0.22	0.20	1.01E-03	13.5	18.0
	14-Sep-92	0.22	0.48	303.28	303.02	0.26	0.24	1.19E-03	12.0	16.0
	28-Oct-92	0.20	0.46	303.30	303.04	0.26	0.24	1.19E-03	9.0	7.0
	26-Nov-92	0.07	0.30	303.43	303.20	0.23	0.21	1.06E-03	5.0	4.0
	15-Dec-92	0.19	0.42	303.31	303.08	0.23	0.21	1.06E-03	4.9	1.8
	19-Jan-93	(F) 0.03	0.40	(F) 303.47	303.10					
	26-Mar-93	0.17	0.42	303.33	303.08	0.25	0.23	1.15E-03	4.0	1.5
	20-Apr-93	0.03	0.32	303.47	303.18	0.29	0.27	1.33E-03	6.5	6.0
	27-May-93	0.24	0.48	303.26	303.02	0.24	0.22	1.10E-03	10.0	13.5
	22-Jun-93	0.18	0.42	303.32	303.08	0.24	0.22	1.10E-03	14.0	18.0
	14-Jul-93	0.28	0.49	303.22	303.01	0.21	0.19	9.63E-04	14.0	18.1
	18-Aug-93	0.33	0.52	303.17	302.98	0.19	0.17	8.72E-04	14.1	19.0
	20-Sep-93	0.30	0.54	303.20	302.96	0.24	0.22	1.10E-03	12.0	10.4
	19-Oct-93	0.14	0.43	303.36	303.07	0.29	0.27	1.33E-03	9.1	7.7
	17-Nov-93	0.23	0.50	303.27	303.00	0.27	0.25	1.24E-03	7.0	5.1
	06-Dec-93	0.17	0.45	303.33	303.05	0.28	0.26	1.28E-03	6.6	3.7
	18-Jan-94	(F) 0.21	0.49	(F) 303.29	303.01					0.2
	24-Feb-94	0.16	0.41	303.34	303.09	0.25	0.23	1.15E-03	4.0	1.0
	24-Mar-94	Flowing	0.17	Flowing	303.33				4.5	5.0
	19-Apr-94	0.20	0.47	303.30	303.03	0.27	0.25	1.24E-03	6.0	10.0
	24-May-94	0.25	0.54	303.25	302.96	0.29	0.27	1.33E-03	10.0	13.5
	23-Jun-94	0.37	0.61	303.13	302.89	0.24	0.22	1.10E-03	13.0	15.0
	19-Jul-94	0.37	0.61	303.13	302.89	0.24	0.22	1.10E-03	11.0	15.0
	25-Aug-94				BRIDGE CONSTRUCTION,		MONITOR DESTROYED			
OVERALL AVERAGE VALUES						0.24	0.22	1.10E-03	8.8	9.1

NOTES:
· m ASL metres above sea level
· (F) Frozen
· L/s/m² Litres per second per square metre
· Depth of screen midpoint below the creek bed is 1.09 m
· Assumed vertical permeability is 5.00E-06 m/s
· DP5 is replaced by DP5A.

TABLE B-5
SUMMARY OF CREEK BASED DRIVE POINT DATA
MILL CREEK AGGREGATES PIT

MONITOR LOCATION	DATE	G.W. LEVEL BTOP (m)	S.W. LEVEL BTOP (m)	GROUND-WATER ELEVATION (m ASL)	SURFACE WATER ELEVATION (m ASL)	HYDRAULIC HEAD IN GROUND-WATER (m)	VERTICAL HYDRAULIC GRADIENT	CALCULATED GROUNDWATER FLUX TO CREEK (L/s/m2)	TEMPERATURE	
									GROUND-WATER (°C)	SURFACE WATER (°C)
DP5A	18-Oct-94	0.51	0.54	303.08	303.05	0.03	0.04	1.38E-03	8.0	9.0
	23-Nov-94	0.44	0.50	303.15	303.09	0.06	0.08	2.76E-03	8.0	3.0
	21-Dec-94	0.44	0.50	303.15	303.09	0.06	0.08	2.76E-03	6.0	2.0
	24-Jan-95	0.29	0.32	303.30	303.27	0.03	0.04	1.38E-03	6.0	3.0
	15-Feb-95	0.47	0.54	303.12	303.05	0.07	0.09	3.22E-03	5.0	
	23-Mar-95	0.35	0.42	303.24	303.17	0.07	0.09	3.22E-03	4.0	
	17-May-95	0.42	0.48	303.17	303.11	0.06	0.08	2.76E-03	9.0	13.5
	13-Jun-95	0.49	0.52	303.10	303.07	0.03	0.04	1.38E-03	9.0	14.0
	20-Jul-95	0.52	0.55	303.07	303.04	0.03	0.04	1.38E-03	14.0	17.0
	15-Aug-95	0.41	0.43	303.18	303.16	0.02	0.03	9.21E-04	14.0	20.0
	18-Oct-95	0.47	0.52	303.12	303.07	0.05	0.07	2.30E-03	11.0	8.5
	22-Nov-95	0.39	0.45	303.20	303.14	0.06	0.08	2.76E-03	5.0	2.0
	26-Mar-96	0.27	0.32	303.32	303.27	0.05	0.07	2.30E-03	2.0	1.0
	31-May-96	0.38	0.42	303.21	303.17	0.04	0.05	1.84E-03	12.0	14.0
	28-Jun-96	0.39	0.44	303.20	303.15	0.05	0.07	2.30E-03	13.0	20.0
	31-Jul-96	0.37	0.42	303.22	303.17	0.05	0.07	2.30E-03	14.0	19.0
	30-Aug-96	0.46	0.50	303.13	303.09	0.04	0.05	1.84E-03	13.0	15.0
	27-Sep-96	0.35	0.43	303.24	303.16	0.08	0.11	3.68E-03	13.0	13.0
	06-Nov-96	0.36	0.44	303.23	303.15	0.08	0.11	3.68E-03	8.0	6.0
	31-Mar-97	0.01	0.05	303.58	303.54	0.04	0.05	1.84E-03	6.0	2.0
	30-Apr-97	0.35	0.41	303.24	303.18	0.06	0.08	2.76E-03	7.0	12.0
	26-May-97	0.36	0.43	303.23	303.16	0.07	0.09	3.22E-03	8.0	13.0
	27-Jun-97	0.40	0.47	303.19	303.12	0.07	0.09	3.22E-03	8.5	17.0
	30-Jul-97	0.45	0.51	303.14	303.08	0.06	0.08	2.76E-03	13.5	17.5
	31-Aug-97	0.42	0.49	303.17	303.10	0.07	0.09	3.22E-03	13.0	15.0
	03-Oct-97	0.44	0.50	303.15	303.09	0.06	0.08	2.76E-03	11.8	11.0
	06-Nov-97	0.33	0.42	303.26	303.18	0.09	0.11	3.91E-03	8.5	7.0
	12-Dec-97	0.30	0.49	(F) 303.29	303.10					2.0
	27-Mar-98	0.27	0.35	303.32	303.25	0.08	0.10	3.45E-03	2.8	3.5
	30-Apr-98	0.40	0.48	303.19	303.11	0.08	0.11	3.68E-03	6.0	12.5
	31-May-98	0.46	0.53	303.13	303.06	0.07	0.09	3.22E-03	12.5	14.0
	30-Jun-98	0.42	0.49	303.17	303.10	0.07	0.09	3.22E-03	14.0	17.0
	31-Jul-98	0.48	0.51	303.11	303.08	0.03	0.04	1.38E-03	15.0	19.0
	30-Sep-98	0.45	0.49	303.14	303.10	0.04	0.05	1.84E-03	12.0	12.5
	27-Nov-98	0.45	0.51	303.14	303.08	0.06	0.08	2.76E-03	7.5	6.0
	31-Mar-99	0.38	0.42	303.21	303.17	0.04	0.05	1.84E-03	7.0	11.0
	20-May-99	0.47	0.55	303.12	303.04	0.08	0.11	3.68E-03	11.5	12.1
	29-Jun-99	0.48	0.59	303.11	303.00	0.11	0.14	5.07E-03	15.0	20.0
	16-Jul-99	0.56	0.68	303.03	302.91	0.12	0.16	5.53E-03		20.5
	11-Aug-99	0.50	0.56	303.09	303.03	0.06	0.08	2.76E-03	15.0	18.0
	09-Sep-99	0.42	0.48	303.17	303.11	0.06	0.08	2.76E-03	15.2	17.8
	09-Nov-99	0.41	0.49	303.18	303.10	0.08	0.11	3.68E-03	9.0	6.8
	01-Mar-00	0.35	0.45	303.24	303.14	0.10	0.13	4.61E-03	6.0	4.0
	18-May-00	0.19	0.26	303.40	303.33	0.07	0.09	3.22E-03	10.0	11.0
	15-Jun-00	0.15	0.21	303.44	303.38	0.06	0.08	2.76E-03	12.0	18.5
	06-Jul-00	0.40	0.49	303.19	303.10	0.09	0.12	4.14E-03	15.5	20.0
	08-Aug-00	0.40	0.49	303.19	303.10	0.09	0.12	4.14E-03	15.5	18.3
	13-Sep-00	0.41	0.51	303.18	303.08	0.10	0.13	4.61E-03	14.0	13.5
	26-Sep-00	0.39	0.49	303.20	303.10	0.10	0.13	4.61E-03		
	10-Oct-00	0.42	0.52	303.17	303.07	0.10	0.13	4.61E-03	10.6	8.7
	08-Nov-00	0.42	0.52	303.17	303.07	0.10	0.13	4.61E-03	10.0	9.2
	14-Nov-00	0.37	0.48	303.22	303.11	0.11	0.14	5.07E-03		
	11-Dec-00	0.38	0.48	(F) 303.21	(F) 303.11					
	11-Jan-01	0.27	0.51	(F) 303.32	303.08					1.0
	09-Feb-01	0.42	0.51	303.17	303.08	0.09	0.12	4.14E-03	3.7	1.7
	13-Mar-01	0.40	0.49	303.19	303.10	0.09	0.12	4.14E-03	3.4	1.8
	10-Apr-01	0.25	0.32	303.34	303.27	0.07	0.09	3.22E-03	5.3	4.8
	04-May-01	0.45	0.55	303.14	303.04	0.10	0.13	4.61E-03	11.6	17.3
	07-Jun-01	0.42	0.52	303.17	303.07	0.10	0.13	4.61E-03	6.0	9.0
	12-Jul-01	0.50	0.57	303.09	303.02	0.07	0.09	3.22E-03	14.4	16.0
	02-Aug-01	0.53	0.57	303.06	303.02	0.04	0.05	1.84E-03	16.5	19.0
	09-Aug-01	0.54	0.58	303.05	303.01	0.04	0.05	1.84E-03		
	13-Aug-01	0.53	0.58	303.06	303.01	0.05	0.07	2.30E-03		
	16-Aug-01	0.54	0.58	303.05	303.01	0.04	0.05	1.84E-03		
	20-Aug-01	0.46	0.52	303.13	303.07	0.06	0.08	2.76E-03		
	04-Sep-01	0.50	0.56	303.09	303.03	0.06	0.08	2.76E-03	14.9	15.8
	01-Oct-01	0.46	0.54	303.13	303.05	0.08	0.11	3.68E-03	11.2	9.6
	05-Nov-01	0.38	0.48	303.21	303.11	0.10	0.13	4.61E-03	8.5	6.7
	06-Dec-01	0.38	0.47	303.21	303.12	0.09	0.12	4.14E-03	8.9	9.2
	04-Jan-02	F	0.53	(F)	303.06					0.4
	07-Feb-02	0.39	0.49	303.20	303.10	0.10	0.13	4.61E-03		0.1
	07-Mar-02	0.42	0.51	303.17	303.08	0.09	0.12	4.35E-03	5.1	2.2
	07-Apr-02	0.21	0.31	303.38	303.28	0.10	0.13	4.61E-03	8.8	7.4
	06-May-02	0.36	0.47	303.23	303.12	0.11	0.14	5.06E-03	11.7	13.2
	24-May-02	0.39	0.47	303.20	303.12	0.08	0.11	3.68E-03		
	27-May-02	0.38	0.47	303.21	303.12	0.09	0.12	4.14E-03		
	31-May-02	0.35	0.47	303.24	303.12	0.12	0.16	5.52E-03		
	04-Jun-02	0.38	0.47	303.21	303.12	0.09	0.12	4.14E-03		
	07-Jun-02	0.4	0.47	303.19	303.12	0.07	0.09	3.22E-03		
	11-Jun-02	0.4	0.47	303.19	303.12	0.07	0.09	3.22E-03		
	14-Jun-02	0.42	0.47	303.17	303.12	0.05	0.07	2.30E-03	14.6	15.6
	18-Jun-02	0.48	0.52	303.11	303.07	0.04	0.05	1.84E-03		
	21-Jun-02	0.51	0.55	303.08	303.04	0.04	0.05	1.84E-03		
	25-Jun-02	0.41	0.52	303.18	303.07	0.11	0.14	5.07E-03		
	02-Jul-02	0.45	0.48	303.14	303.11	0.03	0.04	1.38E-03		
	05-Jul-02	0.48	0.54	303.11	303.05	0.06	0.08	2.76E-03		

NOTES:
· m ASL metres above sea level
· (F) Frozen
· L/s/m² Litres per second per square metre
· Depth of screen midpoint below the creek bed is 0.76 m
· Assumed vertical permeability is 3.60E-05 m/s

TABLE B-5
SUMMARY OF CREEK BASED DRIVE POINT DATA
MILL CREEK AGGREGATES PIT

MONITOR LOCATION	DATE	G.W. LEVEL BTOP (m)	S.W. LEVEL BTOP (m)	GROUND-WATER ELEVATION (m ASL)	SURFACE WATER ELEVATION (m ASL)	HYDRAULIC HEAD IN GROUND-WATER (m)	VERTICAL HYDRAULIC GRADIENT	CALCULATED GROUNDWATER FLUX TO CREEK (L/s/m2)	TEMPERATURE GROUND-WATER (°C)	TEMPERATURE SURFACE WATER (°C)
	08-Jul-02	0.49	0.55	303.10	303.04	0.06	0.08	2.76E-03		
DP5A	15-Jul-02	0.51	0.56	303.08	303.03	0.05	0.07	2.30E-03	18.1	22.4
(con't)	18-Jul-02	0.51	0.57	303.08	303.02	0.06	0.08	2.76E-03		
	23-Jul-02	0.52	0.55	303.07	303.04	0.03	0.04	1.38E-03		
	26-Jul-02	0.51	0.55	303.08	303.04	0.04	0.05	1.84E-03		
	30-Jul-02	0.49	0.54	303.10	303.05	0.05	0.07	2.30E-03		
	09-Aug-02	0.49	0.54	303.10	303.05	0.05	0.07	2.30E-03	12.6	16.3
	16-Aug-02	0.49	0.53	303.10	303.06	0.04	0.05	1.84E-03		
	21-Aug-02	0.49	0.54	303.10	303.05	0.05	0.07	2.30E-03		
	23-Aug-02	0.48	0.55	303.11	303.04	0.07	0.09	3.22E-03		
	28-Aug-02	0.5	0.56	303.09	303.03	0.06	0.08	2.76E-03		
	30-Aug-02	0.5	0.55	303.09	303.04	0.05	0.07	2.30E-03		
	04-Sep-02	0.5	0.52	303.09	303.07	0.02	0.03	9.21E-04	16.2	18.3
	10-Sep-02	0.51	0.53	303.08	303.06	0.02	0.03	9.21E-04		
	12-Sep-02	0.51	0.52	303.08	303.07	0.01	0.01	4.61E-04		
	17-Sep-02	0.5	0.52	303.09	303.07	0.02	0.03	9.21E-04		
	20-Sep-02	0.5	0.52	303.09	303.07	0.02	0.03	9.21E-04		
	25-Sep-02	0.52	0.57	303.07	303.02	0.05	0.07	2.30E-03		
	27-Sep-02	0.5	0.54	303.09	303.05	0.04	0.05	1.84E-03		
	04-Oct-02	0.51	0.52	303.08	303.07	0.01	0.01	4.61E-04		
	08-Oct-02	0.5	0.56	303.09	303.03	0.06	0.08	2.76E-03		
	11-Oct-02	0.5	0.58	303.09	303.01	0.08	0.11	3.68E-03	13.1	10.5
	15-Oct-02	0.5	0.57	303.09	303.02	0.07	0.09	3.22E-03		
	18-Oct-02	0.5	0.58	303.09	303.01	0.08	0.11	3.68E-03		
	23-Oct-02	0.49	0.56	303.10	303.03	0.07	0.09	3.22E-03		
	29-Oct-02	0.5	0.56	303.09	303.03	0.06	0.08	2.76E-03		
	31-Oct-02	0.5	0.57	303.09	303.02	0.07	0.09	3.22E-03		
	05-Nov-02	0.47	0.54	303.12	303.05	0.07	0.09	3.22E-03		
	08-Nov-02	0.49	0.56	303.10	303.03	0.07	0.09	3.22E-03		
	12-Nov-02	0.45	0.50	303.14	303.09	0.05	0.07	2.30E-03		
	15-Nov-02	0.45	0.50	303.14	303.09	0.05	0.07	2.30E-03		
	19-Nov-02	0.48	0.55	303.11	303.04	0.07	0.09	3.22E-03		
	22-Nov-02	0.46	0.55	303.13	303.04	0.09	0.12	4.14E-03	6.7	4.1
	26-Nov-02	0.47	0.56	303.12	303.03	0.09	0.12	4.14E-03		
	29-Nov-02	0.48	0.56	303.11	(F)					
	13-Dec-02	0.56	0.56	(F)	(F)					
	18-Dec-02	0.56	0.56	(F)	(F)					
	07-Jan-03	0.56	0.56	303.03	303.03	0.00	0.00	0.00E+00		
	09-Jan-03	0.5	0.58	303.09	303.01	0.08	0.11	3.68E-03	2.4	2.0
	10-Feb-03	0.47	0.56	(F)	(F)					
	13-Mar-03	0.47	0.56	(F)	(F)					
	10-Apr-03	0.42	0.47	303.17	303.12	0.05	0.07	2.30E-03	5.0	12.0
	07-May-03	0.37	0.46	303.22	303.13	0.09	0.12	4.14E-03	8.0	9.5
	15-May-03	0.45	0.47	303.14	303.12	0.02	0.03	9.21E-04	8.0	10.0
	16-Jun-03	0.53	0.56	303.06	303.03	0.03	0.04	1.38E-03	12.0	13.0
	17-Jul-03	0.54	0.58	303.05	303.01	0.04	0.05	1.84E-03	12.5	14.0
	21-Aug-03	0.57	0.58	303.02	303.01	0.01	0.01	4.61E-04	16.1	15.0
	26-Aug-03	0.48	0.50	303.11	303.09	0.02	0.03	9.21E-04	16.5	17.7
	25-Sep-03	0.46	0.52	303.13	303.07	0.06	0.08	2.76E-03	5.6	3.5
	27-Oct-03	0.41	0.44	303.18	303.15	0.03	0.04	1.38E-03	7.0	8.0
	01-Dec-03	0.3	0.38	303.29	303.21	0.08	0.11	3.68E-03	6.0	3.0
	11-Dec-03	0.34	0.42	303.25	303.17	0.08	0.11	3.68E-03	5.5	2.9
	15-Dec-03	0.30	0.38	303.29	303.21	0.08	0.11	3.68E-03		2.0
	19-Jan-04	0.33	0.46	(F)303.26	(F)303.13					
	18-Feb-04	0.37	0.48	(F)303.22	(F)303.11					
	25-Mar-04	0.35	0.45	303.24	303.14	0.10	0.13	4.61E-03	5.9	4.4
	07-Apr-04	0.33	0.43	303.26	303.16	0.10	0.13	4.61E-03	5.1	2.9
	22-Apr-04	0.27	0.36	303.32	303.23	0.09	0.12	4.14E-03	8.3	10.2
	20-May-04	0.41	0.52	303.18	303.07	0.11	0.14	5.07E-03	10.0	14.0
	24-Jun-04	0.47	0.53	303.12	303.06	0.06	0.08	2.76E-03	13.0	15.7
	23-Jul-04	0.46	0.56	303.13	303.03	0.10	0.13	4.61E-03	12.9	16.3
	04-Aug-04	0.45	0.54	303.14	303.05	0.09	0.12	4.14E-03	17.0	20.0
	27-Aug-04	0.48	0.55	303.11	303.04	0.07	0.09	3.22E-03	15.8	18.1
	28-Sep-04	0.5	0.56	303.09	303.03	0.06	0.08	2.76E-03	9.2	12.0
	18-Oct-04	0.45	0.54	303.14	303.05	0.09	0.12	4.14E-03	7.9	6.8
	16-Nov-04	0.44	0.54	303.15	303.05	0.10	0.13	4.61E-03	6.6	5.8
	15-Dec-04	0.4	0.52	303.19	303.07	0.12	0.16	5.53E-03	6.8	1.4
	16-Dec-04	0.42	0.53	303.17	303.06	0.11	0.14	5.07E-03	6.8	2.3
	20-Jan-05	0.29	0.47	(F)303.30	303.12					0.8
	25-Feb-05	0.38	0.43	(F)303.21	(F)303.16					
	24-Mar-05	0.4	0.51	303.19	303.08	0.11	0.14	5.07E-03	3.5	3.3
	18-Apr-05	0.39	0.48	303.20	303.11	0.09	0.12	4.14E-03	10.7	10.3
	29-Apr-05	0.3	0.35	303.29	303.24	0.05	0.07	2.30E-03	7.1	6.8
	26-May-05	0.44	0.52	303.15	303.07	0.08	0.11	3.68E-03	14.8	14.0
	23-Jun-05	0.47	0.54	303.12	303.05	0.07	0.09	3.22E-03	12.0	20.2
	25-Jul-05	0.45	0.56	303.14	303.03	0.11	0.14	5.07E-03	12.0	18.0
	17-Aug-05	0.45	0.56	303.14	303.03	0.11	0.14	5.07E-03	16.0	17.8
	25-Aug-05	0.45	0.54	303.14	303.05	0.09	0.12	4.14E-03	13.0	14.0
	30-Sep-05	0.41	0.47	303.18	303.12	0.06	0.08	2.76E-03	11.9	11.1
	27-Oct-05	0.43	0.45	303.16	303.14	0.02	0.03	9.21E-04	7.7	8.9
	28-Nov-05	0.38	0.50	303.21	303.09	0.12	0.16	5.53E-03	7.2	4.2
	07-Dec-05	0.38	0.48	(F)303.21	(F)303.11					
	19-Dec-05	0.33	0.54	(F)303.26	303.05					0.3

NOTES:
· m ASL metres above sea level
· (F) Frozen
· L/s/m² Litres per second per square metre
· Depth of screen midpoint below the creek bed is 0.76 m
· Assumed vertical permeability is 3.60E-05 m/s

TABLE B-5
SUMMARY OF CREEK BASED DRIVE POINT DATA
MILL CREEK AGGREGATES PIT

MONITOR LOCATION	DATE	G.W. LEVEL BTOP (m)	S.W. LEVEL BTOP (m)	GROUND-WATER ELEVATION (m ASL)	SURFACE WATER ELEVATION (m ASL)	HYDRAULIC HEAD IN GROUND-WATER (m)	VERTICAL HYDRAULIC GRADIENT	CALCULATED GROUNDWATER FLUX TO CREEK (L/s/m2)	TEMPERATURE	
									GROUND-WATER (°C)	SURFACE WATER (°C)
	26-Jan-06	0.39	0.43	303.20	303.16	0.04	0.05	1.84E-03	5.3	3.8
DP5A	15-Feb-06	0.44	0.53	303.15	303.06	0.09	0.12	4.14E-03	4.4	3.4
(con't)	30-Mar-06	0.42	0.49	303.17	303.10	0.07	0.09	3.22E-03	7.0	9.6
	27-Apr-06	0.4	0.45	303.19	303.14	0.05	0.07	2.30E-03	10.1	11.5
	28-Apr-06	0.4	0.52	303.19	303.07	0.12	0.16	5.53E-03	10.5	11.0
	15-May-06	0.45	0.52	303.14	303.07	0.07	0.09	3.22E-03	13.2	13.3
	15-Jun-06	0.49	0.55	303.10	303.04	0.06	0.08	2.76E-03	14.4	15.3
	15-Jul-06	0.44	0.51	303.15	303.08	0.07	0.09	3.22E-03	16.7	18.7
	24-Aug-06	0.48	0.52	303.11	303.07	0.04	0.05	1.84E-03	16.4	16.6
	15-Sep-06	0.26	0.34	303.33	303.25	0.08	0.11	3.68E-03	14.3	15.7
	15-Oct-06	0.23	0.31	303.36	303.28	0.08	0.11	3.68E-03	10.8	11.6
	15-Nov-06	0.40	0.46	303.19	303.13	0.06	0.08	2.76E-03	5.6	4.4
	07-Dec-06	0.32	0.44	(F) 303.27	303.15					1.5
	17-Jan-07	0.31	0.43	(F)303.28	303.16					0.2
	22-Feb-07	0.4	0.48	(F)303.19	303.11					0.6
	30-Mar-07	0.34	0.44	(F)303.25	303.15					1.9
	26-Apr-07	0.27	0.36	303.32	303.23	0.09	0.12	4.14E-03	10.1	10.4
	16-May-07	0.39	0.48	303.20	303.11	0.09	0.12	4.14E-03	12.2	14.7
	25-Jul-07	0.52	0.58	303.07	303.01	0.06	0.08	2.76E-03	17.9	15.0
	07-Aug-07	0.55	0.59	303.04	303.00	0.04	0.05	1.84E-03		22.9
	21-Aug-07	0.52	0.58	303.07	303.01	0.06	0.08	2.76E-03	14.1	14.4
	21-Sep-07	0.53	0.57	303.06	303.02	0.04	0.05	1.84E-03	14.7	17.5
	17-Oct-07	0.49	0.56	303.10	303.03	0.07	0.09	3.22E-03	12.4	11.4
	15-Nov-07	0.49		303.10						
	29-Nov-07	0.43	0.53	303.16	303.06	0.10	0.13	4.61E-03	3.7	3.1
	10-Dec-07	0.45	0.54	303.14	303.05	0.09	0.12	4.14E-03		2.0
	31-Jan-08	0.40	0.51	(F)303.19	303.08					0.2
	29-Feb-08	0.45	0.54	(F)303.14	303.05					0.1
	31-Mar-08	0.19	0.29	303.40	303.30	0.10	0.13	4.61E-03	4.2	2.9
	28-Apr-08	0.45	0.50	303.14	303.09	0.05	0.07	2.30E-03	10.0	7.0
	28-May-08	0.45	0.55	303.14	303.04	0.10	0.13	4.61E-03	10.2	17.6
	25-Jun-08	0.46	0.52	303.13	303.07	0.06	0.08	2.76E-03	13.3	18.0
	16-Jul-08	0.49	0.55	303.10	303.04	0.06	0.08	2.76E-03	15.9	19.8
	20-Aug-08	0.41	0.53	303.18	303.06	0.12	0.16	5.53E-03	15.1	15.4
	26-Aug-08	0.43	0.52	303.16	303.07	0.09	0.12	4.14E-03	16.1	17.0
	19-Sep-08	0.19	0.25	303.40	303.34	0.06	0.08	2.76E-03	14.2	16.6
	10-Oct-08	0.39	0.50	303.20	303.09	0.11	0.14	5.07E-03	11.6	10.7
	05-Nov-08	0.39	0.47	303.20	303.12	0.08	0.11	3.68E-03	9.2	9.6
	03-Dec-08	0.29	0.43	303.30	303.16	0.14	0.18	6.45E-03		
	17-Dec-08	0.16	0.41	(F)303.43	303.18					2.2
	06-Jan-09	0.16	0.30	(F)303.43	303.29					0.0
	27-Feb-09	0.47	0.49	303.12	303.10	0.02	0.03	9.21E-04	5.8	0.0
	11-Mar-09	0.19	0.26	303.40	303.33	0.07	0.09	3.22E-03	4.6	0.1
	14-Apr-09	0.35	0.44	303.24	303.15	0.09	0.12	4.14E-03	7.1	7.0
	21-May-09	0.37	0.47	303.22	303.12	0.10	0.13	4.61E-03	13.0	19.5
	16-Jun-09	0.40	0.49	303.19	303.10	0.09	0.12	4.14E-03	13.7	16.4
	31-Jul-09	0.33	0.42	303.26	303.17	0.09	0.12	4.14E-03	16.8	17.9
	25-Aug-09	0.31	0.39	303.28	303.20	0.08	0.11	3.68E-03	15.8	19.1
	28-Aug-09	0.36	0.46	303.23	303.13	0.10	0.13	4.61E-03	15.0	16.1
	28-Sep-09	0.37	0.47	303.22	303.12	0.10	0.13	4.61E-03	13.4	13.0
	14-Oct-09	0.37	0.48	303.22	303.11	0.11	0.14	5.07E-03	9.5	7.3
	11-Nov-09	0.36	0.46	303.23	303.13	0.10	0.13	4.61E-03	9.6	9.5
	11-Dec-09	0.37	0.49	303.22	303.10	0.12	0.16	5.53E-03	4.8	3.3
	16-Dec-09	0.35	0.47	(F)303.24	303.12					1.4
	13-Jan-10	(F)0.38	0.52	(F)303.21	303.07					1.5
	11-Feb-10	(F)0.40	0.54	(F)303.19	303.05					1.3
	11-Mar-10	0.22	0.48	303.37	303.11	0.26	0.34	1.20E-02	5.3	5.0
	16-Apr-10	0.38	0.52	303.21	303.07	0.14	0.18	6.45E-03	10.8	13.4
	21-May-10	0.41	0.54	303.18	303.05	0.13	0.17	5.99E-03	11.8	14.9
	17-Jun-10	0.34	0.47	303.25	303.12	0.13	0.17	5.99E-03	13.9	17.4
	15-Jul-10	0.45	0.55	303.14	303.04	0.10	0.13	4.61E-03	18.0	21.8
	18-Aug-10	0.46	0.57	303.13	303.02	0.11	0.14	5.07E-03	15.8	16.9
	31-Aug-10	0.48	0.58	303.11	303.01	0.10	0.13	4.61E-03	15.8	20.6
	28-Sep-10	0.35	0.48	303.24	303.11	0.13	0.17	5.99E-03	13.1	14.5
	20-Oct-10	0.40	0.54	303.19	303.05	0.14	0.18	6.45E-03	9.6	8.7
	18-Nov-10	0.32	0.44	303.27	303.15	0.12	0.16	5.53E-03	7.6	6.9
	08-Dec-10	(F)0.37	0.48	(F)303.22	303.11					1.7
	22-Dec-10	(F)0.40	0.56	(F)303.19	303.03					1.7

NOTES:
· m ASL metres above sea level
· (F) Frozen
· L/s/m² Litres per second per square metre
· Depth of screen midpoint below the creek bed is 0.76 m
· Assumed vertical permeability is 3.60E-05 m/s

TABLE B-5
SUMMARY OF CREEK BASED DRIVE POINT DATA
MILL CREEK AGGREGATES PIT

MONITOR LOCATION	DATE	G.W. LEVEL BTOP (m)	S.W. LEVEL BTOP (m)	GROUND-WATER ELEVATION (m ASL)	SURFACE WATER ELEVATION (m ASL)	HYDRAULIC HEAD IN GROUND-WATER (m)	VERTICAL HYDRAULIC GRADIENT	CALCULATED GROUNDWATER FLUX TO CREEK (L/s/m2)	TEMPERATURE	
									GROUND-WATER (°C)	SURFACE WATER (°C)
	19-Jan-11	(F)0.37	0.57	(F)303.22	303.02					1.3
DP5A	17-Feb-11	0.34	0.57	303.25	303.02	0.23	0.30	1.06E-02	4.1	4.3
(con't)	16-Mar-11	0.14	0.32	303.45	303.27	0.18	0.24	8.29E-03	4.7	4.0
	13-Apr-11	0.37	0.49	303.22	303.10	0.12	0.16	5.53E-03	9.6	8.6
	21-Apr-11	0.21	0.33	303.38	303.26	0.12	0.16	5.53E-03	5.9	4.0
	26-May-11	0.23	0.25	303.36	303.34	0.02	0.03	9.21E-04	12.0	14.0
	16-Jun-11	0.39	0.53	303.20	303.06	0.14	0.18	6.45E-03	13.8	16.8
	14-Jul-11	0.48	0.57	303.11	303.02	0.09	0.12	4.14E-03	16.3	20.4
	11-Aug-11	0.47	0.57	303.12	303.02	0.10	0.13	4.61E-03	16.0	18.5
					RESIDENT DENIED ACCESS, SO NEW DRIVE POINT INSTALLED SOUTH OF BRIDGE					
DP5B	14-Dec-11		0.43	303.50	303.07				8.3	6.6
	22-Dec-11	0.14	0.50	303.36	303.00	0.36	0.50	5.00E-04		3.2
	16-Jan-12	0.13	0.60	303.37	302.90	0.47	0.65	6.53E-04	3.3	1.1
	16-Feb-12	0.11	0.59	303.39	302.91	0.48	0.67	6.67E-04	6.7	3.0
	29-Mar-12	0.91	1.32	303.44	303.03	0.41	0.57	5.69E-04	6.3	4.8
	10-Apr-12	1.02	1.39	303.33	302.96	0.37	0.51	5.14E-04	8.3	7.9
	30-Apr-12	0.99	1.37	303.36	302.98	0.38	0.53	5.28E-04		6.9
	29-May-12	1.12	1.45	303.23	302.90	0.33	0.46	4.58E-04	11.7	15.8
	20-Jun-12	1.15	1.44	303.20	302.91	0.29	0.40	4.03E-04	14.9	21.7
					DRIVE POINT DESTROYED NEW DRIVE POINT INSTALLED CLOSER TO BRIDGE					
DP5C	21-Aug-12	1.14	1.29	302.97	302.82	0.15	0.26	2.63E-04		14.6
	18-Sep-12	1.03	1.22	303.08	302.89	0.19	0.33	3.33E-04	15.2	12.7
	23-Oct-12	0.84	0.90	303.27	303.21	0.06	0.11	1.05E-04	9.8	9.7
	28-Nov-12	0.88	1.01	303.23	303.10	0.13	0.23	2.28E-04	3.7	1.7
	06-Dec-12	0.85	0.97	303.26	303.14	0.12	0.21	2.11E-04	4.9	2.7
	19-Dec-12	0.85	0.99	303.26	303.12	0.14	0.25	2.46E-04	4.5	2.6
	16-Jan-13	(F)0.85	0.88	303.26	303.23					1.1
	20-Feb-13	(F)0.79	0.97	303.32	303.14					1.3
	21-Mar-13	(F)0.73	1.00	303.38	303.11					0.6
	04-Apr-13	(F)0.87	0.99	303.24	303.12					1.7
	25-Apr-13	0.84	0.97	303.27	303.14	0.13	0.23	2.28E-04	8.3	7.1
	23-May-13	0.94	1.10	303.17	303.01	0.16	0.28	2.81E-04	15.5	17
	13-Jun-13	0.78	0.94	303.33	303.17	0.16	0.28	2.81E-04	15.9	17.7
	31-Jul-13	0.82	1.15	303.29	302.96	0.33	0.58	5.79E-04	16.2	17.2
	25-Sep-13	0.79	0.78	303.32	303.33	-0.01	-0.02	-1.75E-05	14.3	16.4
	22-Oct-13	0.84	0.70	303.27	303.41	-0.14	-0.25	-2.46E-04	8.7	7.6
	28-Nov-13	(F)0.75	0.75	303.36	303.36					0.6
	19-Dec-13	(F)0.65	0.81	303.46	303.31					0.6
					NEW DRIVE POINT INSTALLED SOUTH OF DP5C					
DP5D	29-Aug-13	0.58		303.24						
	20-Sep-13	0.45	0.55	303.37	303.27	0.10	0.16	7.66E-04		
	22-Oct-13	0.31		303.51						
	28-Nov-13	(F)0.26	(F)0.46	303.56	303.36					
	10-Dec-13	(F) 0.34	0.52	303.48	303.30					0.6

NOTES:
- m ASL — metres above sea level
- (F) — Frozen
- L/s/m² — Litres per second per square metre
- New pipe added March 2012, elevation of Top of Pipe is now 304.348 m ASL.
- Depth of screen midpoint below the creek bed is 0.72 m for DP5B, 0.57 m for DP5C, and 0.62 m for DP5D.
- Horizontal hydraulic conductivity (Kh) value for DP5B/5C data in 2011/2012 estimated as the geometric mean of slug test values for DP5A and DP5C. Vertical hydraulic conductivity value (Kv) calculated as 1.0E-06 m/s based on assumed Kv:Kh of 1:10.
- Vertical hydraulic conductivity value (Kv) for DP5D calculated as 4.7E-06 m/s based on assumed Kv:Kh of 1:10.

TABLE B-5
SUMMARY OF CREEK BASED DRIVE POINT DATA
MILL CREEK AGGREGATES PIT

MONITOR LOCATION	DATE	G.W. LEVEL BTOP (m)	S.W. LEVEL BTOP (m)	GROUND-WATER ELEVATION (m ASL)	SURFACE WATER ELEVATION (m ASL)	HYDRAULIC HEAD IN GROUND-WATER (m)	VERTICAL HYDRAULIC GRADIENT	CALCULATED GROUNDWATER FLUX TO CREEK (L/s/m2)	TEMPERATURE	
									GROUND-WATER (°C)	SURFACE WATER (°C)
DP5C	15-Jan-14	(F)	0.71		303.40					0.5
	26-Feb-14	(F)0.51	0.73	303.60	303.38					0.9
	26-Mar-14	(F)0.69	0.88	303.42	303.23					0.8
	01-Apr-14	0.74	0.73	303.37	303.38	-0.01	-0.02	-1.75E-05	4.4	3.1
	15-May-14	0.74	0.88	303.37	303.23	0.14	0.25	2.46E-04	15.2	17.3
	18-Jun-14	0.95		303.16					12.9	
	29-Jul-14	0.72	0.88	303.39	303.23	0.16	0.28	2.81E-04	12.7	16.6
	25-Aug-14	0.98	1.11	303.13	303.00	0.13	0.23	2.28E-04	14.8	19.1
	18-Sep-14	0.81	1.02	303.30	303.09	0.21	0.37	3.68E-04	14.6	15
	17-Oct-14	0.86	1.04	303.25	303.07	0.18	0.32	3.16E-04	11.6	12.6
	27-Nov-14	Frozen	0.99		303.12					0.8
	15-Dec-14	0.85	1.07	303.26	303.04	0.22	0.39	3.86E-04	9.5	4.8
	21-Jan-15	(F)	(F)							1.8
	18-Feb-15	(F)	(F)							
	25-Mar-15	(F)	1.06		303.05					1.8
	06-Apr-15	0.75	1.00	303.36	303.11	0.25	0.44	4.39E-04	6.6	6.6
	20-May-15	1.06	1.23	303.05	302.88	0.17	0.30	2.98E-04		15.5
	23-Jun-15	1.03	1.20	303.08	302.91	0.17	0.30	2.98E-04		18.3
	22-Jul-15	1.03	1.20	303.08	302.91	0.17	0.30	2.98E-04	17.8	18.1
	25-Aug-15	1.04	1.19	303.07	302.92	0.15	0.26	2.63E-04	17.9	16.1
	24-Sep-15	1.10	1.23	303.01	302.88	0.13	0.23	2.28E-04	14.9	15.0
	29-Oct-15	0.80	0.91	303.31	303.20	0.11	0.19	1.93E-04	8.5	9.0
	25-Nov-15	1.03	1.16	303.08	302.95	0.13	0.23	2.28E-04	7.8	5.6
	10-Dec-15	1.07	1.10	303.04	303.01	0.03	0.05	5.26E-05	7.9	6.0
DP5D	15-Jan-14	(F)0.20	0.44		303.38					0.2
	26-Feb-14	(F)0.44	0.73		303.09					0.9
	26-Mar-14	(F)0.58	0.78		303.04					0.6
	01-Apr-14	0.52	0.59	303.30	303.23	0.07	0.11	5.31E-04	4.2	3.1
	15-May-14	0.61	0.77	303.21	303.05	0.16	0.26	1.21E-03	10.9	16.8
	18-Jun-14	0.89	0.99	302.93	302.83	0.10	0.16	7.58E-04	13.3	17.8
	29-Jul-14	0.59	0.77	303.23	303.05	0.18	0.29	1.36E-03	13.9	16.7
	25-Aug-14	0.78	0.99	303.04	302.83	0.21	0.34	1.59E-03	14.9	19.1
	18-Sep-14	0.66	0.90	303.16	302.92	0.24	0.39	1.82E-03	14.0	15
	17-Oct-14	0.71	0.92	303.11	302.9	0.21	0.34	1.59E-03	11.6	12.6
	27-Nov-14	Frozen	0.90		302.92					0.8
	15-Dec-14	0.74	0.94	303.08	302.88	0.2	0.32	1.52E-03	9.5	4.8
	21-Jan-15	(F)	1.03		302.79					1.8
	18-Feb-15	(F)	(F)							
	25-Mar-15	0.83	0.94	302.99	302.88	0.11	0.18	8.34E-04	4.2	1.7
	06-Apr-15	0.75	0.87	303.07	302.95	0.12	0.19	9.10E-04	6.3	6.5
	20-May-15	0.97	1.11	302.85	302.71	0.14	0.23	1.06E-03		15.5
	23-Jun-15	0.96	1.07	302.86	302.75	0.11	0.18	8.34E-04		18.5
	22-Jul-15	0.99	1.10	302.83	302.72	0.11	0.18	8.34E-04	14.5	18.0
	25-Aug-15	0.91	1.09	302.91	302.73	0.18	0.29	1.36E-03	15.2	16.0
	24-Sep-15	0.94	1.13	302.88	302.69	0.19	0.31	1.44E-03	13.4	15.0
	29-Oct-15	0.93	0.81	302.89	303.01	-0.12	-0.19	-9.10E-04	9.5	8.9
	25-Nov-15	0.83	1.05	302.99	302.77	0.22	0.35	1.67E-03	7.9	5.6
	10-Dec-15	0.84	1.07	302.98	302.75	0.23	0.37	1.74E-03	9.7	6.0

NOTES:
- m ASL — metres above sea level
- (F) — Frozen
- L/s/m² — Litres per second per square metre
- New pipe added March 2012, elevation of Top of Pipe is now 304.348 m ASL.
- Depth of screen midpoint below the creek bed is 0.72 m for DP5B, 0.57 m for DP5C, and 0.62 m for DP5D.
- Horizontal hydraulic conductivity (Kh) value for DP5B/5C data in 2011/2012 estimated as the geometric mean of slug test values for DP5A and DP5C. Vertical hydraulic conductivity value (Kv) calculated as 1.0E-06 m/s based on assumed Kv:Kh of 1:10.
- Vertical hydraulic conductivity value (Kv) for DP5D calculated as 4.7E-06 m/s based on assumed Kv:Kh of 1:10.

TABLE B-5
SUMMARY OF CREEK BASED DRIVE POINT DATA
MILL CREEK AGGREGATES PIT

MONITOR LOCATION	DATE	G.W. LEVEL BTOP (m)	S.W. LEVEL BTOP (m)	GROUND-WATER ELEVATION (m ASL)	SURFACE WATER ELEVATION (m ASL)	HYDRAULIC HEAD IN GROUND-WATER (m)	VERTICAL HYDRAULIC GRADIENT	CALCULATED GROUNDWATER FLUX TO CREEK (L/s/m2)	TEMPERATURE	
									GROUND-WATER (°C)	SURFACE WATER (°C)
DP5C	20-Jan-16	(F)	(F)							
	29-Feb-16	(F)	(F)							
	17-Mar-16	0.88	0.94	303.23	303.17	0.06	0.11	1.05E-04	5.4	5.1
	30-Mar-16	0.85	0.92	303.26	303.19	0.07	0.12	1.23E-04	7.1	4.3
	27-Apr-16	1.06	0.96	303.05	303.15	-0.10	-0.18	-1.75E-04	7.6	7.6
	30-May-16	1.08	1.18	303.03	302.93	0.10	0.18	1.75E-04	13.0	20.0
	27-Jun-16	1.17	1.26	302.94	302.85	0.09	0.16	1.58E-04	16.6	15.3
	28-Jul-16	1.19	1.26	302.92	302.85	0.07	0.12	1.23E-04	20.7	19.4
	11-Aug-16	1.2	1.26	302.91	302.85	0.06	0.11	1.05E-04	20.9	18.9
	21-Sep-16	1.14	1.23	302.97	302.88	0.09	0.16	1.58E-04	15.1	17.3
	18-Oct-16	1.12	1.22	302.99	302.89	0.10	0.18	1.75E-04	13.1	15.4
	14-Nov-16	1.13	1.21	302.98	302.90	0.08	0.14	1.40E-04	9.3	5.6
	14-Dec-16	(F)	1.25		302.86					0.9
	18-Jan-17	0.96	1.03	303.15	303.08	0.07	0.12	1.23E-04	5.4	2.7
	15-Feb-17	1.07	1.14	303.04	302.97	0.07	0.12	1.23E-04	4.7	2.7
	17-Mar-17	(F)	1.17		302.94					0.7
	11-Apr-17	0.97	1.03	303.14	303.08	0.06	0.11	1.05E-04	9.5	8.5
				DRIVE POINT VANDALIZED - REPLACEMENT DRIVE POINT DP5CR INSTALLED						
DP5D	20-Jan-16	(F)	0.99		302.83					0.2
	29-Feb-16	(F)	0.97		302.85					1.4
	17-Mar-16	0.71	0.84	303.11	302.98	0.13	0.21	9.85E-04	5.5	5.1
	30-Mar-16	1.04	0.81	302.78	303.01	-0.23	-0.37	-1.74E-03	6.7	4.2
	27-Apr-16	0.81	0.95	303.01	302.87	0.14	0.23	1.06E-03	8.0	7.6
	30-May-16	0.93	1.06	302.89	302.76	0.13	0.21	9.85E-04	13.2	19.5
	27-Jun-16	1.01	1.15	302.81	302.67	0.14	0.23	1.06E-03	13.6	15.0
	28-Jul-16	1.01	1.16	302.81	302.66	0.15	0.24	1.14E-03	15.2	19.3
	11-Aug-16	1.04	1.18	302.78	302.64	0.14	0.23	1.06E-03	16.9	18.5
	21-Sep-16	0.98	1.15	302.84	302.67	0.17	0.27	1.29E-03	14.6	16.8
	18-Oct-16	0.95	1.13	302.87	302.69	0.18	0.29	1.36E-03	13.4	16.2
	14-Nov-16	0.95	1.12	302.87	302.70	0.17	0.27	1.29E-03	10.1	5.5
	14-Dec-16	(F)	1.16		302.66					0.9
	18-Jan-17	(F)	0.92		302.90					2.7
	15-Feb-17	0.9	1.13	302.92	302.69	0.23	0.37	1.74E-03	4.4	2.7
	17-Mar-17	(F)	1.05		302.77					0.6
	11-Apr-17	0.84	0.91	302.98	302.91	0.07	0.11	5.31E-04	9.5	8.5
					DRIVE POINT VANDALIZED					
DP5CR	18-May-17	0.35	0.71	303.36	303.00	0.36	0.63	2.08E-03	14.1	21.2
	14-Jun-17	0.42	0.80	303.29	302.91	0.38	0.67	2.20E-03	12.2	20.9
	20-Jul-17	0.41	0.75	303.30	302.96	0.34	0.60	1.97E-03	14.4	22.2
	09-Aug-17	0.46	0.78	303.25	302.93	0.32	0.56	1.85E-03	14.6	16.4
	12-Sep-17	0.50	0.79	303.21	302.92	0.29	0.51	1.68E-03	12.9	15.7
	12-Oct-17	0.48	0.77	303.23	302.94	0.29	0.51	1.68E-03	12.6	11.4
	21-Nov-17	0.36	0.66	303.35	303.05	0.3	0.53	1.74E-03	9.8	4.1
	19-Dec-17	0.60	0.75	303.11	302.96	0.15	0.26	8.68E-04	6.4	3.2
	16-Jan-18	(F)	(F)							0.7
	26-Feb-18	0.30	0.59	303.41	303.12	0.29	0.51	1.68E-03	5.8	3.9
	26-Mar-18	0.50	0.80	303.21	302.91	0.30	0.53	1.74E-03	7.2	3.4
	24-Apr-18	0.33	0.53	303.38	303.18	0.20	0.35	1.16E-03	8.4	8.9
	18-May-18	0.35	0.67	303.36	303.04	0.32	0.56	1.85E-03	10.4	14.3
	12-Jun-18	0.49	0.92	303.22	302.79	0.43	0.75	2.49E-03	12.9	16.0
	27-Jul-18	0.60	0.84	303.11	302.87	0.24	0.42	1.39E-03	14.3	17.5
	22-Aug-18	0.46	0.75	303.25	302.96	0.29	0.51	1.68E-03	13.6	17.9
	12-Sep-18	0.49	0.81	303.22	302.90	0.32	0.56	1.85E-03	14.1	15.8
	30-Oct-18	0.43	0.79	303.28	302.92	0.36	0.63	2.08E-03	10.6	4.9
	21-Nov-18	(F)	0.76		302.95					1.8
	20-Dec-18	(F)	0.76		302.95					4.5
2018 AVERAGE VALUES						0.31	0.54	1.77E-03	10.8	9.1
OVERALL AVERAGE VALUES						0.10	0.15	2.66E-03	10.7	10.0

NOTES:
- m ASL — metres above sea level
- (F) — Frozen
- L/s/m² — Litres per second per square metre
- New pipe added March 2012, elevation of Top of Pipe is now 304.348 m ASL.
- Depth of screen midpoint below the creek bed is 0.72 m for DP5B, 0.57 m for DP5C, 0.62 m for DP5D and 0.76 m for DP5CR.
- Horizontal hydraulic conductivity (Kh) value for DP5B/5C data in 2011/2012 estimated as the geometric mean of slug test values for DP5A and DP5C. Vertical hydraulic conductivity value (Kv) calculated as 1.0E-06 m/s based on assumed Kv:Kh of 1:10.
- Vertical hydraulic conductivity value (Kv) for DP5D calculated as 4.7E-06 m/s based on assumed Kv:Kh of 1:10.
- Vertical hydraulic conductivity value (Kv) for DP5CR calculated as 3.3E-06 m/s based on geometric mean of slug test values for DP5A, DP5C, and DP5CR, and assumed Kv:Kh of 1:10.

TABLE B-5
SUMMARY OF CREEK BASED DRIVE POINT DATA
MILL CREEK AGGREGATES PIT

MONITOR LOCATION	DATE	G.W. LEVEL BTOP (m)	S.W. LEVEL BTOP (m)	GROUND-WATER ELEVATION (m ASL)	SURFACE WATER ELEVATION (m ASL)	HYDRAULIC HEAD IN GROUND-WATER (m)	VERTICAL HYDRAULIC GRADIENT	CALCULATED GROUNDWATER FLUX TO CREEK (L/s/m2)	TEMPERATURE	
									GROUND-WATER (°C)	SURFACE WATER (°C)
DP17	30-Aug-89	0.86	0.86	305.40	305.40	0.00	0.00	0.00E+00	9.0	13.0
	17-Oct-89	0.84	0.85	305.42	305.41	0.01	0.01	1.97E-04	8.0	5.0
	30-Nov-89	0.80	0.81	305.46	305.45	0.01	0.01	1.97E-04	8.0	1.0
	13-Dec-89	0.84	0.84	305.42	305.42	0.00	0.00	0.00E+00	3.0	
	17-Jan-90	0.85	0.86	305.41	305.40	0.01	0.01	1.97E-04	1.5	1.5
	06-Mar-90	0.82	0.84	305.44	305.42	0.02	0.02	3.93E-04	6.5	
	02-Apr-90	0.81	0.84	305.45	305.42	0.03	0.03	5.90E-04	7.0	4.5
	25-Jun-90	0.86	0.88	305.40	305.38	0.02	0.02	3.93E-04	9.0	15.5
	26-Jul-90	0.87	0.88	305.39	305.38	0.01	0.01	1.97E-04	10.0	18.0
	22-Aug-90	0.87	0.88	305.39	305.38	0.01	0.01	1.97E-04	11.0	17.0
	26-Sep-90	0.88	0.89	305.38	305.37	0.01	0.01	1.97E-04	11.0	12.0
	24-Oct-90	0.84	0.85	305.42	305.41	0.01	0.01	1.97E-04	10.0	7.0
	25-Nov-90	0.82	0.85	305.44	305.41	0.03	0.03	5.90E-04	8.0	4.5
	14-Dec-90	0.80	0.83	305.46	305.43	0.03	0.03	5.90E-04	8.0	1.0
	23-Jan-91	0.81	0.83	305.45	305.43	0.02	0.02	3.93E-04	6.0	
	20-Feb-91	0.76	0.78	305.50	305.48	0.02	0.02	3.93E-04	6.5	2.0
	28-Mar-91	0.49	0.58	305.77	305.68	0.09	0.10	1.77E-03	8.2	6.1
	26-Apr-91	0.72	0.74	305.54	305.52	0.02	0.02	3.93E-04	8.5	10.6
	24-May-91	0.83	0.86	305.43	305.40	0.03	0.03	5.90E-04	9.0	17.1
	20-Jun-91	0.82	0.85	305.44	305.41	0.03	0.03	5.90E-04	9.0	20.0
	30-Jul-91	0.71	0.73	305.55	305.53	0.02	0.02	3.93E-04	10.0	17.0
	22-Aug-91	0.85	0.87	305.41	305.39	0.02	0.02	3.93E-04	9.5	16.0
	25-Sep-91	0.85	0.87	305.41	305.39	0.02	0.02	3.93E-04	11.0	12.0
	29-Oct-91	0.84	0.85	305.42	305.41	0.01	0.01	1.97E-04	10.0	9.0
	26-Nov-91	0.85	0.86	305.41	305.40	0.01	0.01	1.97E-04	8.9	2.2
	16-Dec-91	0.81	0.82	305.45	305.44	0.01	0.01	1.97E-04	7.4	1.5
	13-Mar-92	0.82	0.85	305.44	305.41	0.03	0.03	5.90E-04	7.3	2.3
	15-Apr-92	0.83	0.85	305.43	305.41	0.02	0.02	3.93E-04	7.4	7.4
	21-May-92	0.87	0.89	305.39	305.37	0.02	0.02	3.93E-04	8.2	20.4
	29-Jun-92	0.89	0.91	305.37	305.35	0.02	0.02	3.93E-04	8.9	16.2
	20-Jul-92	0.74	0.76	305.52	305.50	0.02	0.02	3.93E-04	8.8	18.9
	26-Aug-92	0.85	0.86	305.41	305.40	0.01	0.01	1.97E-04	10.0	20.8
	14-Sep-92	0.81	0.83	305.45	305.43	0.02	0.02	3.93E-04	10.5	16.0
	28-Oct-92	0.81	0.84	305.45	305.42	0.03	0.03	5.90E-04	9.0	7.0
	26-Nov-92	0.68	0.72	305.58	305.54	0.04	0.04	7.87E-04	8.0	4.0
	15-Dec-92	0.79	0.81	305.47	305.45	0.02	0.02	3.93E-04	8.4	2.2
	19-Jan-93	0.79	0.80	305.47	305.46	0.01	0.01	1.97E-04	3.0	
	26-Mar-93	0.80	0.83	305.46	305.43	0.03	0.03	5.90E-04	7.5	3.5
	19-Apr-93	0.77	0.80	305.49	305.46	0.03	0.03	5.90E-04	7.5	9.0
	27-May-93	0.83	0.86	305.43	305.40	0.03	0.03	5.90E-04	7.5	12.5
	22-Jun-93	0.78	0.82	305.48	305.44	0.04	0.04	7.87E-04	9.0	21.5
	14-Jul-93	0.85	0.88	305.41	305.38	0.03	0.03	5.90E-04	8.4	19.2
	18-Aug-93	0.87	0.89	305.39	305.37	0.02	0.02	3.93E-04	9.1	19.3
	20-Sep-93	0.88	0.90	305.38	305.36	0.02	0.02	3.93E-04	10.0	11.0
	19-Oct-93	0.80	0.83	305.46	305.43	0.03	0.03	5.90E-04	10.0	9.0
	17-Nov-93	0.85	0.88	305.41	305.38	0.03	0.03	5.90E-04	8.4	5.0
	06-Dec-93	0.80	0.85	305.46	305.41	0.05	0.06	9.83E-04	8.0	3.2
	18-Jan-94	(F) 0.77	(F) 0.78	(F) 305.52	(F) 305.51					
	24-Feb-94	0.84	0.87	305.42	305.39	0.03	0.03	5.90E-04	7.0	1.0
	24-Mar-94	0.76	0.77	305.50	305.49	0.01	0.01	1.97E-04	7.9	4.4
	19-Apr-94	0.82	0.85	305.44	305.41	0.03	0.03	5.90E-04	7.0	7.0
	24-May-94	0.86	0.89	305.40	305.37	0.03	0.03	5.90E-04	7.5	15.0
	23-Jun-94	0.94	0.95	305.32	305.31	0.01	0.01	1.97E-04	8.0	18.0
	19-Jul-94	0.94	0.96	305.32	305.30	0.02	0.02	3.93E-04	7.0	18.0
	25-Aug-94	0.93	0.95	305.33	305.31	0.02	0.02	3.93E-04	12.0	18.0
	21-Sep-94	0.95	0.96	305.31	305.30	0.01	0.01	1.97E-04	8.0	15.0
	18-Oct-94	0.93	0.94	305.33	305.32	0.01	0.01	1.97E-04	8.0	9.0
	23-Nov-94	0.88	0.90	305.38	305.36	0.02	0.02	3.93E-04	9.0	5.0
	21-Dec-94	0.87	0.90	305.39	305.36	0.03	0.03	5.90E-04	10.0	4.0
	24-Jan-95	0.72	0.75	305.54	305.51	0.03	0.03	5.90E-04	7.0	3.0
	15-Feb-95	0.87	0.92	305.39	305.34	0.05	0.06	9.83E-04	7.0	4.0
	23-Mar-95	0.81	0.83	305.45	305.43	0.02	0.02	3.93E-04	6.0	4.0
	17-May-95	0.85	0.88	305.41	305.38	0.03	0.03	5.90E-04	10.0	14.0
	13-Jun-95	0.90	0.93	305.36	305.33	0.03	0.03	5.90E-04	11.0	15.0
	20-Jul-95	0.93	0.94	305.33	305.32	0.01	0.01	1.97E-04	12.0	20.0
	15-Aug-95	0.84	0.86	305.42	305.40	0.02	0.02	3.93E-04	12.0	20.0
	18-Oct-95	0.91	0.93	305.35	305.33	0.02	0.02	3.93E-04	10.5	8.5
	22-Nov-95	0.86	0.88	305.40	305.38	0.02	0.02	3.93E-04	6.0	3.0
	26-Mar-96	0.82	0.87	305.44	305.39	0.05	0.06	9.83E-04	5.0	1.0
	31-May-96	0.89	0.92	305.37	305.34	0.03	0.03	5.90E-04	10.0	20.0
	28-Jun-96	0.88	0.92	305.38	305.34	0.04	0.04	7.87E-04	11.0	20.0
	31-Jul-96	0.87	0.91	305.39	305.35	0.04	0.04	7.87E-04	14.0	21.0
	30-Aug-96	0.92	0.96	305.34	305.30	0.04	0.04	7.87E-04	9.0	15.0
	27-Sep-96	0.88	0.92	305.38	305.34	0.04	0.04	7.87E-04	10.0	14.0
	06-Nov-96	0.89	0.92	305.37	305.34	0.03	0.03	5.90E-04	9.0	6.0
	31-Mar-97	0.65	0.65	305.61	305.61	0.00	0.00	0.00E+00	4.0	2.0
	30-Apr-97	0.85	0.89	305.41	305.37	0.04	0.04	7.87E-04	7.0	12.0
	26-May-97	0.87	0.90	305.39	305.36	0.03	0.03	5.90E-04	8.5	15.0
	27-Jun-97	0.90	0.93	305.36	305.33	0.03	0.03	5.90E-04	7.0	17.0
	30-Jul-97	0.94	0.98	305.32	305.28	0.04	0.04	7.87E-04	12.5	21.0
	31-Aug-97	0.93	0.95	305.33	305.31	0.02	0.02	3.93E-04	9.5	16.5
	03-Oct-97	0.94	0.95	305.32	305.31	0.01	0.01	1.97E-04	10.3	14.0
	06-Nov-97	0.87	0.90	305.39	305.36	0.03	0.03	5.90E-04	9.0	6.5

NOTES:
- m ASL — metres above sea level
- (F) — Frozen
- L/s/m² — Litres per second per square metre
- Depth of screen midpoint below the creek bed is 0.90 m
- Assumed vertical permeability is 2.00E-05 m/s

TABLE B-5
SUMMARY OF CREEK BASED DRIVE POINT DATA
MILL CREEK AGGREGATES PIT

MONITOR LOCATION	DATE	G.W. LEVEL BTOP (m)	S.W. LEVEL BTOP (m)	GROUND-WATER ELEVATION (m ASL)	SURFACE WATER ELEVATION (m ASL)	HYDRAULIC HEAD IN GROUND-WATER (m)	VERTICAL HYDRAULIC GRADIENT	CALCULATED GROUNDWATER FLUX TO CREEK (L/s/m2)	TEMPERATURE	
									GROUND-WATER (°C)	SURFACE WATER (°C)
	12-Dec-97	0.93	0.95	305.33	305.31	0.02	0.02	3.93E-04	8.5	1.5
DP17	27-Mar-98	0.81	0.85	305.45	305.41	0.04	0.04	7.87E-04	5.5	3.5
(cont'd)	30-Apr-98	0.90	0.93	305.36	305.33	0.03	0.03	5.90E-04	5.0	13.5
	31-May-98	0.95	0.97	305.31	305.29	0.02	0.02	3.93E-04	7.5	15.5
	30-Jun-98	0.93	0.95	305.33	305.31	0.02	0.02	3.93E-04	10.0	19.0
	31-Jul-98	0.98	0.98	305.28	305.28	0.00	0.00	0.00E+00	11.0	22.0
	30-Sep-98	0.95	0.96	305.31	305.30	0.01	0.01	1.97E-04	12.0	13.0
	27-Nov-98	0.96	0.97	305.30	305.29	0.01	0.01	1.97E-04	9.0	5.5
	31-Mar-99	0.88	0.89	305.38	305.37	0.01	0.01	1.97E-04	7.0	7.0
	20-May-99	0.98	0.99	305.28	305.27	0.01	0.01	1.97E-04	9.6	15.9
	29-Jun-99	1.00	0.98	305.26	305.28	-0.02	-0.02	-3.93E-04	15.0	20.0
	16-Jul-99	1.12	1.03	305.14	305.23	-0.09	-0.10	-1.77E-03	19.1	21.0
	11-Aug-99	1.01	1.01	305.25	305.25	0.00	0.00	0.00E+00	16.5	19.5
	09-Sep-99	0.94	0.96	305.32	305.30	0.02	0.02	3.93E-04	18.9	21.0
	09-Nov-99	0.95	0.96	305.31	305.30	0.01	0.01	1.97E-04	11.9	8.1
	01-Mar-00	0.94	0.96	305.32	305.30	0.02	0.02	3.93E-04	1.5	2.5
	18-May-00	0.87	0.88	305.39	305.38	0.01	0.01	1.97E-04	8.0	12.0
	15-Jun-00	0.84	0.86	305.42	305.40	0.02	0.02	3.93E-04	9.0	18.5
	06-Jul-00	1.00	1.03	305.26	305.23	0.03	0.03	5.90E-04	10.9	18.4
	08-Aug-00	1.00	1.02	305.26	305.24	0.02	0.02	3.93E-04	12.4	21.4
	13-Sep-00	1.03	1.04	305.23	305.22	0.01	0.01	1.97E-04	13.2	16.8
	10-Oct-00	1.03	1.04	305.23	305.22	0.01	0.01	1.97E-04	11.2	8.7
	08-Nov-00	1.05	1.05	305.21	305.21	0.00	0.00	0.00E+00	9.6	9.0
	14-Nov-00	1.00	1.01	305.26	305.25	0.01	0.01	1.97E-04		
	11-Dec-00	0.96	0.93	(F) 305.33	(F) 305.36					
	11-Jan-01	0.86	0.87	(F) 305.43	(F) 305.42					
	09-Feb-01	0.85	0.93	305.41	305.33	0.08	0.09	1.57E-03	3.6	1.7
	13-Mar-01	0.95	0.98	305.31	305.28	0.03	0.03	5.90E-04	3.2	2.1
	10-Apr-01	0.84	0.85	305.42	305.41	0.01	0.01	1.97E-04	7.7	5.5
	04-May-01	0.99	1.01	305.27	305.25	0.02	0.02	3.93E-04	9.5	17.3
	07-Jun-01	0.97	1.00	305.29	305.26	0.03	0.03	5.90E-04	4.0	9.0
	25-Jun-01	1.00	1.02	305.26	305.24	0.02	0.02	3.93E-04		
	28-Jun-01	1.01	1.03	305.25	305.23	0.02	0.02	3.93E-04		
	03-Jul-01	1.03	1.04	305.23	305.22	0.01	0.01	1.97E-04		
	05-Jul-01	1.03	1.04	305.23	305.22	0.01	0.01	1.97E-04		
	09-Jul-01	1.03	1.04	305.23	305.22	0.01	0.01	1.97E-04		
	12-Jul-01	1.03	1.04	305.23	305.22	0.01	0.01	1.97E-04	12.1	17.5
	16-Jul-01	1.04	1.04	305.22	305.22	0.00	0.00	0.00E+00		
	19-Jul-01	1.04	1.04	305.22	305.22	0.00	0.00	0.00E+00		
	23-Jul-01	1.04	1.05	305.22	305.21	0.01	0.01	1.97E-04		
	26-Jul-01	1.04	1.05	305.22	305.21	0.01	0.01	1.97E-04		
	30-Jul-01	1.05	1.06	305.21	305.20	0.01	0.01	1.97E-04		
	02-Aug-01	1.05	1.06	305.21	305.20	0.01	0.01	1.97E-04	16.5	22.1
	07-Aug-01	1.06	1.06	305.20	305.20	0.00	0.00	0.00E+00		
	09-Aug-01	1.06	1.06	305.20	305.20	0.00	0.00	0.00E+00		
	13-Aug-01	1.05	1.05	305.21	305.21	0.00	0.00	0.00E+00		
	16-Aug-01	1.06	1.06	305.20	305.20	0.00	0.00	0.00E+00		
	20-Aug-01	1.00	1.00	305.26	305.26	0.00	0.00	0.00E+00		
	23-Aug-01	1.04	1.04	305.22	305.22	0.00	0.00	0.00E+00		
	27-Aug-01	1.04	1.04	305.22	305.22	0.00	0.00	0.00E+00		
	30-Aug-01	1.04	1.04	305.22	305.22	0.00	0.00	0.00E+00		
	04-Sep-01	1.04	1.04	305.22	305.22	0.00	0.00	0.00E+00	18.0	17.2
	06-Sep-01	1.05	1.05	305.21	305.21	0.00	0.00	0.00E+00		
	10-Sep-01	1.06	1.04	305.20	305.22	-0.02	-0.02	-3.93E-04		
	13-Sep-01	1.06	1.05	305.20	305.21	-0.01	-0.01	-1.97E-04		
	17-Sep-01	1.06	1.05	305.20	305.21	-0.01	-0.01	-1.97E-04		
	20-Sep-01	1.03	1.03	305.23	305.23	0.00	0.00	0.00E+00		
	24-Sep-01	1.01	1.00	305.25	305.26	-0.01	-0.01	-1.97E-04		
	27-Sep-01	1.00	1.01	305.26	305.25	0.01	0.01	1.97E-04		
	01-Oct-01	1.03	1.03	305.23	305.23	0.00	0.00	0.00E+00	12.3	10.5
	04-Oct-01	1.05	1.04	305.21	305.22	-0.01	-0.01	-1.97E-04		
	09-Oct-01	0.99	1.00	305.27	305.26	0.01	0.01	1.97E-04		
	11-Oct-01	1.01	1.01	305.25	305.25	0.00	0.00	0.00E+00		
	15-Oct-01	0.95	0.97	305.31	305.29	0.02	0.02	3.93E-04		
	19-Oct-01	0.96	0.99	305.30	305.27	0.03	0.03	5.90E-04		
	22-Oct-01	0.99	1.00	305.27	305.26	0.01	0.01	1.97E-04		
	26-Oct-01	0.98	0.98	305.28	305.28	0.00	0.00	0.00E+00		
	29-Oct-01	0.99	1.00	305.27	305.26	0.01	0.01	1.97E-04		
	01-Nov-01	1.00	1.01	305.26	305.25	0.01	0.01	1.97E-04		
	05-Nov-01	0.97	0.99	305.29	305.27	0.02	0.02	3.93E-04	9.9	6.5
	08-Nov-01	0.99	1.01	305.27	305.25	0.02	0.02	3.93E-04		
	12-Nov-01	1.00	1.01	305.26	305.25	0.01	0.01	1.97E-04		
	15-Nov-01	0.98	0.98	305.28	305.28	0.00	0.00	0.00E+00		
	19-Nov-01	1.00	1.01	305.26	305.25	0.01	0.01	1.97E-04		
	22-Nov-01	1.00	1.01	305.26	305.25	0.01	0.01	1.97E-04		
	26-Nov-01	0.95	0.97	305.31	305.29	0.02	0.02	3.93E-04		
	29-Nov-01	0.94	0.96	305.32	305.30	0.02	0.02	3.93E-04		
	03-Dec-01	0.91	0.95	305.35	305.31	0.04	0.04	7.87E-04		
	06-Dec-01	0.95	0.98	305.31	305.28	0.03	0.03	5.90E-04	9.5	7.6
	10-Dec-01	0.98	1.00	305.28	305.26	0.02	0.02	3.93E-04		
	13-Dec-01	0.97	0.99	305.29	305.27	0.02	0.02	3.93E-04		
	17-Dec-01	0.95	0.98	305.31	305.28	0.03	0.03	5.90E-04		

NOTES:
· m ASL metres above sea level
· (F) Frozen
· L/s/m² Litres per second per square metre
· Depth of screen midpoint below the creek bed is 0.90 m
· Assumed vertical permeability is 2.00E-05 m/s

TABLE B-5
SUMMARY OF CREEK BASED DRIVE POINT DATA
MILL CREEK AGGREGATES PIT

MONITOR LOCATION	DATE	G.W. LEVEL BTOP (m)	S.W. LEVEL BTOP (m)	GROUND-WATER ELEVATION (m ASL)	SURFACE WATER ELEVATION (m ASL)	HYDRAULIC HEAD IN GROUND-WATER (m)	VERTICAL HYDRAULIC GRADIENT	CALCULATED GROUNDWATER FLUX TO CREEK (L/s/m2)	TEMPERATURE	
									GROUND-WATER (°C)	SURFACE WATER (°C)
	20-Dec-01	0.92	0.95	305.34	305.31	0.03	0.03	5.90E-04		
DP17	02-Jan-02	F	0.96	(F)	305.30					
(con't)	07-Jan-02	F	0.96	(F)	305.30					
	10-Jan-02	1.01	1.01	305.25	305.25	0.00	0.00	0.00E+00		
	14-Jan-02	0.99	0.99	305.27	305.27	0.00	0.00	0.00E+00		
	17-Jan-02	1.00	F	305.26	(F)					
	21-Jan-02	F	F	(F)	(F)					
	24-Jan-02	F	0.98	(F)	305.28					
	28-Jan-02	0.95	0.99	305.31	305.27	0.04	0.04	7.87E-04		
	01-Feb-02	0.92	0.98	305.34	305.28	0.06	0.07	1.18E-03		
	04-Feb-02	0.95	0.99	305.31	305.27	0.04	0.04	7.87E-04		
	07-Feb-02	0.97	1.00	305.29	305.26	0.03	0.03	5.90E-04		0.1
	11-Feb-02	0.96	1.00	305.30	305.26	0.04	0.04	7.87E-04		
	15-Feb-02	0.98	1.01	305.28	305.25	0.03	0.03	5.90E-04		
	18-Feb-02	0.93	0.93	(F)	(F)					
	21-Feb-02	0.90	0.95	305.36	305.31	0.05	0.06	9.83E-04		
	25-Feb-02	0.92	0.94	305.34	305.32	0.02	0.02	3.93E-04		
	07-Mar-02	0.98	0.99	305.28	305.27	0.01	0.01	1.97E-04	7.1	1.9
	19-Mar-02	0.96	0.99	305.30	305.27	0.03	0.03	5.90E-04		
	21-Mar-02	0.94	0.98	305.32	305.28	0.04	0.04	7.87E-04		
	26-Mar-02	0.89	0.95	305.37	305.31	0.06	0.07	1.18E-03		
	28-Mar-02	0.96	0.99	305.30	305.27	0.03	0.03	5.90E-04		
	01-Apr-02	0.92	0.95	305.34	305.31	0.03	0.03	5.90E-04		
	05-Apr-02	0.89	0.93	305.37	305.33	0.04	0.04	7.87E-04		
	07-Apr-02	0.84	0.87	305.42	305.39	0.03	0.03	5.90E-04	8.3	8.0
	11-Apr-02	0.86	0.89	305.40	305.37	0.03	0.03	5.90E-04		
	17-Apr-02	0.87	0.92	305.39	305.34	0.05	0.06	9.83E-04		
	19-Apr-02	0.8	0.86	305.46	305.40	0.06	0.07	1.18E-03		
	23-Apr-02	0.93	0.96	305.33	305.30	0.03	0.03	5.90E-04		
	29-Apr-02	0.86	0.9	305.40	305.36	0.04	0.04	7.87E-04		
	06-May-02	0.92	0.97	305.34	305.29	0.05	0.06	1.01E-03	10.5	12.9
	10-May-02	0.92	0.97	305.34	305.29	0.05	0.06	1.01E-03		
	14-May-02	0.88	0.97	305.38	305.29	0.09	0.10	1.80E-03		
	17-May-02	0.88	0.97	305.38	305.29	0.09	0.10	1.80E-03		
	21-May-02	0.91	0.97	305.35	305.29	0.06	0.07	1.21E-03		
	24-May-02	0.94	0.97	305.32	305.29	0.03	0.04	6.20E-04		
	27-May-02	0.99	0.97	305.27	305.29	-0.02	-0.02	-3.63E-04		
	31-May-02	0.98	0.97	305.28	305.29	-0.01	-0.01	-1.66E-04		
	04-Jun-02	1.00	0.97	305.26	305.29	-0.03	-0.03	-5.60E-04		
	07-Jun-02	0.97	0.97	305.29	305.29	0.00	0.00	3.05E-05		
	11-Jun-02	0.99	0.97	305.27	305.29	-0.02	-0.02	-3.63E-04		
	14-Jun-02	1.00	0.97	305.26	305.29	-0.03	-0.03	-5.60E-04	12.6	17.8
	18-Jun-02	0.98	1.00	305.28	305.26	0.02	0.02	3.93E-04		
	21-Jun-02	1.00	1.02	305.26	305.24	0.02	0.02	3.93E-04		
	25-Jun-02	0.99	1.00	305.27	305.26	0.01	0.01	1.97E-04		
	02-Jul-02	1.00	1.00	305.26	305.26	0.00	0.00	0.00E+00		
	05-Jul-02	1.01	1.02	305.25	305.24	0.01	0.01	1.97E-04		
	08-Jul-02	1.02	1.03	305.24	305.23	0.01	0.01	1.97E-04		
	11-Jul-02	1.02	1.03	305.24	305.23	0.01	0.01	1.97E-04	17.9	20.0
	15-Jul-02	1.03	1.04	305.23	305.22	0.01	0.01	1.97E-04		
	18-Jul-02	1.03	1.04	305.23	305.22	0.01	0.01	1.97E-04		
	23-Jul-02	1.02	1.06	305.24	305.20	0.04	0.04	7.87E-04		
	26-Jul-02	1.02	1.05	305.24	305.21	0.03	0.03	5.90E-04		
	30-Jul-02	1.00	1.01	305.26	305.25	0.01	0.01	1.97E-04		
	05-Aug-02	1.04	1.05	305.22	305.21	0.01	0.01	1.97E-04		
	09-Aug-02	1.04	1.05	305.22	305.21	0.01	0.01	1.97E-04	14.5	16.9
	16-Aug-02	1.04	1.04	305.22	305.22	0.00	0.00	0.00E+00		
	21-Aug-02	1.06	1.04	305.20	305.22	-0.02	-0.02	-3.93E-04		
	23-Aug-02	1.04	1.05	305.22	305.21	0.01	0.01	1.97E-04		
	28-Aug-02	1.05	1.05	305.21	305.21	0.00	0.00	0.00E+00		
	30-Aug-02	1.05	1.04	305.21	305.22	-0.01	-0.01	-1.97E-04		
	04-Sep-02	1.05	1.05	305.21	305.21	0.00	0.00	0.00E+00	17.0	17.6
	10-Sep-02	1.06	1.05	305.20	305.21	-0.01	-0.01	-1.97E-04		
	12-Sep-02	1.06	1.06	305.20	305.20	0.00	0.00	0.00E+00		
	17-Sep-02	1.05	1.05	305.21	305.21	0.00	0.00	0.00E+00		
	20-Sep-02	1.05	1.03	305.21	305.23	-0.02	-0.02	-3.93E-04		
	25-Sep-02	1.04	1.04	305.22	305.22	0.00	0.00	0.00E+00		
	27-Sep-02	1.00	1.00	305.26	305.26	0.00	0.00	0.00E+00		
	02-Oct-02	1.04	1.05	305.22	305.21	0.01	0.01	1.97E-04		
	04-Oct-02	1.04	1.05	305.22	305.21	0.01	0.01	1.97E-04		
	08-Oct-02	1.03	1.03	305.23	305.23	0.00	0.00	0.00E+00		
	11-Oct-02	1.03	1.04	305.23	305.22	0.01	0.01	1.97E-04	14.2	12.1
	15-Oct-02	1.03	1.03	305.23	305.23	0.00	0.00	0.00E+00		
	23-Oct-02	1.02	1.02	305.24	305.24	0.00	0.00	0.00E+00		
	29-Oct-02	1.04	1.03	305.22	305.23	-0.01	-0.01	-1.97E-04		
	31-Oct-02	1.03	1.04	305.23	305.22	0.01	0.01	1.97E-04		

NOTES:
- m ASL — metres above sea level
- (F) — Frozen
- L/s/m² — Litres per second per square metre
- Depth of screen midpoint below the creek bed is 0.90 m
- Assumed vertical permeability is 2.00E-05 m/s

TABLE B-5
SUMMARY OF CREEK BASED DRIVE POINT DATA
MILL CREEK AGGREGATES PIT

MONITOR LOCATION	DATE	G.W. LEVEL BTOP (m)	S.W. LEVEL BTOP (m)	GROUND-WATER ELEVATION (m ASL)	SURFACE WATER ELEVATION (m ASL)	HYDRAULIC HEAD IN GROUND-WATER (m)	VERTICAL HYDRAULIC GRADIENT	CALCULATED GROUNDWATER FLUX TO CREEK (L/s/m2)	TEMPERATURE	
									GROUND-WATER (°C)	SURFACE WATER (°C)
	05-Nov-02	1.01	1	305.25	305.26	-0.01	-0.01	-1.97E-04		
DP17	08-Nov-02	1.03	1.03	305.23	305.23	0.00	0.00	0.00E+00		
(con't)	12-Nov-02	0.94	0.93	305.32	305.33	-0.01	-0.01	-1.97E-04		
	15-Nov-02	0.98	0.97	305.28	305.29	-0.01	-0.01	-1.97E-04		
	19-Nov-02	1.02	1.01	305.24	305.25	-0.01	-0.01	-1.97E-04		
	22-Nov-02	1.01	1.01	305.25	305.25	0.00	0.00	0.00E+00	6.5	4.0
	26-Nov-02	1.02	1.02	305.24	305.24	0.00	0.00	0.00E+00		
	29-Nov-02	1.01	1.01	(F)	305.25					
	09-Jan-03	0.92	1.02	305.34	(F)				2.4	
	10-Feb-03	0.98	1.02	305.28	305.24	0.04	0.04	7.87E-04	3.4	4.5
	13-Mar-03	0.96	0.97	305.30	305.29	0.01	0.01	1.97E-04	4.0	7.5
	10-Apr-03	0.92	0.97	305.34	305.29	0.05	0.06	9.83E-04	5.0	12.0
	07-May-03	0.93	0.96	305.33	305.30	0.03	0.03	5.90E-04	7.0	10.5
	15-May-03	1	0.97	305.26	305.29	-0.03	-0.03	-5.90E-04	7.5	10.0
	16-Jun-03	1.01	1.01	305.25	305.25	0.00	0.00	0.00E+00	11.0	13.0
	17-Jul-03	1.06	1.06	305.20	305.20	0.00	0.00	0.00E+00	13.0	14.0
	21-Aug-03	1.07	1.07	305.19	305.19	0.00	0.00	0.00E+00	16.9	18.9
	26-Aug-03	0.97	0.97	305.29	305.29	0.00	0.00	0.00E+00	16.3	19.8
	25-Sep-03	1	1.02	305.26	305.24	0.02	0.02	3.93E-04	9.9	9.1
	27-Oct-03	0.96	0.99	305.30	305.27	0.03	0.03	5.90E-04	10.4	8.0
	01-Dec-03	0.9	0.93	305.36	305.33	0.03	0.03	5.90E-04	6.0	2.0
	11-Dec-03	0.93	0.95	305.33	305.31	0.02	0.02	3.93E-04	6.8	2.7
	15-Dec-03	0.9	0.93	305.36	305.33	0.03	0.03	5.90E-04		1.0
	19-Jan-04	0.92	0.91	(F)305.37	(F)305.38					
	18-Feb-04	0.95	0.97	(F)305.34	(F)305.32					
	25-Mar-04	0.93	0.96	305.33	305.30	0.03	0.03	5.90E-04	6.8	4.4
	07-Apr-04	0.89	0.91	305.37	305.35	0.02	0.02	3.93E-04	7.6	3.5
	22-Apr-04	0.85	0.9	305.41	305.36	0.05	0.06	9.83E-04	10.0	12.0
	20-May-04	0.94	0.98	305.32	305.28	0.04	0.04	7.87E-04	9.6	16.6
	24-Jun-04	0.96	1	305.30	305.26	0.04	0.04	7.87E-04	10.1	19.5
	23-Jul-04	0.99	1.02	305.27	305.24	0.03	0.03	5.90E-04	11.2	19.7
	04-Aug-04	0.98	1.01	305.28	305.25	0.03	0.03	5.90E-04	13.0	20.0
	27-Aug-04	0.99	1.02	305.27	305.24	0.03	0.03	5.90E-04	14.3	20.2
	28-Sep-04	1.01	1.04	305.25	305.22	0.03	0.03	5.90E-04	9.3	12.0
	18-Oct-04	0.99	1.01	305.27	305.25	0.02	0.02	3.93E-04	7.8	6.5
	16-Nov-04	0.99	1.01	305.27	305.25	0.02	0.02	3.93E-04	6.6	5.2
	15-Dec-04	0.97	0.99	305.29	305.27	0.02	0.02	3.93E-04	7.2	0.7
	16-Dec-04	0.97	1	305.29	305.26	0.03	0.03	5.90E-04	7.2	0.7
	20-Jan-05	0.82	1.00	(F)305.47	305.26					0.4
	25-Feb-05	0.93	0.96	(F)305.36	305.30					0.3
	24-Mar-05	0.97	1.00	305.29	305.26	0.03	0.03	5.90E-04	3.3	2.4
	18-Apr-05	0.94	0.98	305.32	305.28	0.04	0.04	7.87E-04	9.8	12.2
	29-Apr-05	0.88	0.93	305.38	305.33	0.05	0.06	9.83E-04	8.7	10.7
	26-May-05	0.99	1.02	305.27	305.24	0.03	0.03	5.90E-04	8.4	14.4
	23-Jun-05	1.01	1.04	305.25	305.22	0.03	0.03	5.90E-04	10.1	18.5
	25-Jul-05	0.96	1.00	305.30	305.26	0.04	0.04	7.87E-04	12.6	19.4
	17-Aug-05	1.03	1.06	305.23	305.20	0.03	0.03	5.90E-04	11.1	18.8
	25-Aug-05	1.03	1.05	305.23	305.21	0.02	0.02	3.93E-04	13.2	17.8
	30-Sep-05	0.98	1.01	305.28	305.25	0.03	0.03	5.90E-04	13.1	13.4
	27-Oct-05	1.02	1.05	305.24	305.21	0.03	0.03	5.90E-04	7.8	8.8
	28-Nov-05	0.98	1.00	305.28	305.26	0.02	0.02	3.93E-04	7.8	4.3
	07-Dec-05	0.94	1.03	(F) 305.35	305.23					1.9
	19-Dec-05	1.01	1.03	(F)305.28	305.23					0.4
	26-Jan-06	0.95	0.98	305.31	305.28	0.03	0.03	5.90E-04	7.5	3.1
	15-Feb-06	0.98	1.00	305.28	305.26	0.02	0.02	3.93E-04	8.3	0.1
	30-Mar-06	0.95	0.98	305.31	305.28	0.03	0.03	5.90E-04	9.4	6.2
	27-Apr-06	0.91	0.96	305.35	305.30	0.05	0.06	9.83E-04	9.6	10.8
	28-Apr-06	0.96	0.99	305.30	305.27	0.03	0.03	5.90E-04	9.8	14.7
	15-May-06	0.99	1.01	305.27	305.25	0.02	0.02	3.93E-04	10.3	17.3
	15-Jun-06	1.02	1.07	305.24	305.19	0.05	0.06	9.83E-04	14	19
	15-Jul-06	1.00	1.02	305.26	305.24	0.02	0.02	3.93E-04	12.1	21.3
	24-Aug-06	1.03	1.06	305.23	305.20	0.03	0.03	5.90E-04	13.2	18.6
	15-Sep-06	0.90	0.94	305.36	305.32	0.04	0.04	7.87E-04	12.2	16.6
	15-Oct-06	0.85	0.89	305.41	305.37	0.04	0.04	7.87E-04	10	10.4
	15-Nov-06	0.90	0.94	305.36	305.32	0.04	0.04	7.87E-04	4.4	5
	07-Dec-06	0.9	1	(F)305.39	305.26					1.3
	17-Jan-07	0.77	0.96	(F)305.52	305.31					0.7
	22-Feb-07	0.97	1.01	305.29	305.25	0.04	0.04	7.87E-04	8.2	0.7
	30-Mar-07	0.90	0.95	305.36	305.31	0.05	0.06	9.83E-04	8.6	3.2
	26-Apr-07	0.87	0.93	305.39	305.33	0.06	0.07	1.18E-03	9.7	10.3
	16-May-07	0.93	1.00	305.33	305.26	0.07	0.08	1.38E-03	11.4	18.9
	26-Jun-07	1.01	1.09	305.25	305.17	0.08	0.09	1.57E-03	12.2	22.7
	25-Jul-07	1.03	1.06	305.23	305.20	0.03	0.03	5.90E-04	19.7	12
	07-Aug-07	1.01	1.04	305.25	305.22	0.03	0.03	5.90E-04		23.7
	21-Aug-07	1.04	1.06	305.22	305.20	0.02	0.02	3.93E-04	12.5	17.6
	21-Sep-07	1.05	1.06	305.21	305.20	0.01	0.01	1.97E-04	15	18.2
	17-Oct-07	1.03	1.05	305.23	305.21	0.02	0.02	3.93E-04	11.8	12.6
	15-Nov-07	0.97	1.03	305.29	305.23	0.06	0.07	1.18E-03		
	29-Nov-07	0.99	1.01	305.27	305.25	0.02	0.02	3.93E-04	8.1	2.7
	10-Dec-07	1.01	1.03	305.25	305.23	0.02	0.02	3.93E-04	7.3	0.7

NOTES:
- m ASL — metres above sea level
- (F) — Frozen
- L/s/m² — Litres per second per square metre
- Depth of screen midpoint below the creek bed is 0.90 m
- Assumed vertical permeability is 2.00E-05 m/s

TABLE B-5
SUMMARY OF CREEK BASED DRIVE POINT DATA
MILL CREEK AGGREGATES PIT

MONITOR LOCATION	DATE	G.W. LEVEL BTOP (m)	S.W. LEVEL BTOP (m)	GROUND-WATER ELEVATION (m ASL)	SURFACE WATER ELEVATION (m ASL)	HYDRAULIC HEAD IN GROUND-WATER (m)	VERTICAL HYDRAULIC GRADIENT	CALCULATED GROUNDWATER FLUX TO CREEK (L/s/m2)	TEMPERATURE	
									GROUND-WATER (°C)	SURFACE WATER (°C)
DP17	31-Jan-08	1.05	0.97	(F)305.24	305.29					0.1
(con't)	29-Feb-08	0.97	1.01	(F)305.32	305.25					0.1
	31-Mar-08	0.89	0.94	305.37	305.32	0.05	0.06	9.83E-04	4.8	3.0
	28-Apr-08	0.94	0.99	305.32	305.27	0.05	0.06	9.83E-04	9.8	11.2
	28-May-08	0.98	1.02	305.28	305.24	0.04	0.04	7.87E-04	9.8	15.4
	25-Jun-08	0.96	1.01	305.30	305.25	0.05	0.06	9.83E-04	13.2	21.4
	16-Jul-08	0.98	1.03	305.28	305.23	0.05	0.06	9.83E-04	12.7	23.3
	20-Aug-08	0.94	1.00	305.32	305.26	0.06	0.07	1.18E-03	12.5	17.4
	26-Aug-08	0.98	1.02	305.28	305.24	0.04	0.04	7.87E-04	12.5	16.8
	19-Sep-08	0.80	0.84	305.46	305.42	0.04	0.04	7.87E-04	11.2	17.4
	10-Oct-08	0.98	1.00	305.28	305.26	0.02	0.02	3.93E-04	10.7	12.3
	05-Nov-08	0.93	0.97	305.33	305.29	0.04	0.04	7.87E-04	10.6	9.1
	03-Dec-08	0.94	0.97	305.32	305.29	0.03	0.03	5.90E-04		
	17-Dec-08	0.88	0.95	(F)305.41	305.31					1.2
	06-Jan-09	0.88	0.94	(F)305.41	305.32					0.1
	27-Feb-09	0.96	0.98	305.30	305.28	0.02	0.02	3.93E-04	7.2	1.6
	11-Mar-09	0.67	0.7	305.59	305.56	0.03	0.03	5.90E-04	7.7	2.0
	14-Apr-09	0.89	0.94	305.37	305.32	0.05	0.06	9.83E-04	9.0	6.0
	21-May-09	0.93	0.99	305.33	305.27	0.06	0.07	1.18E-03	10.6	18.4
	16-Jun-09	0.94	0.99	305.32	305.27	0.05	0.06	9.83E-04	11.0	17.6
	31-Jul-09	0.89	0.95	305.37	305.31	0.06	0.07	1.18E-03	13.5	19
	25-Aug-09	0.90	0.95	305.36	305.31	0.05	0.06	9.83E-04	11.1	18.8
	28-Aug-09	0.92	0.97	305.34	305.29	0.05	0.06	9.83E-04	11.6	17.9
	28-Sep-09	0.97	0.99	305.29	305.27	0.02	0.02	3.93E-04	10.8	11.7
	14-Oct-09	0.94	1.00	305.32	305.26	0.06	0.07	1.18E-03	8.9	6.4
	11-Nov-09	0.92	0.97	305.34	305.29	0.05	0.06	9.83E-04	9.8	7.7
	11-Dec-09	0.94	1.00	305.32	305.26	0.06	0.07	1.18E-03	8.5	2.9
	16-Dec-09	0.91	0.99	(F)305.38	305.27					1.0
	13-Jan-10	(F)0.96	1.05	(F)305.33	305.21					-0.1
	11-Feb-10	1.02	1.02	305.24	305.24				9.0	0.3
	11-Mar-10	0.93	0.98	305.33	305.28	0.05	0.06	9.83E-04	9.6	5.4
	16-Apr-10	0.95	1.05	305.31	305.21	0.10	0.11	1.97E-03	10.2	14.1
	21-May-10	0.98	1.02	305.28	305.24	0.04	0.04	7.87E-04	11.1	15.7
	17-Jun-10	0.93	0.97	305.33	305.29	0.04	0.04	7.87E-04	11.7	18.4
	15-Jul-10	0.93	1.04	305.33	305.22	0.11	0.12	2.16E-03	12.9	20.9
	18-Aug-10	1.02	1.05	305.24	305.21	0.03	0.03	5.90E-04	12.3	18.8
	31-Aug-10	1.03	1.04	305.23	305.22	0.01	0.01	1.97E-04	13.7	21.6
	28-Sep-10	0.94	0.98	305.32	305.28	0.04	0.04	7.87E-04	12.1	13.6
	20-Oct-10	1.00	1.02	305.26	305.24	0.02	0.02	3.93E-04	10.5	8.9
	18-Nov-10	0.90	0.96	305.36	305.30	0.06	0.07	1.18E-03	9.8	6.8
	08-Dec-10	(F)0.98	1.01	(F)305.31	305.25					0.3
	22-Dec-10	(F)0.99	1.03	(F)305.30	305.23					0.4
	19-Jan-11	(F)0.93	0.99	(F)305.36	305.27					0.2
	17-Feb-11	0.95	0.97	305.31	305.29	0.02	0.02	3.93E-04	4.8	1.3
	16-Mar-11	0.85	0.84	305.41	305.42	-0.01	-0.01	-1.97E-04	8.6	3.9
	13-Apr-11	0.94	0.97	305.32	305.29	0.03	0.03	5.90E-04	10.1	10.5
	21-Apr-11	0.79	0.92	305.47	305.34	0.13	0.14	2.56E-03	7.8	4.4
	26-May-11	0.85	0.9	305.41	305.36	0.05	0.06	9.83E-04	10.7	15.0
	16-Jun-11	0.96	1.00	305.30	305.26	0.04	0.04	7.87E-04	11.0	18.2
	14-Jul-11	1.00	1.03	305.26	305.23	0.03	0.03	5.90E-04	12.4	19.8
	11-Aug-11	1.02	1.04	305.24	305.22	0.02	0.02	3.93E-04	12.8	17.7
	17-Aug-11	1.02	1.04	305.24	305.22	0.02	0.02	3.93E-04	13.2	20.9
	14-Sep-11	1.04	1.07	305.22	305.19	0.03	0.03	5.90E-04	11.8	15.8
	27-Oct-11	0.92	0.97	305.34	305.29	0.05	0.06	9.83E-04	9.4	7.0
	14-Nov-11	0.95	0.99	305.31	305.27	0.04	0.04	7.87E-04	9.3	5.3
	14-Dec-11	0.93	0.93	305.33	305.33	0.00	0.00	0.00E+00	9.8	5.8
	22-Dec-11	0.91	0.95	305.35	305.31	0.04	0.04	7.87E-04	9.6	3.1
	16-Jan-12	0.97	1.01	305.29	305.25	0.04	0.04	7.87E-04	7.9	0.4
	16-Feb-12	1.05	1.01	305.21	305.25	-0.04	-0.04	-7.87E-04	7.7	2.6
	29-Mar-12	1.00	1.05	305.26	305.21	0.05	0.06	9.83E-04	8.4	6.7
	10-Apr-12	0.99	1.02	305.27	305.24	0.03	0.03	5.90E-04	8.9	8.1
	30-Apr-12	0.98	1.03	305.28	305.23	0.05	0.06	9.83E-04	8.1	8.0
	29-May-12	0.97	1.05	305.29	305.21	0.08	0.09	1.57E-03	10.6	18.1
	20-Jun-12	1.03	1.06	305.23	305.20	0.03	0.03	5.90E-04	13.3	24.5
	24-Jul-12	1.06	1.08	305.20	305.18	0.02	0.02	3.93E-04	14.0	21.8
	08-Aug-12	1.06	1.07	305.20	305.19	0.01	0.01	1.97E-04	14.6	23.5
	21-Aug-12	1.05	1.07	305.21	305.19	0.02	0.02	3.93E-04	13.4	18.5
	18-Sep-12	1.00	1.03	305.26	305.23	0.03	0.03	5.90E-04	12.6	13.9
	23-Oct-12	0.97	0.97	305.29	305.29	0.00	0.00	0.00E+00	10.7	10.2
	28-Nov-12	1.02	1.05	305.24	305.21	0.03	0.03	5.90E-04	8.2	2.0
	06-Dec-12	0.97	1.00	305.29	305.26	0.03	0.03	5.90E-04	8.2	1.9
	19-Dec-12	0.99	1.02	305.27	305.24	0.03	0.03	5.90E-04	8.1	2.4

NOTES:
- m ASL — metres above sea level
- (F) — Frozen
- L/s/m² — Litres per second per square metre
- Depth of screen midpoint below the creek bed is 0.90 m
- Assumed vertical permeability is 2.00E-05 m/s

TABLE B-5
SUMMARY OF CREEK BASED DRIVE POINT DATA
MILL CREEK AGGREGATES PIT

MONITOR LOCATION	DATE	G.W. LEVEL BTOP (m)	S.W. LEVEL BTOP (m)	GROUND-WATER ELEVATION (m ASL)	SURFACE WATER ELEVATION (m ASL)	HYDRAULIC HEAD IN GROUND-WATER (m)	VERTICAL HYDRAULIC GRADIENT	CALCULATED GROUNDWATER FLUX TO CREEK (L/s/m2)	TEMPERATURE	
									GROUND-WATER (°C)	SURFACE WATER (°C)
DP17	16-Jan-13	(F)0.98	1.09							1.2
(con't)	20-Feb-13	Frozen	0.99							0.5
	21-Mar-13	0.95	0.98	305.31	305.28	0.03	0.03	5.90E-04	6.8	1.2
	04-Apr-13	0.93	0.95	305.33	305.31	0.02	0.02	3.93E-04	7.8	3.7
	25-Apr-13	0.93	0.97	305.33	305.29	0.04	0.04	7.87E-04	8.8	8.0
	23-May-13	0.99	1.02	305.27	305.24	0.03	0.03	5.90E-04	10.7	19.8
	13-Jun-13	0.91	0.94	305.35	305.32	0.03	0.03	5.90E-04	11.4	18.4
	31-Jul-13	1.00	1.02	305.26	305.24	0.02	0.02	3.93E-04	11.5	18.6
	29-Aug-13	1.01	1.03	305.25	305.23	0.02	0.02	3.93E-04	15.3	21.2
	25-Sep-13	0.99	1.02	305.27	305.24	0.03	0.03	5.90E-04	12.1	14.8
	22-Oct-13	0.92	0.97	305.34	305.29	0.05	0.06	9.83E-04	10	8.3
	28-Nov-13	(F)0.89	1.01							0.8
	10-Dec-13	(F)0.97	0.99							0.0
	15-Jan-14	(F)0.81	0.95		305.31					0.2
	26-Feb-14	(F)0.86	0.90		305.36					0.8
	26-Mar-14	(F)0.90	0.97		305.29					0.3
	01-Apr-14	0.84	0.89	305.42	305.37	0.05	0.06	9.83E-04	8.5	2.3
	15-May-14	0.87	0.93	305.39	305.33	0.06	0.07	1.18E-03	10.3	17.7
	18-Jun-14	1.00	1.02	305.26	305.24	0.02	0.02	3.93E-04	11.2	19.7
	29-Jul-14	0.89	0.96	305.37	305.30	0.07	0.08	1.38E-03	11.9	17.7
	25-Aug-14	0.98	1.02	305.28	305.24	0.04	0.04	7.87E-04	14.3	20.0
	18-Sep-14	0.99	1.01	305.27	305.25	0.02	0.02	3.93E-04	13.2	15.9
	17-Oct-14	0.98	1.01	305.28	305.25	0.03	0.03	5.90E-04	12.0	13.9
	27-Nov-14	Frozen	0.98		305.28					0.4
	15-Dec-14	0.96	1.00	305.30	305.26	0.04	0.04	7.87E-04	9.9	4.0
	21-Jan-15	(F)	1.05		305.21					0.1
	18-Feb-15	(F)	(F)							
	25-Mar-15	0.98	1.01	305.28	305.25	0.03	0.03	5.90E-04	7.6	2.3
	06-Apr-15	0.92	0.97	305.34	305.29	0.05	0.06	9.83E-04	6.4	3.5
	20-May-15	1.00	1.06	305.26	305.20	0.06	0.07	1.18E-03	9.8	15.4
	23-Jun-15	0.99	1.09	305.27	305.17	0.10	0.11	1.97E-03	12.6	19.1
	22-Jul-15	0.99	1.06	305.27	305.20	0.07	0.08	1.38E-03	11.4	18.6
	25-Aug-15	1.00	1.05	305.26	305.21	0.05	0.06	9.83E-04	12.3	16.8
	24-Sep-15	1.05	1.07	305.21	305.19	0.02	0.02	3.93E-04	12.2	16.3
	29-Oct-15	0.88	0.94	305.38	305.32	0.06	0.07	1.18E-03	8.8	9.7
	25-Nov-15	1.02	1.04	305.24	305.22	0.02	0.02	3.93E-04	9.4	5.1
	10-Dec-15	1.02	1.05	305.24	305.21	0.03	0.03	5.90E-04	10.6	5.3
	20-Jan-16	(F)	(F)							
	29-Feb-16	(F)	1.02		305.24					1.3
	17-Mar-16	0.87	0.89	305.39	305.37	0.02	0.02	3.93E-04	7.6	5.0
	30-Mar-16	0.86	0.92	305.40	305.34	0.06	0.07	1.18E-03	9.0	4.8
	27-Apr-16	0.95	1.00	305.31	305.26	0.05	0.06	9.83E-04	8.4	8.0
	30-May-16	0.97	1.01	305.29	305.25	0.04	0.04	7.87E-04	11.8	21.0
	27-Jun-16	1.04	1.08	305.22	305.18	0.04	0.04	7.87E-04	12.5	18.9
	28-Jul-16	1.04	1.07	305.22	305.19	0.03	0.03	5.90E-04	12.5	22.4
	11-Aug-16	1.07	1.08	305.19	305.18	0.01	0.01	1.97E-04	14.3	22.6
	21-Sep-16	1.05	1.06	305.21	305.20	0.01	0.01	1.97E-04	13.0	17.3
	18-Oct-16	1.03	1.06	305.23	305.20	0.03	0.03	5.90E-04	13.2	16.5
	14-Nov-16	1.02	1.05	305.24	305.21	0.03	0.03	5.90E-04	11.3	6.2
	14-Dec-16	(F)	1.04		305.22					0.6
	18-Jan-17	0.93	0.99	305.33	305.27	0.06	0.07	1.18E-03	8.6	2.4
	15-Feb-17	1.01	1.03	305.25	305.23	0.02	0.02	3.93E-04	7.5	2.1
	17-Mar-17	0.98	1.03	305.28	305.23	0.05	0.06	9.83E-04	8.5	1.0
	11-Apr-17	0.90	0.95	305.36	305.31	0.05	0.06	9.83E-04	8.6	7.4
	18-May-17	0.96	1.01	305.30	305.25	0.05	0.06	9.83E-04	10.7	15.9
	14-Jun-17	1.00	1.05	305.26	305.21	0.05	0.06	9.83E-04	14.2	16.8
	20-Jul-17	0.98	1.03	305.28	305.23	0.05	0.06	9.83E-04	12.7	20.5
	09-Aug-17	0.99	1.04	305.27	305.22	0.05	0.06	9.83E-04	13.6	19.9
	12-Sep-17	0.99	1.06	305.27	305.20	0.07	0.08	1.38E-03	11.1	13.3
	12-Oct-17	0.99	1.04	305.27	305.22	0.05	0.06	9.83E-04	12.4	11.4
	21-Nov-17	0.94	1.00	305.32	305.26	0.06	0.07	1.18E-03	10.2	4.0
	19-Dec-17	1.00	1.05	305.26	305.21	0.05	0.06	9.83E-04	8.1	1.0

NOTES:
- m ASL — metres above sea level
- (F) — Frozen
- L/s/m² — Litres per second per square metre
- Depth of screen midpoint below the creek bed is 0.90 m
- Assumed vertical permeability is 2.00E-05 m/s

TABLE B-5
SUMMARY OF CREEK BASED DRIVE POINT DATA
MILL CREEK AGGREGATES PIT

MONITOR LOCATION	DATE	G.W. LEVEL BTOP (m)	S.W. LEVEL BTOP (m)	GROUND-WATER ELEVATION (m ASL)	SURFACE WATER ELEVATION (m ASL)	HYDRAULIC HEAD IN GROUND-WATER (m)	VERTICAL HYDRAULIC GRADIENT	CALCULATED GROUNDWATER FLUX TO CREEK (L/s/m2)	TEMPERATURE	
									GROUND-WATER (°C)	SURFACE WATER (°C)
DP17	16-Jan-18	(F)	(F)							
(con't)	26-Feb-18	0.87	0.95	305.39	305.31	0.08	0.09	1.57E-03	7.4	2.5
	26-Mar-18	1.00	1.05	305.26	305.21	0.05	0.06	9.83E-04	9.4	5.0
	24-Apr-18	0.83	0.93	305.43	305.33	0.10	0.11	1.97E-03	9.7	8.9
	18-May-18	0.95	1.02	305.31	305.24	0.07	0.08	1.38E-03	10.5	14.1
	12-Jun-18	1.01	1.10	305.25	305.16	0.09	0.10	1.77E-03	12.0	16.4
	27-Jul-18	1.02	1.07	305.24	305.19	0.05	0.06	9.83E-04	11.8	20.1
	22-Aug-18	0.97	1.03	305.29	305.23	0.06	0.07	1.18E-03	11.7	19.7
	12-Sep-18	1.00	1.05	305.26	305.21	0.05	0.06	9.83E-04	12.7	15.7
	30-Oct-18	0.99	1.06	305.27	305.20	0.07	0.08	1.38E-03	10.7	4.9
	21-Nov-18	0.99	1.04	305.27	305.22	0.05	0.06	9.83E-04	9.4	1.3
	20-Dec-18	0.99	1.04	305.27	305.22	0.05	0.06	9.83E-04	9.0	2.6
2018 AVERAGE VALUES						0.07	0.07	1.29E-03	10.4	10.1
OVERALL AVERAGE VALUES						0.02	0.03	4.91E-04	10.3	10.6

NOTES:
- m ASL
- (F)
- L/s/m²
- Depth of screen midpoint below the creek bed is 0.90 m
- Assumed vertical permeability is 2.00E-05 m/s

TABLE B-5
SUMMARY OF CREEK BASED DRIVE POINT DATA
MILL CREEK AGGREGATES PIT

MONITOR LOCATION	DATE	G.W. LEVEL BTOP (m)	S.W. LEVEL BTOP (m)	GROUND-WATER ELEVATION (m ASL)	SURFACE WATER ELEVATION (m ASL)	HYDRAULIC HEAD IN GROUND-WATER (m)	VERTICAL HYDRAULIC GRADIENT	CALCULATED GROUNDWATER FLUX TO CREEK (L/s/m2)	TEMPERATURE	
									GROUND-WATER (°C)	SURFACE WATER (°C)
DP18	17-Oct-89	0.95	0.98	307.25	307.22	0.03	0.04	8.34E-04	8.0	6.0
	30-Nov-89	0.86	0.92	307.34	307.28	0.06	0.08	1.67E-03	6.0	1.0
	13-Dec-89	0.95	0.97	307.25	307.23	0.02	0.03	5.56E-04	3.0	
	17-Jan-90	0.93	0.96	307.27	307.24	0.03	0.04	8.34E-04	4.0	2.0
	06-Mar-90	0.90	0.93	307.30	307.27	0.03	0.04	8.34E-04	3.0	
	02-Apr-90	0.84	0.87	307.36	307.33	0.03	0.04	8.34E-04	4.5	4.0
	25-Jun-90	0.85	0.94	307.35	307.26	0.09	0.12	2.50E-03	14.0	16.0
	26-Jul-90	0.87	0.95	307.33	307.25	0.08	0.11	2.22E-03	14.5	18.0
	22-Aug-90	0.85	0.91	307.35	307.29	0.06	0.08	1.67E-03	15.0	17.0
	26-Sep-90	0.87	0.94	307.33	307.26	0.07	0.10	1.95E-03	12.0	12.0
	24-Oct-90	0.78	0.88	307.42	307.32	0.10	0.14	2.78E-03	10.5	8.0
	25-Nov-90	0.78	0.86	307.42	307.34	0.08	0.11	2.22E-03	7.0	4.0
	14-Dec-90	0.78	0.83	307.42	307.37	0.05	0.07	1.39E-03	6.0	1.0
	23-Jan-91	0.84	0.88	307.36	307.32	0.04	0.05	1.11E-03	4.5	
	20-Feb-91	0.76	0.81	307.44	307.39	0.05	0.07	1.39E-03	4.0	1.0
	28-Mar-91	0.39	0.41	307.81	307.79	0.02	0.03	5.56E-04	6.0	6.2
	26-Apr-91	0.69	0.74	307.51	307.46	0.05	0.07	1.39E-03	8.0	10.2
	24-May-91	0.82	0.90	307.38	307.30	0.08	0.11	2.22E-03	14.0	17.2
	20-Jun-91	1.00	0.90	307.20	307.30	-0.10	-0.14	-2.78E-03	16.0	18.0
	30-Jul-91	0.57	0.71	307.63	307.49	0.14	0.19	3.89E-03	15.5	19.0
	22-Aug-91				BRIDGE CONSTRUCTION					
	25-Sep-91	0.82	0.93	307.38	307.27	0.11	0.15	3.06E-03		11.0
	29-Oct-91	0.81	0.90	307.39	307.30	0.09	0.12	2.50E-03		9.0
	26-Nov-91	0.83	0.90	307.37	307.30	0.07	0.10	1.95E-03		2.0
	13-Mar-92	(F) 0.66	0.85	(F) 307.08	307.35					1.2
	15-Apr-92	0.82	0.87	307.38	307.33	0.05	0.07	1.39E-03	6.3	8.0
	21-May-92	0.40	0.46	307.34	307.28	0.06	0.08	1.67E-03	13.0	18.2
	29-Jun-92	0.45	0.49	307.29	307.25	0.04	0.05	1.11E-03	13.7	13.8
	20-Jul-92	0.25	0.32	307.49	307.42	0.07	0.10	1.95E-03	15.2	20.3
	27-Aug-92	0.30	0.36	307.44	307.38	0.06	0.08	1.67E-03	15.5	20.0
	14-Sep-92	0.33	0.40	307.41	307.34	0.07	0.10	1.95E-03	13.5	16.5
	28-Oct-92	0.30	0.38	307.44	307.36	0.08	0.11	2.22E-03	10.0	7.0
	26-Nov-92	0.15	0.24	307.59	307.50	0.09	0.12	2.50E-03	5.0	3.0
	15-Dec-92	0.27	0.36	307.47	307.38	0.09	0.12	2.50E-03	5.2	2.0
	19-Jan-93	(F) 0.18	0.27	(F) 307.56	307.47					
	26-Mar-93	0.34	0.38	307.40	307.36	0.04	0.05	1.11E-03	4.0	3.0
	20-Apr-93	0.20	0.27	307.54	307.47	0.07	0.10	1.95E-03	7.0	6.0
	27-May-93	0.34	0.43	307.40	307.31	0.09	0.12	2.50E-03	11.0	13.5
	23-Jun-93	0.31	0.41	307.43	307.33	0.10	0.14	2.78E-03	14.0	17.0
	14-Jul-93	0.36	0.46	307.38	307.28	0.10	0.14	2.78E-03	16.2	20.2
	18-Aug-93	0.41	0.49	307.33	307.25	0.08	0.11	2.22E-03	16.7	22.7
	20-Sep-93	0.40	0.50	307.34	307.24	0.10	0.14	2.78E-03	13.4	11.9
	19-Oct-93	0.29	0.39	307.45	307.35	0.10	0.14	2.78E-03	10.0	9.0
	17-Nov-93	0.38	0.44	307.36	307.30	0.06	0.08	1.67E-03	7.1	5.5
	06-Dec-93	0.33	0.39	307.41	307.35	0.06	0.08	1.67E-03	5.8	3.2
	18-Jan-94	0.47	0.49	307.27	307.25	0.02	0.03	5.56E-04	3.3	0.3
	24-Feb-94	0.40	0.42	307.34	307.32	0.02	0.03	5.56E-04	4.0	1.0
	24-Mar-94	0.25	0.27	307.49	307.47	0.02	0.03	5.56E-04	3.9	2.5
	19-Apr-94	0.35	0.38	307.39	307.36	0.03	0.04	8.34E-04	5.0	11.0
	24-May-94	0.39	0.44	307.35	307.30	0.05	0.07	1.39E-03	11.0	17.0
	23-Jun-94	0.48	0.53	307.26	307.21	0.05	0.07	1.39E-03	15.0	20.0
	19-Jul-94	0.49	0.53	307.25	307.21	0.04	0.05	1.11E-03	15.0	21.0
	25-Aug-94	0.43	0.54	307.31	307.20	0.11	0.15	3.06E-03	12.0	18.0
	21-Sep-94	0.44	0.52	307.30	307.22	0.08	0.11	2.22E-03	12.0	13.0
	18-Oct-94	0.42	0.49	307.32	307.25	0.07	0.10	1.95E-03	9.0	10.0
	23-Nov-94	0.36	0.44	307.38	307.30	0.08	0.11	2.22E-03	7.0	3.0
	21-Dec-94	0.38	0.42	307.36	307.32	0.04	0.05	1.11E-03	6.0	3.0
	24-Jan-95	0.18	0.24	307.56	307.50	0.06	0.08	1.67E-03	6.0	3.0
	15-Feb-95	0.41	0.48	307.33	307.26	0.07	0.10	1.95E-03	7.0	2.0
	23-Mar-95	0.30	0.33	307.44	307.41	0.03	0.04	8.34E-04	4.0	4.0
	17-May-95	0.34	0.43	307.40	307.31	0.09	0.12	2.50E-03	11.0	14.0
	13-Jun-95	0.39	0.45	307.35	307.29	0.06	0.08	1.67E-03	13.0	13.0
	20-Jul-95	0.44	0.50	307.30	307.24	0.06	0.08	1.67E-03	17.0	19.0
	15-Aug-95	0.35	0.43	307.39	307.31	0.08	0.11	2.22E-03	16.0	19.0
	18-Oct-95	0.41	0.48	307.33	307.26	0.07	0.10	1.95E-03	11.0	9.0
	22-Nov-95	0.31	0.38	307.43	307.36	0.07	0.10	1.95E-03	4.0	1.0
	26-Mar-96	0.27	0.28	307.47	307.46	0.01	0.01	2.78E-04	2.0	1.0
	31-May-96	0.29	0.39	307.45	307.35	0.10	0.14	2.78E-03	12.0	17.0
	28-Jun-96	0.27	0.38	307.47	307.36	0.11	0.15	3.06E-03	15.0	20.0
	31-Jul-96	0.24	0.36	307.50	307.38	0.12	0.16	3.34E-03	19.0	21.0
	30-Aug-96	0.32	0.46	307.42	307.28	0.14	0.19	3.89E-03	16.0	16.0
	27-Sep-96	0.22	0.38	307.52	307.36	0.16	0.22	4.45E-03	15.0	14.0
	06-Nov-96	0.25	0.37	307.49	307.37	0.12	0.16	3.34E-03	8.0	6.0
	31-Mar-97	0.03	0.01	307.71	307.73	-0.02	-0.03	-5.56E-04	5.0	2.5
	30-Apr-97	0.29	0.37	307.45	307.37	0.08	0.11	2.22E-03	11.0	13.0
	26-May-97	0.30	0.39	307.44	307.35	0.09	0.12	2.50E-03	11.0	16.0
	27-Jun-97	0.33	0.43	307.41	307.31	0.10	0.14	2.78E-03	16.0	20.0
	30-Jul-97	0.37	0.48	307.37	307.26	0.11	0.15	3.06E-03	16.0	20.5
	31-Aug-97	0.33	0.47	307.41	307.27	0.14	0.19	3.89E-03	15.5	16.5
	03-Oct-97	0.34	0.47	307.40	307.27	0.13	0.18	3.62E-03	13.0	12.0
	06-Nov-97	0.28	0.37	307.46	307.38	0.09	0.12	2.36E-03	9.0	7.5
	12-Dec-97	0.30	0.45	(F) 307.44	(F) 307.15					
	27-Mar-98	0.26	0.29	307.48	307.45	0.03	0.04	8.34E-04	3.5	4.0
	30-Apr-98	0.36	0.45	307.38	307.29	0.09	0.12	2.50E-03	8.5	13.5
	31-May-98	0.41	0.49	307.33	307.25	0.08	0.11	2.22E-03	13.0	16.0
	30-Jun-98	0.38	0.47	307.36	307.27	0.09	0.12	2.50E-03	18.0	20.0

NOTES:
- m ASL — metres above sea level
- (F) — Frozen
- L/s/m² — Litres per second per square metre
- Depth of screen midpoint below the creek bed is 0.73 m
- Assumed vertical permeability is 2.00E-05 m/s

TABLE B-5
SUMMARY OF CREEK BASED DRIVE POINT DATA
MILL CREEK AGGREGATES PIT

MONITOR LOCATION	DATE	G.W. LEVEL BTOP (m)	S.W. LEVEL BTOP (m)	GROUND-WATER ELEVATION (m ASL)	SURFACE WATER ELEVATION (m ASL)	HYDRAULIC HEAD IN GROUND-WATER (m)	VERTICAL HYDRAULIC GRADIENT	CALCULATED GROUNDWATER FLUX TO CREEK (L/s/m2)	TEMPERATURE GROUND-WATER (°C)	TEMPERATURE SURFACE WATER (°C)
	31-Jul-98	0.44	0.51	307.30	307.23	0.07	0.10	1.95E-03	19.0	23.0
DP18	30-Sep-98	0.43	0.47	307.31	307.27	0.04	0.05	1.11E-03	14.0	14.0
(cont'd)	27-Nov-98	0.45	0.49	307.29	307.25	0.04	0.05	1.11E-03	8.5	5.5
	31-Mar-99	0.22	0.33	307.52	307.41	0.11	0.15	3.06E-03	7.0	11.0
	20-May-99	0.46	0.49	307.28	307.25	0.03	0.04	8.34E-04	13.2	12.7
	29-Jun-99	0.45	0.47	307.29	307.27	0.02	0.03	5.56E-04	15.0	17.0
	16-Jul-99	0.59	0.54	307.15	307.20	-0.05	-0.07	-1.39E-03	19.5	20.8
	11-Aug-99	0.57	0.52	307.17	307.22	-0.05	-0.07	-1.39E-03	18.4	18.4
	09-Sep-99	0.43	0.43	307.31	307.31	0.00	0.00	0.00E+00	19.1	20.0
	09-Nov-99	0.42	0.42	307.32	307.32	0.00	0.00	0.00E+00	8.8	6.8
	01-Mar-00	0.32	0.33	307.42	307.41	0.01	0.01	2.78E-04	4.5	3.0
	18-May-00	0.16	0.19	307.58	307.55	0.03	0.04	8.34E-04	8.0	11.0
	15-Jun-00	0.09	0.12	307.65	307.62	0.03	0.04	8.34E-04	14.0	18.5
	06-Jul-00	0.38	0.45	307.36	307.29	0.07	0.10	1.95E-03	16.5	17.9
	08-Aug-00	0.38	0.45	307.36	307.29	0.07	0.10	1.95E-03	18.9	20.3
	13-Sep-00	0.44	0.47	307.30	307.27	0.03	0.04	8.34E-04	16.1	15.0
	26-Sep-00	0.39	0.44	307.35	307.30	0.05	0.07	1.39E-03		
	10-Oct-00	0.43	0.48	307.31	307.26	0.05	0.07	1.39E-03	11.1	10.7
	08-Nov-00	0.48	0.48	307.26	307.26	0.00	0.00	0.00E+00	9.3	8.3
	14-Nov-00	0.37	0.40	307.37	307.34	0.03	0.04	8.34E-04		
	11-Dec-00	0.41	0.47	(F) 307.33	307.27					1.1
	11-Jan-01	0.42	0.45	(F) 307.32	307.29					0.4
	09-Feb-01	0.40	0.42	307.34	307.32	0.02	0.03	5.56E-04	3.3	2.5
	13-Mar-01	0.32	0.36	307.42	307.38	0.04	0.05	1.11E-03	3.3	1.8
	10-Apr-01	0.16	0.21	307.58	307.53	0.05	0.07	1.39E-03	5.3	4.8
	04-May-01	0.42	0.46	307.32	307.28	0.04	0.05	1.11E-03	13.0	16.8
	07-Jun-01	0.43	0.45	307.31	307.29	0.02	0.03	5.56E-04	8.0	8.0
	25-Jun-01	0.50	0.48	307.24	307.26	-0.02	-0.03	-5.56E-04		
	28-Jun-01	0.53	0.50	307.21	307.24	-0.03	-0.04	-8.34E-04		
	03-Jul-01	0.55	0.52	307.19	307.22	-0.03	-0.04	-8.34E-04		
	05-Jul-01	0.55	0.52	307.19	307.22	-0.03	-0.04	-8.34E-04		
	09-Jul-01	0.55	0.52	307.19	307.22	-0.03	-0.04	-8.34E-04		
	12-Jul-01	0.54	0.52	307.20	307.22	-0.02	-0.03	-5.56E-04	17.1	16.9
	16-Jul-01	0.54	0.52	307.20	307.22	-0.02	-0.03	-5.56E-04		
	19-Jul-01	0.54	0.52	307.20	307.22	-0.02	-0.03	-5.56E-04		
	23-Jul-01	0.53	0.52	307.21	307.22	-0.01	-0.01	-2.78E-04		
	26-Jul-01	0.54	0.52	307.20	307.22	-0.02	-0.03	-5.56E-04		
	30-Jul-01	0.55	0.52	307.19	307.22	-0.03	-0.04	-8.34E-04		
	02-Aug-01	0.57	0.54	307.17	307.20	-0.03	-0.04	-8.34E-04	20.3	21.4
	07-Aug-01	0.58	0.54	307.16	307.20	-0.04	-0.05	-1.11E-03		
	09-Aug-01	0.58	0.55	307.16	307.19	-0.03	-0.04	-8.34E-04		
	13-Aug-01	0.60	0.53	307.14	307.21	-0.07	-0.10	-1.95E-03		
	16-Aug-01	0.60	0.54	307.14	307.20	-0.06	-0.08	-1.67E-03		
	20-Aug-01	0.49	0.46	307.25	307.28	-0.03	-0.04	-8.34E-04		
	23-Aug-01	0.54	0.52	307.20	307.22	-0.02	-0.03	-5.56E-04		
	27-Aug-01	0.55	0.53	307.19	307.21	-0.02	-0.03	-5.56E-04		
	30-Aug-01	0.54	0.53	307.20	307.21	-0.01	-0.01	-2.78E-04		
	04-Sep-01	0.57	0.52	307.17	307.22	-0.05	-0.07	-1.39E-03	17.5	17.2
	06-Sep-01	0.59	0.53	307.15	307.21	-0.06	-0.08	-1.67E-03		
	10-Sep-01	0.59	0.54	307.15	307.20	-0.05	-0.07	-1.39E-03		
	13-Sep-01	0.59	0.54	307.15	307.20	-0.05	-0.07	-1.39E-03		
	17-Sep-01	0.62	0.55	307.12	307.19	-0.07	-0.10	-1.95E-03		
	20-Sep-01	0.55	0.51	307.19	307.23	-0.04	-0.05	-1.11E-03		
	24-Sep-01	0.52	0.50	307.22	307.24	-0.02	-0.03	-5.56E-04		
	27-Sep-01	0.50	0.48	307.24	307.26	-0.02	-0.03	-5.56E-04		
	01-Oct-01	0.56	0.50	307.18	307.24	-0.06	-0.08	-1.67E-03	15.2	10.4
	04-Oct-01	0.58	0.51	307.16	307.23	-0.07	-0.10	-1.95E-03		
	09-Oct-01	0.49	0.44	307.25	307.30	-0.05	-0.07	-1.39E-03		
	11-Oct-01	0.52	0.46	307.22	307.28	-0.06	-0.08	-1.67E-03		
	15-Oct-01	0.38	0.34	307.36	307.40	-0.04	-0.05	-1.11E-03		
	19-Oct-01	0.39	0.37	307.35	307.37	-0.02	-0.03	-5.56E-04		
	22-Oct-01	0.44	0.43	307.30	307.31	-0.01	-0.01	-2.78E-04		
	26-Oct-01	0.41	0.39	307.33	307.35	-0.02	-0.03	-5.56E-04		
	29-Oct-01	0.45	0.43	307.29	307.31	-0.02	-0.03	-5.56E-04		
	01-Nov-01	0.47	0.43	307.27	307.31	-0.04	-0.05	-1.11E-03		
	05-Nov-01	0.42	0.38	307.32	307.36	-0.04	-0.05	-1.11E-03	7.1	7.0
	08-Nov-01	0.45	0.42	307.29	307.32	-0.03	-0.04	-8.34E-04		
	12-Nov-01	0.48	0.43	307.26	307.31	-0.05	-0.07	-1.39E-03		
	15-Nov-01	0.45	0.38	307.29	307.36	-0.07	-0.10	-1.95E-03		
	19-Nov-01	0.49	0.44	307.25	307.30	-0.05	-0.07	-1.39E-03		
	22-Nov-01	0.50	0.44	307.24	307.30	-0.06	-0.08	-1.67E-03		
	26-Nov-01	0.40	0.36	307.34	307.38	-0.04	-0.05	-1.11E-03		
	29-Nov-01	0.38	0.35	307.36	307.39	-0.03	-0.04	-8.34E-04		
	03-Dec-01	0.32	0.31	307.42	307.43	-0.01	-0.01	-2.78E-04		
	06-Dec-01	0.40	0.37	307.34	307.37	-0.03	-0.04	-8.34E-04	7.6	7.6
	10-Dec-01	0.45	0.43	307.29	307.31	-0.02	-0.03	-5.56E-04		
	13-Dec-01	0.42	0.41	307.32	307.33	-0.01	-0.01	-2.78E-04		
	17-Dec-01	0.36	0.37	307.38	307.37	0.01	0.01	2.78E-04		
	20-Dec-01	0.33	0.34	307.41	307.40	0.01	0.01	2.78E-04		
	02-Jan-02	F	0.46	(F)	307.28					
	07-Jan-02	F	0.46	(F)	307.28					
	10-Jan-02	F	0.46	(F)	307.28					
	14-Jan-02	F	0.44	(F)	307.30					
	17-Jan-02	F	0.44	(F)	307.30					
	21-Jan-02	F	0.45	(F)	307.29					

NOTES:
- m ASL metres above sea level
- (F) Frozen
- L/s/m² Litres per second per square metre
- Depth of screen midpoint below the creek bed is 0.73 m
- Assumed vertical permeability is 2.00E-05 m/s

TABLE B-5
SUMMARY OF CREEK BASED DRIVE POINT DATA
MILL CREEK AGGREGATES PIT

MONITOR LOCATION	DATE	G.W. LEVEL BTOP (m)	S.W. LEVEL BTOP (m)	GROUND-WATER ELEVATION (m ASL)	SURFACE WATER ELEVATION (m ASL)	HYDRAULIC HEAD IN GROUND-WATER (m)	VERTICAL HYDRAULIC GRADIENT	CALCULATED GROUNDWATER FLUX TO CREEK (L/s/m2)	TEMPERATURE GROUND-WATER (°C)	TEMPERATURE SURFACE WATER (°C)
	24-Jan-02	F	0.38	(F)	307.36					
DP18	28-Jan-02	F	0.38	(F)	307.36					
(con't)	01-Feb-02	0.30	0.34	307.44	307.40	0.04	0.05	1.11E-03		
	04-Feb-02	0.35	0.43	307.39	307.31	0.08	0.11	2.22E-03		
	07-Feb-02	0.42	0.44	307.32	307.30	0.02	0.03	5.56E-04		0.1
	11-Feb-02	0.40	0.20	(F)	(F)					
	15-Feb-02	0.59	0.45	(F)	307.29					
	18-Feb-02	0.40	0.42	(F)	(F)					
	21-Feb-02	0.40	0.27	307.34	(F)					
	25-Feb-02	0.34	0.36	307.40	307.38	0.02	0.03	5.56E-04		
	07-Mar-02	0.59	0.39	(F)	307.35					2.0
	11-Mar-02	0.50	0.46	307.24	307.28	-0.04	-0.05	-1.11E-03		
	15-Mar-02	0.55	0.48	307.19	307.26	-0.07	-0.10	-1.95E-03		
	19-Mar-02	0.37	0.39	307.37	307.35	0.02	0.03	5.56E-04		
	21-Mar-02	0.35	0.38	307.39	307.36	0.03	0.04	8.34E-04		
	26-Mar-02	0.42	0.44	307.32	307.30	0.02	0.03	5.56E-04		
	28-Mar-02	0.39	0.43	307.35	307.31	0.04	0.05	1.11E-03		
	01-Apr-02	0.32	0.33	307.42	307.41	0.01	0.01	2.78E-04		
	05-Apr-02	0.26	0.25	307.48	307.49	-0.01	-0.01	-2.78E-04		
	07-Apr-02	0.35	0.36	307.39	307.38	0.01	0.01	2.78E-04	5.8	5.6
	11-Apr-02	0.21	0.23	307.53	307.51	0.02	0.03	5.56E-04		
	19-Apr-02	0.23	0.25	307.51	307.49	0.02	0.03	5.56E-04		
	23-Apr-02	0.38	0.36	307.36	307.38	-0.02	-0.03	-5.56E-04		
	29-Apr-02	0.34	0.30	307.40	307.44	-0.04	-0.05	-1.11E-03		
	06-May-02	0.30	0.35	307.44	307.39	0.05	0.07	1.37E-03	10.5	13.1
	14-Jun-02	0.45	0.35	307.29	307.39	-0.10	-0.14	-2.80E-03	16.2	18.6
	21-Jun-02	0.46	0.47	307.28	307.27	0.01	0.01	2.78E-04		
	25-Jun-02	0.45	0.45	307.29	307.29	0.00	0.00	0.00E+00		
	05-Jul-02	0.51	0.50	307.23	307.24	-0.01	-0.01	-2.78E-04		
	11-Jul-02	0.53	0.51	307.21	307.23	-0.02	-0.03	-5.56E-04	18.8	19.0
	15-Jul-02	0.56	0.54	307.18	307.20	-0.02	-0.03	-5.56E-04		
	23-Jul-02	0.52	0.50	307.22	307.24	-0.02	-0.03	-5.56E-04		
	05-Aug-02	0.58	0.54	307.16	307.20	-0.04	-0.05	-1.11E-03		
	09-Aug-02	0.60	0.53	307.14	307.21	-0.07	-0.10	-1.95E-03	17.7	16.7
	16-Aug-02	0.60	0.54	307.14	307.20	-0.06	-0.08	-1.67E-03		
	21-Aug-02	0.60	0.54	307.14	307.20	-0.06	-0.08	-1.67E-03		
	23-Aug-02	0.60	0.54	307.14	307.20	-0.06	-0.08	-1.67E-03		
	04-Sep-02	0.64	0.54	307.10	307.20	-0.10	-0.14	-2.78E-03	17.4	17.0
	17-Sep-02	0.61	0.54	307.13	307.20	-0.07	-0.10	-1.95E-03		
	02-Oct-02	0.57	0.51	307.17	307.23	-0.06	-0.08	-1.67E-03		
	11-Oct-02	0.60	0.53	307.14	307.21	-0.07	-0.10	-1.95E-03	13.1	11.9
	18-Oct-02	0.58	0.53	307.16	307.21	-0.05	-0.07	-1.39E-03		
	21-Nov-02	0.52	0.50	307.22	307.24	-0.02	-0.03	-5.56E-04	6.5	4.0
	13-Dec-02	0.47	0.45	307.27	(F)				5.8	
	09-Jan-03	0.50	0.48	307.24	307.26	-0.02	-0.03	-5.56E-04	2.4	0.1
	10-Feb-03	0.45	0.45	307.29	307.29	0.00	0.00	0.00E+00	3.4	4.5
	13-Mar-03	0.45	0.45	307.29	307.29	0.00	0.00	0.00E+00	4.0	7.5
	10-Apr-03	0.40	0.41	307.34	307.33	0.01	0.01	2.78E-04	4.0	9.0
	07-May-03	0.31	0.33	307.43	307.41	0.02	0.03	5.56E-04	9.0	9.0
	15-May-03	0.45	0.40	307.29	307.34	-0.05	-0.07	-1.39E-03	7.0	10.0
	16-Jun-03	0.51	0.50	307.23	307.24	-0.01	-0.01	-2.78E-04	9.5	12.0
	17-Jul-03	0.60	0.55	307.14	307.19	-0.05	-0.07	-1.39E-03	12.0	14.0
	21-Aug-03	0.65	0.55	307.09	307.19	-0.10	-0.14	-2.78E-03	16.7	17.2
	26-Aug-03	0.43	0.35	307.31	307.39	-0.08	-0.11	-2.22E-03	19.9	19.3
	25-Sep-03	0.53	0.49	307.21	307.25	-0.04	-0.05	-1.11E-03	10.0	8.2
	27-Oct-03	0.47	0.43	307.27	307.31	-0.04	-0.05	-1.11E-03	10.8	7.8
	01-Dec-03	0.27	0.26	307.47	307.48	-0.01	-0.01	-2.78E-04	6.0	2.0
	11-Dec-03	0.33	0.32	307.41	307.42	-0.01	-0.01	-2.78E-04	3.9	2.7
	15-Dec-03	0.27	0.26	307.34	307.33	0.01	0.01	2.78E-04		1.0
	19-Jan-04	0.43	0.48	(F)307.31	(F)307.26					
	18-Feb-04	0.44	0.49	(F)307.30	307.25					0.5
	25-Mar-04	0.30	0.35	307.44	307.39	0.05	0.07	1.39E-03	5.8	4.6
	07-Apr-04	0.25	0.30	307.49	307.44	0.05	0.07	1.39E-03	4.6	3.2
	22-Apr-04	0.20	0.25	307.54	307.49	0.05	0.07	1.39E-03	8.9	10.0
	20-May-04	0.35	0.34	307.39	307.40	-0.01	-0.01	-2.78E-04	9.7	13.0
	24-Jun-04	0.38	0.46	307.36	307.28	0.08	0.11	2.22E-03	16.7	19.1
	23-Jul-04	0.45	0.51	307.29	307.23	0.06	0.08	1.67E-03	18.0	19.5
	04-Aug-04	0.43	0.49	307.31	307.25	0.06	0.08	1.67E-03	20.0	20.0
	27-Aug-04	0.48	0.50	307.26	307.24	0.02	0.03	5.56E-04	16.0	20.1
	28-Sep-04	0.52	0.52	307.22	307.22	0.00	0.00	0.00E+00	9.0	11.9
	18-Oct-04	0.46	0.47	307.28	307.27	0.01	0.01	2.78E-04	7.9	6.7
	16-Nov-04	0.47	0.48	307.27	307.26	0.01	0.01	2.78E-04	6.8	5.5
	15-Dec-04	0.44	0.44	307.30	307.30	0.00	0.00	0.00E+00	6.6	2.0
	16-Dec-04	0.43	0.46	307.31	307.28	0.03	0.04	8.34E-04	6.6	1.6
	20-Jan-05	0.18	0.42	(F)307.56	307.32					0.5
	25-Feb-05	0.17	0.38	(F)307.57	307.36					0.6
	24-Mar-05	0.32	0.43	307.42	307.31	0.11	0.15	3.06E-03		2.5
	18-Apr-05	0.33	0.38	307.41	307.36	0.05	0.07	1.39E-03	10.9	10.8
	29-Apr-05	0.21	0.29	307.53	307.45	0.08	0.11	2.22E-03	8.3	9.8
	26-May-05	0.41	0.48	307.33	307.26	0.07	0.10	1.95E-03	8.1	14.1
	23-Jun-05	0.45	0.51	307.29	307.23	0.06	0.08	1.67E-03	9.8	17.8
	25-Jul-05	0.44	0.50	307.30	307.24	0.06	0.08	1.67E-03	10.0	18.0
	17-Aug-05	0.50	0.53	307.24	307.21	0.03	0.04	8.34E-04	18.7	18.1
	25-Aug-05	0.49	0.52	307.25	307.22	0.03	0.04	8.34E-04	14.0	19.1
	30-Sep-05	0.42	0.46	307.32	307.28	0.04	0.05	1.11E-03	14.6	15
	27-Oct-05	0.40	0.45	307.34	307.29	0.05	0.07	1.39E-03	7.3	8.4
	28-Nov-05	0.39	0.44	307.35	307.30	0.05	0.07	1.39E-03	7.1	3.8
	07-Dec-05	0.23	0.45	(F)307.51	307.29					1.8
	19-Dec-05	0.42	0.47	307.32	307.27	0.05	0.07	1.39E-03	2.9	0.4

NOTES:
- m ASL — metres above sea level
- (F) — Frozen
- L/s/m² — Litres per second per square metre
- Depth of screen midpoint below the creek bed is 0.73 m
- Assumed vertical permeability is 2.00E-05 m/s

TABLE B-5
SUMMARY OF CREEK BASED DRIVE POINT DATA
MILL CREEK AGGREGATES PIT

MONITOR LOCATION	DATE	G.W. LEVEL BTOP (m)	S.W. LEVEL BTOP (m)	GROUND-WATER ELEVATION (m ASL)	SURFACE WATER ELEVATION (m ASL)	HYDRAULIC HEAD IN GROUND-WATER (m)	VERTICAL HYDRAULIC GRADIENT	CALCULATED GROUNDWATER FLUX TO CREEK (L/s/m2)	TEMPERATURE GROUND-WATER (°C)	TEMPERATURE SURFACE WATER (°C)
	26-Jan-06	0.28	0.38	307.46	307.36	0.10	0.14	2.78E-03	6.5	3.6
DP18	15-Feb-06	0.42		307.32						
(con't)	30-Mar-06	0.34	0.39	307.40	307.35	0.05	0.07	1.39E-03	9.1	10.0
	27-Apr-06	0.29	0.34	307.45	307.40	0.05	0.07	1.39E-03	10.2	10.5
	28-Apr-06	0.38	0.43	307.36	307.31	0.05	0.07	1.39E-03	11.4	11.8
	15-May-06	0.42	0.47	307.32	307.27	0.05	0.07	1.39E-03	15.1	15.1
	15-Jun-06	0.48	0.52	307.26	307.22	0.04	0.05	1.11E-03	16.6	18.6
	15-Jul-06	0.45	0.51	307.29	307.23	0.06	0.08	1.67E-03	20.1	21.3
	24-Aug-06	0.53	0.54	307.21	307.20	0.01	0.01	2.78E-04	17.8	18.7
	15-Sep-06	0.24	0.30	307.50	307.44	0.06	0.08	1.67E-03	16.3	16.4
	15-Oct-06	0.17	0.21	307.57	307.53	0.04	0.05	1.11E-03	11.7	11.1
	15-Nov-06	0.31	0.37	307.43	307.37	0.06	0.08	1.67E-03	4.4	3.3
	07-Dec-06	0.27	0.35	(F) 307.47	307.39					1.6
	17-Jan-07	0.31	0.38	(F) 307.43	307.36					0.1
	22-Feb-07	0.34		(F)307.4						0.6
	30-Mar-07	0.22	0.32	(F) 307.52	307.42					1.9
	26-Apr-07	0.20	0.25	307.54	307.49	0.05	0.07	1.39E-03	9.8	10.4
	16-May-07	0.32	0.43	307.42	307.31	0.11	0.15	3.06E-03	13.7	16.5
	26-Jun-07	0.44	0.51	307.30	307.23	0.07	0.10	1.95E-03	17.7	20.9
	25-Jul-07	0.50	0.54	307.24	307.20	0.04	0.05	1.11E-03	18.4	21.2
	07-Aug-07	0.49	0.50	307.25	307.24	0.01	0.01	2.78E-04		21.7
	21-Aug-07	0.53	0.55	307.21	307.19	0.02	0.03	5.56E-04	16.8	17.7
	21-Sep-07	0.55	0.54	307.19	307.20	-0.01	-0.01	-2.78E-04	17.5	19.3
	17-Oct-07	0.48	0.52	307.26	307.22	0.04	0.05	1.11E-03	12.9	12.3
	15-Nov-07	0.47		307.27						
	29-Nov-07	0.40	0.45	307.34	307.29	0.05	0.07	1.39E-03	4.8	3.2
	10-Dec-07	0.44	0.48	307.30	307.26	0.04	0.05	1.11E-03		2.1
	31-Jan-08	0.25	0.44	(F)307.49	307.30					0.3
	29-Feb-08	0.38	0.45	(F)307.36	307.29					0.1
	31-Mar-08	0.28	0.35	307.46	307.39	0.07	0.10	1.95E-03	4.5	2.9
	28-Apr-08	0.30	0.39	307.44	307.35	0.09	0.12	2.50E-03	11.5	12.0
	28-May-08	0.38	0.48	307.36	307.26	0.10	0.14	2.78E-03	14.5	17.2
	25-Jun-08	0.36	0.44	307.38	307.30	0.08	0.11	2.22E-03	16.4	21.8
	16-Jul-08	0.36	0.46	307.38	307.28	0.10	0.14	2.78E-03	16.2	21.5
	20-Aug-08	0.33	0.44	307.41	307.30	0.11	0.15	3.06E-03	15.1	18.8
	26-Aug-08	0.40	0.49	307.34	307.25	0.09	0.12	2.50E-03	16.8	16.9
	19-Sep-08	0.20	0.27	307.54	307.47	0.07	0.10	1.95E-03	15.6	16.1
	10-Oct-08	0.34	0.42	307.40	307.32	0.08	0.11	2.22E-03	11.0	10.1
	05-Nov-08	0.31	0.40	307.43	307.34	0.09	0.12	2.50E-03	9.5	9.8
	17-Dec-08	0.15	0.34	(F)307.59	307.40					1.4
	06-Jan-09	0.05	0.36	(F)307.69	307.38					0.0
	27-Feb-09	0.48	0.38	(F)307.26	307.36				3.0	1.6
	11-Mar-09	n/a	>0.00	n/a	>307.74					2.3
	14-Apr-09	0.29	0.34	307.45	307.40	0.05	0.07	1.39E-03	9.7	7.6
	21-May-09	0.29	0.39	307.45	307.35	0.10	0.14	2.78E-03	14.3	18.9
	16-Jun-09	0.31	0.42	307.43	307.32	0.11	0.15	3.06E-03	15.6	17.9
	31-Jul-09	0.31	0.43	307.43	307.31	0.12	0.16	3.34E-03	17.4	19.3
	25-Aug-09	0.24	0.35	307.50	307.39	0.11	0.15	3.06E-03	17.1	19.0
	28-Aug-09	0.32	0.40	307.42	307.34	0.08	0.11	2.22E-03	17.1	18.6
	28-Sep-09	0.30	0.41	307.44	307.33	0.11	0.15	3.06E-03	14.3	14.2
	14-Oct-09	0.30	0.41	307.44	307.33	0.11	0.15	3.06E-03	9.4	8.3
	11-Nov-09	0.30	0.37	307.44	307.37	0.07	0.10	1.95E-03	10.2	9.4
	11-Dec-09	0.30	0.41	307.44	307.33	0.11	0.15	3.06E-03	4.8	3.4
	16-Dec-09	0.29	0.39	(F)307.45	307.35					1.3
	13-Jan-10	0.43	0.48	(F)307.31	307.26					0.5
	11-Feb-10	0.69	0.48	(F)307.05	307.26					0.0
	11-Mar-10	0.41	0.40	307.33	307.34	-0.01	-0.01	-2.78E-04	4.8	4.4
	16-Apr-10	0.34	0.43	307.40	307.31	0.09	0.12	2.50E-03	10.7	14.1
	21-May-10	0.40	0.49	307.34	307.25	0.09	0.12	2.50E-03	12.8	16.3
	17-Jun-10	0.28	0.40	307.46	307.34	0.12	0.16	3.34E-03	15.7	18.0
	15-Jul-10	0.47	0.51	307.27	307.23	0.04	0.05	1.11E-03	19.6	23.4
	18-Aug-10	0.46	0.53	307.28	307.21	0.07	0.10	1.95E-03	18.8	19.2
	31-Aug-10	0.49	0.52	307.25	307.22	0.03	0.04	8.34E-04	19.6	22.7
	28-Sep-10	0.35	0.39	307.39	307.35	0.04	0.05	1.11E-03	14.5	13.9
	20-Oct-10	0.39	0.37	307.35	307.37	-0.02	-0.03	-5.56E-04	10.3	8.8
	18-Nov-10	0.29	0.36	307.45	307.38	0.07	0.10	1.95E-03	7.7	6.7
	08-Dec-10	0.34	0.46	(F)307.40	307.28					0.3
	22-Dec-10	0.38	0.49	(F)307.36	307.25					0.6

NOTES:
- m ASL — metres above sea level
- (F) — Frozen
- L/s/m² — Litres per second per square metre
- n/a not available
- Depth of screen midpoint below the creek bed is 0.73 m
- Assumed vertical permeability is 2.00E-05 m/s

TABLE B-5
SUMMARY OF CREEK BASED DRIVE POINT DATA
MILL CREEK AGGREGATES PIT

MONITOR LOCATION	DATE	G.W. LEVEL BTOP (m)	S.W. LEVEL BTOP (m)	GROUND-WATER ELEVATION (m ASL)	SURFACE WATER ELEVATION (m ASL)	HYDRAULIC HEAD IN GROUND-WATER (m)	VERTICAL HYDRAULIC GRADIENT	CALCULATED GROUNDWATER FLUX TO CREEK (L/s/m2)	TEMPERATURE	
									GROUND-WATER (°C)	SURFACE WATER (°C)
	19-Jan-11	(F)0.34	0.50	(F)307.40	307.24					0.5
DP18	17-Feb-11	0.54	0.51	307.20	307.23	-0.03	-0.04	-8.34E-04	3.3	3.3
(con't)	16-Mar-11	0.18	0.23	307.56	307.51	0.05	0.07	1.39E-03	4.2	3.8
	13-Apr-11	0.35	0.39	307.39	307.35	0.04	0.05	1.11E-03	8.6	8.4
	21-Apr-11	0.19	0.26	307.55	307.48	0.07	0.10	1.95E-03	5.2	4.3
	26-May-11	0.19	0.29	307.55	307.45	0.10	0.14	2.78E-03	12.9	15.1
	16-Jun-11	0.34	0.44	307.40	307.30	0.10	0.14	2.78E-03	15.8	19.7
	14-Jul-11	0.43	0.51	307.31	307.23	0.08	0.11	2.22E-03	17.6	18.9
	11-Aug-11	0.45	0.51	307.29	307.23	0.06	0.08	1.67E-03	18.3	18.5
	17-Aug-11	0.49	0.53	307.25	307.21	0.04	0.05	1.11E-03	18.6	18.8
	14-Sep-11	0.50	0.50	307.24	307.24	0.00	0.00	0.00E+00	16.3	15.5
	27-Oct-11	0.28	0.38	307.46	307.36	0.10	0.14	2.78E-03	9.8	8.0
	14-Nov-11	0.37	0.48	307.37	307.26	0.11	0.15	3.06E-03	7.1	5.5
	14-Dec-11	0.19	0.26	307.55	307.48	0.07	0.10	1.95E-03	6.6	6.0
	22-Dec-11	0.28	0.35	307.46	307.39	0.07	0.10	1.95E-03	4.7	2.7
	16-Jan-12	(F) 0.32	0.47		307.27					0.9
	16-Feb-12	0.38	0.43	307.36	307.31	0.05	0.07	1.39E-03	4.0	2.9
	29-Mar-12	0.37	0.44	307.37	307.30	0.07	0.10	1.95E-03	7.1	4.9
	10-Apr-12	0.41	0.47	307.33	307.27	0.06	0.08	1.67E-03	7.4	6.4
	30-Apr-12	0.38	0.45	307.36	307.29	0.07	0.10	1.95E-03	8.1	8.1
	29-May-12	0.47	0.52	307.27	307.22	0.05	0.07	1.39E-03	16.2	18.0
	20-Jun-12	0.48	0.53	307.26	307.21	0.05	0.07	1.39E-03	19.6	22.4
	24-Jul-12	0.53	0.55	307.21	307.19	0.02	0.03	5.56E-04	20.3	21.6
	08-Aug-12	0.56	0.55	307.18	307.19	-0.01	-0.01	-2.78E-04	20.4	20.0
	21-Aug-12	0.54	0.54	307.20	307.20	0.00	0.00	0.00E+00	17.8	18.0
	23-Oct-12	0.14	0.34	307.60	307.40	0.20	0.27	5.56E-03	11.0	10.0
	28-Nov-12	0.45	0.47	307.29	307.27	0.02	0.03	5.56E-04	4.8	1.6
	06-Dec-12	0.38	0.40	307.36	307.34	0.02	0.03	5.56E-04	4.5	1.8
	19-Dec-12	0.42	0.45	307.32	307.29	0.03	0.04	8.34E-04	4.8	3.0
	16-Jan-13	(F)0.91	0.47		307.27					1.6
	20-Feb-13	(F)0.29	0.44		307.30					0.9
	21-Mar-13	0.24	0.37	307.50	307.37	0.13	0.18	3.62E-03	2.1	1.4
	04-Apr-13	0.31	0.34	307.43	307.40	0.03	0.04	8.34E-04	4.7	2.0
	25-Apr-13	0.31	0.31	307.43	307.43	0.00	0.00	0.00E+00	7.6	8.1
	23-May-13	0.36	0.45	307.38	307.29	0.09	0.12	2.50E-03	15.2	18.2
	13-Jun-13	0.24	0.32	307.50	307.42	0.08	0.11	2.22E-03	15.2	18.4
	31-Jul-13	0.38	0.46	307.36	307.28	0.08	0.11	2.22E-03	17.9	19.5
	29-Aug-13	0.39	0.47	307.35	307.27	0.08	0.11	2.22E-03	20.0	21.3
	25-Sep-13	0.35	0.44	307.39	307.30	0.09	0.12	2.50E-03	15.2	13.4
	22-Oct-13	0.26	0.32	307.48	307.42	0.06	0.08	1.67E-03	9.9	8.0
	28-Nov-13	Frozen	0.35		307.39					0.6
	10-Dec-13	Frozen	0.42		307.32					0.2
	15-Jan-14	Frozen	0.31		307.43					0.5
	26-Feb-14	(F) 0.31	0.42		307.32					0.7
	26-Mar-14	(F) 0.23	0.40		307.34					0.2
	01-Apr-14	0.18	0.18	307.56	307.56	0.00	0.00	0.00E+00	3.4	3.2
	15-May-14	0.19	0.23	307.55	307.51	0.04	0.05	1.11E-03	15.6	17.9
	18-Jun-14	0.34	0.44	307.40	307.30	0.10	0.14	2.78E-03	18.1	20.4
	29-Jul-14	0.20	0.23	307.54	307.51	0.03	0.04	8.34E-04	18.1	18.1
	25-Aug-14	0.33	0.43	307.41	307.31	0.10	0.14	2.78E-03	17.1	19.1
	18-Sep-14	0.25	0.35	307.49	307.39	0.10	0.14	2.78E-03	15	16.0
	17-Oct-14	0.25	0.36	307.49	307.38	0.11	0.15	3.06E-03	14.3	13.8
	27-Nov-14	Frozen	0.32		307.42					0.6
	15-Dec-14	0.34	0.38	307.40	307.36	0.04	0.05	1.11E-03	6.9	3.8

NOTES:
- m ASL — metres above sea level
- (F) — Frozen
- L/s/m² — Litres per second per square metre
- n/a not available
- Depth of screen midpoint below the creek bed is 0.73 m
- Assumed vertical permeability is 2.00E-05 m/s

TABLE B-5
SUMMARY OF CREEK BASED DRIVE POINT DATA
MILL CREEK AGGREGATES PIT

MONITOR LOCATION	DATE	G.W. LEVEL BTOP (m)	S.W. LEVEL BTOP (m)	GROUND-WATER ELEVATION (m ASL)	SURFACE WATER ELEVATION (m ASL)	HYDRAULIC HEAD IN GROUND-WATER (m)	VERTICAL HYDRAULIC GRADIENT	CALCULATED GROUNDWATER FLUX TO CREEK (L/s/m2)	TEMPERATURE	
									GROUND-WATER (°C)	SURFACE WATER (°C)
DP18	21-Jan-15	(F)	0.49		307.25					0.7
(con't)	18-Feb-15	(F)	(F)							
	25-Mar-15	0.35	0.40	307.39	307.34	0.05	0.07	1.39E-03	2.5	1.9
	06-Apr-15	0.30	0.31	307.44	307.43	0.01	0.01	2.78E-04	5.3	6.1
	20-May-15	0.42	0.52	307.32	307.22	0.10	0.14	2.78E-03	12.7	13.8
	23-Jun-15	0.36	0.48	307.38	307.26	0.12	0.16	3.34E-03	17.4	18.9
	22-Jul-15	0.38	0.51	307.36	307.23	0.13	0.18	3.62E-03	18.3	19.9
	25-Aug-15	0.37	0.48	307.37	307.26	0.11	0.15	3.06E-03	18.0	17.7
	24-Sep-15	0.45	0.51	307.29	307.23	0.06	0.08	1.67E-03	15.9	16.4
	29-Oct-15	0.14	0.20	307.60	307.54	0.06	0.08	1.67E-03	9.5	9.5
	25-Nov-15	0.33	0.43	307.41	307.31	0.10	0.14	2.78E-03	6.2	5.1
	10-Dec-15	0.40	0.45	307.34	307.29	0.05	0.07	1.39E-03	8.5	5.6
	20-Jan-16	(F)	0.43		307.31					0.2
	29-Feb-16	(F)	(F)							
	17-Mar-16	0.19	0.23	307.55	307.51	0.04	0.05	1.11E-03	5.2	5.0
	30-Mar-16	0.17	0.20	307.57	307.54	0.03	0.04	8.34E-04	6.7	4.2
	27-Apr-16	0.29	0.35	307.45	307.39	0.06	0.08	1.67E-03	8.1	8.0
	30-May-16	0.37	0.48	307.37	307.26	0.11	0.15	3.06E-03	18.5	22.3
	27-Jun-16	0.48	0.52	307.26	307.22	0.04	0.05	1.11E-03	17.4	18.8
	28-Jul-16	0.48	0.52	307.26	307.22	0.04	0.05	1.11E-03	20.0	22.2
	11-Aug-16	0.32	0.54	307.42	307.20	0.22	0.30	6.12E-03	20.0	20.5
	21-Sep-16	0.44	0.51	307.30	307.23	0.07	0.10	1.95E-03	14.3	17.7
	18-Oct-16	0.48	0.50	307.26	307.24	0.02	0.03	5.56E-04	14.0	14.2
	14-Nov-16	0.44	0.47	307.30	307.27	0.03	0.04	8.34E-04	9.7	5.7
	14-Dec-16	0.45	0.47	307.29	307.27	0.02	0.03	5.56E-04	1.3	0.7
	18-Jan-17	0.25	0.30	307.49	307.44	0.05	0.07	1.39E-03	3.4	2.8
	15-Feb-17	0.21	0.43	307.53	307.31	0.22	0.30	6.12E-03	4.1	3.4
	17-Mar-17	(F)	0.44		307.30					0.9
	11-Apr-17	0.26	0.30	307.48	307.44	0.04	0.05	1.11E-03	8.5	7.4
	18-May-17	0.31	0.41	307.43	307.33	0.10	0.14	2.78E-03	13.9	16.1
	14-Jun-17	0.39	0.48	307.35	307.26	0.09	0.12	2.50E-03	17.0	19.3
	20-Jul-17	0.32	0.43	307.42	307.31	0.11	0.15	3.06E-03	19.2	20.1
	09-Aug-17	0.35	0.46	307.39	307.28	0.11	0.15	3.06E-03	17.5	17.9
	12-Sep-17	0.39	0.49	307.35	307.25	0.10	0.14	2.78E-03	15.9	15.4
	12-Oct-17	0.39	0.45	307.35	307.29	0.06	0.08	1.67E-03	13.8	11.8
	21-Nov-17	0.30	0.36	307.44	307.38	0.06	0.08	1.67E-03	7.3	3.6
	19-Dec-17	0.39	0.44	307.35	307.30	0.05	0.07	1.39E-03	3.6	3.6
	16-Jan-18	(F)	(F)							0.2
	26-Feb-18	0.18	0.20	307.56	307.54	0.02	0.03	5.56E-04	2.7	2.5
	26-Mar-18	0.42	0.47	307.32	307.27	0.05	0.07	1.39E-03	5.6	2.7
	24-Apr-18	0.13	0.16	307.61	307.58	0.03	0.04	8.34E-04	7.5	8.3
	18-May-18	0.32	0.38	307.42	307.36	0.06	0.08	1.67E-03	13.6	14.7
	12-Jun-18	0.41	0.49	307.33	307.25	0.08	0.11	2.22E-03	15.3	15.3
	27-Jul-18	0.44	0.49	307.30	307.25	0.05	0.07	1.39E-03	19.2	19.6
	22-Aug-18	0.38	0.41	307.36	307.33	0.03	0.04	8.34E-04	18.7	19.7
	12-Sep-18	0.42	0.47	307.32	307.27	0.05	0.07	1.39E-03	16.3	15.1
	30-Oct-18	0.41	0.43	307.33	307.31	0.02	0.03	5.56E-04	7.0	4.3
	21-Nov-18	0.36	0.41	307.38	307.33	0.05	0.07	1.39E-03	3.4	1.5
	20-Dec-18	0.37	0.41	307.37	307.33	0.04	0.05	1.11E-03	2.0	5.3
2018 AVERAGE VALUES						0.04	0.06	1.21E-03	10.1	9.1
OVERALL AVERAGE VALUES						0.04	0.05	1.02E-03	11.3	10.5

NOTES:
- m ASL — metres above sea level
- (F) — Frozen
- L/s/m² — Litres per second per square metre
- n/a not available
- Depth of screen midpoint below the creek bed is 0.73 m
- Assumed vertical permeability is 2.00E-05 m/s

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SUMMARY OF CREEK BASED DRIVE POINT DATA
MILL CREEK AGGREGATES PIT

MONITOR LOCATION	DATE	G.W. LEVEL BTOP (m)	S.W. LEVEL BTOP (m)	GROUND-WATER ELEVATION (m ASL)	SURFACE WATER ELEVATION (m ASL)	HYDRAULIC HEAD IN GROUND-WATER (m)	VERTICAL HYDRAULIC GRADIENT	CALCULATED GROUNDWATER FLUX TO CREEK (L/s/m2)	TEMPERATURE	
									GROUND-WATER (°C)	SURFACE WATER (°C)
DP19	12-May-93	0.72	0.90	306.81	306.63	0.18	0.08	1.21E-03		
	23-Jun-93	0.68	0.84	306.85	306.69	0.16	0.07	1.07E-03	10.5	16.0
	14-Jul-93	0.81	0.89	306.72	306.64	0.08	0.04	5.36E-04	13.1	20.6
	18-Aug-93	0.88	0.96	306.65	306.57	0.08	0.04	5.36E-04	13.4	23.1
	20-Sep-93	0.84	0.97	306.69	306.56	0.13	0.06	8.71E-04	13.5	11.6
	19-Oct-93	0.73	0.86	306.80	306.67	0.13	0.06	8.71E-04	11.5	9.5
	17-Nov-93	0.91	0.93	306.62	306.60	0.02	0.01	1.34E-04	8.4	5.5
	06-Dec-93	0.75	0.88	306.78	306.65	0.13	0.06	8.71E-04	6.8	3.2
	18-Jan-94	(F) 0.94	(F) 0.86	(F) 306.59	(F) 306.67					
	24-Feb-94	0.76	0.90	306.77	306.63	0.14	0.07	9.38E-04	5.0	1.0
	24-Mar-94	0.61	0.73	306.92	306.80	0.12	0.06	8.04E-04	5.3	2.9
	19-Apr-94	0.73	0.87	306.80	306.66	0.14	0.07	9.38E-04	5.0	8.0
	24-May-94	0.80	0.91	306.73	306.62	0.11	0.05	7.37E-04	8.0	17.0
	23-Jun-94	0.99	1.01	306.54	306.52	0.02	0.01	1.34E-04	11.0	19.0
	19-Jul-94	1.02	1.01	306.51	306.52	-0.01	0.00	-6.70E-05	11.0	20.0
	25-Aug-94	1.01	1.00	306.52	306.53	-0.01	0.00	-6.70E-05	13.0	18.0
	21-Sep-94	1.09	1.01	306.44	306.52	-0.08	-0.04	-5.36E-04	11.0	15.0
	18-Oct-94	1.07	0.97	306.46	306.56	-0.10	-0.05	-6.70E-04	8.0	10.0
	23-Nov-94	0.94	0.93	306.59	306.60	-0.01	0.00	-6.70E-05	9.0	3.0
	21-Dec-94	0.86	0.92	306.67	306.61	0.06	0.03	4.02E-04	6.0	3.0
	24-Jan-95	0.53	0.69	307.00	306.84	0.16	0.07	1.07E-03	6.0	2.0
	15-Feb-95	0.88	0.95	306.65	306.58	0.07	0.03	4.69E-04	8.0	2.0
	23-Mar-95	0.67	0.83	306.86	306.70	0.16	0.07	1.07E-03	3.5	4.5
	17-May-95	0.73	0.90	306.80	306.63	0.17	0.08	1.14E-03	11.0	14.0
	13-Jun-95	0.85	0.95	306.68	306.58	0.10	0.05	6.70E-04	11.0	13.0
	20-Jul-95	1.03	0.98	306.50	306.55	-0.05	-0.02	-3.35E-04	15.0	20.0
	15-Aug-95	0.90	0.92	306.63	306.61	0.02	0.01	1.34E-04	14.0	19.0
	18-Oct-95	1.01	0.95	306.52	306.58	-0.06	-0.03	-4.02E-04	12.5	8.5
	22-Nov-95	0.81	0.86	306.72	306.67	0.05	0.02	3.35E-04	7.5	1.5
	26-Mar-96	0.57	0.75	(F) 306.96	306.78					1.0
	31-May-96	0.69	0.89	306.84	306.64	0.20	0.09	1.34E-03	11.0	20.0
	28-Jun-96	0.65	0.88	306.88	306.65	0.23	0.11	1.54E-03	14.0	20.0
	31-Jul-96	0.66	0.85	306.87	306.68	0.19	0.09	1.27E-03	13.0	21.0
	30-Aug-96	0.84	0.95	306.69	306.58	0.11	0.05	7.37E-04	14.0	18.0
	27-Sep-96	0.65	0.87	306.88	306.66	0.22	0.10	1.47E-03	14.5	14.0
	06-Nov-96	0.71	0.84	306.82	306.69	0.13	0.06	8.71E-04	9.0	6.0
	31-Mar-97	0.38	0.53	307.15	307.00	0.15	0.07	1.00E-03	5.0	3.0
	30-Apr-97	0.56	0.84	306.97	306.69	0.28	0.13	1.88E-03	6.0	13.0
	26-May-97	0.58	0.87	306.95	306.66	0.29	0.13	1.94E-03	10.0	17.0
	27-Jun-97	0.67	0.90	306.86	306.63	0.23	0.11	1.54E-03	11.5	21.0
	30-Jul-97	0.85	0.96	306.68	306.57	0.11	0.05	7.37E-04	13.5	19.0
	31-Aug-97	0.82	0.96	306.71	306.57	0.14	0.07	9.38E-04	13.5	17.0
	06-Nov-97	0.70	0.85	306.83	306.68	0.15	0.07	1.00E-03	10.0	7.5
	12-Dec-97	0.80	0.93	(F) 306.73	306.60					1.0
	27-Mar-98	0.55	0.42	306.98	307.11	-0.13	-0.06	-8.71E-04	3.5	4.5
	30-Apr-98	0.79	0.93	306.74	306.60	0.14	0.07	9.38E-04	5.5	13.5
	31-May-98	0.94	0.98	306.59	306.55	0.04	0.02	2.68E-04	11.5	16.5
	30-Jun-98	0.95	0.98	306.58	306.55	0.03	0.01	2.01E-04	15.0	20.0
	31-Jul-98	1.11	1.02	306.42	306.51	-0.09	-0.04	-6.03E-04	16.0	23.0
	30-Sep-98	1.21	0.96	306.32	306.57	-0.25	-0.12	-1.67E-03	14.0	14.0
	27-Nov-98	1.21	0.97	306.32	306.56	-0.24	-0.11	-1.61E-03	7.0	5.5
	31-Mar-99	0.96	0.83	306.57	306.70	-0.13	-0.06	-8.71E-04	7.0	6.0
	20-May-99	1.30	0.99	306.23	306.54	-0.31	-0.14	-2.08E-03	11.4	12.6
	29-Jun-99	1.15	0.99	306.38	306.54	-0.16	-0.07	-1.07E-03	14.0	17.0
	16-Jul-99	1.21	1.05	306.32	306.48	-0.16	-0.07	-1.07E-03	18.9	20.0
	11-Aug-99	1.54	1.04	305.99	306.49	-0.50	-0.23	-3.35E-03	17.8	18.4
	09-Sep-99	1.38	0.97	306.15	306.56	-0.41	-0.19	-2.75E-03	17.9	19.9
	09-Nov-99	1.31	0.94	306.22	306.59	-0.37	-0.17	-2.48E-03	10.3	7.2
	01-Mar-00	1.06	0.89	306.47	306.64	-0.17	-0.08	-1.14E-03	3.0	2.5
	18-May-00	0.90	0.75	306.63	306.78	-0.15	-0.07	-1.00E-03	10.0	13.0
	15-Jun-00	0.81	0.69	306.72	306.84	-0.12	-0.06	-8.04E-04	12.0	18.5
	06-Jul-00	1.06	0.98	306.47	306.55	-0.08	-0.04	-5.36E-04	15.5	17.7
	08-Aug-00	1.07	0.98	306.46	306.55	-0.09	-0.04	-6.03E-04	17.6	20.2
	13-Sep-00	1.23	0.99	306.30	306.54	-0.24	-0.11	-1.61E-03	16.3	16.8
	26-Sep-00	1.19	0.98	306.34	306.55	-0.21	-0.10	-1.41E-03		
	10-Oct-00	1.27	1.00	306.26	306.53	-0.27	-0.13	-1.81E-03	10.9	10.1
	08-Nov-00	1.40	0.99	306.13	306.54	-0.41	-0.19	-2.75E-03	10.1	8.4
	14-Nov-00	1.25	0.93	306.28	306.60	-0.32	-0.15	-2.14E-03		
	11-Dec-00	1.28	0.98	306.25	306.55	-0.30	-0.14	-2.01E-03	2.2	0.7
	11-Jan-01	1.25	0.97	306.28	306.56	-0.28	-0.13	-1.88E-03	2.2	0.9
	09-Feb-01	1.12	1.03	306.41	306.50	-0.09	-0.04	-6.03E-04	3.8	2.5
	13-Mar-01	0.94	0.93	306.59	306.60	-0.01	0.00	-6.70E-05	3.7	1.9
	10-Apr-01	0.82	0.72	306.71	306.81	-0.10	-0.05	-6.70E-04	5.4	4.7
	04-May-01	1.04	0.99	306.49	306.54	-0.05	-0.02	-3.35E-04	11.0	16.7
	07-Jun-01	1.06	0.97	306.47	306.56	-0.09	-0.04	-6.03E-04	7.0	8.0
	25-Jun-01	1.16	1.01	306.37	306.52	-0.15	-0.07	-1.00E-03		
	28-Jun-01	1.17	1.02	306.36	306.51	-0.15	-0.07	-1.00E-03		
	03-Jul-01	1.21	1.03	306.32	306.50	-0.18	-0.08	-1.21E-03		
	05-Jul-01	1.22	1.03	306.31	306.50	-0.19	-0.09	-1.27E-03		
	09-Jul-01	1.23	1.03	306.30	306.50	-0.20	-0.09	-1.34E-03		
	12-Jul-01	1.22	1.03	306.31	306.50	-0.19	-0.09	-1.27E-03	15.8	17.0
	16-Jul-01	1.24	1.05	306.29	306.48	-0.19	-0.09	-1.27E-03		

NOTES:
· m ASL metres above sea level
· (F) Frozen
· L/s/m² Litres per second per square metre
· Depth of screen midpoint below the creek bed is 2.15 m
· Assumed vertical permeability is 1.50E-05 m/s

TABLE B-5
SUMMARY OF CREEK BASED DRIVE POINT DATA
MILL CREEK AGGREGATES PIT

MONITOR LOCATION	DATE	G.W. LEVEL BTOP (m)	S.W. LEVEL BTOP (m)	GROUND-WATER ELEVATION (m ASL)	SURFACE WATER ELEVATION (m ASL)	HYDRAULIC HEAD IN GROUND-WATER (m)	VERTICAL HYDRAULIC GRADIENT	CALCULATED GROUNDWATER FLUX TO CREEK (L/s/m2)	TEMPERATURE GROUND-WATER (°C)	TEMPERATURE SURFACE WATER (°C)
	19-Jul-01	1.24	1.04	306.29	306.49	-0.20	-0.09	-1.34E-03		
DP19	23-Jul-01	1.26	1.05	306.27	306.48	-0.21	-0.10	-1.41E-03		
(con't)	26-Jul-01	1.27	1.05	306.26	306.48	-0.22	-0.10	-1.47E-03		
	30-Jul-01	1.29	1.05	306.24	306.48	-0.24	-0.11	-1.61E-03		
	02-Aug-01	1.32	1.06	306.21	306.47	-0.26	-0.12	-1.74E-03	17.8	21.3
	07-Aug-01	1.32	1.07	306.21	306.46	-0.25	-0.12	-1.67E-03		
	09-Aug-01	1.34	1.08	306.19	306.45	-0.26	-0.12	-1.74E-03		
	13-Aug-01	1.40	1.08	306.13	306.45	-0.32	-0.15	-2.14E-03		
	16-Aug-01	1.39	1.07	306.14	306.46	-0.32	-0.15	-2.14E-03		
	20-Aug-01	1.30	1.00	306.23	306.53	-0.30	-0.14	-2.01E-03		
	23-Aug-01	1.32	1.04	306.21	306.49	-0.28	-0.13	-1.88E-03		
	27-Aug-01	1.39	1.05	306.14	306.48	-0.34	-0.16	-2.28E-03		
	30-Aug-01	1.37	1.05	306.16	306.48	-0.32	-0.15	-2.14E-03		
	04-Sep-01	1.36	1.04	306.17	306.49	-0.32	-0.15	-2.14E-03	16.8	17.6
	06-Sep-01	1.37	1.06	306.16	306.47	-0.31	-0.14	-2.08E-03		
	10-Sep-01	1.40	1.05	306.13	306.48	-0.35	-0.16	-2.34E-03		
	13-Sep-01	1.41	1.07	306.12	306.46	-0.34	-0.16	-2.28E-03		
	17-Sep-01	1.43	1.08	306.10	306.45	-0.35	-0.16	-2.34E-03		
	20-Sep-01	1.41	1.05	306.12	306.48	-0.36	-0.17	-2.41E-03		
	24-Sep-01	1.34	1.02	306.19	306.51	-0.32	-0.15	-2.14E-03		
	27-Sep-01	1.33	1.00	306.20	306.53	-0.33	-0.15	-2.21E-03		
	01-Oct-01	1.37	1.03	306.16	306.50	-0.34	-0.16	-2.28E-03	13.1	10.7
	04-Oct-01	1.40	1.05	306.13	306.48	-0.35	-0.16	-2.34E-03		
	09-Oct-01	1.25	0.98	306.28	306.55	-0.27	-0.13	-1.81E-03		
	11-Oct-01	1.29	1.00	306.24	306.53	-0.29	-0.13	-1.94E-03		
	15-Oct-01	1.21	0.92	306.32	306.61	-0.29	-0.13	-1.94E-03		
	19-Oct-01	1.16	0.93	306.37	306.60	-0.23	-0.11	-1.54E-03		
	22-Oct-01	1.20	0.97	306.33	306.56	-0.23	-0.11	-1.54E-03		
	26-Oct-01	1.19	0.94	306.34	306.59	-0.25	-0.12	-1.67E-03		
	29-Oct-01	1.19	0.96	306.34	306.57	-0.23	-0.11	-1.54E-03		
	01-Nov-01	1.20	0.97	306.33	306.56	-0.23	-0.11	-1.54E-03		
	05-Nov-01	1.15	0.93	306.38	306.60	-0.22	-0.10	-1.47E-03	9.2	6.7
	08-Nov-01	1.18	0.96	306.35	306.57	-0.22	-0.10	-1.47E-03		
	12-Nov-01	1.22	0.97	306.31	306.56	-0.25	-0.12	-1.67E-03		
	15-Nov-01	1.21	0.94	306.32	306.59	-0.27	-0.13	-1.81E-03		
	19-Nov-01	1.22	0.98	306.31	306.55	-0.24	-0.11	-1.61E-03		
	22-Nov-01	1.23	0.98	306.30	306.55	-0.25	-0.12	-1.67E-03		
	26-Nov-01	1.12	0.91	306.41	306.62	-0.21	-0.10	-1.41E-03		
	29-Nov-01	1.09	0.93	306.44	306.60	-0.16	-0.07	-1.07E-03		
	03-Dec-01	1.01	0.86	306.52	306.67	-0.15	-0.07	-1.00E-03		
	06-Dec-01	1.08	0.93	306.45	306.60	-0.15	-0.07	-1.00E-03	8.1	7.5
	10-Dec-01	1.13	0.96	306.40	306.57	-0.17	-0.08	-1.14E-03		
	13-Dec-01	1.12	0.95	306.41	306.58	-0.17	-0.08	-1.14E-03		
	17-Dec-01	1.05	0.93	306.48	306.60	-0.12	-0.06	-8.04E-04		
	20-Dec-01	1.01	0.97	306.52	306.56	-0.04	-0.02	-2.68E-04		
	02-Jan-02	1.02	0.93	306.51	306.60	-0.09	-0.04	-6.03E-04		
	07-Jan-02	F	0.93	(F)	306.60					
	10-Jan-02	1.12	0.98	306.41	306.55	-0.14	-0.07	-9.38E-04		
	14-Jan-02	1.17	1.00	306.36	306.53	-0.17	-0.08	-1.14E-03		
	17-Jan-02	1.18	0.98	306.35	306.55	-0.20	-0.09	-1.34E-03		
	21-Jan-02	1.19	0.98	306.34	306.55	-0.21	-0.10	-1.41E-03		
	24-Jan-02	1.09	0.94	306.44	306.59	-0.15	-0.07	-1.00E-03		
	28-Jan-02	1.09	0.95	306.44	306.58	-0.14	-0.07	-9.38E-04		
	01-Feb-02	1.01	F	306.52	(F)					
	04-Feb-02	1.20	0.95	306.33	306.58	-0.25	-0.12	-1.67E-03		
	07-Feb-02	1.30	0.96	306.23	306.57	-0.34	-0.16	-2.28E-03	2.8	0.1
	11-Feb-02	1.10	0.88	306.43	306.65	-0.22	-0.10	-1.47E-03		
	15-Feb-02	1.12	0.90	306.41	306.63	-0.22	-0.10	-1.47E-03		
	21-Feb-02	0.93	0.85	306.60	306.68	-0.08	-0.04	-5.36E-04		
	25-Feb-02	1.01	0.90	306.52	306.63	-0.11	-0.05	-7.37E-04		
	07-Mar-02	1.19	0.92	306.34	306.61	-0.27	-0.13	-1.81E-03	3.1	1.8
	11-Mar-02	1.15	1.10	306.38	306.43	-0.05	-0.02	-3.35E-04		
	19-Mar-02	1.03	0.95	306.50	306.58	-0.08	-0.04	-5.36E-04		
	21-Mar-02	0.94	0.93	306.59	306.60	-0.01	0.00	-6.70E-05		
	26-Mar-02	1.04	0.97	306.49	306.56	-0.07	-0.03	-4.69E-04		
	28-Mar-02	1.03	0.99	306.50	306.54	-0.04	-0.02	-2.68E-04		
	01-Apr-02	0.95	0.90	306.58	306.63	-0.05	-0.02	-3.35E-04		
	05-Apr-02	0.89	0.88	306.64	306.65	-0.01	0.00	-6.70E-05		

NOTES:
- m ASL — metres above sea level
- (F) — Frozen
- L/s/m² — Litres per second per square metre
- Depth of screen midpoint below the creek bed is 2.15 m
- Assumed vertical permeability is 1.50E-05 m/s

TABLE B-5
SUMMARY OF CREEK BASED DRIVE POINT DATA
MILL CREEK AGGREGATES PIT

MONITOR LOCATION	DATE	G.W. LEVEL BTOP (m)	S.W. LEVEL BTOP (m)	GROUND-WATER ELEVATION (m ASL)	SURFACE WATER ELEVATION (m ASL)	HYDRAULIC HEAD IN GROUND-WATER (m)	VERTICAL HYDRAULIC GRADIENT	CALCULATED GROUNDWATER FLUX TO CREEK (L/s/m2)	TEMPERATURE	
									GROUND-WATER (°C)	SURFACE WATER (°C)
	07-Apr-02	0.96	0.92	306.57	306.61	-0.04	-0.02	-2.68E-04	6.4	5.6
DP19	11-Apr-02	0.87	0.81	306.66	306.72	-0.06	-0.03	-4.02E-04		
(con't)	19-Apr-02	0.89	0.87	306.64	306.66	-0.02	-0.01	-1.34E-04		
	23-Apr-02	1.01	0.99	306.52	306.54	-0.02	-0.01	-1.34E-04		
	29-Apr-02	0.99	0.94	306.54	306.59	-0.05	-0.02	-3.35E-04		
	06-May-02	1.00	0.91	306.53	306.62	-0.09	-0.04	-5.73E-04	10.8	15.6
	10-May-02	1.02	0.91	306.51	306.62	-0.11	-0.05	-7.07E-04		
	14-May-02	1.02	0.92	306.51	306.61	-0.10	-0.05	-6.70E-04		
	17-May-02	0.91	0.79	306.62	306.74	-0.12	-0.06	-8.04E-04		
	21-May-02	0.96	0.87	306.57	306.66	-0.09	-0.04	-6.03E-04		
	24-May-02	1.02	0.92	306.51	306.61	-0.10	-0.05	-6.70E-04		
	27-May-02	1.07	1.01	306.46	306.52	-0.06	-0.03	-4.02E-04		
	31-May-02	1.07	0.99	306.46	306.54	-0.08	-0.04	-5.36E-04		
	04-Jun-02	1.05	0.96	306.48	306.57	-0.09	-0.04	-6.03E-04		
	07-Jun-02	1.10	0.98	306.43	306.55	-0.12	-0.06	-8.04E-04		
	14-Jun-02	1.13	1.00	306.40	306.53	-0.13	-0.06	-8.71E-04	15.0	17.6
	21-Jun-02	1.13	1.05	306.40	306.48	-0.08	-0.04	-5.36E-04		
	25-Jun-02	1.12	1.00	306.41	306.53	-0.12	-0.06	-8.04E-04		
	08-Jul-02	1.17	1.07	306.36	306.46	-0.10	-0.05	-6.70E-04		
	11-Jul-02	1.24	1.04	306.29	306.49	-0.20	-0.09	-1.34E-03	16.8	19.1
	15-Jul-02	1.28	1.08	306.25	306.45	-0.20	-0.09	-1.34E-03		
	23-Jul-02	1.25	1.03	306.28	306.50	-0.22	-0.10	-1.47E-03		
	05-Aug-02	1.32	1.06	306.21	306.47	-0.26	-0.12	-1.74E-03		
	09-Aug-02	1.34	1.05	306.19	306.48	-0.29	-0.13	-1.94E-03	15.8	17.1
	16-Aug-02	1.39	1.06	306.14	306.47	-0.33	-0.15	-2.21E-03		
	21-Aug-02	1.41	1.06	306.12	306.47	-0.35	-0.16	-2.34E-03		
	23-Aug-02	1.42	1.05	306.11	306.48	-0.37	-0.17	-2.48E-03		
	04-Sep-02	1.44	1.07	306.09	306.46	-0.37	-0.17	-2.48E-03	17.4	17.0
	17-Sep-02	1.39	1.06	306.14	306.47	-0.33	-0.15	-2.21E-03		
	02-Oct-02	1.38	1.05	306.15	306.48	-0.33	-0.15	-2.21E-03		
	11-Oct-02	1.44	1.07	306.09	306.46	-0.37	-0.17	-2.48E-03	13.8	11.7
	18-Oct-02	1.40	1.05	306.13	306.48	-0.35	-0.16	-2.34E-03		
	21-Nov-02	1.34	1.00	306.19	306.53	-0.34	-0.16	-2.28E-03	6.5	4.0
	13-Dec-02	1.05	0.98	306.48	(F)				5.7	
	9-Jan-03	1.33	1.00	306.20	306.53	-0.33	-0.15	-2.21E-03	2.4	0.1
	10-Apr-03	1.07	0.90	306.46	306.63	-0.17	-0.08	-1.14E-03	5.0	12.0
	7-May-03	0.95	0.83	306.58	306.70	-0.12	-0.06	-8.04E-04	9.3	10.9
	15-May-03	1.02	1.00	306.51	306.53	-0.02	-0.01	-1.34E-04	8.0	10.0
	16-Jun-03	1.30	1.05	306.23	306.48	-0.25	-0.12	-1.67E-03	10.5	13.0
	17-Jul-03	1.33	1.06	306.20	306.47	-0.27	-0.13	-1.81E-03	12.0	14.0
	21-Aug-03	1.43	1.06	306.10	306.47	-0.37	-0.17	-2.48E-03	16.1	16.7
	26-Aug-03	1.33	0.93	306.20	306.60	-0.40	-0.19	-2.68E-03	18.2	19.4
	25-Sep-03	1.28	1.00	306.25	306.53	-0.28	-0.13	-1.88E-03	10.7	7.8
	27-Oct-03	1.24	0.95	306.29	306.58	-0.29	-0.13	-1.94E-03	10.7	7.5
	1-Dec-03	1.00	0.77	306.53	306.76	-0.23	-0.11	-1.54E-03	6.0	2.0
	11-Dec-03	1.07	0.84	306.46	306.69	-0.23	-0.11	-1.54E-03	5.2	2.8
	15-Dec-03	1.00	0.77	306.41	306.60	-0.19	-0.09	-1.27E-03		1.0
	19-Jan-04	1.13	0.94	(F)306.40	(F)306.59					
	18-Feb-04	1.02	0.77	(F)306.51	(F)306.76					
	25-Mar-04	0.85	0.86	306.68	306.67	0.01	0.00	6.70E-05	6.0	4.5
	7-Apr-04	0.79	0.81	306.74	306.72	0.02	0.01	1.34E-04	4.9	2.9
	22-Apr-04	0.71	0.77	306.82	306.76	0.06	0.03	4.02E-04	9.1	10.2
	20-May-04	0.84	0.94	306.69	306.59	0.10	0.05	6.70E-04	9.9	12.9
	24-Jun-04	0.86	0.97	306.67	306.56	0.11	0.05	7.37E-04	15.0	18.0
	23-Jul-04	0.96	1.00	306.57	306.53	0.04	0.02	2.68E-04	15.0	19.0
	4-Aug-04	0.95	0.99	306.58	306.54	0.04	0.02	2.68E-04	15.0	20.0
	27-Aug-04	1.01	1.04	306.52	306.49	0.03	0.01	2.01E-04	16.4	20.5
	28-Sep-04	1.03	1.05	306.50	306.48	0.02	0.01	1.34E-04	9.0	11.9
	18-Oct-04	1.08	0.98	306.45	306.55	-0.10	-0.05	-6.70E-04	7.9	6.9
	16-Nov-04	1.09	0.96	306.44	306.57	-0.13	-0.06	-8.71E-04	6.5	5.2
	15-Dec-04	1.00	0.94	306.53	306.59	-0.06	-0.03	-4.02E-04	4.0	1.5
	16-Dec-04	1.01	0.95	306.52	306.58	-0.06	-0.03	-4.02E-04	6.7	1.0
	20-Jan-05	0.87	0.92	(F)306.66	306.61					0.4
	25-Feb-05	0.86	0.79	(F)306.67	306.74					0.2
	24-Mar-05	0.85	0.95	306.68	306.58	0.10	0.05	6.70E-04	3.3	1.6
	18-Apr-05	0.81	0.89	306.72	306.64	0.08	0.04	5.36E-04	7.9	10.1
	29-Apr-05	0.74	0.85	306.79	306.68	0.11	0.05	7.37E-04	8.5	9.9
	26-May-05	0.86	0.99	306.67	306.54	0.13	0.06	8.71E-04	8.2	14.3
	23-Jun-05	0.94	1.02	306.59	306.51	0.08	0.04	5.36E-04	15.2	18.7
	25-Jul-05	0.92	1.00	306.61	306.53	0.08	0.04	5.36E-04	13.0	19.8
	17-Aug-05	1.00	1.06	306.53	306.47	0.06	0.03	4.02E-04	18.5	17.6
	25-Aug-05	0.96	1.05	306.57	306.48	0.09	0.04	6.03E-04	13.1	18.7
	30-Sep-05	0.97	0.98	306.56	306.55	0.01	0.00	6.70E-05	13.6	14.0
	27-Oct-05	0.95	0.99	306.58	306.54	0.04	0.02	2.68E-04	7.9	8.8
	28-Nov-05	0.94	0.97	306.59	306.56	0.03	0.01	2.01E-04	6.9	3.6
	7-Dec-05	0.65	0.80	(F) 306.88	(F) 306.73					1.6
	19-Dec-05	0.99	0.90	(F)306.54	(F)306.63					

NOTES:
- m ASL — metres above sea level
- (F) — Frozen
- L/s/m² — Litres per second per square metre
- Depth of screen midpoint below the creek bed is 2.15 m
- Assumed vertical permeability is 1.50E-05 m/s

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SUMMARY OF CREEK BASED DRIVE POINT DATA
MILL CREEK AGGREGATES PIT

MONITOR LOCATION	DATE	G.W. LEVEL BTOP (m)	S.W. LEVEL BTOP (m)	GROUND-WATER ELEVATION (m ASL)	SURFACE WATER ELEVATION (m ASL)	HYDRAULIC HEAD IN GROUND-WATER (m)	VERTICAL HYDRAULIC GRADIENT	CALCULATED GROUNDWATER FLUX TO CREEK (L/s/m2)	TEMPERATURE	
									GROUND-WATER (°C)	SURFACE WATER (°C)
DP19	26-Jan-06	0.84	0.88	306.69	306.65	0.04	0.02	2.68E-04	6.4	4.0
(con't)	15-Feb-06	0.87	0.97	306.66	306.56	0.10	0.05	6.70E-04	3.2	2.3
	30-Mar-06	0.78	0.91	306.75	306.62	0.13	0.06	8.71E-04	9.9	10.4
	27-Apr-06	0.74	0.87	306.79	306.66	0.13	0.06	8.71E-04	11.0	10.3
	28-Apr-06	0.83	0.96	306.70	306.57	0.13	0.06	8.71E-04	11.5	11.5
	15-May-06	0.85	0.99	306.68	306.54	0.14	0.07	9.38E-04	14.9	15.1
	15-Jun-06	0.93	1.03	306.60	306.50	0.10	0.05	6.70E-04	16.3	16.9
	15-Jul-06	0.90	1.03	306.63	306.50	0.13	0.06	8.71E-04	20.0	21.0
	24-Aug-06	1.02	1.06	306.51	306.47	0.04	0.02	2.68E-04	17.6	18.2
	15-Sep-06	0.71	0.83	306.82	306.70	0.12	0.06	8.04E-04	16.2	16.2
	15-Oct-06	0.69	0.75	306.84	306.78	0.06	0.03	4.02E-04	14.4	11.1
	15-Nov-06	0.84	0.90	306.69	306.63	0.06	0.03	4.02E-04	5.0	5.6
	07-Dec-06	0.71	0.90	(F) 306.82	306.63					1.4
	17-Jan-07	0.71	0.73	(F) 306.83	306.80					-0.2
	22-Feb-07	0.71	0.98	(F) 306.82	306.56					0.4
	30-Mar-07	0.63	0.85	(F) 306.9	306.68					1.8
	26-Apr-07	0.54	0.83	306.99	306.70	0.29	0.13	1.94E-03	9.3	10.1
	16-May-07	0.76	0.95	306.77	306.58	0.19	0.09	1.27E-03	14.6	15.5
	26-Jun-07	0.81		306.72					19.8	20.2
	25-Jul-07	0.94	1.06	306.59	306.47	0.12	0.06	8.04E-04	20.4	20.0
	07-Aug-07	0.95	1.03	306.58	306.50	0.08	0.04	5.36E-04		22.5
	21-Aug-07	1.01	1.07	306.52	306.46	0.06	0.03	4.02E-04	18.9	17.0
	21-Sep-07	1.09	1.07	306.44	306.46	-0.02	-0.01	-1.34E-04	17.0	19.2
	17-Oct-07	1.02	1.03	306.51	306.50	0.01	0.00	6.70E-05	13.1	11.7
	15-Nov-07	1.05		306.48						
	29-Nov-07	0.92	0.95	306.61	306.58	0.03	0.01	2.01E-04	3.8	2.7
	10-Dec-07	Frozen	0.99		306.54					0.7
	31-Jan-08	0.73	0.76	(F)306.80	306.77					0.3
	29-Feb-08	0.82	0.97	(F)306.71	306.56					0.0
	31-Mar-08	0.76	0.86	306.77	306.67	0.10	0.05	6.70E-04	4.6	2.9
	28-Apr-08	0.68	0.91	306.85	306.62	0.23	0.11	1.54E-03	10.6	11.5
	28-May-08	0.78	0.99	306.75	306.54	0.21	0.10	1.41E-03	12.3	16.4
	25-Jun-08	0.97	1.12	306.56	306.41	0.15	0.07	1.00E-03	15.8	21.4
	16-Jul-08	0.87	0.99	306.66	306.54	0.12	0.06	8.04E-04	16.1	20.9
	20-Aug-08	0.82	0.96	306.71	306.57	0.14	0.07	9.38E-04	16.2	18.6
	26-Aug-08	0.79	1.02	306.74	306.51	0.23	0.11	1.54E-03		19.5
	19-Sep-08	0.59	0.81	306.94	306.72	0.22	0.10	1.47E-03	14.7	16.1
	10-Oct-08	0.73	0.97	306.80	306.56	0.24	0.11	1.61E-03	11.4	10.3
	05-Nov-08	0.74	0.93	306.79	306.60	0.19	0.09	1.27E-03	11.8	9.4
	17-Dec-08	0.53	0.85	(F)307.00	306.68					1.3
	06-Jan-09	0.46	0.72	(F)307.07	306.81					0.2
	27-Feb-09		0.90		306.63				3.6	1.7
	11-Mar-09	0.55	0.55	306.98	306.98	0.00	0.00	0.00E+00	2.7	3.0
	14-Apr-09	0.59	0.87	306.94	306.66	0.28	0.13	1.88E-03	9.1	8.4
	21-May-09	0.61	0.92	306.92	306.61	0.31	0.14	2.08E-03	14.7	19.7
	16-Jun-09	0.65	0.97	306.88	306.56	0.32	0.15	2.14E-03	16.1	17.3
	31-Jul-09	0.64	0.96	306.89	306.57	0.32	0.15	2.14E-03	16.0	19.0
	25-Aug-09	0.61	0.86	306.92	306.67	0.25	0.12	1.67E-03	16.3	19.0
	28-Aug-09	0.63	0.91	306.90	306.62	0.28	0.13	1.88E-03	16.7	17.9
	28-Sep-09	0.72	0.94	306.81	306.59	0.22	0.10	1.47E-03	13.8	14.3
	14-Oct-09	0.62	0.94	306.91	306.59	0.32	0.15	2.14E-03	9.3	6.7
	11-Nov-09	0.61	0.86	306.92	306.67	0.25	0.12	1.67E-03	11.0	8.8
	11-Dec-09	0.63	0.91	306.90	306.62	0.28	0.13	1.88E-03	5.1	3.4
	16-Dec-09	0.66	0.90	(F)306.87	306.63					1.0
	13-Jan-10	0.69	0.97	(F)306.84	306.56					0.4
	11-Feb-10	0.60	0.94	(F)306.93	306.59					0.0
	11-Mar-10	0.85	0.92	306.68	306.61	0.07	0.03	4.69E-04	5.7	5.7
	16-Apr-10	0.73	0.97	306.80	306.56	0.24	0.11	1.61E-03	11.5	13.0
	21-May-10	0.86	1.00	306.67	306.53	0.14	0.07	9.38E-04	13.6	15.7
	17-Jun-10	0.78	0.92	306.75	306.61	0.14	0.07	9.38E-04	16.3	17.5
	15-Jul-10	0.95	1.03	306.58	306.50	0.08	0.04	5.36E-04	18.7	23.0
	18-Aug-10	1.03	1.04	306.50	306.49	0.01	0.00	6.70E-05	19.1	19.6
	31-Aug-10	1.00	1.04	306.53	306.49	0.04	0.02	2.68E-04	20.1	22.4
	28-Sep-10	0.89	0.92	306.64	306.61	0.03	0.01	2.01E-04	14.1	13.2
	20-Oct-10	0.96	0.99	306.57	306.54	0.03	0.01	2.01E-04	9.1	8.4
	18-Nov-10	0.88	0.88	306.65	306.65	0.00	0.00	0.00E+00	7.6	6.6
	08-Dec-10	Frozen	0.97		306.56					2.1
	22-Dec-10	0.98	0.99	(F)306.55	306.54					0.4

NOTES:
- m ASL — metres above sea level
- (F) — Frozen
- L/s/m² — Litres per second per square metre
- Depth of screen midpoint below the creek bed is 2.15 m
- Assumed vertical permeability is 1.50E-05 m/s

TABLE B-5
SUMMARY OF CREEK BASED DRIVE POINT DATA
MILL CREEK AGGREGATES PIT

MONITOR LOCATION	DATE	G.W. LEVEL BTOP (m)	S.W. LEVEL BTOP (m)	GROUND-WATER ELEVATION (m ASL)	SURFACE WATER ELEVATION (m ASL)	HYDRAULIC HEAD IN GROUND-WATER (m)	VERTICAL HYDRAULIC GRADIENT	CALCULATED GROUNDWATER FLUX TO CREEK (L/s/m2)	TEMPERATURE	
									GROUND-WATER (°C)	SURFACE WATER (°C)
	19-Jan-11	(F)0.97	0.87	(F)306.56	306.66					0.5
DP19	17-Feb-11	0.58	0.87	306.95	306.66	0.29	0.13	1.94E-03	4.4	2.2
(con't)	16-Mar-11	0.90	0.74	306.63	306.79	-0.16	-0.07	-1.07E-03	5.5	2.9
	13-Apr-11	0.89	0.92	306.64	306.61	0.03	0.01	2.01E-04	8.8	9.1
	21-Apr-11	0.71	0.79	306.82	306.74	0.08	0.04	5.36E-04	5.1	4.0
	26-May-11	0.59	0.81	306.94	306.72	0.22	0.10	1.47E-03	13.8	14.9
	16-Jun-11	0.78	0.98	306.75	306.55	0.20	0.09	1.34E-03	15.2	18.6
	14-Jul-11	0.87	1.03	306.66	306.50	0.16	0.07	1.07E-03	18.7	19.0
	11-Aug-11	0.97	1.07	306.56	306.46	0.10	0.05	6.70E-04	18.0	18.9
	17-Aug-11	0.98	1.05	306.55	306.48	0.07	0.03	4.69E-04	18.5	18.8
	14-Sep-11	1.03	1.05	306.50	306.48	0.02	0.01	1.34E-04	15.4	14.8
	27-Oct-11	0.82	0.87	306.71	306.66	0.05	0.02	3.35E-04	10.1	7.3
	14-Nov-11	0.91	0.90	306.62	306.63	-0.01	0.00	-6.70E-05	7.2	5.3
	14-Dec-11	Frozen	0.80		306.73					6.0
	22-Dec-11	0.79	0.87	306.74	306.66	0.08	0.04	5.36E-04	6.0	2.7
	16-Jan-12	Frozen	(F) 0.83							0.5
	16-Feb-12	0.91	0.97	306.62	306.56	0.06	0.03	4.02E-04	3.5	1.8
	29-Mar-12	0.97	0.81	306.56	306.72	-0.16	-0.07	-1.07E-03	6.3	4.8
	10-Apr-12	0.84	1.00	306.69	306.53	0.16	0.07	1.07E-03	7.8	6.1
	30-Apr-12	0.89	0.98	306.64	306.55	0.09	0.04	6.03E-04	7.9	7.7
	29-May-12	0.95	1.04	306.58	306.49	0.09	0.04	6.03E-04	15.2	17.5
	20-Jun-12	1.00	1.05	306.53	306.48	0.05	0.02	3.35E-04	20.6	22.9
	24-Jul-12	1.11	1.08	306.42	306.45	-0.03	-0.01	-2.01E-04	18.8	20.3
	08-Aug-12	1.21	1.07	306.32	306.46	-0.14	-0.07	-9.38E-04	19.9	20.2
	21-Aug-12	1.18	1.06	306.35	306.47	-0.12	-0.06	-8.04E-04		16.7
	18-Sep-12	1.02	1.20	306.51	306.33	0.18	0.08	1.21E-03	12.8	12.7
	23-Oct-12	0.93	0.85	306.60	306.68	-0.08	-0.04	-5.36E-04	11	10.3
	28-Nov-12	1.07	1.00	306.46	306.53	-0.07	-0.03	-4.69E-04	4.1	1.1
	06-Dec-12	1.00	0.94	306.53	306.59	-0.06	-0.03	-4.02E-04	5.6	1.7
	19-Dec-12	1.05	0.94	306.48	306.59	-0.11	-0.05	-7.37E-04	4.1	2.3
	16-Jan-13	0.91	0.94	306.62	306.59	0.03	0.01	2.01E-04	1.3	2.3
	20-Feb-13	(F)0.86	0.97		306.56					1.3
	21-Mar-13	(F)0.79	0.87		306.66					0.4
	04-Apr-13	1.05	0.89	306.48	306.64	-0.16	-0.07	-1.07E-03	1.7	4.3
	25-Apr-13	0.75	0.85	306.78	306.68	0.1	0.05	6.70E-04	7.9	7.2
	23-May-13	0.87	0.99	306.66	306.54	0.12	0.06	8.04E-04	15.4	19.1
	13-Jun-13	0.77	0.90	306.76	306.63	0.13	0.06	8.71E-04	15.0	17.7
	31-Jul-13	0.83	1.00	306.70	306.53	0.17	0.08	1.14E-03		19.2
	29-Aug-13	0.93	1.02	306.60	306.51	0.09	0.04	6.03E-04	20.0	21.6
	25-Sep-13	0.86	0.99	306.67	306.54	0.13	0.06	8.71E-04		16.7
	22-Oct-13	0.76	0.75	306.77	306.78	-0.01	0.00	-6.70E-05	9.2	7.7
	28-Nov-13	Frozen	0.94		306.59					0.4
	10-Dec-13	(F)0.89	0.91		306.62					1.0
	15-Jan-14	(F) 0.61	0.76		306.77					0.4
	26-Feb-14	(F) 0.71	0.76		306.77					0.7
	26-Mar-14	(F) 0.72	0.75		306.78					0.0
	01-Apr-14	0.69	0.74	306.84	306.79	0.05	0.02	3.35E-04	3.8	3.4
	15-May-14	0.59	0.80	306.94	306.73	0.21	0.10	1.41E-03	14.5	17.9
	18-Jun-14	0.89	0.99	306.64	306.54	0.1	0.05	6.70E-04	17.4	19.9
	29-Jul-14	0.59	0.81	306.94	306.72	0.22	0.10	1.47E-03	14.7	17.7
	25-Aug-14	0.84	0.97	306.69	306.56	0.13	0.06	8.71E-04	16.1	18.4
	18-Sep-14	0.61	0.86	306.92	306.67	0.25	0.12	1.67E-03	14.9	14.5
	17-Oct-14	0.72	0.88	306.81	306.65	0.16	0.07	1.07E-03	13.5	13.8
	27-Nov-14	Frozen	0.83		306.70					0.2
	15-Dec-14	0.97	0.92	306.56	306.61	-0.05	-0.02	-3.35E-04	8.3	4.1

NOTES:
- m ASL — metres above sea level
- (F) — Frozen
- L/s/m² — Litres per second per square metre
- Depth of screen midpoint below the creek bed is 2.15 m
- Assumed vertical permeability is 1.50E-05 m/s

TABLE B-5
SUMMARY OF CREEK BASED DRIVE POINT DATA
MILL CREEK AGGREGATES PIT

MONITOR LOCATION	DATE	G.W. LEVEL BTOP (m)	S.W. LEVEL BTOP (m)	GROUND-WATER ELEVATION (m ASL)	SURFACE WATER ELEVATION (m ASL)	HYDRAULIC HEAD IN GROUND-WATER (m)	VERTICAL HYDRAULIC GRADIENT	CALCULATED GROUNDWATER FLUX TO CREEK (L/s/m2)	TEMPERATURE	
									GROUND-WATER (°C)	SURFACE WATER (°C)
DP19	21-Jan-15	(F)	(F)							
(con't)	18-Feb-15	(F)	(F)							
	25-Mar-15	0.66	0.92	306.87	306.61	0.26	0.12	1.74E-03	3.8	2.1
	06-Apr-15	0.78	0.87	306.75	306.66	0.09	0.04	6.03E-04	5.4	6.6
	20-May-15	0.86	1.04	306.67	306.49	0.18	0.08	1.21E-03	13.0	12.0
	23-Jun-15	0.79	0.95	306.74	306.58	0.16	0.07	1.07E-03	16.1	17.8
	22-Jul-15	0.81	0.83	306.72	306.70	0.02	0.01	1.34E-04	17.4	19.0
	25-Aug-15	0.78	0.68	306.75	306.85	-0.10	-0.05	-6.70E-04	17.4	17.7
	24-Sep-15	0.80	0.59	306.73	306.94	-0.21	-0.10	-1.41E-03	15.8	15.4
	29-Oct-15	0.83	0.57	306.70	306.96	-0.26	-0.12	-1.74E-03	8.4	8.7
	25-Nov-15	0.88	0.52	306.65	307.01	-0.36	-0.17	-2.41E-03	7.0	4.6
	10-Dec-15	0.94	0.99	306.59	306.54	0.05	0.02	3.35E-04	9.8	5.5
	20-Jan-16	(F)	(F)							
	29-Feb-16	(F)	(F)							
	17-Mar-16	0.77	0.71	306.76	306.82	-0.06	-0.03	-4.02E-04	4.9	5.1
	30-Mar-16	0.67	0.68	306.86	306.85	0.01	0.00	6.70E-05	6.2	4.3
	27-Apr-16	0.78	0.89	306.75	306.64	0.11	0.05	7.37E-04	8.0	8.4
	30-May-16	0.81	0.98	306.72	306.55	0.17	0.08	1.14E-03	15.7	20.2
	27-Jun-16	0.91	1.06	306.62	306.47	0.15	0.07	1.00E-03	17.1	17.6
	28-Jul-16	0.94	1.07	306.59	306.46	0.13	0.06	8.71E-04	19.0	21.3
	11-Aug-16	1.06	0.80	306.47	306.73	-0.26	-0.12	-1.74E-03	20.4	20.7
	21-Sep-16	0.97	0.74	306.56	306.79	-0.23	-0.11	-1.54E-03	17.4	16.6
	18-Oct-16	0.99	0.62	306.54	306.91	-0.37	-0.17	-2.48E-03	15.8	16.6
	14-Nov-16	0.87	0.57	306.66	306.96	-0.30	-0.14	-2.01E-03	9.7	5.6
	14-Dec-16	(F)	0.72		306.81					0.7
	18-Jan-17	0.96	0.88	306.57	306.65	-0.08	-0.04	-5.36E-04	3.6	1.2
	15-Feb-17	0.90	0.93	306.63	306.60	0.03	0.01	2.01E-04	2.6	1.9
	17-Mar-17	0.76	0.74	306.77	306.79	-0.02	-0.01	-1.34E-04	6.0	0.8
	11-Apr-17	0.61	0.62	306.92	306.91	0.01	0.00	6.70E-05	7.4	7.5
	18-May-17	0.66	0.66	306.87	306.87	0.00	0.00	0.00E+00	13.7	16.2
	14-Jun-17	0.76	0.84	306.77	306.69	0.08	0.04	5.36E-04	17.8	19.2
	20-Jul-17	0.57	0.54	306.96	306.99	-0.03	-0.01	-2.01E-04	21.1	20.4
	09-Aug-17	0.63	0.54	306.90	306.99	-0.09	-0.04	-6.03E-04	18.3	18.0
	12-Sep-17	0.85	1.01	306.68	306.52	0.16	0.07	1.07E-03	17.7	15.5
	12-Oct-17	0.87	1.05	306.66	306.48	0.18	0.08	1.21E-03	13.6	12.1
	21-Nov-17	0.79	0.63	306.74	306.90	-0.16	-0.07	-1.07E-03	7.8	3.6
	19-Dec-17	0.90	0.95	306.63	306.58	0.05	0.02	3.35E-04		2.2
	16-Jan-18	(F)	(F)							
	26-Feb-18	0.75	0.74	306.78	306.79	-0.01	0.00	-6.70E-05	3.5	2.5
	26-Mar-18	0.93	0.99	306.60	306.54	0.06	0.03	4.02E-04	5.3	2.5
	24-Apr-18	0.53	0.76	307.00	306.77	0.23	0.11	1.54E-03	7.2	8.4
	18-May-18	0.75	0.92	306.78	306.61	0.17	0.08	1.14E-03	13.5	15.0
	12-Jun-18	0.70	0.96	306.83	306.57	0.26	0.12	1.74E-03	13.7	15.6
	27-Jul-18	0.97	1.01	306.56	306.52	0.04	0.02	2.68E-04	18.0	19.8
	22-Aug-18	0.93	0.95	306.60	306.58	0.02	0.01	1.34E-04	18.3	19.7
	12-Sep-18	1.00	0.98	306.53	306.55	-0.02	-0.01	-1.34E-04	16.4	15.2
	30-Oct-18	1.11	0.97	306.42	306.56	-0.14	-0.07	-9.38E-04	8.4	4.2
	21-Nov-18	1.05	0.95	306.48	306.58	-0.1	-0.05	-6.70E-04	6.7	1.5
	20-Dec-18	1.00	0.96	306.53	306.57	-0.04	-0.02	-2.68E-04	5.2	2.0
2018 AVERAGE VALUES						0.04	0.02	2.86E-04	10.6	9.7
OVERALL AVERAGE VALUES						-0.05	-0.02	-3.07E-04	11.2	10.7

NOTES:
- m ASL — metres above sea level
- (F) — Frozen
- L/s/m² — Litres per second per square metre
- Depth of screen midpoint below the creek bed is 2.15 m
- Assumed vertical permeability is 1.50E-05 m/s

TABLE B-5
SUMMARY OF CREEK BASED DRIVE POINT DATA
MILL CREEK AGGREGATES PIT

MONITOR LOCATION	DATE	G.W. LEVEL BTOP (m)	S.W. LEVEL BTOP (m)	GROUND-WATER ELEVATION (m ASL)	SURFACE WATER ELEVATION (m ASL)	HYDRAULIC HEAD IN GROUND-WATER (m)	VERTICAL HYDRAULIC GRADIENT	CALCULATED GROUNDWATER FLUX TO CREEK (L/s/m2)	TEMPERATURE	
									GROUND-WATER (°C)	SURFACE WATER (°C)
DP20	12-May-93	0.71	0.87	306.43	306.27	0.16	0.07	9.03E-04		
	23-Jun-93	0.66	0.85	306.48	306.29	0.19	0.09	1.07E-03	11.0	16.5
	14-Jul-93	0.78	0.87	306.36	306.27	0.09	0.04	5.08E-04	13.1	20.3
	18-Aug-93	0.84	0.91	306.30	306.23	0.07	0.03	3.95E-04	13.9	23.1
	20-Sep-93	0.89	0.93	306.25	306.21	0.04	0.02	2.26E-04	13.5	11.6
	19-Oct-93	0.65	0.86	306.49	306.28	0.21	0.10	1.18E-03	10.5	10.0
	17-Nov-93	0.83	0.91	306.31	306.23	0.08	0.04	4.51E-04	8.5	5.6
	06-Dec-93	0.66	0.86	306.48	306.28	0.20	0.09	1.13E-03	7.4	3.2
	18-Jan-94	(F) 0.78	(F) 0.78	(F) 306.36	(F) 306.36					
	24-Feb-94	0.67	0.85	306.47	306.29	0.18	0.08	1.02E-03	5.0	1.0
	24-Mar-94	0.53	0.78	306.61	306.36	0.25	0.11	1.41E-03	5.1	2.7
	19-Apr-94	0.69	0.87	306.45	306.27	0.18	0.08	1.02E-03	5.0	8.0
	24-May-94	0.76	0.90	306.38	306.24	0.14	0.06	7.90E-04	8.0	17.0
	23-Jun-94	0.94	0.96	306.20	306.18	0.02	0.01	1.13E-04	11.0	19.0
	19-Jul-94	0.97	0.97	306.17	306.17	0.00	0.00	0.00E+00	11.0	19.0
	25-Aug-94	0.95	0.96	306.19	306.18	0.01	0.00	5.64E-05	13.0	21.0
	21-Sep-94	1.02	0.97	306.12	306.17	-0.05	-0.02	-2.82E-04	11.0	15.0
	18-Oct-94	1.00	0.92	306.14	306.22	-0.08	-0.04	-4.51E-04	8.0	9.0
	23-Nov-94	0.85	0.91	306.29	306.23	0.06	0.03	3.39E-04	9.0	3.0
	21-Dec-94	0.76	0.90	306.38	306.24	0.14	0.06	7.90E-04	7.0	3.0
	24-Jan-95	(F)0.33	0.72	(F)306.81	306.42					3.0
	15-Feb-95	0.79	0.86	306.35	306.28	0.07	0.03	3.95E-04	7.0	1.0
	23-Mar-95	0.63	0.85	306.51	306.29	0.22	0.10	1.24E-03	3.0	4.5
	17-May-95	0.68	0.89	306.46	306.25	0.21	0.10	1.18E-03	11.0	14.0
	13-Jun-95	0.82	0.92	306.32	306.22	0.10	0.05	5.64E-04	11.0	13.0
	20-Jul-95	0.98	0.95	306.16	306.19	-0.03	-0.01	-1.69E-04	14.0	20.0
	15-Aug-95	0.84	0.89	306.30	306.25	0.05	0.02	2.82E-04	14.0	19.0
	18-Oct-95	0.92	0.92	306.22	306.22	0.00	0.00	0.00E+00	12.5	8.5
	22-Nov-95	0.73	0.88	306.41	306.26	0.15	0.07	8.46E-04	7.5	2.0
	26-Mar-96	0.50	0.78	(F) 306.64	306.36					1.0
	31-May-96	0.63	0.86	306.51	306.28	0.23	0.11	1.30E-03	11.0	20.0
	28-Jun-96	0.65	0.88	306.49	306.26	0.23	0.11	1.30E-03	14.0	20.0
	31-Jul-96	0.66	0.88	306.48	306.26	0.22	0.10	1.24E-03	14.0	21.0
	30-Aug-96	0.84	0.93	306.30	306.21	0.09	0.04	5.08E-04	15.0	18.0
	27-Sep-96	0.60	0.86	306.54	306.28	0.26	0.12	1.47E-03	14.0	14.0
	06-Nov-96	0.66	0.86	306.48	306.28	0.20	0.09	1.13E-03	9.0	6.0
	31-Mar-97	0.36	0.63	306.78	306.51	0.27	0.12	1.52E-03	4.0	3.0
	30-Apr-97	0.57	0.86	306.57	306.28	0.29	0.13	1.64E-03	7.0	13.5
	26-May-97	0.60	0.86	306.54	306.28	0.26	0.12	1.47E-03	9.0	16.0
	27-Jun-97	0.66	0.92	306.48	306.22	0.26	0.12	1.47E-03	12.0	21.0
	30-Jul-97	0.84	0.94	306.30	306.20	0.10	0.05	5.64E-04	14.0	19.0
	31-Aug-97	0.78	0.93	306.36	306.21	0.15	0.07	8.46E-04	14.0	17.0
	03-Oct-97	0.83	0.92	306.31	306.22	0.09	0.04	5.08E-04	13.5	11.0
	06-Nov-97	0.62	0.85	306.52	306.29	0.23	0.11	1.30E-03	10.0	7.5
	12-Dec-97	0.70	0.91	(F) 306.44	306.23					1.0
	27-Mar-98	0.45	0.81	306.69	306.33	0.36	0.17	2.03E-03	3.5	5.0
	30-Apr-98	0.74	0.91	306.40	306.23	0.17	0.08	9.59E-04	5.3	13.5
	31-May-98	0.88	0.95	306.26	306.19	0.07	0.03	3.95E-04	11.5	16.0
	30-Jun-98	0.88	0.93	306.26	306.21	0.05	0.02	2.82E-04	15.0	20.0
	31-Jul-98	1.02	0.97	306.12	306.17	-0.05	-0.02	-2.82E-04	16.0	22.0
	30-Sep-98	1.14	0.92	306.00	306.22	-0.22	-0.10	-1.24E-03	14.0	14.0
	27-Nov-98	1.06	0.93	306.08	306.21	-0.13	-0.06	-7.33E-04	8.0	5.5
	31-Mar-99	0.81	0.85	306.33	306.29	0.04	0.02	2.26E-04	7.0	6.0
	20-May-99	1.09	0.96	306.05	306.18	-0.13	-0.06	-7.33E-04	10.8	12.6
	29-Jun-99	1.17	0.96	305.97	306.18	-0.21	-0.10	-1.18E-03	14.0	17.0
	16-Jul-99	1.29	1.05	305.85	306.09	-0.24	-0.11	-1.35E-03		21.5
	11-Aug-99	1.33	0.99	305.81	306.15	-0.34	-0.16	-1.92E-03	17.4	18.4
	09-Sep-99	1.21	0.93	305.93	306.21	-0.28	-0.13	-1.58E-03	17.4	19.8
	09-Nov-99	1.08	0.91	306.06	306.23	-0.17	-0.08	-9.59E-04	10.7	7.1
	01-Mar-00	0.84	0.88	306.30	306.26	0.04	0.02	2.26E-04	3.5	3.0
	18-May-00	0.66	0.78	306.48	306.36	0.12	0.06	6.77E-04	10.0	13.0
	15-Jun-00	0.59	0.74	306.55	306.40	0.15	0.07	8.46E-04	11.0	18.0
	06-Jul-00	0.83	0.94	306.31	306.20	0.11	0.05	6.21E-04	13.1	17.6
	08-Aug-00	0.85	0.94	306.29	306.20	0.09	0.04	5.08E-04	14.9	20.0
	13-Sep-00	1.03	0.96	306.11	306.18	-0.07	-0.03	-3.95E-04	14.4	16.7
	26-Sep-00	0.99	0.94	306.15	306.20	-0.05	-0.02	-2.82E-04		
	10-Oct-00	1.00	0.96	306.14	306.18	-0.04	-0.02	-2.26E-04	10.0	10.1
	08-Nov-00	1.14	0.96	306.00	306.18	-0.18	-0.08	-1.02E-03	10.6	9.6
	14-Nov-00	1.02	0.91	306.12	306.23	-0.11	-0.05	-6.21E-04		
	11-Dec-00	1.08	0.94	306.06	306.20	-0.14	-0.06	-7.90E-04	4.7	0.6
	11-Jan-01	1.06	0.95	306.08	306.19	-0.11	-0.05	-6.21E-04	2.5	1.0
	09-Feb-01	0.91	0.94	306.23	306.20	0.03	0.01	1.69E-04	4.4	1.9
	13-Mar-01	0.72	0.90	306.42	306.24	0.18	0.08	1.02E-03	3.8	1.9
	10-Apr-01	0.62	0.78	306.52	306.36	0.16	0.07	9.03E-04	5.3	4.5
	04-May-01	0.81	0.95	306.33	306.19	0.14	0.06	7.90E-04	9.8	16.9
	07-Jun-01	0.81	0.93	306.33	306.21	0.12	0.06	6.77E-04	5.0	8.0
	25-Jun-01	0.97	0.95	306.17	306.19	-0.02	-0.01	-1.13E-04		
	28-Jun-01	0.99	0.96	306.15	306.18	-0.03	-0.01	-1.69E-04		
	03-Jul-01	1.02	0.98	306.12	306.16	-0.04	-0.02	-2.26E-04		
	05-Jul-01	1.03	0.98	306.11	306.16	-0.05	-0.02	-2.82E-04		
	09-Jul-01	1.04	0.98	306.10	306.16	-0.06	-0.03	-3.39E-04		
	12-Jul-01	1.04	0.98	306.10	306.16	-0.06	-0.03	-3.39E-04	14.2	17.2
	16-Jul-01	1.06	0.98	306.08	306.16	-0.08	-0.04	-4.51E-04		
	19-Jul-01	1.06	0.98	306.08	306.16	-0.08	-0.04	-4.51E-04		
	23-Jul-01	1.08	0.98	306.06	306.16	-0.10	-0.05	-5.64E-04		
	26-Jul-01	1.08	0.98	306.06	306.16	-0.10	-0.05	-5.64E-04		

NOTES:
· m ASL metres above sea level
· (F) Frozen
· L/s/m² Litres per second per square metre
· Depth of screen midpoint below the creek bed is 2.18 m
· Assumed vertical permeability is 1.20E-05 m/s

TABLE B-5
SUMMARY OF CREEK BASED DRIVE POINT DATA
MILL CREEK AGGREGATES PIT

MONITOR LOCATION	DATE	G.W. LEVEL BTOP (m)	S.W. LEVEL BTOP (m)	GROUND-WATER ELEVATION (m ASL)	SURFACE WATER ELEVATION (m ASL)	HYDRAULIC HEAD IN GROUND-WATER (m)	VERTICAL HYDRAULIC GRADIENT	CALCULATED GROUNDWATER FLUX TO CREEK (L/s/m2)	TEMPERATURE GROUND-WATER (°C)	TEMPERATURE SURFACE WATER (°C)
	30-Jul-01	1.10	0.99	306.04	306.15	-0.11	-0.05	-6.21E-04		
DP20	02-Aug-01	1.12	1.00	306.02	306.14	-0.12	-0.06	-6.77E-04	17.1	21.7
(con't)	07-Aug-01	1.14	1.00	306.00	306.14	-0.14	-0.06	-7.90E-04		
	09-Aug-01	1.14	1.00	306.00	306.14	-0.14	-0.06	-7.90E-04		
	13-Aug-01	1.20	1.00	305.94	306.14	-0.20	-0.09	-1.13E-03		
	16-Aug-01	1.19	1.00	305.95	306.14	-0.19	-0.09	-1.07E-03		
	20-Aug-01	1.11	0.94	306.03	306.20	-0.17	-0.08	-9.59E-04		
	23-Aug-01	1.13	0.97	306.01	306.17	-0.16	-0.07	-9.03E-04		
	27-Aug-01	1.17	0.99	305.97	306.15	-0.18	-0.08	-1.02E-03		
	30-Aug-01	1.16	0.98	305.98	306.16	-0.18	-0.08	-1.02E-03		
	04-Sep-01	1.18	0.97	305.96	306.17	-0.21	-0.10	-1.18E-03	16.3	17.8
	06-Sep-01	1.17	0.99	305.97	306.15	-0.18	-0.08	-1.02E-03		
	10-Sep-01	1.19	0.99	305.95	306.15	-0.20	-0.09	-1.13E-03		
	13-Sep-01	1.20	0.99	305.94	306.15	-0.21	-0.10	-1.18E-03		
	17-Sep-01	1.22	0.99	305.92	306.15	-0.23	-0.11	-1.30E-03		
	20-Sep-01	1.19	0.98	305.95	306.16	-0.21	-0.10	-1.18E-03		
	24-Sep-01	1.14	0.96	306.00	306.18	-0.18	-0.08	-1.02E-03		
	27-Sep-01	1.13	0.94	306.01	306.20	-0.19	-0.09	-1.07E-03		
	01-Oct-01	1.16	0.96	305.98	306.18	-0.20	-0.09	-1.13E-03	12.6	11.2
	04-Oct-01	1.19	0.98	305.95	306.16	-0.21	-0.10	-1.18E-03		
	09-Oct-01	1.06	0.93	306.08	306.21	-0.13	-0.06	-7.33E-04		
	11-Oct-01	1.09	0.94	306.05	306.20	-0.15	-0.07	-8.46E-04		
	15-Oct-01	0.99	0.89	306.15	306.25	-0.10	-0.05	-5.64E-04		
	19-Oct-01	0.96	0.91	306.18	306.23	-0.05	-0.02	-2.82E-04		
	22-Oct-01	1.00	0.94	306.14	306.20	-0.06	-0.03	-3.39E-04		
	26-Oct-01	0.99	0.91	306.15	306.23	-0.08	-0.04	-4.51E-04		
	29-Oct-01	0.99	0.93	306.15	306.21	-0.06	-0.03	-3.39E-04		
	01-Nov-01	1.01	0.93	306.13	306.21	-0.08	-0.04	-4.51E-04		
	05-Nov-01	0.95	0.91	306.19	306.23	-0.04	-0.02	-2.26E-04	9.7	7.1
	08-Nov-01	0.98	0.93	306.16	306.21	-0.05	-0.02	-2.82E-04		
	12-Nov-01	1.02	0.94	306.12	306.20	-0.08	-0.04	-4.51E-04		
	15-Nov-01	1.01	0.92	306.13	306.22	-0.09	-0.04	-5.08E-04		
	19-Nov-01	1.02	0.94	306.12	306.20	-0.08	-0.04	-4.51E-04		
	22-Nov-01	1.03	0.94	306.11	306.20	-0.09	-0.04	-5.08E-04		
	26-Nov-01	0.93	0.90	306.21	306.24	-0.03	-0.01	-1.69E-04		
	29-Nov-01	0.92	0.90	306.22	306.24	-0.02	-0.01	-1.13E-04		
	03-Dec-01	0.82	0.87	306.32	306.27	0.05	0.02	2.82E-04		
	06-Dec-01	0.89	0.90	306.25	306.24	0.01	0.00	5.64E-05	8.3	7.6
	10-Dec-01	0.94	0.93	306.20	306.21	-0.01	0.00	-5.64E-05		
	13-Dec-01	0.93	0.92	306.21	306.22	-0.01	0.00	-5.64E-05		
	17-Dec-01	0.86	0.91	306.28	306.23	0.05	0.02	2.82E-04		
	20-Dec-01	0.81	0.86	306.33	306.28	0.05	0.02	2.82E-04		
	02-Jan-02	F	0.84	(F)	306.30					
	07-Jan-02	F	0.84	(F)	306.30					
	10-Jan-02	0.93	0.95	306.21	306.19	0.02	0.01	1.13E-04		
	14-Jan-02	0.97	0.97	306.17	306.17	0.00	0.00	0.00E+00		
	17-Jan-02	0.97	0.94	306.17	306.20	-0.03	-0.01	-1.69E-04		
	21-Jan-02	0.93	0.93	(F)	(F)					
	24-Jan-02	0.87	0.91	306.27	306.23	0.04	0.02	2.26E-04		
	28-Jan-02	0.87	0.91	306.27	306.23	0.04	0.02	2.26E-04		
	01-Feb-02	0.77	0.89	306.37	306.25	0.12	0.06	6.77E-04		
	04-Feb-02	0.85	0.92	306.29	306.22	0.07	0.03	3.95E-04		
	07-Feb-02	0.89	0.92	306.25	306.22	0.03	0.01	1.69E-04		0.1
	11-Feb-02	0.86	0.84	306.28	306.30	-0.02	-0.01	-1.13E-04		
	15-Feb-02	0.90	0.99	306.24	306.15	0.09	0.04	5.08E-04		
	18-Feb-02	0.90	0.80	(F)	(F)					
	21-Feb-02	0.86	0.88	306.28	306.26	0.02	0.01	1.13E-04		
	25-Feb-02	0.95	0.90	306.19	306.24	-0.05	-0.02	-2.82E-04		
	05-Mar-02	0.90	0.88	(F)	(F)					
	07-Mar-02	1.00	1.10	306.14	306.04	0.10	0.05	5.64E-04	3.8	2.1
	11-Mar-02	0.88	1.06	(F)	306.08					
	15-Mar-02	1.12	1.09	306.02	306.05	-0.03	-0.01	-1.69E-04		
	19-Mar-02	0.81	0.93	306.33	306.21	0.12	0.06	6.77E-04		
	21-Mar-02	0.73	0.91	306.41	306.23	0.18	0.08	1.02E-03		
	26-Mar-02	0.75	0.94	306.39	306.20	0.19	0.09	1.07E-03		
	28-Mar-02	0.82	0.93	306.32	306.21	0.11	0.05	6.21E-04		
	01-Apr-02	0.73	0.89	306.41	306.25	0.16	0.07	9.03E-04		
	05-Apr-02	0.70	0.86	306.44	306.28	0.16	0.07	9.03E-04		
	07-Apr-02	0.75	0.92	306.39	306.22	0.17	0.08	9.59E-04	6.4	5.3
	11-Apr-02	0.66	0.81	306.48	306.33	0.15	0.07	8.46E-04		
	17-Apr-02	0.7	0.83	306.44	306.31	0.13	0.06	7.33E-04		
	19-Apr-02	0.69	0.85	306.45	306.29	0.16	0.07	9.03E-04		
	23-Apr-02	0.77	0.98	306.37	306.16	0.21	0.10	1.18E-03		
	29-Apr-02	0.70	0.92	306.44	306.22	0.22	0.10	1.24E-03		
	06-May-02	0.76	0.88	306.38	306.26	0.12	0.05	6.56E-04	10.9	15.8
	10-May-02	0.79	0.88	306.35	306.26	0.09	0.04	5.08E-04		
	14-May-02	0.69	0.83	306.45	306.31	0.14	0.06	7.90E-04		
	17-May-02	0.70	0.71	306.44	306.43	0.01	0.00	5.64E-05		
	21-May-02	0.86	0.86	306.28	306.28	0.00	0.00	0.00E+00		

NOTES:
- m ASL — metres above sea level
- (F) — Frozen
- L/s/m² — Litres per second per square metre
- Depth of screen midpoint below the creek bed is 2.18 m
- Assumed vertical permeability is 1.20E-05 m/s

TABLE B-5
SUMMARY OF CREEK BASED DRIVE POINT DATA
MILL CREEK AGGREGATES PIT

MONITOR LOCATION	DATE	G.W. LEVEL BTOP (m)	S.W. LEVEL BTOP (m)	GROUND-WATER ELEVATION (m ASL)	SURFACE WATER ELEVATION (m ASL)	HYDRAULIC HEAD IN GROUND-WATER (m)	VERTICAL HYDRAULIC GRADIENT	CALCULATED GROUNDWATER FLUX TO CREEK (L/s/m2)	TEMPERATURE	
									GROUND-WATER (°C)	SURFACE WATER (°C)
	24-May-02	0.81	0.91	306.33	306.23	0.10	0.05	5.64E-04		
DP20	27-May-02	0.85	0.86	306.29	306.28	0.01	0.00	5.64E-05		
(con't)	31-May-02	0.86	0.94	306.28	306.20	0.08	0.04	4.51E-04		
	04-Jun-02	0.88	0.96	306.26	306.18	0.08	0.04	4.51E-04		
	07-Jun-02	0.93	0.98	306.21	306.16	0.05	0.02	2.82E-04		
	11-Jun-02	0.95	1.00	306.19	306.14	0.05	0.02	2.82E-04		
	14-Jun-02	0.94	0.96	306.20	306.18	0.02	0.01	1.13E-04	17.4	17.6
	18-Jun-02	0.98	1.00	306.16	306.14	0.02	0.01	1.13E-04		
	21-Jun-02	1.02	1.04	306.12	306.10	0.02	0.01	1.13E-04		
	25-Jun-02	0.96	0.98	306.18	306.16	0.02	0.01	1.13E-04		
	02-Jul-02	0.98	1.00	306.16	306.14	0.02	0.01	1.13E-04		
	08-Jul-02	0.99	1.02	306.15	306.12	0.03	0.01	1.69E-04		
	11-Jul-02	1.04	0.98	306.10	306.16	-0.06	-0.03	-3.39E-04	16.3	19.6
	15-Jul-02	1.10	1.08	306.04	306.06	-0.02	-0.01	-1.13E-04		
	18-Jul-02	1.10	1.08	306.04	306.06	-0.02	-0.01	-1.13E-04		
	23-Jul-02	1.11	1.06	306.03	306.08	-0.05	-0.02	-2.82E-04		
	26-Jul-02	1.10	1.07	306.04	306.07	-0.03	-0.01	-1.69E-04		
	30-Jul-02	1.07	1.05	306.07	306.09	-0.02	-0.01	-1.13E-04		
	05-Aug-02	1.14	1.01	306.00	306.13	-0.13	-0.06	-7.33E-04		
	09-Aug-02	1.15	1.00	305.99	306.14	-0.15	-0.07	-8.46E-04	14.6	17.0
	16-Aug-02	1.20	1.01	305.94	306.13	-0.19	-0.09	-1.07E-03		
	21-Aug-02	1.22	1.00	305.92	306.14	-0.22	-0.10	-1.24E-03		
	23-Aug-02	1.22	1.00	305.92	306.14	-0.22	-0.10	-1.24E-03		
	28-Aug-02	1.23	1.00	305.91	306.14	-0.23	-0.11	-1.30E-03		
	30-Aug-02	1.23	1.01	305.91	306.13	-0.22	-0.10	-1.24E-03		
	04-Sep-02	1.24	1.02	305.90	306.12	-0.22	-0.10	-1.24E-03	17.0	17.3
	17-Sep-02	1.20	1.01	305.94	306.13	-0.19	-0.09	-1.07E-03		
	02-Oct-02	1.16	0.98	305.98	306.16	-0.18	-0.08	-1.02E-03		
	11-Oct-02	1.18	0.98	305.96	306.16	-0.20	-0.09	-1.13E-03	13.9	11.8
	18-Oct-02	1.18	0.99	305.96	306.15	-0.19	-0.09	-1.07E-03		
	21-Nov-02	1.10	0.95	306.04	306.19	-0.15	-0.07	-8.46E-04	6.5	4.0
	13-Dec-02	1.08	0.90	306.06	(F)				5.7	
	09-Jan-03	1.08	0.90	306.06	306.24	-0.18	-0.08	-1.02E-03	2.6	0.1
	10-Feb-03	1.10	0.95	(F)	(F)					
	13-Mar-03	1.10	0.95	(F)	(F)					
	10-Apr-03	0.79	0.88	306.35	306.26	0.09	0.04	5.08E-04	5.0	12.0
	07-May-03	0.72	0.88	306.42	306.26	0.16	0.07	9.03E-04	7.9	10.6
	15-May-03	0.88	0.97	306.26	306.17	0.09	0.04	5.08E-04	7.0	10.0
	16-Jun-03	1.07	1.05	306.07	306.09	-0.02	-0.01	-1.13E-04	10.0	13.0
	17-Jul-03	1.07	1.00	306.07	306.14	-0.07	-0.03	-3.95E-04	12.0	14.0
	21-Aug-03	1.16	1.00	305.98	306.14	-0.16	-0.07	-9.03E-04	16.1	17.8
	26-Aug-03	1.07	0.90	306.07	306.24	-0.17	-0.08	-9.59E-04	16.6	19.8
	25-Sep-03	1.06	0.96	306.08	306.18	-0.10	-0.05	-5.64E-04	11.6	8.0
	27-Oct-03	0.91	0.94	306.23	306.20	0.03	0.01	1.69E-04	10.6	7.6
	01-Dec-03	0.80	0.81	306.34	306.33	0.01	0.00	5.64E-05	6.0	2.0
	11-Dec-03	0.84	0.86	306.30	306.28	0.02	0.01	1.13E-04	5.9	2.8
	15-Dec-03	0.80	0.81	306.27	306.22	0.05	0.02	2.82E-04		1.0
	19-Jan-04	0.76	0.78	(F)306.38	(F)306.36					
	18-Feb-04	0.70	0.75	(F)306.44	(F)306.39					
	25-Mar-04	0.61	0.88	306.53	306.26	0.27	0.12	1.52E-03	5.7	4.6
	07-Apr-04	0.56	0.85	306.58	306.29	0.29	0.13	1.64E-03	4.8	2.7
	22-Apr-04	0.50	0.79	306.64	306.35	0.29	0.13	1.64E-03	8.7	10.1
	20-May-04	0.59	0.92	306.55	306.22	0.33	0.15	1.86E-03	9.8	11.9
	24-Jun-04	0.64	0.92	306.50	306.22	0.28	0.13	1.58E-03	13.0	18.5
	23-Jul-04	0.74	0.94	306.40	306.20	0.20	0.09	1.13E-03	15.0	19.0
	04-Aug-04	0.74	0.94	306.40	306.20	0.20	0.09	1.13E-03	16.0	20.0
	27-Aug-04	0.83	0.95	306.31	306.19	0.12	0.06	6.77E-04	15.5	20.4
	28-Sep-04	0.89	0.95	306.25	306.19	0.06	0.03	3.39E-04	9.1	11.9
	18-Oct-04	0.88	0.93	306.26	306.21	0.05	0.02	2.82E-04	7.8	6.5
	16-Nov-04	0.87	0.95	306.27	306.19	0.08	0.04	4.51E-04	6.5	5.2
	15-Dec-04	0.68	0.92	(F)306.46	306.22					2.1
	16-Dec-04	0.83	0.93	(F)306.31	306.21					1.3
	20-Jan-05	0.53	0.84	(F)306.61	306.30					0.4
	25-Feb-05	0.63	0.75	(F)306.51	306.39					0.2
	24-Mar-05	0.62	0.91	306.52	306.23	0.29	0.13	1.64E-03	3.4	1.7
	18-Apr-05	0.57	0.90	306.57	306.24	0.33	0.15	1.86E-03	8.3	9.9
	29-Apr-05	0.51	0.80	306.63	306.34	0.29	0.13	1.64E-03	8.6	10.1
	26-May-05	0.62	0.95	306.52	306.19	0.33	0.15	1.86E-03	8.2	14.3
	23-Jun-05	0.68	0.96	306.46	306.18	0.28	0.13	1.58E-03	14.4	19.4
	25-Jul-05	0.69	0.98	306.45	306.16	0.29	0.13	1.64E-03	13.2	20.1
	17-Aug-05	0.76	0.99	306.38	306.15	0.23	0.11	1.30E-03	16.2	17.8
	25-Aug-05	0.75	1.03	306.39	306.11	0.28	0.13	1.58E-03	13.4	19.3
	30-Sep-05	0.73	0.93	306.41	306.21	0.20	0.09	1.13E-03	13.6	14.1
	27-Oct-05	0.75	0.95	306.39	306.19	0.20	0.09	1.13E-03	8.0	8.9
	28-Nov-05	0.80	0.92	306.34	306.22	0.12	0.06	6.77E-04	7.2	3.8
	07-Dec-05	0.49	0.78	(F)306.65	(F)306.36					
	19-Dec-05	0.64	0.85	(F)306.5	(F)306.29					

NOTES:
- m ASL — metres above sea level
- (F) — Frozen
- L/s/m² — Litres per second per square metre
- Depth of screen midpoint below the creek bed is 2.18 m
- Assumed vertical permeability is 1.20E-05 m/s

TABLE B-5
SUMMARY OF CREEK BASED DRIVE POINT DATA
MILL CREEK AGGREGATES PIT

MONITOR LOCATION	DATE	G.W. LEVEL BTOP (m)	S.W. LEVEL BTOP (m)	GROUND-WATER ELEVATION (m ASL)	SURFACE WATER ELEVATION (m ASL)	HYDRAULIC HEAD IN GROUND-WATER (m)	VERTICAL HYDRAULIC GRADIENT	CALCULATED GROUNDWATER FLUX TO CREEK (L/s/m2)	TEMPERATURE	
									GROUND-WATER (°C)	SURFACE WATER (°C)
	26-Jan-06	0.58	0.87	306.56	306.27	0.29	0.13	1.64E-03	3.4	4.2
DP20	30-Mar-06	0.56	0.93	306.58	306.21	0.37	0.17	2.09E-03	7.9	10.0
(con't)	27-Apr-06	0.48	0.87	306.66	306.27	0.39	0.18	2.20E-03	10.4	10.3
	28-Apr-06	0.55	0.92	306.59	306.22	0.37	0.17	2.09E-03	11.5	11.8
	15-May-06	0.60	0.93	306.54	306.21	0.33	0.15	1.86E-03	14.2	15.2
	15-Jun-06	0.67	0.96	306.47	306.18	0.29	0.13	1.64E-03	16.6	16.9
	15-Jul-06	0.58	0.87	306.56	306.27	0.29	0.13	1.64E-03	18.9	21.1
	24-Aug-06	0.76	0.98	306.38	306.16	0.22	0.10	1.24E-03	18.0	18.2
	15-Sep-06	0.54	0.82	306.60	306.32	0.28	0.13	1.58E-03	15.5	16.3
	15-Oct-06	0.51	0.74	306.63	306.40	0.23	0.11	1.30E-03	11.8	11.1
	15-Nov-06	0.62	0.83	306.52	306.31	0.21	0.10	1.18E-03	5.0	4.4
	07-Dec-06	0.47	0.87	(F) 306.67	306.27					1.2
	17-Jan-07	0.49	0.79	(F)306.65	306.35					-0.1
	22-Feb-07	0.50	0.90	(F)306.64	306.24					0.3
	30-Mar-07	0.45		(F)306.69						1.8
	26-Apr-07	0.39	0.79	306.75	306.35	0.40	0.18	2.26E-03	8.9	10.2
	16-May-07	0.45	0.91	306.69	306.33	0.36	0.17	2.03E-03	12.4	15.4
	26-Jun-07	0.63		306.51					17.2	20.4
	25-Jul-07	0.70		306.44					16.7	
	07-Aug-07	0.71	0.96	306.43	306.18	0.25	0.11	1.41E-03		22.8
	21-Aug-07	0.70	0.98	306.44	306.16	0.28	0.13	1.58E-03	17.4	17.5
	21-Sep-07	0.77	0.98	306.37	306.16	0.21	0.10	1.18E-03	16.4	18.8
	17-Oct-07	0.71	0.95	306.43	306.19	0.24	0.11	1.35E-03	13.2	11.7
	15-Nov-07	0.75		306.39						
	29-Nov-07	0.65	0.89	306.49	306.25	0.24	0.11	1.35E-03	3.7	2.6
	10-Dec-07	Frozen	0.90		306.24					0.9
	31-Jan-08	0.51	0.70	(F) 306.63	306.44					0.3
	29-Feb-08	0.58	0.88	(F)306.56	306.26					0.0
	31-Mar-08	0.54	0.83	306.60	306.31	0.29	0.13	1.64E-03	4.4	2.8
	28-Apr-08	0.40	0.86	306.74	306.28	0.46	0.21	2.60E-03	10.2	11.1
	28-May-08	0.72	0.95	306.42	306.19	0.23	0.11	1.30E-03	12.7	16.3
	25-Jun-08	0.73	0.93	306.41	306.21	0.20	0.09	1.13E-03	16.3	21.6
	16-Jul-08	0.68	0.90	306.46	306.24	0.22	0.10	1.24E-03	15.8	21.1
	20-Aug-08	0.45	0.88	306.69	306.26	0.43	0.20	2.43E-03	16.4	18.4
	26-Aug-08	0.56	0.95	306.58	306.19	0.39	0.18	2.20E-03	16.0	17.1
	19-Sep-08	0.41	0.81	306.73	306.33	0.40	0.18	2.26E-03	14.4	16.1
	10-Oct-08	0.47	0.86	306.67	306.28	0.39	0.18	2.20E-03	11.2	10.2
	05-Nov-08	0.56	0.90	306.58	306.24	0.34	0.16	1.92E-03	11.1	9.4
	17-Dec-08	0.37	0.84	(F)306.77	306.30					1.3
	06-Jan-09	0.32	0.75	(F)306.82	306.39					0.0
	27-Feb-09		0.84		306.30				4.5	1.4
	11-Mar-09	0.40	0.60	306.74	306.54	0.20	0.09	1.13E-03	4.0	1.9
	14-Apr-09	0.40	0.89	306.74	306.25	0.49	0.22	2.76E-03	8.2	7.8
	21-May-09	0.41	0.90	306.73	306.24	0.49	0.22	2.76E-03	11.8	20.1
	16-Jun-09	0.44	0.91	306.70	306.23	0.47	0.22	2.65E-03	12.8	17.9
	31-Jul-09	0.43	0.92	306.71	306.22	0.49	0.22	2.76E-03	14.1	18.9
	25-Aug-09	0.41	0.86	306.73	306.28	0.45	0.21	2.54E-03	15.5	19.1
	28-Aug-09	0.36	0.84	306.78	306.30	0.48	0.22	2.71E-03	15.2	18.1
	28-Sep-09	0.53	0.90	306.61	306.24	0.37	0.17	2.09E-03	13.4	14.1
	14-Oct-09	0.51	0.90	306.63	306.24	0.39	0.18	2.20E-03	10.5	6.8
	11-Nov-09	0.52	0.87	306.62	306.27	0.35	0.16	1.97E-03	10.6	8.8
	11-Dec-09	0.42	0.91	(F)306.72	306.23					3.0
	16-Dec-09	0.43	0.89	(F)306.71	306.25					1.0
	13-Jan-10	0.42	0.90	(F)306.72	306.24					0.0
	11-Feb-10	0.40		(F)306.74						
	11-Mar-10	0.95	0.91	306.19	306.23	-0.04	-0.02	-2.26E-04	5.7	4.2
	16-Apr-10	0.53	0.93	306.61	306.21	0.40	0.18	2.26E-03	9.5	13.4
	21-May-10	0.67	0.96	306.47	306.18	0.29	0.13	1.64E-03	11.0	15.8
	17-Jun-10	0.55	0.89	306.59	306.25	0.34	0.16	1.92E-03	14.1	17.5
	15-Jul-10	0.72	0.98	306.42	306.16	0.26	0.12	1.47E-03	17.1	23.1
	18-Aug-10	0.73	0.98	306.41	306.16	0.25	0.11	1.41E-03	16.8	18.9
	31-Aug-10	0.78	0.97	306.36	306.17	0.19	0.09	1.07E-03	18.2	22.9
	28-Sep-10	0.68	0.88	306.46	306.26	0.20	0.09	1.13E-03	13.2	13.4
	20-Oct-10	0.73	0.93	306.41	306.21	0.20	0.09	1.13E-03	9.1	8.2
	18-Nov-10	0.65	0.89	306.49	306.25	0.24	0.11	1.35E-03	8.4	6.7
	08-Dec-10	Frozen	0.84		306.30					0.5
	22-Dec-10	0.46	0.90	(F)306.68	306.24					0.3

NOTES:
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- Depth of screen midpoint below the creek bed is 2.18 m
- Assumed vertical permeability is 1.20E-05 m/s

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MILL CREEK AGGREGATES PIT

MONITOR LOCATION	DATE	G.W. LEVEL BTOP (m)	S.W. LEVEL BTOP (m)	GROUND-WATER ELEVATION (m ASL)	SURFACE WATER ELEVATION (m ASL)	HYDRAULIC HEAD IN GROUND-WATER (m)	VERTICAL HYDRAULIC GRADIENT	CALCULATED GROUNDWATER FLUX TO CREEK (L/s/m2)	TEMPERATURE	
									GROUND-WATER (°C)	SURFACE WATER (°C)
	19-Jan-11	(F)0.45	0.78	(F) 306.69	306.36					0.2
DP20	17-Feb-11	(F)0.45	0.78	(F) 306.69	306.36					2.3
(con't)	16-Mar-11	0.91	0.75	306.23	306.39	-0.16	-0.07	-9.03E-04	4.6	3.3
	13-Apr-11	0.61	0.90	306.53	306.24	0.29	0.13	1.64E-03	7.8	8.5
	21-Apr-11	0.41	0.89	306.73	306.25	0.48	0.22	2.71E-03	6.1	3.9
	26-May-11	0.39	0.80	306.75	306.34	0.41	0.19	2.31E-03	10.2	14.5
	16-Jun-11	0.53	0.93	306.61	306.21	0.40	0.18	2.26E-03	12.9	18.8
	14-Jul-11	0.67	0.67	306.47	306.47	0.00	0.00	0.00E+00	16.3	19.0
	11-Aug-11	0.73	0.98	306.41	306.16	0.25	0.11	1.41E-03	16.6	18.3
	17-Aug-11	0.79	0.98	306.35	306.16	0.19	0.09	1.07E-03	17.1	19.0
	14-Sep-11	0.84	1.00	306.30	306.14	0.16	0.07	9.03E-04	14.3	15.0
	27-Oct-11	0.64	0.87	306.50	306.27	0.23	0.11	1.30E-03	10.7	7.1
	14-Nov-11	0.73	0.92	306.41	306.22	0.19	0.09	1.07E-03	9.8	4.8
	14-Dec-11	0.50	0.79	306.64	306.35	0.29	0.13	1.64E-03	7.8	5.9
	22-Dec-11	0.65	0.85	306.49	306.29	0.20	0.09	1.13E-03	6.3	3.7
	16-Jan-12	(F) 0.75	0.94		306.20					1.4
	16-Feb-12	0.59	0.93	306.55	306.21	0.34	0.16	1.92E-03	5.0	1.7
	29-Mar-12	0.70	0.92	306.44	306.22	0.22	0.10	1.24E-03	6.9	4.3
	10-Apr-12	0.72	0.94	306.42	306.20	0.22	0.10	1.24E-03	7.0	6.2
	30-Apr-12	0.62	0.93	306.52	306.21	0.31	0.14	1.75E-03	7.9	7.5
	29-May-12	0.71	0.97	306.43	306.17	0.26	0.12	1.47E-03	14.3	17.8
	20-Jun-12	0.76	0.97	306.38	306.17	0.21	0.10	1.18E-03	14.9	22.8
	24-Jul-12	0.85	1.00	306.29	306.14	0.15	0.07	8.46E-04	15.9	20.7
	08-Aug-12	0.93	0.99	306.21	306.15	0.06	0.03	3.39E-04	18.3	20.5
	21-Aug-12	0.89	0.99	306.25	306.15	0.10	0.05	5.64E-04	16.2	17.2
	18-Sep-12	0.81	0.94	306.33	306.20	0.13	0.06	7.33E-04	14.0	13.0
	23-Oct-12	0.72	0.85	306.42	306.29	0.13	0.06	7.33E-04	11.0	10.0
	28-Nov-12	0.84	0.94	306.30	306.20	0.10	0.05	5.64E-04	6.0	1.0
	06-Dec-12	(F)0.75	0.90		306.24					1.6
	19-Dec-12	0.82	0.93	306.32	306.21	0.11	0.05	6.21E-04	6.5	2.3
	16-Jan-13	(F)0.56	0.88		306.26					1.1
	20-Feb-13	(F)0.58	0.94		306.20					0.9
	21-Mar-13	(F)0.53	1.00		306.14					0.6
	04-Apr-13	(F)0.63	0.87		306.27					1.7
	25-Apr-13	0.54	0.86	306.60	306.28	0.32	0.15	1.81E-03	7.2	8.0
	23-May-13	0.64	0.95	306.50	306.19	0.31	0.14	1.75E-03	12.1	19.3
	13-Jun-13	0.54	0.88	306.60	306.26	0.34	0.16	1.92E-03	12.5	17.5
	31-Jul-13	0.62	0.96	306.52	306.18	0.34	0.16	1.92E-03	15.4	19.1
	29-Aug-13	0.69	0.94	306.45	306.20	0.25	0.11	1.41E-03	19.8	21.1
	25-Sep-13	0.68	0.93	306.46	306.21	0.25	0.11	1.41E-03	14.6	18.4
	22-Oct-13	0.58	0.92	306.56	306.22	0.34	0.16	1.92E-03	11.5	7.7
	28-Nov-13	Frozen	0.90		306.24					0.4
	10-Dec-13	(F)0.67	0.85		306.29					0.2
	15-Jan-14	NA								
	26-Feb-14	NA								
	26-Mar-14	(F) 0.52	0.74		306.40					0.1
	01-Apr-14	0.50	0.77	306.64	306.37	0.27	0.12	1.52E-03	4.1	3.4
	15-May-14	0.48	0.83	306.66	306.31	0.35	0.16	1.97E-03	9.8	17.6
	18-Jun-14	0.56	0.92	306.58	306.22	0.36	0.17	2.03E-03	13.2	20.3
	29-Jul-14	0.43	0.78	306.71	306.36	0.35	0.16	1.97E-03	14.9	17.6
	25-Aug-14	0.66	0.90	306.48	306.24	0.24	0.11	1.35E-03	15.7	18.5
	18-Sep-14	0.73	0.91	306.41	306.23	0.18	0.08	1.02E-03	14.3	13.7
	17-Oct-14	0.52	0.86	306.62	306.28	0.34	0.16	1.92E-03	13.5	13.8
	27-Nov-14	Frozen	0.84		306.30					0.0
	15-Dec-14	0.91	0.90	306.23	306.24	-0.01	0.00	-5.64E-05	8.7	3.9

NOTES:
- m ASL — metres above sea level
- (F) — Frozen
- L/s/m² — Litres per second per square metre
- NA — Not available
- Depth of screen midpoint below the creek bed is 2.18 m
- Assumed vertical permeability is 1.20E-05 m/s

TABLE B-5
SUMMARY OF CREEK BASED DRIVE POINT DATA
MILL CREEK AGGREGATES PIT

MONITOR LOCATION	DATE	G.W. LEVEL BTOP (m)	S.W. LEVEL BTOP (m)	GROUND-WATER ELEVATION (m ASL)	SURFACE WATER ELEVATION (m ASL)	HYDRAULIC HEAD IN GROUND-WATER (m)	VERTICAL HYDRAULIC GRADIENT	CALCULATED GROUNDWATER FLUX TO CREEK (L/s/m2)	TEMPERATURE	
									GROUND-WATER (°C)	SURFACE WATER (°C)
DP20	21-Jan-15	(F)	(F)							
(con't)	18-Feb-15	(F)	(F)							
	25-Mar-15	0.94	0.91	306.20	306.23	-0.03	-0.01	-1.69E-04	3.3	3.0
	06-Apr-15	0.57	0.87	306.57	306.27	0.30	0.14	1.69E-03	5.3	6.5
	20-May-15	0.64	0.98	306.50	306.16	0.34	0.16	1.92E-03	11.4	12.5
	23-Jun-15	0.60	0.95	306.54	306.19	0.35	0.16	1.97E-03	14.6	18.1
	22-Jul-15	0.63	0.96	306.51	306.18	0.33	0.15	1.86E-03	16.7	19.1
	25-Aug-15	0.63	0.93	306.51	306.21	0.30	0.14	1.69E-03	17.4	17.7
	24-Sep-15	0.70	0.95	306.44	306.19	0.25	0.11	1.41E-03	14.9	15.7
	29-Oct-15	0.69	0.95	306.45	306.19	0.26	0.12	1.47E-03	8.2	9.0
	25-Nov-15	0.65	0.93	306.49	306.21	0.28	0.13	1.58E-03	8.2	4.0
	10-Dec-15	0.80	0.93	306.34	306.21	0.13	0.06	7.33E-04	8.0	5.4
	20-Jan-16	(F)	(F)							
	29-Feb-16	(F)	(F)							
	17-Mar-16	0.50	0.80	306.64	306.34	0.30	0.14	1.69E-03	5.0	5.1
	30-Mar-16	0.48	0.76	306.66	306.38	0.28	0.13	1.58E-03	5.9	4.3
	27-Apr-16	0.57	0.89	306.57	306.25	0.32	0.15	1.81E-03	7.7	8.3
	30-May-16	0.63	0.95	306.51	306.19	0.32	0.15	1.81E-03	17.2	20.2
	27-Jun-16	0.78	0.99	306.36	306.15	0.21	0.10	1.18E-03	16.7	18.1
	28-Jul-16	0.85	1.00	306.29	306.14	0.15	0.07	8.46E-04	18.4	20.2
	11-Aug-16	0.88	1.00	306.26	306.14	0.12	0.06	6.77E-04	20.0	21.3
	21-Sep-16	0.79	0.97	306.35	306.17	0.18	0.08	1.02E-03	16.9	16.9
	18-Oct-16	0.78	0.96	306.36	306.18	0.18	0.08	1.02E-03	14.5	17.4
	14-Nov-16	0.87	1.00	306.27	306.14	0.13	0.06	7.33E-04	9.7	5.4
	14-Dec-16	(F)	1.00		306.14					0.7
	18-Jan-17	(F)	0.94		306.20					1.7
	15-Feb-17	(F)	0.93		306.21					1.9
	17-Mar-17	(F)	0.94		306.20					0.7
	11-Apr-17	0.55	0.84	306.59	306.30	0.29	0.13	1.64E-03	7.3	7.4
	18-May-17	0.52	0.91	306.62	306.23	0.39	0.18	2.20E-03	10.9	16.0
	14-Jun-17	0.60	0.94	306.54	306.20	0.34	0.16	1.92E-03	14.5	19.0
	20-Jul-17	0.50	0.90	306.64	306.24	0.40	0.18	2.26E-03	16.7	20.4
	09-Aug-17	0.55	0.92	306.59	306.22	0.37	0.17	2.09E-03	16.5	18.0
	12-Sep-17	0.73	0.93	306.41	306.21	0.20	0.09	1.13E-03	16.7	15.5
	12-Oct-17	0.70	0.95	306.44	306.19	0.25	0.11	1.41E-03	13.8	12.0
	21-Nov-17	0.63	0.88	306.51	306.26	0.25	0.11	1.41E-03	9.0	3.6
	19-Dec-17	0.70	0.90	306.44	306.24	0.20	0.09	1.13E-03	4.1	1.1
	16-Jan-18	(F)	(F)							
	26-Feb-18	0.55	0.75	306.59	306.39	0.20	0.09	1.13E-03	2.9	1.5
	26-Mar-18	0.72	0.95	306.42	306.19	0.23	0.11	1.30E-03	5.4	2.6
	24-Apr-18	0.68	0.69	306.46	306.45	0.01	0.00	5.64E-05	10.7	10.6
	18-May-18	0.58	0.90	306.56	306.24	0.32	0.15	1.81E-03	12	15
	12-Jun-18	0.89	1.02	306.25	306.12	0.13	0.06	7.33E-04	15.2	15.2
	27-Jul-18	0.76	0.96	306.38	306.18	0.20	0.09	1.13E-03	17	19.8
	22-Aug-18	0.70	0.92	306.44	306.22	0.22	0.10	1.24E-03	17.2	19.7
	12-Sep-18	0.78	0.93	306.36	306.21	0.15	0.07	8.46E-04	16.6	15.2
	30-Oct-18	0.85	0.97	306.29	306.17	0.12	0.06	6.77E-04	8.5	4.2
	21-Nov-18	(F)	0.93		306.21					1.4
	20-Dec-18	(F)	0.94		306.20					1.6
2018 AVERAGE VALUES						0.18	0.08	9.91E-04	11.7	9.7
OVERALL AVERAGE VALUES						0.12	0.05	6.58E-04	11.1	10.9

NOTES:
- m ASL — metres above sea level
- (F) — Frozen
- L/s/m² — Litres per second per square metre
- NA — Not available
- Depth of screen midpoint below the creek bed is 2.18 m
- Assumed vertical permeability is 1.20E-05 m/s

TABLE B-5
SUMMARY OF CREEK BASED DRIVE POINT DATA
MILL CREEK AGGREGATES PIT

MONITOR LOCATION	DATE	G.W. LEVEL BTOP (m)	S.W. LEVEL BTOP (m)	GROUND-WATER ELEVATION (m ASL)	SURFACE WATER ELEVATION (m ASL)	HYDRAULIC HEAD IN GROUND-WATER (m)	VERTICAL HYDRAULIC GRADIENT	CALCULATED GROUNDWATER FLUX TO CREEK (L/s/m2)	TEMPERATURE	
									GROUND-WATER (°C)	SURFACE WATER (°C)
DP21	13-May-93	0.71	0.97	306.06	305.80	0.26	0.21	4.61E-03	6.0	11.0
	27-May-93	NA	NA							
	22-Jun-93	0.65	0.88	306.12	305.89	0.23	0.19	4.08E-03	9.5	21.5
	14-Jul-93	0.77	0.99	306.00	305.78	0.22	0.18	3.90E-03	10.0	19.3
	18-Aug-93	0.82	1.02	305.95	305.75	0.20	0.16	3.55E-03	10.7	19.5
	20-Sep-93	0.85	1.03	305.92	305.74	0.18	0.15	3.19E-03	12.3	11.8
	19-Oct-93	0.70	0.92	306.07	305.85	0.22	0.18	3.90E-03	10.0	9.5
	17-Nov-93	0.83	0.98	305.94	305.79	0.15	0.12	2.66E-03	8.2	5.1
	06-Dec-93	0.71	0.95	306.06	305.82	0.24	0.19	4.26E-03	7.0	3.2
	18-Jan-94	(F) 0.83	(F) 0.88	(F) 305.95	305.90					
	24-Feb-94	0.71	0.96	306.06	305.81	0.25	0.20	4.44E-03	6.0	1.0
	24-Mar-94	0.56	0.81	306.21	305.96	0.25	0.20	4.44E-03	5.9	3.7
	19-Apr-94	0.69	0.93	306.08	305.84	0.24	0.19	4.26E-03	5.0	8.0
	24-May-94	0.76	0.98	306.01	305.79	0.22	0.18	3.90E-03	8.0	16.0
	23-Jun-94	0.90	1.05	305.87	305.72	0.15	0.12	2.66E-03	9.0	19.0
	19-Jul-94	0.93	1.06	305.84	305.71	0.13	0.10	2.31E-03	9.0	17.0
	25-Aug-94	0.91	1.04	305.86	305.73	0.13	0.10	2.31E-03	12.0	18.0
	21-Sep-94	0.97	1.06	305.80	305.71	0.09	0.07	1.60E-03	9.0	15.0
	18-Oct-94	0.94	1.05	305.83	305.72	0.11	0.09	1.95E-03	9.0	9.0
	23-Nov-94	0.84	0.98	305.93	305.79	0.14	0.11	2.48E-03	9.0	4.0
	21-Dec-94	0.80	0.86	305.97	305.91	0.06	0.05	1.06E-03	8.0	4.0
	24-Jan-95	0.56	0.81	306.21	305.96	0.25	0.20	4.44E-03	6.0	3.0
	15-Feb-95	0.85	1.00	305.92	305.77	0.15	0.12	2.66E-03	6.0	2.0
	23-Mar-95	0.65	0.91	306.12	305.86	0.26	0.21	4.61E-03	6.0	4.0
	17-May-95	0.70	0.96	306.07	305.81	0.26	0.21	4.61E-03	9.0	15.0
	13-Jun-95	0.81	1.00	305.96	305.77	0.19	0.15	3.37E-03	10.0	15.0
	20-Jul-95	0.91	1.04	305.86	305.73	0.13	0.10	2.31E-03	14.0	21.0
	15-Aug-95	0.75	0.94	306.02	305.83	0.19	0.15	3.37E-03	13.0	21.0
	18-Oct-95	0.90	1.02	305.87	305.75	0.12	0.10	2.13E-03	11.5	8.5
	22-Nov-95	0.74	0.96	306.03	305.81	0.22	0.18	3.90E-03	5.5	1.0
	26-Mar-96	0.85	1.00	305.92	305.77	0.15	0.12	2.66E-03		
	31-May-96	0.88	0.90	305.89	305.87	0.02	0.02	3.55E-04	11.0	19.0
	28-Jun-96	0.88	1.07	305.89	305.70	0.19	0.15	3.37E-03	13.0	20.0
	31-Jul-96	0.88	1.03	305.89	305.74	0.15	0.12	2.66E-03	14.0	18.0
	30-Aug-96	0.98	1.09	305.79	305.68	0.11	0.09	1.95E-03	15.0	17.0
	27-Sep-96	0.86	1.05	305.91	305.72	0.19	0.15	3.37E-03	13.0	14.0
	06-Nov-96	0.88	1.05	305.89	305.72	0.17	0.14	3.02E-03	9.0	6.0
	31-Mar-97	0.46	0.79	(F) 306.32	305.98					2.0
	30-Apr-97	0.81	1.03	305.96	305.74	0.22	0.18	3.90E-03	7.0	12.0
	26-May-97	0.83	1.05	305.94	305.72	0.22	0.18	3.90E-03	9.0	15.0
	27-Jun-97	0.89	1.09	305.88	305.68	0.20	0.16	3.55E-03	12.0	19.0
	30-Jul-97	0.98	1.12	305.79	305.65	0.14	0.11	2.48E-03	13.5	21.0
	31-Aug-97	0.96	1.10	305.81	305.67	0.14	0.11	2.48E-03	13.0	16.0
	03-Oct-97	0.99	1.09	305.78	305.68	0.10	0.08	1.77E-03	13.0	14.0
	06-Nov-97	0.84	1.02	305.93	305.75	0.18	0.15	3.19E-03	9.0	6.5
	12-Dec-97	0.80	1.08	(F) 305.98	305.69					1.5
	27-Mar-98	0.75	0.97	306.02	305.80	0.22	0.18	3.90E-03	2.5	3.5
	30-Apr-98	0.91	1.07	305.86	305.70	0.16	0.13	2.84E-03	5.8	13.5
	31-May-98	1.01	1.12	305.76	305.65	0.11	0.09	1.95E-03	11.5	15.5
	30-Jun-98	0.99	1.11	305.78	305.66	0.12	0.10	2.13E-03	14.0	19.0
	31-Jul-98	1.09	1.14	305.68	305.63	0.05	0.04	8.87E-04	16.0	21.0
	30-Sep-98	1.11	1.09	305.66	305.68	-0.02	-0.02	-3.55E-04	13.0	13.0
	27-Nov-98	1.09	1.12	305.68	305.65	0.03	0.02	5.32E-04	9.0	6.0
	31-Mar-99	0.93	1.01	305.84	305.76	0.08	0.06	1.42E-03	7.0	6.0
	20-May-99	1.12	1.15	305.65	305.62	0.03	0.02	5.32E-04	11.2	15.3
	29-Jun-99	1.18	1.13	305.59	305.64	-0.05	-0.04	-8.87E-04	15.0	20.0
	16-Jul-99	1.29	1.19	305.48	305.58	-0.10	-0.08	-1.77E-03		20.5
	11-Aug-99	1.18	1.16	305.59	305.61	-0.02	-0.02	-3.55E-04	16.6	19.2
	09-Sep-99	1.05	1.10	305.72	305.67	0.05	0.04	8.87E-04	17.1	20.5
	09-Nov-99	1.07	1.10	305.70	305.67	0.03	0.02	5.32E-04	10.3	7.6
	01-Mar-00	0.90	1.05	305.87	305.72	0.15	0.12	2.66E-03	3.0	3.0
	18-May-00	0.82	0.92	305.95	305.85	0.10	0.08	1.77E-03	10.0	12.0
	15-Jun-00	0.76	0.91	306.01	305.86	0.15	0.12	2.66E-03	12.5	18.5
	06-Jul-00	1.00	1.12	305.77	305.65	0.12	0.10	2.13E-03	13.4	17.9
	08-Aug-00	1.01	1.12	305.76	305.65	0.11	0.09	1.95E-03	15.9	20.9
	13-Sep-00	1.10	1.12	305.67	305.65	0.02	0.02	3.55E-04	15.7	16.6
	10-Oct-00	1.09	1.12	305.68	305.65	0.03	0.02	5.32E-04	12.0	8.0
	08-Nov-00	1.14	1.14	305.63	305.63	0.00	0.00	0.00E+00	9.8	8.5

NOTES:
- m ASL — metres above sea level
- (F) — Frozen
- L/s/m² — Litres per second per square metre
- Depth of screen midpoint below the creek bed is 1.24 m
- Assumed vertical permeability is 2.20E-05 m/s

TABLE B-5
SUMMARY OF CREEK BASED DRIVE POINT DATA
MILL CREEK AGGREGATES PIT

MONITOR LOCATION	DATE	G.W. LEVEL BTOP (m)	S.W. LEVEL BTOP (m)	GROUND-WATER ELEVATION (m ASL)	SURFACE WATER ELEVATION (m ASL)	HYDRAULIC HEAD IN GROUND-WATER (m)	VERTICAL HYDRAULIC GRADIENT	CALCULATED GROUNDWATER FLUX TO CREEK (L/s/m2)	TEMPERATURE GROUND-WATER (°C)	TEMPERATURE SURFACE WATER (°C)
	14-Nov-00	1.05	1.08	305.72	305.69	0.03	0.02	5.32E-04		
DP21	11-Dec-00	0.96	1.06	(F) 305.82	(F) 305.72					
(con't)	11-Jan-01	0.88	0.91	(F) 305.90	(F) 305.87					
	09-Feb-01	0.85	1.00	305.92	305.77	0.15	0.12	2.66E-03	3.9	1.4
	13-Mar-01	0.95	1.09	305.82	305.68	0.14	0.11	2.48E-03	3.3	1.8
	10-Apr-01	0.82	0.91	305.95	305.86	0.09	0.07	1.60E-03	5.4	5.3
	04-May-01	1.02	1.12	305.75	305.65	0.10	0.08	1.77E-03	10.4	17.4
	07-Jun-01	1.00	1.12	305.77	305.65	0.12	0.10	2.13E-03	6.0	9.0
	25-Jun-01	1.06	1.15	305.71	305.62	0.09	0.07	1.60E-03		
	28-Jun-01	1.07	1.16	305.70	305.61	0.09	0.07	1.60E-03		
	03-Jul-01	1.11	1.16	305.66	305.61	0.05	0.04	8.87E-04		
	05-Jul-01	1.11	1.16	305.66	305.61	0.05	0.04	8.87E-04		
	09-Jul-01	1.13	1.16	305.64	305.61	0.03	0.02	5.32E-04		
	12-Jul-01	1.12	1.17	305.65	305.60	0.05	0.04	8.87E-04	14.9	17.5
	16-Jul-01	1.14	1.17	305.63	305.60	0.03	0.02	5.32E-04		
	19-Jul-01	1.14	1.17	305.63	305.60	0.03	0.02	5.32E-04		
	23-Jul-01	1.15	1.17	305.62	305.60	0.02	0.02	3.55E-04		
	26-Jul-01	1.15	1.17	305.62	305.60	0.02	0.02	3.55E-04		
	30-Jul-01	1.17	1.17	305.60	305.60	0.00	0.00	0.00E+00		
	02-Aug-01	1.18	1.17	305.59	305.60	-0.01	-0.01	-1.77E-04	18.8	22.0
	07-Aug-01	1.19	1.18	305.58	305.59	-0.01	-0.01	-1.77E-04		
	09-Aug-01	1.19	1.17	305.58	305.60	-0.02	-0.02	-3.55E-04		
	13-Aug-01	1.21	1.17	305.56	305.60	-0.04	-0.03	-7.10E-04		
	16-Aug-01	1.21	1.17	305.56	305.60	-0.04	-0.03	-7.10E-04		
	20-Aug-01	1.09	1.11	305.68	305.66	0.02	0.02	3.55E-04		
	23-Aug-01	1.15	1.15	305.62	305.62	0.00	0.00	0.00E+00		
	27-Aug-01	1.19	1.16	305.58	305.61	-0.03	-0.02	-5.32E-04		
	30-Aug-01	1.18	1.16	305.59	305.61	-0.02	-0.02	-3.55E-04		
	04-Sep-01	1.19	1.17	305.58	305.60	-0.02	-0.02	-3.55E-04	16.7	17.7
	06-Sep-01	1.20	1.18	305.57	305.59	-0.02	-0.02	-3.55E-04		
	10-Sep-01	1.22	1.18	305.55	305.59	-0.04	-0.03	-7.10E-04		
	13-Sep-01	1.22	1.18	305.55	305.59	-0.04	-0.03	-7.10E-04		
	17-Sep-01	1.23	1.18	305.54	305.59	-0.05	-0.04	-8.87E-04		
	20-Sep-01	1.20	1.17	305.57	305.60	-0.03	-0.02	-5.32E-04		
	24-Sep-01	1.15	1.15	305.62	305.62	0.00	0.00	0.00E+00		
	27-Sep-01	1.13	1.14	305.64	305.63	0.01	0.01	1.77E-04		
	01-Oct-01	1.18	1.17	305.59	305.60	-0.01	-0.01	-1.77E-04	10.6	10.2
	04-Oct-01	1.20	1.17	305.57	305.60	-0.03	-0.02	-5.32E-04		
	09-Oct-01	1.08	1.13	305.69	305.64	0.05	0.04	8.87E-04		
	11-Oct-01	1.11	1.13	305.66	305.64	0.02	0.02	3.55E-04		
	15-Oct-01	1.05	1.10	305.72	305.67	0.05	0.04	8.87E-04		
	19-Oct-01	1.02	1.06	305.75	305.71	0.04	0.03	7.10E-04		
	22-Oct-01	1.07	1.12	305.70	305.65	0.05	0.04	8.87E-04		
	26-Oct-01	1.06	1.10	305.71	305.67	0.04	0.03	7.10E-04		
	29-Oct-01	1.08	1.12	305.69	305.65	0.04	0.03	7.10E-04		
	01-Nov-01	1.10	1.13	305.67	305.64	0.03	0.02	5.32E-04		
	05-Nov-01	1.05	1.09	305.72	305.68	0.04	0.03	7.10E-04	8.6	5.9
	08-Nov-01	1.08	1.12	305.69	305.65	0.04	0.03	7.10E-04		
	12-Nov-01	1.10	1.13	305.67	305.64	0.03	0.02	5.32E-04		
	15-Nov-01	1.09	1.10	305.68	305.67	0.01	0.01	1.77E-04		
	19-Nov-01	1.11	1.13	305.66	305.64	0.02	0.02	3.55E-04		
	22-Nov-01	1.11	1.13	305.66	305.64	0.02	0.02	3.55E-04		
	26-Nov-01	1.02	1.08	305.75	305.69	0.06	0.05	1.06E-03		
	29-Nov-01	0.98	1.05	305.79	305.72	0.07	0.06	1.24E-03		
	03-Dec-01	0.93	1.04	305.84	305.73	0.11	0.09	1.95E-03		
	06-Dec-01	1.00	1.08	305.77	305.69	0.08	0.06	1.42E-03	8.5	8.4
	10-Dec-01	1.04	1.11	305.73	305.66	0.07	0.06	1.24E-03		
	13-Dec-01	1.04	1.10	305.73	305.67	0.06	0.05	1.06E-03		
	17-Dec-01	0.99	1.09	305.78	305.68	0.10	0.08	1.77E-03		
	20-Dec-01	0.94	1.00	305.83	305.77	0.06	0.05	1.06E-03		
	02-Jan-02	F	1.09	(F)	305.68					
	07-Jan-02	F	1.09	(F)	305.68					
	10-Jan-02	1.02	1.10	305.75	305.67	0.08	0.06	1.42E-03		
	14-Jan-02	F	1.12	(F)	305.65					
	17-Jan-02	F	1.12	(F)	305.65					
	21-Jan-02	F	F	(F)	(F)					
	24-Jan-02	F	1.06	(F)	305.71					

NOTES:
- m ASL — metres above sea level
- (F) — Frozen
- L/s/m² — Litres per second per square metre
- Depth of screen midpoint below the creek bed is 1.24 m
- Assumed vertical permeability is 2.20E-05 m/s

TABLE B-5
SUMMARY OF CREEK BASED DRIVE POINT DATA
MILL CREEK AGGREGATES PIT

MONITOR LOCATION	DATE	G.W. LEVEL BTOP (m)	S.W. LEVEL BTOP (m)	GROUND-WATER ELEVATION (m ASL)	SURFACE WATER ELEVATION (m ASL)	HYDRAULIC HEAD IN GROUND-WATER (m)	VERTICAL HYDRAULIC GRADIENT	CALCULATED GROUNDWATER FLUX TO CREEK (L/s/m2)	TEMPERATURE	
									GROUND-WATER (°C)	SURFACE WATER (°C)
	28-Jan-02	F	1.06	(F)	305.71					
DP21	01-Feb-02	1.12	1.08	(F)	305.69					
(con't)	04-Feb-02	1.02	1.10	305.75	305.67	0.08	0.06	1.42E-03		
	07-Feb-02	1.00	1.10	305.77	305.67	0.10	0.08	1.77E-03		0.1
	11-Feb-02	1.00	0.99	305.77	305.78	-0.01	-0.01	-1.77E-04		
	15-Feb-02	1.21	1.15	(F)	305.62					
	18-Feb-02	1.01	1.00	(F)	(F)					
	21-Feb-02	1.10	0.98	(F)	305.79					
	25-Feb-02	1.15	1.02	(F)	305.75					
	07-Mar-02	1.08	1.10	305.69	305.67	0.02	0.02	3.55E-04	3.8	2.1
	11-Mar-02	1.10	0.98	(F)	305.79					
	15-Mar-02	1.15	1.08	(F)	305.69					
	19-Mar-02	1.00	1.08	305.77	305.69	0.08	0.06	1.42E-03		
	21-Mar-02	0.95	1.09	305.82	305.68	0.14	0.11	2.48E-03		
	26-Mar-02	0.92	1.10	305.85	305.67	0.18	0.15	3.19E-03		
	28-Mar-02	1.00	1.12	305.77	305.65	0.12	0.10	2.13E-03		
	01-Apr-02	0.91	1.00	305.86	305.77	0.09	0.07	1.60E-03		
	05-Apr-02	0.87	0.98	305.90	305.79	0.11	0.09	1.95E-03		
	07-Apr-02	0.78	0.89	305.99	305.88	0.11	0.09	1.95E-03	6.8	8.0
	11-Apr-02	0.83	0.95	305.94	305.82	0.12	0.10	2.13E-03		
	19-Apr-02	0.76	0.87	306.01	305.90	0.11	0.09	1.95E-03		
	23-Apr-02	0.9	1.02	305.87	305.75	0.12	0.10	2.13E-03		
	29-Apr-02	0.85	0.95	305.92	305.82	0.10	0.08	1.77E-03		
	06-May-02	0.94	1.04	305.83	305.73	0.10	0.08	1.80E-03	9.5	13.0
	10-May-02	0.95	1.04	305.82	305.73	0.09	0.07	1.60E-03		
	14-May-02	0.88	0.95	305.89	305.82	0.07	0.06	1.24E-03		
	17-May-02	0.80	0.86	305.97	305.91	0.06	0.05	1.06E-03		
	21-May-02	0.94	1.03	305.83	305.74	0.09	0.07	1.60E-03		
	24-May-02	0.96	1.06	305.81	305.71	0.10	0.08	1.77E-03		
	27-May-02	1.01	1.13	305.76	305.64	0.12	0.10	2.13E-03		
	31-May-02	1.00	1.12	305.77	305.65	0.12	0.10	2.13E-03		
	04-Jun-02	0.98	1.10	305.79	305.67	0.12	0.10	2.13E-03		
	07-Jun-02	1.03	1.12	305.74	305.65	0.09	0.07	1.60E-03		
	14-Jun-02	1.07	1.17	305.70	305.60	0.10	0.08	1.77E-03	14.0	17.6
	21-Jun-02	1.08	1.16	305.69	305.61	0.08	0.06	1.42E-03		
	25-Jun-02	1.06	1.15	305.71	305.62	0.09	0.07	1.60E-03		
	08-Jul-02	1.09	1.14	305.68	305.63	0.05	0.04	8.87E-04		
	11-Jul-02	1.12	1.16	305.65	305.61	0.04	0.03	7.10E-04	17.9	20.0
	15-Jul-02	1.10	1.15	305.67	305.62	0.05	0.04	8.87E-04		
	23-Jul-02	1.10	1.14	305.67	305.63	0.04	0.03	7.10E-04		
	05-Aug-02	1.01	1.00	305.76	305.77	-0.01	-0.01	-1.77E-04		
	09-Aug-02	1.18	1.18	305.59	305.59	0.00	0.00	0.00E+00	14.6	17.0
	16-Aug-02	1.19	1.18	305.58	305.59	-0.01	-0.01	-1.77E-04		
	21-Aug-02	1.21	1.18	305.56	305.59	-0.03	-0.02	-5.32E-04		
	23-Aug-02	1.20	1.19	305.57	305.58	-0.01	-0.01	-1.77E-04		
	28-Aug-02	1.21	1.21	305.56	305.56	0.00	0.00	0.00E+00		
	30-Aug-02	1.21	1.20	305.56	305.57	-0.01	-0.01	-1.77E-04		
	04-Sep-02	1.22	1.19	305.55	305.58	-0.03	-0.02	-5.32E-04	17.5	17.6
	10-Sep-02	1.23	1.20	305.54	305.57	-0.03	-0.02	-5.32E-04		
	12-Sep-02	1.23	1.21	305.54	305.56	-0.02	-0.02	-3.55E-04		
	17-Sep-02	1.21	1.19	305.56	305.58	-0.02	-0.02	-3.55E-04		
	20-Sep-02	1.20	1.18	305.57	305.59	-0.02	-0.02	-3.55E-04		
	25-Sep-02	1.20	1.19	305.57	305.58	-0.01	-0.01	-1.77E-04		
	27-Sep-02	1.18	1.17	305.59	305.60	-0.01	-0.01	-1.77E-04		
	02-Oct-02	1.00	1.00	305.77	305.77	0.00	0.00	0.00E+00		
	04-Oct-02	1.00	1.00	305.77	305.77	0.00	0.00	0.00E+00		
	08-Oct-02	1.18	1.17	305.59	305.60	-0.01	-0.01	-1.77E-04		
	11-Oct-02	1.18	1.16	305.59	305.61	-0.02	-0.02	-3.55E-04	13.9	12.0
	15-Oct-02	1.17	1.16	305.60	305.61	-0.01	-0.01	-1.77E-04		
	23-Oct-02	1.16	1.15	305.61	305.62	-0.01	-0.01	-1.77E-04		
	29-Oct-02	1.18	1.17	305.59	305.60	-0.01	-0.01	-1.77E-04		
	31-Oct-02	1.17	1.16	305.60	305.61	-0.01	-0.01	-1.77E-04		

NOTES:
- m ASL — metres above sea level
- (F) — Frozen
- L/s/m² — Litres per second per square metre
- Depth of screen midpoint below the creek bed is 1.24 m
- Assumed vertical permeability is 2.20E-05 m/s

TABLE B-5
SUMMARY OF CREEK BASED DRIVE POINT DATA
MILL CREEK AGGREGATES PIT

MONITOR LOCATION	DATE	G.W. LEVEL BTOP (m)	S.W. LEVEL BTOP (m)	GROUND-WATER ELEVATION (m ASL)	SURFACE WATER ELEVATION (m ASL)	HYDRAULIC HEAD IN GROUND-WATER (m)	VERTICAL HYDRAULIC GRADIENT	CALCULATED GROUNDWATER FLUX TO CREEK (L/s/m2)	TEMPERATURE	
									GROUND-WATER (°C)	SURFACE WATER (°C)
	05-Nov-02	1.13	1.09	305.64	305.68	-0.04	-0.03	-7.10E-04		
DP21	08-Nov-02	1.16	1.15	305.61	305.62	-0.01	-0.01	-1.77E-04		
(con't)	12-Nov-02	1.05	1.00	305.72	305.77	-0.05	-0.04	-8.87E-04		
	15-Nov-02	1.08	1.05	305.69	305.72	-0.03	-0.02	-5.32E-04		
	19-Nov-02	1.00	1.00	305.77	305.77	0.00	0.00	0.00E+00		
	22-Nov-02	1.13	1.13	305.64	305.64	0.00	0.00	0.00E+00	6.5	4.0
	26-Nov-02	1.14	1.14	305.63	305.63	0.00	0.00	0.00E+00		
	29-Nov-02	1.13	1.09	(F)	305.68					
	07-Jan-03	1.11	0.99	305.66	(F)					
	09-Jan-03	1.12	1.00	305.65	(F)				2.4	
	10-Feb-03	1.11	1.00	305.66	(F)				3.4	
	13-Mar-03	1.03	1.00	305.74	305.77	-0.03	-0.02	-5.32E-04	4.0	7.5
	10-Apr-03	0.94	1.00	305.83	305.77	0.06	0.05	1.06E-03	5.0	12.0
	07-May-03	0.91	1.02	305.86	305.75	0.11	0.09	1.95E-03	8.0	10.5
	15-May-03	0.98	1.00	305.79	305.77	0.02	0.02	3.55E-04	8.0	10.0
	16-Jun-03	1.12	1.10	305.65	305.67	-0.02	-0.02	-3.55E-04	11.0	13.0
	17-Jul-03	1.14	1.17	305.63	305.60	0.03	0.02	5.32E-04	13.0	14.0
	21-Aug-03	1.19	1.17	305.58	305.60	-0.02	-0.02	-3.55E-04	18.3	18.3
	26-Aug-03	1.07	1.04	305.70	305.73	-0.03	-0.02	-5.32E-04	17.1	19.8
	25-Sep-03	1.06	1.10	305.71	305.67	0.04	0.03	7.10E-04	12.1	9.2
	27-Oct-03	0.99	1.08	305.78	305.69	0.09	0.07	1.60E-03		
	01-Dec-03	0.83	0.82	305.94	305.95	-0.01	-0.01	-1.77E-04	6.0	1.0
	11-Dec-03	0.89	0.86	305.88	305.91	-0.03	-0.02	-5.32E-04	5.2	2.7
	15-Dec-03	0.83	0.82	305.94	305.95	-0.01	-0.01	-1.77E-04		1.0
	19-Jan-04	0.91	0.98	(F)305.87	(F)305.80					
	18-Feb-04	0.88	0.97	(F)305.90	(F)305.81					
	25-Mar-04	0.86	0.94	305.91	305.83	0.08	0.06	1.42E-03	6.0	4.7
	07-Apr-04	0.78	0.88	305.99	305.89	0.10	0.08	1.77E-03	4.7	3.3
	22-Apr-04	0.72	0.83	306.05	305.94	0.11	0.09	1.95E-03	10.4	11.6
	20-May-04	0.85	1.01	305.92	305.76	0.16	0.13	2.84E-03	10.4	13.6
	24-Jun-04	0.87	1.02	305.90	305.75	0.15	0.12	2.66E-03	11.6	16.1
	23-Jul-04	0.94	1.11	305.83	305.66	0.17	0.14	3.02E-03	17.5	21.3
	04-Aug-04	0.92	1.08	305.85	305.69	0.16	0.13	2.84E-03	16.0	20.0
	27-Aug-04	0.98	1.10	305.79	305.67	0.12	0.10	2.13E-03	14.0	18.0
	28-Sep-04	1.01	1.11	305.76	305.66	0.10	0.08	1.77E-03	8.9	11.7
	18-Oct-04	0.97	0.99	305.80	305.78	0.02	0.02	3.55E-04	8.0	6.6
	16-Nov-04	0.99	1.00	305.78	305.77	0.01	0.01	1.77E-04	6.5	5.0
	15-Dec-04	0.95	0.95	(F)305.83	305.82					1.7
	16-Dec-04	0.95	0.99	(F)305.83	305.78					0.6
	20-Jan-05	0.71	1.08	(F)306.07	305.69					0.4
	25-Feb-05	0.86	0.93	(F)305.92	305.84					0.4
	24-Mar-05	0.89	0.99	305.88	305.78	0.10	0.08	1.77E-03	3.5	2.2
	18-Apr-05	0.86	0.96	305.91	305.81	0.10	0.08	1.77E-03	8.6	11.5
	29-Apr-05	0.76	0.87	306.01	305.90	0.11	0.09	1.95E-03	8.9	10.1
	26-May-05	0.91	1.07	305.86	305.70	0.16	0.13	2.84E-03	10.4	14.7
	23-Jun-05	0.95	1.09	305.82	305.68	0.14	0.11	2.48E-03	9.9	17.8
	25-Jul-05	1.09	1.12	305.68	305.65	0.03	0.02	5.32E-04	12.4	18.7
	17-Aug-05	1.00	1.13	305.77	305.64	0.13	0.10	2.31E-03	16.6	18.6
	25-Aug-05	0.98	1.12	305.79	305.65	0.14	0.11	2.48E-03	13.2	17.8
	30-Sep-05	0.93	1.05	305.84	305.72	0.12	0.10	2.13E-03	13.2	14.2
	27-Oct-05	0.95	1.06	305.82	305.71	0.11	0.09	1.95E-03	7.7	8.7
	28-Nov-05	1.00	1.02	305.77	305.75	0.02	0.02	3.55E-04	7.2	4.3
	07-Dec-05	1.01	1.05	(F) 305.76	305.72					2.1
	19-Dec-05	0.97	1.06	(F)305.80	305.71					0.3
	26-Jan-06	0.95	1.03	305.82	305.74	0.08	0.06	1.42E-03	6.2	4.1
	15-Feb-06	0.84	1.06		305.71					0.1
	30-Mar-06	0.86	1.00	305.91	305.77	0.14	0.11	2.48E-03	5.6	5.8
	27-Apr-06	0.83	0.97	305.94	305.80	0.14	0.11	2.48E-03	9.7	10.9
	28-Apr-06	0.86	1.04	305.91	305.73	0.18	0.15	3.19E-03	10.4	14.2
	15-May-06	0.91	1.08	305.86	305.69	0.17	0.14	3.02E-03	13.3	16.9
	15-Jun-06	0.95	1.11	305.82	305.66	0.16	0.13	2.84E-03	14.5	17.4
	15-Jul-06	0.92	1.10	305.85	305.67	0.18	0.15	3.19E-03	16.8	21.5
	24-Aug-06	1.01	1.13	305.76	305.64	0.12	0.10	2.13E-03	17.9	20
	15-Sep-06	0.79	0.93	305.98	305.84	0.14	0.11	2.48E-03	15.1	16.6
	15-Oct-06	0.75	0.83	306.02	305.94	0.08	0.06	1.42E-03	11	12
	15-Nov-06	0.86	0.94	305.91	305.83	0.08	0.06	1.42E-03	4.4	5
	07-Dec-06	0.76	0.96	(F) 306.02	305.81					1.6

NOTES:
- m ASL — metres above sea level
- (F) — Frozen
- L/s/m² — Litres per second per square metre
- Depth of screen midpoint below the creek bed is 1.24 m
- Assumed vertical permeability is 2.20E-05 m/s

TABLE B-5
SUMMARY OF CREEK BASED DRIVE POINT DATA
MILL CREEK AGGREGATES PIT

MONITOR LOCATION	DATE	G.W. LEVEL BTOP (m)	S.W. LEVEL BTOP (m)	GROUND-WATER ELEVATION (m ASL)	SURFACE WATER ELEVATION (m ASL)	HYDRAULIC HEAD IN GROUND-WATER (m)	VERTICAL HYDRAULIC GRADIENT	CALCULATED GROUNDWATER FLUX TO CREEK (L/s/m2)	TEMPERATURE	
									GROUND-WATER (°C)	SURFACE WATER (°C)
	17-Jan-07	0.77	0.94	306.00	305.83	0.17	0.14	3.02E-03		0.2
DP21	22-Feb-07	0.86	1.07	305.91	305.70	0.21	0.17	3.73E-03	4.2	0.8
(con't)	30-Mar-07	0.76	0.91	306.01	305.86	0.15	0.12	2.66E-03	4.3	3.2
	26-Apr-07	0.69	0.88	306.08	305.89	0.19	0.15	3.37E-03	9.6	10.1
	16-May-07	0.81	1.02	305.96	305.75	0.21	0.17	3.73E-03	13.2	18.4
	26-Jun-07	0.93	1.12	305.84	305.65	0.19	0.15	3.37E-03	16.4	23.8
	25-Jul-07	1.00	1.14	305.77	305.63	0.14	0.11	2.48E-03	16.8	19.4
	07-Aug-07	0.97	1.11	305.80	305.66	0.14	0.11	2.48E-03		23.2
	21-Aug-07	1.03	1.15	305.74	305.62	0.12	0.10	2.13E-03	16.3	17.5
	21-Sep-07	1.07	1.16	305.70	305.61	0.09	0.07	1.60E-03	17.1	18.2
	17-Oct-07	1.01	1.12	305.76	305.65	0.11	0.09	1.95E-03	14.3	12.7
	15-Nov-07	0.99	1.03	305.78	305.74	0.04	0.03	7.10E-04		
	29-Nov-07	0.94	1.01	305.83	305.76	0.07	0.06	1.24E-03	3.6	2.7
	10-Dec-07	0.98	1.06	305.79	305.71	0.08	0.06	1.42E-03		1.1
	31-Jan-08	0.88	0.98	(F)305.90	305.79					0.1
	29-Feb-08	0.89	1.07	(F)305.89	305.70					0.1
	31-Mar-08	0.75	0.96	306.02	305.81	0.21	0.17	3.73E-03	3.9	2.9
	28-Apr-08	0.83	1.03	305.94	305.74	0.20	0.16	3.55E-03	9.9	11.1
	28-May-08	0.88	1.09	305.89	305.68	0.21	0.17	3.73E-03	11.7	15.5
	25-Jun-08	0.85	1.08	305.92	305.69	0.23	0.19	4.08E-03	13.1	21.3
	16-Jul-08	0.86	1.09	305.91	305.68	0.23	0.19	4.08E-03	15.2	23.7
	20-Aug-08	0.84	1.04	305.93	305.73	0.20	0.16	3.55E-03	15.4	17.4
	26-Aug-08	0.88	1.10	305.89	305.67	0.22	0.18	3.90E-03	16.0	16.9
	19-Sep-08	0.65	0.83	306.12	305.94	0.18	0.15	3.19E-03	14.8	17.5
	10-Oct-08	0.83	1.06	305.94	305.71	0.23	0.19	4.08E-03	12.5	12.7
	05-Nov-08	0.83	0.99	305.94	305.78	0.16	0.13	2.84E-03	10.5	9.6
	03-Dec-08	0.83	0.92	305.94	305.85	0.09	0.07	1.60E-03		
	17-Dec-08	0.63	0.93	(F)306.15	305.84					1.9
	06-Jan-09	0.53	0.93	(F)306.25	305.84					0.1
	27-Feb-09	0.94	0.98	305.83	305.79	0.04	0.03	7.10E-04	6.6	1.7
	11-Mar-09	0.50	0.62	306.27	306.15	0.12	0.10	2.13E-03	3.4	2.7
	14-Apr-09	0.72	0.93	306.05	305.84	0.21	0.17	3.73E-03	6.5	6.0
	21-May-09	0.78	0.94	305.99	305.83	0.16	0.13	2.84E-03	13.3	18.7
	16-Jun-09	0.84	1.04	305.93	305.73	0.20	0.16	3.55E-03	14.0	18.0
	31-Jul-09	0.75	0.97	306.02	305.80	0.22	0.18	3.90E-03	16.1	19.9
	25-Aug-09	0.74	0.96	306.03	305.81	0.22	0.18	3.90E-03	15.4	19.1
	28-Aug-09	0.76	1.00	306.01	305.77	0.24	0.19	4.26E-03	16.3	18.8
	28-Sep-09	0.83	1.01	305.94	305.76	0.18	0.15	3.19E-03	12.7	11.9
	14-Oct-09	0.81	0.99	305.96	305.78	0.18	0.15	3.19E-03	9.3	6.3
	11-Nov-09	0.79	0.90	305.98	305.87	0.11	0.09	1.95E-03	9.1	7.7
	11-Dec-09	0.74	0.97	(F)306.04	305.80					3.0
	16-Dec-09	0.77	0.91	(F)306.01	305.86					0.8
	13-Jan-10	0.71	1.02	(F)306.07	305.75					0.1
	11-Feb-10	1.03	1.05	(F)305.75	305.72					0.1
	11-Mar-10	0.98	0.94	305.79	305.83	-0.04	-0.03	-7.10E-04	5.4	5.7
	16-Apr-10	0.83	0.99	305.94	305.78	0.16	0.13	2.84E-03	10.1	14.3
	21-May-10	0.88	1.05	305.89	305.72	0.17	0.14	3.02E-03	11.4	16.1
	17-Jun-10	0.82	0.95	305.95	305.82	0.13	0.10	2.31E-03	15.0	18.9
	15-Jul-10	0.82	1.11	305.95	305.66	0.29	0.23	5.15E-03	17.0	21.8
	18-Aug-10	0.99	1.12	305.78	305.65	0.13	0.10	2.31E-03	17.3	19.3
	31-Aug-10	1.02	1.12	305.75	305.65	0.10	0.08	1.77E-03	17.7	21.4
	28-Sep-10	0.88	0.96	305.89	305.81	0.08	0.06	1.42E-03	14.3	13.8
	20-Oct-10	0.96	1.00	305.81	305.77	0.04	0.03	7.10E-04	11.2	9.6
	18-Nov-10	0.78	0.90	305.99	305.87	0.12	0.10	2.13E-03	8.0	6.7
	08-Dec-10	0.88	0.99	(F)305.90	305.78					1.9
	22-Dec-10	0.97	1.03	(F)305.81	305.74					0.3

NOTES:
- m ASL — metres above sea level
- (F) — Frozen
- L/s/m² — Litres per second per square metre
- Depth of screen midpoint below the creek bed is 1.24 m
- Assumed vertical permeability is 2.20E-05 m/s

TABLE B-5
SUMMARY OF CREEK BASED DRIVE POINT DATA
MILL CREEK AGGREGATES PIT

MONITOR LOCATION	DATE	G.W. LEVEL BTOP (m)	S.W. LEVEL BTOP (m)	GROUND-WATER ELEVATION (m ASL)	SURFACE WATER ELEVATION (m ASL)	HYDRAULIC HEAD IN GROUND-WATER (m)	VERTICAL HYDRAULIC GRADIENT	CALCULATED GROUNDWATER FLUX TO CREEK (L/s/m2)	TEMPERATURE	
									GROUND-WATER (°C)	SURFACE WATER (°C)
	19-Jan-11	(F)0.96	1.04	(F)305.82	305.73					2.0
DP21	17-Feb-11	0.97	1.04	305.80	305.73	0.07	0.06	1.24E-03	3.8	3.2
(con't)	16-Mar-11	0.75	0.76	306.02	306.01	0.01	0.01	1.77E-04		4.3
	13-Apr-11		0.94		305.83					10.6
	21-Apr-11	0.77	0.97	306.00	305.80	0.20	0.16	3.55E-03		4.3
	26-May-11	0.69	0.83	306.08	305.94	0.14	0.11	2.48E-03		15.1
	16-Jun-11	0.83	1.02	305.94	305.75	0.19	0.15	3.37E-03		18.4
	14-Jul-11	0.96	1.10	305.81	305.67	0.14	0.11	2.48E-03		20.6
	11-Aug-11	0.99	1.11	305.78	305.66	0.12	0.10	2.13E-03		18.6
	17-Aug-11		1.12		305.65					20.9
	14-Sep-11	1.03	1.13	305.74	305.64	0.10	0.08	1.77E-03		16.3
	27-Oct-11	0.83	0.91	305.94	305.86	0.08	0.06	1.42E-03		7.0
	14-Nov-11	0.93	1.01	305.84	305.76	0.08	0.06	1.42E-03		5.6
	14-Dec-11	0.76	0.84	306.01	305.93	0.08	0.06	1.42E-03		6.7
	22-Dec-11	0.87	0.90	305.90	305.87	0.03	0.02	5.32E-04		3.2
	16-Jan-12	(F) 0.83	1.03		305.74					1.0
	16-Feb-12	1.07	1.03	305.70	305.74	-0.04	-0.03	-7.10E-04		3.0
	29-Mar-12	0.8	1.04	305.97	305.73	0.24	0.19	4.26E-03		5.5
	10-Apr-12	0.93	1.1	305.84	305.67	0.17	0.14	3.02E-03		8.1
	30-Apr-12	0.92	1.06	305.85	305.71	0.14	0.11	2.48E-03		8.0
	29-May-12	1.01	1.12	305.76	305.65	0.11	0.09	1.95E-03		18.7
	20-Jun-12	1.01	1.12	305.76	305.65	0.11	0.09	1.95E-03		25.2
	24-Jul-12	1.10	1.06	305.67	305.71	-0.04	-0.03	-7.10E-04		22.6
	08-Aug-12	1.14	1.14	305.63	305.63	0.00	0.00	0.00E+00		23.3
	21-Aug-12	1.11	1.15	305.66	305.62	0.04	0.03	7.10E-04		18.6
	18-Sep-12	1.02	1.09	305.75	305.68	0.07	0.06	1.24E-03		13.8
	23-Oct-12	1.02	1.08	305.75	305.69	0.06	0.05	1.06E-03		10.2
	28-Nov-12	1.03	1.04	305.74	305.73	0.01	0.01	1.77E-04		1.9
	06-Dec-12	0.96	0.95	305.81	305.82	-0.01	-0.01	-1.77E-04		1.9
	19-Dec-12	1.01	1.02	305.76	305.75	0.01	0.01	1.77E-04		2.6
	16-Jan-13	(F)0.91	0.96		305.81					1.1
	20-Feb-13	Frozen	1.00		305.77					1.2
	21-Mar-13	0.90	0.91	305.87	305.86	0.01	0.01	1.77E-04	2.8	1.4
	04-Apr-13	0.87	0.89	305.90	305.88	0.02	0.02	3.55E-04	6.7	3.4
	25-Apr-13	0.83	0.91	305.94	305.86	0.08	0.06	1.42E-03	6.8	8.8
	23-May-13	0.95	1.07	305.82	305.70	0.12	0.10	2.13E-03	12	20.5
	13-Jun-13	0.83	0.94	305.94	305.83	0.11	0.09	1.95E-03	13	19.4
	31-Jul-13	0.94	1.08	305.83	305.69	0.14	0.11	2.48E-03	15.8	18.1
	29-Aug-13	0.98	1.09	305.79	305.68	0.11	0.09	1.95E-03	19.6	22.2
	25-Sep-13	0.97	1.04	305.80	305.73	0.07	0.06	1.24E-03	14.6	14.7
	22-Oct-13	0.82	0.91	305.95	305.86	0.09	0.07	1.60E-03	11.3	8.1
	28-Nov-13	(F)0.85	1.01		305.76					0.9
	10-Dec-13	(F)0.93	0.99		305.78					0.6
	15-Jan-14	(F) 0.71	0.9		305.87					0.7
	26-Feb-14	(F) 0.79	0.89		305.88					0.7
	26-Mar-14	(F) 0.81	0.93		305.84					0
	01-Apr-14	0.74	0.79	306.03	305.98	0.05	0.04	8.87E-04	4.2	2.3
	15-May-14	0.75	0.88	306.02	305.89	0.13	0.10	2.31E-03	13.4	17.7
	18-Jun-14	0.90	1.06	305.87	305.71	0.16	0.13	2.84E-03	14.9	20.1
	29-Jul-14	0.77	0.92	306.00	305.85	0.15	0.12	2.66E-03	15.3	18.3
	25-Aug-14	0.91	1.07	305.86	305.70	0.16	0.13	2.84E-03	16.9	20.1
	18-Sep-14	0.92	1.04	305.85	305.73	0.12	0.10	2.13E-03	14.3	15.7
	17-Oct-14	0.89	0.92	305.88	305.85	0.03	0.02	5.32E-04	13.2	14.8
	27-Nov-14	Frozen	0.81		305.96					0.8
	15-Dec-14	0.89	0.91	305.88	305.86	0.02	0.02	3.55E-04	6.5	4.0

NOTES:
- m ASL — metres above sea level
- (F) — Frozen
- L/s/m² — Litres per second per square metre
- Depth of screen midpoint below the creek bed is 1.24 m
- Assumed vertical permeability is 2.20E-05 m/s

TABLE B-5
SUMMARY OF CREEK BASED DRIVE POINT DATA
MILL CREEK AGGREGATES PIT

MONITOR LOCATION	DATE	G.W. LEVEL BTOP (m)	S.W. LEVEL BTOP (m)	GROUND-WATER ELEVATION (m ASL)	SURFACE WATER ELEVATION (m ASL)	HYDRAULIC HEAD IN GROUND-WATER (m)	VERTICAL HYDRAULIC GRADIENT	CALCULATED GROUNDWATER FLUX TO CREEK (L/s/m2)	TEMPERATURE GROUND-WATER (°C)	TEMPERATURE SURFACE WATER (°C)
DP21	21-Jan-15	(F)	0.98		305.79					0.1
(con't)	18-Feb-15	(F)	(F)							
	25-Mar-15	0.94	0.97	305.83	305.80				3.0	2.2
	06-Apr-15	0.81	0.84	305.96	305.93	0.03	0.02	5.32E-04	4.3	3.6
	20-May-15	0.93	1.09	305.84	305.68	0.16	0.13	2.84E-03	11.4	15.2
	23-Jun-15	0.91	0.94	305.86	305.83	0.03	0.02	5.32E-04	13.0	19.4
	22-Jul-15	0.91	1.09	305.86	305.68	0.18	0.15	3.19E-03	15.9	19.5
	25-Aug-15	0.94	1.08	305.83	305.69	0.14	0.11	2.48E-03	16.4	16.9
	24-Sep-15	1.05	1.12	305.72	305.65	0.07	0.06	1.24E-03	15.0	16.8
	29-Oct-15	0.72	0.72	306.05	306.05	0.00	0.00	0.00E+00	10.2	8.9
	25-Nov-15	0.92	0.95	305.85	305.82	0.03	0.02	5.32E-04	8.2	4.7
	10-Dec-15	0.96	0.96	305.81	305.81	0.00	0.00	0.00E+00	8.5	5.2
	20-Jan-16	(F)	(F)							
	29-Feb-16	(F)	(F)							
	17-Mar-16	0.73	0.71	306.04	306.06	-0.02	-0.02	-3.55E-04	4.7	5.1
	30-Mar-16	0.90	0.75	305.87	306.02	-0.15	-0.12	-2.66E-03	6.7	4.7
	27-Apr-16	0.85	0.96	305.92	305.81	0.11	0.09	1.95E-03	7.6	8.8
	30-May-16	0.90	1.00	305.87	305.77	0.10	0.08	1.77E-03	15.4	20.3
	27-Jun-16	1.03	1.11	305.74	305.66	0.08	0.06	1.42E-03	15.5	19.5
	28-Jul-16	1.00	1.11	305.77	305.66	0.11	0.09	1.95E-03	17.7	23.0
	11-Aug-16	1.08	1.13	305.69	305.64	0.05	0.04	8.87E-04	19.2	22.4
	21-Sep-16	1.02	1.09	305.75	305.68	0.07	0.06	1.24E-03	17.6	18.0
	18-Oct-16	1.00	1.01	305.77	305.76	0.01	0.01	1.77E-04	15.4	17.7
	14-Nov-16	0.96	0.93	305.81	305.84	-0.03	-0.02	-5.32E-04	11.6	6.3
	14-Dec-16	(F)	1.00		305.77					0.7
	18-Jan-17	0.85	0.93	305.92	305.84	0.08	0.06	1.42E-03	4.3	2.8
	15-Feb-17	0.94	1.04	305.83	305.73	0.10	0.08	1.77E-03	3.8	2.4
	17-Mar-17	0.91	1.04	305.86	305.73	0.13	0.10	2.31E-03	5.7	1.0
	11-Apr-17	0.78	0.94	305.99	305.83	0.16	0.13	2.84E-03	8.1	7.5
	18-May-17	0.84	1.03	305.93	305.74	0.19	0.15	3.37E-03	13.5	16.6
	14-Jun-17	0.9	1.07	305.87	305.70	0.17	0.14	3.02E-03	15.6	17.7
	20-Jul-17	0.84	1.04	305.93	305.73	0.20	0.16	3.55E-03	20.1	20.4
	09-Aug-17	0.91	1.07	305.86	305.70	0.16	0.13	2.84E-03	19.0	19.8
	12-Sep-17	0.92	1.08	305.85	305.69	0.16	0.13	2.84E-03	16.3	13.4
	12-Oct-17	0.92	1.04	305.85	305.73	0.12	0.10	2.13E-03	13.2	11.6
	21-Nov-17	0.84	0.95	305.93	305.82	0.11	0.09	1.95E-03	9.4	3.9
	19-Dec-17	0.94	1.05	305.83	305.72	0.11	0.09	1.95E-03	5.5	1.2
	16-Jan-18	(F)	(F)							
	26-Feb-18	0.79	0.92	305.98	305.85	0.13	0.10	2.31E-03	3.5	2.5
	26-Mar-18	0.95	1.05	305.82	305.72	0.10	0.08	1.77E-03	7.4	4.8
	24-Apr-18	0.71	0.86	306.06	305.91	0.15	0.12	2.66E-03	7.0	9.2
	18-May-18	0.84	0.99	305.93	305.78	0.15	0.12	2.66E-03	10.8	14.4
	12-Jun-18	0.95	1.03	305.82	305.74	0.08	0.06	1.42E-03	12.4	14.9
	27-Jul-18	0.98	1.09	305.79	305.68	0.11	0.09	1.95E-03	16.8	20.4
	22-Aug-18	0.88	1.03	305.89	305.74	0.15	0.12	2.66E-03	17.1	19.8
	12-Sep-18	0.95	1.05	305.82	305.72	0.10	0.08	1.77E-03	16.6	15.8
	30-Oct-18	0.91	0.86	305.86	305.91	-0.05	-0.04	-8.87E-04	9.5	4.8
	21-Nov-18	0.95	0.80	305.82	305.97	-0.15	-0.12	-2.66E-03	6.2	1.4
	20-Dec-18	0.91	0.91	305.86	305.86	0.00	0.00	0.00E+00	4.8	2.4
2018 AVERAGE VALUES						0.07	0.06	1.24E-03	10.2	10.0
OVERALL AVERAGE VALUES						0.09	0.07	1.55E-03	10.9	11.0

NOTES:
- m ASL — metres above sea level
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- Depth of screen midpoint below the creek bed is 1.24 m
- Assumed vertical permeability is 2.20E-05 m/s

TABLE B-5
SUMMARY OF CREEK BASED DRIVE POINT DATA
MILL CREEK AGGREGATES PIT

MONITOR LOCATION	DATE	G.W. LEVEL BTOP (m)	S.W. LEVEL BTOP (m)	GROUND-WATER ELEVATION (m ASL)	SURFACE WATER ELEVATION (m ASL)	HYDRAULIC HEAD IN GROUND-WATER (m)	VERTICAL HYDRAULIC GRADIENT	CALCULATED GROUNDWATER FLUX TO CREEK (L/s/m2)	TEMPERATURE	
									GROUND-WATER (°C)	SURFACE WATER (°C)
DP22	13-May-93	0.45	0.60	305.56	305.41	0.15	0.07	5.52E-03	8.0	12.0
	27-May-93	0.45	0.59	305.56	305.42	0.14	0.06	5.15E-03	8.5	13.0
	22-Jun-93	0.41	0.54	305.60	305.47	0.13	0.06	4.78E-03	10.5	22.0
	14-Jul-93	0.50	0.61	305.51	305.40	0.11	0.05	4.04E-03	11.2	19.2
	18-Aug-93	0.53	0.63	305.48	305.38	0.10	0.04	3.68E-03	12.1	19.4
	20-Sep-93	0.56	0.65	305.45	305.36	0.09	0.04	3.31E-03	12.5	11.1
	19-Oct-93	0.44	0.56	305.57	305.45	0.12	0.05	4.41E-03	10.5	9.0
	17-Nov-93	0.54	0.61	305.47	305.40	0.07	0.03	2.57E-03	8.0	5.1
	06-Dec-93	0.45	0.55	305.56	305.46	0.10	0.04	3.68E-03	6.8	3.3
	18-Jan-94	(F) 0.51	(F) 0.54	(F) 305.50	(F) 305.47					
	24-Feb-94	0.46	0.59	305.55	305.42	0.13	0.06	4.78E-03	5.0	1.0
	24-Mar-94	0.33	0.44	305.68	305.57	0.11	0.05	4.04E-03	5.5	4.2
	19-Apr-94	0.43	0.56	305.58	305.45	0.13	0.06	4.78E-03	5.0	7.0
	24-May-94	0.48	0.60	305.53	305.41	0.12	0.05	4.41E-03	8.0	15.0
	23-Jun-94	0.60	0.68	305.41	305.33	0.08	0.04	2.94E-03	10.0	18.0
	19-Jul-94	0.62	0.69	305.39	305.32	0.07	0.03	2.57E-03	10.0	18.0
	25-Aug-94	0.61	0.68	305.40	305.33	0.07	0.03	2.57E-03	10.0	17.0
	21-Sep-94	0.54	0.69	305.47	305.32	0.15	0.07	5.52E-03	10.0	15.0
	18-Oct-94	0.63	0.66	305.38	305.35	0.03	0.01	1.10E-03	9.0	9.0
	23-Nov-94	0.54	0.62	305.47	305.39	0.08	0.04	2.94E-03	9.0	4.0
	21-Dec-94	0.52	0.62	305.49	305.39	0.10	0.04	3.68E-03	8.0	5.0
	24-Jan-95	0.32	0.45	305.69	305.56	0.13	0.06	4.78E-03	6.0	3.0
	15-Feb-95	0.57	0.62	305.44	305.39	0.05	0.02	1.84E-03	6.0	3.0
	23-Mar-95	0.42	0.53	305.59	305.48	0.11	0.05	4.04E-03	6.0	4.0
	17-May-95	0.42	0.58	305.59	305.43	0.16	0.07	5.88E-03	10.0	14.0
	13-Jun-95	0.54	0.55	305.47	305.46	0.01	0.00	3.68E-04	11.0	16.0
	20-Jul-95	0.60	0.67	305.41	305.34	0.07	0.03	2.57E-03	14.0	21.0
	15-Aug-95	0.48	0.55	305.53	305.46	0.07	0.03	2.57E-03	14.0	20.0
	18-Oct-95	0.60	0.67	305.41	305.34	0.07	0.03	2.57E-03	11.5	8.5
	22-Nov-95	0.48	0.59	305.53	305.42	0.11	0.05	4.04E-03	6.0	1.0
	26-Mar-96	0.35	0.45	(F) 305.66	305.56					1.0
	31-May-96	0.45	0.59	305.56	305.42	0.14	0.06	5.15E-03	12.0	19.0
	28-Jun-96	0.43	0.58	305.58	305.43	0.15	0.07	5.52E-03	13.0	20.0
	31-Jul-96	0.42	0.55	305.59	305.46	0.13	0.06	4.78E-03	14.0	19.0
	30-Aug-96	0.52	0.62	305.49	305.39	0.10	0.04	3.68E-03	9.0	17.0
	27-Sep-96	0.43	0.58	305.58	305.43	0.15	0.07	5.52E-03	13.0	14.0
	06-Nov-96	0.45	0.57	305.56	305.44	0.12	0.05	4.41E-03	8.0	6.0
	31-Mar-97	0.15	0.26	305.86	305.75	0.11	0.05	4.04E-03	4.0	3.0
	30-Apr-97	0.38	0.53	305.63	305.48	0.15	0.07	5.52E-03	6.0	13.0
	26-May-97	0.40	0.54	305.61	305.47	0.14	0.06	5.15E-03	9.0	16.0
	27-Jun-97	0.44	0.58	305.57	305.43	0.14	0.06	5.15E-03	7.0	18.0
	30-Jul-97	0.52	0.62	305.49	305.39	0.10	0.04	3.68E-03	9.5	21.0
	31-Aug-97	0.51	0.61	305.50	305.40	0.10	0.04	3.68E-03	12.0	16.5
	03-Oct-97	0.51	0.62	305.50	305.39	0.11	0.05	4.04E-03	12.5	14.0
	06-Nov-97	0.42	0.53	305.59	305.48	0.11	0.05	4.04E-03	9.0	6.5
	12-Dec-97	0.40	0.61	(F) 305.61	305.40					1.5
	27-Mar-98	0.34	0.49	305.67	305.52	0.15	0.07	5.52E-03	3.0	3.5
	30-Apr-98	0.46	0.60	305.55	305.41	0.14	0.06	5.15E-03	5.3	13.5
	31-May-98	0.55	0.65	305.46	305.36	0.10	0.04	3.68E-03	10.5	15.5
	30-Jun-98	0.53	0.62	305.48	305.39	0.09	0.04	3.31E-03	10.5	15.5
	31-Jul-98	0.61	0.68	305.40	305.33	0.07	0.03	2.57E-03	14.0	21.5
	30-Sep-98	0.61	0.63	305.40	305.38	0.02	0.01	7.35E-04	13.5	13.0
	27-Nov-98	0.62	0.65	305.39	305.36	0.03	0.01	1.10E-03	8.5	5.5
	31-Mar-99	0.48	0.51	305.53	305.50	0.03	0.01	1.10E-03	7.0	6.0
	20-May-99	0.64	0.67	305.37	305.34	0.03	0.01	1.10E-03	10.0	15.7
	29-Jun-99	0.65	0.65	305.36	305.36	0.00	0.00	0.00E+00	16.0	20.5
	16-Jul-99	0.79	0.79	305.22	305.22	0.00	0.00	0.00E+00		21.0
	11-Aug-99	0.69	0.70	305.32	305.31	0.01	0.00	3.68E-04	15.1	19.3
	09-Sep-99	0.59	0.62	305.42	305.39	0.03	0.01	1.10E-03	16.0	20.9
	09-Nov-99	0.60	0.63	305.41	305.38	0.03	0.01	1.10E-03	11.2	7.9
	01-Mar-00	0.56	0.59	305.45	305.42	0.03	0.01	1.10E-03	3.0	2.5
	18-May-00	0.40	0.47	305.61	305.54	0.07	0.03	2.57E-03	9.0	12.0
	15-Jun-00	0.38	0.46	305.63	305.55	0.08	0.04	2.94E-03	11.5	19.0
	06-Jul-00	0.59	0.67	305.42	305.34	0.08	0.04	2.94E-03	13.0	18.3
	08-Aug-00	0.59	0.67	305.42	305.34	0.08	0.04	2.94E-03	14.7	21.2
	13-Sep-00	0.65	0.68	305.36	305.33	0.03	0.01	1.10E-03	14.4	16.8
	10-Oct-00	0.65	0.69	305.36	305.32	0.04	0.02	1.47E-03	10.3	9.3
	08-Nov-00	0.69	0.71	305.32	305.30	0.02	0.01	7.35E-04	9.6	8.9
	14-Nov-00	0.62	0.64	305.39	305.37	0.02	0.01	7.35E-04		
	11-Dec-00	0.63	0.60	(F) 305.38	(F) 305.41					
	11-Jan-01	0.42	0.43	(F) 305.59	(F) 305.58					
	09-Feb-01	0.47	0.56	305.54	305.45	0.09	0.04	3.31E-03	4.3	1.6
	13-Mar-01	0.55	0.63	305.46	305.38	0.08	0.04	2.94E-03	3.1	1.9
	10-Apr-01	0.41	0.49	305.60	305.52	0.08	0.04	2.94E-03	5.6	5.4
	04-May-01	0.60	0.68	305.41	305.33	0.08	0.04	2.94E-03	8.8	17.3
	07-Jun-01	0.57	0.66	305.44	305.35	0.09	0.04	3.31E-03	5.0	9.0
	25-Jun-01	0.62	0.70	305.39	305.31	0.08	0.04	2.94E-03		
	28-Jun-01	0.63	0.71	305.38	305.30	0.08	0.04	2.94E-03		
	03-Jul-01	0.67	0.73	305.34	305.28	0.06	0.03	2.21E-03		
	05-Jul-01	0.67	0.73	305.34	305.28	0.06	0.03	2.21E-03		
	09-Jul-01	0.68	0.74	305.33	305.27	0.06	0.03	2.21E-03		
	12-Jul-01	0.67	0.74	305.34	305.27	0.07	0.03	2.57E-03	14.0	17.5
	16-Jul-01	0.69	0.74	305.32	305.27	0.05	0.02	1.84E-03		

NOTES:
- m ASL metres above sea level
- (F) Frozen
- L/s/m² Litres per second per square metre
- Depth of screen midpoint below the creek bed is 2.23 m
- Assumed vertical permeability is 8.00E-05 m/s

TABLE B-5
SUMMARY OF CREEK BASED DRIVE POINT DATA
MILL CREEK AGGREGATES PIT

MONITOR LOCATION	DATE	G.W. LEVEL BTOP (m)	S.W. LEVEL BTOP (m)	GROUND-WATER ELEVATION (m ASL)	SURFACE WATER ELEVATION (m ASL)	HYDRAULIC HEAD IN GROUND-WATER (m)	VERTICAL HYDRAULIC GRADIENT	CALCULATED GROUNDWATER FLUX TO CREEK (L/s/m2)	TEMPERATURE GROUND-WATER (°C)	TEMPERATURE SURFACE WATER (°C)
	19-Jul-01	0.68	0.74	305.33	305.27	0.06	0.03	2.21E-03		
DP22	23-Jul-01	0.69	0.74	305.32	305.27	0.05	0.02	1.84E-03		
(con't)	26-Jul-01	0.69	0.74	305.32	305.27	0.05	0.02	1.84E-03		
	30-Jul-01	0.71	0.75	305.30	305.26	0.04	0.02	1.47E-03		
	02-Aug-01	0.72	0.76	305.29	305.25	0.04	0.02	1.47E-03	16.0	22.2
	07-Aug-01	0.73	0.77	305.28	305.24	0.04	0.02	1.47E-03		
	09-Aug-01	0.73	0.77	305.28	305.24	0.04	0.02	1.47E-03		
	13-Aug-01	0.74	0.77	305.27	305.24	0.03	0.01	1.10E-03		
	16-Aug-01	0.75	0.76	305.26	305.25	0.01	0.00	3.68E-04		
	20-Aug-01	0.66	0.68	305.35	305.33	0.02	0.01	7.35E-04		
	23-Aug-01	0.70	0.72	305.31	305.29	0.02	0.01	7.35E-04		
	27-Aug-01	0.72	0.73	305.29	305.28	0.01	0.00	3.68E-04		
	30-Aug-01	0.71	0.73	305.30	305.28	0.02	0.01	7.35E-04		
	04-Sep-01	0.72	0.73	305.29	305.28	0.01	0.00	3.68E-04	15.2	17.9
	06-Sep-01	0.74	0.75	305.27	305.26	0.01	0.00	3.68E-04		
	10-Sep-01	0.74	0.74	305.27	305.27	0.00	0.00	0.00E+00		
	13-Sep-01	0.75	0.75	305.26	305.26	0.00	0.00	0.00E+00		
	17-Sep-01	0.75	0.75	305.26	305.26	0.00	0.00	0.00E+00		
	20-Sep-01	0.72	0.73	305.29	305.28	0.01	0.00	3.68E-04		
	24-Sep-01	0.69	0.70	305.32	305.31	0.01	0.00	3.68E-04		
	27-Sep-01	0.67	0.69	305.34	305.32	0.02	0.01	7.35E-04		
	01-Oct-01	0.71	0.72	305.30	305.29	0.01	0.00	3.68E-04	11.4	10.4
	04-Oct-01	0.72	0.73	305.29	305.28	0.01	0.00	3.68E-04		
	09-Oct-01	0.64	0.68	305.37	305.33	0.04	0.02	1.47E-03		
	11-Oct-01	0.66	0.69	305.35	305.32	0.03	0.01	1.10E-03		
	15-Oct-01	0.57	0.63	305.44	305.38	0.06	0.03	2.21E-03		
	19-Oct-01	0.59	0.64	305.42	305.37	0.05	0.02	1.84E-03		
	22-Oct-01	0.63	0.68	305.38	305.33	0.05	0.02	1.84E-03		
	26-Oct-01	0.61	0.65	305.40	305.36	0.04	0.02	1.47E-03		
	29-Oct-01	0.64	0.68	305.37	305.33	0.04	0.02	1.47E-03		
	01-Nov-01	0.66	0.68	305.35	305.33	0.02	0.01	7.35E-04		
	05-Nov-01	0.61	0.65	305.40	305.36	0.04	0.02	1.47E-03	8.4	6.0
	08-Nov-01	0.63	0.68	305.38	305.33	0.05	0.02	1.84E-03		
	12-Nov-01	0.65	0.68	305.36	305.33	0.03	0.01	1.10E-03		
	15-Nov-01	0.64	0.65	305.37	305.36	0.01	0.00	3.68E-04		
	19-Nov-01	0.66	0.68	305.35	305.33	0.02	0.01	7.35E-04		
	22-Nov-01	0.66	0.68	305.35	305.33	0.02	0.01	7.35E-04		
	26-Nov-01	0.59	0.63	305.42	305.38	0.04	0.02	1.47E-03		
	29-Nov-01	0.59	0.61	305.42	305.40	0.02	0.01	7.35E-04		
	03-Dec-01	0.51	0.59	305.50	305.42	0.08	0.04	2.94E-03		
	06-Dec-01	0.57	0.63	305.44	305.38	0.06	0.03	2.21E-03	8.0	7.6
	10-Dec-01	0.60	0.66	305.41	305.35	0.06	0.03	2.21E-03		
	13-Dec-01	0.60	0.64	305.41	305.37	0.04	0.02	1.47E-03		
	17-Dec-01	0.58	0.63	305.43	305.38	0.05	0.02	1.84E-03		
	20-Dec-01	0.52	0.57	305.49	305.44	0.05	0.02	1.84E-03		
	02-Jan-02	F	0.62	(F)	305.39					
	07-Jan-02	F	0.62	(F)	305.39					
	10-Jan-02	F	0.63	(F)	305.38					
	14-Jan-02	F	0.68	(F)	305.33					
	17-Jan-02	F	0.69	(F)	305.32					
	24-Jan-02	F	0.63	(F)	305.38					
	28-Jan-02	F	0.64	(F)	305.37					
	01-Feb-02	0.56	0.62	305.45	305.39	0.06	0.03	2.21E-03		
	04-Feb-02	0.58	0.65	305.43	305.36	0.07	0.03	2.57E-03		
	07-Feb-02	0.58	0.66	305.43	305.35	0.08	0.04	2.94E-03		0.1
	11-Feb-02	0.58	0.61	305.43	305.40	0.03	0.01	1.10E-03		
	18-Feb-02	0.56	0.60	305.45	305.41	0.04	0.02	1.47E-03		
	21-Feb-02	0.60	0.65	305.41	305.36	0.05	0.02	1.84E-03		
	25-Feb-02	0.62	0.70	305.39	305.31	0.08	0.04	2.94E-03		
	07-Mar-02	0.62	0.75	305.39	305.26	0.13	0.06	4.78E-03	4.4	2.1
	11-Mar-02	0.60	0.69	305.41	305.32	0.09	0.04	3.31E-03		
	15-Mar-02	0.68	0.72	305.33	305.29	0.04	0.02	1.47E-03		
	19-Mar-02	0.56	0.64	305.45	305.37	0.08	0.04	2.94E-03		
	21-Mar-02	0.64	0.72	305.37	305.29	0.08	0.04	2.94E-03		
	26-Mar-02	0.60	0.67	305.41	305.34	0.07	0.03	2.57E-03		
	28-Mar-02	0.57	0.66	305.44	305.35	0.09	0.04	3.31E-03		
	01-Apr-02	0.50	0.60	305.51	305.41	0.10	0.04	3.68E-03		
	05-Apr-02	0.48	0.58	305.53	305.43	0.10	0.04	3.68E-03		
	07-Apr-02	0.39	0.44	305.62	305.57	0.05	0.02	1.84E-03	8.8	8.0
	11-Apr-02	0.42	0.47	305.59	305.54	0.05	0.02	1.84E-03		
	19-Apr-02	0.37	0.41	305.64	305.60	0.04	0.02	1.47E-03		
	23-Apr-02	0.55	0.61	305.46	305.40	0.06	0.03	2.21E-03		

NOTES:
- m ASL — metres above sea level
- (F) — Frozen
- L/s/m² — Litres per second per square metre
- Depth of screen midpoint below the creek bed is 2.23 m
- Assumed vertical permeability is 8.00E-05 m/s

TABLE B-5
SUMMARY OF CREEK BASED DRIVE POINT DATA
MILL CREEK AGGREGATES PIT

MONITOR LOCATION	DATE	G.W. LEVEL BTOP (m)	S.W. LEVEL BTOP (m)	GROUND-WATER ELEVATION (m ASL)	SURFACE WATER ELEVATION (m ASL)	HYDRAULIC HEAD IN GROUND-WATER (m)	VERTICAL HYDRAULIC GRADIENT	CALCULATED GROUNDWATER FLUX TO CREEK (L/s/m2)	TEMPERATURE	
									GROUND-WATER (°C)	SURFACE WATER (°C)
	29-Apr-02	0.49	0.57	305.52	305.44	0.08	0.04	2.94E-03		
DP22	06-May-02	0.53	0.5969	305.48	305.41	0.07	0.03	2.46E-03	9.9	13.0
(con't)	10-May-02	0.53	0.59	305.48	305.42	0.06	0.03	2.21E-03		
	14-May-02	0.46	0.54	305.55	305.47	0.08	0.04	2.94E-03		
	17-May-02	0.4	0.48	305.61	305.53	0.08	0.04	2.94E-03		
	21-May-02	0.49	0.57	305.52	305.44	0.08	0.04	2.94E-03		
	24-May-02	0.53	0.62	305.48	305.39	0.09	0.04	3.31E-03		
	27-May-02	0.59	0.68	305.42	305.33	0.09	0.04	3.31E-03		
	31-May-02	0.57	0.67	305.44	305.34	0.10	0.04	3.68E-03		
	04-Jun-02	0.6	0.63	305.41	305.38	0.03	0.01	1.10E-03		
	07-Jun-02	0.58	0.62	305.43	305.39	0.04	0.02	1.47E-03		
	14-Jun-02	0.62	0.7	305.39	305.31	0.08	0.04	2.94E-03	13.2	17.8
	21-Jun-02	0.62	0.7	305.39	305.31	0.08	0.04	2.94E-03		
	25-Jun-02	0.62	0.7	305.39	305.31	0.08	0.04	2.94E-03		
	08-Jul-02	0.62	0.7	305.39	305.31	0.08	0.04	2.94E-03		
	11-Jul-02	0.62	0.7	305.39	305.31	0.08	0.04	2.94E-03	18.8	20.1
	15-Jul-02	0.62	0.7	305.39	305.31	0.08	0.04	2.94E-03		
	23-Jul-02	0.69	0.72	305.32	305.29	0.03	0.01	1.10E-03		
	05-Aug-02	0.70	0.75	305.31	305.26	0.05	0.02	1.84E-03		
	09-Aug-02	0.71	0.74	305.30	305.27	0.03	0.01	1.10E-03	15.7	17.0
	16-Aug-02	0.71	0.74	305.30	305.27	0.03	0.01	1.10E-03		
	21-Aug-02	0.70	0.75	305.31	305.26	0.05	0.02	1.84E-03		
	23-Aug-02	0.70	0.75	305.31	305.26	0.05	0.02	1.84E-03		
	04-Sep-02	0.75	0.77	305.26	305.24	0.02	0.01	7.35E-04	16.0	17.6
	17-Sep-02	0.71	0.75	305.30	305.26	0.04	0.02	1.47E-03		
	02-Oct-02	0.72	0.74	305.29	305.27	0.02	0.01	7.35E-04		
	11-Oct-02	0.71	0.72	305.30	305.29	0.01	0.00	3.68E-04	14.0	12.1
	21-Nov-02	0.67	0.70	305.34	305.31	0.03	0.01	1.10E-03	6.5	4.0
	09-Jan-03	0.57	0.60	305.44	305.41	0.03	0.01	1.10E-03	2.4	0.1
	10-Feb-03	0.58	0.65	305.43	305.36	0.07	0.03	2.57E-03	3.4	4.5
	13-Mar-03	0.61	0.70	305.40	305.31	0.09	0.04	3.31E-03	4.0	7.5
	10-Apr-03	0.53	0.60	305.48	305.41	0.07	0.03	2.57E-03	4.5	12.0
	07-May-03	0.50	0.58	305.51	305.43	0.08	0.04	2.94E-03	7.0	10.5
	15-May-03	0.60	0.70	305.41	305.31	0.10	0.04	3.68E-03	8.0	10.0
	16-Jun-03	0.62	0.70	305.39	305.31	0.08	0.04	2.94E-03	12.0	13.0
	17-Jul-03	0.69	0.75	305.32	305.26	0.06	0.03	2.21E-03	13.0	14.0
	21-Aug-03	0.73	0.76	305.28	305.25	0.03	0.01	1.10E-03	18.6	20.0
	26-Aug-03	0.63	0.63	305.38	305.38	0.00	0.00	0.00E+00	15.9	19.7
	25-Sep-03	0.62	0.68	305.39	305.33	0.06	0.03	2.21E-03	14.4	9.0
	27-Oct-03	0.62	0.66	305.39	305.35	0.04	0.02	1.47E-03	11.0	7.0
	01-Dec-03	0.46	0.54	305.55	305.47	0.08	0.04	2.94E-03	6.0	1.0
	11-Dec-03	0.53	0.57	305.48	305.44	0.04	0.02	1.47E-03	6.5	2.7
	15-Dec-03	0.46	0.54	305.44	305.38	0.06	0.03	2.21E-03		1.0
	19-Jan-04	0.49	0.55	(F)305.52	(F)305.46					
	18-Feb-04	0.41	0.60	(F)305.60	(F)305.41					
	25-Mar-04	0.50	0.59	305.51	305.42	0.09	0.04	3.31E-03	5.6	4.4
	07-Apr-04	0.43	0.55	305.58	305.46	0.12	0.05	4.41E-03	5.6	3.5
	22-Apr-04	0.37	0.50	305.64	305.51	0.13	0.06	4.78E-03	8.3	11.8
	20-May-04	0.48	0.63	305.53	305.38	0.15	0.07	5.52E-03	10.1	13.0
	24-Jun-04	0.50	0.65	305.51	305.36	0.15	0.07	5.52E-03	13.0	19.8
	23-Jul-04	0.55	0.70	305.46	305.31	0.15	0.07	5.52E-03	15.3	21.4
	04-Aug-04	0.54	0.68	305.47	305.33	0.14	0.06	5.15E-03	15.0	20.0
	27-Aug-04	0.58	0.70	305.43	305.31	0.12	0.05	4.41E-03	14.2	18.9
	28-Sep-04	0.60	0.72	305.41	305.29	0.12	0.05	4.41E-03	9.0	11.7
	18-Oct-04	0.58	0.68	305.43	305.33	0.10	0.04	3.68E-03	8.0	6.6
	16-Nov-04	0.59	0.69	305.42	305.32	0.10	0.04	3.68E-03	6.6	5.1
	15-Dec-04	0.44	0.65	(F)305.57	305.36					0.7
	16-Dec-04	0.59	0.66	(F)305.42	305.35					0.7
	20-Jan-05	0.34	0.65	(F)305.67	305.36					0.4
	25-Feb-05	0.40	0.59	(F)305.61	305.42					0.4
	24-Mar-05	0.50	0.63	305.51	305.38	0.13	0.06	4.78E-03	3.6	2.2
	18-Apr-05	0.47	0.60	305.54	305.41	0.13	0.06	4.78E-03	7.5	11.9
	29-Apr-05	0.39	0.54	305.62	305.47	0.15	0.07	5.52E-03	8.6	10.7
	26-May-05	0.51	0.67	305.50	305.34	0.16	0.07	5.88E-03	8.4	14.4
	23-Jun-05	0.56	0.70	305.45	305.31	0.14	0.06	5.15E-03	10.0	18.2
	25-Jul-05	0.55	0.70	305.46	305.31	0.15	0.07	5.52E-03	12.4	19.3
	17-Aug-05	0.59	0.73	305.42	305.28	0.14	0.06	5.15E-03	15.6	18.7
	25-Aug-05	0.58	0.72	305.43	305.29	0.14	0.06	5.15E-03	13.1	17.6
	30-Sep-05	0.53	0.66	305.48	305.35	0.13	0.06	4.78E-03	13.2	13.4
	27-Oct-05	0.55	0.67	305.46	305.34	0.12	0.05	4.41E-03	7.7	8.7
	28-Nov-05	0.59	0.71	305.42	305.30	0.12	0.05	4.41E-03	7.2	4.2
	07-Dec-05	0.38	0.67	(F) 305.63	305.34					1.7
	19-Dec-05	0.57	0.68	(F)305.44	305.33					0.3
	26-Jan-06	0.43	0.56	305.58	305.45	0.13	0.06	4.78E-03	5.6	3.5
	15-Feb-06	0.44	0.57	305.57	305.44	0.13	0.06	4.78E-03		0.1
	30-Mar-06	0.48	0.61	305.53	305.40	0.13	0.06	4.78E-03	6.1	6.1
	27-Apr-06	0.46	0.58	305.55	305.43	0.12	0.05	4.41E-03	9.4	10.8
	15-May-06	0.52	0.68	305.49	305.33	0.16	0.07	5.88E-03	13.2	17.2
	15-Jun-06	0.55	0.72	305.46	305.29	0.17	0.08	6.25E-03	17.1	18.0
	15-Jul-06	0.53	0.70	305.48	305.31	0.17	0.08	6.25E-03	17.1	21.4
	24-Aug-06	0.59	0.73	305.42	305.28	0.14	0.06	5.15E-03	16.4	18.4

NOTES:
· m ASL metres above sea level
· (F) Frozen
· L/s/m² Litres per second per square metre
· Depth of screen midpoint below the creek bed is 2.23 m
· Assumed vertical permeability is 8.00E-05 m/s

TABLE B-5
SUMMARY OF CREEK BASED DRIVE POINT DATA
MILL CREEK AGGREGATES PIT

MONITOR LOCATION	DATE	G.W. LEVEL BTOP (m)	S.W. LEVEL BTOP (m)	GROUND-WATER ELEVATION (m ASL)	SURFACE WATER ELEVATION (m ASL)	HYDRAULIC HEAD IN GROUND-WATER (m)	VERTICAL HYDRAULIC GRADIENT	CALCULATED GROUNDWATER FLUX TO CREEK (L/s/m2)	TEMPERATURE	
									GROUND-WATER (°C)	SURFACE WATER (°C)
	15-Sep-06	0.40	0.56	305.61	305.45	0.16	0.07	5.88E-03	14.6	16.6
	15-Oct-06	0.36	0.51	305.65	305.50	0.15	0.07	5.52E-03	10.5	10.7
	15-Nov-06	0.45	0.60	305.56	305.41	0.15	0.07	5.52E-03	4.4	4.4
	07-Dec-06	0.39	0.60	(F) 305.62	305.41					1.3
	17-Jan-07	0.38	0.59	(F) 305.63	305.42					0.2
DP22	22-Feb-07	0.46	0.64	305.55	305.37	0.18	0.08	6.62E-03	4.1	0.8
(con't)	30-Mar-07	0.39	0.56	(F) 305.62	305.45					3.3
	26-Apr-07	0.31	0.53	305.70	305.58	0.12	0.05	4.41E-03	9.6	10.5
	16-May-07	0.42	0.52	305.60	305.49	0.10	0.05	3.86E-03	12.1	18.9
	26-Jun-07	0.52	0.72	305.49	305.29	0.20	0.09	7.35E-03	14.8	22.8
	25-Jul-07	0.57	0.75	305.44	305.26	0.18	0.08	6.62E-03	15.0	19.8
	07-Aug-07	0.65	0.70	305.36	305.31	0.05	0.02	1.84E-03		23.7
	21-Aug-07	0.59	0.74	305.42	305.27	0.15	0.07	5.52E-03	15.3	17.1
	21-Sep-07	0.62	0.74	305.39	305.27	0.12	0.05	4.41E-03	16.5	18.3
	17-Oct-07	0.59	0.72	305.42	305.29	0.13	0.06	4.78E-03	13.2	12.6
	15-Nov-07	0.59	0.69	305.42	305.32	0.10	0.04	3.68E-03		
	29-Nov-07	0.64	0.67	305.37	305.34	0.03	0.01	1.10E-03	4.1	2.7
	10-Dec-07	0.58	0.69	305.43	305.32	0.11	0.05	4.04E-03		0.7
	31-Jan-08	0.49	0.61	(F)305.52	305.40					0.1
	29-Feb-08	0.48	0.64	(F)305.53	305.37					0.1
	31-Mar-08	0.36	0.57	305.65	305.44	0.21	0.09	7.72E-03	4.1	3.0
	28-Apr-08	0.42	0.61	305.59	305.40	0.19	0.09	6.99E-03	10.3	11.3
	28-May-08	0.47	0.67	305.54	305.34	0.20	0.09	7.35E-03	12.9	15.0
	25-Jun-08	0.44	0.64	305.57	305.37	0.20	0.09	7.35E-03	14.8	21.4
	16-Jul-08	0.46	0.68	305.55	305.33	0.22	0.10	8.09E-03		23.3
	20-Aug-08	0.41	0.64	305.60	305.37	0.23	0.10	8.46E-03	14.3	17.5
	26-Aug-08	0.49	0.68	305.52	305.33	0.19	0.09	6.99E-03	16.3	16.8
	19-Sep-08	0.26	0.47	305.75	305.54	0.21	0.09	7.72E-03	13.3	16.9
	10-Oct-08	0.44	0.65	305.57	305.36	0.21	0.09	7.72E-03	10.6	12.4
	05-Nov-08	0.43	0.63	305.58	305.38	0.20	0.09	7.35E-03	11.5	9.5
	17-Dec-08	0.23	0.58	(F)305.78	305.43					1.2
	06-Jan-09	0.15	0.56	(F)305.86	305.45					0.0
	27-Feb-09		0.60		305.41				5.5	1.6
	11-Mar-09	0.15	0.36	305.86	305.65	0.21	0.09	7.72E-03	6.4	2.0
	14-Apr-09	0.35	0.56	305.66	305.45	0.21	0.09	7.72E-03	7.0	6.0
	21-May-09	0.40	0.62	305.61	305.39	0.22	0.10	8.09E-03	11.3	18.6
	16-Jun-09	0.40	0.63	305.61	305.38	0.23	0.10	8.46E-03	13.2	17.9
	31-Jul-09	0.36	0.58	305.65	305.43	0.22	0.10	8.09E-03	15.0	19.5
	25-Aug-09	0.34	0.58	305.67	305.43	0.24	0.11	8.83E-03	13.1	18.8
	28-Aug-09	0.37	0.62	305.64	305.39	0.25	0.11	9.19E-03	14.3	18.2
	28-Sep-09	0.57	0.65	305.44	305.36	0.08	0.04	2.94E-03	12.0	11.7
	14-Oct-09	0.42	0.65	305.59	305.36	0.23	0.10	8.46E-03	9.9	6.3
	11-Nov-09	0.40	0.60	305.61	305.41	0.20	0.09	7.35E-03	1.0	7.6
	11-Dec-09	0.42	0.64	(F)305.59	305.38					2.5
	16-Dec-09	0.31	0.61	(F)305.70	305.40					0.9
	13-Jan-10		0.68		305.33					-0.2
	11-Feb-10		0.67		305.34					0.2
	11-Mar-10	0.62	0.60	305.39	305.41	-0.02	-0.01	-7.35E-04	6.3	5.4
	16-Apr-10	0.43	0.64	305.58	305.37	0.21	0.09	7.72E-03	11.7	14.0
	21-May-10	0.47	0.57	305.54	305.44	0.10	0.04	3.68E-03	11.3	15.9
	17-Jun-10	0.42	0.60	305.59	305.41	0.18	0.08	6.62E-03	13.0	18.8
	15-Jul-10	0.55	0.71	305.46	305.30	0.16	0.07	5.88E-03	15.1	21.5
	18-Aug-10	0.58	0.73	305.43	305.28	0.15	0.07	5.52E-03	15.4	18.9
	31-Aug-10	0.62	0.72	305.39	305.29	0.10	0.04	3.68E-03	16.7	21.5
	28-Sep-10	0.48	0.60	305.53	305.41	0.12	0.05	4.41E-03	13.7	13.7
	20-Oct-10	0.56	0.68	305.45	305.33	0.12	0.05	4.41E-03	10.8	9.4
	18-Nov-10	0.48	0.60	305.53	305.41	0.12	0.05	4.41E-03	8.4	6.7
	08-Dec-10	0.48	0.65	(F)305.53	305.36					0.2
	22-Dec-10	0.55	0.69	(F)305.46	305.32					0.3

NOTES:
· m ASL metres above sea level
· (F) Frozen
· L/s/m² Litres per second per square metre
· Depth of screen midpoint below the creek bed is 2.23 m
· Assumed vertical permeability is 8.00E-05 m/s

TABLE B-5
SUMMARY OF CREEK BASED DRIVE POINT DATA
MILL CREEK AGGREGATES PIT

MONITOR LOCATION	DATE	G.W. LEVEL BTOP (m)	S.W. LEVEL BTOP (m)	GROUND-WATER ELEVATION (m ASL)	SURFACE WATER ELEVATION (m ASL)	HYDRAULIC HEAD IN GROUND-WATER (m)	VERTICAL HYDRAULIC GRADIENT	CALCULATED GROUNDWATER FLUX TO CREEK (L/s/m2)	TEMPERATURE	
									GROUND-WATER (°C)	SURFACE WATER (°C)
	19-Jan-11	(F)0.48	0.66	(F)305.53	305.35					0.1
DP22	17-Feb-11	(F)0.57	0.60	(F)305.44	305.41					0.9
(con't)	16-Mar-11	0.48	0.50	305.53	305.51	0.02	0.01	7.35E-04	4.6	3.9
	13-Apr-11	0.47	0.60	305.54	305.41	0.13	0.06	4.78E-03	9.2	10.5
	21-Apr-11	0.31	0.50	305.70	305.51	0.19	0.09	6.99E-03	5.8	4.3
	26-May-11	0.32	0.51	305.69	305.50	0.19	0.09	6.99E-03	10.0	14.9
	16-Jun-11	0.44	0.63	305.57	305.38	0.19	0.09	6.99E-03	12.7	18.1
	14-Jul-11	0.54	0.70	305.47	305.31	0.16	0.07	5.88E-03	14.1	19.7
	11-Aug-11	0.57	0.73	305.44	305.28	0.16	0.07	5.88E-03	15.8	17.5
	17-Aug-11	0.61	0.72	305.40	305.29	0.11	0.05	4.04E-03	14.5	21.0
	14-Sep-11	0.61	0.73	305.40	305.28	0.12	0.05	4.41E-03	14.5	16.5
	27-Oct-11	0.48	0.60	305.53	305.41	0.12	0.05	4.41E-03	10.4	6.9
	14-Nov-11	0.53	0.64	305.48	305.37	0.11	0.05	4.04E-03	8.4	5.4
	14-Dec-11	0.54	0.57	305.47	305.44	0.03	0.01	1.10E-03	6.9	5.8
	22-Dec-11	0.45	0.58	305.56	305.43	0.13	0.06	4.78E-03	6.3	3.2
	16-Jan-12	(F) 0.40	0.64		305.37					0.4
	16-Feb-12	0.43	0.65	305.58	305.36	0.22	0.10	8.09E-03	4.8	2.7
	29-Mar-12	0.48	0.64	305.53	305.37	0.16	0.07	5.88E-03	6.6	5.6
	10-Apr-12	0.53	0.67	305.48	305.34	0.14	0.06	5.15E-03	8.8	8.1
	30-Apr-12	0.50	0.67	305.51	305.34	0.17	0.08	6.25E-03	7.9	8.1
	29-May-12	0.69	0.73	305.32	305.28	0.04	0.02	1.47E-03	12.5	18.4
	20-Jun-12	0.72	0.74	305.29	305.27	0.02	0.01	7.35E-04	15.0	24.8
	24-Jul-12	0.65	0.65	305.36	305.36	0.00	0.00	0.00E+00	16.9	22.1
	08-Aug-12	0.69	0.76	305.32	305.25	0.07	0.03	2.57E-03	17.0	23.6
	21-Aug-12	0.66	0.75	305.35	305.26	0.09	0.04	3.31E-03	15.8	18.5
	18-Sep-12	0.60	0.68	305.41	305.33	0.08	0.04	2.94E-03	13.9	13.6
	23-Oct-12	0.50	0.60	305.51	305.41	0.10	0.04	3.68E-03	11.2	10.1
	28-Nov-12	0.64	0.70	305.37	305.31	0.06	0.03	2.21E-03	7.5	1.9
	06-Dec-12	0.55	0.64	305.46	305.37	0.09	0.04	3.31E-03	2.0	2.0
	19-Dec-12	0.61	0.67	305.40	305.34	0.06	0.03	2.21E-03		2.4
	16-Jan-13	(F)0.51	0.66		305.35					1.2
	20-Feb-13	(F)0.52	0.57		305.44					
	21-Mar-13	(F)0.50	0.60		305.41					1.2
	04-Apr-13	0.63	0.58	305.38	305.43	-0.05	-0.02	-1.84E-03	6.1	3.6
	25-Apr-13	0.44	0.56	305.57	305.45	0.12	0.05	4.41E-03	7.0	8.1
	23-May-13	0.56	0.66	305.45	305.35	0.10	0.04	3.68E-03	11.7	19.8
	13-Jun-13	0.42	0.55	305.59	305.46	0.13	0.06	4.78E-03	12.0	18.2
	31-Jul-13	0.52	0.68	305.49	305.33	0.16	0.07	5.88E-03	15.1	17.9
	29-Aug-13	0.56	0.69	305.45	305.32	0.13	0.06	4.78E-03	17.4	21.3
	25-Sep-13	0.50	0.69	305.51	305.32	0.19	0.09	6.99E-03	14.0	14.5
	22-Oct-13	0.45	0.59	305.56	305.42	0.14	0.06	5.15E-03	10.3	8.1
	28-Nov-13	(F)0.45	0.66		305.35					0.7
	10-Dec-13	(F)0.54	0.64		305.37					0.0
	15-Jan-14	(F) 0.32	0.57		305.44					0.3
	26-Feb-14	(F) 0.39	0.52		305.49					0.7
	26-Mar-14	(F) 0.38	0.60		305.41					0.2
	01-Apr-14	0.36	0.51	305.65	305.50	0.15	0.07	5.52E-03	4.8	2.3
	15-May-14	0.31	0.52	305.70	305.49	0.21	0.09	7.72E-03	10.5	17.4
	18-Jun-14	0.51	0.67	305.50	305.34	0.16	0.07	5.88E-03	13.6	20.0
	29-Jul-14	0.36	0.54	305.65	305.47	0.18	0.08	6.62E-03	15.0	17.7
	25-Aug-14	0.51	0.68	305.50	305.33	0.17	0.08	6.25E-03	16.9	20.0
	18-Sep-14	0.32	0.58	305.69	305.43	0.26	0.12	9.56E-03	14.6	15.3
	17-Oct-14	0.46	0.64	305.55	305.37	0.18	0.08	6.62E-03	12.9	14.0
	27-Nov-14	Frozen	0.60		305.41					0.7
	15-Dec-14	0.56	0.64	305.45	305.37	0.08	0.04	2.94E-03	7.8	3.9

NOTES:
- m ASL — metres above sea level
- (F) — Frozen
- L/s/m² — Litres per second per square metre
- Depth of screen midpoint below the creek bed is 2.23 m
- Assumed vertical permeability is 8.00E-05 m/s

TABLE B-5
SUMMARY OF CREEK BASED DRIVE POINT DATA
MILL CREEK AGGREGATES PIT

MONITOR LOCATION	DATE	G.W. LEVEL BTOP (m)	S.W. LEVEL BTOP (m)	GROUND-WATER ELEVATION (m ASL)	SURFACE WATER ELEVATION (m ASL)	HYDRAULIC HEAD IN GROUND-WATER (m)	VERTICAL HYDRAULIC GRADIENT	CALCULATED GROUNDWATER FLUX TO CREEK (L/s/m2)	TEMPERATURE	
									GROUND-WATER (°C)	SURFACE WATER (°C)
DP22	21-Jan-15	(F)	0.58		305.43					0.1
(con't)	18-Feb-15	(F)	(F)							
	25-Mar-15	0.72	0.62	305.29	305.39	-0.10	-0.04	-3.68E-03	3.9	2.3
	06-Apr-15	0.57	0.50	305.44	305.51	-0.07	-0.03	-2.57E-03	4.4	3.5
	20-May-15	0.48	0.70	305.53	305.31	0.22	0.10	8.09E-03	11.2	14.7
	23-Jun-15	0.51	0.67	305.50	305.34	0.16	0.07	5.88E-03	14.3	19.0
	22-Jul-15	0.54	0.69	305.47	305.32	0.15	0.07	5.52E-03	14.8	19.6
	25-Aug-15	0.54	0.69	305.47	305.32	0.15	0.07	5.52E-03	15.0	16.9
	24-Sep-15	0.60	0.73	305.41	305.28	0.13	0.06	4.78E-03	14.6	16.1
	29-Oct-15	0.38	0.53	305.63	305.48	0.15	0.07	5.52E-03	9.8	8.9
	25-Nov-15	0.55	0.67	305.46	305.34	0.12	0.05	4.41E-03	8.3	4.7
	10-Dec-15	0.58	0.68	305.43	305.33	0.10	0.04	3.68E-03	7.9	5.0
	20-Jan-16	(F)	(F)							
	29-Feb-16	(F)	(F)							
	17-Mar-16	0.37	0.51	305.64	305.50	0.14	0.06	5.15E-03	5.1	5.0
	30-Mar-16	0.64	0.50	305.37	305.51	-0.14	-0.06	-5.15E-03	7.0	4.7
	27-Apr-16	0.46	0.60	305.55	305.41	0.14	0.06	5.15E-03	7.4	8.1
	30-May-16	0.48	0.64	305.53	305.37	0.16	0.07	5.88E-03	13.7	20.6
	27-Jun-16	0.61	0.73	305.40	305.28	0.12	0.05	4.41E-03	15.2	19.3
	28-Jul-16	0.58	0.73	305.43	305.28	0.15	0.07	5.52E-03	17.0	22.9
	11-Aug-16	0.64	0.75	305.37	305.26	0.11	0.05	4.04E-03	17.0	22.6
	21-Sep-16	0.59	0.72	305.42	305.29	0.13	0.06	4.78E-03	16.3	17.4
	18-Oct-16	0.58	0.71	305.43	305.30	0.13	0.06	4.78E-03	15.1	17.2
	14-Nov-16	0.62	0.70	305.39	305.31	0.08	0.04	2.94E-03	10.0	6.2
	14-Dec-16	(F)	0.74		305.27					0.6
	18-Jan-17	0.63	0.58	305.38	305.43	-0.05	-0.02	-1.84E-03	4.7	2.4
	15-Feb-17	0.56	0.65	305.45	305.36	0.09	0.04	3.31E-03	3.6	1.8
	17-Mar-17	0.37	0.65	305.64	305.36	0.28	0.13	1.03E-02	5.5	1.0
	11-Apr-17	0.41	0.56	305.60	305.45	0.15	0.07	5.52E-03	7.8	7.4
	18-May-17	0.44	0.63	305.57	305.38	0.19	0.09	6.99E-03	11.8	15.9
	14-Jun-17	0.49	0.69	305.52	305.32	0.20	0.09	7.35E-03	12.8	17.1
	20-Jul-17	0.48	0.65	305.53	305.36	0.17	0.08	6.25E-03	16.3	20.3
	09-Aug-17	0.49	0.69	305.52	305.32	0.20	0.09	7.35E-03	16.7	19.7
	12-Sep-17	0.49	0.70	305.52	305.31	0.21	0.09	7.72E-03	13.2	13.2
	12-Oct-17	0.47	0.70	305.54	305.31	0.23	0.10	8.46E-03	12.5	11.5
	21-Nov-17	0.44	0.62	305.57	305.39	0.18	0.08	6.62E-03	9.3	3.9
	19-Dec-17	0.52	0.69	305.49	305.32	0.17	0.08	6.25E-03	5.3	1.2
	16-Jan-18	(F)	(F)							
	26-Feb-18	0.37	0.50	305.64	305.51	0.13	0.06	4.78E-03	3.8	2.9
	26-Mar-18	0.53	0.65	305.48	305.36	0.12	0.05	4.41E-03	6.4	5.1
	24-Apr-18	0.39	0.48	305.62	305.53	0.09	0.04	3.31E-03	7.7	8.8
	18-May-18	0.42	0.61	305.59	305.40	0.19	0.09	6.99E-03	11.1	14.4
	12-Jun-18	0.52	0.75	305.49	305.26	0.23	0.10	8.46E-03	13.6	16.8
	27-Jul-18	0.57	0.71	305.44	305.30	0.14	0.06	5.15E-03	17.3	20.8
	22-Aug-18	0.47	0.65	305.54	305.36	0.18	0.08	6.62E-03	16.6	19.7
	12-Sep-18	0.52	0.70	305.49	305.31	0.18	0.08	6.62E-03	16.0	15.6
	30-Oct-18	0.54	0.69	305.47	305.32	0.15	0.07	5.52E-03	8.7	4.9
	21-Nov-18	0.50	0.67	305.51	305.34	0.17	0.08	6.25E-03	6.1	1.3
	20-Dec-18	0.53	0.68	305.48	305.33	0.15	0.07	5.52E-03	6.0	2.3
2018 AVERAGE VALUES						0.16	0.07	5.78E-03	10.3	10.2
OVERALL AVERAGE VALUES						0.10	0.04	3.58E-03	10.5	10.8

NOTES:
- m ASL — metres above sea level
- (F) — Frozen
- L/s/m² — Litres per second per square metre
- Depth of screen midpoint below the creek bed is 2.23 m
- Assumed vertical permeability is 8.00E-05 m/s

TABLE B-6
WATER LEVEL SUMMARY - GROUNDWATER MONITORS
MILL CREEK AGGREGATES PIT

YEAR		BH1-I		BH2-I/2B		BH3-I/3B		BH4-I		BH5-I		BH6-I		BH7-II	
		Groundwater Elevation (m ASL)	Groundwater Level (m BGL)	Groundwater Elevation (m ASL)	Groundwater Level (m BGL)	Groundwater Elevation (m ASL)	Groundwater Level (m BGL)	Groundwater Elevation (m ASL)	Groundwater Level (m BGL)	Groundwater Elevation (m ASL)	Groundwater Level (m BGL)	Groundwater Elevation (m ASL)	Groundwater Level (m BGL)	Groundwater Elevation (m ASL)	Groundwater Level (m BGL)
1988	MAXIMUM	306.64	2.3	306.44	6.5	305.87	8.4	306.04	2.4	306.49	1.5	306.03	1.2	306.17	1.3
	MINIMUM	306.55	2.2	306.11	6.2	305.52	8.0	305.84	2.2	306.37	1.4	305.95	1.1	306.08	1.2
	AVERAGE	306.58	2.2	306.23	6.4	305.66	8.2	305.94	2.3	306.45	1.5	306.00	1.1	306.13	1.3
	FLUCTUATION	0.09	0.1	0.33	0.3	0.35	0.4	0.20	0.2	0.12	0.1	0.08	0.1	0.09	0.1
	NUMBER	4		4		4		4		4		4		4	
1989	MAXIMUM	306.78	2.7	306.33	7.0	305.81	8.9	306.17	2.7	306.70	1.8	306.30	1.4	306.38	1.7
	MINIMUM	306.11	2.0	305.59	6.3	305.00	8.1	305.47	2.0	306.13	1.2	305.71	0.8	305.70	1.0
	AVERAGE	306.41	2.4	306.01	6.6	305.45	8.4	305.81	2.4	306.36	1.5	305.90	1.2	305.99	1.4
	FLUCTUATION	0.67	0.7	0.74	0.7	0.81	0.8	0.70	0.7	0.57	0.6	0.59	0.6	0.68	0.7
	NUMBER	12		12		12		12		12		12		12	
1990	MAXIMUM	306.65	2.7	306.31	7.0	305.79	9.0	306.14	2.7	306.56	1.7	306.13	1.4	306.29	1.7
	MINIMUM	306.13	2.2	305.56	6.3	304.95	8.1	305.50	2.1	306.23	1.3	305.75	1.0	305.75	1.1
	AVERAGE	306.42	2.4	305.97	6.6	305.40	8.5	305.80	2.4	306.39	1.5	305.92	1.2	305.99	1.4
	FLUCTUATION	0.52	0.5	0.75	0.8	0.84	0.8	0.64	0.6	0.33	0.3	0.38	0.4	0.54	0.5
	NUMBER	9		10		10		10		10		10		10	
1991	MAXIMUM	307.36	2.3	307.35	6.6	306.83	8.5	306.92	2.4	306.99	1.5	306.70	1.2	306.89	1.4
	MINIMUM	306.46	1.4	305.97	5.3	305.36	7.1	305.78	1.3	306.41	0.9	305.93	0.4	305.99	0.5
	AVERAGE	306.87	1.9	306.59	6.0	306.01	7.9	306.28	1.9	306.66	1.2	306.22	0.9	306.40	1.0
	FLUCTUATION	0.90	0.9	1.38	1.4	1.47	1.5	1.14	1.1	0.58	0.6	0.77	0.8	0.90	0.9
	NUMBER	12		12		12		12		12		12		12	
1992	MAXIMUM	307.10	2.3	307.41	6.6	306.19	8.5	306.59	2.3	306.84	1.5	306.48	1.2	306.75	1.4
	MINIMUM	306.49	1.7	305.98	5.2	305.41	7.7	305.88	1.6	306.36	1.1	305.87	0.6	306.02	0.7
	AVERAGE	306.69	2.1	306.33	6.3	305.66	8.2	306.08	2.1	306.57	1.3	306.11	1.0	306.28	1.1
	FLUCTUATION	0.61	0.6	1.43	1.4	0.78	0.8	0.71	0.7	0.48	0.5	0.61	0.6	0.73	0.7
	NUMBER	10		10		9		10		10		10		10	
1993	MAXIMUM	307.38	2.3	307.21	6.5	306.62	8.4	306.81	2.3	306.97	1.5	306.52	1.2	307.00	1.4
	MINIMUM	306.49	1.4	306.14	5.4	305.54	7.3	305.92	1.4	306.41	0.9	305.95	0.6	306.03	0.4
	AVERAGE	306.94	1.9	306.73	5.9	306.12	7.8	306.35	1.9	306.69	1.2	306.22	0.9	306.46	0.9
	FLUCTUATION	0.89	0.9	1.07	1.1	1.08	1.1	0.89	0.9	0.56	0.6	0.57	0.6	0.97	1.0
	NUMBER	10		12		12		12		11		10		11	
1994	MAXIMUM	306.92	2.4	306.74	6.8	306.17	8.7	306.42	2.6	306.74	1.6	306.45	1.3	306.48	1.6
	MINIMUM	306.36	1.9	305.82	5.9	305.16	7.7	305.63	1.8	306.27	1.2	305.78	0.7	305.81	0.9
	AVERAGE	306.63	2.2	306.21	6.4	305.61	8.3	305.99	2.2	306.48	1.4	306.03	1.1	306.11	1.3
	FLUCTUATION	0.56	0.6	0.92	0.9	1.01	1.0	0.79	0.8	0.47	0.5	0.67	0.7	0.67	0.7
	NUMBER	12		12		12		12		12		12		12	
1995	MAXIMUM	306.94	2.4	306.53	6.7	305.95	8.7	306.48	2.5	306.81	1.6	306.44	1.5	306.57	1.6
	MINIMUM	306.42	1.9	305.90	6.1	305.25	8.0	305.67	1.7	306.30	1.1	305.61	0.7	305.84	0.8
	AVERAGE	306.74	2.1	306.28	6.3	305.67	8.2	306.07	2.1	306.55	1.4	306.03	1.1	306.20	1.2
	FLUCTUATION	0.52	0.5	0.63	0.6	0.70	0.7	0.81	0.8	0.51	0.5	0.83	0.8	0.73	0.8
	NUMBER	9		9		9		8		9		9		9	
1996	MAXIMUM	307.23	1.9	307.16	6.1	306.61	8.0	306.70	1.9	306.82	1.2	306.39	1.0	306.66	1.0
	MINIMUM	306.92	1.6	306.52	5.5	305.91	7.3	306.31	1.5	306.71	1.1	306.15	0.8	306.41	0.8
	AVERAGE	307.04	1.8	306.74	5.9	306.14	7.8	306.46	1.7	306.77	1.1	306.27	0.9	306.53	0.9
	FLUCTUATION	0.31	0.3	0.64	0.6	0.70	0.7	0.39	0.4	0.11	0.1	0.24	0.2	0.25	0.2
	NUMBER	5		5		5		5		5		5		5	
1997	MAXIMUM	307.41	2.2	307.34	6.5	306.71	8.5	306.96	2.3	306.98	1.5	306.66	1.1	306.89	1.3
	MINIMUM	306.57	1.4	306.09	5.3	305.45	7.2	305.93	1.2	306.44	0.9	306.01	0.4	306.06	0.5
	AVERAGE	306.99	1.8	306.70	5.9	306.07	7.8	306.40	1.8	306.72	1.2	306.30	0.8	306.45	1.0
	FLUCTUATION	0.84	0.8	1.25	1.2	1.26	1.3	1.03	1.1	0.54	0.6	0.65	0.7	0.83	0.8
	NUMBER	5		5		5		5		5		5		5	

Notes: **mASL - Groundwater elevation in metres above sea level**
mBGL - Groundwater levels in metres below ground level
Number - Indicates number of readings taken during the indicated time period
Fluctuations - Difference between the maximum and minimum groundwater reading
Negative groundwater levels indicate groundwater level above ground surface

TABLE B-6
WATER LEVEL SUMMARY - GROUNDWATER MONITORS
MILL CREEK AGGREGATES PIT

YEAR		BH1-I		BH2-I/2B		BH3-I/3B		BH4-I		BH5-I		BH6-I		BH7-II	
		Groundwater Elevation (m ASL)	Groundwater Level (m BGL)	Groundwater Elevation (m ASL)	Groundwater Level (m BGL)	Groundwater Elevation (m ASL)	Groundwater Level (m BGL)	Groundwater Elevation (m ASL)	Groundwater Level (m BGL)	Groundwater Elevation (m ASL)	Groundwater Level (m BGL)	Groundwater Elevation (m ASL)	Groundwater Level (m BGL)	Groundwater Elevation (m ASL)	Groundwater Level (m BGL)
1998	MAXIMUM	306.89	2.8	306.59	7.0	306.03	9.0	306.43	2.7	306.78	1.9	306.43	1.5	306.51	1.8
	MINIMUM	306.03	1.9	305.57	6.0	304.92	7.9	305.46	1.8	306.00	1.1	305.64	0.7	305.64	0.9
	AVERAGE	306.39	2.4	306.14	6.5	305.53	8.4	305.89	2.3	306.30	1.6	305.92	1.2	305.99	1.4
	FLUCTUATION	0.86	0.9	1.02	1.0	1.11	1.1	0.97	0.9	0.78	0.8	0.79	0.8	0.87	0.9
	NUMBER	5		5		5		5		5		5		5	
1999	MAXIMUM	306.38	3.4	305.87	7.3	305.24	9.2	305.78	2.9	306.25	2.3	305.94	1.7	306.22	1.9
	MINIMUM	305.41	2.4	305.26	6.7	304.66	8.7	305.34	2.4	305.56	1.7	305.42	1.2	305.47	1.2
	AVERAGE	305.72	3.1	305.54	7.1	304.94	9.0	305.57	2.6	305.80	2.1	305.61	1.5	305.87	1.5
	FLUCTUATION	0.97	1.0	0.61	0.6	0.58	0.6	0.44	0.4	0.69	0.7	0.52	0.5	0.75	0.7
	NUMBER	5		5		5		5		5		5		5	
2000	MAXIMUM	306.07	3.0	306.12	7.1	305.66	8.8	305.82	2.8	306.22	2.1	305.98	1.7	305.91	1.9
	MINIMUM	305.85	2.7	305.53	6.5	305.06	8.2	305.42	2.4	305.84	1.7	305.42	1.1	305.53	1.5
	AVERAGE	305.98	2.8	305.77	6.8	305.27	8.6	305.61	2.6	306.03	1.9	305.65	1.5	305.70	1.7
	FLUCTUATION	0.22	0.2	0.59	0.6	0.60	0.6	0.40	0.4	0.38	0.4	0.56	0.6	0.38	0.4
	NUMBER	7		7		7		7		7		7		7	
2001	MAXIMUM	306.40	3.1	306.12	7.6	305.67	9.1	305.99	2.9	306.40	2.1	305.95	1.8	306.14	2.0
	MINIMUM	305.72	2.4	305.06	6.5	304.87	8.3	305.31	2.2	305.83	1.5	305.30	1.2	305.45	1.3
	AVERAGE	305.93	2.9	305.68	6.9	305.25	8.7	305.64	2.6	306.11	1.8	305.50	1.6	305.79	1.7
	FLUCTUATION	0.68	0.7	1.06	1.1	0.80	0.8	0.68	0.7	0.57	0.6	0.65	0.6	0.69	0.7
	NUMBER	58		12		12		12		60		58		12	
2002	MAXIMUM	306.41	3.0	306.14	7.7	305.63	9.1	305.90	2.9	306.44	2.1	306.13	1.7	306.03	1.9
	MINIMUM	305.83	2.4	304.92	6.5	304.80	8.3	305.29	2.3	305.77	1.5	305.41	1.0	305.50	1.4
	AVERAGE	306.14	2.7	305.64	7.0	305.22	8.7	305.61	2.6	306.11	1.8	305.80	1.3	305.76	1.6
	FLUCTUATION	0.58	0.6	1.22	1.2	0.83	0.8	0.61	0.6	0.67	0.6	0.72	0.7	0.53	0.5
	NUMBER	42		11		12		11		70		65		12	
2003	MAXIMUM	306.40	2.9	305.96	6.9	305.16	8.9	306.27	2.9	306.23	2.1	305.99	1.5	305.93	1.9
	MINIMUM	305.87	2.4	305.74	6.6	305.03	8.7	305.28	1.9	305.84	1.7	305.61	1.1	305.51	1.5
	AVERAGE	306.08	2.7	305.85	6.8	305.13	8.8	305.62	2.6	306.04	1.9	305.81	1.3	305.74	1.7
	FLUCTUATION	0.53	0.5	0.22	0.2	0.13	0.1	0.99	1.0	0.39	0.4	0.38	0.4	0.42	0.4
	NUMBER	14		4		6		15		15		15		15	
2004	MAXIMUM	306.83	2.6	306.42	6.8	306.04	8.5	306.20	2.5	306.64	1.7	306.40	1.2	306.35	1.5
	MINIMUM	306.25	2.0	305.76	6.2	305.42	7.9	305.73	2.0	306.17	1.3	305.90	0.7	305.87	1.1
	AVERAGE	306.54	2.3	306.01	6.6	305.66	8.2	305.94	2.3	306.39	1.5	306.13	1.0	306.11	1.3
	FLUCTUATION	0.58	0.6	0.66	0.7	0.62	0.6	0.47	0.5	0.47	0.5	0.50	0.5	0.48	0.5
	NUMBER	15		9		9		15		15		14		15	
2005	MAXIMUM	306.80	2.5	306.83	6.7	306.22	8.5	306.23	2.3	306.68	1.7	306.36	1.1	306.36	1.4
	MINIMUM	306.35	2.0	305.87	5.8	305.47	7.7	305.83	1.9	306.20	1.2	305.98	0.7	305.99	1.0
	AVERAGE	306.54	2.3	306.13	6.5	305.75	8.1	306.01	2.1	306.41	1.5	306.16	0.9	306.14	1.3
	FLUCTUATION	0.45	0.4	0.96	1.0	0.75	0.8	0.40	0.4	0.48	0.5	0.38	0.4	0.37	0.4
	NUMBER	15		15		15		15		15		15		15	
2006	MAXIMUM	306.83	2.2	306.51	6.5	306.28	8.1	306.32	2.0	306.73	1.5	306.39	0.9	306.36	1.2
	MINIMUM	306.56	2.0	306.13	6.1	305.81	7.6	306.17	1.9	306.39	1.2	306.18	0.7	306.16	1.0
	AVERAGE	306.70	2.1	306.32	6.3	306.10	7.8	306.24	2.0	306.57	1.3	306.30	0.8	306.26	1.1
	FLUCTUATION	0.27	0.2	0.38	0.4	0.47	0.5	0.15	0.1	0.34	0.3	0.21	0.2	0.20	0.2
	NUMBER	13		11		11		10		13		9		9	
2007	MAXIMUM	307.13	2.5	306.72	7.0	306.53	8.4	306.46	2.4	306.85	2.0	306.60	1.1	306.57	1.4
	MINIMUM	306.30	1.7	305.61	5.9	305.52	7.4	305.77	1.7	305.85	1.0	305.98	0.5	305.97	0.8
	AVERAGE	306.67	2.1	306.04	6.6	305.90	7.9	306.16	2.0	306.40	1.5	306.26	0.8	306.17	1.2
	FLUCTUATION	0.82	0.8	1.11	1.1	1.01	1.0	0.69	0.7	1.00	1.0	0.62	0.6	0.60	0.6
	NUMBER	12		11		11		11		12		12		14	

Notes: **mASL - Groundwater elevation in metres above sea level**
mBGL - Groundwater levels in metres below ground level
Number - Indicates number of readings taken during the indicated time period
Fluctuations - Difference between the maximum and minimum groundwater reading
Negative groundwater levels indicate groundwater level above ground surface

TABLE B-6
WATER LEVEL SUMMARY - GROUNDWATER MONITORS
MILL CREEK AGGREGATES PIT

YEAR		BH1-I		BH2-I/2B		BH3-I/3B		BH4-I		BH5-I		BH6-I		BH7-II	
		Groundwater Elevation (m ASL)	Groundwater Level (m BGL)	Groundwater Elevation (m ASL)	Groundwater Level (m BGL)	Groundwater Elevation (m ASL)	Groundwater Level (m BGL)	Groundwater Elevation (m ASL)	Groundwater Level (m BGL)	Groundwater Elevation (m ASL)	Groundwater Level (m BGL)	Groundwater Elevation (m ASL)	Groundwater Level (m BGL)	Groundwater Elevation (m ASL)	Groundwater Level (m BGL)
2008	MAXIMUM	307.16	2.3	306.55	6.6	306.46	8.2	306.43	2.2	306.90	1.4	306.63	1.0	306.80	1.3
	MINIMUM	306.55	1.6	305.97	6.1	305.78	7.5	305.94	1.7	306.44	1.0	306.15	0.5	306.15	0.6
	AVERAGE	306.94	1.9	306.40	6.2	306.23	7.8	306.29	2.0	306.74	1.1	306.45	0.7	306.49	0.9
	FLUCTUATION	0.61	0.6	0.58	0.6	0.68	0.7	0.49	0.5	0.46	0.5	0.48	0.5	0.65	0.7
	NUMBER	14		13		13		13		13		13		13	
2009	MAXIMUM	307.69	1.9	306.89	6.3	306.76	7.8	306.61	2.0	306.98	1.2	306.69	0.7	306.78	1.0
	MINIMUM	306.86	1.1	306.33	5.7	306.09	7.2	306.12	1.6	306.69	0.9	306.36	0.4	306.39	0.6
	AVERAGE	307.17	1.6	306.60	6.0	306.42	7.5	306.39	1.8	306.86	1.0	306.56	0.5	306.58	0.8
	FLUCTUATION	0.83	0.8	0.56	0.6	0.67	0.7	0.49	0.5	0.29	0.3	0.33	0.3	0.39	0.4
	NUMBER	14		14		14		14		14		14		14	
2010	MAXIMUM	307.22	2.7	306.39	6.8	306.23	8.3	306.25	2.5	306.71	2.2	306.42	1.2	306.45	1.7
	MINIMUM	306.09	1.6	305.82	6.2	305.60	7.7	305.64	1.9	305.68	1.2	305.89	0.7	305.69	0.9
	AVERAGE	306.65	2.2	306.09	6.5	305.90	8.0	305.93	2.2	306.37	1.5	306.15	1.0	305.99	1.4
	FLUCTUATION	1.13	1.1	0.57	0.6	0.63	0.6	0.61	0.6	1.03	1.0	0.53	0.5	0.76	0.8
	NUMBER	14		14		14		14		14		14		14	
2011	MAXIMUM	306.96	2.5	306.51	6.8	306.41	8.3	306.27	2.6	306.76	1.7	306.45	1.3	306.26	1.7
	MINIMUM	306.32	1.9	305.81	6.1	305.59	7.5	305.59	1.9	306.18	1.1	305.84	0.6	305.67	1.1
	AVERAGE	306.63	2.2	306.15	6.4	306.00	7.9	305.98	2.2	306.43	1.5	306.11	1.0	305.95	1.4
	FLUCTUATION	0.64	0.6	0.7	0.7	0.82	0.8	0.68	0.7	0.58	0.6	0.61	0.6	0.59	0.6
	NUMBER	15		14		14		14		15		15		15	
2012	MAXIMUM	306.80	2.6	306.30	7.0	306.15	8.5	306.14	2.7	306.53	1.9	306.16	1.4	306.02	2.2
	MINIMUM	306.21	2.0	305.60	6.3	305.39	7.8	305.47	2.0	305.99	1.4	305.71	0.9	305.20	1.4
	AVERAGE	306.45	2.4	305.93	6.7	305.75	8.2	305.76	2.4	306.22	1.7	305.91	1.2	305.57	1.8
	FLUCTUATION	0.59	0.6	0.7	0.7	0.76	0.8	0.67	0.7	0.54	0.5	0.45	0.4	0.82	0.8
	NUMBER	15		15		15		15		15		15		15	
2013	MAXIMUM	306.82	2.7	306.28	6.9	306.30	8.4	306.10	2.6	306.59	1.7	306.20	1.3	305.75	2.1
	MINIMUM	306.15	2.0	305.68	6.3	305.50	7.6	305.59	2.1	306.17	1.3	305.80	0.9	305.32	1.6
	AVERAGE	306.56	2.3	306.02	6.6	305.93	8.0	305.84	2.3	306.37	1.5	305.99	1.1	305.56	1.8
	FLUCTUATION	0.67	0.7	0.6	0.6	0.80	0.8	0.51	0.5	0.42	0.4	0.40	0.4	0.43	0.4
	NUMBER	13		13		13		13		13		13		13	
2014	MAXIMUM	307.07	2.5	306.47	6.5	306.32	8.0	306.08	2.3	306.79	1.6	306.32	1.1	305.72	1.9
	MINIMUM	306.28	1.7	306.11	6.1	305.90	7.6	305.86	2.1	306.34	1.1	306.00	0.8	305.46	1.7
	AVERAGE	306.77	2.0	306.26	6.3	306.06	7.9	305.94	2.2	306.55	1.3	306.16	0.9	305.57	1.8
	FLUCTUATION	0.79	0.8	0.36	0.4	0.42	0.4	0.22	0.2	0.45	0.5	0.32	0.3	0.26	0.3
	NUMBER	12		12		12		12		12		12		12	
2015	MAXIMUM	306.79	2.3	306.22	6.7	306.08	8.3	305.92	2.4	306.59	1.7	306.25	1.2	305.74	1.7
	MINIMUM	306.55	2.0	305.89	6.4	305.67	7.9	305.71	2.2	306.22	1.3	305.88	0.9	305.74	1.7
	AVERAGE	306.68	2.1	306.10	6.5	305.90	8.0	305.84	2.3	306.42	1.5	306.02	1.1	305.74	1.7
	FLUCTUATION	0.24	0.2	0.33	0.3	0.41	0.4	0.21	0.2	0.37	0.4	0.37	0.4	0.00	0.0
	NUMBER	12		12		12		12		12		12		2	
2016	MAXIMUM	306.85	2.5	306.31	6.7	306.15	8.3	306.01	2.4	306.59	1.8	306.20	1.3		
	MINIMUM	306.32	2.0	305.93	6.3	305.68	7.8	305.72	2.1	306.10	1.3	305.80	0.9		
	AVERAGE	306.59	2.2	306.10	6.5	305.86	8.1	305.82	2.3	306.32	1.6	305.99	1.1		
	FLUCTUATION	0.53	0.5	0.38	0.4	0.47	0.5	0.29	0.3	0.49	0.5	0.40	0.4		
	NUMBER	13		8		13		13		13		13		0	

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TABLE B-6
WATER LEVEL SUMMARY - GROUNDWATER MONITORS
MILL CREEK AGGREGATES PIT

YEAR		BH1-I		BH2-I/2B		BH3-I/3B		BH4-I		BH5-I		BH6-I		BH7-II	
		Groundwater Elevation (m ASL)	Groundwater Level (m BGL)	Groundwater Elevation (m ASL)	Groundwater Level (m BGL)	Groundwater Elevation (m ASL)	Groundwater Level (m BGL)	Groundwater Elevation (m ASL)	Groundwater Level (m BGL)	Groundwater Elevation (m ASL)	Groundwater Level (m BGL)	Groundwater Elevation (m ASL)	Groundwater Level (m BGL)	Groundwater Elevation (m ASL)	Groundwater Level (m BGL)
2017	MAXIMUM	307.08	2.3			306.36	8.2	306.21	2.3	306.78	1.6	306.34	1.2		
	MINIMUM	306.56	1.7			305.76	7.6	305.83	1.9	306.33	1.1	305.95	0.8		
	AVERAGE	306.79	2.0			306.06	7.9	306.04	2.1	306.53	1.4	306.15	1.0		
	FLUCTUATION	0.52	0.5			0.60	0.6	0.38	0.4	0.45	0.4	0.39	0.4		
	NUMBER	12		0		12		12		12		12		0	
2018	MAXIMUM	306.85	2.6			306.38	8.2	306.24	2.3	306.55	1.9	306.30	1.3		
	MINIMUM	306.26	2.0			305.73	7.6	305.83	1.9	306.02	1.3	305.85	0.8		
	AVERAGE	306.56	2.2			305.98	7.9	306.00	2.2	306.31	1.6	306.06	1.0		
	FLUCTUATION	0.59	0.6			0.65	0.6	0.41	0.4	0.53	0.5	0.45	0.4		
	NUMBER	12		0		11		12		12		11		0	
1986 to 2017	MAXIMUM	307.69	3.4	307.41	7.7	306.83	9.2	306.96	2.9	306.99	2.3	306.70	1.8	307.00	2.2
	MINIMUM	305.41	1.1	304.92	5.2	304.66	7.1	305.28	1.2	305.56	0.9	305.30	0.4	305.20	0.4
	AVERAGE	306.49	2.3	306.17	6.4	305.79	8.1	305.98	2.2	306.35	1.5	305.97	1.1	306.06	1.3
	FLUCTUATION	2.28	2.3	2.49	2.5	2.17	2.1	1.68	1.7	1.43	1.4	1.40	1.4	1.80	1.8
	NUMBER	414		301		320		332		446		433		303	

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TABLE B-6
WATER LEVEL SUMMARY - GROUNDWATER MONITORS
MILL CREEK AGGREGATES PIT

YEAR		BH11		BH12		BH13		BH14	
		Groundwater Elevation (m ASL)	Groundwater Level (m BGL)	Groundwater Elevation (m ASL)	Groundwater Level (m BGL)	Groundwater Elevation (m ASL)	Groundwater Level (m BGL)	Groundwater Elevation (m ASL)	Groundwater Level (m BGL)
1988	MAXIMUM								
	MINIMUM								
	AVERAGE								
	FLUCTUATION								
	NUMBER								
1989	MAXIMUM								
	MINIMUM								
	AVERAGE								
	FLUCTUATION								
	NUMBER								
1990	MAXIMUM								
	MINIMUM								
	AVERAGE								
	FLUCTUATION								
	NUMBER								
1991	MAXIMUM								
	MINIMUM								
	AVERAGE								
	FLUCTUATION								
	NUMBER								
1992	MAXIMUM								
	MINIMUM								
	AVERAGE								
	FLUCTUATION								
	NUMBER								
1993	MAXIMUM								
	MINIMUM								
	AVERAGE								
	FLUCTUATION								
	NUMBER								
1994	MAXIMUM								
	MINIMUM								
	AVERAGE								
	FLUCTUATION								
	NUMBER								
1995	MAXIMUM								
	MINIMUM								
	AVERAGE								
	FLUCTUATION								
	NUMBER								
1996	MAXIMUM								
	MINIMUM								
	AVERAGE								
	FLUCTUATION								
	NUMBER								
1997	MAXIMUM								
	MINIMUM								
	AVERAGE								
	FLUCTUATION								
	NUMBER								

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TABLE B-6
WATER LEVEL SUMMARY - GROUNDWATER MONITORS
MILL CREEK AGGREGATES PIT

YEAR		BH11		BH12		BH13		BH14	
		Groundwater Elevation (m ASL)	Groundwater Level (m BGL)	Groundwater Elevation (m ASL)	Groundwater Level (m BGL)	Groundwater Elevation (m ASL)	Groundwater Level (m BGL)	Groundwater Elevation (m ASL)	Groundwater Level (m BGL)
1998	MAXIMUM								
	MINIMUM								
	AVERAGE								
	FLUCTUATION								
	NUMBER								
1999	MAXIMUM								
	MINIMUM								
	AVERAGE								
	FLUCTUATION								
	NUMBER								
2000	MAXIMUM								
	MINIMUM								
	AVERAGE								
	FLUCTUATION								
	NUMBER								
2001	MAXIMUM								
	MINIMUM								
	AVERAGE								
	FLUCTUATION								
	NUMBER								
2002	MAXIMUM	305.81	3.9	305.66	5.9	305.96	1.2		
	MINIMUM	305.41	3.5	305.19	5.4	305.72	0.9		
	AVERAGE	305.54	3.8	305.35	5.8	305.79	1.1		
	FLUCTUATION	0.40	0.4	0.47	0.5	0.24	0.2		
	NUMBER	4		4		31			
2003	MAXIMUM	305.80	4.1	305.32	6.2	306.14	1.1		
	MINIMUM	305.25	3.5	304.88	5.8	305.78	0.8		
	AVERAGE	305.50	3.8	305.14	0.1	305.96	0.9		
	FLUCTUATION	0.55	0.6	0.44	0.4	0.36	0.4		
	NUMBER	14		12		84			
2004	MAXIMUM	306.38	3.4	305.96	5.7	306.49	0.9		
	MINIMUM	305.89	2.9	305.39	5.1	305.97	0.4		
	AVERAGE	306.12	3.2	305.67	5.4	306.14	0.8		
	FLUCTUATION	0.49	0.5	0.57	0.6	0.52	0.5		
	NUMBER	15		14		93			
2005	MAXIMUM	306.34	0.9	305.95	1.9	306.33	0.9		
	MINIMUM	306.02	0.6	305.51	1.5	306.00	0.6		
	AVERAGE	306.16	0.8	305.71	5.4	306.16	0.7		
	FLUCTUATION	0.32	0.3	0.44	0.4	0.33	0.3		
	NUMBER	15		15		15			
2006	MAXIMUM	306.44	3.2	306.06	5.3	306.44	0.7		
	MINIMUM	306.14	2.9	305.80	5.0	306.16	0.5		
	AVERAGE	306.32	3.0	305.94	5.2	306.33	0.6		
	FLUCTUATION	0.30	0.3	0.26	0.3	0.28	0.2		
	NUMBER	11		11		12			
2007	MAXIMUM	306.62	3.3	306.29	5.6	306.58	0.9		
	MINIMUM	305.97	2.7	305.41	4.8	306.06	0.4		
	AVERAGE	306.28	3.0	305.76	5.2	306.29	0.6		
	FLUCTUATION	0.65	0.6	0.88	0.9	0.52	0.5		
	NUMBER	10		11		14			

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TABLE B-6
WATER LEVEL SUMMARY - GROUNDWATER MONITORS
MILL CREEK AGGREGATES PIT

YEAR		BH11		BH12		BH13		BH14	
		Groundwater Elevation (m ASL)	Groundwater Level (m BGL)	Groundwater Elevation (m ASL)	Groundwater Level (m BGL)	Groundwater Elevation (m ASL)	Groundwater Level (m BGL)	Groundwater Elevation (m ASL)	Groundwater Level (m BGL)
2008	MAXIMUM	306.64	3.1	306.26	5.4	306.72	0.7		
	MINIMUM	306.17	2.7	305.70	4.8	306.27	0.2		
	AVERAGE	306.50	2.9	306.10	5.1	306.49	0.4		
	FLUCTUATION	0.47	0.5	0.56	0.6	0.45	0.5		
	NUMBER	13		13		14			
2009	MAXIMUM	307.11	2.9	306.53	5.0	306.77	0.5		
	MINIMUM	306.45	2.2	306.03	4.5	306.44	0.2		
	AVERAGE	306.66	2.6	306.28	4.8	306.58	0.4		
	FLUCTUATION	0.66	0.7	0.50	0.5	0.33	0.3		
	NUMBER	14		14		14			
2010	MAXIMUM	306.45	3.5	306.07	5.7	306.44	0.9		
	MINIMUM	305.84	2.9	305.40	5.0	306.08	0.5		
	AVERAGE	306.15	3.2	305.73	5.3	306.26	0.7		
	FLUCTUATION	0.61	0.6	0.67	0.7	0.36	0.4		
	NUMBER	14		13		14			
2011	MAXIMUM	306.47	3.5	306.13	5.6	306.67	0.9		
	MINIMUM	305.84	2.8	305.46	4.9	306.05	0.3		
	AVERAGE	306.18	3.1	305.83	5.2	306.29	0.6		
	FLUCTUATION	0.63	0.6	0.67	0.7	0.62	0.6		
	NUMBER	14		13		15			
2012	MAXIMUM	306.31	3.7	305.98	5.8	306.32	1.0		
	MINIMUM	305.63	3.0	305.22	5.1	305.92	0.6		
	AVERAGE	305.94	3.4	305.56	5.5	306.12	0.8		
	FLUCTUATION	0.68	0.7	0.76	0.8	0.40	0.4		
	NUMBER	15		15		15			
2013	MAXIMUM	306.29	3.5	305.88	5.7	306.40	0.8		
	MINIMUM	305.82	3.0	305.35	5.2	306.16	0.5		
	AVERAGE	306.05	3.3	305.66	5.4	306.25	0.7		
	FLUCTUATION	0.47	0.5	0.53	0.5	0.24	0.2		
	NUMBER	12		13		13			
2014	MAXIMUM	306.34	3.3	306.03	5.4	306.53	0.7		
	MINIMUM	306.03	3.0	305.63	5.0	306.23	0.4		
	AVERAGE	306.11	3.2	305.77	5.3	306.37	0.6		
	FLUCTUATION	0.31	0.3	0.40	0.4	0.30	0.3		
	NUMBER	12		12		12			
2015	MAXIMUM	306.08	3.5	305.76	5.7	306.44	0.8	305.69	2.0
	MINIMUM	305.85	3.2	305.39	5.3	306.13	0.5	305.44	1.7
	AVERAGE	305.99	3.3	305.63	5.4	306.29	0.6	305.53	1.9
	FLUCTUATION	0.23	0.2	0.37	0.4	0.31	0.3	0.25	0.3
	NUMBER	12		12		12		7	
2016	MAXIMUM	306.11	3.5	305.87	5.6	306.57	0.9	305.74	2.0
	MINIMUM	305.77	3.2	305.50	5.2	306.05	0.4	305.40	1.7
	AVERAGE	305.91	3.4	305.65	5.4	306.22	0.7	305.53	1.9
	FLUCTUATION	0.34	0.3	0.37	0.4	0.52	0.5	0.34	0.3
	NUMBER	13		8		13		13	

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TABLE B-6
WATER LEVEL SUMMARY - GROUNDWATER MONITORS
MILL CREEK AGGREGATES PIT

YEAR		BH11		BH12		BH13		BH14	
		Groundwater Elevation (m ASL)	Groundwater Level (m BGL)	Groundwater Elevation (m ASL)	Groundwater Level (m BGL)	Groundwater Elevation (m ASL)	Groundwater Level (m BGL)	Groundwater Elevation (m ASL)	Groundwater Level (m BGL)
2017	MAXIMUM	306.30	3.4			306.52	0.8	305.66	1.9
	MINIMUM	305.89	3.0			306.19	0.4	305.49	1.8
	AVERAGE	306.12	3.2			306.35	0.6	305.57	1.8
	FLUCTUATION	0.41	0.4			0.33	0.3	0.17	0.2
	NUMBER	12		0		12		12	
2018	MAXIMUM	306.28	4.0			306.37	0.9	305.75	1.9
	MINIMUM	305.34	3.0			306.03	0.6	305.50	1.7
	AVERAGE	306.03	3.3			306.22	0.7	305.57	1.8
	FLUCTUATION	0.94	0.9			0.34	0.3	0.25	0.3
	NUMBER	12		0		12		12	
1986 to 2017	MAXIMUM	307.11	4.1	306.53	6.2	306.77	1.2	305.74	2.0
	MINIMUM	305.25	0.6	304.88	1.5	305.72	0.2	305.40	1.7
	AVERAGE	306.11	3.2	305.74	5.3	306.16	0.8	305.55	1.9
	FLUCTUATION	1.86	3.5	1.65	4.7	1.05	1.0	0.34	0.3
	NUMBER	200		180		383		32	

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TABLE B-6
WATER LEVEL SUMMARY - GROUNDWATER MONITORS
MILL CREEK AGGREGATES PIT

YEAR		TW16-79		OW1-84		OW2-84		OW4-84		OW5-84		OW16A-78	
		Groundwater Elevation (m ASL)	Groundwater Level (m BGL)	Groundwater Elevation (m ASL)	Groundwater Level (m BGL)	Groundwater Elevation (m ASL)	Groundwater Level (m BGL)	Groundwater Elevation (m ASL)	Groundwater Level (m BGL)	Groundwater Elevation (m ASL)	Groundwater Level (m BGL)	Groundwater Elevation (m ASL)	Groundwater Level (m BGL)
1988	MAXIMUM	303.64	0.2	303.64	0.4	303.58	0.6	303.65	0.1	303.59	0.0	303.62	0.1
	MINIMUM	303.48	0.1	303.36	0.2	303.31	0.3	303.62	0.1	303.59	0.0	303.45	-0.1
	AVERAGE	303.58	0.1	303.54	0.3	303.48	0.4	303.64	0.1	303.59	0.0	303.56	-0.1
	FLUCTUATION	0.16	0.2	0.28	0.3	0.27	0.3	0.03	0.0	0.00	0.0	0.17	0.2
	NUMBER	3		3		3		2		1		3	
1989	MAXIMUM	303.86	0.4	303.82	0.5	303.78	0.7	303.84	0.4	303.78	0.4	303.78	0.2
	MINIMUM	303.32	-0.2	303.30	0.0	303.25	0.1	303.31	-0.1	303.24	-0.2	303.29	-0.3
	AVERAGE	303.56	0.1	303.54	0.3	303.49	0.4	303.55	0.2	303.47	0.1	303.48	0.0
	FLUCTUATION	0.54	0.5	0.52	0.5	0.53	0.5	0.53	0.5	0.54	0.5	0.49	0.5
	NUMBER	12		12		12		11		10		9	
1990	MAXIMUM	303.78	0.3	303.76	0.4	303.72	0.5	303.78	0.3	303.84	0.2	303.77	0.1
	MINIMUM	303.44	-0.1	303.42	0.0	303.38	0.2	303.44	-0.1	303.36	-0.2	303.42	-0.3
	AVERAGE	303.62	0.1	303.60	0.2	303.58	0.3	303.61	0.1	303.58	0.0	303.60	-0.1
	FLUCTUATION	0.34	0.3	0.34	0.3	0.34	0.3	0.34	0.3	0.48	0.5	0.35	0.4
	NUMBER	10		10		10		9		10		8	
1991	MAXIMUM	303.95	0.2	303.99	0.4	303.95	0.4	304.01	0.2	303.93	0.2	303.99	0.2
	MINIMUM	303.47	-0.3	303.45	-0.2	303.48	-0.1	303.47	-0.3	303.39	-0.3	303.35	-0.5
	AVERAGE	303.69	0.0	303.68	0.1	303.65	0.2	303.69	0.0	303.61	0.0	303.65	-0.1
	FLUCTUATION	0.48	0.5	0.54	0.5	0.47	0.5	0.54	0.5	0.54	0.5	0.64	0.6
	NUMBER	12		12		11		11		11		10	
1992	MAXIMUM	303.90	0.2	303.86	0.3	303.82	0.5	303.88	0.2	303.81	0.2	303.86	0.0
	MINIMUM	303.50	-0.2	303.47	-0.1	303.42	0.1	303.48	-0.2	303.41	-0.2	303.46	-0.4
	AVERAGE	303.73	0.0	303.70	0.1	303.65	0.3	303.71	0.0	303.64	0.0	303.69	-0.2
	FLUCTUATION	0.40	0.4	0.39	0.4	0.40	0.4	0.40	0.4	0.40	0.4	0.40	0.4
	NUMBER	10		10		10		9		9		9	
1993	MAXIMUM	303.96	0.2	303.94	0.3	303.89	0.4	303.96	0.2	303.87	0.2	303.93	0.0
	MINIMUM	303.53	-0.3	303.50	-0.1	303.46	0.0	303.52	-0.3	303.42	-0.3	303.49	-0.4
	AVERAGE	303.73	0.0	303.71	0.1	303.66	0.2	303.72	0.0	303.61	0.0	303.68	-0.2
	FLUCTUATION	0.43	0.4	0.44	0.4	0.43	0.4	0.44	0.4	0.45	0.5	0.44	0.4
	NUMBER	12		12		12		11		9		9	
1994	MAXIMUM	304.01	0.4	303.99	0.5	303.94	0.7	304.01	0.4	303.93	0.4	303.98	0.2
	MINIMUM	303.32	-0.3	303.29	-0.2	303.25	0.0	303.31	-0.3	303.24	-0.3	303.26	-0.5
	AVERAGE	303.62	0.1	303.57	0.2	303.54	0.4	303.59	0.1	303.51	0.1	303.55	-0.1
	FLUCTUATION	0.69	0.7	0.70	0.7	0.69	0.7	0.70	0.7	0.69	0.7	0.72	0.7
	NUMBER	11		10		11		10		9		9	
1995	MAXIMUM	303.73	0.4	303.71	0.5	303.65	0.6	303.73	0.4	303.65	0.4	303.70	0.2
	MINIMUM	303.33	0.0	303.30	0.1	303.26	0.3	303.31	0.0	303.25	-0.1	303.30	-0.2
	AVERAGE	303.52	0.2	303.50	0.3	303.47	0.4	303.50	0.2	303.48	0.1	303.52	0.0
	FLUCTUATION	0.40	0.4	0.41	0.4	0.39	0.3	0.42	0.4	0.40	0.5	0.40	0.4
	NUMBER	9		9		9		9		9		9	
1996	MAXIMUM	303.77	0.1	303.72	0.3	303.69	0.3	303.78	0.2	303.67	0.2	303.77	-0.1
	MINIMUM	303.63	0.0	303.56	0.1	303.53	0.2	303.57	-0.1	303.49	0.0	303.56	-0.3
	AVERAGE	303.68	0.1	303.64	0.2	303.61	0.3	303.67	0.1	303.58	0.1	303.66	-0.2
	FLUCTUATION	0.14	0.1	0.16	0.2	0.16	0.1	0.21	0.3	0.18	0.2	0.21	0.2
	NUMBER	5		5		5		5		5		5	
1997	MAXIMUM	303.93	0.3	303.84	0.4	303.82	0.5	303.87	0.3	303.79	0.2	303.80	0.1
	MINIMUM	303.40	-0.2	303.41	0.0	303.38	0.1	303.43	-0.2	303.36	-0.2	303.44	-0.3
	AVERAGE	303.63	0.1	303.61	0.2	303.58	0.3	303.64	0.1	303.56	0.0	303.62	-0.1
	FLUCTUATION	0.53	0.5	0.43	0.4	0.44	0.4	0.44	0.5	0.43	0.4	0.36	0.4
	NUMBER	5		5		5		5		5		5	

Notes: **mASL - Groundwater elevation in metres above sea level**
mBGL - Groundwater levels in metres below ground level
Number - Indicates number of readings taken during the indicated time period
Fluctuations - Difference between the maximum and minimum groundwater reading
Negative groundwater levels indicate groundwater level above ground surface

TABLE B-6
WATER LEVEL SUMMARY - GROUNDWATER MONITORS
MILL CREEK AGGREGATES PIT

YEAR		TW16-79		OW1-84		OW2-84		OW4-84		OW5-84		OW16A-78	
		Groundwater Elevation (m ASL)	Groundwater Level (m BGL)	Groundwater Elevation (m ASL)	Groundwater Level (m BGL)	Groundwater Elevation (m ASL)	Groundwater Level (m BGL)	Groundwater Elevation (m ASL)	Groundwater Level (m BGL)	Groundwater Elevation (m ASL)	Groundwater Level (m BGL)	Groundwater Elevation (m ASL)	Groundwater Level (m BGL)
1998	MAXIMUM	303.76	0.4	303.74	0.5	303.75	0.6	303.81	0.4	303.73	0.4	303.80	0.2
	MINIMUM	303.27	-0.1	303.29	0.1	303.26	0.2	303.31	-0.1	303.24	-0.1	303.31	-0.3
	AVERAGE	303.41	0.3	303.42	0.4	303.40	0.5	303.46	0.2	303.38	0.2	303.44	0.1
	FLUCTUATION	0.49	0.5	0.45	0.4	0.49	0.5	0.50	0.5	0.49	0.5	0.49	0.5
	NUMBER	5		5		5		5		5		5	
1999	MAXIMUM	303.56	0.3	303.59	0.5	303.55	0.6	303.62	0.3	303.54	0.3	303.58	0.2
	MINIMUM	303.39	0.1	303.35	0.2	303.33	0.4	303.38	0.1	303.30	0.1	303.30	-0.1
	AVERAGE	303.49	0.2	303.49	0.3	303.47	0.4	303.52	0.2	303.45	0.2	303.49	0.0
	FLUCTUATION	0.17	0.2	0.24	0.2	0.22	0.2	0.24	0.2	0.24	0.2	0.28	0.3
	NUMBER	5		5		5		5		5		5	
2000	MAXIMUM	303.74	0.2	303.76	0.2	303.73	0.4	303.78	0.1	303.70	0.1	303.77	-0.1
	MINIMUM	303.52	0.0	303.56	0.0	303.53	0.2	303.59	-0.1	303.50	-0.1	303.58	-0.3
	AVERAGE	303.59	0.1	303.61	0.2	303.58	0.3	303.63	0.1	303.55	0.1	303.62	-0.1
	FLUCTUATION	0.22	0.2	0.20	0.2	0.20	0.2	0.19	0.2	0.20	0.2	0.19	0.2
	NUMBER	7		7		7		7		7		7	
2001	MAXIMUM	303.70	0.4	303.71	0.5	303.68	0.6	303.74	0.4	303.66	0.4	303.76	0.2
	MINIMUM	303.27	0.0	303.28	0.1	303.26	0.2	303.30	0.0	303.21	-0.1	303.29	-0.3
	AVERAGE	303.45	0.3	303.47	0.3	303.44	0.4	303.49	0.2	303.39	0.2	303.49	0.0
	FLUCTUATION	0.43	0.4	0.43	0.4	0.42	0.4	0.44	0.4	0.45	0.5	0.47	0.5
	NUMBER	16		16		16		16		16		16	
2002	MAXIMUM	303.78	0.4	303.79	0.4	303.77	0.6	303.81	0.3	303.74	0.3	303.80	0.1
	MINIMUM	303.35	-0.1	303.36	0.0	303.33	0.1	303.36	-0.1	303.26	-0.1	303.37	-0.3
	AVERAGE	303.48	0.2	303.54	0.3	303.48	0.4	303.55	0.2	303.37	0.2	303.54	0.0
	FLUCTUATION	0.43	0.5	0.43	0.4	0.44	0.5	0.45	0.4	0.48	0.4	0.43	0.4
	NUMBER	11		12		11		12		57		12	
2003	MAXIMUM	303.65	0.4	303.65	0.6	303.63	0.7	303.68	0.5	303.64	0.4	303.68	0.2
	MINIMUM	303.30	0.1	303.19	0.2	303.17	0.3	303.21	0.0	303.20	0.0	303.32	-0.2
	AVERAGE	303.45	0.3	303.46	0.3	303.42	0.5	303.50	0.2	303.40	0.2	303.49	0.0
	FLUCTUATION	0.35	0.4	0.46	0.5	0.46	0.5	0.47	0.5	0.44	0.4	0.36	0.4
	NUMBER	15		15		15		15		83		14	
2004	MAXIMUM	303.71	0.3	303.72	0.4	303.70	0.6	303.75	0.3	303.76	0.3	303.74	0.1
	MINIMUM	303.37	0.0	303.38	0.1	303.35	0.2	303.41	-0.1	303.31	-0.2	303.39	-0.2
	AVERAGE	303.54	0.2	303.55	0.3	303.52	0.4	303.58	0.1	303.49	0.1	303.57	-0.1
	FLUCTUATION	0.34	0.3	0.34	0.3	0.35	0.4	0.34	0.3	0.45	0.5	0.35	0.4
	NUMBER	15		15		15		15		121		14	
2005	MAXIMUM	303.69	0.3	303.68	0.4	303.67	0.5	303.74	0.3	303.63	0.2	303.71	0.1
	MINIMUM	303.42	0.0	303.36	0.1	303.35	0.2	303.40	0.0	303.36	0.0	303.39	-0.2
	AVERAGE	303.56	0.1	303.54	0.3	303.53	0.4	303.58	0.1	303.50	0.1	303.58	-0.1
	FLUCTUATION	0.27	0.3	0.32	0.3	0.32	0.3	0.34	0.3	0.27	0.3	0.32	0.3
	NUMBER	13		15		15		15		14		14	
2006	MAXIMUM	303.75	0.3	303.74	0.4	303.74	0.5	303.79	0.3	303.69	0.3	303.79	0.1
	MINIMUM	303.39	-0.1	303.38	0.1	303.38	0.2	303.42	-0.1	303.34	-0.1	303.41	-0.3
	AVERAGE	303.60	0.1	303.59	0.2	303.58	0.3	303.64	0.1	303.53	0.1	303.62	-0.1
	FLUCTUATION	0.36	0.4	0.36	0.3	0.36	0.3	0.37	0.4	0.35	0.4	0.38	0.4
	NUMBER	11		13		13		13		12		13	
2007	MAXIMUM	303.69	0.4	303.69	0.5	303.68	0.6	303.73	0.4	303.64	0.3	303.85	0.1
	MINIMUM	303.32	0.0	303.31	0.1	303.30	0.2	303.34	0.0	303.26	0.0	303.34	-0.4
	AVERAGE	303.53	0.2	303.53	0.3	303.50	0.4	303.57	0.2	303.46	0.2	303.56	-0.1
	FLUCTUATION	0.37	0.4	0.38	0.4	0.38	0.4	0.39	0.4	0.38	0.4	0.51	0.5
	NUMBER	12		12		14		13		14		14	

Notes: **mASL - Groundwater elevation in metres above sea level**
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TABLE B-6
WATER LEVEL SUMMARY - GROUNDWATER MONITORS
MILL CREEK AGGREGATES PIT

YEAR		TW16-79		OW1-84		OW2-84		OW4-84		OW5-84		OW16A-78	
		Groundwater Elevation (m ASL)	Groundwater Level (m BGL)	Groundwater Elevation (m ASL)	Groundwater Level (m BGL)	Groundwater Elevation (m ASL)	Groundwater Level (m BGL)	Groundwater Elevation (m ASL)	Groundwater Level (m BGL)	Groundwater Elevation (m ASL)	Groundwater Level (m BGL)	Groundwater Elevation (m ASL)	Groundwater Level (m BGL)
2008	MAXIMUM	303.90	0.2	303.89	0.3	303.89	0.4	303.94	0.2	303.85	0.1	303.93	0.0
	MINIMUM	303.51	-0.2	303.52	-0.1	303.51	0.0	303.47	-0.2	303.46	-0.3	303.46	-0.5
	AVERAGE	303.64	0.0	303.63	0.1	303.62	0.2	303.66	0.0	303.59	-0.1	303.68	-0.2
	FLUCTUATION	0.39	0.39	0.37	0.37	0.38	0.38	0.47	0.47	0.39	0.39	0.47	0.47
	NUMBER	13		13		13		13		14		13	
2009	MAXIMUM	303.83	0.1	303.82	0.2	303.81	0.3	303.94	0.2	303.78	0.1	303.74	-0.04
	MINIMUM	303.62	-0.2	303.60	0.0	303.60	0.1	303.50	-0.2	303.53	-0.2	303.50	-0.3
	AVERAGE	303.69	0.0	303.68	0.1	303.67	0.2	303.72	0.0	303.63	-0.03	303.73	-0.3
	FLUCTUATION	0.21	0.2	0.22	0.2	0.21	0.2	0.44	0.4	0.25	0.3	0.24	0.2
	NUMBER	14		14		14		14		14		14	
2010	MAXIMUM	303.71	0.3	303.72	0.3	303.71	0.4	303.76	0.2	303.68	0.2	303.76	-0.03
	MINIMUM	303.41	0.0	303.45	0.1	303.44	0.2	303.49	-0.1	303.41	-0.1	303.49	-0.3
	AVERAGE	303.59	0.1	303.60	0.2	303.59	0.3	303.65	0.1	303.56	0.04	303.66	-0.2
	FLUCTUATION	0.30	0.3	0.27	0.3	0.27	0.3	0.27	0.3	0.27	0.3	0.27	0.3
	NUMBER	14		14		14		14		14		14	
2011	MAXIMUM	303.87	0.3	303.91	0.4	303.84	0.4	303.89	0.2	303.81	0.2	303.90	-0.05
	MINIMUM	303.41	-0.2	303.44	-0.1	303.42	0.0	303.48	-0.2	303.40	-0.2	303.51	-0.4
	AVERAGE	303.67	0.0	303.66	0.1	303.65	0.2	303.68	0.0	303.61	-0.01	303.69	-0.2
	FLUCTUATION	0.46	0.5	0.47	0.5	0.42	0.4	0.41	0.4	0.41	0.4	0.39	0.4
	NUMBER	15		15		15		15		14		13	
2012	MAXIMUM	303.73	0.3	303.72	0.5	303.70	0.6	303.76	0.4	303.68	0.3	303.76	0.11
	MINIMUM	303.33	-0.1	303.32	0.1	303.30	0.2	303.35	-0.1	303.28	-0.1	303.35	-0.3
	AVERAGE	303.56	0.1	303.55	0.2	303.53	0.3	303.58	0.1	303.53	0.07	303.59	-0.1
	FLUCTUATION	0.40	0.4	0.40	0.4	0.40	0.4	0.41	0.4	0.40	0.4	0.41	0.4
	NUMBER	15		15		15		15		15		15	
2013	MAXIMUM	303.77	0.1	303.76	0.2	303.79	0.3	303.96	0.1	303.78	0.1	303.96	-0.18
	MINIMUM	303.61	-0.1	303.60	0.0	303.59	0.1	303.64	-0.3	303.55	-0.2	303.64	-0.5
	AVERAGE	303.70	0.0	303.70	0.1	303.69	0.2	303.76	-0.1	303.66	-0.06	303.78	-0.3
	FLUCTUATION	0.16	0.2	0.16	0.2	0.20	0.2	0.32	0.3	0.23	0.2	0.32	0.3
	NUMBER	13		13		13		13		13		13	
2014	MAXIMUM	303.96	0.0	303.93	0.2	303.91	0.3	303.97	0.1	303.90	0.0	303.98	-0.19
	MINIMUM	303.64	-0.3	303.61	-0.1	303.61	0.0	303.64	-0.3	303.57	-0.3	303.65	-0.5
	AVERAGE	303.76	-0.1	303.75	0.0	303.73	0.1	303.78	-0.1	303.72	-0.12	303.78	-0.3
	FLUCTUATION	0.32	0.3	0.32	0.3	0.30	0.3	0.33	0.3	0.32	0.3	0.33	0.3
	NUMBER	12		12		12		11		12		9	
2015	MAXIMUM	303.85	0.1	303.82	0.3	303.78	0.4	303.86	0.2	303.77	0.1	303.85	-0.11
	MINIMUM	303.54	-0.2	303.53	0.0	303.49	0.1	303.55	-0.1	303.49	-0.2	303.57	-0.4
	AVERAGE	303.68	0.0	303.66	0.1	303.63	0.2	303.69	0.0	303.62	-0.01	303.69	-0.2
	FLUCTUATION	0.31	0.3	0.29	0.3	0.29	0.3	0.31	0.3	0.28	0.3	0.28	0.3
	NUMBER	12		12		12		10		10		9	
2016	MAXIMUM	303.82	0.2	303.81	0.5	303.78	0.6	303.84	0.4	303.77	0.3	303.84	0.02
	MINIMUM	303.43	-0.1	303.30	0.0	303.29	0.1	303.32	-0.1	303.27	-0.2	303.44	-0.4
	AVERAGE	303.65	0.0	303.61	0.2	303.58	0.3	303.62	0.1	303.56	0.04	303.64	-0.2
	FLUCTUATION	0.39	0.4	0.51	0.5	0.49	0.5	0.52	0.5	0.50	0.5	0.40	0.4
	NUMBER	13		13		13		12		12		11	

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TABLE B-6
WATER LEVEL SUMMARY - GROUNDWATER MONITORS
MILL CREEK AGGREGATES PIT

YEAR		TW16-79		OW1-84		OW2-84		OW4-84		OW5-84		OW16A-78	
		Groundwater Elevation (m ASL)	Groundwater Level (m BGL)	Groundwater Elevation (m ASL)	Groundwater Level (m BGL)	Groundwater Elevation (m ASL)	Groundwater Level (m BGL)	Groundwater Elevation (m ASL)	Groundwater Level (m BGL)	Groundwater Elevation (m ASL)	Groundwater Level (m BGL)	Groundwater Elevation (m ASL)	Groundwater Level (m BGL)
2017	MAXIMUM	303.77	0.1	303.76	0.3	303.72	0.4	303.79	0.1	303.71	0.1	303.79	-0.12
	MINIMUM	303.56	-0.1	303.54	0.0	303.51	0.1	303.57	-0.1	303.50	-0.1	303.58	-0.3
	AVERAGE	303.67	0.0	303.65	0.1	303.62	0.2	303.68	0.0	303.61	-0.01	303.67	-0.2
	FLUCTUATION	0.21	0.2	0.22	0.2	0.21	0.2	0.22	0.2	0.21	0.2	0.21	0.2
	NUMBER	12		12		12		12		12		9	
2018	MAXIMUM	303.81	0.2	303.81	0.3	303.77	0.4	303.83	0.2	303.76	0.2	303.83	-0.02
	MINIMUM	303.47	-0.1	303.46	0.0	303.43	0.1	303.48	-0.1	303.41	-0.2	303.48	-0.4
	AVERAGE	303.64	0.0	303.63	0.2	303.61	0.3	303.64	0.1	303.58	0.02	303.63	-0.2
	FLUCTUATION	0.34	0.3	0.35	0.4	0.34	0.3	0.35	0.4	0.35	0.4	0.35	0.3
	NUMBER	12		12		12		10		11		9	
1986 to 2017	MAXIMUM	304.01	0.7	303.99	0.7	303.95	0.7	304.01	0.7	303.93	0.7	303.99	0.7
	MINIMUM	303.27	-0.3	303.19	-0.2	303.17	-0.1	303.21	-0.3	303.20	-0.3	303.26	-0.5
	AVERAGE	303.61	0.1	303.60	0.2	303.58	0.3	303.62	0.1	303.48	0.1	303.61	-0.2
	FLUCTUATION	0.74	1.0	0.80	0.9	0.78	0.8	0.80	1.0	0.73	1.0	0.73	1.2
	NUMBER	332		336		337		327		542		310	

Notes: **mASL - Groundwater elevation in metres above sea level**
mBGL - Groundwater levels in metres below ground level
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Negative groundwater levels indicate groundwater level above ground surface

TABLE B-6
WATER LEVEL SUMMARY - GROUNDWATER MONITORS
MILL CREEK AGGREGATES PIT

YEAR		BH92-I		BH92-5		BH92-8		BH92-12A		BH92-13		BH92-14	
		Groundwater Elevation (m ASL)	Groundwater Level (m BGL)	Groundwater Elevation (m ASL)	Groundwater Level (m BGL)	Groundwater Elevation (m ASL)	Groundwater Level (m BGL)	Groundwater Elevation (m ASL)	Groundwater Level (m BGL)	Groundwater Elevation (m ASL)	Groundwater Level (m BGL)	Groundwater Elevation (m ASL)	Groundwater Level (m BGL)
1988	MAXIMUM												
	MINIMUM												
	AVERAGE												
	FLUCTUATION												
	NUMBER												
1989	MAXIMUM												
	MINIMUM												
	AVERAGE												
	FLUCTUATION												
	NUMBER												
1990	MAXIMUM												
	MINIMUM												
	AVERAGE												
	FLUCTUATION												
	NUMBER												
1991	MAXIMUM												
	MINIMUM												
	AVERAGE												
	FLUCTUATION												
	NUMBER												
1992	MAXIMUM	306.93	6.0	307.15	1.7	306.83	1.9			306.67	3.3	307.03	2.8
	MINIMUM	306.21	5.3	306.58	1.2	306.16	1.3			306.18	2.8	306.05	1.8
	AVERAGE	306.46	5.7	306.79	1.5	306.39	1.7			306.33	3.2	306.38	2.4
	FLUCTUATION	0.72	0.7	0.57	0.6	0.67	0.7			0.49	0.5	0.98	1.0
	NUMBER	10		10		10				7		7	
1993	MAXIMUM	307.31	5.9	307.38	1.7	306.95	1.9			307.27	3.3	307.41	2.2
	MINIMUM	306.32	4.9	306.58	0.9	306.21	1.2			306.21	2.2	306.59	1.4
	AVERAGE	306.85	5.4	306.95	1.4	306.59	1.5			306.64	2.9	306.92	1.9
	FLUCTUATION	0.99	1.0	0.80	0.8	0.74	0.7			1.06	1.1	0.82	0.8
	NUMBER	12		11		10				9		8	
1994	MAXIMUM	306.85	6.1	306.98	1.9	306.67	2.1			306.67	3.5	307.03	2.4
	MINIMUM	306.06	5.4	306.45	1.3	306.05	1.4			306.01	2.8	306.38	1.8
	AVERAGE	306.41	5.8	306.71	1.6	306.31	1.8			306.31	3.2	306.68	2.1
	FLUCTUATION	0.79	0.8	0.53	0.5	0.62	0.6			0.66	0.7	0.65	0.7
	NUMBER	12		12		12				12		12	
1995	MAXIMUM	306.78	6.1	307.00	1.8	306.74	2.0			306.75	3.4	307.12	2.4
	MINIMUM	306.12	5.4	306.51	1.3	306.08	1.4			306.07	2.8	306.42	1.7
	AVERAGE	306.49	5.7	306.80	1.5	306.41	1.7			306.43	3.1	306.79	2.0
	FLUCTUATION	0.66	0.7	0.49	0.5	0.66	0.6			0.68	0.6	0.70	0.7
	NUMBER	9		8		9				9		9	
1996	MAXIMUM	307.19	5.5	307.25	1.3	306.87	1.6			307.05	2.8	307.37	1.8
	MINIMUM	306.69	5.0	306.99	1.0	306.52	1.3			306.64	2.4	307.00	1.4
	AVERAGE	306.88	5.4	307.10	1.2	306.71	1.4			306.82	2.7	307.16	1.7
	FLUCTUATION	0.50	0.5	0.26	0.3	0.35	0.3			0.41	0.4	0.37	0.4
	NUMBER	5		5		5				5		5	
1997	MAXIMUM	307.46	5.8	307.43	1.6	307.13	1.8			307.21	3.2	307.54	2.1
	MINIMUM	306.37	4.7	306.66	0.9	306.30	1.0			306.33	2.3	306.69	1.3
	AVERAGE	306.86	5.3	307.05	1.3	306.69	1.4			306.76	2.7	307.10	1.7
	FLUCTUATION	1.09	1.1	0.77	0.7	0.83	0.8			0.88	0.9	0.85	0.8
	NUMBER	5		5		5				5		5	

Notes: **mASL - Groundwater elevation in metres above sea level**
mBGL - Groundwater levels in metres below ground level
Number - Indicates number of readings taken during the indicated time period
Fluctuations - Difference between the maximum and minimum groundwater reading
Negative groundwater levels indicate groundwater level above ground surface

TABLE B-6
WATER LEVEL SUMMARY - GROUNDWATER MONITORS
MILL CREEK AGGREGATES PIT

YEAR		BH92-I		BH92-5		BH92-8		BH92-12A		BH92-13		BH92-14	
		Groundwater Elevation (m ASL)	Groundwater Level (m BGL)	Groundwater Elevation (m ASL)	Groundwater Level (m BGL)	Groundwater Elevation (m ASL)	Groundwater Level (m BGL)	Groundwater Elevation (m ASL)	Groundwater Level (m BGL)	Groundwater Elevation (m ASL)	Groundwater Level (m BGL)	Groundwater Elevation (m ASL)	Groundwater Level (m BGL)
1998	MAXIMUM	306.76	6.2	306.99	2.3	306.70	2.2			306.73	3.6	307.09	2.6
	MINIMUM	305.98	5.4	306.04	1.3	305.87	1.4			305.88	2.8	306.24	1.7
	AVERAGE	306.33	5.9	306.45	1.9	306.22	1.9			306.26	3.2	306.61	2.2
	FLUCTUATION	0.78	0.8	0.95	1.0	0.83	0.8			0.85	0.8	0.85	0.9
	NUMBER	5		5		5				5		5	
1999	MAXIMUM	306.24	6.8	306.41	2.8	306.21	2.5			306.27	4.0	306.63	2.8
	MINIMUM	305.42	6.0	305.47	1.9	305.62	1.9			305.46	3.2	305.99	2.2
	AVERAGE	305.68	6.5	305.79	2.5	305.80	2.3			305.73	3.8	306.26	2.5
	FLUCTUATION	0.82	0.8	0.94	0.9	0.59	0.6			0.81	0.8	0.64	0.6
	NUMBER	5		5		5				5		5	
2000	MAXIMUM	306.20	6.4	306.23	2.5	306.10	2.4			306.04	3.8	306.64	2.7
	MINIMUM	305.77	6.0	305.82	2.1	305.69	2.0			305.68	3.5	306.07	2.2
	AVERAGE	305.95	6.3	306.03	2.3	305.89	2.2			305.86	3.6	306.32	2.5
	FLUCTUATION	0.43	0.4	0.41	0.4	0.41	0.4			0.36	0.4	0.57	0.6
	NUMBER	7		7		7				7		7	
2001	MAXIMUM	306.38	6.5	306.44	2.5	306.27	3.3	305.68	1.9	306.28	3.9	306.66	2.9
	MINIMUM	305.72	5.8	305.79	1.9	304.83	1.8	305.34	1.6	305.56	3.2	305.95	2.2
	AVERAGE	306.03	6.2	306.00	2.3	305.62	2.5	305.48	1.8	305.91	3.6	306.31	2.6
	FLUCTUATION	0.66	0.7	0.65	0.6	1.44	1.5	0.34	0.3	0.72	0.7	0.71	0.7
	NUMBER	12		57		13		53		12		11	
2002	MAXIMUM	306.27	6.5	306.39	2.5	305.85	2.7	305.84	1.9	306.18	3.8	306.55	2.8
	MINIMUM	305.73	5.9	305.80	1.9	305.37	2.3	305.37	1.5	305.66	3.3	306.05	2.3
	AVERAGE	306.01	6.2	306.15	2.2	305.55	2.6	305.55	1.8	305.94	3.6	306.32	2.5
	FLUCTUATION	0.54	0.6	0.59	0.6	0.48	0.4	0.47	0.4	0.52	0.5	0.50	0.5
	NUMBER	12		54		12		91		8		10	
2003	MAXIMUM	306.30	6.5	306.21	2.6	305.73	2.7	305.70	2.0	306.01	3.8	306.40	2.5
	MINIMUM	305.70	5.9	305.75	2.1	305.40	2.4	305.31	1.6	305.70	3.5	306.29	2.4
	AVERAGE	305.94	6.3	305.99	2.3	305.59	2.5	305.48	1.8	305.87	3.6	306.33	2.5
	FLUCTUATION	0.60	0.6	0.46	0.5	0.33	0.3	0.39	0.4	0.31	0.3	0.11	0.1
	NUMBER	15		15		15		77		11		3	
2004	MAXIMUM	306.74	6.3	306.78	2.2	306.28	2.7	305.91	1.9	306.59	3.7	306.94	2.3
	MINIMUM	305.95	5.5	306.13	1.5	305.36	1.8	305.36	1.4	305.80	2.9	306.48	1.9
	AVERAGE	306.40	5.8	306.50	1.8	305.99	2.1	305.63	1.7	306.28	3.2	306.68	2.1
	FLUCTUATION	0.79	0.8	0.65	0.7	0.92	0.9	0.55	0.6	0.79	0.8	0.46	0.5
	NUMBER	15		15		15		91		15		14	
2005	MAXIMUM	306.79	6.0	306.80	2.0	306.28	2.2	305.71	1.8	306.55	3.3	306.89	2.3
	MINIMUM	306.22	5.4	306.33	1.5	305.93	1.8	305.51	1.6	306.15	2.9	306.51	1.9
	AVERAGE	306.44	5.8	306.54	1.8	306.10	2.0	305.61	1.7	306.33	3.2	306.67	2.1
	FLUCTUATION	0.57	0.6	0.47	0.5	0.35	0.4	0.20	0.2	0.40	0.4	0.38	0.4
	NUMBER	15		15		14		15		15		15	
2006	MAXIMUM	306.70	5.8	306.79	1.8	306.35	2.5	305.83	1.8	306.59	3.1	306.98	2.1
	MINIMUM	306.43	5.5	306.53	1.5	305.59	1.8	305.54	1.5	306.36	2.9	306.70	1.8
	AVERAGE	306.56	5.6	306.68	1.6	306.11	2.0	305.68	1.6	306.48	3.0	306.86	1.9
	FLUCTUATION	0.27	0.3	0.26	0.3	0.76	0.7	0.29	0.3	0.23	0.2	0.28	0.3
	NUMBER	12		13		8		12		11		11	
2007	MAXIMUM	307.00	6.0	307.06	2.0	306.58	2.3	305.85	1.9	306.84	3.3	307.16	2.3
	MINIMUM	306.17	5.2	306.29	1.3	305.85	1.6	305.46	1.5	306.13	2.6	306.51	1.7
	AVERAGE	306.52	5.6	306.63	1.7	306.17	1.9	305.63	1.7	306.44	3.0	306.76	2.0
	FLUCTUATION	0.83	0.8	0.77	0.8	0.73	0.7	0.39	0.4	0.71	0.7	0.65	0.7
	NUMBER	10		12		8		14		11		8	

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Negative groundwater levels indicate groundwater level above ground surface

TABLE B-6
WATER LEVEL SUMMARY - GROUNDWATER MONITORS
MILL CREEK AGGREGATES PIT

YEAR		BH92-I		BH92-5		BH92-8		BH92-12A		BH92-13		BH92-14	
		Groundwater Elevation (m ASL)	Groundwater Level (m BGL)	Groundwater Elevation (m ASL)	Groundwater Level (m BGL)	Groundwater Elevation (m ASL)	Groundwater Level (m BGL)	Groundwater Elevation (m ASL)	Groundwater Level (m BGL)	Groundwater Elevation (m ASL)	Groundwater Level (m BGL)	Groundwater Elevation (m ASL)	Groundwater Level (m BGL)
2008	MAXIMUM	306.97	5.8	307.06	1.8	306.60	1.8	305.97	1.7	306.86	3.2	307.26	2.1
	MINIMUM	306.39	5.2	306.56	1.3	306.37	1.5	305.61	1.4	306.32	2.6	306.71	1.6
	AVERAGE	306.80	5.5	306.90	1.5	306.48	1.6	305.76	1.5	306.69	2.9	307.10	1.9
	FLUCTUATION	0.58	0.58	0.50	0.50	0.23	0.23	0.36	0.36	0.54	0.54	0.55	0.55
	NUMBER	13		13		11		14		13		12	
2009	MAXIMUM	307.17	5.5	307.24	1.5	306.76	1.8	306.09	1.6	307.01	2.9	307.36	1.9
	MINIMUM	306.69	5.0	306.85	1.1	306.30	1.4	305.70	1.3	306.61	2.5	306.98	1.5
	AVERAGE	306.96	5.2	307.07	1.3	306.59	1.5	305.81	1.5	306.84	2.6	307.20	1.6
	FLUCTUATION	0.48	0.5	0.39	0.4	0.46	0.5	0.39	0.4	0.40	0.4	0.38	0.4
	NUMBER	14		14		11		14		14		14	
2010	MAXIMUM	306.77	6.1	306.90	2.0	306.50	2.5	305.80	1.9	306.70	3.5	307.04	2.4
	MINIMUM	306.10	5.4	306.34	1.4	305.65	1.6	305.39	1.5	305.99	2.8	306.39	1.8
	AVERAGE	306.41	5.7	306.59	1.7	306.12	2.0	305.52	1.8	306.32	3.1	306.67	2.2
	FLUCTUATION	0.67	0.7	0.56	0.6	0.85	0.8	0.41	0.4	0.71	0.7	0.65	0.7
	NUMBER	14		14		13		14		14		14	
2011	MAXIMUM	306.79	6.1	306.90	2.1	306.56	2.4	305.78	2.0	306.66	3.5	307.03	2.5
	MINIMUM	306.07	5.4	306.23	1.4	305.73	1.6	305.36	1.6	305.97	2.8	306.32	1.8
	AVERAGE	306.43	5.7	306.55	1.8	306.05	2.1	305.55	1.8	306.30	3.2	306.63	2.2
	FLUCTUATION	0.72	0.7	0.67	0.7	0.83	0.8	0.42	0.4	0.69	0.7	0.71	0.7
	NUMBER	14		15		15		15		14		14	
2012	MAXIMUM	306.49	6.3	306.74	2.1	306.13	2.5	305.57	2.1	306.33	3.7	306.69	2.7
	MINIMUM	305.89	5.7	306.19	1.6	305.61	2.0	305.25	1.8	305.75	3.1	306.10	2.1
	AVERAGE	306.18	6.0	306.41	1.9	305.89	2.2	305.41	1.9	305.99	3.5	306.38	2.5
	FLUCTUATION	0.60	0.6	0.55	0.6	0.52	0.5	0.32	0.3	0.58	0.6	0.59	0.6
	NUMBER	15		15		14		15		15		15	
2013	MAXIMUM	306.70	6.2	306.78	2.0	306.50	2.1	305.57	2.0	306.42	3.6	306.67	2.6
	MINIMUM	306.00	5.5	306.30	1.6	306.04	1.6	305.38	1.8	305.90	3.1	306.24	2.2
	AVERAGE	306.35	5.8	306.52	1.8	306.26	1.9	305.48	1.9	306.12	3.4	306.42	2.4
	FLUCTUATION	0.70	0.7	0.48	0.5	0.46	0.5	0.19	0.2	0.52	0.5	0.43	0.4
	NUMBER	13		13		13		13		13		13	
2014	MAXIMUM	306.81	5.8	307.01	1.8	306.57	1.9	305.64	2.1	306.49	3.5	306.42	2.5
	MINIMUM	306.35	5.4	306.56	1.3	306.25	1.6	305.27	1.7	306.01	3.0	306.29	2.4
	AVERAGE	306.54	5.6	306.75	1.6	306.38	1.8	305.51	1.8	306.17	3.3	306.38	2.5
	FLUCTUATION	0.46	0.5	0.45	0.4	0.32	0.3	0.37	0.4	0.48	0.5	0.13	0.1
	NUMBER	12		12		12		12		12		5	
2015	MAXIMUM	306.95	6.0	306.84	2.1	306.46	2.1	305.64	2.0	306.10	3.6		
	MINIMUM	306.17	5.2	306.22	1.5	306.08	1.7	305.33	1.7	305.84	3.4		
	AVERAGE	306.40	5.8	306.60	1.7	306.23	1.9	305.47	1.9	306.00	3.5		
	FLUCTUATION	0.78	0.8	0.62	0.6	0.38	0.4	0.31	0.3	0.26	0.3		
	NUMBER	12		12		12		12		12		0	
2016	MAXIMUM	306.57	6.1	306.78	2.0	306.46	2.1	305.60	2.0	306.11	3.6		
	MINIMUM	306.03	5.6	306.32	1.6	306.07	1.7	305.31	1.7	305.87	3.4		
	AVERAGE	306.29	5.9	306.52	1.8	306.17	2.0	305.42	1.9	306.01	3.5		
	FLUCTUATION	0.54	0.5	0.46	0.5	0.39	0.4	0.29	0.3	0.24	0.2		
	NUMBER	13		13		13		13		13		0	

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Fluctuations - Difference between the maximum and minimum groundwater reading
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TABLE B-6
WATER LEVEL SUMMARY - GROUNDWATER MONITORS
MILL CREEK AGGREGATES PIT

YEAR		BH92-I		BH92-5		BH92-8		BH92-12A		BH92-13		BH92-14	
		Groundwater Elevation (m ASL)	Groundwater Level (m BGL)	Groundwater Elevation (m ASL)	Groundwater Level (m BGL)	Groundwater Elevation (m ASL)	Groundwater Level (m BGL)	Groundwater Elevation (m ASL)	Groundwater Level (m BGL)	Groundwater Elevation (m ASL)	Groundwater Level (m BGL)	Groundwater Elevation (m ASL)	Groundwater Level (m BGL)
2017	MAXIMUM	306.80	6.0	307.03	1.8	306.51	2.0	305.62	1.9	306.83	3.6		
	MINIMUM	306.15	5.4	306.49	1.3	306.10	1.6	305.40	1.7	305.89	2.6		
	AVERAGE	306.48	5.7	306.76	1.6	306.35	1.8	305.52	1.8	306.21	3.3		
	FLUCTUATION	0.65	0.7	0.54	0.5	0.41	0.4	0.22	0.2	0.94	0.9		
	NUMBER	12		12		12		12		12		0	
2018	MAXIMUM	306.55	6.0	306.77	2.1	306.58	2.0	305.73	2.0	306.41	3.5		
	MINIMUM	306.17	5.6	306.19	1.6	306.17	1.6	305.38	1.6	305.99	3.1		
	AVERAGE	306.34	5.8	306.52	1.8	306.36	1.8	305.50	1.8	306.19	3.3		
	FLUCTUATION	0.38	0.4	0.58	0.6	0.41	0.4	0.35	0.4	0.42	0.4		
	NUMBER	9		11		11		12		12		0	
1986 to 2017	MAXIMUM	307.46	6.8	307.43	2.8	307.13	3.3	306.09	2.1	307.27	4.0	307.54	2.9
	MINIMUM	305.42	4.7	305.47	0.9	304.83	1.0	305.25	1.3	305.46	2.2	305.95	1.3
	AVERAGE	306.40	5.8	306.46	1.9	306.14	2.0	305.55	1.8	306.27	3.2	306.67	2.2
	FLUCTUATION	2.04	2.1	1.96	1.9	2.30	2.3	0.84	0.8	1.81	1.8	1.59	1.6
	NUMBER	293		382		279		487		279		222	

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TABLE B-6
WATER LEVEL SUMMARY - GROUNDWATER MONITORS
MILL CREEK AGGREGATES PIT

YEAR		BH92-15		BH92-26		BH92-27		BH92-28		BH92-29		BH92-32		BH92-33	
		Groundwater Elevation (m ASL)	Groundwater Level (m BGL)	Groundwater Elevation (m ASL)	Groundwater Level (m BGL)	Groundwater Elevation (m ASL)	Groundwater Level (m BGL)	Groundwater Elevation (m ASL)	Groundwater Level (m BGL)	Groundwater Elevation (m ASL)	Groundwater Level (m BGL)	Groundwater Elevation (m ASL)	Groundwater Level (m BGL)	Groundwater Elevation (m ASL)	Groundwater Level (m BGL)
1988	MAXIMUM														
	MINIMUM														
	AVERAGE														
	FLUCTUATION														
	NUMBER														
1989	MAXIMUM														
	MINIMUM														
	AVERAGE														
	FLUCTUATION														
	NUMBER														
1990	MAXIMUM														
	MINIMUM														
	AVERAGE														
	FLUCTUATION														
	NUMBER														
1991	MAXIMUM														
	MINIMUM														
	AVERAGE														
	FLUCTUATION														
	NUMBER														
1992	MAXIMUM	306.69	2.4	304.47	1.5	304.60	1.1	304.76	1.6	304.92	1.8	304.45	0.9	304.50	1.4
	MINIMUM	306.00	1.7	303.91	0.9	304.01	0.5	304.20	1.0	304.29	1.2	304.00	0.5	304.15	1.0
	AVERAGE	306.22	2.2	304.23	1.2	304.32	0.8	304.48	1.3	304.63	1.5	304.31	0.6	304.38	1.1
	FLUCTUATION	0.69	0.7	0.56	0.6	0.59	0.6	0.56	0.6	0.63	0.6	0.45	0.5	0.35	0.4
	NUMBER	6		10		6		10		10		10		6	
1993	MAXIMUM	307.06	2.1	304.34	1.5	304.71	0.8	304.60	1.6	304.77	1.8	304.55	0.8	304.61	1.3
	MINIMUM	306.27	1.3	303.94	1.1	304.30	0.4	304.23	1.2	304.32	1.3	304.15	0.4	304.23	0.9
	AVERAGE	306.55	1.9	304.17	1.2	304.50	0.6	304.45	1.4	304.56	1.5	304.37	0.5	304.42	1.1
	FLUCTUATION	0.79	0.8	0.40	0.4	0.41	0.4	0.37	0.4	0.45	0.5	0.40	0.4	0.38	0.4
	NUMBER	7		12		8		11		11		12		8	
1994	MAXIMUM	306.71	2.4	304.54	1.6	304.79	0.9	304.79	1.6	304.92	1.9	304.64	0.9	304.69	1.4
	MINIMUM	306.05	1.7	303.80	0.9	304.18	0.3	304.18	1.0	304.22	1.2	303.96	0.3	304.12	0.8
	AVERAGE	306.35	2.1	304.10	1.3	304.43	0.7	304.46	1.3	304.51	1.6	304.27	0.6	304.38	1.1
	FLUCTUATION	0.66	0.7	0.74	0.7	0.61	0.6	0.61	0.6	0.70	0.7	0.68	0.7	0.57	0.6
	NUMBER	12		12		12		12		12		12		12	
1995	MAXIMUM	306.78	2.3	304.45	1.6	304.73	0.9	304.91	1.4	304.95	1.9	304.60	0.9	304.77	1.3
	MINIMUM	306.10	1.6	303.81	1.0	304.18	0.4	304.39	0.9	304.23	1.2	304.01	0.3	304.22	0.7
	AVERAGE	306.47	1.9	304.13	1.3	304.47	0.6	304.64	1.2	304.56	1.5	304.32	0.6	304.49	1.0
	FLUCTUATION	0.68	0.7	0.64	0.6	0.55	0.5	0.52	0.5	0.72	0.7	0.59	0.6	0.55	0.6
	NUMBER	9		9		9		9		9		9		9	
1996	MAXIMUM	306.99	1.7	304.42	1.3	304.73	0.6	304.97	1.2	304.88	1.6	304.55	0.8	304.73	1.0
	MINIMUM	306.68	1.4	304.11	1.0	304.48	0.4	304.61	0.8	304.50	1.2	304.15	0.4	304.51	0.8
	AVERAGE	306.81	1.6	304.27	1.1	304.62	0.5	304.78	1.0	304.71	1.4	304.35	0.6	304.63	0.9
	FLUCTUATION	0.31	0.3	0.31	0.3	0.25	0.2	0.36	0.4	0.38	0.4	0.40	0.4	0.22	0.2
	NUMBER	5		5		5		5		5		5		5	
1997	MAXIMUM	307.21	2.0	304.49	1.5	304.82	0.8	305.01	1.3	304.96	1.8	304.65	0.8	304.82	1.2
	MINIMUM	306.36	1.2	303.94	0.9	304.30	0.3	304.47	0.8	304.33	1.1	304.12	0.3	304.32	0.7
	AVERAGE	306.75	1.7	304.22	1.2	304.57	0.5	304.74	1.1	304.66	1.4	304.39	0.5	304.58	0.9
	FLUCTUATION	0.85	0.8	0.55	0.6	0.52	0.5	0.54	0.5	0.63	0.7	0.53	0.5	0.50	0.5
	NUMBER	5		5		5		5		5		5		5	

Notes: **mASL - Groundwater elevation in metres above sea level**
mBGL - Groundwater levels in metres below ground level
Number - Indicates number of readings taken during the indicated time period
Fluctuations - Difference between the maximum and minimum groundwater reading
Negative groundwater levels indicate groundwater level above ground surface

TABLE B-6
WATER LEVEL SUMMARY - GROUNDWATER MONITORS
MILL CREEK AGGREGATES PIT

YEAR		BH92-15		BH92-26		BH92-27		BH92-28		BH92-29		BH92-32		BH92-33	
		Groundwater Elevation (m ASL)	Groundwater Level (m BGL)	Groundwater Elevation (m ASL)	Groundwater Level (m BGL)	Groundwater Elevation (m ASL)	Groundwater Level (m BGL)	Groundwater Elevation (m ASL)	Groundwater Level (m BGL)	Groundwater Elevation (m ASL)	Groundwater Level (m BGL)	Groundwater Elevation (m ASL)	Groundwater Level (m BGL)	Groundwater Elevation (m ASL)	Groundwater Level (m BGL)
1998	MAXIMUM	306.78	2.5	304.47	1.6	304.77	1.0	304.91	1.4	304.88	1.9	304.60	1.0	304.66	1.3
	MINIMUM	305.90	1.6	303.77	0.9	304.14	0.3	304.40	0.9	304.24	1.2	303.94	0.3	304.07	0.8
	AVERAGE	306.27	2.1	303.99	1.4	304.33	0.8	304.53	1.3	304.41	1.7	304.14	0.8	304.34	1.2
	FLUCTUATION	0.88	0.9	0.70	0.7	0.63	0.6	0.51	0.5	0.64	0.6	0.66	0.7	0.59	0.5
	NUMBER	5		5		5		5		5		5		5	
1999	MAXIMUM	306.39	2.7	304.23	1.4	304.55	0.9	304.53	1.7	304.68	1.9	304.32	0.8	304.47	1.3
	MINIMUM	305.70	2.0	303.96	1.2	304.25	0.6	304.12	1.3	304.23	1.4	304.10	0.6	304.16	1.0
	AVERAGE	306.06	2.3	304.15	1.3	304.41	0.7	304.36	1.4	304.46	1.6	304.24	0.7	304.33	1.2
	FLUCTUATION	0.69	0.7	0.27	0.3	0.30	0.3	0.41	0.4	0.45	0.5	0.22	0.2	0.31	0.3
	NUMBER	5		5		5		5		5		5		5	
2000	MAXIMUM	306.17	2.6	304.53	1.2	304.76	0.7	304.73	1.5	304.89	1.7	304.60	0.6	304.66	1.1
	MINIMUM	305.79	2.2	304.19	0.9	304.42	0.3	304.33	1.1	304.42	1.2	304.26	0.3	304.37	0.8
	AVERAGE	305.97	2.4	304.29	1.1	304.52	0.6	304.47	1.3	304.57	1.5	304.36	0.5	304.44	1.1
	FLUCTUATION	0.38	0.4	0.34	0.3	0.34	0.3	0.40	0.4	0.47	0.5	0.34	0.3	0.29	0.3
	NUMBER	7		7		7		7		7		7		7	
2001	MAXIMUM	306.35	2.7	304.40	1.6	304.68	1.0	304.68	1.7	304.79	1.9	304.51	0.9	304.60	1.4
	MINIMUM	305.67	2.0	303.85	1.0	304.15	0.5	304.10	1.1	304.19	1.3	303.96	0.4	304.08	0.9
	AVERAGE	306.00	2.4	304.13	1.3	304.42	0.7	304.38	1.4	304.49	1.6	304.26	0.7	304.35	1.2
	FLUCTUATION	0.68	0.7	0.55	0.6	0.53	0.5	0.58	0.6	0.60	0.6	0.55	0.5	0.52	0.5
	NUMBER	12		14		12		44		12		12		12	
2002	MAXIMUM	306.25	2.9	304.39	1.6	304.65	1.0	304.77	1.7	304.73	1.9	304.46	1.0	304.55	1.5
	MINIMUM	305.53	2.2	303.84	1.0	304.12	0.5	304.09	1.0	304.16	1.4	303.93	0.4	304.05	1.0
	AVERAGE	305.87	2.5	304.08	1.3	304.40	0.7	304.37	1.4	304.47	1.6	304.19	0.7	304.30	1.2
	FLUCTUATION	0.72	0.7	0.55	0.6	0.53	0.5	0.68	0.7	0.57	0.5	0.53	0.6	0.50	0.5
	NUMBER	12		60		12		92		12		12		12	
2003	MAXIMUM	306.21	2.8	304.46	1.7	304.70	1.0	304.75	1.7	304.89	1.9	304.53	1.1	304.60	1.5
	MINIMUM	305.56	2.2	303.74	0.9	304.08	0.4	304.11	1.1	304.16	1.2	303.80	0.4	304.00	0.9
	AVERAGE	305.90	2.5	304.11	1.3	304.43	0.7	304.40	1.4	304.53	1.6	304.22	0.7	304.35	1.2
	FLUCTUATION	0.65	0.7	0.72	0.7	0.62	0.6	0.64	0.6	0.73	0.7	0.73	0.7	0.60	0.6
	NUMBER	13		88		15		84		15		15		15	
2004	MAXIMUM	306.58	2.5	304.72	1.6	304.70	0.8	304.96	1.7	304.81	1.8	304.51	1.0	304.60	1.3
	MINIMUM	305.92	1.8	303.82	0.7	304.26	0.4	304.15	0.8	304.31	1.3	303.88	0.4	304.20	0.9
	AVERAGE	306.31	2.1	304.10	1.3	304.48	0.6	304.40	1.4	304.54	1.6	304.23	0.7	304.40	1.1
	FLUCTUATION	0.66	0.7	0.90	0.9	0.44	0.4	0.81	0.8	0.50	0.5	0.63	0.6	0.40	0.4
	NUMBER	14		92		15		92		15		15		15	
2005	MAXIMUM	306.60	2.2	304.38	1.2	304.70	1.6	304.66	1.8	304.81	1.8	304.51	1.0	304.60	1.3
	MINIMUM	306.21	1.8	303.91	1.0	304.24	1.1	304.27	1.4	304.33	1.3	303.95	0.4	304.21	0.9
	AVERAGE	306.37	2.0	304.14	1.1	304.48	0.6	304.44	1.4	304.56	1.5	304.25	0.7	304.40	1.1
	FLUCTUATION	0.39	0.4	0.47	0.2	0.46	0.5	0.39	0.4	0.48	0.5	0.56	0.6	0.39	0.4
	NUMBER	15		15		15		15		15		15		15	
2006	MAXIMUM	306.65	2.0	304.54	1.6	304.78	0.9	304.78	1.7	304.93	1.9	304.59	1.2	304.68	1.3
	MINIMUM	306.42	1.8	303.77	0.9	304.25	0.3	304.12	1.0	304.16	1.2	303.75	0.3	304.19	0.8
	AVERAGE	306.55	1.9	304.18	1.2	304.53	0.6	304.42	1.4	304.58	1.5	304.16	0.7	304.45	1.1
	FLUCTUATION	0.23	0.2	0.77	0.7	0.53	0.6	0.66	0.7	0.77	0.7	0.84	0.9	0.49	0.5
	NUMBER	11		13		13		13		13		13		12	
2007	MAXIMUM	306.84	2.4	304.82	1.6	304.70	0.9	304.56	1.6	304.72	1.8	304.69	1.1	304.60	1.4
	MINIMUM	306.03	1.6	303.86	0.6	304.20	0.4	304.20	1.3	304.22	1.3	303.87	0.3	304.12	0.9
	AVERAGE	306.33	2.0	304.15	1.1	304.40	0.7	304.38	1.4	304.47	1.6	304.13	0.7	304.33	1.2
	FLUCTUATION	0.81	0.8	0.96	1.0	0.50	0.5	0.36	0.4	0.50	0.5	0.81	0.8	0.48	0.5
	NUMBER	10		13		11		12		12		13		11	

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TABLE B-6
WATER LEVEL SUMMARY - GROUNDWATER MONITORS
MILL CREEK AGGREGATES PIT

YEAR		BH92-15		BH92-26		BH92-27		BH92-28		BH92-29		BH92-32		BH92-33	
		Groundwater Elevation (m ASL)	Groundwater Level (m BGL)	Groundwater Elevation (m ASL)	Groundwater Level (m BGL)	Groundwater Elevation (m ASL)	Groundwater Level (m BGL)	Groundwater Elevation (m ASL)	Groundwater Level (m BGL)	Groundwater Elevation (m ASL)	Groundwater Level (m BGL)	Groundwater Elevation (m ASL)	Groundwater Level (m BGL)	Groundwater Elevation (m ASL)	Groundwater Level (m BGL)
2008	MAXIMUM	306.76	2.2	304.89	1.3	305.02	0.7	305.06	1.5	305.37	1.6	304.93	0.8	304.90	1.1
	MINIMUM	306.21	1.7	304.14	0.6	304.43	0.1	304.35	0.8	304.50	0.7	304.12	0.0	304.39	0.6
	AVERAGE	306.57	1.9	304.32	0.9	304.60	0.4	304.53	1.1	304.71	1.1	304.28	0.4	304.52	0.9
	FLUCTUATION	0.55	0.55	0.75	0.75	0.59	0.59	0.71	0.71	0.87	0.9	0.81	0.81	0.51	0.51
	NUMBER	13		14		13		14		14		14		13	
2009	MAXIMUM	306.85	1.9	304.58	1.1	304.91	0.6	304.85	1.4	305.02	1.7	304.53	0.8	304.80	1.1
	MINIMUM	306.50	1.6	304.29	0.9	304.52	0.2	304.43	1.0	304.36	1.0	304.19	0.4	304.45	0.7
	AVERAGE	306.71	1.7	304.39	1.0	304.66	0.5	304.58	1.2	304.69	1.4	304.33	0.6	304.58	0.9
	FLUCTUATION	0.35	0.4	0.29	0.3	0.39	0.4	0.42	0.4	0.66	0.7	0.34	0.3	0.35	0.4
	NUMBER	14		14		14		14		14		14		14	
2010	MAXIMUM	306.52	2.6	304.61	1.3	304.73	0.7	304.61	1.5	304.78	1.6	304.49	0.9	304.60	1.2
	MINIMUM	305.78	1.9	304.19	0.8	304.41	0.4	304.29	1.2	304.44	1.3	304.10	0.5	304.35	0.9
	AVERAGE	306.12	2.3	304.38	1.1	304.58	0.5	304.46	1.4	304.59	1.5	304.30	0.6	304.48	1.0
	FLUCTUATION	0.74	0.7	0.42	0.4	0.32	0.3	0.32	0.3	0.34	0.3	0.39	0.4	0.25	0.3
	NUMBER	14		14		14		14		14		14		14	
2011	MAXIMUM	306.44	2.6	304.87	1.0	304.91	0.6	304.83	1.4	305.03	1.6	304.70	0.7	304.78	1.1
	MINIMUM	305.81	2.0	304.45	0.6	304.50	0.2	304.36	1.0	304.47	1.0	304.27	0.3	304.40	0.7
	AVERAGE	306.12	2.3	304.70	0.7	304.72	0.4	304.57	1.2	304.73	1.3	304.51	0.4	304.59	0.9
	FLUCTUATION	0.63	0.6	0.42	0.4	0.41	0.4	0.47	0.5	0.56	0.6	0.43	0.4	0.38	0.4
	NUMBER	15		14		15		15		15		15		15	
2012	MAXIMUM	306.23	2.9	304.82	1.0	304.82	0.5	304.67	1.4	304.98	1.5	304.61	0.8	304.68	1.0
	MINIMUM	305.53	2.2	304.48	0.6	304.62	0.3	304.44	1.1	304.60	1.1	304.13	0.3	304.48	0.8
	AVERAGE	305.82	2.6	304.64	0.8	304.70	0.4	304.56	1.3	304.78	1.3	304.31	0.6	304.56	1.0
	FLUCTUATION	0.70	0.7	0.34	0.3	0.20	0.2	0.23	0.2	0.38	0.4	0.48	0.5	0.20	0.2
	NUMBER	15		10		15		15		15		15		15	
2013	MAXIMUM	306.05	2.8	305.29	0.8	305.15	0.3	304.89	1.1	305.33	1.0	304.56	0.7	304.92	0.8
	MINIMUM	305.62	2.4	304.61	0.1	304.84	0.0	304.69	0.9	305.08	0.7	304.23	0.4	304.70	0.6
	AVERAGE	305.83	2.6	304.98	0.5	304.98	0.1	304.79	1.0	305.20	0.9	304.43	0.5	304.80	0.7
	FLUCTUATION	0.43	0.4	0.68	0.7	0.31	0.3	0.20	0.2	0.25	0.3	0.33	0.3	0.22	0.2
	NUMBER	13		4		13		13		13		13		13	
2014	MAXIMUM	305.86	2.8			305.15	0.1	305.03	1.0	305.56	0.8	304.66	0.5	305.03	0.7
	MINIMUM	305.66	2.6			304.98	0.0	304.77	0.8	305.24	0.5	304.41	0.3	304.78	0.5
	AVERAGE	305.78	2.6			305.09	0.0	304.90	0.9	305.38	0.7	304.53	0.4	304.90	0.6
	FLUCTUATION	0.20	0.2			0.17	0.2	0.26	0.3	0.32	0.3	0.25	0.3	0.25	0.3
	NUMBER	7		0		8		12		10		12		12	
2015	MAXIMUM			305.13	0.3	305.03	0.4	305.00	1.3	305.39	1.2	304.64	0.8	305.04	0.9
	MINIMUM			305.13	0.3	304.68	0.1	304.56	0.8	304.87	0.7	304.18	0.3	304.58	0.5
	AVERAGE			305.13	0.3	304.88	0.2	304.80	1.0	305.17	0.9	304.38	0.6	304.82	0.7
	FLUCTUATION			0	0.0	0.35	0.4	0.44	0.4	0.52	0.5	0.46	0.5	0.46	0.5
	NUMBER	0		1		8		12		8		12		12	
2016	MAXIMUM					305.18	0.4	304.93	1.2	305.58	1.1	304.38	0.9	304.94	0.9
	MINIMUM					304.70	-0.1	304.65	0.9	304.97	0.5	304.08	0.6	304.59	0.6
	AVERAGE					304.94	0.2	304.78	1.0	305.29	0.8	304.26	0.7	304.76	0.8
	FLUCTUATION					0.48	0.5	0.28	0.3	0.61	0.6	0.30	0.3	0.35	0.4
	NUMBER	0		0		13		13		13		13		13	

Notes: **mASL - Groundwater elevation in metres above sea level**
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Number - Indicates number of readings taken during the indicated time period
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Negative groundwater levels indicate groundwater level above ground surface

TABLE B-6
WATER LEVEL SUMMARY - GROUNDWATER MONITORS
MILL CREEK AGGREGATES PIT

YEAR		BH92-15		BH92-26		BH92-27		BH92-28		BH92-29		BH92-32		BH92-33	
		Groundwater Elevation (m ASL)	Groundwater Level (m BGL)	Groundwater Elevation (m ASL)	Groundwater Level (m BGL)	Groundwater Elevation (m ASL)	Groundwater Level (m BGL)	Groundwater Elevation (m ASL)	Groundwater Level (m BGL)	Groundwater Elevation (m ASL)	Groundwater Level (m BGL)	Groundwater Elevation (m ASL)	Groundwater Level (m BGL)	Groundwater Elevation (m ASL)	Groundwater Level (m BGL)
2017	MAXIMUM					304.91	0.6	304.78	1.3	305.17	1.4	304.40	0.8	304.75	1.1
	MINIMUM					304.55	0.2	304.48	1.0	304.66	0.9	304.11	0.6	304.44	0.8
	AVERAGE					304.73	0.4	304.61	1.2	304.94	1.1	304.23	0.7	304.60	0.9
	FLUCTUATION					0.36	0.4	0.30	0.3	0.51	0.5	0.29	0.3	0.31	0.3
	NUMBER	0		0		12		12		12		12		12	
2018	MAXIMUM					304.83	0.6	304.75	1.4	304.98	1.5	304.37	0.9	304.70	1.2
	MINIMUM					304.48	0.3	304.41	1.1	304.52	1.1	304.03	0.6	304.36	0.8
	AVERAGE					304.63	0.5	304.54	1.3	304.75	1.3	304.20	0.7	304.50	1.0
	FLUCTUATION					0.35	0.4	0.34	0.3	0.46	0.5	0.34	0.3	0.34	0.3
	NUMBER	0		0		12		12		12		12		12	
1986 to 2017	MAXIMUM	307.21	2.9	305.29	1.7	305.18	1.6	305.06	1.8	305.58	1.9	304.93	1.2	305.04	1.5
	MINIMUM	305.53	1.2	303.74	0.1	304.01	-0.1	304.09	0.8	304.16	0.5	303.75	0.0	304.00	0.5
	AVERAGE	306.24	2.2	304.19	1.3	304.61	0.5	304.46	1.4	304.69	1.4	304.30	0.6	304.50	1.0
	FLUCTUATION	1.68	1.7	1.55	1.6	1.17	1.6	0.97	1.0	1.42	1.4	1.18	1.2	1.04	1.0
	NUMBER	239		436		280		555		291		298		287	

Notes: mASL - Groundwater elevation in metres above sea level
mBGL - Groundwater levels in metres below ground level
Number - Indicates number of readings taken during the indicated time period
Fluctuations - Difference between the maximum and minimum groundwater reading
Negative groundwater levels indicate groundwater level above ground surface

TABLE B-7
WATER LEVEL SUMMARY - WETLAND DRIVE-POINTS
MILL CREEK AGGREGATES PIT

YEAR		DP6		DP7		DP8		DP9		DP10		DP11	
		GROUNDWATER ELEVATION (m ASL)	GROUNDWATER LEVEL (m BGL)	GROUNDWATER ELEVATION (m ASL)	GROUNDWATER LEVEL (m BGL)	GROUNDWATER ELEVATION (m ASL)	GROUNDWATER LEVEL (m BGL)	GROUNDWATER ELEVATION (m ASL)	GROUNDWATER LEVEL (m BGL)	GROUNDWATER ELEVATION (m ASL)	GROUNDWATER LEVEL (m BGL)	GROUNDWATER ELEVATION (m ASL)	GROUNDWATER LEVEL (m BGL)
1990	MAXIMUM	305.79	0.8	305.97	0.8	305.97	0.6	305.76	0.7	304.95	1.3	305.61	0.9
	MINIMUM	305.38	0.4	305.51	0.3	305.52	0.1	305.16	0.1	304.73	1.1	304.71	0.0
	AVERAGE	305.56	0.6	305.73	0.6	305.73	0.4	305.46	0.4	304.83	1.2	305.00	0.6
	FLUCTUATION	0.41	0.4	0.46	0.5	0.45	0.5	0.60	0.6	0.22	0.2	0.90	0.9
	NUMBER	10		10		10		10		10		10	
1991	MAXIMUM	306.30	0.6	306.50	0.6	306.42	0.4	305.97	0.7	305.56	1.2	305.49	0.8
	MINIMUM	305.57	-0.1	305.73	-0.2	305.75	-0.3	305.25	-0.1	304.82	0.4	304.78	0.1
	AVERAGE	305.85	0.3	306.06	0.2	306.03	0.1	305.65	0.2	304.99	1.0	305.05	0.6
	FLUCTUATION	0.73	0.7	0.77	0.8	0.67	0.7	0.72	0.7	0.74	0.7	0.71	0.7
	NUMBER	12		12		12		12		12		12	
1992	MAXIMUM	306.14	0.7	306.35	0.6	306.31	0.4	305.94	0.6	305.22	1.2	305.36	0.9
	MINIMUM	305.52	0.1	305.73	-0.1	305.72	-0.2	305.30	0.0	304.79	0.8	304.75	0.2
	AVERAGE	305.77	0.4	305.96	0.3	305.95	0.2	305.66	0.2	304.97	1.0	305.08	0.5
	FLUCTUATION	0.62	0.6	0.62	0.6	0.59	0.6	0.64	0.6	0.43	0.4	0.61	0.6
	NUMBER	10		10		10		9		10		10	
1993	MAXIMUM	306.17	0.6	306.58	0.5	306.34	0.3	305.95	0.5	305.08	1.2	305.26	0.8
	MINIMUM	305.63	0.0	305.80	-0.3	305.80	-0.2	305.38	0.0	304.82	0.9	304.76	0.3
	AVERAGE	305.87	0.3	306.12	0.2	306.03	0.1	305.66	0.2	304.95	1.1	305.00	0.6
	FLUCTUATION	0.54	0.5	0.78	0.8	0.54	0.5	0.57	0.5	0.26	0.3	0.50	0.5
	NUMBER	10		10		9		9		11		10	
1994	MAXIMUM	306.06	0.8	306.22	0.7	306.14	0.5	305.91	0.8	305.14	1.3	305.27	1.0
	MINIMUM	305.43	0.1	305.58	0.1	305.60	0.0	305.14	0.0	304.73	0.9	304.64	0.3
	AVERAGE	305.68	0.5	305.84	0.5	305.84	0.3	305.47	0.4	304.85	1.1	304.87	0.7
	FLUCTUATION	0.63	0.6	0.64	0.6	0.54	0.5	0.77	0.8	0.41	0.4	0.63	0.6
	NUMBER	11		12		12		12		12		11	
1995	MAXIMUM	306.10	0.7	306.26	0.7	306.20	0.5	305.90	0.7	305.16	1.2	305.35	0.9
	MINIMUM	305.48	0.1	305.62	0.0	305.64	-0.1	305.23	0.0	304.78	0.8	304.74	0.3
	AVERAGE	305.75	0.5	305.92	0.4	305.91	0.2	305.56	0.3	304.91	1.1	304.99	0.6
	FLUCTUATION	0.62	0.6	0.64	0.7	0.56	0.6	0.67	0.7	0.38	0.4	0.61	0.6
	NUMBER	9		9		8		9		9		9	
1996	MAXIMUM	306.05	0.3	306.29	0.2	306.27	0.1	305.90	0.2	305.04	1.0	305.19	0.6
	MINIMUM	305.91	0.1	306.14	0.0	306.05	-0.1	305.76	0.0	304.99	0.9	305.04	0.5
	AVERAGE	305.97	0.2	306.21	0.1	306.17	0.0	305.83	0.1	305.02	1.0	305.14	0.5
	FLUCTUATION	0.14	0.2	0.15	0.2	0.22	0.2	0.14	0.2	0.05	0.1	0.15	0.1
	NUMBER	5		5		5		5		4		4	
1997	MAXIMUM	306.31	0.5	306.49	0.5	306.45	0.3	306.03	0.5	305.52	1.2	305.40	0.8
	MINIMUM	305.70	-0.1	305.84	-0.2	305.85	-0.4	305.40	-0.1	304.85	0.5	304.79	0.2
	AVERAGE	305.96	0.2	306.14	0.2	306.12	0.0	305.74	0.2	305.05	1.0	305.09	0.5
	FLUCTUATION	0.61	0.6	0.65	0.7	0.60	0.7	0.63	0.6	0.67	0.7	0.61	0.6
	NUMBER	5		5		5		5		5		5	
1998	MAXIMUM	306.12	0.8	306.26	0.8	306.24	0.6	305.93	0.8	305.11	1.3	305.22	0.9
	MINIMUM	305.37	0.1	305.53	0.0	305.53	-0.1	305.09	0.0	304.73	0.9	304.67	0.4
	AVERAGE	305.61	0.6	305.79	0.5	305.70	0.4	305.35	0.6	304.87	1.1	304.80	0.8
	FLUCTUATION	0.75	0.7	0.73	0.8	0.71	0.7	0.84	0.8	0.38	0.4	0.55	0.5
	NUMBER	5		5		5		5		5		5	

Notes: **mASL - Groundwater elevation in metres above sea level**
mBGL - Groundwater level in metres below ground level
Number - indicates number of readings taken during the indicated period
Fluctuation - difference between the maximum and minimum groundwater elevations
Negative groundwater levels indicate groundwater level above ground surface

TABLE B-7
WATER LEVEL SUMMARY - WETLAND DRIVE-POINTS
MILL CREEK AGGREGATES PIT

YEAR		DP6		DP7		DP8		DP9		DP10		DP11	
		GROUNDWATER ELEVATION (m ASL)	GROUNDWATER LEVEL (m BGL)	GROUNDWATER ELEVATION (m ASL)	GROUNDWATER LEVEL (m BGL)	GROUNDWATER ELEVATION (m ASL)	GROUNDWATER LEVEL (m BGL)	GROUNDWATER ELEVATION (m ASL)	GROUNDWATER LEVEL (m BGL)	GROUNDWATER ELEVATION (m ASL)	GROUNDWATER LEVEL (m BGL)	GROUNDWATER ELEVATION (m ASL)	GROUNDWATER LEVEL (m BGL)
1999	MAXIMUM	305.70	0.9	305.89	0.9	305.83	0.6	305.72	0.7	305.13	1.6	305.08	1.2
	MINIMUM	305.27	0.5	305.37	0.4	305.48	0.3	305.18	0.2	304.36	0.9	304.41	0.5
	AVERAGE	305.44	0.8	305.58	0.7	305.61	0.5	305.40	0.5	304.79	1.2	304.77	0.8
	FLUCTUATION	0.43	0.4	0.52	0.5	0.35	0.4	0.54	0.5	0.77	0.7	0.67	0.7
	NUMBER	5		5		5		5		5		5	
2000	MAXIMUM	305.77	0.9	305.84	0.9	305.89	0.6	305.74	0.8	305.09	1.3	305.20	0.9
	MINIMUM	305.29	0.4	305.40	0.5	305.46	0.2	305.09	0.2	304.75	0.9	304.69	0.4
	AVERAGE	305.47	0.7	305.57	0.7	305.63	0.5	305.33	0.6	304.85	1.2	304.86	0.7
	FLUCTUATION	0.48	0.5	0.44	0.4	0.43	0.4	0.65	0.7	0.34	0.3	0.51	0.5
	NUMBER	7		7		7		7		7		7	
2001	MAXIMUM	305.84	1.1	305.96	1.0	305.99	1.1	305.85	1.0	305.11	1.3	305.21	1.2
	MINIMUM	305.15	0.4	305.31	0.3	305.05	0.1	304.95	0.1	304.69	0.9	304.41	0.4
	AVERAGE	305.36	0.8	305.57	0.7	305.60	0.5	305.31	0.6	304.82	1.2	304.81	0.8
	FLUCTUATION	0.69	0.7	0.65	0.7	0.94	1.0	0.90	0.9	0.42	0.4	0.80	0.8
	NUMBER	61		12		12		12		12		12	
2002	MAXIMUM	305.93	0.9	305.93	0.9	305.95	0.6	305.61	1.0	305.16	1.3	305.10	1.0
	MINIMUM	305.33	0.3	305.45	0.4	305.50	0.2	304.95	0.3	304.69	0.8	304.60	0.5
	AVERAGE	305.58	0.6	305.69	0.6	305.70	0.4	305.22	0.7	304.87	1.1	304.91	0.7
	FLUCTUATION	0.60	0.6	0.48	0.5	0.45	0.4	0.66	0.7	0.47	0.5	0.50	0.5
	NUMBER	92		12		12		12		12		12	
2003	MAXIMUM	305.78	0.9	305.78	0.9	305.85	0.9	305.61	1.0	305.15	1.3	305.18	1.2
	MINIMUM	305.35	0.4	305.36	0.5	305.17	0.3	304.93	0.3	304.69	0.9	304.45	0.4
	AVERAGE	305.55	0.7	305.58	0.7	305.62	0.5	305.28	0.6	304.85	1.2	304.91	0.7
	FLUCTUATION	0.43	0.4	0.42	0.4	0.68	0.7	0.68	0.7	0.46	0.5	0.73	0.7
	NUMBER	85		15		15		15		14		15	
2004	MAXIMUM	306.14	0.7	306.08	0.8	306.17	0.5	305.79	0.8	305.12	1.2	305.23	0.8
	MINIMUM	305.50	0.1	305.53	0.2	305.58	-0.1	305.11	0.1	304.80	0.9	304.78	0.4
	AVERAGE	305.78	0.4	305.85	0.5	305.88	0.2	305.49	0.4	304.90	1.1	304.95	0.7
	FLUCTUATION	0.64	0.6	0.55	0.6	0.59	0.6	0.68	0.7	0.32	0.3	0.45	0.5
	NUMBER	92		14		15		15		15		14	
2005	MAXIMUM	306.05	0.5	306.25	0.5	306.10	0.7	305.82	0.7	304.98	1.2	305.17	0.9
	MINIMUM	305.74	0.2	305.85	0.1	305.41	0.0	305.25	0.1	304.80	1.0	304.70	0.4
	AVERAGE	305.84	0.4	306.01	0.3	305.72	0.4	305.50	0.4	304.90	1.1	304.96	0.7
	FLUCTUATION	0.31	0.3	0.4	0.4	0.69	0.7	0.57	0.6	0.18	0.2	0.47	0.5
	NUMBER	13		14		15		15		15		15	
2006	MAXIMUM	306.11	0.5	306.40	0.3	306.25	0.7	305.86	0.7	305.19	1.2	305.21	1.0
	MINIMUM	305.73	0.1	306.01	-0.1	305.41	-0.2	305.23	0.1	304.81	0.8	304.57	0.4
	AVERAGE	305.94	0.3	306.19	0.1	305.94	0.2	305.66	0.2	304.96	1.0	304.92	0.7
	FLUCTUATION	0.38	0.4	0.39	0.4	0.84	0.8	0.63	0.6	0.38	0.4	0.64	0.6
	NUMBER	13		12		13		12		12		12	
2007	MAXIMUM	306.22	0.6	306.40	0.5	306.31	0.5	305.90	0.8	305.17	1.2	305.26	1.0
	MINIMUM	305.65	0.0	305.85	-0.1	305.65	-0.2	305.18	0.0	304.76	0.8	304.65	0.4
	AVERAGE	305.89	0.3	306.04	0.2	305.93	0.2	305.48	0.4	304.87	1.0	304.87	0.7
	FLUCTUATION	0.57	0.6	0.55	0.5	0.66	0.7	0.72	0.7	0.41	0.4	0.61	0.6
	NUMBER	13		11		10		10		13		11	

Notes: **mASL - Groundwater elevation in metres above sea level**
mBGL - Groundwater level in metres below ground level
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TABLE B-7
WATER LEVEL SUMMARY - WETLAND DRIVE-POINTS
MILL CREEK AGGREGATES PIT

YEAR		DP6		DP7		DP8		DP9		DP10		DP11	
		GROUNDWATER ELEVATION (m ASL)	GROUNDWATER LEVEL (m BGL)	GROUNDWATER ELEVATION (m ASL)	GROUNDWATER LEVEL (m BGL)	GROUNDWATER ELEVATION (m ASL)	GROUNDWATER LEVEL (m BGL)	GROUNDWATER ELEVATION (m ASL)	GROUNDWATER LEVEL (m BGL)	GROUNDWATER ELEVATION (m ASL)	GROUNDWATER LEVEL (m BGL)	GROUNDWATER ELEVATION (m ASL)	GROUNDWATER LEVEL (m BGL)
2008	MAXIMUM	306.29	0.4	306.48	0.3	306.23	0.3	305.89	0.3	305.33	1.0	305.27	0.7
	MINIMUM	305.89	0.0	306.04	-0.2	305.89	-0.1	305.64	0.0	304.92	0.6	304.95	0.3
	AVERAGE	306.12	0.2	306.31	0.0	306.09	0.1	305.77	0.2	305.02	0.8	305.07	0.5
	FLUCTUATION	0.40	0.4	0.44	0.4	0.34	0.3	0.25	0.3	0.41	0.4	0.32	0.3
	NUMBER	12		12		10		11		13		13	
2009	MAXIMUM	306.39	0.2	306.49	0.1	306.20	0.1	305.89	0.2	305.58	1.0	305.40	0.8
	MINIMUM	306.07	-0.1	306.23	-0.2	306.04	-0.1	305.70	0.0	304.95	0.4	304.85	0.2
	AVERAGE	306.20	0.0	306.40	-0.1	306.13	0.0	305.81	0.1	305.08	0.7	305.12	0.5
	FLUCTUATION	0.32	0.3	0.26	0.3	0.16	0.2	0.19	0.2	0.63	0.6	0.55	0.5
	NUMBER	12		10		11		10		14		14	
2010	MAXIMUM	306.12	0.7	306.30	0.6	306.05	0.6	305.82	0.7	305.01	1.2	305.15	0.8
	MINIMUM	305.58	0.1	305.67	0.0	305.51	0.1	305.22	0.1	304.80	0.9	304.80	0.5
	AVERAGE	305.81	0.4	305.92	0.3	305.71	0.4	305.49	0.4	304.89	1.1	304.96	0.6
	FLUCTUATION	0.54	0.5	0.63	0.6	0.54	0.5	0.60	0.6	0.21	0.2	0.35	0.4
	NUMBER	14		14		12		12		14		14	
2011	MAXIMUM	306.07	0.7	306.19	0.7	305.95	0.8	305.83	0.8	305.18	1.2	305.31	0.8
	MINIMUM	305.51	0.2	305.65	0.1	305.33	0.2	305.18	0.1	304.78	0.8	304.79	0.3
	AVERAGE	305.77	0.5	305.90	0.4	305.66	0.5	305.52	0.4	304.95	1.0	305.04	0.6
	FLUCTUATION	0.56	0.6	0.54	0.5	0.62	0.6	0.65	0.6	0.40	0.4	0.52	0.5
	NUMBER	15		15		15		15		15		15	
2012	MAXIMUM	305.84	0.9	306.00	1.0	305.81	1.1	305.65	1.0	304.93	1.3	305.10	1.0
	MINIMUM	305.33	0.4	305.33	0.3	305.10	0.3	304.93	0.3	304.65	1.0	304.65	0.5
	AVERAGE	305.55	0.7	305.62	0.6	305.43	0.7	305.29	0.6	304.81	1.2	304.83	0.7
	FLUCTUATION	0.51	0.5	0.67	0.7	0.71	0.7	0.72	0.7	0.28	0.3	0.45	0.4
	NUMBER	15		15		15		15		15		15	
2013	MAXIMUM	305.76	0.8	305.78	0.8	305.65	0.9	305.63	0.9	304.99	1.1	305.18	0.8
	MINIMUM	305.48	0.5	305.51	0.5	305.29	0.5	305.07	0.3	304.81	1.0	304.83	0.4
	AVERAGE	305.60	0.6	305.64	0.7	305.48	0.7	305.39	0.6	304.89	1.1	305.02	0.6
	FLUCTUATION	0.28	0.3	0.27	0.3	0.36	0.4	0.56	0.6	0.18	0.2	0.35	0.4
	NUMBER	13		13		13		13		13		13	
2014	MAXIMUM	305.84	0.6	305.87	0.6	305.68	0.7	305.62	0.7	305.16	1.1	305.28	0.6
	MINIMUM	305.66	0.4	305.71	0.4	305.41	0.5	305.26	0.3	304.85	0.8	304.98	0.3
	AVERAGE	305.76	0.5	305.78	0.5	305.58	0.6	305.49	0.5	304.99	1.0	305.16	0.5
	FLUCTUATION	0.18	0.2	0.16	0.2	0.27	0.3	0.36	0.4	0.31	0.3	0.30	0.3
	NUMBER	12		12		12		12		12		10	
2015	MAXIMUM	305.85	0.8	305.91	0.7	305.72	0.8	305.73	0.8	305.16	1.1	305.35	0.8
	MINIMUM	305.49	0.4	305.65	0.4	305.38	0.4	305.13	0.2	304.81	0.8	304.81	0.3
	AVERAGE	305.71	0.6	305.76	0.5	305.59	0.6	305.46	0.5	304.99	1.0	305.07	0.5
	FLUCTUATION	0.36	0.4	0.26	0.3	0.34	0.3	0.60	0.6	0.35	0.3	0.54	0.5
	NUMBER	12		12		12		12		12		12	
2016	MAXIMUM	305.86	0.7	305.82	0.7	305.74	0.9	305.76	0.8	305.15	1.2	305.29	0.8
	MINIMUM	305.54	0.4	305.66	0.5	305.24	0.4	305.14	0.2	304.76	0.8	304.80	0.3
	AVERAGE	305.68	0.5	305.74	0.6	305.51	0.7	305.41	0.5	304.90	1.0	305.03	0.6
	FLUCTUATION	0.32	0.3	0.16	0.2	0.50	0.5	0.62	0.6	0.39	0.4	0.49	0.5
	NUMBER	13		13		13		13		13		13	

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TABLE B-7
WATER LEVEL SUMMARY - WETLAND DRIVE-POINTS
MILL CREEK AGGREGATES PIT

YEAR		DP6		DP7		DP8		DP9		DP10		DP11	
		GROUNDWATER ELEVATION (m ASL)	GROUNDWATER LEVEL (m BGL)	GROUNDWATER ELEVATION (m ASL)	GROUNDWATER LEVEL (m BGL)	GROUNDWATER ELEVATION (m ASL)	GROUNDWATER LEVEL (m BGL)	GROUNDWATER ELEVATION (m ASL)	GROUNDWATER LEVEL (m BGL)	GROUNDWATER ELEVATION (m ASL)	GROUNDWATER LEVEL (m BGL)	GROUNDWATER ELEVATION (m ASL)	GROUNDWATER LEVEL (m BGL)
2017	MAXIMUM	305.92	0.6	306.03	0.6	305.80	0.5	305.74	0.6	305.14	1.1	305.17	0.8
	MINIMUM	305.64	0.3	305.70	0.3	305.64	0.3	305.29	0.2	304.86	0.8	304.85	0.4
	AVERAGE	305.80	0.5	305.87	0.4	305.70	0.4	305.51	0.4	304.98	1.0	304.98	0.6
	FLUCTUATION	0.28	0.3	0.33	0.3	0.16	0.2	0.45	0.4	0.28	0.3	0.32	0.3
	NUMBER	12		12		12		12		12		12	
2018	MAXIMUM	306.11	0.5	306.23	0.5	305.97	0.5	305.83	0.7	305.31	1.1	305.53	0.8
	MINIMUM	305.72	0.1	305.83	0.1	305.66	0.2	305.23	0.1	304.89	0.6	304.81	0.1
	AVERAGE	305.84	0.3	306.00	0.3	305.78	0.3	305.53	0.4	305.02	0.9	305.00	0.4
	FLUCTUATION	0.39	0.4	0.40	0.4	0.31	0.3	0.60	0.6	0.42	0.4	0.72	0.7
	NUMBER	12		12		12		11		12		12	
1989 to 2017	MAXIMUM	306.39	1.1	306.58	1.0	306.45	1.1	306.03	1.0	305.58	1.6	305.61	1.2
	MINIMUM	305.15	-0.1	305.31	-0.3	305.05	-0.3	304.93	-0.1	304.36	0.4	304.41	0.0
	AVERAGE	305.70	0.5	305.86	0.4	305.76	0.4	305.49	0.5	304.90	1.0	304.96	0.6
	FLUCTUATION	1.24	1.2	1.27	1.3	1.40	1.4	1.10	1.1	1.22	1.2	1.20	1.2
	NUMBER	595		315		311		311		323		316	

Notes: **mASL - Groundwater elevation in metres above sea level**
mBGL - Groundwater level in metres below ground level
Number - indicates number of readings taken during the indicated period
Fluctuation - difference between the maximum and minimum groundwater elevations
Negative groundwater levels indicate groundwater level above ground surface

TABLE B-7
WATER LEVEL SUMMARY - WETLAND DRIVE-POINTS
MILL CREEK AGGREGATES PIT

YEAR		DP12 GROUNDWATER ELEVATION (m ASL)	DP12 GROUNDWATER LEVEL (m BGL)	DP16 GROUNDWATER ELEVATION (m ASL)	DP16 GROUNDWATER LEVEL (m BGL)	DP113 GROUNDWATER ELEVATION (m ASL)	DP113 GROUNDWATER LEVEL (m BGL)
1990	MAXIMUM	305.52	0.8	304.28	0.3		
	MINIMUM	304.77	0.1	303.82	-0.2		
	AVERAGE	305.11	0.5	304.05	0.0		
	FLUCTUATION	0.75	0.8	0.46	0.5		
	NUMBER	10		10			
1991	MAXIMUM	305.72	0.8	304.58	0.3		
	MINIMUM	304.84	-0.1	303.84	-0.5		
	AVERAGE	305.25	0.4	304.14	0.0		
	FLUCTUATION	0.88	0.9	0.74	0.7		
	NUMBER	12		11			
1992	MAXIMUM	305.59	0.8	304.43	0.2		
	MINIMUM	304.85	0.0	303.89	-0.3		
	AVERAGE	305.30	0.3	304.20	-0.1		
	FLUCTUATION	0.74	0.7	0.54	0.5		
	NUMBER	10		10			
1993	MAXIMUM	305.62	0.7	304.32	0.2		
	MINIMUM	304.89	0.0	303.92	-0.2		
	AVERAGE	305.24	0.4	304.15	-0.1		
	FLUCTUATION	0.73	0.7	0.40	0.4		
	NUMBER	11		11			
1994	MAXIMUM	305.63	0.9	304.60	0.3		
	MINIMUM	304.72	0.0	303.77	-0.5		
	AVERAGE	305.14	0.5	304.09	0.0		
	FLUCTUATION	0.91	0.9	0.83	0.8		
	NUMBER	11		12			
1995	MAXIMUM	305.65	0.8	304.33	0.3		
	MINIMUM	304.76	-0.1	303.79	-0.2		
	AVERAGE	305.27	0.3	304.10	0.0		
	FLUCTUATION	0.89	0.9	0.54	0.5		
	NUMBER	9		8			
1996	MAXIMUM	305.55	0.3	304.38	0.0		
	MINIMUM	305.26	0.0	304.12	-0.3		
	AVERAGE	305.48	0.1	304.27	-0.2		
	FLUCTUATION	0.29	0.3	0.26	0.3		
	NUMBER	5		5			
1997	MAXIMUM	305.78	0.7	304.45	0.2		
	MINIMUM	304.89	-0.2	303.89	-0.4		
	AVERAGE	305.37	0.2	304.19	-0.1		
	FLUCTUATION	0.89	0.9	0.56	0.6		
	NUMBER	5		5			
1998	MAXIMUM	305.62	0.9	304.45	0.4		
	MINIMUM	304.73	0.0	303.75	-0.4		
	AVERAGE	304.96	0.6	303.97	0.1		
	FLUCTUATION	0.89	0.9	0.70	0.8		
	NUMBER	5		5			

Notes: **mASL - Groundwater elevation in metres above sea level**
mBGL - Groundwater level in metres below ground level
Number - indicates number of readings taken during the indicated period
Fluctuation - difference between the maximum and minimum groundwater elevations
Negative groundwater levels indicate groundwater level above ground surface

TABLE B-7
WATER LEVEL SUMMARY - WETLAND DRIVE-POINTS
MILL CREEK AGGREGATES PIT

YEAR		DP12 GROUNDWATER ELEVATION (m ASL)	DP12 GROUNDWATER LEVEL (m BGL)	DP16 GROUNDWATER ELEVATION (m ASL)	DP16 GROUNDWATER LEVEL (m BGL)	DP113 GROUNDWATER ELEVATION (m ASL)	DP113 GROUNDWATER LEVEL (m BGL)
1999	MAXIMUM	305.41	1.2	304.24	0.1		
	MINIMUM	304.45	0.2	303.99	-0.1		
	AVERAGE	304.90	0.7	304.15	-0.1		
	FLUCTUATION	0.96	1.0	0.25	0.2		
	NUMBER	5		5			
2000	MAXIMUM	305.51	0.7	304.50	-0.1	306.07	1.2
	MINIMUM	304.90	0.1	304.18	-0.4	305.87	1.0
	AVERAGE	305.08	0.5	304.28	-0.2	306.00	1.1
	FLUCTUATION	0.61	0.6	0.32	0.3	0.20	0.2
	NUMBER	7		7		5	
2001	MAXIMUM	305.58	0.9	304.40	0.3	306.47	1.2
	MINIMUM	304.68	0.0	303.84	-0.3	305.90	0.6
	AVERAGE	305.07	0.5	304.15	-0.1	306.11	1.0
	FLUCTUATION	0.90	0.9	0.56	0.6	0.57	0.6
	NUMBER	12		12		58	
2002	MAXIMUM	305.44	1.0	304.38	0.3	306.47	1.4
	MINIMUM	304.62	0.2	303.83	-0.3	305.68	0.6
	AVERAGE	304.96	0.6	304.09	0.0	306.12	1.0
	FLUCTUATION	0.82	0.8	0.55	0.6	0.79	0.8
	NUMBER	12		12		59	
2003	MAXIMUM	305.42	0.9	304.34	0.4	306.34	1.2
	MINIMUM	304.71	0.2	303.69	-0.2	305.94	0.8
	AVERAGE	305.10	0.5	304.08	0.0	306.14	1.0
	FLUCTUATION	0.71	0.7	0.65	0.7	0.40	0.4
	NUMBER	15		15		15	
2004	MAXIMUM	305.59	0.7	304.37	0.2	306.76	1.3
	MINIMUM	304.95	0.0	303.87	-0.3	305.77	0.3
	AVERAGE	305.25	0.4	304.12	0.0	306.46	0.6
	FLUCTUATION	0.64	0.6	0.50	0.5	0.99	1.0
	NUMBER	15		15		15	
2005	MAXIMUM	305.54	0.8	304.58	0.2	306.70	0.7
	MINIMUM	304.82	0.1	303.89	-0.5	306.39	0.4
	AVERAGE	305.24	0.4	304.14	-0.1	306.55	0.5
	FLUCTUATION	0.72	0.7	0.69	0.7	0.31	0.3
	NUMBER	15		14		14	
2006	MAXIMUM	305.57	0.8	304.48	0.3	306.78	0.6
	MINIMUM	304.77	0.0	303.84	-0.4	306.48	0.3
	AVERAGE	305.29	0.3	304.19	-0.1	306.67	0.4
	FLUCTUATION	0.80	0.8	0.64	0.7	0.30	0.3
	NUMBER	12		13		13	
2007	MAXIMUM	305.60	0.9	304.33	0.3	307.06	0.7
	MINIMUM	304.74	0.0	303.84	-0.2	306.36	0.0
	AVERAGE	305.09	0.5	304.08	0.0	306.66	0.4
	FLUCTUATION	0.86	0.9	0.49	0.5	0.7	0.7
	NUMBER	13		12		11	

Notes: **mASL - Groundwater elevation in metres above sea level**
mBGL - Groundwater level in metres below ground level
Number - indicates number of readings taken during the indicated period
Fluctuation - difference between the maximum and minimum groundwater elevations
Negative groundwater levels indicate groundwater level above ground surface

TABLE B-7
WATER LEVEL SUMMARY - WETLAND DRIVE-POINTS
MILL CREEK AGGREGATES PIT

YEAR		DP12		DP16		DP113	
		GROUNDWATER ELEVATION (m ASL)	GROUNDWATER LEVEL (m BGL)	GROUNDWATER ELEVATION (m ASL)	GROUNDWATER LEVEL (m BGL)	GROUNDWATER ELEVATION (m ASL)	GROUNDWATER LEVEL (m BGL)
2008	MAXIMUM	305.59	0.4	304.66	0.0	307.01	0.5
	MINIMUM	305.20	0.1	304.12	-0.6	306.59	0.1
	AVERAGE	305.42	0.3	304.27	-0.3	306.83	0.3
	FLUCTUATION	0.39	0.4	0.54	0.5	0.42	0.4
	NUMBER	13		10		13	
2009	MAXIMUM	305.65	0.7	304.4	-0.1	307.17	0.2
	MINIMUM	304.95	0.0	304.17	-0.3	306.83	-0.1
	AVERAGE	305.33	0.3	304.32	-0.2	306.97	0.1
	FLUCTUATION	0.70	0.7	0.23	0.2	0.34	0.3
	NUMBER	13		11		14	
2010	MAXIMUM	305.52	0.6	304.55	0.0	306.82	0.7
	MINIMUM	305.04	0.1	304.06	-0.5	306.34	0.3
	AVERAGE	305.22	0.4	304.31	-0.2	306.66	0.5
	FLUCTUATION	0.48	0.5	0.49	0.5	0.48	0.5
	NUMBER	14		10		4	
2011	MAXIMUM	305.58	0.6	304.80	-0.3	306.89	0.7
	MINIMUM	305.07	0.1	304.38	-0.7	306.33	0.2
	AVERAGE	305.35	0.3	304.59	-0.5	306.58	0.5
	FLUCTUATION	0.51	0.5	0.42	0.4	0.56	0.6
	NUMBER	15		14		14	
2012	MAXIMUM	305.40	0.9	304.55	-0.2	306.69	0.9
	MINIMUM	304.70	0.3	304.24	-0.5	306.21	0.4
	AVERAGE	304.95	0.6	304.37	-0.3	306.42	0.6
	FLUCTUATION	0.70	0.7	0.31	0.3	0.48	0.5
	NUMBER	15		15		15	
2013	MAXIMUM	305.48	0.6	304.69	-0.4	306.69	0.7
	MINIMUM	305.04	0.2	304.47	-0.6	306.39	0.4
	AVERAGE	305.24	0.4	304.55	-0.5	306.56	0.5
	FLUCTUATION	0.44	0.4	0.22	0.2	0.30	0.3
	NUMBER	13		13		13	
2014	MAXIMUM	305.65	0.4	304.74	-0.4	306.96	0.5
	MINIMUM	305.26	0.0	304.51	-0.7	306.55	0.1
	AVERAGE	305.43	0.2	304.60	-0.5	306.77	0.3
	FLUCTUATION	0.39	0.4	0.23	0.2	0.41	0.4
	NUMBER	12		10		10	
2015	MAXIMUM	305.61	0.8	304.64	-0.2	306.78	1.1
	MINIMUM	304.85	0.0	304.26	-0.6	305.93	0.3
	AVERAGE	305.27	0.4	304.44	-0.4	306.60	0.7
	FLUCTUATION	0.76	0.8	0.38	0.4	0.85	0.9
	NUMBER	9		10		11	
2016	MAXIMUM	305.50	0.5	304.54	-0.2	306.81	0.6
	MINIMUM	305.12	0.1	304.28	-0.5	306.42	0.3
	AVERAGE	305.33	0.3	304.40	-0.3	306.59	0.5
	FLUCTUATION	0.38	0.4	0.26	0.3	0.39	0.4
	NUMBER	13		12		13	

Notes: **mASL - Groundwater elevation in metres above sea level**
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Fluctuation - difference between the maximum and minimum groundwater elevations
Negative groundwater levels indicate groundwater level above ground surface

TABLE B-7
WATER LEVEL SUMMARY - WETLAND DRIVE-POINTS
MILL CREEK AGGREGATES PIT

YEAR		DP12		DP16		DP113	
		GROUNDWATER ELEVATION (m ASL)	GROUNDWATER LEVEL (m BGL)	GROUNDWATER ELEVATION (m ASL)	GROUNDWATER LEVEL (m BGL)	GROUNDWATER ELEVATION (m ASL)	GROUNDWATER LEVEL (m BGL)
2017	MAXIMUM	305.42	0.8	304.42	-0.1	307.00	0.6
	MINIMUM	304.81	0.2	304.17	-0.3	306.47	0.1
	AVERAGE	305.09	0.5	304.28	-0.2	306.76	0.3
	FLUCTUATION	0.61	0.6	0.25	0.3	0.53	0.5
	NUMBER	12		10		12	
2018	MAXIMUM	305.21	1.0	304.43	0.0	306.77	1.0
	MINIMUM	304.66	0.4	304.08	-0.3	306.11	0.3
	AVERAGE	304.88	0.7	304.23	-0.2	306.51	0.6
	FLUCTUATION	0.55	0.6	0.35	0.4	0.66	0.7
	NUMBER	12		11		11	
1989 to 2017	MAXIMUM	305.78	1.2	304.80	0.4	307.17	1.4
	MINIMUM	304.45	-0.1	303.69	-0.7	305.68	-0.1
	AVERAGE	305.20	0.5	304.25	-0.2	306.42	0.6
	FLUCTUATION	1.33	1.3	1.11	1.1	1.49	1.5
	NUMBER	341		311		321	

Notes: **mASL - Groundwater elevation in metres above sea level**
mBGL - Groundwater level in metres below ground level
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Fluctuation - difference between the maximum and minimum groundwater elevations
Negative groundwater levels indicate groundwater level above ground surface

TABLE B-8
COMPARISON OF GROUNDWATER INFLUX, 1993 CONDITIONS
MILL CREEK AGGREGATES PIT

FROM	TO	LENGTH (m)	AVERAGE WIDTH (m)	AVERAGE INFLUX (L/s/m2)								TOTAL GROUNDWATER INFLUX (L/s)							
				May12/93	June23/93	July14/93	Aug.18/93	Sep.20/93	Oct.19/93	Nov.17/93	Dec.6/93	May12/93	June23/93	July14/93	Aug.18/93	Sep.20/93	Oct.19/93	Nov.17/93	Dec.6/93
DP18	DP19	670	6.5	1.9E-03	1.9E-03	1.7E-03	1.4E-03	1.8E-03	1.8E-03	9.0E-04	1.3E-03	8.1	8.4	7.2	6.0	8.0	8.0	3.9	5.5
DP19	DP20	310	6.5	1.1E-03	1.1E-03	5.2E-04	4.7E-04	5.5E-04	1.0E-03	2.9E-04	1.0E-03	2.1	2.2	1.1	0.9	1.1	2.1	0.6	2.0
DP20	Hwy 401	270	6.5	2.8E-03	2.6E-03	2.2E-03	2.0E-03	1.7E-03	2.5E-03	1.6E-03	2.7E-03	4.8	4.5	3.9	3.5	3.0	4.5	2.7	4.7
Hwy 401	DP21	60	7.1	2.8E-03	2.6E-03	2.2E-03	2.0E-03	1.7E-03	2.5E-03	1.6E-03	2.7E-03	1.2	1.1	0.9	0.8	0.7	1.1	0.7	1.1
DP21	DP4	100	7.3	4.3E-03	3.8E-03	3.2E-03	2.7E-03	2.5E-03	3.9E-03	2.1E-03	3.9E-03	3.1	2.8	2.3	2.0	1.8	2.9	1.5	2.9
DP4	DP22	50	7.1	4.5E-03	4.2E-03	3.2E-03	2.7E-03	2.6E-03	4.2E-03	2.0E-03	3.6E-03	1.6	1.5	1.1	1.0	0.9	1.5	0.7	1.3
DP22	DP17	100	6.6	2.9E-03	2.8E-03	2.3E-03	2.0E-03	1.9E-03	2.5E-03	1.6E-03	2.3E-03	1.9	1.8	1.5	1.4	1.2	1.7	1.0	1.5
DP17	DP3	165	7.1	1.8E-03	1.1E-03	1.5E-03	1.2E-03	1.4E-03	1.5E-03	1.6E-03	2.0E-03	2.1	1.3	1.7	1.4	1.6	1.7	1.9	2.3
DP3	Galt Creek	420	6.0	2.1E-03	1.4E-03	1.8E-03	1.7E-03	1.8E-03	1.8E-03	2.0E-03	2.1E-03	5.4	3.5	4.6	4.2	4.6	4.6	5.0	5.4
Galt Creek	Pond Creek	255	8.1	3.0E-03	3.0E-03	3.0E-03	3.0E-03	3.0E-03	3.0E-03	3.0E-03	3.0E-03	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2
Pond Creek	DP1	250	8.0	6.6E-03	5.9E-03	5.7E-03	5.5E-03	6.1E-03	7.0E-03	6.9E-03	5.8E-03	13.3	11.9	11.3	11.0	12.1	14.1	13.8	11.6
DP1	DP2	100	6.7	5.2E-03	4.4E-03	4.1E-03	3.8E-03	4.5E-03	5.5E-03	5.5E-03	3.9E-03	3.5	3.0	2.8	2.6	3.1	3.7	3.7	2.6
DP2	DP5	800	7.6	1.4E-03	1.4E-03	1.3E-03	1.1E-03	1.4E-03	1.5E-03	1.6E-03	1.1E-03	8.8	8.3	7.7	6.5	8.3	9.2	9.8	6.7
TOTALS												**61.9**	**56.4**	**52.3**	**47.5**	**52.6**	**61.0**	**51.6**	**53.9**

Notes: · Groundwater influx at Galt Creek and Pond Creek based on seepage meter data from May/June 1992

TABLE B-8
COMPARISON OF GROUNDWATER INFLUX, 1993 CONDITIONS
MILL CREEK AGGREGATES PIT

FROM	TO	LENGTH (m)	AVERAGE WIDTH (m)	ESTIMATED GROUNDWATER FLUX FROM NORTH SIDE OF CREEK (L/s)								ESTIMATED GROUNDWATER FLUX FROM SOUTH SIDE OF CREEK (L/s)							
				May12/93	June23/93	July14/93	Aug.18/93	Sep.20/93	Oct.19/93	Nov.17/93	Dec.6/93	May12/93	June23/93	July14/93	Aug.18/93	Sep.20/93	Oct.19/93	Nov.17/93	Dec.6/93
DP18	DP19	670	6.5	4.0	4.2	3.6	3.0	4.0	4.0	2.0	2.8	4.0	4.2	3.6	3.0	4.0	4.0	2.0	2.8
DP19	DP20	310	6.5	0.9	0.9	0.4	0.4	0.4	0.8	0.2	0.8	1.3	1.3	0.6	0.6	0.7	1.2	0.4	1.2
DP20	Hwy 401	270	6.5	1.9	1.8	1.5	1.4	1.2	1.8	1.1	1.9	2.9	2.7	2.3	2.1	1.8	2.7	1.6	2.8
Hwy 401	DP21	60	7.1	0.5	0.4	0.4	0.3	0.3	0.4	0.3	0.5	0.7	0.7	0.6	0.5	0.4	0.6	0.4	0.7
DP21	DP4	100	7.3	1.2	1.1	0.9	0.8	0.7	1.1	0.6	1.1	1.9	1.7	1.4	1.2	1.1	1.7	0.9	1.7
DP4	DP22	50	7.1	0.6	0.6	0.5	0.4	0.4	0.6	0.3	0.5	1.0	0.9	0.7	0.6	0.5	0.9	0.4	0.8
DP22	DP17	100	6.6	0.8	0.7	0.6	0.5	0.5	0.7	0.4	0.6	1.1	1.1	0.9	0.8	0.7	1.0	0.6	0.9
DP17	DP3	165	7.1	0.8	0.5	0.7	0.6	0.6	0.7	0.8	0.9	1.2	0.8	1.0	0.9	1.0	1.0	1.1	1.4
DP3	Galt Creek	420	6.0	2.1	1.4	1.8	1.7	1.8	1.8	2.0	2.1	3.2	2.1	2.8	2.5	2.8	2.8	3.0	3.2
Galt Creek	Pond Creek	255	8.1	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
Pond Creek	DP1	250	8.0	6.6	5.9	5.7	5.5	6.1	7.0	6.9	5.8	6.6	5.9	5.7	5.5	6.1	7.0	6.9	5.8
DP1	DP2	100	6.7	1.7	1.5	1.4	1.3	1.5	1.9	1.9	1.3	1.7	1.5	1.4	1.3	1.5	1.9	1.9	1.3
DP2	DP5	800	7.6	4.4	4.1	3.8	3.3	4.1	4.6	4.9	3.3	4.4	4.1	3.8	3.3	4.1	4.6	4.9	3.3
TOTALS				**28.1**	**25.7**	**23.8**	**21.6**	**24.2**	**27.9**	**23.8**	**24.2**	**33.8**	**30.7**	**28.5**	**25.9**	**28.4**	**33.1**	**27.8**	**29.7**

Notes: · Groundwater influx at Galt Creek and Pond Creek based on seepage meter data from May/June 1992

TABLE B-8
COMPARISON OF GROUNDWATER INFLUX, 1994 CONDITIONS
MILL CREEK AGGREGATES PIT

FROM	TO	LENGTH	AVERAGE WIDTH	AVERAGE INFLUX (L/s/m²)											TOTAL GROUNDWATER INFLUX (L/s)										
		(m)	(m)	Feb.24/94	Mar.24/94	Apr.19/94	May24/94	June23/94	July19/94	Aug.25/94	Sep.21/94	Oct.18/94	Nov.23/94	Dec.21/94	Feb.24/94	Mar.24/94	Apr.19/94	May24/94	June23/94	July19/94	Aug.25/94	Sep.21/94	Oct.18/94	Nov.23/94	Dec.21/94
DP18	DP19	670	6.5	7.5E-04	6.8E-04	8.9E-04	1.1E-03	7.6E-04	5.2E-04	1.5E-03	8.4E-04	6.4E-04	1.1E-03	7.6E-04	3.3	3.0	3.9	4.6	3.3	2.3	6.5	3.7	2.8	4.7	3.3
DP19	DP20	310	6.5	9.8E-04	1.1E-03	9.8E-04	7.6E-04	1.2E-04	-3.4E-05	-5.3E-06	-4.1E-04	-5.6E-04	1.4E-04	6.0E-04	2.0	2.2	2.0	1.5	0.2	-0.1	0.0	-0.8	-1.1	0.3	1.2
DP20	Hwy 401	270	6.5	2.7E-03	2.9E-03	2.6E-03	2.3E-03	1.4E-03	1.2E-03	1.2E-03	6.6E-04	7.5E-04	1.4E-03	9.3E-04	4.8	5.1	4.6	4.1	2.4	2.0	2.1	1.2	1.3	2.5	1.6
Hwy 401	DP21	60	7.1	2.7E-03	2.9E-03	2.6E-03	2.3E-03	1.4E-03	1.2E-03	1.2E-03	6.6E-04	7.5E-04	1.4E-03	9.3E-04	1.2	1.2	1.1	1.0	0.6	0.5	0.5	0.3	0.3	0.6	0.4
DP21	DP4	100	7.3	4.0E-03	4.6E-03	4.2E-03	3.9E-03	2.4E-03	2.1E-03	1.8E-03	1.1E-03	1.3E-03	2.3E-03	1.7E-03	2.9	3.4	3.1	2.9	1.7	1.5	1.3	0.8	0.9	1.7	1.3
DP4	DP22	50	7.1	4.2E-03	4.4E-03	4.5E-03	4.2E-03	2.5E-03	2.2E-03	1.9E-03	3.1E-03	8.5E-04	2.5E-03	3.0E-03	1.5	1.6	1.6	1.5	0.9	0.8	0.7	1.1	0.3	0.9	1.1
DP22	DP17	100	6.6	2.7E-03	2.1E-03	2.7E-03	2.5E-03	1.6E-03	1.5E-03	1.5E-03	2.9E-03	6.5E-04	1.7E-03	2.1E-03	1.8	1.4	1.8	1.7	1.0	1.0	1.0	1.9	0.4	1.1	1.4
DP17	DP3	165	7.1	1.2E-03	8.7E-04	1.5E-03	1.4E-03	8.7E-04	1.1E-03	1.3E-03	1.2E-03	1.0E-03	1.4E-03	1.1E-03	1.4	1.0	1.8	1.6	1.0	1.3	1.5	1.4	1.2	1.7	1.2
DP3	Galt Creek	420	6.0	1.6E-03	1.4E-03	1.9E-03	1.7E-03	1.4E-03	1.6E-03	1.7E-03	1.7E-03	1.6E-03	1.9E-03	1.4E-03	3.9	3.6	4.7	4.3	3.6	3.9	4.3	4.3	3.9	4.7	3.6
Galt Creek	Pond Creek	255	8.1	3.0E-03	3.0E-03	3.0E-03	3.0E-03	3.0E-03	3.0E-03	3.0E-03	3.0E-03	3.0E-03	3.0E-03	3.0E-03	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2
Pond Creek	DP1	250	8.0	7.3E-03	6.6E-03	7.2E-03	6.9E-03	5.5E-03	5.2E-03	5.9E-03	4.7E-03	5.0E-03	4.9E-03	7.3E-03	14.6	13.3	14.4	13.8	11.0	10.5	11.9	9.4	9.9	9.7	14.6
DP1	DP2	100	6.7	6.0E-03	5.0E-03	5.7E-03	5.4E-03	3.7E-03	3.4E-03	4.2E-03	2.8E-03	3.3E-03	3.3E-03	5.9E-03	4.0	3.4	3.8	3.6	2.5	2.3	2.8	1.9	2.2	2.2	3.9
DP2	DP5	800	7.6	1.8E-03	1.4E-03	1.5E-03	1.5E-03	1.1E-03	1.1E-03	1.2E-03	1.1E-03	1.4E-03	2.2E-03	2.3E-03	10.6	8.6	8.9	9.0	6.8	6.6	7.2	6.4	8.2	13.6	14.0
TOTALS															**58.1**	**53.8**	**57.8**	**55.8**	**41.3**	**38.8**	**46.0**	**37.6**	**36.6**	**49.8**	**53.8**

Notes - Groundwater influx at Galt Creek and Pond Creek based on seepage data from May/June 1992

- Groundwater influx at DP5 based on data from DP5A after September 21, 1994.

TABLE B-8
COMPARISON OF GROUNDWATER INFLUX, 1994 CONDITIONS
MILL CREEK AGGREGATES PIT

FROM	TO	LENGTH	AVERAGE WIDTH	ESTIMATED GROUNDWATER FLUX FROM NORTH SIDE OF CREEK (L/s)											ESTIMATED GROUNDWATER FLUX FROM SOUTH SIDE OF CREEK (L/s)										
		(m)	(m)	Feb.24/94	Mar.24/94	Apr.19/94	May24/94	June23/94	July19/94	Aug.25/94	Sep.21/94	Oct.18/94	Nov.23/94	Dec.21/94	Feb.24/94	Mar.24/94	Apr.19/94	May24/94	June23/94	July19/94	Aug.25/94	Sep.21/94	Oct.18/94	Nov.23/94	Dec.21/94
DP18	DP19	670	6.5	1.6	1.5	1.9	2.3	1.7	1.1	3.3	1.8	1.4	2.3	1.6	1.6	1.5	1.9	2.3	1.7	1.1	3.3	1.8	1.4	2.3	1.6
DP19	DP20	310	6.5	0.8	0.9	0.8	0.6	0.1	0.0	0.0	-0.3	-0.5	0.1	0.5	1.2	1.3	1.2	0.9	0.1	0.0	0.0	-0.5	-0.7	0.2	0.7
DP20	Hwy 401	270	6.5	1.9	2.1	1.9	1.6	1.0	0.8	0.8	0.5	0.5	1.0	0.6	2.9	3.1	2.8	2.5	1.5	1.2	1.2	0.7	0.8	1.5	1.0
Hwy 401	DP21	60	7.1	0.5	0.5	0.4	0.4	0.2	0.2	0.2	0.1	0.1	0.2	0.2	0.7	0.7	0.7	0.6	0.4	0.3	0.3	0.2	0.2	0.4	0.2
DP21	DP4	100	7.3	1.2	1.4	1.2	1.1	0.7	0.6	0.5	0.3	0.4	0.7	0.5	1.8	2.0	1.9	1.7	1.0	0.9	0.8	0.5	0.6	1.0	0.8
DP4	DP22	50	7.1	0.6	0.6	0.6	0.6	0.4	0.3	0.3	0.4	0.1	0.4	0.4	0.9	0.9	1.0	0.9	0.5	0.5	0.4	0.7	0.2	0.5	0.6
DP22	DP17	100	6.6	0.7	0.6	0.7	0.7	0.4	0.4	0.4	0.8	0.2	0.4	0.6	1.1	0.8	1.1	1.0	0.6	0.6	0.6	1.1	0.3	0.7	0.8
DP17	DP3	165	7.1	0.6	0.4	0.7	0.6	0.4	0.5	0.6	0.5	0.5	0.7	0.5	0.9	0.6	1.1	1.0	0.6	0.8	0.9	0.8	0.7	1.0	0.7
DP3	Galt Creek	420	6.0	1.6	1.4	1.9	1.7	1.4	1.6	1.7	1.7	1.6	1.9	1.4	2.4	2.1	2.8	2.6	2.1	2.4	2.6	2.6	2.4	2.8	2.1
Galt Creek	Pond Creek	255	8.1	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
Pond Creek	DP1	250	8.0	7.3	6.6	7.2	6.9	5.5	5.2	5.9	4.7	5.0	4.9	7.3	7.3	6.6	7.2	6.9	5.5	5.2	5.9	4.7	5.0	4.9	7.3
DP1	DP2	100	6.7	2.0	1.7	1.9	1.8	1.3	1.2	1.4	1.0	1.1	1.1	2.0	2.0	1.7	1.9	1.8	1.3	1.2	1.4	1.0	1.1	1.1	2.0
DP2	DP5	800	7.6	5.3	4.3	4.5	4.5	3.4	3.3	3.6	3.2	4.1	6.8	7.0	5.3	4.3	4.5	4.5	3.4	3.3	3.6	3.2	4.1	6.8	7.0
TOTALS				**26.5**	**24.3**	**26.2**	**25.4**	**18.9**	**17.7**	**21.2**	**17.2**	**17.0**	**22.9**	**25.1**	**31.6**	**29.5**	**31.6**	**30.4**	**22.4**	**21.1**	**24.7**	**20.4**	**19.6**	**26.8**	**28.7**

Notes - Groundwater influx at Galt Creek and Pond Creek based on seepage data from May/June 1992

- Groundwater influx at DP5 based on data from DP5A after September 21, 1994.

TABLE B-8
COMPARISON OF GROUNDWATER INFLUX, 1995 CONDITIONS
MILL CREEK AGGREGATES PIT

FROM	TO	LENGTH (m)	AVERAGE WIDTH (m)	AVERAGE INFLUX (L/s/m²)									TOTAL GROUNDWATER INFLUX (L/s)								
				Jan. 24/95	Feb.15/95	Mar.23/95	May17/95	Jun.13/95	Jul.20/95	Aug.15/95	Oct.18/95	Nov.22/95	Jan. 24/95	Feb.15/95	Mar.23/95	May17/95	Jun.13/95	Jul.20/95	Aug.15/95	Oct.18/95	Nov.22/95
DP18	DP19	670	6.5	1.4E-03	1.2E-03	9.5E-04	1.8E-03	1.2E-03	6.7E-04	1.2E-03	7.7E-04	1.1E-03	6.0	5.3	4.15	7.9	5.1	2.9	5.1	3.4	5.0
DP19	DP20	310	6.5	7.3E-04	4.3E-04	1.2E-03	1.2E-03	6.2E-04	-2.5E-04	2.1E-04	-2.0E-04	5.9E-04	1.5	0.9	2.33	2.34	1.2	-0.5	0.4	-0.4	1.2
DP20	Hwy 401	270	6.5	2.4E-03	1.5E-03	2.9E-03	2.9E-03	2.0E-03	1.1E-03	1.8E-03	1.1E-03	2.4E-03	4.2	2.7	5.1	5.1	3.5	1.9	3.2	1.9	4.2
Hwy 401	DP21	60	7.1	2.4E-03	1.5E-03	2.9E-03	2.9E-03	2.0E-03	1.1E-03	1.8E-03	1.1E-03	2.4E-03	1.0	0.6	1.2	1.2	0.8	0.5	0.8	0.5	1.0
DP21	DP4	100	7.3	4.6E-03	2.5E-03	4.0E-03	4.1E-03	3.0E-03	1.8E-03	2.7E-03	1.8E-03	3.5E-03	3.4	1.9	2.9	3.0	2.2	1.3	2.0	1.3	2.5
DP4	DP22	50	7.1	4.8E-03	2.1E-03	3.7E-03	4.7E-03	1.5E-03	1.9E-03	2.3E-03	2.0E-03	3.5E-03	1.7	0.8	1.3	1.7	0.5	0.7	0.8	0.7	1.3
DP22	DP17	100	6.6	2.7E-03	1.4E-03	2.2E-03	3.2E-03	4.8E-04	1.4E-03	1.5E-03	1.5E-03	2.2E-03	1.8	0.9	1.5	2.1	0.3	0.9	1.0	1.0	1.5
DP17	DP3	165	7.1	1.2E-03	2.0E-03	1.4E-03	1.0E-03	8.9E-04	9.9E-04	9.4E-04	1.2E-03	9.4E-04	1.4	2.3	1.6	1.2	1.0	1.2	1.1	1.4	1.1
DP3	Galt Creek	420	6.0	1.5E-03	2.1E-03	1.8E-03	1.4E-03	1.2E-03	1.5E-03	1.4E-03	1.7E-03	1.4E-03	3.9	5.4	4.6	3.5	3.1	3.9	3.5	4.2	3.5
Galt Creek	Pond Creek	255	8.1	3.0E-03	3.0E-03	3.0E-03	3.0E-03	3.0E-03	3.0E-03	3.0E-03	3.0E-03	3.0E-03	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2
Pond Creek	DP1	250	8.0	6.2E-03	8.3E-03	7.2E-03	6.8E-03	6.3E-03	5.0E-03	4.7E-03	5.9E-03	7.5E-03	12.4	16.5	14.4	13.5	12.7	9.9	9.4	11.9	14.9
DP1	DP2	100	6.7	4.5E-03	6.8E-03	5.4E-03	5.2E-03	4.7E-03	3.0E-03	2.9E-03	4.3E-03	6.0E-03	3.1	4.5	3.7	3.5	3.2	2.0	1.9	2.9	4.0
DP2	DP5A	800	7.6	1.4E-03	2.5E-03	2.2E-03	2.2E-03	1.4E-03	1.0E-03	1.0E-03	1.8E-03	2.2E-03	8.3	14.9	13.4	13.1	8.7	6.3	6.0	11.1	13.5
TOTALS													**54.7**	**62.8**	**62.3**	**64.4**	**48.6**	**37.1**	**41.4**	**46.0**	**59.8**

Note - Groundwater influx at Galt Creek and Pond Creek based on seepage data from May/June 1992

TABLE B-8
COMPARISON OF GROUNDWATER INFLUX, 1995 CONDITIONS
MILL CREEK AGGREGATES PIT

FROM	TO	LENGTH (m)	AVERAGE WIDTH (m)	ESTIMATED GROUNDWATER FLUX FROM NORTH SIDE OF CREEK (L/s)									ESTIMATED GROUNDWATER FLUX FROM SOUTH SIDE OF CREEK (L/s)								
				Jan. 24/95	Feb.15/95	Mar.23/95	May17/95	Jun.13/95	Jul.20/95	Aug.15/95	Oct.18/95	Nov.22/95	Jan. 24/95	Feb.15/95	Mar.23/95	May17/95	Jun.13/95	Jul.20/95	Aug.15/95	Oct.18/95	Nov.22/95
DP18	DP19	670	6.5	3.0	2.6	2.1	4.0	2.5	1.5	2.6	1.7	2.5	3.0	2.6	2.07	4.0	2.5	1.5	2.6	1.7	2.5
DP19	DP20	310	6.5	0.6	0.3	0.93	0.93	0.5	-0.2	0.2	-0.2	0.5	0.9	0.5	1.40	1.40	0.7	-0.3	0.3	-0.2	0.7
DP20	Hwy 401	270	6.5	1.7	1.1	2.1	2.0	1.4	0.8	1.3	0.7	1.7	2.5	1.6	3.1	3.0	2.1	1.1	1.9	1.1	2.5
Hwy 401	DP21	60	7.1	0.4	0.3	0.5	0.5	0.3	0.2	0.3	0.2	0.4	0.6	0.4	0.7	0.7	0.5	0.3	0.5	0.3	0.6
DP21	DP4	100	7.3	1.4	0.7	1.2	1.2	0.9	0.5	0.8	0.5	1.0	2.0	1.1	1.7	1.8	1.3	0.8	1.2	0.8	1.5
DP4	DP22	50	7.1	0.7	0.3	0.5	0.7	0.2	0.3	0.3	0.3	0.5	1.0	0.5	0.8	1.0	0.3	0.4	0.5	0.4	0.8
DP22	DP17	100	6.6	0.7	0.4	0.6	0.9	0.1	0.4	0.4	0.4	0.6	1.1	0.6	0.9	1.3	0.2	0.6	0.6	0.6	0.9
DP17	DP3	165	7.1	0.6	0.9	0.6	0.5	0.4	0.5	0.4	0.6	0.4	0.8	1.4	1.0	0.7	0.6	0.7	0.7	0.9	0.7
DP3	Galt Creek	420	6.0	1.5	2.1	1.8	1.4	1.2	1.5	1.4	1.7	1.4	2.3	3.2	2.8	2.1	1.9	2.3	2.1	2.5	2.1
Galt Creek	Pond Creek	255	8.1	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
Pond Creek	DP1	250	8.0	6.2	8.3	7.2	6.8	6.3	5.0	4.7	5.9	7.5	6.2	8.3	7.2	6.8	6.3	5.0	4.7	5.9	7.5
DP1	DP2	100	6.7	1.5	2.3	1.8	1.7	1.6	1.0	1.0	1.4	2.0	1.5	2.3	1.8	1.7	1.6	1.0	1.0	1.4	2.0
DP2	DP5A	800	7.6	4.1	7.5	6.7	6.6	4.4	3.2	3.0	5.5	6.8	4.1	7.5	6.7	6.6	4.4	3.2	3.0	5.5	6.8
TOTALS				**24.9**	**29.2**	**28.5**	**29.6**	**22.4**	**16.9**	**18.8**	**21.3**	**27.6**	**29.9**	**33.6**	**33.8**	**34.8**	**26.2**	**20.1**	**22.6**	**24.7**	**32.1**

Note - Groundwater influx at Galt Creek and Pond Creek based on seepage data from May/June 1992

TABLE B-8
COMPARISON OF GROUNDWATER INFLUX, 1996 CONDITIONS
MILL CREEK AGGREGATES PIT

FROM	TO	LENGTH (m)	AVERAGE WIDTH (m)	AVERAGE INFLUX (L/s/m²)							TOTAL GROUNDWATER INFLUX (L/s)						
				Mar.26/96	May31/96	June28/96	July31/96	Aug.30/96	Sep.27/96	Nov.6/96	Mar.26/96	May31/96	June28/96	July31/96	Aug.30/96	Sep.27/96	Nov.6/96
DP18	DP19	670	6.5	8.1E-04	8.1E-04	2.3E-03	2.3E-03	2.3E-03	3.0E-03	2.1E-03	3.5	3.5	10.0	10.0	10.1	12.9	9.2
DP19	DP20	310	6.5	1.3E-03	1.3E-03	1.4E-03	1.3E-03	6.2E-04	1.5E-03	1.0E-03	2.7	2.7	2.9	2.5	1.3	3.0	2.0
DP20	Hwy 401	270	6.5	2.0E-03	8.3E-04	2.3E-03	2.0E-03	1.2E-03	2.4E-03	2.1E-03	3.5	1.5	4.1	3.4	2.2	4.2	3.6
Hwy 401	DP21	60	7.1	2.0E-03	8.3E-04	2.3E-03	2.0E-03	1.2E-03	2.4E-03	2.1E-03	0.8	0.4	1.0	0.8	0.5	1.0	0.9
DP21	DP4	100	7.3	1.0E-03	6.3E-04	4.1E-03	3.1E-03	2.3E-03	3.8E-03	3.3E-03	0.8	0.5	3.0	2.3	1.7	2.8	2.4
DP4	DP22	50	7.1	2.3E-03	3.0E-03	5.2E-03	4.2E-03	3.2E-03	4.9E-03	4.0E-03	0.8	1.1	1.8	1.5	1.1	1.7	1.4
DP22	DP17	100	6.6	3.1E-03	2.9E-03	3.2E-03	2.8E-03	2.2E-03	3.2E-03	2.5E-03	2.0	1.9	2.1	1.8	1.5	2.1	1.7
DP17	DP3	165	7.1	1.5E-03	1.3E-03	1.7E-03	1.4E-03	1.1E-03	1.4E-03	1.5E-03	1.8	1.5	2.0	1.7	1.3	1.7	1.7
DP3	Galt Creek	420	6.0	1.7E-03	1.7E-03	2.0E-03	1.7E-03	1.4E-03	1.7E-03	1.8E-03	4.2	4.2	5.0	4.2	3.5	4.2	4.6
Galt Creek	Pond Creek	255	8.1	3.0E-03	3.0E-03	3.0E-03	3.0E-03	3.0E-03	3.0E-03	3.0E-03	6.2	6.2	6.2	6.2	6.2	6.2	6.2
Pond Creek	DP1	250	8.0	7.9E-03	7.9E-03	6.8E-03	5.8E-03	5.4E-03	7.0E-03	7.5E-03	15.7	15.7	13.5	11.6	10.8	14.1	14.9
DP1	DP2	100	6.7	6.1E-03	6.1E-03	5.2E-03	4.0E-03	3.5E-03	5.4E-03	5.9E-03	4.1	4.1	3.5	2.7	2.4	3.7	3.9
DP2	DP5A	800	7.6	1.8E-03	1.5E-03	1.9E-03	1.7E-03	1.4E-03	2.6E-03	2.6E-03	10.6	9.2	11.5	10.4	8.4	15.7	15.7
TOTALS											**56.7**	**52.4**	**66.5**	**59.2**	**50.8**	**73.2**	**68.2**

Note - Groundwater influx at Galt Creek and Pond Creek based on seepage data from May/June 1992

TABLE B-8
COMPARISON OF GROUNDWATER INFLUX, 1996 CONDITIONS
MILL CREEK AGGREGATES PIT

FROM	TO	LENGTH (m)	AVERAGE WIDTH (m)	ESTIMATED GROUNDWATER FLUX FROM NORTH SIDE OF CREEK (L/s)							ESTIMATED GROUNDWATER FLUX FROM SOUTH SIDE OF CREEK (L/s)						
				Mar.26/96	May31/96	June28/96	July31/96	Aug.30/96	Sep.27/96	Nov.6/96	Mar.26/96	May31/96	June28/96	July31/96	Aug.30/96	Sep.27/96	Nov.6/96
DP18	DP19	670	6.5	1.8	1.8	5.0	5.0	5.0	6.4	4.6	1.8	1.8	5.0	5.0	5.0	6.4	4.6
DP19	DP20	310	6.5	1.1	1.1	1.1	1.0	0.5	1.2	0.8	1.6	1.6	1.7	1.5	0.8	1.8	1.2
DP20	Hwy 401	270	6.5	1.4	0.6	1.6	1.4	0.9	1.7	1.5	2.1	0.9	2.5	2.1	1.3	2.5	2.2
Hwy 401	DP21	60	7.1	0.3	0.1	0.4	0.3	0.2	0.4	0.4	0.5	0.2	0.6	0.5	0.3	0.6	0.5
DP21	DP4	100	7.3	0.3	0.2	1.2	0.9	0.7	1.1	1.0	0.5	0.3	1.8	1.4	1.0	1.7	1.5
DP4	DP22	50	7.1	0.3	0.4	0.7	0.6	0.5	0.7	0.6	0.5	0.6	1.1	0.9	0.7	1.0	0.9
DP22	DP17	100	6.6	0.8	0.8	0.8	0.7	0.6	0.8	0.7	1.2	1.1	1.3	1.1	0.9	1.3	1.0
DP17	DP3	165	7.1	0.7	0.6	0.8	0.7	0.5	0.7	0.7	1.1	0.9	1.2	1.0	0.8	1.0	1.0
DP3	Galt Creek	420	6.0	1.7	1.7	2.0	1.7	1.4	1.7	1.8	2.5	2.5	3.0	2.5	2.1	2.5	2.8
Galt Creek	Pond Creek	255	8.1	2.5	2.5	2.5	2.5	2.5	2.5	2.5	3.7	3.7	3.7	3.7	3.7	3.7	3.7
Pond Creek	DP1	250	8.0	7.9	7.9	6.8	5.8	5.4	7.0	7.5	7.9	7.9	6.8	5.8	5.4	7.0	7.5
DP1	DP2	100	6.7	2.1	2.1	1.7	1.3	1.2	1.8	2.0	2.1	2.1	1.7	1.3	1.2	1.8	2.0
DP2	DP5A	800	7.6	5.3	4.6	5.8	5.2	4.2	7.8	7.8	5.3	4.6	5.8	5.2	4.2	7.8	7.8
TOTALS				**26.1**	**24.2**	**30.5**	**27.2**	**23.5**	**33.9**	**31.7**	**30.6**	**28.2**	**36.1**	**32.0**	**27.3**	**39.3**	**36.6**

Note - Groundwater influx at Galt Creek and Pond Creek based on seepage data from May/June 1992

TABLE B-8
COMPARISON OF GROUNDWATER INFLUX, 1997 CONDITIONS
MILL CREEK AGGREGATES PIT

FROM	TO	LENGTH (m)	AVERAGE WIDTH (m)	AVERAGE INFLUX (L/s/m²)								TOTAL GROUNDWATER INFLUX (L/s)							
				Mar.31/97	Apr.30/97	May26/97	June27/97	July30/97	Aug.31/97	Oct.3/97	Nov.6/97	Mar.31/97	Apr.30/97	May26/97	June27/97	July30/97	Aug.31/97	Oct.3/97	Nov.6/97
DP18	DP19	670	6.5	2.2E-04	2.1E-03	2.2E-03	2.2E-03	5.2E-03	2.4E-03	2.3E-03	1.7E-03	1.0	8.9	9.7	9.4	22.7	10.5	9.9	7.3
DP19	DP20	310	6.5	1.3E-03	1.8E-03	1.7E-03	1.5E-03	4.0E-03	8.9E-04	7.2E-04	1.2E-03	2.5	3.5	3.4	3.0	8.0	1.8	1.5	2.3
DP20	Hwy 401	270	6.5	2.7E-03	2.8E-03	2.7E-03	2.5E-03	1.5E-03	1.7E-03	1.1E-03	2.2E-03	4.8	4.9	4.7	4.4	2.7	2.9	2.0	3.9
Hwy 401	DP21	60	7.1	2.7E-03	2.8E-03	2.7E-03	2.5E-03	1.5E-03	1.7E-03	1.1E-03	2.2E-03	1.1	1.2	1.1	1.1	0.6	0.7	0.5	0.9
DP21	DP4	100	7.3	4.7E-03	4.8E-03	4.8E-03	4.2E-03	2.7E-03	2.7E-03	1.9E-03	3.5E-03	3.4	3.5	3.5	3.1	2.0	2.0	1.4	2.5
DP4	DP22	50	7.1	4.7E-03	5.6E-03	5.4E-03	5.0E-03	3.3E-03	3.3E-03	3.1E-03	3.9E-03	1.7	2.0	1.9	1.8	1.2	1.2	1.1	1.4
DP22	DP17	100	6.6	2.0E-03	3.2E-03	2.9E-03	2.9E-03	2.2E-03	2.0E-03	2.1E-03	2.3E-03	1.3	2.1	1.9	1.9	1.5	1.4	1.4	1.5
DP17	DP3	165	7.1	1.6E-03	1.4E-03	1.3E-03	1.3E-03	1.4E-03	1.2E-03	8.4E-04	1.2E-03	1.9	1.7	1.5	1.5	1.7	1.4	1.0	1.4
DP3	Galt Creek	420	6.0	2.3E-03	1.7E-03	1.7E-03	1.7E-03	1.7E-03	1.7E-03	1.4E-03	1.5E-03	5.7	4.2	4.2	4.2	4.2	4.2	3.5	3.9
Galt Creek	Pond Creek	255	8.1	3.0E-03	3.0E-03	3.0E-03	3.0E-03	3.0E-03	3.0E-03	3.0E-03	3.0E-03	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2
Pond Creek	DP1	250	8.0	6.3E-03	6.3E-03	6.6E-03	6.9E-03	5.0E-03	6.4E-03	6.2E-03	4.7E-03	12.7	12.7	13.3	13.8	9.9	12.7	12.4	9.4
DP1	DP2	100	6.7	4.2E-03	4.7E-03	5.0E-03	5.3E-03	3.2E-03	4.8E-03	4.6E-03	3.1E-03	2.9	3.2	3.4	3.6	2.1	3.2	3.1	2.1
DP2	DP5A	800	7.6	1.2E-03	2.1E-03	2.4E-03	2.4E-03	1.9E-03	2.4E-03	2.1E-03	2.7E-03	7.1	12.9	14.3	14.3	11.6	14.5	12.7	16.2
TOTALS												**52.3**	**66.9**	**69.2**	**68.2**	**74.4**	**62.7**	**56.6**	**59.0**

Note - Groundwater influx at Galt Creek and Pond Creek based on seepage data from May/June 1992

TABLE B-8
COMPARISON OF GROUNDWATER INFLUX, 1997 CONDITIONS
MILL CREEK AGGREGATES PIT

FROM	TO	LENGTH (m)	AVERAGE WIDTH (m)	ESTIMATED GROUNDWATER FLUX FROM NORTH SIDE OF CREEK (L/s)								ESTIMATED GROUNDWATER FLUX FROM SOUTH SIDE OF CREEK (L/s)							
				Mar.31/97	Apr.30/97	May26/97	June27/97	July30/97	Aug.31/97	Oct.3/97	Nov.6/97	Mar.31/97	Apr.30/97	May26/97	June27/97	July30/97	Aug.31/97	Oct.3/97	Nov.6/97
DP18	DP19	670	6.5	0.5	4.5	4.8	4.7	11.4	5.3	5.0	3.7	0.5	4.5	4.8	4.7	11.4	5.3	5.0	3.7
DP19	DP20	310	6.5	1.0	1.4	1.4	1.2	3.2	0.7	0.6	0.9	1.5	2.1	2.1	1.8	4.8	1.1	0.9	1.4
DP20	Hwy 401	270	6.5	1.9	1.9	1.9	1.8	1.1	1.2	0.8	1.6	2.9	2.9	2.8	2.6	1.6	1.8	1.2	2.4
Hwy 401	DP21	60	7.1	0.5	0.5	0.5	0.4	0.3	0.3	0.2	0.4	0.7	0.7	0.7	0.6	0.4	0.4	0.3	0.6
DP21	DP4	100	7.3	1.4	1.4	1.4	1.2	0.8	0.8	0.6	1.0	2.0	2.1	2.1	1.8	1.2	1.2	0.8	1.5
DP4	DP22	50	7.1	0.7	0.8	0.8	0.7	0.5	0.5	0.4	0.6	1.0	1.2	1.2	1.1	0.7	0.7	0.7	0.8
DP22	DP17	100	6.6	0.5	0.8	0.8	0.8	0.6	0.5	0.6	0.6	0.8	1.3	1.1	1.1	0.9	0.8	0.8	0.9
DP17	DP3	165	7.1	0.8	0.7	0.6	0.6	0.7	0.6	0.4	0.6	1.1	1.0	0.9	0.9	1.0	0.9	0.6	0.8
DP3	Galt Creek	420	6.0	2.3	1.7	1.7	1.7	1.7	1.7	1.4	1.5	3.4	2.5	2.5	2.5	2.5	2.5	2.1	2.3
Galt Creek	Pond Creek	255	8.1	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
Pond Creek	DP1	250	8.0	6.3	6.3	6.6	6.9	5.0	6.4	6.2	4.7	6.3	6.3	6.6	6.9	5.0	6.4	6.2	4.7
DP1	DP2	100	6.7	1.4	1.6	1.7	1.8	1.1	1.6	1.5	1.0	1.4	1.6	1.7	1.8	1.1	1.6	1.5	1.0
DP2	DP5A	800	7.6	3.5	6.4	7.1	7.1	5.8	7.3	6.3	8.1	3.5	6.4	7.1	7.1	5.8	7.3	6.3	8.1
TOTALS				**23.3**	**30.5**	**31.7**	**31.4**	**34.4**	**29.2**	**26.4**	**27.1**	**29.0**	**36.4**	**37.4**	**36.8**	**40.0**	**33.5**	**30.1**	**31.9**

Note - Groundwater influx at Galt Creek and Pond Creek based on seepage data from May/June 1992

TABLE B-8
COMPARISON OF GROUNDWATER INFLUX, 1998 CONDITIONS
MILL CREEK AGGREGATES PIT

FROM	TO	LENGTH (m)	AVERAGE WIDTH (m)	AVERAGE INFLUX (L/s/m²)							TOTAL GROUNDWATER INFLUX (L/s)						
				Mar.27/98	Apr.30/98	May31/98	Jun.30/98	July31/98	Sep.30/98	Nov.27/98	Mar.27/98	Apr.30/98	May31/98	Jun.30/98	July31/98	Sep.30/98	Nov.27/98
DP18	DP19	670	6.5	-1.9E-05	1.7E-03	1.2E-03	1.4E-03	6.7E-04	-2.8E-04	-2.5E-04	-0.1	7.5	5.4	5.9	2.9	-1.2	-1.1
DP19	DP20	310	6.5	5.8E-04	9.5E-04	3.3E-04	2.4E-04	-4.4E-04	-1.5E-03	-1.2E-03	1.2	1.9	0.7	0.5	-0.9	-2.9	-2.4
DP20	Hwy 401	270	6.5	3.0E-03	1.9E-03	1.2E-03	1.2E-03	3.0E-04	-8.0E-04	-1.0E-04	5.2	3.3	2.1	2.1	0.5	-1.4	-0.2
Hwy 401	DP21	60	7.1	3.0E-03	1.9E-03	1.2E-03	1.2E-03	3.0E-04	-8.0E-04	-1.0E-04	1.3	0.8	0.5	0.5	0.1	-0.3	0.0
DP21	DP4	100	7.3	4.5E-03	3.4E-03	2.3E-03	2.1E-03	7.4E-04	-4.8E-04	2.7E-04	3.3	2.5	1.7	1.5	0.5	-0.3	0.2
DP4	DP22	50	7.1	5.3E-03	4.5E-03	3.2E-03	2.7E-03	1.6E-03	6.7E-05	5.5E-04	1.9	1.6	1.1	1.0	0.6	0.0	0.2
DP22	DP17	100	6.6	3.2E-03	2.9E-03	2.0E-03	1.9E-03	1.3E-03	4.7E-04	6.5E-04	2.1	1.9	1.4	1.2	0.9	0.3	0.4
DP17	DP3	165	7.1	2.5E-04	1.3E-03	2.0E-04	1.1E-03	7.4E-04	8.4E-04	9.9E-04	0.3	1.5	0.2	1.3	0.9	1.0	1.2
DP3	Galt Creek	420	6.0	4.8E-04	1.7E-03	6.3E-04	1.5E-03	1.4E-03	1.4E-03	1.5E-03	1.2	4.2	1.6	3.9	3.5	3.5	3.9
Galt Creek	Pond Creek	255	8.1	3.0E-03	3.0E-03	3.0E-03	3.0E-03	3.0E-03	3.0E-03	3.0E-03	6.2	6.2	6.2	6.2	6.2	6.2	6.2
Pond Creek	DP1	250	8.0	3.7E-03	6.9E-03	5.7E-03	6.4E-03	5.0E-03	4.3E-03	5.4E-03	7.5	13.8	11.3	12.7	9.9	8.6	10.8
DP1	DP2	100	6.7	1.9E-03	5.4E-03	3.8E-03	4.7E-03	3.1E-03	2.4E-03	3.7E-03	1.3	3.6	2.6	3.2	2.1	1.6	2.5
DP2	DP5A	800	7.6	2.2E-03	2.7E-03	2.1E-03	2.4E-03	1.2E-03	1.3E-03	2.0E-03	13.5	16.3	13.0	14.3	7.0	8.2	12.3
TOTALS											**44.7**	**65.2**	**47.7**	**54.2**	**34.2**	**23.0**	**33.8**

Note - Groundwater influx at Galt Creek and Pond Creek based on seepage data from May/June 1992

TABLE B-8
COMPARISON OF GROUNDWATER INFLUX, 1998 CONDITIONS
MILL CREEK AGGREGATES PIT

FROM	TO	LENGTH (m)	AVERAGE WIDTH (m)	ESTIMATED GROUNDWATER FLUX FROM NORTH SIDE OF CREEK (L/s)							ESTIMATED GROUNDWATER FLUX FROM SOUTH SIDE OF CREEK (L/s)						
				Mar.27/98	Apr.30/98	May31/98	Jun.30/98	July31/98	Sep.30/98	Nov.27/98	Mar.27/98	Apr.30/98	May31/98	Jun.30/98	July31/98	Sep.30/98	Nov.27/98
DP18	DP19	670	6.5	0.0	3.7	2.7	2.9	1.5	-0.6	-0.5	0.0	3.7	2.7	2.9	1.5	-0.6	-0.5
DP19	DP20	310	6.5	0.5	0.8	0.3	0.2	-0.4	-1.2	-0.9	0.7	1.1	0.4	0.3	-0.5	-1.8	-1.4
DP20	Hwy 401	270	6.5	2.1	1.3	0.8	0.8	0.2	-0.6	-0.1	3.1	2.0	1.2	1.3	0.3	-0.8	-0.1
Hwy 401	DP21	60	7.1	0.5	0.3	0.2	0.2	0.1	-0.1	0.0	0.8	0.5	0.3	0.3	0.1	-0.2	0.0
DP21	DP4	100	7.3	1.3	1.0	0.7	0.6	0.2	-0.1	0.1	2.0	1.5	1.0	0.9	0.3	-0.2	0.1
DP4	DP22	50	7.1	0.8	0.6	0.5	0.4	0.2	0.0	0.1	1.1	1.0	0.7	0.6	0.3	0.0	0.1
DP22	DP17	100	6.6	0.8	0.8	0.5	0.5	0.3	0.1	0.2	1.3	1.1	0.8	0.7	0.5	0.2	0.3
DP17	DP3	165	7.1	0.1	0.6	0.1	0.5	0.3	0.4	0.5	0.2	0.9	0.1	0.8	0.5	0.6	0.7
DP3	Galt Creek	420	6.0	0.5	1.7	0.6	1.5	1.4	1.4	1.5	0.7	2.5	1.0	2.3	2.1	2.1	2.3
Galt Creek	Pond Creek	255	8.1	2.5	2.5	2.5	2.5	2.5	2.5	2.5	3.7	3.7	3.7	3.7	3.7	3.7	3.7
Pond Creek	DP1	250	8.0	3.7	6.9	5.7	6.4	5.0	4.3	5.4	3.7	6.9	5.7	6.4	5.0	4.3	5.4
DP1	DP2	100	6.7	0.6	1.8	1.3	1.6	1.0	0.8	1.2	0.6	1.8	1.3	1.6	1.0	0.8	1.2
DP2	DP5A	800	7.6	6.7	8.2	6.5	7.1	3.5	4.1	6.1	6.7	8.2	6.5	7.1	3.5	4.1	6.1
TOTALS				**20.1**	**30.2**	**22.3**	**25.3**	**15.9**	**10.9**	**16.0**	**24.6**	**35.0**	**25.4**	**28.9**	**18.3**	**12.1**	**17.9**

Note - Groundwater influx at Galt Creek and Pond Creek based on seepage data from May/June 1992

TABLE B-8
COMPARISON OF GROUNDWATER INFLUX, 1999 CONDITIONS
MILL CREEK AGGREGATES PIT

FROM	TO	LENGTH (m)	AVERAGE WIDTH (m)	AVERAGE INFLUX (L/s/m²)							TOTAL GROUNDWATER INFLUX (L/s)						
				Mar.31/99	May 20/99	Jun.29/99	Jul.16/99	Aug.11/99	Sept.9/99	Nov.9/99	Mar.31/99	May 20/99	Jun.29/99	Jul.16/99	Aug.11/99	Sept.9/99	Nov.9/99
DP18	DP19	670	6.5	1.1E-03	-6.2E-04	-2.6E-04	-1.2E-03	-2.4E-03	-1.4E-03	-1.2E-03	4.8	-2.7	-1.1	-5.4	-10.3	-6.0	-5.4
DP19	DP20	310	6.5	-3.2E-04	-1.4E-03	-1.1E-03	-1.2E-03	-2.6E-03	-2.2E-03	-1.7E-03	-0.6	-2.8	-2.3	-2.4	-5.3	-4.4	-3.5
DP20	Hwy 401	270	6.5	8.2E-04	-1.0E-04	-1.0E-03	-1.6E-03	-1.1E-03	-3.5E-04	-2.1E-04	1.4	-0.2	-1.8	-2.7	-2.0	-0.6	-0.4
Hwy 401	DP21	60	7.1	8.2E-04	-1.0E-04	-1.0E-03	-1.6E-03	-1.1E-03	-3.5E-04	-2.1E-04	0.3	-0.04	-0.4	-0.7	-0.5	-0.1	-0.1
DP21	DP4	100	7.3	1.5E-03	1.2E-04	-7.4E-04	-2.1E-03	-7.8E-04	4.4E-04	2.7E-04	1.1	0.1	-0.5	-1.5	-0.6	0.3	0.2
DP4	DP22	50	7.1	1.3E-03	4.0E-04	-3.0E-04	-1.2E-03	-4.2E-04	5.5E-04	5.5E-04	0.5	0.1	-0.1	-0.4	-0.1	0.2	0.2
DP22	DP17	100	6.6	6.5E-04	6.5E-04	-2.0E-04	-8.9E-04	1.8E-04	7.5E-04	6.5E-04	0.4	0.4	-0.1	-0.6	0.1	0.5	0.4
DP17	DP3	165	7.1	8.4E-04	8.4E-04	1.1E-03	-3.0E-04	8.9E-04	9.4E-04	8.4E-04	1.0	1.0	1.3	-0.3	1.0	1.1	1.0
DP3	Galt Creek	420	6.0	1.4E-03	1.4E-03	2.0E-03	1.2E-03	1.5E-03	1.4E-03	1.4E-03	3.5	3.5	5.0	3.1	3.9	3.5	3.5
Galt Creek	Pond Creek	255	8.1	3.0E-03	3.0E-03	3.0E-03	3.0E-03	3.0E-03	3.0E-03	3.0E-03	6.2	6.2	6.2	6.2	6.2	6.2	6.2
Pond Creek	DP1	250	8.0	5.9E-03	7.2E-03	6.9E-03	6.2E-03	6.5E-03	6.8E-03	8.0E-03	11.9	14.4	13.8	12.4	13.0	13.5	16.0
DP1	DP2	100	6.7	3.9E-03	5.6E-03	5.3E-03	4.6E-03	4.6E-03	5.2E-03	6.3E-03	2.6	3.8	3.6	3.1	3.1	3.5	4.3
DP2	DP5A	800	7.6	1.2E-03	2.6E-03	3.3E-03	3.5E-03	1.9E-03	2.2E-03	2.5E-03	7.3	15.9	20.1	21.1	11.4	13.3	15.3
TOTALS											**40.3**	**39.5**	**43.5**	**31.8**	**19.8**	**31.0**	**37.6**

Note - Groundwater influx at Galt Creek and Pond Creek based on seepage data from May/June 1992

TABLE B-8
COMPARISON OF GROUNDWATER INFLUX, 1999 CONDITIONS
MILL CREEK AGGREGATES PIT

FROM	TO	LENGTH (m)	AVERAGE WIDTH (m)	ESTIMATED GROUNDWATER FLUX FROM NORTH SIDE OF CREEK (L/s)							ESTIMATED GROUNDWATER FLUX FROM SOUTH SIDE OF CREEK (L/s)						
				Mar.31/99	May 20/99	Jun.29/99	Jul.16/99	Aug.11/99	Sept.9/99	Nov.9/99	Mar.31/99	May 20/99	Jun.29/99	Jul.16/99	Aug.11/99	Sept.9/99	Nov.9/99
DP18	DP19	670	6.5	2.4	-1.4	-0.6	-2.7	-5.2	-3.0	-2.7	2.4	-1.4	-0.6	-2.7	-5.2	-3.0	-2.7
DP19	DP20	310	6.5	-0.3	-1.1	-0.9	-1.0	-2.1	-1.7	-1.4	-0.4	-1.7	-1.4	-1.5	-3.2	-2.6	-2.1
DP20	Hwy 401	270	6.5	0.6	-0.1	-0.7	-1.1	-0.8	-0.2	-0.1	0.9	-0.1	-1.1	-1.6	-1.2	-0.4	-0.2
Hwy 401	DP21	60	7.1	0.1	-0.02	-0.2	-0.3	-0.2	-0.1	0.0	0.2	-0.03	-0.3	-0.4	-0.3	-0.1	-0.1
DP21	DP4	100	7.3	0.4	0.03	-0.2	-0.6	-0.2	0.1	0.1	0.6	0.1	-0.3	-0.9	-0.3	0.2	0.1
DP4	DP22	50	7.1	0.2	0.1	0.0	-0.2	-0.1	0.1	0.1	0.3	0.1	-0.1	-0.3	-0.1	0.1	0.1
DP22	DP17	100	6.6	0.2	0.2	-0.1	-0.2	0.0	0.2	0.2	0.3	0.3	-0.1	-0.4	0.1	0.3	0.3
DP17	DP3	165	7.1	0.4	0.4	0.5	-0.1	0.4	0.4	0.4	0.6	0.6	0.8	-0.2	0.6	0.7	0.6
DP3	Galt Creek	420	6.0	1.4	1.4	2.0	1.2	1.5	1.4	1.4	2.1	2.1	3.0	1.9	2.3	2.1	2.1
Galt Creek	Pond Creek	255	8.1	2.5	2.5	2.5	2.5	2.5	2.5	2.5	3.7	3.7	3.7	3.7	3.7	3.7	3.7
Pond Creek	DP1	250	8.0	5.9	7.2	6.9	6.2	6.5	6.8	8.0	5.9	7.2	6.9	6.2	6.5	6.8	8.0
DP1	DP2	100	6.7	1.3	1.9	1.8	1.5	1.6	1.8	2.1	1.3	1.9	1.8	1.5	1.6	1.8	2.1
DP2	DP5A	800	7.6	3.7	7.9	10.1	10.5	5.7	6.7	7.6	3.7	7.9	10.1	10.5	5.7	6.7	7.6
TOTALS				**18.8**	**18.9**	**21.1**	**15.8**	**9.6**	**14.8**	**18.1**	**21.5**	**20.6**	**22.5**	**15.9**	**10.2**	**16.2**	**19.6**

Note - Groundwater influx at Galt Creek and Pond Creek based on seepage data from May/June 1992

TABLE B-8
COMPARISON OF GROUNDWATER INFLUX, 2000 CONDITIONS
MILL CREEK AGGREGATES PIT

FROM	TO	LENGTH (m)	AVERAGE WIDTH (m)	AVERAGE INFLUX (L/s/m²)								TOTAL GROUNDWATER INFLUX (L/s)							
				Mar.1/00	May 18/00	Jun.15/00	Jul.6/00	Aug.8/00	Sept.13/00	Oct.10/00	Nov.8/00	Mar.1/00	May 18/00	Jun.15/00	Jul.6/00	Aug.8/00	Sept.13/00	Oct.10/00	Nov.8/00
DP18	DP19	670	6.5	-4.3E-04	-8.3E-05	1.5E-05	7.1E-04	6.7E-04	-3.9E-04	-2.1E-04	-1.4E-03	-1.9	-0.4	0.07	3.1	2.9	-1.7	-0.9	-6.0
DP19	DP20	310	6.5	-4.6E-04	-1.6E-04	2.1E-05	4.3E-05	-4.8E-05	-1.0E-03	-1.0E-03	-1.9E-03	-0.9	-0.3	0.04	0.09	-0.1	-2.0	-2.1	-3.8
DP20	Hwy 401	270	6.5	1.4E-03	1.2E-03	1.8E-03	1.4E-03	1.2E-03	-2.0E-05	1.5E-04	-5.1E-04	2.5	2.1	3.1	2.4	2.2	-0.04	0.3	-0.9
Hwy 401	DP21	60	7.1	1.4E-03	1.2E-03	1.8E-03	1.4E-03	1.2E-03	-2.0E-05	1.5E-04	-5.1E-04	0.6	0.5	0.7	0.6	0.5	-0.01	0.1	-0.2
DP21	DP4	100	7.3	8.8E-04	1.6E-03	2.5E-03	2.0E-03	1.7E-03	1.8E-04	2.7E-04	-4.5E-04	0.6	1.2	1.9	1.4	1.3	0.1	0.2	-0.3
DP4	DP22	50	7.1	9.9E-05	2.0E-03	2.7E-03	2.4E-03	2.2E-03	5.5E-04	7.4E-04	-8.4E-05	0.03	0.7	0.9	0.8	0.8	0.2	0.3	-0.03
DP22	DP17	100	6.6	7.5E-04	1.4E-03	1.7E-03	1.8E-03	1.7E-03	6.5E-04	8.3E-04	3.7E-04	0.5	0.9	1.1	1.2	1.1	0.4	0.6	0.2
DP17	DP3	165	7.1	1.1E-03	9.9E-04	1.2E-03	1.3E-03	1.2E-03	9.9E-04	9.9E-04	8.9E-04	1.3	1.2	1.4	1.5	1.4	1.2	1.2	1.0
DP3	Galt Creek	420	6.0	1.5E-03	1.5E-03	1.7E-03	1.7E-03	1.7E-03	1.5E-03	1.5E-03	1.5E-03	3.9	3.9	4.2	4.2	4.2	3.9	3.9	3.9
Galt Creek	Pond Creek	255	8.1	3.0E-03	3.0E-03	3.0E-03	3.0E-03	3.0E-03	3.0E-03	3.0E-03	3.0E-03	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2
Pond Creek	DP1	250	8.0	6.9E-03	6.5E-03	5.8E-03	7.6E-03	8.1E-03	7.6E-03	7.9E-03	8.2E-03	13.8	13.0	11.6	15.2	16.3	15.2	15.7	16.3
DP1	DP2	100	6.7	4.9E-03	4.2E-03	3.8E-03	6.1E-03	6.6E-03	6.0E-03	6.0E-03	6.7E-03	3.3	2.9	2.6	4.1	4.4	4.0	4.0	4.5
DP2	DP5A	800	7.6	2.7E-03	1.7E-03	1.8E-03	2.9E-03	2.9E-03	3.0E-03	2.8E-03	3.2E-03	16.1	10.4	10.7	17.5	17.5	18.3	17.0	19.1
TOTALS												**46.0**	**42.2**	**44.6**	**58.3**	**58.7**	**45.7**	**46.3**	**40.0**

Note - Groundwater influx at Galt Creek and Pond Creek based on seepage data from May/June 1992

TABLE B-8
COMPARISON OF GROUNDWATER INFLUX, 2000 CONDITIONS
MILL CREEK AGGREGATES PIT

FROM	TO	LENGTH (m)	AVERAGE WIDTH (m)	ESTIMATED GROUNDWATER FLUX FROM NORTH SIDE OF CREEK (L/s)								ESTIMATED GROUNDWATER FLUX FROM SOUTH SIDE OF CREEK (L/s)							
				Mar.1/00	May 18/00	Jun.15/00	Jul.6/00	Aug.8/00	Sept.13/00	Oct.10/00	Nov.8/00	Mar.1/00	May 18/00	Jun.15/00	Jul.6/00	Aug.8/00	Sept.13/00	Oct.10/00	Nov.8/00
DP18	DP19	670	6.5	-0.9	-0.2	0.03	1.5	1.5	-0.8	-0.5	-3.0	-0.9	-0.2	0.03	1.5	1.5	-0.8	-0.5	-3.0
DP19	DP20	310	6.5	-0.4	-0.1	0.02	0.03	-0.04	-0.8	-0.8	-1.5	-0.6	-0.2	0.03	0.05	-0.1	-1.2	-1.2	-2.3
DP20	Hwy 401	270	6.5	1.0	0.9	1.2	1.0	0.9	-0.01	0.1	-0.4	1.5	1.3	1.8	1.4	1.3	-0.02	0.2	-0.5
Hwy 401	DP21	60	7.1	0.2	0.2	0.3	0.2	0.2	-0.003	0.03	-0.1	0.4	0.3	0.4	0.3	0.3	-0.01	0.04	-0.1
DP21	DP4	100	7.3	0.3	0.5	0.7	0.6	0.5	0.1	0.1	-0.1	0.4	0.7	1.1	0.9	0.8	0.1	0.1	-0.2
DP4	DP22	50	7.1	0.01	0.3	0.4	0.3	0.3	0.1	0.1	-0.01	0.02	0.4	0.6	0.5	0.5	0.1	0.2	-0.02
DP22	DP17	100	6.6	0.2	0.4	0.4	0.5	0.4	0.2	0.2	0.1	0.3	0.6	0.7	0.7	0.7	0.3	0.3	0.1
DP17	DP3	165	7.1	0.5	0.5	0.6	0.6	0.6	0.5	0.5	0.4	0.8	0.7	0.9	0.9	0.9	0.7	0.7	0.6
DP3	Galt Creek	420	6.0	1.5	1.5	1.7	1.7	1.7	1.5	1.5	1.5	2.3	2.3	2.5	2.5	2.5	2.3	2.3	2.3
Galt Creek	Pond Creek	255	8.1	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
Pond Creek	DP1	250	8.0	6.9	6.5	5.8	7.6	8.1	7.6	7.9	8.2	6.9	6.5	5.8	7.6	8.1	7.6	7.9	8.2
DP1	DP2	100	6.7	1.6	1.4	1.3	2.0	2.2	2.0	2.0	2.2	1.6	1.4	1.3	2.0	2.2	2.0	2.0	2.2
DP2	DP5A	800	7.6	8.1	5.2	5.4	8.8	8.8	9.1	8.5	9.6	8.1	5.2	5.4	8.8	8.8	9.1	8.5	9.6
TOTALS				**21.5**	**19.5**	**20.3**	**27.3**	**27.6**	**21.9**	**22.1**	**19.4**	**24.5**	**22.7**	**24.2**	**31.0**	**31.1**	**23.8**	**24.2**	**20.6**

Note - Groundwater influx at Galt Creek and Pond Creek based on seepage data from May/June 1992

TABLE B-8
COMPARISON OF GROUNDWATER INFLUX, 2001 CONDITIONS
MILL CREEK AGGREGATES PIT

FROM	TO	LENGTH (m)	AVERAGE WIDTH (m)	AVERAGE INFLUX (L/s/m²)											TOTAL GROUNDWATER INFLUX (L/s)										
				Feb.9/01	Mar.13/01	Apr.10/01	May4/01	Jun.7/01	Jul.12/01	Aug.2/01	Sep.4/01	Oct.1/01	Nov.5/01	Dec.6/01	Feb.9/01	Mar.13/01	Apr.10/01	May4/01	Jun.7/01	Jul.12/01	Aug.2/01	Sep.4/01	Oct.1/01	Nov.5/01	Dec.6/01
DP18	DP19	670	6.5	-2.4E-05	5.2E-04	3.6E-04	3.9E-04	-2.4E-05	-9.1E-04	-1.3E-03	-1.8E-03	-2.0E-03	-1.3E-03	-9.2E-04	-0.1	2.3	1.6	1.7	-0.1	-4.0	-5.6	-7.7	-8.6	-5.6	-4.0
DP19	DP20	310	6.5	-2.2E-04	4.8E-04	1.2E-04	2.3E-04	3.7E-05	-8.0E-04	-1.2E-03	-1.7E-03	-1.7E-03	-8.5E-04	-4.7E-04	-0.4	1.0	0.2	0.5	0.1	-1.6	-2.4	-3.3	-3.4	-1.7	-1.0
DP20	Hwy 401	270	6.5	1.4E-03	1.8E-03	1.3E-03	1.3E-03	1.4E-03	2.7E-04	-4.3E-04	-7.7E-04	-6.5E-04	2.4E-04	7.4E-04	2.5	3.1	2.2	2.2	2.5	0.5	-0.7	-1.3	-1.1	0.4	1.3
Hwy 401	DP21	60	7.1	1.4E-03	1.8E-03	1.3E-03	1.3E-03	1.4E-03	2.7E-04	-4.3E-04	-7.7E-04	-6.5E-04	2.4E-04	7.4E-04	0.6	0.7	0.5	0.5	0.6	0.1	-0.2	-0.3	-0.3	0.1	0.3
DP21	DP4	100	7.3	2.4E-03	2.0E-03	1.6E-03	1.6E-03	1.8E-03	5.9E-04	-3.9E-04	-7.8E-04	-6.9E-04	6.6E-04	1.5E-03	1.7	1.5	1.1	1.2	1.3	0.4	-0.3	-0.6	-0.5	0.5	1.1
DP4	DP22	50	7.1	2.7E-03	2.2E-03	2.2E-03	2.2E-03	2.4E-03	1.4E-03	4.3E-04	-4.2E-04	-4.2E-04	1.0E-03	1.9E-03	1.0	0.8	0.8	0.8	0.9	0.5	0.2	-0.1	-0.1	0.4	0.7
DP22	DP17	100	6.6	2.4E-03	1.8E-03	1.6E-03	1.7E-03	2.0E-03	1.4E-03	8.3E-04	1.8E-04	1.8E-04	9.3E-04	1.4E-03	1.6	1.2	1.0	1.1	1.3	0.9	0.6	0.1	0.1	0.6	0.9
DP17	DP3	165	7.1	2.0E-03	1.6E-03	9.9E-04	1.4E-03	5.9E-04	1.1E-03	1.1E-03	7.4E-04	8.9E-04	1.2E-03	1.2E-03	2.3	1.9	1.2	1.6	0.7	1.3	1.3	0.9	1.0	1.4	1.4
DP3	Galt Creek	420	6.0	1.8E-03	2.0E-03	1.5E-03	1.8E-03	9.3E-04	1.7E-03	1.7E-03	1.4E-03	1.5E-03	1.7E-03	1.5E-03	4.6	5.0	3.9	4.6	2.3	4.2	4.2	3.5	3.9	4.2	3.9
Galt Creek	Pond Creek	255	8.1	3.0E-03	3.0E-03	3.0E-03	3.0E-03	3.0E-03	3.0E-03	3.0E-03	3.0E-03	3.0E-03	3.0E-03	3.0E-03	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2
Pond Creek	DP1	250	8.0	8.0E-03	7.3E-03	6.3E-03	5.9E-03	7.6E-03	5.7E-03	5.0E-03	6.1E-03	7.3E-03	8.6E-03	8.0E-03	16.0	14.6	12.7	11.9	15.2	11.3	9.9	12.1	14.6	17.1	16.0
DP1	DP2	100	6.7	6.0E-03	5.4E-03	4.3E-03	4.4E-03	5.6E-03	3.7E-03	3.0E-03	4.2E-03	5.7E-03	6.9E-03	6.2E-03	4.0	3.6	2.9	3.0	3.8	2.5	2.0	2.8	3.9	4.7	4.2
DP2	DP5A	800	7.6	2.4E-03	2.5E-03	1.9E-03	3.1E-03	2.7E-03	2.0E-03	1.3E-03	1.9E-03	2.6E-03	3.0E-03	2.6E-03	14.7	15.1	11.5	18.9	16.1	12.1	7.7	11.4	15.9	18.3	16.0
TOTALS															**54.7**	**56.9**	**45.7**	**54.2**	**50.8**	**34.5**	**22.8**	**23.6**	**31.4**	**46.5**	**46.9**

Note - Groundwater influx at Galt Creek and Pond Creek based on seepage data from May/June 1992

TABLE B-8
COMPARISON OF GROUNDWATER INFLUX, 2001 CONDITIONS
MILL CREEK AGGREGATES PIT

FROM	TO	LENGTH (m)	AVERAGE WIDTH (m)	ESTIMATED GROUNDWATER FLUX FROM NORTH SIDE OF CREEK (L/s)											ESTIMATED GROUNDWATER FLUX FROM SOUTH SIDE OF CREEK (L/s)										
				Feb.9/01	Mar.13/01	Apr.10/01	May4/01	Jun.7/01	Jul.12/01	Aug.2/01	Sep.4/01	Oct.1/01	Nov.5/01	Dec.6/01	Feb.9/01	Mar.13/01	Apr.10/01	May4/01	Jun.7/01	Jul.12/01	Aug.2/01	Sep.4/01	Oct.1/01	Nov.5/01	Dec.6/01
DP18	DP19	670	6.5	-0.1	1.1	0.8	0.8	-0.1	-2.0	-2.8	-3.8	-4.3	-2.8	-2.0	-0.1	1.1	0.8	0.8	-0.1	-2.0	-2.8	-3.8	-4.3	-2.8	-2.0
DP19	DP20	310	6.5	-0.2	0.4	0.1	0.2	0.03	-0.6	-1.0	-1.3	-1.4	-0.7	-0.4	-0.3	0.6	0.1	0.3	0.04	-1.0	-1.5	-2.0	-2.1	-1.0	-0.6
DP20	Hwy 401	270	6.5	1.0	1.2	0.9	0.9	1.0	0.2	-0.3	-0.5	-0.5	0.2	0.5	1.5	1.8	1.3	1.3	1.5	0.3	-0.4	-0.8	-0.7	0.3	0.8
Hwy 401	DP21	60	7.1	0.2	0.3	0.2	0.2	0.2	0.05	-0.1	-0.1	-0.1	0.04	0.1	0.4	0.4	0.3	0.3	0.4	0.1	-0.1	-0.2	-0.2	0.1	0.2
DP21	DP4	100	7.3	0.7	0.6	0.5	0.5	0.5	0.2	-0.1	-0.2	-0.2	0.2	0.4	1.0	0.9	0.7	0.7	0.8	0.3	-0.2	-0.3	-0.3	0.3	0.6
DP4	DP22	50	7.1	0.4	0.3	0.3	0.3	0.3	0.2	0.1	-0.1	-0.1	0.1	0.3	0.6	0.5	0.5	0.5	0.5	0.3	0.1	-0.1	-0.1	0.2	0.4
DP22	DP17	100	6.6	0.6	0.5	0.4	0.4	0.5	0.4	0.2	0.05	0.05	0.2	0.4	1.0	0.7	0.6	0.7	0.8	0.6	0.3	0.1	0.1	0.4	0.6
DP17	DP3	165	7.1	0.9	0.8	0.5	0.6	0.3	0.5	0.5	0.3	0.4	0.6	0.6	1.4	1.1	0.7	1.0	0.4	0.8	0.8	0.5	0.6	0.9	0.8
DP3	Galt Creek	420	6.0	1.8	2.0	1.5	1.8	0.9	1.7	1.7	1.4	1.5	1.7	1.5	2.8	3.0	2.3	2.8	1.4	2.5	2.5	2.1	2.3	2.5	2.3
Galt Creek	Pond Creek	255	8.1	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
Pond Creek	DP1	250	8.0	8.0	7.3	6.3	5.9	7.6	5.7	5.0	6.1	7.3	8.6	8.0	8.0	7.3	6.3	5.9	7.6	5.7	5.0	6.1	7.3	8.6	8.0
DP1	DP2	100	6.7	2.0	1.8	1.4	1.5	1.9	1.2	1.0	1.4	1.9	2.3	2.1	2.0	1.8	1.4	1.5	1.9	1.2	1.0	1.4	1.9	2.3	2.1
DP2	DP5A	800	7.6	7.3	7.6	5.7	9.5	8.1	6.1	3.9	5.7	7.9	9.1	8.0	7.3	7.6	5.7	9.5	8.1	6.1	3.9	5.7	7.9	9.1	8.0
TOTALS				**25.3**	**26.3**	**21.1**	**25.2**	**23.8**	**16.0**	**10.5**	**11.3**	**15.2**	**22.1**	**22.0**	**29.3**	**30.6**	**24.6**	**28.9**	**27.0**	**18.5**	**12.3**	**12.3**	**16.3**	**24.5**	**24.9**

Note - Groundwater influx at Galt Creek and Pond Creek based on seepage data from May/June 1992

TABLE B-8
COMPARISON OF GROUNDWATER INFLUX, 2002 CONDITIONS
MILL CREEK AGGREGATES PIT

FROM	TO	LENGTH (m)	AVERAGE WIDTH (m)	AVERAGE INFLUX (L/s/m²)									TOTAL GROUNDWATER INFLUX (L/s)								
				Feb.7/02	Apr.7/02	May6/02	Jun.14/02	Jul.11/02	Aug.9/02	Sep.4/02	Oct.11/02	Nov.21/02	Feb.7/02	Apr.7/02	May6/02	Jun.14/02	Jul.11/02	Aug.9/02	Sep.4/02	Oct.11/02	Nov.21/02
DP18	DP19	670	6.5	-8.6E-04	5.0E-06	4.0E-04	-1.8E-03	-9.5E-04	-1.9E-03	-2.6E-03	-2.2E-03	-1.4E-03	-3.8	0.02	1.7	-8.0	-4.1	-8.5	-11.5	-9.6	-6.2
DP19	DP20	310	6.5	-1.1E-03	3.5E-04	4.2E-05	-3.8E-04	-8.4E-04	-1.4E-03	-1.9E-03	-1.8E-03	-1.6E-03	-2.1	0.7	0.1	-0.8	-1.7	-2.8	-3.7	-3.6	-3.1
DP20	Hwy 401	270	6.5	9.7E-04	1.5E-03	1.2E-03	9.4E-04	1.9E-04	-4.2E-04	-8.9E-04	-7.4E-04	-4.2E-04	1.7	2.6	2.2	1.7	0.3	-0.7	-1.6	-1.3	-0.7
Hwy 401	DP21	60	7.1	9.7E-04	1.5E-03	1.2E-03	9.4E-04	1.9E-04	-4.2E-04	-8.9E-04	-7.4E-04	-4.2E-04	0.4	0.6	0.5	0.4	0.1	-0.2	-0.4	-0.3	-0.2
DP21	DP4	100	7.3	1.8E-03	2.6E-03	1.3E-03	1.3E-03	9.6E-04	-3.0E-04	-1.0E-03	-9.3E-04	3.0E-04	1.3	1.9	0.9	1.0	0.7	-0.2	-0.7	-0.7	0.2
DP4	DP22	50	7.1	2.4E-03	2.6E-03	1.6E-03	1.9E-03	2.1E-03	2.5E-04	-3.8E-04	-5.7E-04	8.5E-04	0.8	0.9	0.6	0.7	0.7	0.1	-0.1	-0.2	0.3
DP22	DP17	100	6.6	1.8E-03	1.2E-03	1.7E-03	1.2E-03	1.6E-03	6.5E-04	3.7E-04	2.8E-04	5.5E-04	1.2	0.8	1.2	0.8	1.0	0.4	0.2	0.2	0.4
DP17	DP3	165	7.1	1.2E-03	1.0E-03	1.4E-03	7.6E-04	1.1E-03	9.9E-04	1.0E-03	1.1E-03	1.0E-03	1.4	1.2	1.6	0.9	1.3	1.2	1.2	1.3	1.2
DP3	Galt Creek	420	6.0	1.5E-03	1.4E-03	1.5E-03	1.7E-03	1.7E-03	1.5E-03	1.7E-03	1.7E-03	1.7E-03	3.9	3.5	3.9	4.2	4.2	3.9	4.2	4.2	4.2
Galt Creek	Pond Creek	255	8.1	3.0E-03	3.0E-03	3.0E-03	3.0E-03	3.0E-03	3.0E-03	3.0E-03	3.0E-03	3.0E-03	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2
Pond Creek	DP1	250	8.0	8.4E-03	5.0E-03	7.6E-03	6.4E-03	6.5E-03	6.5E-03	5.4E-03	5.0E-03	7.9E-03	16.8	9.9	15.2	12.8	13.0	13.0	10.8	9.9	15.7
DP1	DP2	100	6.7	7.1E-03	3.2E-03	5.9E-03	4.3E-03	4.6E-03	4.6E-03	3.6E-03	3.0E-03	5.9E-03	4.7	2.2	4.0	2.9	3.1	3.1	2.4	2.0	3.9
DP2	DP5A	800	7.6	3.3E-03	2.9E-03	3.2E-03	1.5E-03	1.7E-03	1.7E-03	1.1E-03	2.2E-03	2.4E-03	20.0	17.6	19.2	8.9	10.0	10.0	6.5	13.5	14.7
TOTALS													**52.5**	**48.1**	**57.2**	**31.6**	**34.8**	**25.4**	**13.5**	**21.6**	**36.6**

Note - Groundwater influx at Galt Creek and Pond Creek based on seepage data from May/June 1992

TABLE B-8
COMPARISON OF GROUNDWATER INFLUX, 2002 CONDITIONS
MILL CREEK AGGREGATES PIT

FROM	TO	LENGTH (m)	AVERAGE WIDTH (m)	ESTIMATED GROUNDWATER FLUX FROM NORTH SIDE OF CREEK (L/s)									ESTIMATED GROUNDWATER FLUX FROM SOUTH SIDE OF CREEK (L/s)								
				Feb.7/02	Apr.7/02	May6/02	Jun.14/02	Jul.11/02	Aug.9/02	Sep.4/02	Oct.11/02	Nov.21/02	Feb.7/02	Apr.7/02	May6/02	Jun.14/02	Jul.11/02	Aug.9/02	Sep.4/02	Oct.11/02	Nov.21/02
DP18	DP19	670	6.5	-1.9	0.01	0.9	-4.0	-2.1	-4.2	-5.7	-4.8	-3.1	-1.9	0.01	0.9	-4.0	-2.1	-4.2	-5.7	-4.8	-3.1
DP19	DP20	310	6.5	-0.9	0.3	0.03	-0.3	-0.7	-1.1	-1.5	-1.5	-1.3	-1.3	0.4	0.1	-0.5	-1.0	-1.7	-2.2	-2.2	-1.9
DP20	Hwy 401	270	6.5	0.7	1.0	0.9	0.7	0.1	-0.3	-0.6	-0.5	-0.3	1.0	1.5	1.3	1.0	0.2	-0.4	-0.9	-0.8	-0.4
Hwy 401	DP21	60	7.1	0.2	0.2	0.2	0.2	0.03	-0.1	-0.1	-0.1	-0.1	0.2	0.4	0.3	0.2	0.05	-0.1	-0.2	-0.2	-0.1
DP21	DP4	100	7.3	0.5	0.8	0.4	0.4	0.3	-0.1	-0.3	-0.3	0.1	0.8	1.2	0.6	0.6	0.4	-0.1	-0.4	-0.4	0.1
DP4	DP22	50	7.1	0.3	0.4	0.2	0.3	0.3	0.04	-0.1	-0.1	0.1	0.5	0.5	0.3	0.4	0.4	0.1	-0.1	-0.1	0.2
DP22	DP17	100	6.6	0.5	0.3	0.5	0.3	0.4	0.2	0.1	0.1	0.1	0.7	0.5	0.7	0.5	0.6	0.3	0.1	0.1	0.2
DP17	DP3	165	7.1	0.6	0.5	0.7	0.4	0.5	0.5	0.5	0.5	0.5	0.8	0.7	1.0	0.5	0.8	0.7	0.7	0.8	0.7
DP3	Galt Creek	420	6.0	1.5	1.4	1.5	1.7	1.7	1.5	1.7	1.7	1.7	2.3	2.1	2.3	2.5	2.5	2.3	2.5	2.5	2.5
Galt Creek	Pond Creek	255	8.1	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
Pond Creek	DP1	250	8.0	8.4	5.0	7.6	6.4	6.5	6.5	5.4	5.0	7.9	8.4	5.0	7.6	6.4	6.5	6.5	5.4	5.0	7.9
DP1	DP2	100	6.7	2.4	1.1	2.0	1.5	1.6	1.6	1.2	1.0	2.0	2.4	1.1	2.0	1.5	1.6	1.6	1.2	1.0	2.0
DP2	DP5A	800	7.6	10.0	8.8	9.6	4.4	5.0	5.0	3.2	6.8	7.3	10.0	8.8	9.6	4.4	5.0	5.0	3.2	6.8	7.3
TOTALS				**24.8**	**22.2**	**26.9**	**14.3**	**16.1**	**11.9**	**6.2**	**10.2**	**17.5**	**27.7**	**25.9**	**30.3**	**17.3**	**18.7**	**13.4**	**7.3**	**11.4**	**19.1**

Note - Groundwater influx at Galt Creek and Pond Creek based on seepage data from May/June 1992

TABLE B-8
COMPARISON OF GROUNDWATER INFLUX, 2003 CONDITIONS
MILL CREEK AGGREGATES PIT

FROM	TO	LENGTH (m)	AVERAGE WIDTH (m)	AVERAGE INFLUX (L/s/m²)											TOTAL GROUNDWATER INFLUX (L/s)										
				Apr.10/03	May 7/03	May 15/03	Jun.16/03	Jul.17/03	Aug.21/03	Aug.26/03	Sept.25/03	Oct.27/03	Dec.1/03	Dec.15/03	Apr.10/03	May 7/03	May 15/03	Jun.16/03	Jul.17/03	Aug.21/03	Aug.26/03	Sept.25/03	Oct.27/03	Dec.1/03	Dec.15/03
DP18	DP19	670	6.5	-4.3E-04	-1.2E-04	-7.6E-04	-9.7E-04	-1.9E-03	-2.6E-03	-2.5E-03	-1.5E-03	-1.5E-03	-9.1E-04	-5.0E-04	-1.9	-0.5	-3.3	-4.2	-8.4	-11.5	-10.7	-6.5	-6.6	-4.0	-2.2
DP19	DP20	310	6.5	-3.2E-04	5.0E-05	1.9E-04	-8.9E-04	-1.4E-03	-1.7E-03	-1.8E-03	-1.2E-03	-8.9E-04	-7.4E-04	-4.9E-04	-0.6	0.1	0.4	-1.8	-2.7	-3.4	-3.7	-2.5	-1.8	-1.5	-1.0
DP20	Hwy 401	270	6.5	5.1E-04	9.0E-04	5.1E-04	-1.1E-04	-4.0E-04	-9.0E-04	-9.6E-04	-5.6E-04	1.7E-04	5.6E-05	2.8E-04	0.9	1.6	0.9	-0.2	-0.7	-1.6	-1.7	-1.0	0.3	0.1	0.5
Hwy 401	DP21	60	7.1	1.1E-03	2.0E-03	3.6E-04	-3.6E-04	-3.6E-04	-3.6E-04	-5.3E-04	7.1E-04	1.6E-03	-1.8E-04	-1.8E-04	0.4	0.8	0.2	-0.2	-0.2	-0.2	-0.2	0.3	0.7	-0.1	-0.1
DP21	DP4	100	7.3	1.4E-03	2.3E-03	4.8E-04	1.2E-04	1.0E-03	5.7E-04	-7.2E-04	6.6E-04	1.3E-03	9.7E-04	6.6E-04	1.0	1.7	0.3	0.1	0.7	0.4	-0.5	0.5	0.9	0.7	0.5
DP4	DP22	50	7.1	2.2E-03	2.8E-03	2.1E-03	1.8E-03	4.0E-04	1.3E-03	-4.5E-04	1.4E-03	1.2E-03	2.5E-03	1.9E-03	0.8	1.0	0.8	0.6	0.1	0.5	-0.2	0.5	0.4	0.9	0.7
DP22	DP17	100	6.6	1.8E-03	1.8E-03	1.5E-03	1.5E-03	1.1E-03	5.5E-04	0.0E+00	1.3E-03	1.0E-03	1.8E-03	1.2E-03	1.2	1.2	1.0	1.0	0.7	0.4	0.0	0.9	0.7	1.2	0.8
DP17	DP3	165	7.1	7.9E-04	1.3E-03	1.2E-03	1.5E-03	7.4E-04	7.4E-04	4.4E-04	1.2E-03	1.0E-03	1.5E-03	1.9E-03	0.9	1.5	1.4	1.7	0.9	0.9	0.5	1.4	1.2	1.7	2.2
DP3	Galt Creek	420	6.0	9.3E-04	1.7E-03	2.1E-03	2.1E-03	1.1E-03	1.4E-03	1.1E-03	1.7E-03	1.4E-03	1.8E-03	2.4E-03	2.3	4.2	5.4	5.4	2.7	3.5	2.7	4.2	3.5	4.6	6.1
Galt Creek	Pond Creek	255	8.1	3.0E-03	3.0E-03	3.0E-03	3.0E-03	3.0E-03	3.0E-03	3.0E-03	3.0E-03	3.0E-03	3.0E-03	3.0E-03	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2
Pond Creek	DP1	250	8.0	4.7E-03	7.5E-03	7.2E-03	5.4E-03	3.3E-03	3.3E-03	4.3E-03	7.5E-03	7.2E-03	7.2E-03	6.6E-03	9.4	14.9	14.4	10.8	6.6	6.6	8.6	14.9	14.4	14.4	13.3
DP1	DP2	100	6.7	3.1E-03	5.6E-03	5.4E-03	3.1E-03	4.6E-03	1.3E-03	2.1E-03	5.8E-03	5.5E-03	5.4E-03	4.9E-03	2.1	3.8	3.7	2.1	3.1	0.9	1.4	3.9	3.7	3.7	3.3
DP2	DP5A	800	7.6	1.9E-03	2.6E-03	1.1E-03	7.6E-04	4.1E-04	5.9E-04	6.8E-04	2.1E-03	1.3E-03	2.4E-03	2.7E-03	11.5	15.8	6.5	4.6	2.5	3.6	4.1	12.7	8.1	14.8	16.2
TOTALS															**34.2**	**52.3**	**37.6**	**26.0**	**11.6**	**6.2**	**6.6**	**35.5**	**31.5**	**42.6**	**46.4**

Note - Groundwater influx at Galt Creek and Pond Creek based on seepage data from May/June 1992

TABLE B-8
COMPARISON OF GROUNDWATER INFLUX, 2003 CONDITIONS
MILL CREEK AGGREGATES PIT

FROM	TO	LENGTH (m)	AVERAGE WIDTH (m)	ESTIMATED GROUNDWATER FLUX FROM NORTH SIDE OF CREEK (L/s)											ESTIMATED GROUNDWATER FLUX FROM SOUTH SIDE OF CREEK (L/s)										
				Apr.10/03	May 7/03	May 15/03	Jun.16/03	Jul.17/03	Aug.21/03	Aug.26/03	Sept.25/03	Oct.27/03	Dec.1/03	Dec.15/03	Apr.10/03	May 7/03	May 15/03	Jun.16/03	Jul.17/03	Aug.21/03	Aug.26/03	Sept.25/03	Oct.27/03	Dec.1/03	Dec.15/03
DP18	DP19	670	6.5	-0.9	-0.27	-1.7	-2.1	-4.2	-5.7	-5.3	-3.3	-3.3	-2.0	-1.1	-0.9	-0.3	-1.7	-2.1	-4.2	-5.7	-5.3	-3.3	-3.3	-2.0	-1.1
DP19	DP20	310	6.5	-0.3	0.0	0.15	-0.7	-1.1	-1.4	-1.5	-1.0	-0.7	-0.6	-0.4	-0.4	0.1	0.2	-1.1	-1.6	-2.0	-2.2	-1.5	-1.1	-0.9	-0.6
DP20	Hwy 401	270	6.5	0.4	0.6	0.4	-0.1	-0.3	-0.6	-0.7	-0.4	0.1	0.0	0.2	0.5	1.0	0.5	-0.1	-0.4	-1.0	-1.0	-0.6	0.2	0.1	0.3
Hwy 401	DP21	60	7.1	0.2	0.3	0.1	-0.1	-0.06	-0.1	-0.1	0.1	0.3	0.0	0.0	0.3	0.5	0.1	-0.1	-0.1	-0.1	-0.1	0.2	0.4	0.0	0.0
DP21	DP4	100	7.3	0.4	0.7	0.1	0.0	0.3	0.2	-0.2	0.2	0.4	0.3	0.2	0.6	1.0	0.2	0.1	0.4	0.3	-0.3	0.3	0.5	0.4	0.3
DP4	DP22	50	7.1	0.3	0.4	0.3	0.3	0.1	0.18	-0.1	0.2	0.2	0.4	0.3	0.5	0.6	0.5	0.4	0.1	0.3	-0.1	0.3	0.3	0.5	0.4
DP22	DP17	100	6.6	0.5	0.5	0.4	0.4	0.3	0.1	0.0	0.3	0.3	0.5	0.3	0.7	0.7	0.6	0.6	0.4	0.2	0.0	0.5	0.4	0.7	0.5
DP17	DP3	165	7.1	0.4	0.6	0.6	0.7	0.3	0.3	0.2	0.6	0.5	0.7	0.9	0.6	0.9	0.8	1.0	0.5	0.5	0.3	0.9	0.7	1.0	1.3
DP3	Galt Creek	420	6.0	0.9	1.7	2.1	2.1	1.1	1.4	1.1	1.7	1.4	1.8	2.4	1.4	2.5	3.2	3.2	1.6	2.1	1.6	2.5	2.1	2.8	3.7
Galt Creek	Pond Creek	255	8.1	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
Pond Creek	DP1	250	8.0	4.7	7.5	7.2	5.4	3.3	3.3	4.3	7.5	7.2	7.2	6.6	4.7	7.5	7.2	5.4	3.3	3.3	4.3	7.5	7.2	7.2	6.6
DP1	DP2	100	6.7	1.0	1.9	1.8	1.0	1.6	0.4	0.7	2.0	1.8	1.8	1.6	1.0	1.9	1.8	1.0	1.6	0.4	0.7	2.0	1.8	1.8	1.6
DP2	DP5A	800	7.6	5.8	7.9	3.2	2.3	1.2	1.8	2.0	6.3	4.0	7.4	8.1	5.8	7.9	3.2	2.3	1.2	1.8	2.0	6.3	4.0	7.4	8.1
TOTALS				**15.8**	**24.3**	**17.1**	**11.7**	**5.0**	**2.5**	**3.0**	**16.7**	**14.6**	**19.9**	**21.6**	**18.4**	**28.0**	**20.4**	**14.3**	**6.6**	**3.8**	**3.6**	**18.8**	**17.0**	**22.7**	**24.8**

Note - Groundwater influx at Galt Creek and Pond Creek based on seepage data from May/June 1992

TABLE B-8
COMPARISON OF GROUNDWATER INFLUX, 2004 CONDITIONS
MILL CREEK AGGREGATES PIT

FROM	TO	LENGTH (m)	AVERAGE WIDTH (m)	AVERAGE INFLUX (L/s/m²)											TOTAL GROUNDWATER INFLUX (L/s)										
				Mar.25/04	Apr.7/04	Apr. 22/04	May 20/04	Jun.24/04	Jul.23/04	Aug.4/04	Aug.27/04	Sept.28/04	Oct.18/04	Nov.16/04	Mar.25/04	Apr.7/04	Apr. 22/04	May 20/04	Jun.24/04	Jul.23/04	Aug.4/04	Aug.27/04	Sept.28/04	Oct.18/04	Nov.16/04
DP18	DP19	670	6.5	7.3E-04	7.6E-04	9.0E-04	2.0E-04	1.5E-03	9.7E-04	9.7E-04	3.8E-04	6.7E-05	-2.0E-04	-3.0E-04	3.2	3.3	3.9	0.9	6.4	4.2	4.2	1.6	0.3	-0.9	-1.3
DP19	DP20	310	6.5	7.9E-04	8.9E-04	1.0E-03	1.3E-03	1.2E-03	7.0E-04	7.0E-04	4.4E-04	2.4E-04	-1.9E-04	-2.1E-04	1.6	1.8	2.1	2.5	2.3	1.4	1.4	0.9	0.5	-0.4	-0.4
DP20	Hwy 401	270	6.5	1.5E-03	1.6E-03	1.6E-03	1.9E-03	1.6E-03	1.1E-03	1.1E-03	6.8E-04	3.4E-04	2.8E-04	4.5E-04	2.7	2.9	2.9	3.3	2.8	2.0	2.0	1.2	0.6	0.5	0.8
Hwy 401	DP21	60	7.1	1.4E-03	1.8E-03	2.0E-03	2.8E-03	2.7E-03	3.0E-03	2.8E-03	2.1E-03	1.8E-03	3.6E-04	1.8E-04	0.6	0.7	0.8	1.2	1.1	1.3	1.2	0.9	0.7	0.2	0.1
DP21	DP4	100	7.3	1.9E-03	2.7E-03	2.3E-03	3.5E-03	3.3E-03	3.0E-03	4.0E-03	2.4E-03	1.9E-03	1.2E-03	9.9E-04	1.4	2.0	1.7	2.6	2.4	2.2	2.9	1.8	1.4	0.9	0.7
DP4	DP22	50	7.1	2.9E-03	4.0E-03	3.7E-03	4.9E-03	4.7E-03	4.3E-03	5.1E-03	3.6E-03	3.3E-03	2.9E-03	2.7E-03	1.0	1.4	1.3	1.7	1.7	1.5	1.8	1.3	1.2	1.0	1.0
DP22	DP17	100	6.6	2.0E-03	2.4E-03	2.9E-03	3.2E-03	3.2E-03	3.1E-03	2.9E-03	2.5E-03	2.5E-03	2.0E-03	2.0E-03	1.3	1.6	1.9	2.1	2.1	2.0	1.9	1.7	1.7	1.4	1.4
DP17	DP3	165	7.1	1.5E-03	1.5E-03	1.7E-03	1.6E-03	1.4E-03	1.3E-03	1.5E-03	1.2E-03	1.3E-03	1.4E-03	1.2E-03	1.7	1.8	2.0	1.8	1.7	1.5	1.7	1.4	1.5	1.6	1.4
DP3	Galt Creek	420	6.0	1.8E-03	2.0E-03	1.8E-03	1.8E-03	1.7E-03	1.7E-03	1.8E-03	1.5E-03	1.7E-03	1.8E-03	1.7E-03	4.6	5.0	4.6	4.6	4.2	4.2	4.6	3.9	4.2	4.6	4.2
Galt Creek	Pond Creek	255	8.1	3.0E-03	3.0E-03	3.0E-03	3.0E-03	3.0E-03	3.0E-03	3.0E-03	3.0E-03	3.0E-03	3.0E-03	3.0E-03	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2
Pond Creek	DP1	250	8.0	6.6E-03	6.8E-03	6.1E-03	6.9E-03	6.9E-03	6.3E-03	7.0E-03	5.5E-03	5.8E-03	6.1E-03	4.3E-03	13.3	13.5	12.1	13.8	13.8	12.7	14.1	11.0	11.6	12.1	8.6
DP1	DP2	100	6.7	5.4E-03	5.3E-03	4.6E-03	5.6E-03	5.6E-03	4.9E-03	5.6E-03	3.8E-03	4.2E-03	4.5E-03	2.3E-03	3.6	3.6	3.1	3.8	3.8	3.3	3.8	2.6	2.8	3.0	1.5
DP2	DP5A	800	7.6	3.4E-03	3.2E-03	2.9E-03	3.6E-03	2.4E-03	3.2E-03	3.0E-03	2.3E-03	2.1E-03	2.8E-03	2.7E-03	20.5	19.7	17.8	21.7	14.6	19.5	18.4	13.7	13.0	17.0	16.2
TOTALS															**61.6**	**63.4**	**60.4**	**66.2**	**63.1**	**62.1**	**64.2**	**48.0**	**45.7**	**47.2**	**40.3**

Note - Groundwater influx at Galt Creek and Pond Creek based on seepage data from May/June 1992

TABLE B-8
COMPARISON OF GROUNDWATER INFLUX, 2004 CONDITIONS
MILL CREEK AGGREGATES PIT

FROM	TO	LENGTH (m)	AVERAGE WIDTH (m)	ESTIMATED GROUNDWATER FLUX FROM NORTH SIDE OF CREEK (L/s)											ESTIMATED GROUNDWATER FLUX FROM SOUTH SIDE OF CREEK (L/s)										
				Mar.25/04	Apr.7/04	Apr. 22/04	May 20/04	Jun.24/04	Jul.23/04	Aug.4/04	Aug.27/04	Sept.28/04	Oct.18/04	Nov.16/04	Mar.25/04	Apr.7/04	Apr. 22/04	May 20/04	Jun.24/04	Jul.23/04	Aug.4/04	Aug.27/04	Sept.28/04	Oct.18/04	Nov.16/04
DP18	DP19	670	6.5	1.6	1.66	2.0	0.4	3.2	2.1	2.1	0.8	0.1	-0.4	-0.6	1.6	1.7	2.0	0.4	3.2	2.1	2.1	0.8	0.1	-0.4	-0.6
DP19	DP20	310	6.5	0.6	0.7	0.82	1.0	0.9	0.6	0.6	0.4	0.2	-0.2	-0.2	1.0	1.1	1.2	1.5	1.4	0.8	0.8	0.5	0.3	-0.2	-0.3
DP20	Hwy 401	270	6.5	1.1	1.2	1.2	1.3	1.1	0.8	0.8	0.5	0.2	0.2	0.3	1.6	1.7	1.7	2.0	1.7	1.2	1.2	0.7	0.4	0.3	0.5
Hwy 401	DP21	60	7.1	0.2	0.3	0.3	0.5	0.45	0.5	0.5	0.4	0.3	0.1	0.0	0.4	0.4	0.5	0.7	0.7	0.8	0.7	0.5	0.4	0.1	0.0
DP21	DP4	100	7.3	0.6	0.8	0.7	1.0	1.0	0.9	1.2	0.7	0.6	0.4	0.3	0.8	1.2	1.0	1.5	1.4	1.3	1.7	1.1	0.8	0.5	0.4
DP4	DP22	50	7.1	0.4	0.6	0.5	0.7	0.7	0.61	0.7	0.5	0.5	0.4	0.4	0.6	0.9	0.8	1.0	1.0	0.9	1.1	0.8	0.7	0.6	0.6
DP22	DP17	100	6.6	0.5	0.6	0.8	0.8	0.8	0.8	0.8	0.7	0.7	0.5	0.5	0.8	1.0	1.1	1.3	1.3	1.2	1.1	1.0	1.0	0.8	0.8
DP17	DP3	165	7.1	0.7	0.7	0.8	0.7	0.7	0.6	0.7	0.6	0.6	0.6	0.6	1.0	1.1	1.2	1.1	1.0	0.9	1.0	0.8	0.9	1.0	0.9
DP3	Galt Creek	420	6.0	1.8	2.0	1.8	1.8	1.7	1.7	1.8	1.5	1.7	1.8	1.7	2.8	3.0	2.8	2.8	2.5	2.5	2.8	2.3	2.5	2.8	2.5
Galt Creek	Pond Creek	255	8.1	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
Pond Creek	DP1	250	8.0	6.6	6.8	6.1	6.9	6.9	6.3	7.0	5.5	5.8	6.1	4.3	6.6	6.8	6.1	6.9	6.9	6.3	7.0	5.5	5.8	6.1	4.3
DP1	DP2	100	6.7	1.8	1.8	1.5	1.9	1.9	1.7	1.9	1.3	1.4	1.5	0.8	1.8	1.8	1.5	1.9	1.9	1.7	1.9	1.3	1.4	1.5	0.8
DP2	DP5A	800	7.6	10.2	9.8	8.9	10.9	7.3	9.8	9.2	6.8	6.5	8.5	8.1	10.2	9.8	8.9	10.9	7.3	9.8	9.2	6.8	6.5	8.5	8.1
TOTALS				**28.7**	**29.4**	**27.9**	**30.5**	**29.1**	**28.8**	**29.7**	**22.1**	**21.0**	**22.0**	**18.6**	**32.9**	**34.0**	**32.5**	**35.7**	**34.0**	**33.3**	**34.5**	**25.9**	**24.6**	**25.2**	**21.7**

Note - Groundwater influx at Galt Creek and Pond Creek based on seepage data from May/June 1992

TABLE B-8

COMPARISON OF GROUNDWATER INFLUX, 2005 CONDITIONS

MILL CREEK AGGREGATES PIT

FROM	TO	LENGTH (m)	AVERAGE WIDTH (m)	AVERAGE INFLUX (L/s/m²)										TOTAL GROUNDWATER INFLUX (L/s)									
				18-Apr-05	29-Apr-05	26-May-05	23-Jun-05	25-Jul-05	17-Aug-05	25-Aug-05	30-Sep-05	27-Oct-05	28-Nov-05	18-Apr-05	29-Apr-05	26-May-05	23-Jun-05	25-Jul-05	17-Aug-05	25-Aug-05	30-Sep-05	27-Oct-05	28-Nov-05
DP18	DP19	670	6.5	9.6E-04	1.5E-03	1.4E-03	1.1E-03	1.1E-03	6.2E-04	7.2E-04	5.9E-04	8.3E-04	8.0E-04	4.2	6.4	6.1	4.8	4.8	2.7	3.1	2.6	3.6	3.5
DP19	DP20	310	6.5	1.2E-03	1.2E-03	1.4E-03	1.1E-03	1.1E-03	8.5E-04	1.1E-03	6.0E-04	7.0E-04	4.4E-04	2.4	2.4	2.8	2.1	2.2	1.7	2.2	1.2	1.4	0.9
DP20	Hwy 401	270	6.5	1.9E-03	1.6E-03	1.9E-03	1.6E-03	1.6E-03	1.3E-03	1.6E-03	1.1E-03	1.1E-03	6.8E-04	3.3	2.9	3.3	2.8	2.9	2.3	2.8	2.0	2.0	1.2
Hwy 401	DP21	60	7.1	1.8E-03	2.0E-03	2.8E-03	2.5E-03	5.3E-04	2.3E-03	2.5E-03	2.1E-03	1.8E-03	2.1E-04	0.8	0.8	1.2	1.1	0.2	1.0	1.1	0.9	0.8	0.1
DP21	DP4	100	7.3	2.5E-03	3.2E-03	3.4E-03	2.9E-03	1.9E-03	2.5E-03	2.6E-03	2.6E-03	2.4E-03	2.6E-04	1.9	2.4	2.5	2.1	1.4	1.8	1.9	1.9	1.8	0.2
DP4	DP22	50	7.1	4.0E-03	5.0E-03	4.9E-03	4.2E-03	4.4E-03	3.9E-03	3.9E-03	3.9E-03	3.7E-03	2.4E-03	1.4	1.8	1.7	1.5	1.6	1.4	1.4	1.4	1.3	0.8
DP22	DP17	100	6.6	2.8E-03	3.2E-03	3.2E-03	2.9E-03	3.2E-03	2.9E-03	2.8E-03	2.7E-03	2.5E-03	2.4E-03	1.8	2.2	2.1	1.9	2.1	1.9	1.8	1.8	1.7	1.6
DP17	DP3	165	7.1	1.6E-03	2.0E-03	1.5E-03	1.5E-03	1.4E-03	1.5E-03	1.4E-03	1.8E-03	1.5E-03	1.4E-03	1.8	2.3	1.7	1.7	1.7	1.7	1.6	2.1	1.7	1.6
DP3	Galt Creek	420	6.0	1.8E-03	2.1E-03	1.8E-03	1.8E-03	1.7E-03	1.8E-03	1.8E-03	2.1E-03	1.8E-03	1.8E-03	4.6	5.4	4.6	4.6	4.2	4.6	4.6	5.4	4.6	4.6
Galt Creek	Pond Creek	255	8.1	3.0E-03	3.0E-03	3.0E-03	3.0E-03	3.0E-03	3.0E-03	3.0E-03	3.0E-03	3.0E-03	3.0E-03	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2
Pond Creek	DP1	250	8.0	6.9E-03	6.8E-03	7.2E-03	6.6E-03	6.8E-03	6.3E-03	6.5E-03	6.9E-03	6.6E-03	4.1E-03	13.8	13.5	14.3	13.2	13.5	12.7	13.0	13.8	13.2	8.3
DP1	DP2	100	6.7	5.6E-03	4.6E-03	5.5E-03	4.9E-03	5.0E-03	4.8E-03	4.7E-03	5.1E-03	4.7E-03	2.2E-03	3.7	3.1	3.7	3.3	3.4	3.2	3.2	3.4	3.2	1.5
DP2	DP5A	800	7.6	3.1E-03	1.3E-03	2.5E-03	2.2E-03	3.2E-03	3.4E-03	2.7E-03	1.9E-03	9.4E-04	3.2E-03	18.7	7.9	15.3	13.5	19.2	20.3	16.2	11.7	5.7	19.2
TOTALS														**64.6**	**57.2**	**65.6**	**58.8**	**63.4**	**61.6**	**59.0**	**54.2**	**47.1**	**49.6**

Note - Groundwater influx at Galt Creek and Pond Creek based on seepage data from May/June 1992

TABLE B-8

COMPARISON OF GROUNDWATER INFLUX, 2005 CONDITIONS

MILL CREEK AGGREGATES PIT

FROM	TO	LENGTH	AVERAGE WIDTH	ESTIMATED GROUNDWATER FLUX FROM NORTH SIDE OF CREEK (L/s)										ESTIMATED GROUNDWATER FLUX FROM SOUTH SIDE OF CREEK (L/s)									
		(m)	(m)	18-Apr-05	29-Apr-05	26-May-05	23-Jun-05	25-Jul-05	17-Aug-05	25-Aug-05	30-Sep-05	27-Oct-05	28-Nov-05	18-Apr-05	29-Apr-05	26-May-05	23-Jun-05	25-Jul-05	17-Aug-05	25-Aug-05	30-Sep-05	27-Oct-05	28-Nov-05
DP18	DP19	670	6.5	2.1	3.2	3.1	2.4	2.4	1.3	1.6	1.3	1.8	1.7	2.1	3.2	3.1	2.4	2.4	1.3	1.6	1.3	1.8	1.7
DP19	DP20	310	6.5	1.0	1.0	1.1	0.9	0.9	0.7	0.9	0.5	0.6	0.4	1.4	1.4	1.7	1.3	1.3	1.0	1.3	0.7	0.8	0.5
DP20	Hwy 401	270	6.5	1.3	1.1	1.3	1.1	1.1	0.9	1.1	0.8	0.8	0.5	2.0	1.7	2.0	1.7	1.7	1.4	1.7	1.2	1.2	0.7
Hwy 401	DP21	60	7.1	0.3	0.33	0.5	0.4	0.1	0.4	0.4	0.4	0.3	0.0	0.5	0.5	0.7	0.6	0.1	0.6	0.6	0.5	0.5	0.1
DP21	DP4	100	7.3	0.7	0.9	1.0	0.8	0.6	0.7	0.8	0.8	0.7	0.1	1.1	1.4	1.5	1.3	0.8	1.1	1.1	1.1	1.1	0.1
DP4	DP22	50	7.1	0.6	0.7	0.70	0.6	0.6	0.6	0.6	0.6	0.5	0.3	0.9	1.1	1.0	0.9	0.9	0.8	0.8	0.8	0.8	0.5
DP22	DP17	100	6.6	0.7	0.9	0.9	0.8	0.8	0.8	0.7	0.7	0.7	0.6	1.1	1.3	1.3	1.1	1.3	1.1	1.1	1.1	1.0	1.0
DP17	DP3	165	7.1	0.7	0.9	0.7	0.7	0.7	0.7	0.6	0.8	0.7	0.6	1.1	1.4	1.0	1.0	1.0	1.0	1.0	1.2	1.0	1.0
DP3	Galt Creek	420	6.0	1.8	2.1	1.8	1.8	1.7	1.8	1.8	2.1	1.8	1.8	2.8	3.2	2.8	2.8	2.5	2.8	2.8	3.2	2.8	2.8
Galt Creek	Pond Creek	255	8.1	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
Pond Creek	DP1	250	8.0	6.9	6.8	7.2	6.6	6.8	6.3	6.5	6.9	6.6	4.1	6.9	6.8	7.2	6.6	6.8	6.3	6.5	6.9	6.6	4.1
DP1	DP2	100	6.7	1.9	1.5	1.9	1.6	1.7	1.6	1.6	1.7	1.6	0.7	1.9	1.5	1.9	1.6	1.7	1.6	1.6	1.7	1.6	0.7
DP2	DP5A	800	7.6	9.3	4.0	7.7	6.8	9.6	10.2	8.1	5.9	2.9	9.6	9.3	4.0	7.7	6.8	9.6	10.2	8.1	5.9	2.9	9.6
TOTALS				**29.9**	**26.0**	**30.2**	**27.0**	**29.4**	**28.5**	**27.1**	**24.8**	**21.4**	**23.1**	**34.7**	**31.2**	**35.4**	**31.8**	**33.9**	**33.0**	**31.8**	**29.4**	**25.7**	**26.5**

Note - Groundwater influx at Galt Creek and Pond Creek based on seepage data from May/June 1992

TABLE B-8

COMPARISON OF GROUNDWATER INFLUX, 2006 CONDITIONS

MILL CREEK AGGREGATES PIT

FROM	TO	LENGTH	AVERAGE WIDTH	AVERAGE INFLUX (L/s/m²)											TOTAL GROUNDWATER INFLUX (L/s)										
		(m)	(m)	26-Jan-06	30-Mar-06	27-Apr-06	28-Apr-06	15-May-06	15-Jun-06	15-Jul-06	24-Aug-06	15-Sep-06	15-Oct-06	15-Nov-06	26-Jan-06	30-Mar-06	27-Apr-06	28-Apr-06	15-May-06	15-Jun-06	15-Jul-06	24-Aug-06	15-Sep-06	15-Oct-06	15-Nov-06
DP18	DP19	670	6.5	1.5E-03	1.1E-03	1.1E-03	1.1E-03	1.2E-03	8.9E-04	1.3E-03	2.7E-04	1.2E-03	7.6E-04	1.0E-03	6.6	4.9	4.9	4.9	5.1	3.9	5.5	1.2	5.4	3.3	4.5
DP19	DP20	310	6.5	9.5E-04	1.5E-03	1.5E-03	1.5E-03	1.4E-03	1.2E-03	1.3E-03	7.5E-04	1.2E-03	8.5E-04	7.9E-04	1.9	3.0	3.1	3.0	2.8	2.3	2.5	1.5	2.4	1.7	1.6
DP20	Hwy 401	270	6.5	1.6E-03	2.1E-03	2.2E-03	2.1E-03	1.9E-03	1.6E-03	1.6E-03	1.2E-03	1.6E-03	1.3E-03	1.2E-03	2.9	3.7	3.9	3.7	3.3	2.9	2.9	2.2	2.8	2.3	2.1
Hwy 401	DP21	60	7.1	1.4E-03	2.5E-03	2.5E-03	3.2E-03	3.0E-03	2.8E-03	3.2E-03	2.1E-03	2.5E-03	1.4E-03	1.4E-03	0.6	1.0	1.0	1.3	1.3	1.2	1.3	0.9	1.0	0.6	0.6
DP21	DP4	100	7.3	2.7E-03	3.3E-03	3.8E-03	3.6E-03	3.5E-03	3.2E-03	3.7E-03	2.6E-03	3.3E-03	2.5E-03	2.4E-03	1.9	2.4	2.8	2.6	2.5	2.4	2.7	1.9	2.4	1.8	1.7
DP4	DP22	50	7.1	4.3E-03	4.5E-03	4.8E-03	4.2E-03	4.9E-03	4.9E-03	5.2E-03	4.1E-03	5.0E-03	4.6E-03	4.4E-03	1.5	1.6	1.7	1.5	1.7	1.8	1.9	1.4	1.8	1.6	1.6
DP22	DP17	100	6.6	2.7E-03	2.7E-03	2.7E-03	2.5E-03	3.1E-03	3.6E-03	3.3E-03	2.9E-03	3.3E-03	3.2E-03	3.2E-03	1.8	1.8	1.8	1.7	2.1	2.4	2.2	1.9	2.2	2.1	2.1
DP17	DP3	165	7.1	1.8E-03	1.6E-03	2.0E-03	1.8E-03	2.1E-03	2.1E-03	1.5E-03	1.6E-03	1.1E-03	1.7E-03	1.9E-03	2.1	1.9	2.3	2.1	2.5	2.5	1.8	1.9	1.3	2.0	2.2
DP3	Galt Creek	420	6.0	2.1E-03	2.0E-03	2.1E-03	2.1E-03	2.6E-03	2.3E-03	2.0E-03	2.0E-03	1.4E-03	2.0E-03	2.1E-03	5.4	5.0	5.4	5.4	6.5	5.7	5.0	5.0	3.5	5.0	5.4
Galt Creek	Pond Creek	255	8.1	3.0E-03	3.0E-03	3.0E-03	3.0E-03	3.0E-03	3.0E-03	3.0E-03	3.0E-03	3.0E-03	3.0E-03	3.0E-03	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2
Pond Creek	DP1	250	8.0	7.0E-03	6.8E-03	6.5E-03	6.8E-03	6.3E-03	4.0E-03	6.1E-03	6.2E-03	6.3E-03	7.0E-03	7.0E-03	14.1	13.5	13.0	13.5	12.7	8.0	12.1	12.4	12.7	14.1	14.1
DP1	DP2	100	6.7	5.3E-03	5.5E-03	5.2E-03	5.4E-03	4.8E-03	2.3E-03	4.5E-03	4.7E-03	5.0E-03	5.6E-03	5.6E-03	3.6	3.7	3.5	3.6	3.3	1.5	3.0	3.2	3.4	3.8	3.8
DP2	DP5A	800	7.6	1.6E-03	2.7E-03	2.2E-03	3.8E-03	2.5E-03	2.0E-03	2.4E-03	1.8E-03	2.9E-03	2.8E-03	2.3E-03	9.5	16.4	13.2	22.9	14.9	12.3	14.6	10.9	17.5	17.0	14.2
TOTALS															**58.0**	**65.1**	**62.7**	**72.3**	**64.7**	**53.0**	**61.8**	**50.5**	**62.6**	**61.4**	**59.9**

Note - Groundwater influx at Galt Creek and Pond Creek based on seepage data from May/June 1992

TABLE B-8

COMPARISON OF GROUNDWATER INFLUX, 2006 CONDITIONS

MILL CREEK AGGREGATES PIT

FROM	TO	LENGTH	AVERAGE WIDTH	ESTIMATED GROUNDWATER FLUX FROM NORTH SIDE OF CREEK (L/s)											ESTIMATED GROUNDWATER FLUX FROM SOUTH SIDE OF CREEK (L/s)										
		(m)	(m)	26-Jan-06	30-Mar-06	27-Apr-06	28-Apr-06	15-May-06	15-Jun-06	15-Jul-06	24-Aug-06	15-Sep-06	15-Oct-06	15-Nov-06	26-Jan-06	30-Mar-06	27-Apr-06	28-Apr-06	15-May-06	15-Jun-06	15-Jul-06	24-Aug-06	15-Sep-06	15-Oct-06	15-Nov-06
DP18	DP19	670	6.5	3.3	2.5	2.5	2.5	2.5	1.9	2.8	0.6	2.7	1.6	2.3	3.3	2.5	2.5	2.5	2.5	1.9	2.8	0.6	2.7	1.6	2.3
DP19	DP20	310	6.5	0.8	1.2	1.2	1.2	1.1	0.9	1.0	0.6	1.0	0.7	0.6	1.2	1.8	1.9	1.8	1.7	1.4	1.5	0.9	1.4	1.0	1.0
DP20	Hwy 401	270	6.5	1.2	1.5	1.5	1.5	1.3	1.2	1.2	0.9	1.1	0.9	0.8	1.7	2.2	2.3	2.2	2.0	1.7	1.7	1.3	1.7	1.4	1.2
Hwy 401	DP21	60	7.1	0.2	0.42	0.42	0.5	0.5	0.5	0.5	0.4	0.4	0.2	0.2	0.4	0.6	0.6	0.8	0.8	0.7	0.8	0.5	0.6	0.4	0.4
DP21	DP4	100	7.3	0.8	1.0	1.1	1.0	1.0	0.9	1.1	0.8	1.0	0.7	0.7	1.2	1.5	1.7	1.6	1.5	1.4	1.6	1.1	1.5	1.1	1.0
DP4	DP22	50	7.1	0.6	0.6	0.7	0.59	0.7	0.7	0.7	0.6	0.7	0.6	0.6	0.9	1.0	1.0	0.9	1.0	1.1	1.1	0.9	1.1	1.0	0.9
DP22	DP17	100	6.6	0.7	0.7	0.7	0.7	0.8	1.0	0.9	0.8	0.9	0.8	0.8	1.1	1.1	1.1	1.0	1.2	1.4	1.3	1.1	1.3	1.3	1.3
DP17	DP3	165	7.1	0.8	0.8	0.9	0.8	1.0	1.0	0.7	0.8	0.5	0.8	0.9	1.2	1.1	1.4	1.2	1.5	1.5	1.1	1.1	0.8	1.2	1.3
DP3	Galt Creek	420	6.0	2.1	2.0	2.1	2.1	2.6	2.3	2.0	2.0	1.4	2.0	2.1	3.2	3.0	3.2	3.2	3.9	3.4	3.0	3.0	2.1	3.0	3.2
Galt Creek	Pond Creek	255	8.1	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
Pond Creek	DP1	250	8.0	7.0	6.8	6.5	6.8	6.3	4.0	6.1	6.2	6.3	7.0	7.0	7.0	6.8	6.5	6.8	6.3	4.0	6.1	6.2	6.3	7.0	7.0
DP1	DP2	100	6.7	1.8	1.9	1.7	1.8	1.6	0.8	1.5	1.6	1.7	1.9	1.9	1.8	1.9	1.7	1.8	1.6	0.8	1.5	1.6	1.7	1.9	1.9
DP2	DP5A	800	7.6	4.7	8.2	6.6	11.4	7.4	6.1	7.3	5.4	8.8	8.5	7.1	4.7	8.2	6.6	11.4	7.4	6.1	7.3	5.4	8.8	8.5	7.1
TOTALS				**26.6**	**29.9**	**28.5**	**33.4**	**29.5**	**23.8**	**28.2**	**23.0**	**29.0**	**28.4**	**27.6**	**31.4**	**35.2**	**34.1**	**38.9**	**35.3**	**29.2**	**33.5**	**27.5**	**33.7**	**33.0**	**32.3**

Note - Groundwater influx at Galt Creek and Pond Creek based on seepage data from May/June 1992

TABLE B-8

COMPARISON OF GROUNDWATER INFLUX, 2007 CONDITIONS

MILL CREEK AGGREGATES PIT

FROM	TO	LENGTH (m)	AVERAGE WIDTH (m)	AVERAGE INFLUX (L/s/m²)					TOTAL GROUNDWATER INFLUX (L/s)				
				26-Apr-07	16-May-07	21-Aug-07	21-Sep-07	17-Oct-07	26-Apr-07	16-May-07	21-Aug-07	21-Sep-07	17-Oct-07
DP18	DP19	670	6.5	1.7E-03	1.5E-03	4.8E-04	-2.1E-04	5.9E-04	7.3	6.5	2.1	-0.9	2.6
DP19	DP20	310	6.5	2.1E-03	1.3E-03	9.9E-04	5.3E-04	7.1E-04	4.2	2.5	2.0	1.1	1.4
DP20	Hwy 401	270	6.5	2.3E-03	2.6E-03	1.6E-03	1.2E-03	1.4E-03	4.0	4.6	2.8	2.1	2.4
Hwy 401	DP21	60	7.1	3.4E-03	3.7E-03	2.1E-03	1.6E-03	2.0E-03	1.4	1.6	0.9	0.7	0.8
DP21	DP4	100	7.3	5.6E-03	2.0E-03	2.9E-03	2.2E-03	2.5E-03	4.1	1.5	2.1	1.6	1.8
DP4	DP22	50	7.1	8.0E-03	2.1E-03	4.6E-03	3.6E-03	3.9E-03	2.8	0.7	1.6	1.3	1.4
DP22	DP17	100	6.6	4.6E-03	2.6E-03	3.0E-03	2.3E-03	2.6E-03	3.1	1.7	2.0	1.5	1.7
DP17	DP3	165	7.1	2.1E-03	1.9E-03	1.4E-03	1.3E-03	1.4E-03	2.4	2.3	1.6	1.5	1.6
DP3	Galt Creek	420	6.0	2.1E-03	1.9E-03	1.8E-03	1.8E-03	1.8E-03	5.4	4.8	4.6	4.6	4.6
Galt Creek	Pond Creek	255	8.1	3.0E-03	3.0E-03	3.0E-03	3.0E-03	3.0E-03	6.2	6.2	6.2	6.2	6.2
Pond Creek	DP1	250	8.0	6.2E-03	6.6E-03	5.7E-03	5.4E-03	6.8E-03	12.4	13.2	11.3	10.8	13.5
DP1	DP2	100	6.7	4.8E-03	5.3E-03	4.1E-03	3.8E-03	5.4E-03	3.2	3.6	2.7	2.5	3.6
DP2	DP5A	800	7.6	3.0E-03	3.1E-03	2.1E-03	1.7E-03	2.6E-03	18.4	19.0	13.0	10.2	15.9
				TOTALS					**74.8**	**68.2**	**52.8**	**43.0**	**57.5**

Note - Groundwater influx at Galt Creek and Pond Creek based on seepage data from May/June 1992

TABLE B-8

COMPARISON OF GROUNDWATER INFLUX, 2007 CONDITIONS

MILL CREEK AGGREGATES PIT

FROM	TO	LENGTH (m)	AVERAGE WIDTH (m)	ESTIMATED GROUNDWATER FLUX FROM NORTH SIDE OF CREEK (L/s)					ESTIMATED GROUNDWATER FLUX FROM SOUTH SIDE OF CREEK (L/s)				
				26-Apr-07	16-May-07	21-Aug-07	21-Sep-07	17-Oct-07	26-Apr-07	16-May-07	21-Aug-07	21-Sep-07	17-Oct-07
DP18	DP19	670	6.5	3.6	3.3	1.0	-0.4	1.3	3.6	3.3	1.0	-0.4	1.3
DP19	DP20	310	6.5	1.7	1.0	0.8	0.4	0.6	2.5	1.5	1.2	0.6	0.9
DP20	Hwy 401	270	6.5	1.6	1.8	1.1	0.8	1.0	2.4	2.7	1.7	1.2	1.4
Hwy 401	DP21	60	7.1	0.6	0.6	0.4	0.3	0.3	0.9	0.9	0.5	0.4	0.5
DP21	DP4	100	7.3	1.6	0.6	0.8	0.6	0.7	2.5	0.9	1.3	0.9	1.1
DP4	DP22	50	7.1	1.1	0.3	0.6	0.5	0.6	1.7	0.4	1.0	0.8	0.8
DP22	DP17	100	6.6	1.2	0.7	0.8	0.6	0.7	1.8	1.0	1.2	0.9	1.0
DP17	DP3	165	7.1	1.0	0.9	0.6	0.6	0.6	1.4	1.4	1.0	0.9	1.0
DP3	Galt Creek	420	6.0	2.1	1.9	1.8	1.8	1.8	3.2	2.9	2.8	2.8	2.8
Galt Creek	Pond Creek	255	8.1	2.5	2.5	2.5	2.5	2.5	3.7	3.7	3.7	3.7	3.7
Pond Creek	DP1	250	8.0	6.2	6.6	5.7	5.4	6.8	6.2	6.6	5.7	5.4	6.8
DP1	DP2	100	6.7	1.6	1.8	1.4	1.3	1.8	1.6	1.8	1.4	1.3	1.8
DP2	DP5A	800	7.6	9.2	9.5	6.5	5.1	7.9	9.2	9.5	6.5	5.1	7.9
TOTALS				**34.1**	**31.5**	**24.0**	**19.5**	**26.6**	**40.8**	**36.7**	**28.8**	**23.6**	**31.0**

TABLE B-8

COMPARISON OF GROUNDWATER INFLUX, 2008 CONDITIONS

MILL CREEK AGGREGATES PIT

FROM	TO	LENGTH	AVERAGE WIDTH	AVERAGE INFLUX (L/s/m²)										TOTAL GROUNDWATER INFLUX (L/s)									
		(m)	(m)	31-Mar-08	28-Apr-08	28-May-08	25-Jun-08	16-Jul-08	20-Aug-08	26-Aug-08	19-Sep-08	10-Oct-08	05-Nov-08	31-Mar-08	28-Apr-08	28-May-08	25-Jun-08	16-Jul-08	20-Aug-08	26-Aug-08	19-Sep-08	10-Oct-08	05-Nov-08
DP18	DP19	670	6.5	1.3E-03	2.0E-03	2.1E-03	1.6E-03	1.8E-03	2.0E-03	2.0E-03	1.7E-03	1.9E-03	1.9E-03	5.7	8.8	9.1	7.0	7.8	8.7	8.8	7.4	8.3	8.2
DP19	DP20	310	6.5	1.2E-03	2.1E-03	1.4E-03	1.1E-03	1.0E-03	1.7E-03	1.9E-03	1.9E-03	1.9E-03	1.6E-03	2.3	4.2	2.7	2.1	2.1	3.4	3.8	3.8	3.8	3.2
DP20	Hwy 401	270	6.5	1.6E-03	2.6E-03	1.3E-03	1.1E-03	1.2E-03	2.4E-03	2.2E-03	2.3E-03	2.2E-03	1.9E-03	2.9	4.6	2.3	2.0	2.2	4.3	3.9	4.0	3.9	3.4
Hwy 401	DP21	60	7.1	3.7E-03	3.5E-03	3.7E-03	4.1E-03	4.1E-03	3.6E-03	3.9E-03	3.2E-03	4.1E-03	2.8E-03	1.6	1.5	1.6	1.7	1.7	1.5	1.7	1.4	1.7	1.2
DP21	DP4	100	7.3	5.5E-03	5.1E-03	5.0E-03	5.4E-03	5.5E-03	5.2E-03	5.3E-03	5.4E-03	5.5E-03	4.9E-03	4.0	3.7	3.7	3.9	4.0	3.8	3.8	3.9	4.0	3.6
DP4	DP22	50	7.1	7.5E-03	6.8E-03	6.8E-03	7.0E-03	7.5E-03	7.7E-03	6.8E-03	7.6E-03	7.3E-03	7.1E-03	2.7	2.4	2.4	2.5	2.7	2.7	2.4	2.7	2.6	2.5
DP22	DP17	100	6.6	4.4E-03	4.0E-03	4.1E-03	4.2E-03	4.5E-03	4.8E-03	3.9E-03	4.3E-03	4.1E-03	4.1E-03	2.9	2.6	2.7	2.8	3.0	3.2	2.6	2.8	2.7	2.7
DP17	DP3	165	7.1	2.0E-03	2.0E-03	1.7E-03	2.0E-03	2.0E-03	1.9E-03	1.4E-03	1.7E-03	1.5E-03	1.7E-03	2.3	2.3	2.0	2.3	2.3	2.2	1.7	2.0	1.8	2.0
DP3	Galt Creek	420	6.0	2.1E-03	2.1E-03	2.0E-03	2.1E-03	2.1E-03	2.0E-03	1.7E-03	2.0E-03	2.0E-03	2.0E-03	5.4	5.4	5.0	5.4	5.4	5.0	4.2	5.0	5.0	5.0
Galt Creek	Pond Creek	255	8.1	3.0E-03	3.0E-03	3.0E-03	3.0E-03	3.0E-03	3.0E-03	3.0E-03	3.0E-03	3.0E-03	3.0E-03	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2
Pond Creek	DP1	250	8.0	7.0E-03	6.5E-03	6.3E-03	6.2E-03	6.8E-03	7.0E-03	6.6E-03	6.1E-03	6.9E-03	6.9E-03	14.1	13.0	12.7	12.4	13.5	14.1	13.2	12.1	13.8	13.8
DP1	DP2	100	6.7	5.0E-03	5.2E-03	5.0E-03	4.8E-03	5.4E-03	5.7E-03	5.3E-03	4.5E-03	5.6E-03	5.6E-03	3.4	3.5	3.4	3.2	3.7	3.8	3.6	3.0	3.8	3.8
DP2	DP5A	800	7.6	2.7E-03	2.2E-03	3.4E-03	2.3E-03	2.4E-03	3.8E-03	3.1E-03	2.2E-03	3.6E-03	2.9E-03	16.2	13.5	20.3	13.8	14.6	23.0	18.7	13.2	21.9	17.8
TOTALS														**69.5**	**71.6**	**74.1**	**65.3**	**69.1**	**81.9**	**74.4**	**67.5**	**79.5**	**73.4**

Note - Groundwater influx at Galt Creek and Pond Creek based on seepage data from May/June 1992

TABLE B-8

COMPARISON OF GROUNDWATER INFLUX, 2008 CONDITIONS

MILL CREEK AGGREGATES PIT

FROM	TO	LENGTH	AVERAGE WIDTH	ESTIMATED GROUNDWATER FLUX FROM NORTH SIDE OF CREEK (L/s)										ESTIMATED GROUNDWATER FLUX FROM SOUTH SIDE OF CREEK (L/s)									
		(m)	(m)	31-Mar-08	28-Apr-08	28-May-08	25-Jun-08	16-Jul-08	20-Aug-08	26-Aug-08	19-Sep-08	10-Oct-08	05-Nov-08	31-Mar-08	28-Apr-08	28-May-08	25-Jun-08	16-Jul-08	20-Aug-08	26-Aug-08	19-Sep-08	10-Oct-08	05-Nov-08
DP18	DP19	670	6.5	2.8	4.4	4.6	3.5	3.9	4.4	4.4	3.7	4.2	4.1	2.8	4.4	4.6	3.5	3.9	4.4	4.4	3.7	4.2	4.1
DP19	DP20	310	6.5	0.9	1.7	1.1	0.9	0.8	1.4	1.5	1.5	1.5	1.3	1.4	2.5	1.6	1.3	1.2	2.0	2.3	2.3	2.3	1.9
DP20	Hwy 401	270	6.5	1.1	1.8	0.9	0.8	0.9	1.7	1.5	1.6	1.5	1.3	1.7	2.7	1.4	1.2	1.3	2.6	2.3	2.4	2.3	2.0
Hwy 401	DP21	60	7.1	0.6	0.60	0.6	0.7	0.7	0.6	0.7	0.5	0.7	0.5	0.9	0.9	0.9	1.0	1.0	0.9	1.0	0.8	1.0	0.7
DP21	DP4	100	7.3	1.6	1.5	1.5	1.6	1.6	1.5	1.5	1.6	1.6	1.4	2.4	2.2	2.2	2.3	2.4	2.3	2.3	2.3	2.4	2.1
DP4	DP22	50	7.1	1.1	1.0	0.97	1.0	1.1	1.1	1.0	1.1	1.0	1.0	1.6	1.4	1.5	1.5	1.6	1.6	1.4	1.6	1.6	1.5
DP22	DP17	100	6.6	1.2	1.1	1.1	1.1	1.2	1.3	1.0	1.1	1.1	1.1	1.7	1.6	1.6	1.7	1.8	1.9	1.5	1.7	1.6	1.6
DP17	DP3	165	7.1	0.9	0.9	0.8	0.9	0.9	0.9	0.7	0.8	0.7	0.8	1.4	1.4	1.2	1.4	1.4	1.3	1.0	1.2	1.1	1.2
DP3	Galt Creek	420	6.0	2.1	2.1	2.0	2.1	2.1	2.0	1.7	2.0	2.0	2.0	3.2	3.2	3.0	3.2	3.2	3.0	2.5	3.0	3.0	3.0
Galt Creek	Pond Creek	255	8.1	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
Pond Creek	DP1	250	8.0	7.0	6.5	6.3	6.2	6.8	7.0	6.6	6.1	6.9	6.9	7.0	6.5	6.3	6.2	6.8	7.0	6.6	6.1	6.9	6.9
DP1	DP2	100	6.7	1.7	1.8	1.7	1.6	1.8	1.9	1.8	1.5	1.9	1.9	1.7	1.8	1.7	1.6	1.8	1.9	1.8	1.5	1.9	1.9
DP2	DP5A	800	7.6	8.1	6.8	10.2	6.9	7.3	11.5	9.3	6.6	10.9	8.9	8.1	6.8	10.2	6.9	7.3	11.5	9.3	6.6	10.9	8.9
TOTALS				**31.7**	**32.5**	**34.2**	**29.7**	**31.6**	**37.7**	**34.2**	**30.6**	**36.6**	**33.7**	**37.7**	**39.1**	**39.9**	**35.5**	**37.5**	**44.2**	**40.2**	**36.9**	**42.9**	**39.7**

Note - Groundwater influx at Galt Creek and Pond Creek based on seepage data from May/June 1992

TABLE B-8

COMPARISON OF GROUNDWATER INFLUX, 2009 CONDITIONS

MILL CREEK AGGREGATES PIT

FROM	TO	LENGTH (m)	AVERAGE WIDTH (m)	AVERAGE INFLUX (L/s/m²)									TOTAL GROUNDWATER INFLUX (L/s)								
				14-Apr-09	21-May-09	16-Jun-09	31-Jul-09	25-Aug-09	28-Aug-09	28-Sep-09	14-Oct-09	11-Nov-09	14-Apr-09	21-May-09	16-Jun-09	31-Jul-09	25-Aug-09	28-Aug-09	28-Sep-09	14-Oct-09	11-Nov-09
DP18	DP19	670	6.5	1.6E-03	2.4E-03	2.6E-03	2.7E-03	2.4E-03	2.1E-03	2.3E-03	2.6E-03	1.8E-03	7.1	10.6	11.3	11.9	10.3	8.9	9.9	11.3	7.9
DP19	DP20	310	6.5	2.3E-03	2.4E-03	2.4E-03	2.5E-03	2.1E-03	2.3E-03	1.8E-03	2.2E-03	1.8E-03	4.7	4.9	4.8	4.9	4.2	4.6	3.6	4.4	3.7
DP20	Hwy 401	270	6.5	2.8E-03	2.8E-03	2.7E-03	2.8E-03	2.5E-03	2.7E-03	2.1E-03	2.2E-03	2.0E-03	4.9	4.9	4.7	4.9	4.5	4.8	3.7	3.9	3.5
Hwy 401	DP21	60	7.1	3.7E-03	2.8E-03	3.5E-03	3.9E-03	3.9E-03	4.3E-03	3.2E-03	3.2E-03	2.0E-03	1.6	1.2	1.5	1.7	1.7	1.8	1.4	1.4	0.8
DP21	DP4	100	7.3	5.9E-03	5.3E-03	5.7E-03	6.2E-03	6.3E-03	6.5E-03	5.4E-03	5.7E-03	3.8E-03	4.3	3.9	4.2	4.5	4.6	4.7	3.9	4.1	2.8
DP4	DP22	50	7.1	7.9E-03	8.0E-03	8.1E-03	8.3E-03	8.8E-03	9.0E-03	5.2E-03	8.3E-03	6.5E-03	2.8	2.8	2.9	2.9	3.1	3.2	1.9	2.9	2.3
DP22	DP17	100	6.6	4.4E-03	4.6E-03	4.7E-03	4.6E-03	4.9E-03	5.1E-03	1.7E-03	4.8E-03	4.2E-03	2.9	3.1	3.1	3.1	3.3	3.4	1.1	3.2	2.8
DP17	DP3	165	7.1	2.1E-03	8.9E-04	2.1E-03	2.2E-03	2.0E-03	2.1E-03	1.5E-03	2.1E-03	2.0E-03	2.5	1.0	2.5	2.6	2.3	2.5	1.8	2.4	2.3
DP3	Galt Creek	420	6.0	2.3E-03	9.3E-04	2.3E-03	2.3E-03	2.1E-03	2.3E-03	2.0E-03	2.1E-03	2.1E-03	5.7	2.3	5.7	5.7	5.4	5.7	5.0	5.4	5.4
Galt Creek	Pond Creek	255	8.1	3.0E-03	3.0E-03	3.0E-03	3.0E-03	3.0E-03	3.0E-03	3.0E-03	3.0E-03	3.0E-03	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2
Pond Creek	DP1	250	8.0	6.6E-03	6.6E-03	6.8E-03	6.6E-03	6.8E-03	7.2E-03	2.6E-03	7.3E-03	6.8E-03	13.2	13.2	13.5	13.2	13.5	14.3	5.3	14.6	13.5
DP1	DP2	100	6.7	5.4E-03	5.3E-03	5.5E-03	5.4E-03	5.4E-03	5.9E-03	1.5E-03	6.1E-03	5.5E-03	3.6	3.6	3.7	3.6	3.6	4.0	1.0	4.1	3.7
DP2	DP5A	800	7.6	3.2E-03	3.4E-03	3.2E-03	3.2E-03	2.8E-03	3.4E-03	3.5E-03	3.7E-03	3.4E-03	19.2	20.3	19.1	19.2	17.1	20.8	21.2	22.4	20.6
TOTALS													**78.7**	**78.0**	**83.1**	**84.5**	**79.7**	**84.9**	**65.7**	**86.3**	**75.4**

Note - Groundwater influx at Galt Creek and Pond Creek based on seepage data from May/June 1992

TABLE B-8

COMPARISON OF GROUNDWATER INFLUX, 2009 CONDITIONS

MILL CREEK AGGREGATES PIT

FROM	TO	LENGTH (m)	AVERAGE WIDTH (m)	ESTIMATED GROUNDWATER FLUX FROM NORTH SIDE OF CREEK (L/s)									ESTIMATED GROUNDWATER FLUX FROM SOUTH SIDE OF CREEK (L/s)								
				14-Apr-09	21-May-09	16-Jun-09	31-Jul-09	25-Aug-09	28-Aug-09	28-Sep-09	14-Oct-09	11-Nov-09	14-Apr-09	21-May-09	16-Jun-09	31-Jul-09	25-Aug-09	28-Aug-09	28-Sep-09	14-Oct-09	11-Nov-09
DP18	DP19	670	6.5	3.6	5.3	5.7	6.0	5.2	4.5	4.9	5.7	3.9	3.6	5.3	5.7	6.0	5.2	4.5	4.9	5.7	3.9
DP19	DP20	310	6.5	1.9	2.0	1.9	2.0	1.7	1.8	1.4	1.8	1.5	2.8	2.9	2.9	3.0	2.5	2.8	2.2	2.6	2.2
DP20	Hwy 401	270	6.5	1.9	1.9	1.9	1.9	1.8	1.9	1.5	1.5	1.4	2.9	2.9	2.8	2.9	2.7	2.9	2.2	2.3	2.1
Hwy 401	DP21	60	7.1	0.63	0.5	0.6	0.7	0.7	0.7	0.5	0.5	0.3	0.9	0.7	0.9	1.0	1.0	1.1	0.8	0.8	0.5
DP21	DP4	100	7.3	1.7	1.6	1.7	1.8	1.8	1.9	1.6	1.7	1.1	2.6	2.3	2.5	2.7	2.8	2.8	2.3	2.5	1.7
DP4	DP22	50	7.1	1.1	1.13	1.2	1.2	1.2	1.3	0.7	1.2	0.9	1.7	1.7	1.7	1.8	1.9	1.9	1.1	1.8	1.4
DP22	DP17	100	6.6	1.2	1.2	1.3	1.2	1.3	1.3	0.4	1.3	1.1	1.7	1.8	1.9	1.8	2.0	2.0	0.7	1.9	1.7
DP17	DP3	165	7.1	1.0	0.4	1.0	1.0	0.9	1.0	0.7	1.0	0.9	1.5	0.6	1.5	1.6	1.4	1.5	1.1	1.4	1.4
DP3	Galt Creek	420	6.0	2.3	0.9	2.3	2.3	2.1	2.3	2.0	2.1	2.1	3.4	1.4	3.4	3.4	3.2	3.4	3.0	3.2	3.2
Galt Creek	Pond Creek	255	8.1	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
Pond Creek	DP1	250	8.0	6.6	6.6	6.8	6.6	6.8	7.2	2.6	7.3	6.8	6.6	6.6	6.8	6.6	6.8	7.2	2.6	7.3	6.8
DP1	DP2	100	6.7	1.8	1.8	1.8	1.8	1.8	2.0	0.5	2.1	1.9	1.8	1.8	1.8	1.8	1.8	2.0	0.5	2.1	1.9
DP2	DP5A	800	7.6	9.6	10.2	9.5	9.6	8.6	10.4	10.6	11.2	10.3	9.6	10.2	9.5	9.6	8.6	10.4	10.6	11.2	10.3
TOTALS				**35.8**	**36.0**	**38.0**	**38.6**	**36.4**	**38.7**	**30.0**	**39.8**	**34.7**	**42.9**	**42.0**	**45.1**	**45.9**	**43.4**	**46.1**	**35.7**	**46.5**	**40.7**

Note - Groundwater influx at Galt Creek and Pond Creek based on seepage data from May/June 1992

TABLE B-8

COMPARISON OF GROUNDWATER INFLUX, 2010 CONDITIONS

MILL CREEK AGGREGATES PIT

FROM	TO	LENGTH (m)	AVERAGE WIDTH (m)	AVERAGE INFLUX (L/s/m²)										TOTAL GROUNDWATER INFLUX (L/s)									
				11-Mar-10	16-Apr-10	21-May-10	17-Jun-10	15-Jul-10	18-Aug-10	31-Aug-10	28-Sep-10	20-Oct-10	18-Nov-10	11-Mar-10	16-Apr-10	21-May-10	17-Jun-10	15-Jul-10	18-Aug-10	31-Aug-10	28-Sep-10	20-Oct-10	18-Nov-10
DP18	DP19	670	6.5	9.5E-05	2.1E-03	1.7E-03	2.1E-03	8.2E-04	1.0E-03	5.5E-04	6.6E-04	-1.8E-04	9.7E-04	0.4	8.9	7.5	9.3	3.6	4.4	2.4	2.9	-0.8	4.2
DP19	DP20	310	6.5	1.2E-04	1.9E-03	1.3E-03	1.4E-03	1.0E-03	7.4E-04	6.7E-04	6.6E-04	6.6E-04	6.8E-04	0.2	3.9	2.6	2.9	2.0	1.5	1.3	1.3	1.3	1.4
DP20	Hwy 401	270	6.5	-2.3E-04	2.3E-03	1.6E-03	1.9E-03	1.5E-03	1.4E-03	1.1E-03	1.1E-03	1.1E-03	1.4E-03	-0.4	4.0	2.9	3.4	2.6	2.5	1.9	2.0	2.0	2.4
Hwy 401	DP21	60	7.1	-7.1E-04	2.8E-03	3.0E-03	2.3E-03	5.1E-03	2.3E-03	1.8E-03	1.4E-03	7.1E-04	2.1E-03	-0.3	1.2	1.3	1.0	2.2	1.0	0.8	0.6	0.3	0.9
DP21	DP4	100	7.3	3.3E-03	5.2E-03	4.8E-03	4.5E-03	4.7E-03	3.0E-03	2.2E-03	2.8E-03	2.2E-03	3.0E-03	2.4	3.8	3.5	3.3	3.4	2.2	1.6	2.1	1.6	2.2
DP4	DP22	50	7.1	3.2E-03	7.6E-03	5.1E-03	6.6E-03	5.0E-03	4.6E-03	3.2E-03	4.3E-03	4.0E-03	4.2E-03	1.2	2.7	1.8	2.3	1.8	1.6	1.1	1.5	1.4	1.5
DP22	DP17	100	6.6	1.2E-04	4.8E-03	2.2E-03	3.7E-03	4.0E-03	3.1E-03	1.9E-03	2.6E-03	2.4E-03	2.8E-03	0.1	3.2	1.5	2.5	2.7	2.0	1.3	1.7	1.6	1.9
DP17	DP3	165	7.1	2.0E-03	2.6E-03	1.9E-03	1.9E-03	4.2E-03	1.6E-03	1.3E-03	1.4E-03	1.2E-03	1.9E-03	2.3	3.0	2.2	2.2	4.9	1.9	1.5	1.7	1.4	2.2
DP3	Galt Creek	420	6.0	2.1E-03	2.3E-03	2.1E-03	2.1E-03	3.7E-03	2.0E-03	1.8E-03	1.7E-03	1.7E-03	2.0E-03	5.4	5.7	5.4	5.4	9.5	5.0	4.6	4.2	4.2	5.0
Galt Creek	Pond Creek	255	8.1	3.0E-03	3.0E-03	3.0E-03	3.0E-03	3.0E-03	3.0E-03	3.0E-03	3.0E-03	3.0E-03	3.0E-03	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2
Pond Creek	DP1	250	8.0	7.3E-03	7.4E-03	7.3E-03	7.3E-03	7.6E-03	7.2E-03	7.4E-03	7.7E-03	8.7E-03	8.1E-03	14.6	14.9	14.6	14.6	15.2	14.3	14.9	15.4	17.4	16.3
DP1	DP2	100	6.7	6.2E-03	6.3E-03	6.2E-03	6.2E-03	6.5E-03	6.0E-03	6.3E-03	6.6E-03	7.8E-03	7.2E-03	4.2	4.3	4.2	4.2	4.4	4.0	4.3	4.4	5.3	4.8
DP2	DP5A	800	7.6	7.3E-03	4.5E-03	4.3E-03	4.2E-03	3.6E-03	3.7E-03	3.5E-03	4.2E-03	4.7E-03	4.2E-03	44.0	27.0	25.8	25.6	21.6	22.6	21.5	25.5	28.7	25.2
TOTALS														**80.3**	**88.8**	**79.3**	**82.7**	**79.9**	**69.1**	**63.3**	**69.5**	**70.6**	**74.1**

Note - Groundwater influx at Galt Creek and Pond Creek based on seepage data from May/June 1992

TABLE B-8

COMPARISON OF GROUNDWATER INFLUX, 2010 CONDITIONS

MILL CREEK AGGREGATES PIT

FROM	TO	LENGTH	AVERAGE WIDTH	ESTIMATED GROUNDWATER FLUX FROM NORTH SIDE OF CREEK (L/s)										ESTIMATED GROUNDWATER FLUX FROM SOUTH SIDE OF CREEK (L/s)									
		(m)	(m)	11-Mar-10	16-Apr-10	21-May-10	17-Jun-10	15-Jul-10	18-Aug-10	31-Aug-10	28-Sep-10	20-Oct-10	18-Nov-10	11-Mar-10	16-Apr-10	21-May-10	17-Jun-10	15-Jul-10	18-Aug-10	31-Aug-10	28-Sep-10	20-Oct-10	18-Nov-10
DP18	DP19	670	6.5	0.2	4.5	3.7	4.7	1.8	2.2	1.2	1.4	-0.4	2.1	0.2	4.5	3.7	4.7	1.8	2.2	1.2	1.4	-0.4	2.1
DP19	DP20	310	6.5	0.1	1.6	1.0	1.2	0.8	0.6	0.5	0.5	0.5	0.5	0.1	2.3	1.6	1.7	1.2	0.9	0.8	0.8	0.8	0.8
DP20	Hwy 401	270	6.5	-0.2	1.6	1.1	1.3	1.0	1.0	0.8	0.8	0.8	1.0	-0.2	2.4	1.7	2.0	1.5	1.5	1.1	1.2	1.2	1.4
Hwy 401	DP21	60	7.1	-0.12	0.48	0.5	0.4	0.9	0.4	0.3	0.2	0.1	0.4	-0.2	0.7	0.8	0.6	1.3	0.6	0.5	0.4	0.2	0.5
DP21	DP4	100	7.3	1.0	1.5	1.4	1.3	1.4	0.9	0.7	0.8	0.6	0.9	1.4	2.3	2.1	2.0	2.0	1.3	1.0	1.2	0.9	1.3
DP4	DP22	50	7.1	0.5	1.1	0.73	0.9	0.7	0.6	0.5	0.6	0.6	0.6	0.7	1.6	1.1	1.4	1.1	1.0	0.7	0.9	0.9	0.9
DP22	DP17	100	6.6	0.0	1.3	0.6	1.0	1.1	0.8	0.5	0.7	0.6	0.7	0.0	1.9	0.9	1.5	1.6	1.2	0.8	1.0	1.0	1.1
DP17	DP3	165	7.1	0.9	1.2	0.9	0.9	2.0	0.8	0.6	0.7	0.6	0.9	1.4	1.8	1.3	1.3	2.9	1.1	0.9	1.0	0.9	1.3
DP3	Galt Creek	420	6.0	2.1	2.3	2.1	2.1	3.8	2.0	1.8	1.7	1.7	2.0	3.2	3.4	3.2	3.2	5.7	3.0	2.8	2.5	2.5	3.0
Galt Creek	Pond Creek	255	8.1	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
Pond Creek	DP1	250	8.0	7.3	7.4	7.3	7.3	7.6	7.2	7.4	7.7	8.7	8.1	7.3	7.4	7.3	7.3	7.6	7.2	7.4	7.7	8.7	8.1
DP1	DP2	100	6.7	2.1	2.1	2.1	2.1	2.2	2.0	2.1	2.2	2.6	2.4	2.1	2.1	2.1	2.1	2.2	2.0	2.1	2.2	2.6	2.4
DP2	DP5A	800	7.6	22.0	13.5	12.9	12.8	10.8	11.3	10.7	12.8	14.4	12.6	22.0	13.5	12.9	12.8	10.8	11.3	10.7	12.8	14.4	12.6
TOTALS				**38.4**	**41.0**	**36.9**	**38.5**	**36.4**	**32.2**	**29.6**	**32.6**	**33.3**	**34.7**	**41.8**	**47.8**	**42.4**	**44.3**	**43.5**	**36.9**	**33.7**	**36.9**	**37.3**	**39.4**

Note - Groundwater influx at Galt Creek and Pond Creek based on seepage data from May/June 1992

TABLE B-8

COMPARISON OF GROUNDWATER INFLUX, 2011 CONDITIONS

MILL CREEK AGGREGATES PIT

FROM	TO	LENGTH (m)	AVERAGE WIDTH (m)	AVERAGE INFLUX (L/s/m²)							TOTAL GROUNDWATER INFLUX (L/s)						
				16-Mar-11	21-Apr-11	26-May-11	16-Jun-11	14-Jul-11	11-Aug-11	22-Dec-11	16-Mar-11	21-Apr-11	26-May-11	16-Jun-11	14-Jul-11	11-Aug-11	22-Dec-11
DP18	DP19	670	6.5	1.6E-04	1.2E-03	2.1E-03	2.1E-03	1.6E-03	1.2E-03	1.2E-03	0.7	5.4	9.3	9.0	7.2	5.1	5.4
DP19	DP20	310	6.5	-9.9E-04	1.6E-03	1.9E-03	1.8E-03	5.4E-04	1.0E-03	8.3E-04	-2.0	3.3	3.8	3.6	1.1	2.1	1.7
DP20	Hwy 401	270	6.5	-9.0E-04	2.7E-03	2.3E-03	2.3E-03	0.0E+00	1.4E-03	1.1E-03	-1.6	4.8	4.1	4.0	0.0	2.5	2.0
Hwy 401	DP21	60	7.1	1.8E-04	3.5E-03	2.5E-03	3.4E-03	2.5E-03	2.1E-03	5.3E-04	0.1	1.5	1.1	1.4	1.1	0.9	0.2
DP21	DP4	100	7.3	-2.1E-04	4.8E-03	5.0E-03	5.3E-03	3.6E-03	3.2E-03	2.7E-03	-0.2	3.5	3.7	3.9	2.7	2.3	2.0
DP4	DP22	50	7.1	6.7E-05	6.5E-03	7.3E-03	7.1E-03	5.3E-03	5.0E-03	4.8E-03	0.0	2.3	2.6	2.5	1.9	1.8	1.7
DP22	DP17	100	6.6	2.7E-04	4.8E-03	4.0E-03	3.9E-03	3.2E-03	3.1E-03	2.8E-03	0.2	3.2	2.6	2.6	2.1	2.1	1.8
DP17	DP3	165	7.1	7.9E-04	2.8E-03	2.0E-03	1.4E-03	1.5E-03	1.7E-03	1.7E-03	0.9	3.2	2.3	1.7	1.7	2.0	2.0
DP3	Galt Creek	420	6.0	1.5E-03	2.1E-03	2.1E-03	1.7E-03	1.8E-03	2.1E-03	2.0E-03	3.9	5.4	5.4	4.2	4.6	5.4	5.0
Galt Creek	Pond Creek	255	8.1	3.0E-03	3.0E-03	3.0E-03	3.0E-03	3.0E-03	3.0E-03	3.0E-03	6.2	6.2	6.2	6.2	6.2	6.2	6.2
Pond Creek	DP1	250	8.0	3.3E-03	7.9E-03	8.0E-03	9.0E-03	8.0E-03	9.2E-03	6.6E-03	6.6	15.7	16.0	17.9	16.0	18.5	13.2
DP1	DP2	100	6.7	2.1E-03	6.8E-03	7.0E-03	8.1E-03	7.0E-03	8.5E-03	4.6E-03	1.4	4.6	4.7	5.5	4.7	5.7	3.1
DP2	DP5A/DP5B	800	7.6	5.3E-03	4.0E-03	1.8E-03	4.7E-03	3.5E-03	3.9E-03	6.5E-03	32.2	24.4	11.0	28.7	21.0	23.7	39.6
TOTALS											**48.5**	**83.3**	**72.6**	**91.1**	**70.3**	**78.1**	**83.9**

Note - Groundwater influx at Galt Creek and Pond Creek based on seepage data from May/June 1992

TABLE B-8

COMPARISON OF GROUNDWATER INFLUX, 2011 CONDITIONS

MILL CREEK AGGREGATES PIT

FROM	TO	LENGTH	AVERAGE WIDTH	ESTIMATED GROUNDWATER FLUX FROM NORTH SIDE OF CREEK (L/s)							ESTIMATED GROUNDWATER FLUX FROM SOUTH SIDE OF CREEK (L/s)						
		(m)	(m)	16-Mar-11	21-Apr-11	26-May-11	16-Jun-11	14-Jul-11	11-Aug-11	22-Dec-11	16-Mar-11	21-Apr-11	26-May-11	16-Jun-11	14-Jul-11	11-Aug-11	22-Dec-11
DP18	DP19	670	6.5	0.3	2.7	4.6	4.5	3.6	2.5	2.7	0.3	2.7	4.6	4.5	3.6	2.5	2.7
DP19	DP20	310	6.5	-0.8	1.3	1.5	1.4	0.4	0.8	0.7	-1.2	2.0	2.3	2.2	0.6	1.3	1.0
DP20	Hwy 401	270	6.5	-0.6	1.9	1.6	1.6	0.0	1.0	0.8	-1.0	2.9	2.4	2.4	0.0	1.5	1.2
Hwy 401	DP21	60	7.1	0.0	0.6	0.4	0.6	0.4	0.4	0.1	0.0	0.9	0.6	0.9	0.6	0.5	0.1
DP21	DP4	100	7.3	-0.1	1.4	1.5	1.5	1.1	0.9	0.8	-0.1	2.1	2.2	2.3	1.6	1.4	1.2
DP4	DP22	50	7.1	0.0	0.9	1.03	1.0	0.8	0.7	0.7	0.0	1.4	1.5	1.5	1.1	1.1	1.0
DP22	DP17	100	6.6	0.1	1.3	1.1	1.0	0.9	0.8	0.7	0.1	1.9	1.6	1.5	1.3	1.2	1.1
DP17	DP3	165	7.1	0.4	1.3	0.9	0.7	0.7	0.8	0.8	0.6	1.9	1.4	1.0	1.0	1.2	1.2
DP3	Galt Creek	420	6.0	1.5	2.1	2.1	1.7	1.8	2.1	2.0	2.3	3.2	3.2	2.5	2.8	3.2	3.0
Galt Creek	Pond Creek	255	8.1	2.5	2.5	2.5	2.5	2.5	2.5	2.5	3.7	3.7	3.7	3.7	3.7	3.7	3.7
Pond Creek	DP1	250	8.0	3.3	7.9	8.0	9.0	8.0	9.2	6.6	3.3	7.9	8.0	9.0	8.0	9.2	6.6
DP1	DP2	100	6.7	0.7	2.3	2.4	2.7	2.4	2.9	1.6	0.7	2.3	2.4	2.7	2.4	2.9	1.6
DP2	DP5A/DP5B	800	7.6	16.1	12.2	5.5	14.4	10.5	11.8	19.8	16.1	12.2	5.5	14.4	10.5	11.8	19.8
TOTALS				**23.5**	**38.3**	**33.1**	**42.5**	**33.0**	**36.5**	**39.7**	**25.0**	**45.0**	**39.5**	**48.6**	**37.3**	**41.6**	**44.2**

Note - Groundwater influx at Galt Creek and Pond Creek based on seepage data from May/June 1992

TABLE B-8

COMPARISON OF GROUNDWATER INFLUX, 2012 CONDITIONS

MILL CREEK AGGREGATES PIT

FROM	TO	LENGTH (m)	AVERAGE WIDTH (m)	AVERAGE INFLUX (L/s/m²)									TOTAL GROUNDWATER INFLUX (L/s)								
				16-Feb-12	29-Mar-12	10-Apr-12	30-Apr-12	29-May-12	20-Jun-12	21-Aug-12	23-Oct-12	28-Nov-12	16-Feb-12	29-Mar-12	10-Apr-12	30-Apr-12	29-May-12	20-Jun-12	21-Aug-12	23-Oct-12	28-Nov-12
DP18	DP19	670	6.5	9.0E-04	4.4E-04	1.4E-03	1.3E-03	1.0E-03	8.6E-04	-4.0E-04	2.5E-03	4.4E-05	3.9	1.9	6.0	5.6	4.3	3.8	-1.8	10.9	0.2
DP19	DP20	310	6.5	1.2E-03	8.5E-05	1.2E-03	1.2E-03	1.0E-03	7.6E-04	-1.2E-04	9.9E-05	4.8E-05	2.3	0.2	2.3	2.4	2.1	1.5	-0.2	0.2	0.1
DP20	Hwy 401	270	6.5	1.9E-03	1.2E-03	1.2E-03	1.7E-03	1.5E-03	1.2E-03	0.0E+00	7.3E-04	5.6E-04	3.4	2.2	2.2	3.1	2.6	2.1	0.0	1.3	1.0
Hwy 401	DP21	60	7.1	-7.1E-04	4.3E-03	3.0E-03	2.5E-03	2.0E-03	2.0E-03	7.1E-04	1.1E-03	1.8E-04	-0.3	1.8	1.3	1.1	0.8	0.8	0.3	0.5	0.1
DP21	DP4	100	7.3	1.5E-03	4.8E-03	3.3E-03	3.8E-03	2.9E-03	2.5E-03	8.1E-04	1.1E-03	8.4E-04	1.1	3.5	2.4	2.8	2.1	1.8	0.6	0.8	0.6
DP4	DP22	50	7.1	5.9E-03	5.6E-03	4.4E-03	5.7E-03	2.7E-03	1.9E-03	2.1E-03	2.4E-03	1.9E-03	2.1	2.0	1.6	2.0	1.0	0.7	0.7	0.9	0.7
DP22	DP17	100	6.6	3.7E-03	3.4E-03	2.9E-03	3.6E-03	1.8E-03	6.6E-04	1.9E-03	1.8E-03	1.4E-03	2.4	2.3	1.9	2.4	1.2	0.4	1.2	1.2	0.9
DP17	DP3	165	7.1	6.4E-04	2.1E-03	1.8E-03	1.8E-03	3.0E-03	1.5E-03	1.7E-03	7.4E-04	1.2E-03	0.7	2.5	2.1	2.1	3.5	1.7	2.0	0.9	1.4
DP3	Galt Creek	420	6.0	1.7E-03	2.3E-03	2.1E-03	2.0E-03	2.6E-03	1.8E-03	2.1E-03	1.4E-03	1.5E-03	4.2	5.7	5.4	5.0	6.5	4.6	5.4	3.5	3.9
Galt Creek	Pond Creek	255	8.1	3.0E-03	3.0E-03	3.0E-03	3.0E-03	3.0E-03	3.0E-03	3.0E-03	3.0E-03	3.0E-03	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2
Pond Creek	DP1	250	8.0	6.1E-03	7.0E-03	8.4E-03	8.0E-03	7.7E-03	8.5E-03	9.4E-03	8.3E-03	6.6E-03	12.1	14.1	16.8	16.0	15.4	17.1	18.8	16.5	13.2
DP1	DP2	100	6.7	4.2E-03	6.0E-03	7.5E-03	7.0E-03	6.8E-03	7.7E-03	8.6E-03	7.3E-03	5.8E-03	2.8	4.0	5.0	4.7	4.6	5.2	5.8	4.9	3.9
DP2	DP5B/DP5C	800	7.6	7.7E-04	1.6E-03	1.7E-03	1.6E-03	1.7E-03	1.7E-03	1.7E-03	1.4E-03	1.6E-03	4.7	9.7	10.2	9.9	10.0	10.1	10.1	8.4	9.9
TOTALS													**45.6**	**56.0**	**63.3**	**63.2**	**60.3**	**56.0**	**49.0**	**56.1**	**42.0**

Notes - Groundwater influx at Galt Creek and Pond Creek based on seepage data from May/June 1992

- Groundwater influx at DP5B/C based on geometric mean of hydraulic conductivities calculated at drive points DP5A and DP5C

TABLE B-8

COMPARISON OF GROUNDWATER INFLUX, 2012 CONDITIONS

MILL CREEK AGGREGATES PIT

FROM	TO	LENGTH (m)	AVERAGE WIDTH (m)	ESTIMATED GROUNDWATER FLUX FROM NORTH SIDE OF CREEK (L/s)									ESTIMATED GROUNDWATER FLUX FROM SOUTH SIDE OF CREEK (L/s)								
				16-Feb-12	29-Mar-12	10-Apr-12	30-Apr-12	29-May-12	20-Jun-12	21-Aug-12	23-Oct-12	28-Nov-12	16-Feb-12	29-Mar-12	10-Apr-12	30-Apr-12	29-May-12	20-Jun-12	21-Aug-12	23-Oct-12	28-Nov-12
DP18	DP19	670	6.5	2.0	1.0	3.0	2.8	2.2	1.9	-0.9	5.5	0.1	2.0	1.0	3.0	2.8	2.2	1.9	-0.9	5.5	0.1
DP19	DP20	310	6.5	0.9	0.1	0.9	0.9	0.8	0.6	-0.1	0.1	0.0	1.4	0.1	1.4	1.4	1.3	0.9	-0.1	0.1	0.1
DP20	Hwy 401	270	6.5	1.3	0.9	0.9	1.2	1.0	0.8	0.0	0.5	0.4	2.0	1.3	1.3	1.8	1.5	1.2	0.0	0.8	0.6
Hwy 401	DP21	60	7.1	-0.1	0.7	0.5	0.4	0.3	0.3	0.1	0.2	0.0	-0.2	1.1	0.8	0.6	0.5	0.5	0.2	0.3	0.0
DP21	DP4	100	7.3	0.4	1.4	1.0	1.1	0.9	0.7	0.2	0.3	0.2	0.6	2.1	1.5	1.7	1.3	1.1	0.4	0.5	0.4
DP4	DP22	50	7.1	0.8	0.8	0.62	0.8	0.4	0.3	0.3	0.3	0.3	1.2	1.2	0.9	1.2	0.6	0.4	0.4	0.5	0.4
DP22	DP17	100	6.6	1.0	0.9	0.8	1.0	0.5	0.2	0.5	0.5	0.4	1.5	1.4	1.1	1.4	0.7	0.3	0.7	0.7	0.6
DP17	DP3	165	7.1	0.3	1.0	0.8	0.8	1.4	0.7	0.8	0.3	0.6	0.4	1.5	1.2	1.3	2.1	1.0	1.2	0.5	0.8
DP3	Galt Creek	420	6.0	1.7	2.3	2.1	2.0	2.6	1.8	2.1	1.4	1.5	2.5	3.4	3.2	3.0	3.9	2.8	3.2	2.1	2.3
Galt Creek	Pond Creek	255	8.1	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
Pond Creek	DP1	250	8.0	6.1	7.0	8.4	8.0	7.7	8.5	9.4	8.3	6.6	6.1	7.0	8.4	8.0	7.7	8.5	9.4	8.3	6.6
DP1	DP2	100	6.7	1.4	2.0	2.5	2.4	2.3	2.6	2.9	2.4	1.9	1.4	2.0	2.5	2.4	2.3	2.6	2.9	2.4	1.9
DP2	DP5B/DP5C	800	7.6	2.3	4.8	5.1	5.0	5.0	5.1	5.1	4.2	4.9	2.3	4.8	5.1	5.0	5.0	5.1	5.1	4.2	4.9
TOTALS				**20.6**	**25.4**	**29.1**	**28.9**	**27.6**	**26.0**	**22.9**	**26.5**	**19.5**	**25.0**	**30.6**	**34.2**	**34.3**	**32.7**	**30.0**	**26.1**	**29.6**	**22.5**

Notes - Groundwater influx at Galt Creek and Pond Creek based on seepage data from May/June 1992

- Groundwater influx at DP5B/C based on geometric mean of hydraulic conductivities calculated at drive points DP5A and DP5C

TABLE B-8

COMPARISON OF GROUNDWATER INFLUX, 2013 CONDITIONS

MILL CREEK AGGREGATES PIT

FROM	TO	LENGTH (m)	AVERAGE WIDTH (m)	AVERAGE INFLUX (L/s/m²)						TOTAL GROUNDWATER INFLUX (L/s)					
				25-Apr-13	23-May-13	13-Jun-13	31-Jul-13	25-Sep-13	22-Oct-13	25-Apr-13	23-May-13	13-Jun-13	31-Jul-13	25-Sep-13	22-Oct-13
DP18	DP19	670	6.5	3.3E-04	1.7E-03	1.5E-03	1.7E-03	1.7E-03	8.0E-04	1.5	7.2	6.7	7.3	7.3	3.5
DP19	DP20	310	6.5	1.2E-03	1.3E-03	1.4E-03	1.5E-03	1.1E-03	9.3E-04	2.5	2.6	2.8	3.1	2.3	1.9
DP20	Hwy 401	270	6.5	1.8E-03	1.7E-03	1.9E-03	1.9E-03	1.4E-03	1.9E-03	3.2	3.1	3.4	3.4	2.5	3.4
Hwy 401	DP21	60	7.1	1.4E-03	2.1E-03	2.0E-03	2.5E-03	1.2E-03	1.6E-03	0.6	0.9	0.8	1.1	0.5	0.7
DP21	DP4	100	7.3	3.0E-03	3.0E-03	3.1E-03	3.5E-03	2.7E-03	2.8E-03	2.2	2.2	2.2	2.6	2.0	2.0
DP4	DP22	50	7.1	4.5E-03	3.8E-03	4.5E-03	5.2E-03	5.6E-03	4.5E-03	1.6	1.3	1.6	1.8	2.0	1.6
DP22	DP17	100	6.6	2.6E-03	2.1E-03	2.7E-03	3.1E-03	3.8E-03	3.1E-03	1.7	1.4	1.8	2.1	2.5	2.0
DP17	DP3	165	7.1	1.4E-03	1.5E-03	1.8E-03	1.5E-03	1.2E-03	1.5E-03	1.7	1.7	2.1	1.8	1.4	1.8
DP3	Galt Creek	420	6.0	1.7E-03	1.8E-03	2.1E-03	2.0E-03	1.5E-03	1.7E-03	4.2	4.6	5.4	5.0	3.9	4.2
Galt Creek	Pond Creek	255	8.1	3.0E-03	3.0E-03	3.0E-03	3.0E-03	3.0E-03	3.0E-03	6.2	6.2	6.2	6.2	6.2	6.2
Pond Creek	DP1	250	8.0	9.9E-03	1.1E-02	9.7E-03	9.5E-03	9.1E-03	7.7E-03	19.9	21.8	19.3	19.0	18.2	15.4
DP1	DP2	100	6.7	9.0E-03	1.0E-02	8.7E-03	8.6E-03	8.1E-03	6.5E-03	6.1	6.9	5.9	5.8	5.4	4.4
DP2	DP5C	800	7.6	1.5E-03	1.9E-03	1.6E-03	1.7E-03	1.3E-03	1.0E-03	9.3	11.3	9.6	10.5	7.9	6.2
TOTALS										**60.5**	**71.2**	**67.8**	**69.6**	**62.0**	**53.3**

Note - Groundwater influx at Galt Creek and Pond Creek based on seepage data from May/June 1992

- Groundwater influx at DP5C based on geometric mean of hydraulic conductivities calculated at drive points DP5A and DP5C

TABLE B-8

COMPARISON OF GROUNDWATER INFLUX, 2013 CONDITIONS

MILL CREEK AGGREGATES PIT

FROM	TO	LENGTH (m)	AVERAGE WIDTH (m)	ESTIMATED GROUNDWATER FLUX FROM NORTH SIDE OF CREEK (L/s)						ESTIMATED GROUNDWATER FLUX FROM SOUTH SIDE OF CREEK (L/s)					
				25-Apr-13	23-May-13	13-Jun-13	31-Jul-13	25-Sep-13	22-Oct-13	25-Apr-13	23-May-13	13-Jun-13	31-Jul-13	25-Sep-13	22-Oct-13
DP18	DP19	670	6.5	0.7	3.6	3.4	3.7	3.7	1.7	0.7	3.6	3.4	3.7	3.7	1.7
DP19	DP20	310	6.5	1.0	1.0	1.1	1.2	0.9	0.7	1.5	1.5	1.7	1.8	1.4	1.1
DP20	Hwy 401	270	6.5	1.3	1.2	1.3	1.3	1.0	1.3	1.9	1.8	2.0	2.0	1.5	2.0
Hwy 401	DP21	60	7.1	0.2	0.4	0.3	0.4	0.2	0.3	0.4	0.5	0.5	0.6	0.3	0.4
DP21	DP4	100	7.3	0.9	0.9	0.9	1.0	0.8	0.8	1.3	1.3	1.3	1.5	1.2	1.2
DP4	DP22	50	7.1	0.6	0.5	0.64	0.7	0.8	0.6	1.0	0.8	1.0	1.1	1.2	1.0
DP22	DP17	100	6.6	0.7	0.6	0.7	0.8	1.0	0.8	1.0	0.8	1.1	1.2	1.5	1.2
DP17	DP3	165	7.1	0.7	0.7	0.8	0.7	0.6	0.7	1.0	1.0	1.2	1.1	0.8	1.1
DP3	Galt Creek	420	6.0	1.7	1.8	2.1	2.0	1.5	1.7	2.5	2.8	3.2	3.0	2.3	2.5
Galt Creek	Pond Creek	255	8.1	2.5	2.5	2.5	2.5	2.5	2.5	3.7	3.7	3.7	3.7	3.7	3.7
Pond Creek	DP1	250	8.0	9.9	10.9	9.7	9.5	9.1	7.7	9.9	10.9	9.7	9.5	9.1	7.7
DP1	DP2	100	6.7	3.0	3.5	2.9	2.9	2.7	2.2	3.0	3.5	2.9	2.9	2.7	2.2
DP2	DP5C	800	7.6	4.7	5.6	4.8	5.3	3.9	3.1	4.7	5.6	4.8	5.3	3.9	3.1
TOTALS				**27.9**	**33.2**	**31.3**	**32.1**	**28.7**	**24.3**	**32.6**	**38.0**	**36.5**	**37.5**	**33.3**	**29.0**

Note - Groundwater influx at Galt Creek and Pond Creek based on seepage data from May/June 1992

- Groundwater influx at DP5C based on geometric mean of hydraulic conductivities calculated at drive points DP5A and DP5C

TABLE B-8

COMPARISON OF GROUNDWATER INFLUX, 2014 CONDITIONS

MILL CREEK AGGREGATES PIT

FROM	TO	LENGTH	AVERAGE WIDTH	AVERAGE INFLUX (L/s/m²)								TOTAL GROUNDWATER INFLUX (L/s)							
		(m)	(m)	01-Apr-14	15-May-14	18-Jun-14	29-Jul-14	25-Aug-14	18-Sep-14	17-Oct-14	15-Dec-14	01-Apr-14	15-May-14	18-Jun-14	29-Jul-14	25-Aug-14	18-Sep-14	17-Oct-14	15-Dec-14
DP18	DP19	670	6.5	1.7E-04	1.3E-03	1.7E-03	1.2E-03	1.8E-03	2.2E-03	2.1E-03	3.9E-04	0.7	5.5	7.5	5.0	8.0	9.7	9.0	1.7
DP19	DP20	310	6.5	9.3E-04	1.7E-03	1.4E-03	1.7E-03	1.1E-03	1.3E-03	1.5E-03	-2.8E-04	1.9	3.4	2.7	3.5	2.2	2.7	3.0	-0.6
DP20	Hwy 401	270	6.5	1.5E-03	2.0E-03	2.0E-03	2.0E-03	1.4E-03	1.0E-03	1.9E-03	-2.3E-04	2.7	3.5	3.6	3.5	2.4	1.8	3.4	-0.4
Hwy 401	DP21	60	7.1	8.9E-04	2.3E-03	2.8E-03	2.7E-03	2.8E-03	2.1E-03	5.3E-04	3.5E-04	0.4	1.0	1.2	1.1	1.2	0.9	0.2	0.2
DP21	DP4	100	7.3	2.9E-03	4.3E-03	4.0E-03	4.6E-03	4.1E-03	4.8E-03	3.4E-03	2.4E-03	2.1	3.1	2.9	3.4	3.0	3.5	2.5	1.8
DP4	DP22	50	7.1	5.2E-03	7.0E-03	5.5E-03	6.6E-03	5.8E-03	8.5E-03	6.5E-03	3.7E-03	1.8	2.5	2.0	2.3	2.1	3.0	2.3	1.3
DP22	DP17	100	6.6	3.2E-03	4.5E-03	3.1E-03	4.0E-03	3.5E-03	4.0E-03	3.6E-03	1.9E-03	2.2	3.0	2.1	2.7	2.3	2.6	2.4	1.2
DP17	DP3	165	7.1	1.8E-03	1.8E-03	1.7E-03	2.2E-03	1.9E-03	-4.9E-04	1.5E-03	1.6E-03	2.1	2.1	2.0	2.5	2.2	-0.6	1.7	1.8
DP3	Galt Creek	420	6.0	2.0E-03	1.8E-03	2.1E-03	2.1E-03	2.1E-03	9.3E-04	1.8E-03	1.8E-03	5.0	4.6	5.4	5.4	5.4	2.3	4.6	4.6
Galt Creek	Pond Creek	255	8.1	3.0E-03	3.0E-03	3.0E-03	3.0E-03	3.0E-03	3.0E-03	3.0E-03	3.0E-03	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2
Pond Creek	DP1	250	8.0	9.0E-03	8.8E-03	9.7E-03	9.2E-03	1.0E-02	9.4E-03	9.2E-03	9.7E-03	17.9	17.7	19.3	18.5	20.1	18.8	18.5	19.3
DP1	DP2	100	6.7	7.8E-03	7.7E-03	8.9E-03	8.2E-03	9.3E-03	8.4E-03	8.4E-03	7.5E-03	5.3	5.2	6.0	5.5	6.3	5.6	5.6	5.0
DP2	DP5D	800	7.6	1.5E-03	1.9E-03	2.0E-03	2.0E-03	2.4E-03	2.3E-03	2.3E-03	9.2E-04	9.0	11.3	12.0	11.9	14.6	13.7	13.9	5.6
TOTALS												**57.2**	**68.9**	**72.7**	**71.4**	**75.8**	**70.3**	**73.3**	**47.7**

Notes - Groundwater influx at Galt Creek and Pond Creek based on seepage data from May/June 1992

TABLE B-8

COMPARISON OF GROUNDWATER INFLUX, 2014 CONDITIONS

MILL CREEK AGGREGATES PIT

FROM	TO	LENGTH (m)	AVERAGE WIDTH (m)	ESTIMATED GROUNDWATER FLUX FROM NORTH SIDE OF CREEK (L/s)								ESTIMATED GROUNDWATER FLUX FROM SOUTH SIDE OF CREEK (L/s)							
				01-Apr-14	15-May-14	18-Jun-14	29-Jul-14	25-Aug-14	18-Sep-14	17-Oct-14	15-Dec-14	01-Apr-14	15-May-14	18-Jun-14	29-Jul-14	25-Aug-14	18-Sep-14	17-Oct-14	15-Dec-14
DP18	DP19	670	6.5	0.4	2.7	3.8	2.5	4.0	4.9	4.5	0.8	0.4	2.7	3.8	2.5	4.0	4.9	4.5	0.8
DP19	DP20	310	6.5	0.7	1.4	1.1	1.4	0.9	1.1	1.2	-0.2	1.1	2.0	1.6	2.1	1.3	1.6	1.8	-0.3
DP20	Hwy 401	270	6.5	1.1	1.4	1.4	1.4	1.0	0.7	1.3	-0.2	1.6	2.1	2.1	2.1	1.4	1.1	2.0	-0.2
Hwy 401	DP21	60	7.1	0.2	0.4	0.5	0.5	0.5	0.4	0.1	0.1	0.2	0.6	0.7	0.7	0.7	0.5	0.1	0.1
DP21	DP4	100	7.3	0.8	1.3	1.2	1.4	1.2	1.4	1.0	0.7	1.2	1.9	1.7	2.0	1.8	2.1	1.5	1.1
DP4	DP22	50	7.1	0.7	1.0	0.78	0.9	0.8	1.2	0.9	0.5	1.1	1.5	1.2	1.4	1.2	1.8	1.4	0.8
DP22	DP17	100	6.6	0.9	1.2	0.8	1.1	0.9	1.1	1.0	0.5	1.3	1.8	1.2	1.6	1.4	1.6	1.4	0.7
DP17	DP3	165	7.1	0.8	0.8	0.8	1.0	0.9	-0.2	0.7	0.7	1.3	1.2	1.2	1.5	1.3	-0.3	1.0	1.1
DP3	Galt Creek	420	6.0	2.0	1.8	2.1	2.1	2.1	0.9	1.8	1.8	3.0	2.8	3.2	3.2	3.2	1.4	2.8	2.8
Galt Creek	Pond Creek	255	8.1	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
Pond Creek	DP1	250	8.0	9.0	8.8	9.7	9.2	10.1	9.4	9.2	9.7	9.0	8.8	9.7	9.2	10.1	9.4	9.2	9.7
DP1	DP2	100	6.7	2.6	2.6	3.0	2.7	3.1	2.8	2.8	2.5	2.6	2.6	3.0	2.7	3.1	2.8	2.8	2.5
DP2	DP5D	800	7.6	4.5	5.7	6.0	6.0	7.3	6.9	6.9	2.8	4.5	5.7	6.0	6.0	7.3	6.9	6.9	2.8
TOTALS				**26.2**	**31.5**	**33.6**	**32.7**	**35.2**	**32.9**	**34.0**	**22.2**	**31.0**	**37.4**	**39.2**	**38.8**	**40.6**	**37.4**	**39.3**	**25.5**

Notes - Groundwater influx at Galt Creek and Pond Creek based on seepage data from May/June 1992

TABLE B-8

COMPARISON OF GROUNDWATER INFLUX, 2015 CONDITIONS

MILL CREEK AGGREGATES PIT

FROM	TO	LENGTH (m)	AVERAGE WIDTH (m)	AVERAGE INFLUX (L/s/m²)									TOTAL GROUNDWATER INFLUX (L/s)								
				06-Apr-15	20-May-15	23-Jun-15	22-Jul-15	25-Aug-15	24-Sep-15	29-Oct-15	25-Nov-15	10-Dec-15	06-Apr-15	20-May-15	23-Jun-15	22-Jul-15	25-Aug-15	24-Sep-15	29-Oct-15	25-Nov-15	10-Dec-15
DP18	DP19	670	6.5	4.4E-04	2.0E-03	2.2E-03	1.9E-03	1.2E-03	1.3E-04	-3.6E-05	1.8E-04	8.6E-04	1.9	8.7	9.6	8.2	5.2	0.6	-0.2	0.8	3.8
DP19	DP20	310	6.5	1.1E-03	1.6E-03	1.5E-03	1.0E-03	5.1E-04	2.0E-06	-1.4E-04	-4.2E-04	5.3E-04	2.3	3.1	3.1	2.0	1.0	0.0	-0.3	-0.8	1.1
DP20	Hwy 401	270	6.5	1.7E-03	1.9E-03	2.0E-03	1.9E-03	1.7E-03	1.4E-03	1.5E-03	1.6E-03	7.3E-04	3.0	3.4	3.5	3.3	3.0	2.5	2.6	2.8	1.3
Hwy 401	DP21	60	7.1	5.3E-04	2.8E-03	5.3E-04	3.2E-03	2.5E-03	1.2E-03	0.0E+00	5.3E-04	0.0E+00	0.2	1.2	0.2	1.4	1.1	0.5	0.0	0.2	0.0
DP21	DP4	100	7.3	2.7E-03	4.4E-03	3.3E-03	4.0E-03	3.5E-03	2.6E-03	3.2E-03	2.1E-03	1.5E-03	2.0	3.2	2.4	2.9	2.6	1.9	2.3	1.5	1.1
DP4	DP22	50	7.1	1.1E-03	7.1E-03	6.0E-03	5.2E-03	5.0E-03	4.3E-03	5.9E-03	4.0E-03	3.3E-03	0.4	2.5	2.1	1.8	1.8	1.5	2.1	1.4	1.2
DP22	DP17	100	6.6	-8.0E-04	4.6E-03	3.9E-03	3.4E-03	3.2E-03	2.6E-03	3.3E-03	2.4E-03	2.1E-03	-0.5	3.1	2.6	2.3	2.2	1.7	2.2	1.6	1.4
DP17	DP3	165	7.1	1.8E-03	-1.6E-03	2.0E-03	5.9E-03	2.0E-03	1.5E-03	1.5E-03	3.0E-03	1.6E-03	2.1	-1.9	2.4	6.8	2.3	1.8	1.7	3.5	1.9
DP3	Galt Creek	420	6.0	2.0E-03	-1.6E-03	1.7E-03	5.8E-03	2.1E-03	2.0E-03	1.5E-03	3.4E-03	2.0E-03	5.0	-4.0	4.2	14.7	5.4	5.0	3.9	8.7	5.0
Galt Creek	Pond Creek	255	8.1	3.0E-03	3.0E-03	3.0E-03	3.0E-03	3.0E-03	3.0E-03	3.0E-03	3.0E-03	3.0E-03	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2
Pond Creek	DP1	250	8.0	6.2E-03	9.8E-03	1.0E-02	1.0E-02	9.2E-03	8.8E-03	6.9E-03	8.5E-03	7.6E-03	12.4	19.6	20.1	20.1	18.5	17.7	13.8	17.1	15.2
DP1	DP2	100	6.7	5.3E-03	9.1E-03	9.3E-03	9.3E-03	8.3E-03	7.9E-03	5.5E-03	7.6E-03	6.5E-03	3.6	6.1	6.3	6.3	5.6	5.3	3.7	5.1	4.4
DP2	DP5D	800	7.6	1.9E-03	2.2E-03	2.0E-03	2.0E-03	2.1E-03	2.2E-03	5.3E-04	2.2E-03	2.1E-03	11.8	13.4	12.4	12.4	12.9	13.1	3.2	13.3	12.9
TOTALS													**50.3**	**64.5**	**75.0**	**88.4**	**67.5**	**57.7**	**41.3**	**61.3**	**55.3**

Notes - Groundwater influx at Galt Creek and Pond Creek based on seepage data from May/June 1992

TABLE B-8

COMPARISON OF GROUNDWATER INFLUX, 2015 CONDITIONS

MILL CREEK AGGREGATES PIT

FROM	TO	LENGTH (m)	AVERAGE WIDTH (m)	ESTIMATED GROUNDWATER FLUX FROM NORTH SIDE OF CREEK (L/s)									ESTIMATED GROUNDWATER FLUX FROM SOUTH SIDE OF CREEK (L/s)								
				06-Apr-15	20-May-15	23-Jun-15	22-Jul-15	25-Aug-15	24-Sep-15	29-Oct-15	25-Nov-15	10-Dec-15	06-Apr-15	20-May-15	23-Jun-15	22-Jul-15	25-Aug-15	24-Sep-15	29-Oct-15	25-Nov-15	10-Dec-15
DP18	DP19	670	6.5	1.0	4.3	4.8	4.1	2.6	0.3	-0.1	0.4	1.9	1.0	4.3	4.8	4.1	2.6	0.3	-0.1	0.4	1.9
DP19	DP20	310	6.5	0.9	1.3	1.2	0.8	0.4	0.0	-0.1	-0.3	0.4	1.4	1.9	1.8	1.2	0.6	0.0	-0.2	-0.5	0.6
DP20	Hwy 401	270	6.5	1.2	1.3	1.4	1.3	1.2	1.0	1.0	1.1	0.5	1.8	2.0	2.1	2.0	1.8	1.5	1.5	1.7	0.8
Hwy 401	DP21	60	7.1	0.1	0.5	0.1	0.5	0.4	0.2	0.0	0.1	0.0	0.1	0.7	0.1	0.8	0.6	0.3	0.0	0.1	0.0
DP21	DP4	100	7.3	0.8	1.3	1.0	1.2	1.0	0.8	0.9	0.6	0.4	1.2	1.9	1.4	1.8	1.5	1.1	1.4	0.9	0.7
DP4	DP22	50	7.1	0.2	1.0	0.84	0.7	0.7	0.6	0.8	0.6	0.5	0.2	1.5	1.3	1.1	1.1	0.9	1.3	0.9	0.7
DP22	DP17	100	6.6	-0.2	1.2	1.0	0.9	0.9	0.7	0.9	0.6	0.6	-0.3	1.8	1.6	1.4	1.3	1.0	1.3	1.0	0.8
DP17	DP3	165	7.1	0.8	-0.8	0.9	2.7	0.9	0.7	0.7	1.4	0.8	1.3	-1.1	1.4	4.1	1.4	1.1	1.0	2.1	1.1
DP3	Galt Creek	420	6.0	2.0	-1.6	1.7	5.9	2.1	2.0	1.5	3.5	2.0	3.0	-2.4	2.5	8.8	3.2	3.0	2.3	5.2	3.0
Galt Creek	Pond Creek	255	8.1	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
Pond Creek	DP1	250	8.0	6.2	9.8	10.1	10.1	9.2	8.8	6.9	8.5	7.6	6.2	9.8	10.1	10.1	9.2	8.8	6.9	8.5	7.6
DP1	DP2	100	6.7	1.8	3.1	3.1	3.1	2.8	2.7	1.9	2.5	2.2	1.8	3.1	3.1	3.1	2.8	2.7	1.9	2.5	2.2
DP2	DP5D	800	7.6	5.9	6.7	6.2	6.2	6.4	6.6	1.6	6.6	6.5	5.9	6.7	6.2	6.2	6.4	6.6	1.6	6.6	6.5
TOTALS				**23.1**	**30.6**	**34.9**	**40.1**	**31.2**	**26.8**	**18.6**	**28.2**	**25.8**	**27.2**	**33.9**	**40.2**	**48.3**	**36.3**	**31.0**	**22.7**	**33.2**	**29.6**

Notes - Groundwater influx at Galt Creek and Pond Creek based on seepage data from May/June 1992

TABLE B-8

COMPARISON OF GROUNDWATER INFLUX, 2016 CONDITIONS

MILL CREEK AGGREGATES PIT

FROM	TO	LENGTH (m)	AVERAGE WIDTH (m)	AVERAGE INFLUX (L/s/m²)										TOTAL GROUNDWATER INFLUX (L/s)									
				17-Mar-16	30-Mar-16	27-Apr-16	30-May-16	27-Jun-16	28-Jul-16	11-Aug-16	21-Sep-16	18-Oct-16	14-Nov-16	17-Mar-16	30-Mar-16	27-Apr-16	30-May-16	27-Jun-16	28-Jul-16	11-Aug-16	21-Sep-16	18-Oct-16	14-Nov-16
DP18	DP19	670	6.5	3.6E-04	4.5E-04	1.2E-03	2.1E-03	1.1E-03	9.9E-04	2.2E-03	2.0E-04	-9.6E-04	-5.9E-04	1.5	2.0	5.2	9.1	4.6	4.3	9.5	0.9	-4.2	-2.6
DP19	DP20	310	6.5	6.5E-04	8.2E-04	1.3E-03	1.5E-03	1.1E-03	8.6E-04	-5.3E-04	-2.6E-04	-7.3E-04	-6.4E-04	1.3	1.7	2.6	3.0	2.2	1.7	-1.1	-0.5	-1.5	-1.3
DP20	Hwy 401	270	6.5	1.7E-03	1.6E-03	1.8E-03	1.8E-03	1.2E-03	8.5E-04	6.8E-04	1.0E-03	1.0E-03	7.3E-04	3.0	2.8	3.2	3.2	2.1	1.5	1.2	1.8	1.8	1.3
Hwy 401	DP21	60	7.1	-3.5E-04	-2.7E-03	2.0E-03	1.8E-03	1.4E-03	2.0E-03	8.9E-04	1.2E-03	1.8E-04	-5.3E-04	-0.2	-1.1	0.8	0.8	0.6	0.8	0.4	0.5	0.1	-0.2
DP21	DP4	100	7.3	2.5E-03	-1.6E-03	3.7E-03	3.7E-03	2.1E-03	3.1E-03	1.5E-03	2.4E-03	1.7E-03	1.5E-03	1.8	-1.2	2.7	2.7	1.5	2.2	1.1	1.8	1.3	1.1
DP4	DP22	50	7.1	5.3E-03	-2.9E-03	5.3E-03	5.8E-03	3.6E-03	4.9E-03	3.1E-03	4.2E-03	4.0E-03	3.3E-03	1.9	-1.0	1.9	2.1	1.3	1.7	1.1	1.5	1.4	1.2
DP22	DP17	100	6.6	2.8E-03	-2.0E-03	3.1E-03	3.3E-03	2.6E-03	3.1E-03	2.1E-03	2.5E-03	2.7E-03	1.8E-03	1.8	-1.3	2.0	2.2	1.7	2.0	1.4	1.6	1.8	1.2
DP17	DP3	165	7.1	1.5E-03	1.9E-03	2.0E-03	1.9E-03	1.7E-03	1.9E-03	1.4E-03	1.4E-03	1.9E-03	1.6E-03	1.8	2.2	2.3	2.2	2.0	2.2	1.7	1.7	2.2	1.9
DP3	Galt Creek	420	6.0	2.0E-03	2.0E-03	2.1E-03	2.1E-03	2.0E-03	2.3E-03	2.0E-03	2.0E-03	2.3E-03	2.0E-03	5.0	5.0	5.4	5.4	5.0	5.7	5.0	5.0	5.7	5.0
Galt Creek	Pond Creek	255	8.1	3.0E-03	3.0E-03	3.0E-03	3.0E-03	3.0E-03	3.0E-03	3.0E-03	3.0E-03	3.0E-03	3.0E-03	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2
Pond Creek	DP1	250	8.0	7.7E-03	3.6E-03	1.0E-02	1.0E-02	1.0E-02	9.2E-03	9.1E-03	9.5E-03	9.0E-03	8.1E-03	15.4	7.2	20.4	20.1	20.1	18.5	18.2	19.0	17.9	16.3
DP1	DP2	100	6.7	6.6E-03	2.0E-03	9.4E-03	9.3E-03	9.3E-03	8.4E-03	8.2E-03	8.7E-03	8.0E-03	7.1E-03	4.4	1.3	6.3	6.2	6.3	5.7	5.5	5.9	5.4	4.8
DP2	DP5D	800	7.6	1.7E-03	-1.4E-04	2.1E-03	2.1E-03	2.2E-03	2.1E-03	2.0E-03	2.2E-03	2.0E-03	2.0E-03	10.4	-0.8	12.7	12.4	13.1	12.6	11.8	13.4	12.3	11.8
TOTALS														**54.4**	**22.8**	**71.6**	**75.5**	**66.6**	**65.2**	**62.0**	**58.6**	**50.4**	**46.6**

Notes - Groundwater influx at Galt Creek and Pond Creek based on seepage data from May/June 1992

TABLE B-8

COMPARISON OF GROUNDWATER INFLUX, 2016 CONDITIONS

MILL CREEK AGGREGATES PIT

FROM	TO	LENGTH	AVERAGE WIDTH	ESTIMATED GROUNDWATER FLUX FROM NORTH SIDE OF CREEK (L/s)										ESTIMATED GROUNDWATER FLUX FROM SOUTH SIDE OF CREEK (L/s)									
		(m)	(m)	17-Mar-16	30-Mar-16	27-Apr-16	30-May-16	27-Jun-16	28-Jul-16	11-Aug-16	21-Sep-16	18-Oct-16	14-Nov-16	17-Mar-16	30-Mar-16	27-Apr-16	30-May-16	27-Jun-16	28-Jul-16	11-Aug-16	21-Sep-16	18-Oct-16	14-Nov-16
DP18	DP19	670	6.5	0.8	1.0	2.6	4.6	2.3	2.2	4.8	0.4	-2.1	-1.3	0.8	1.0	2.6	4.6	2.3	2.2	4.8	0.4	-2.1	-1.3
DP19	DP20	310	6.5	0.5	0.7	1.0	1.2	0.9	0.7	-0.4	-0.2	-0.6	-0.5	0.8	1.0	1.5	1.8	1.3	1.0	-0.6	-0.3	-0.9	-0.8
DP20	Hwy 401	270	6.5	1.2	1.1	1.3	1.3	0.8	0.6	0.5	0.7	0.7	0.5	1.8	1.7	1.9	1.9	1.2	0.9	0.7	1.1	1.1	0.8
Hwy 401	DP21	60	7.1	-0.1	-0.5	0.3	0.3	0.2	0.3	0.2	0.2	0.0	-0.1	-0.1	-0.7	0.5	0.5	0.4	0.5	0.2	0.3	0.0	-0.1
DP21	DP4	100	7.3	0.7	-0.5	1.1	1.1	0.6	0.9	0.4	0.7	0.5	0.4	1.1	-0.7	1.6	1.6	0.9	1.3	0.7	1.1	0.8	0.7
DP4	DP22	50	7.1	0.8	-0.4	0.8	0.82	0.5	0.7	0.4	0.6	0.6	0.5	1.1	-0.6	1.1	1.2	0.8	1.0	0.7	0.9	0.9	0.7
DP22	DP17	100	6.6	0.7	-0.5	0.8	0.9	0.7	0.8	0.6	0.7	0.7	0.5	1.1	-0.8	1.2	1.3	1.0	1.2	0.8	1.0	1.1	0.7
DP17	DP3	165	7.1	0.7	0.9	0.9	0.9	0.8	0.9	0.7	0.7	0.9	0.8	1.1	1.3	1.4	1.3	1.2	1.3	1.0	1.0	1.3	1.1
DP3	Galt Creek	420	6.0	2.0	2.0	2.1	2.1	2.0	2.3	2.0	2.0	2.3	2.0	3.0	3.0	3.2	3.2	3.0	3.4	3.0	3.0	3.4	3.0
Galt Creek	Pond Creek	255	8.1	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
Pond Creek	DP1	250	8.0	7.7	3.6	10.2	10.1	10.1	9.2	9.1	9.5	9.0	8.1	7.7	3.6	10.2	10.1	10.1	9.2	9.1	9.5	9.0	8.1
DP1	DP2	100	6.7	2.2	0.7	3.2	3.1	3.1	2.8	2.7	2.9	2.7	2.4	2.2	0.7	3.2	3.1	3.1	2.8	2.7	2.9	2.7	2.4
DP2	DP5D	800	7.6	5.2	-0.4	6.3	6.2	6.5	6.3	5.9	6.7	6.2	5.9	5.2	-0.4	6.3	6.2	6.5	6.3	5.9	6.7	6.2	5.9
TOTALS				**24.9**	**10.1**	**33.1**	**35.0**	**31.1**	**30.2**	**29.3**	**27.4**	**23.3**	**21.7**	**29.5**	**12.7**	**38.5**	**40.5**	**35.6**	**35.0**	**32.7**	**31.3**	**27.1**	**24.9**

Notes - Groundwater influx at Galt Creek and Pond Creek based on seepage data from May/June 1992

TABLE B-8

COMPARISON OF GROUNDWATER INFLUX, 2017 CONDITIONS

MILL CREEK AGGREGATES PIT

FROM	TO	LENGTH (m)	AVERAGE WIDTH (m)	AVERAGE INFLUX (L/s/m²)									TOTAL GROUNDWATER INFLUX (L/s)								
				11-Apr-17	18-May-17	14-Jun-17	20-Jul-17	09-Aug-17	12-Sep-17	12-Oct-17	21-Nov-17	19-Dec-17	11-Apr-17	18-May-17	14-Jun-17	20-Jul-17	09-Aug-17	12-Sep-17	12-Oct-17	21-Nov-17	19-Dec-17
DP18	DP19	670	6.5	5.9E-04	1.4E-03	1.5E-03	1.4E-03	1.2E-03	1.9E-03	1.4E-03	3.0E-04	8.6E-04	2.6	6.1	6.6	6.2	5.3	8.4	6.3	1.3	3.8
DP19	DP20	310	6.5	8.5E-04	1.1E-03	1.2E-03	1.0E-03	7.4E-04	1.1E-03	1.3E-03	1.7E-04	7.3E-04	1.7	2.2	2.5	2.1	1.5	2.2	2.6	0.3	1.5
DP20	Hwy 401	270	6.5	1.6E-03	2.2E-03	1.9E-03	2.3E-03	2.1E-03	1.1E-03	1.4E-03	1.4E-03	1.1E-03	2.9	3.9	3.4	4.0	3.7	2.0	2.5	2.5	2.0
Hwy 401	DP21	60	7.1	2.8E-03	3.4E-03	3.0E-03	3.5E-03	2.8E-03	2.8E-03	2.1E-03	2.0E-03	2.0E-03	1.2	1.4	1.3	1.5	1.2	1.2	0.9	0.8	0.8
DP21	DP4	100	7.3	4.1E-03	5.1E-03	5.0E-03	5.2E-03	4.7E-03	4.7E-03	4.5E-03	3.8E-03	-2.3E-04	3.0	3.8	3.6	3.8	3.5	3.5	3.3	2.8	-0.2
DP4	DP22	50	7.1	5.5E-03	7.0E-03	7.1E-03	6.6E-03	7.0E-03	7.2E-03	7.7E-03	6.2E-03	1.9E-03	1.9	2.5	2.5	2.3	2.5	2.5	2.7	2.2	0.7
DP22	DP17	100	6.6	3.2E-03	4.0E-03	4.2E-03	3.6E-03	4.2E-03	4.5E-03	4.7E-03	3.9E-03	3.6E-03	2.2	2.6	2.8	2.4	2.8	3.0	3.1	2.6	2.4
DP17	DP3	165	7.1	2.0E-03	2.0E-03	2.0E-03	4.9E-04	1.8E-03	1.7E-03	1.4E-03	1.9E-03	4.8E-05	2.3	2.3	2.3	0.6	2.1	2.0	1.6	2.2	0.1
DP3	Galt Creek	420	6.0	2.1E-03	2.1E-03	2.1E-03	6.3E-04	2.0E-03	1.7E-03	1.5E-03	2.0E-03	1.9E-04	5.4	5.4	5.4	1.6	5.0	4.2	3.9	5.0	0.5
Galt Creek	Pond Creek	255	8.1	3.0E-03	3.0E-03	3.0E-03	3.0E-03	3.0E-03	3.0E-03	3.0E-03	3.0E-03	3.0E-03	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2
Pond Creek	DP1	250	8.0	7.7E-03	8.0E-03	7.6E-03	7.4E-03	7.4E-03	6.9E-03	6.9E-03	5.4E-03	6.8E-03	15.4	16.0	15.2	14.9	14.9	13.8	13.8	10.8	13.5
DP1	DP2	100	6.7	6.5E-03	6.9E-03	6.4E-03	6.2E-03	6.2E-03	5.6E-03	5.6E-03	3.4E-03	5.6E-03	4.4	4.6	4.3	4.2	4.2	3.8	3.8	2.3	3.8
DP2	DP5D/CR	800	7.6	1.4E-03	2.3E-03	2.2E-03	2.1E-03	2.1E-03	1.9E-03	1.9E-03	1.3E-03	1.6E-03	8.6	14.0	13.6	12.8	12.4	11.6	11.6	7.8	9.9
TOTALS													**57.7**	**70.9**	**69.6**	**62.5**	**65.2**	**64.4**	**62.3**	**46.7**	**44.8**

Notes - Groundwater influx at Galt Creek and Pond Creek based on seepage data from May/June 1992

TABLE B-8

COMPARISON OF GROUNDWATER INFLUX, 2017 CONDITIONS

MILL CREEK AGGREGATES PIT

FROM	TO	LENGTH (m)	AVERAGE WIDTH (m)	ESTIMATED GROUNDWATER FLUX FROM NORTH SIDE OF CREEK (L/s)									ESTIMATED GROUNDWATER FLUX FROM SOUTH SIDE OF CREEK (L/s)								
				11-Apr-17	18-May-17	14-Jun-17	20-Jul-17	09-Aug-17	12-Sep-17	12-Oct-17	21-Nov-17	19-Dec-17	11-Apr-17	18-May-17	14-Jun-17	20-Jul-17	09-Aug-17	12-Sep-17	12-Oct-17	21-Nov-17	19-Dec-17
DP18	DP19	670	6.5	1.3	3.0	3.3	3.1	2.7	4.2	3.1	0.6	1.9	1.3	3.0	3.3	3.1	2.7	4.2	3.1	0.6	1.9
DP19	DP20	310	6.5	0.7	0.9	1.0	0.8	0.6	0.9	1.1	0.1	0.6	1.0	1.3	1.5	1.2	0.9	1.3	1.6	0.2	0.9
DP20	Hwy 401	270	6.5	1.1	1.5	1.3	1.6	1.5	0.8	1.0	1.0	0.8	1.7	2.3	2.0	2.4	2.2	1.2	1.5	1.5	1.2
Hwy 401	DP21	60	7.1	0.5	0.6	0.5	0.6	0.5	0.5	0.4	0.3	0.3	0.7	0.9	0.8	0.9	0.7	0.7	0.5	0.5	0.5
DP21	DP4	100	7.3	1.2	1.5	1.5	1.5	1.4	1.4	1.3	1.1	-0.1	1.8	2.3	2.2	2.3	2.1	2.1	2.0	1.7	-0.1
DP4	DP22	50	7.1	0.8	1.0	1.01	0.9	1.0	1.0	1.1	0.9	0.3	1.2	1.5	1.5	1.4	1.5	1.5	1.6	1.3	0.4
DP22	DP17	100	6.6	0.9	1.1	1.1	1.0	1.1	1.2	1.3	1.0	1.0	1.3	1.6	1.7	1.4	1.7	1.8	1.9	1.6	1.4
DP17	DP3	165	7.1	0.9	0.9	0.9	0.2	0.8	0.8	0.6	0.9	0.0	1.4	1.4	1.4	0.3	1.3	1.2	1.0	1.3	0.0
DP3	Galt Creek	420	6.0	2.1	2.1	2.1	0.6	2.0	1.7	1.5	2.0	0.2	3.2	3.2	3.2	1.0	3.0	2.5	2.3	3.0	0.3
Galt Creek	Pond Creek	255	8.1	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
Pond Creek	DP1	250	8.0	7.7	8.0	7.6	7.4	7.4	6.9	6.9	5.4	6.8	7.7	8.0	7.6	7.4	7.4	6.9	6.9	5.4	6.8
DP1	DP2	100	6.7	2.2	2.3	2.1	2.1	2.1	1.9	1.9	1.2	1.9	2.2	2.3	2.1	2.1	2.1	1.9	1.9	1.2	1.9
DP2	DP5D/CR	800	7.6	4.3	7.0	6.8	6.4	6.2	5.8	5.8	3.9	4.9	4.3	7.0	6.8	6.4	6.2	5.8	5.8	3.9	4.9
TOTALS				**26.2**	**32.4**	**31.8**	**28.8**	**29.8**	**29.5**	**28.4**	**20.9**	**21.0**	**31.5**	**38.4**	**37.8**	**33.7**	**35.4**	**34.9**	**33.8**	**25.8**	**23.8**

Notes - Groundwater influx at Galt Creek and Pond Creek based on seepage data from May/June 1992

TABLE B-8

COMPARISON OF GROUNDWATER INFLUX, 2018 CONDITIONS

MILL CREEK AGGREGATES PIT

FROM	TO	LENGTH (m)	AVERAGE WIDTH (m)	AVERAGE INFLUX (L/s/m²)								TOTAL GROUNDWATER INFLUX (L/s)							
				26-Feb-18	24-Apr-18	18-May-18	12-Jun-18	27-Jul-18	22-Aug-18	12-Sep-18	30-Oct-18	26-Feb-18	24-Apr-18	18-May-18	12-Jun-18	27-Jul-18	22-Aug-18	12-Sep-18	30-Oct-18
DP18	DP19	670	6.5	2.4E-04	1.2E-03	1.4E-03	2.0E-03	8.3E-04	4.8E-04	6.3E-04	-1.9E-04	1.1	5.2	6.1	8.6	3.6	2.1	2.7	-0.8
DP19	DP20	310	6.5	5.3E-04	8.0E-04	1.5E-03	1.2E-03	7.0E-04	6.9E-04	3.6E-04	-1.3E-04	1.1	1.6	3.0	2.5	1.4	1.4	0.7	-0.3
DP20	Hwy 401	270	6.5	1.1E-03	5.6E-05	1.8E-03	7.3E-04	1.1E-03	1.2E-03	8.5E-04	6.8E-04	2.0	0.1	3.2	1.3	2.0	2.2	1.5	1.2
Hwy 401	DP21	60	7.1	2.3E-03	2.7E-03	2.7E-03	1.4E-03	2.0E-03	2.7E-03	1.8E-03	-8.9E-04	1.0	1.1	1.1	0.6	0.8	1.1	0.8	-0.4
DP21	DP4	100	7.3	7.0E-04	4.3E-03	4.0E-03	3.7E-03	3.2E-03	4.0E-03	3.1E-03	1.8E-03	0.5	3.2	2.9	2.7	2.4	2.9	2.3	1.3
DP4	DP22	50	7.1	1.9E-03	4.7E-03	6.2E-03	7.2E-03	4.8E-03	6.0E-03	5.6E-03	5.0E-03	0.7	1.7	2.2	2.6	1.7	2.1	2.0	1.8
DP22	DP17	100	6.6	3.2E-03	2.6E-03	4.2E-03	5.1E-03	3.1E-03	3.9E-03	3.8E-03	3.4E-03	2.1	1.7	2.8	3.4	2.0	2.6	2.5	2.3
DP17	DP3	165	7.1	2.4E-03	2.5E-03	2.3E-03	2.8E-03	2.0E-03	2.4E-03	2.7E-03	2.5E-03	2.8	2.9	2.7	3.3	2.3	2.8	3.2	2.9
DP3	Galt Creek	420	6.0	2.3E-03	2.1E-03	2.3E-03	2.6E-03	2.1E-03	2.4E-03	2.9E-03	2.4E-03	5.7	5.4	5.7	6.5	5.4	6.1	7.2	6.1
Galt Creek	Pond Creek	255	8.1	3.0E-03	3.0E-03	3.0E-03	3.0E-03	3.0E-03	3.0E-03	3.0E-03	3.0E-03	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2
Pond Creek	DP1	250	8.0	7.0E-03	7.2E-03	8.3E-03	7.9E-03	7.0E-03	7.3E-03	7.0E-03	7.0E-03	14.1	14.3	16.5	15.7	14.1	14.6	14.1	14.1
DP1	DP2	100	6.7	5.7E-03	5.8E-03	7.2E-03	6.9E-03	5.8E-03	6.1E-03	5.7E-03	5.7E-03	3.8	3.9	4.9	4.6	3.9	4.1	3.9	3.8
DP2	DP5CR	800	7.6	1.9E-03	1.6E-03	2.2E-03	2.6E-03	1.8E-03	1.9E-03	2.0E-03	2.1E-03	11.3	9.6	13.5	15.7	10.9	11.8	12.0	12.6
TOTALS												**52.4**	**56.9**	**70.8**	**73.7**	**56.6**	**60.0**	**59.0**	**50.7**

Notes - Groundwater influx at Galt Creek and Pond Creek based on seepage data from May/June 1992

TABLE B-8

COMPARISON OF GROUNDWATER INFLUX, 2018 CONDITIONS

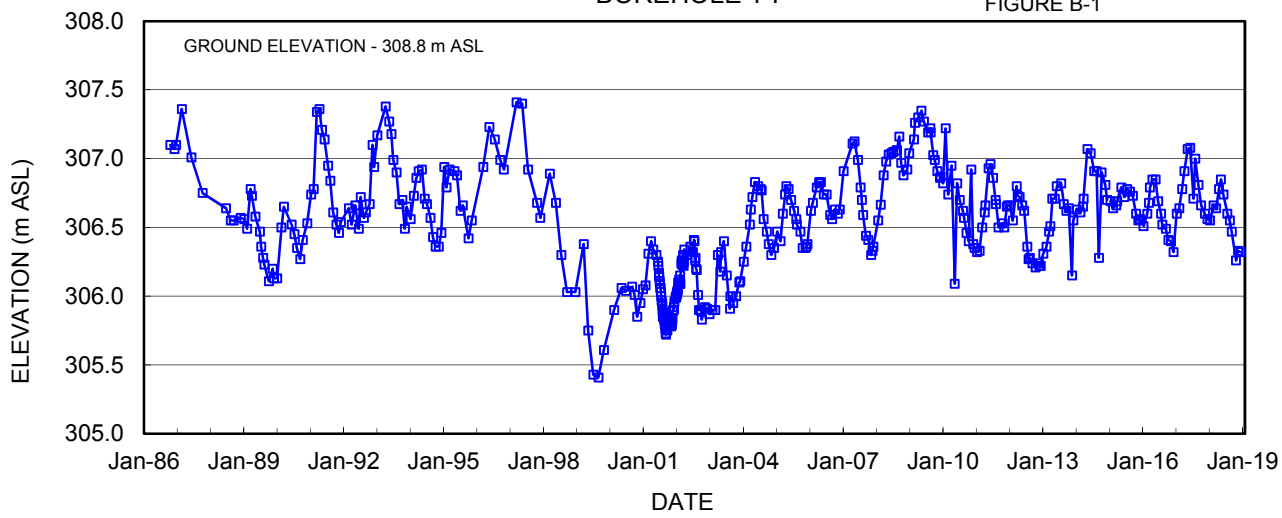
MILL CREEK AGGREGATES PIT

FROM	TO	LENGTH (m)	AVERAGE WIDTH (m)	ESTIMATED GROUNDWATER FLUX FROM NORTH SIDE OF CREEK (L/s)								ESTIMATED GROUNDWATER FLUX FROM SOUTH SIDE OF CREEK (L/s)							
				26-Feb-18	24-Apr-18	18-May-18	12-Jun-18	27-Jul-18	22-Aug-18	12-Sep-18	30-Oct-18	26-Feb-18	24-Apr-18	18-May-18	12-Jun-18	27-Jul-18	22-Aug-18	12-Sep-18	30-Oct-18
DP18	DP19	670	6.5	0.5	2.6	3.1	4.3	1.8	1.1	1.4	-0.4	0.5	2.6	3.1	4.3	1.8	1.1	1.4	-0.4
DP19	DP20	310	6.5	0.4	0.6	1.2	1.0	0.6	0.6	0.3	-0.1	0.6	1.0	1.8	1.5	0.8	0.8	0.4	-0.2
DP20	Hwy 401	270	6.5	0.8	0.0	1.3	0.5	0.8	0.9	0.6	0.5	1.2	0.1	1.9	0.8	1.2	1.3	0.9	0.7
Hwy 401	DP21	60	7.1	0.4	0.5	0.5	0.2	0.3	0.5	0.3	-0.2	0.6	0.7	0.7	0.4	0.5	0.7	0.5	-0.2
DP21	DP4	100	7.3	0.2	1.3	1.2	1.1	0.9	1.2	0.9	0.5	0.3	1.9	1.8	1.6	1.4	1.8	1.4	0.8
DP4	DP22	50	7.1	0.3	0.7	0.88	1.0	0.7	0.9	0.8	0.7	0.4	1.0	1.3	1.5	1.0	1.3	1.2	1.1
DP22	DP17	100	6.6	0.8	0.7	1.1	1.4	0.8	1.0	1.0	0.9	1.3	1.0	1.7	2.0	1.2	1.6	1.5	1.4
DP17	DP3	165	7.1	1.1	1.1	1.1	1.3	0.9	1.1	1.3	1.1	1.7	1.7	1.6	2.0	1.4	1.7	1.9	1.7
DP3	Galt Creek	420	6.0	2.3	2.1	2.3	2.6	2.1	2.4	2.9	2.4	3.4	3.2	3.4	3.9	3.2	3.7	4.3	3.7
Galt Creek	Pond Creek	255	8.1	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
Pond Creek	DP1	250	8.0	7.0	7.2	8.3	7.9	7.0	7.3	7.0	7.0	7.0	7.2	8.3	7.9	7.0	7.3	7.0	7.0
DP1	DP2	100	6.7	1.9	2.0	2.4	2.3	1.9	2.0	1.9	1.9	1.9	2.0	2.4	2.3	1.9	2.0	1.9	1.9
DP2	DP5CR	800	7.6	5.7	4.8	6.8	7.9	5.4	5.9	6.0	6.3	5.7	4.8	6.8	7.9	5.4	5.9	6.0	6.3
TOTALS				**24.0**	**26.1**	**32.4**	**34.0**	**25.9**	**27.2**	**26.9**	**23.3**	**28.4**	**30.8**	**38.4**	**39.7**	**30.7**	**32.7**	**32.1**	**27.5**

Notes - Groundwater influx at Galt Creek and Pond Creek based on seepage data from May/June 1992

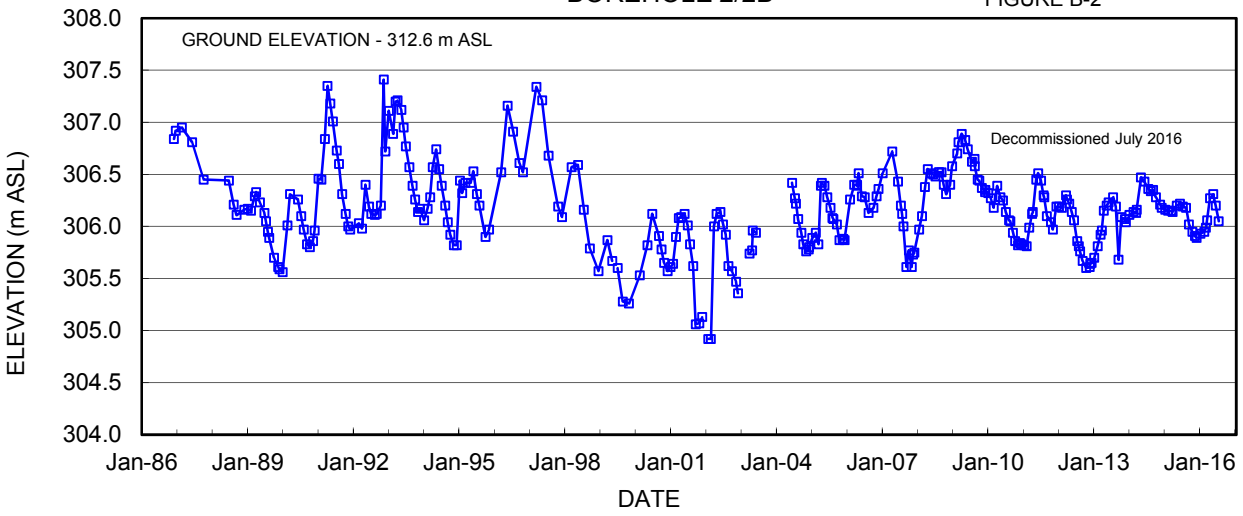
GROUNDWATER HYDROGRAPH
BOREHOLE 1-I

FIGURE B-1



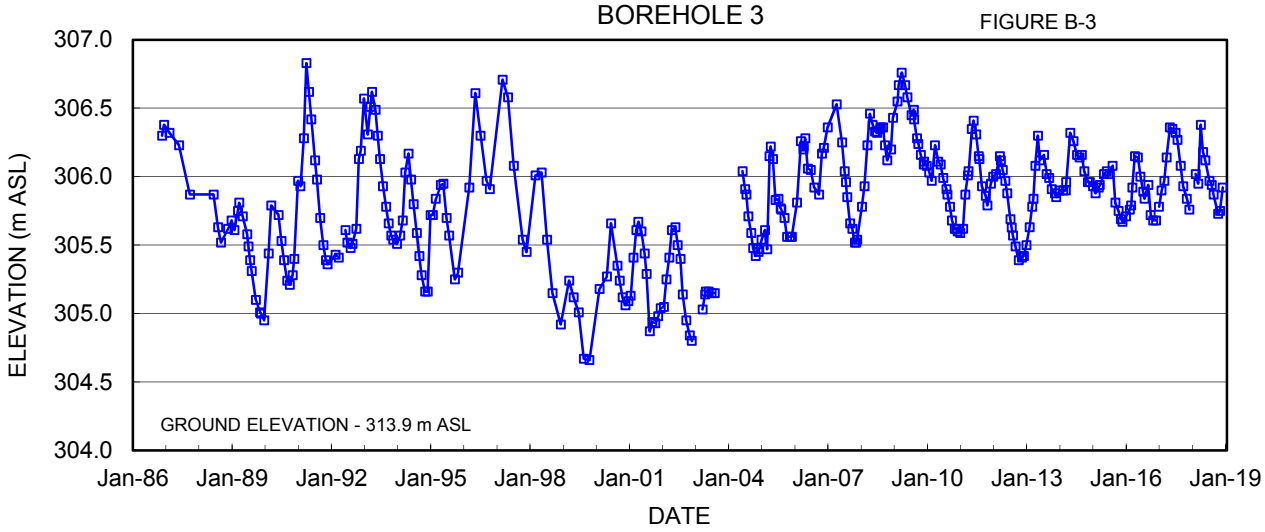
GROUNDWATER HYDROGRAPH
BOREHOLE 2/2B

FIGURE B-2



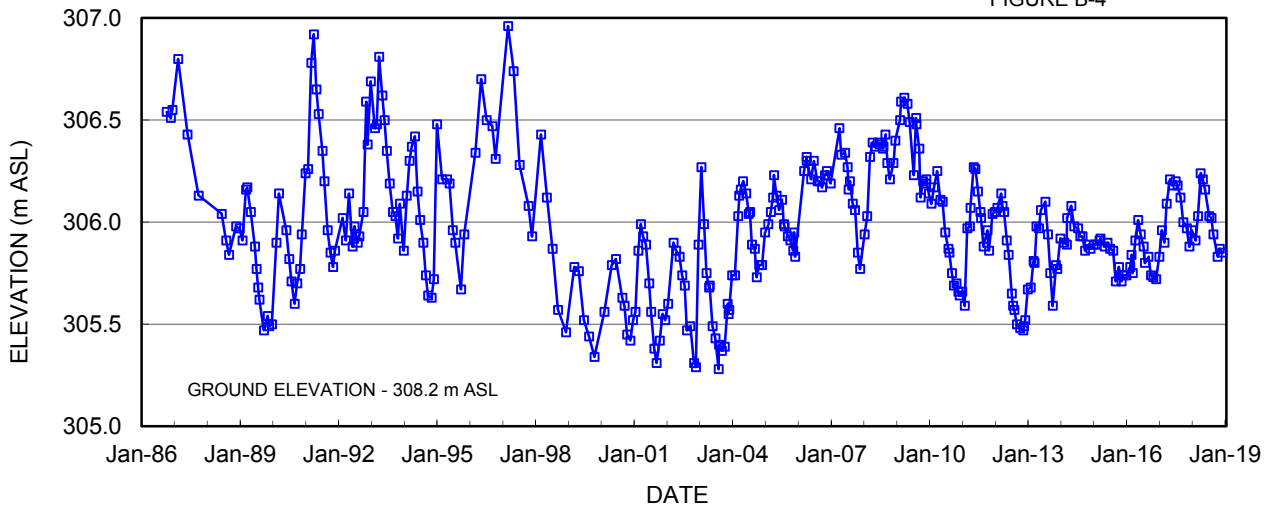
GROUNDWATER HYDROGRAPH
BOREHOLE 3

FIGURE B-3



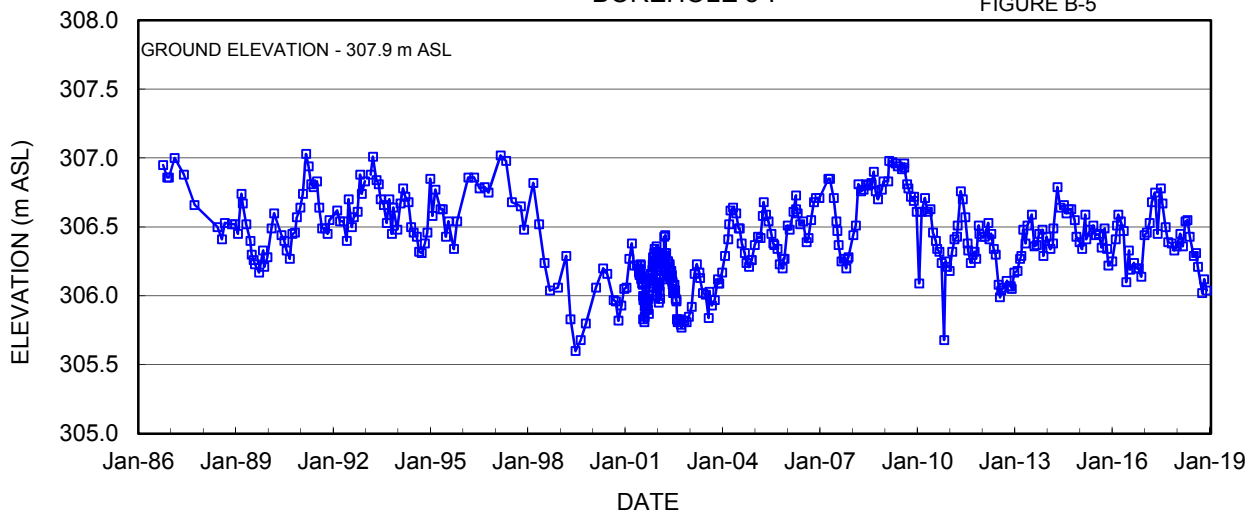
GROUNDWATER HYDROGRAPH
BOREHOLE 4-I

FIGURE B-4



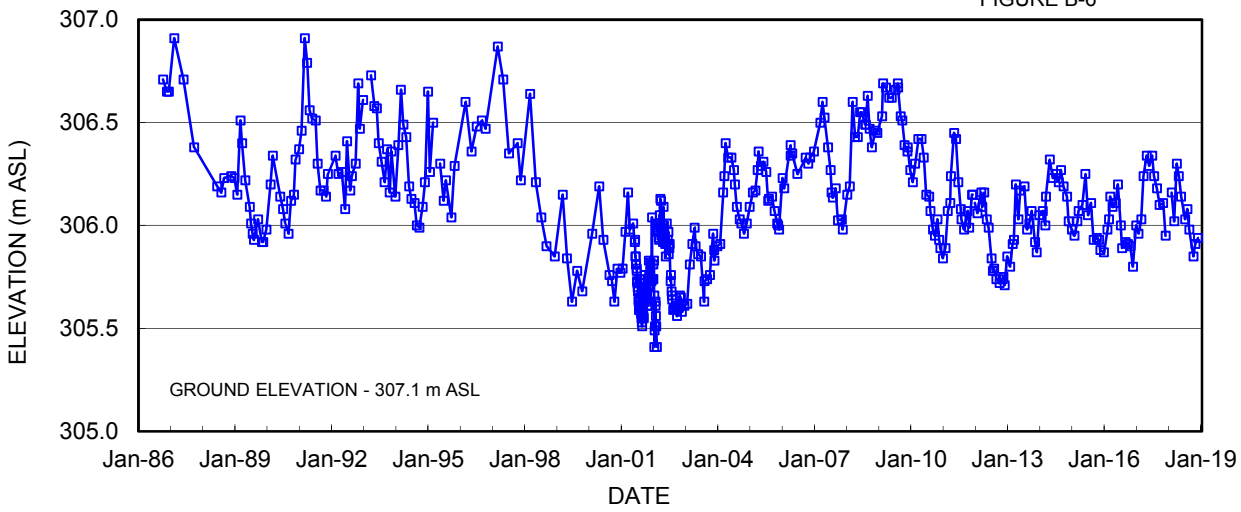
GROUNDWATER HYDROGRAPH
BOREHOLE 5-I

FIGURE B-5



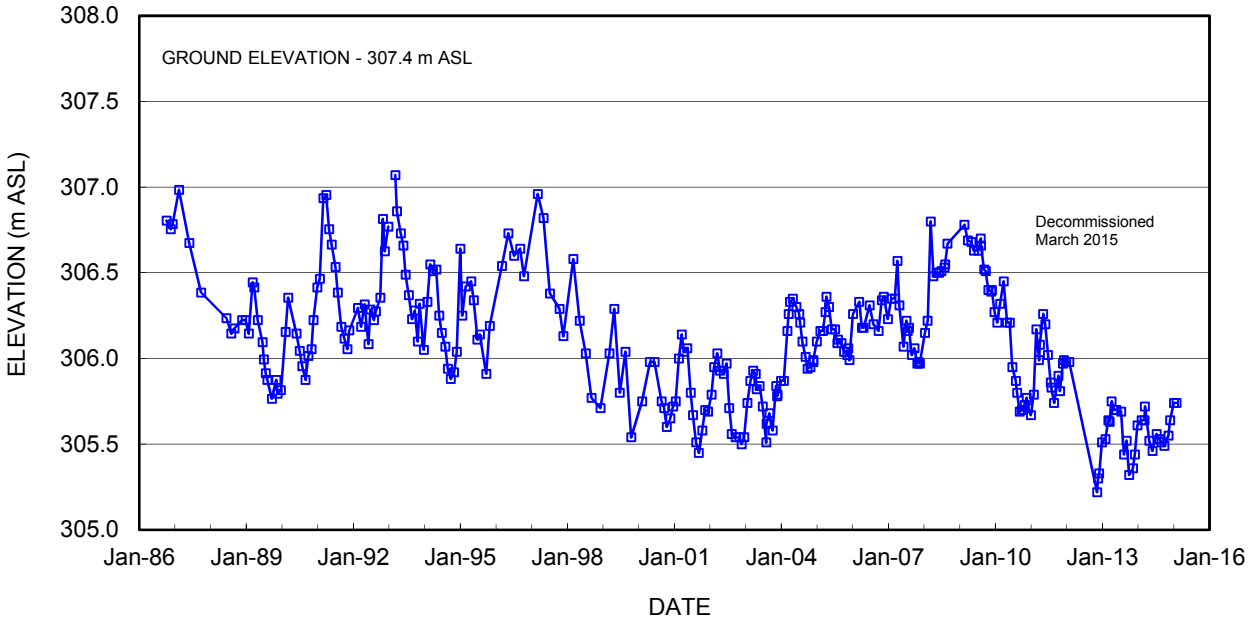
GROUNDWATER HYDROGRAPH
BOREHOLE 6-I

FIGURE B-6



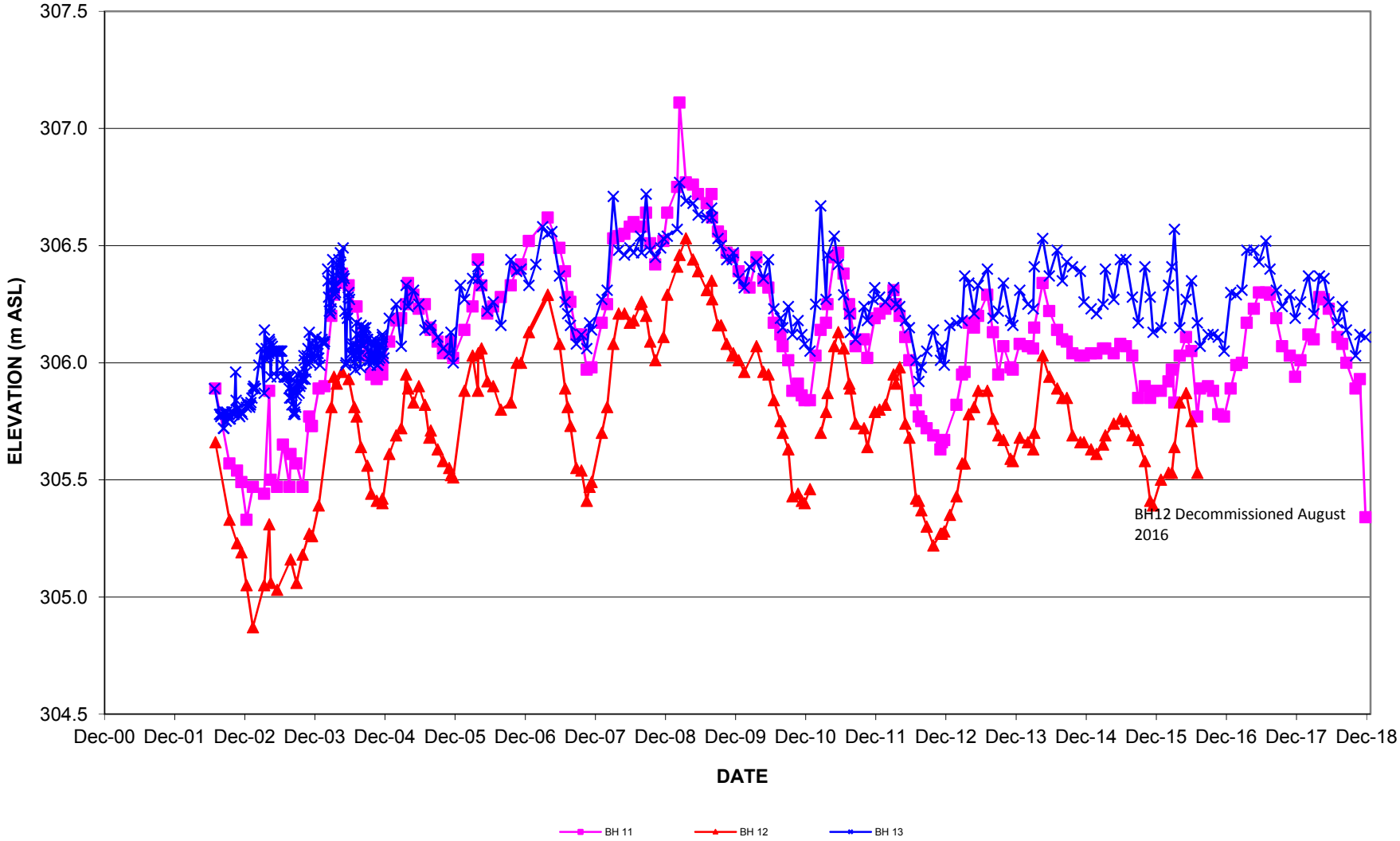
GROUNDWATER HYDROGRAPH
BOREHOLE 7

FIGURE B-7



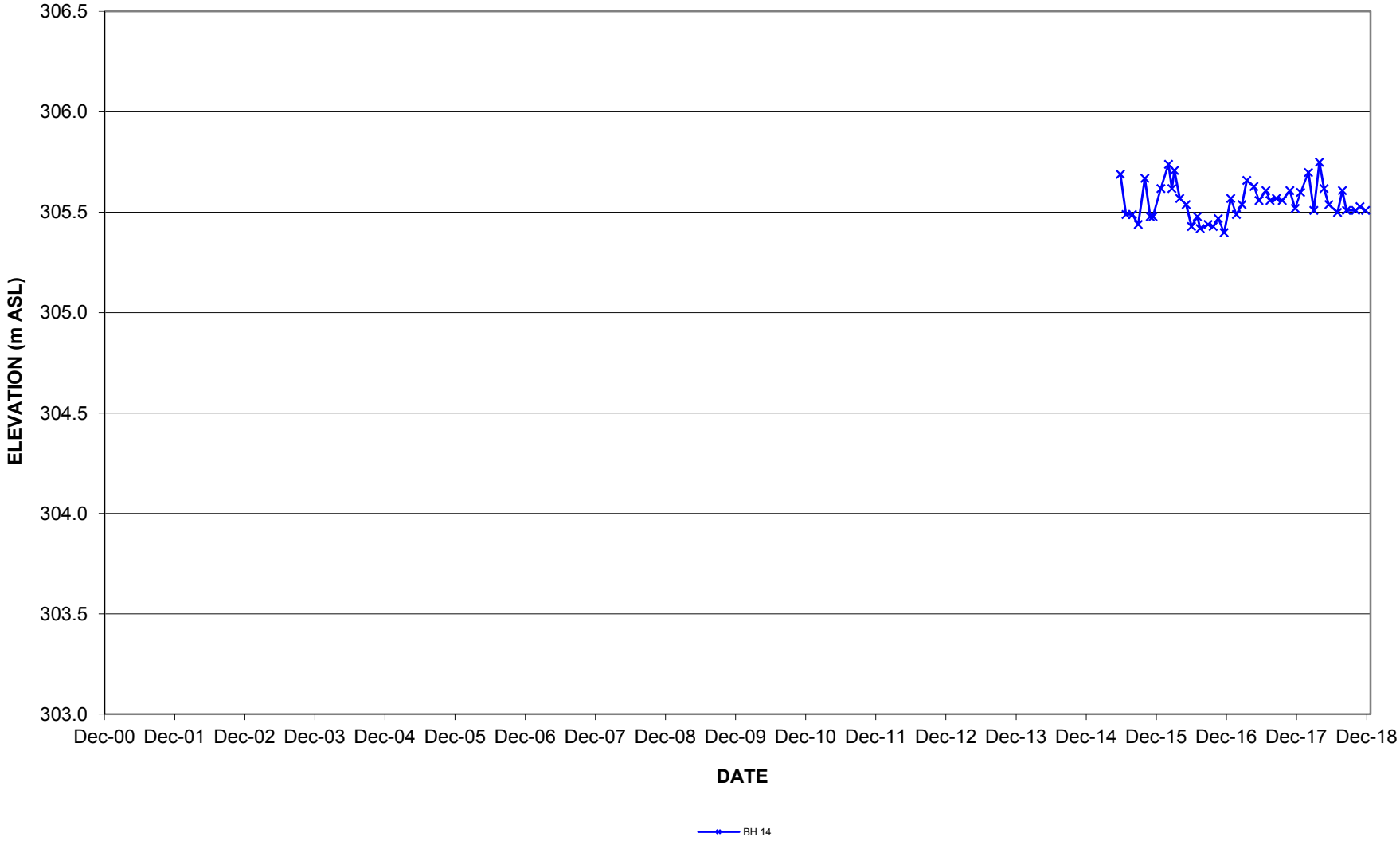
GROUNDWATER HYDROGRAPH
2002 MONITORS

FIGURE B-8



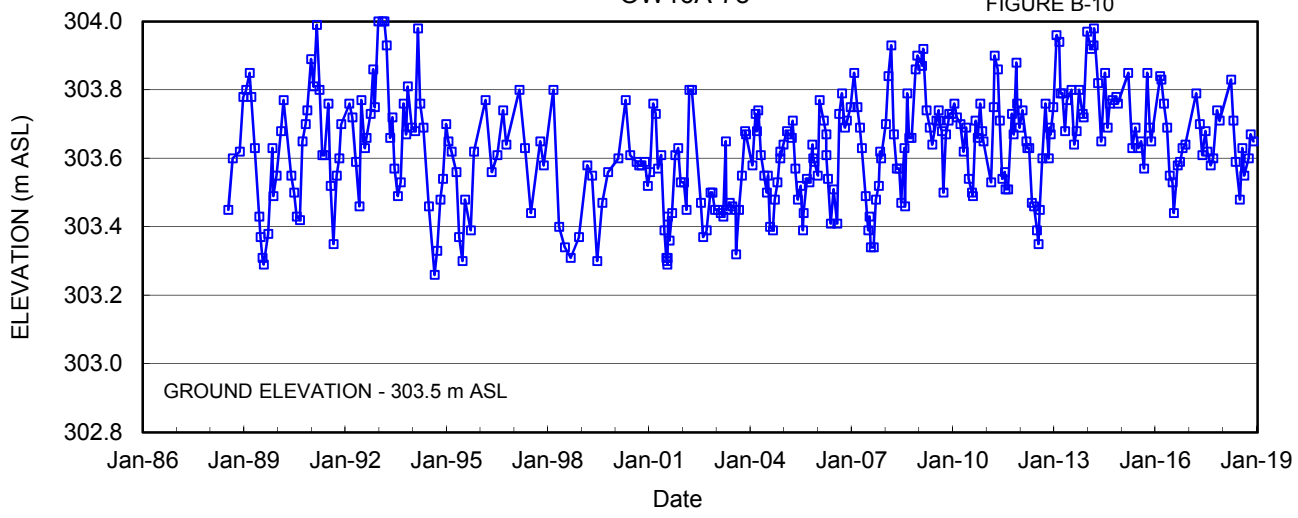
GROUNDWATER HYDROGRAPH
BOREHOLE 14

FIGURE B-9



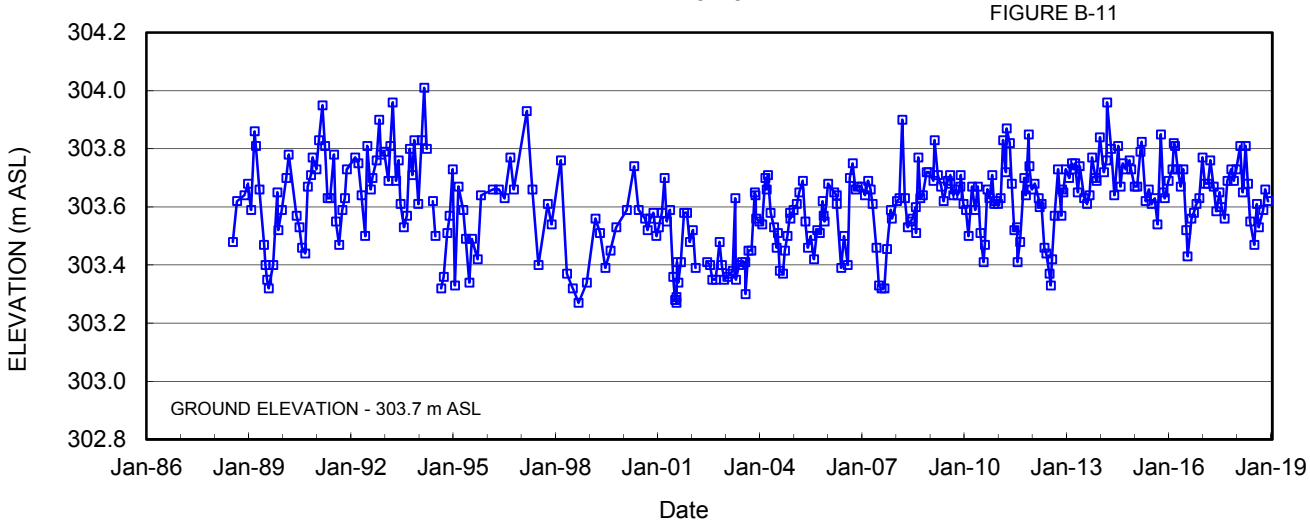
GROUNDWATER HYDROGRAPH
OW16A-78

FIGURE B-10



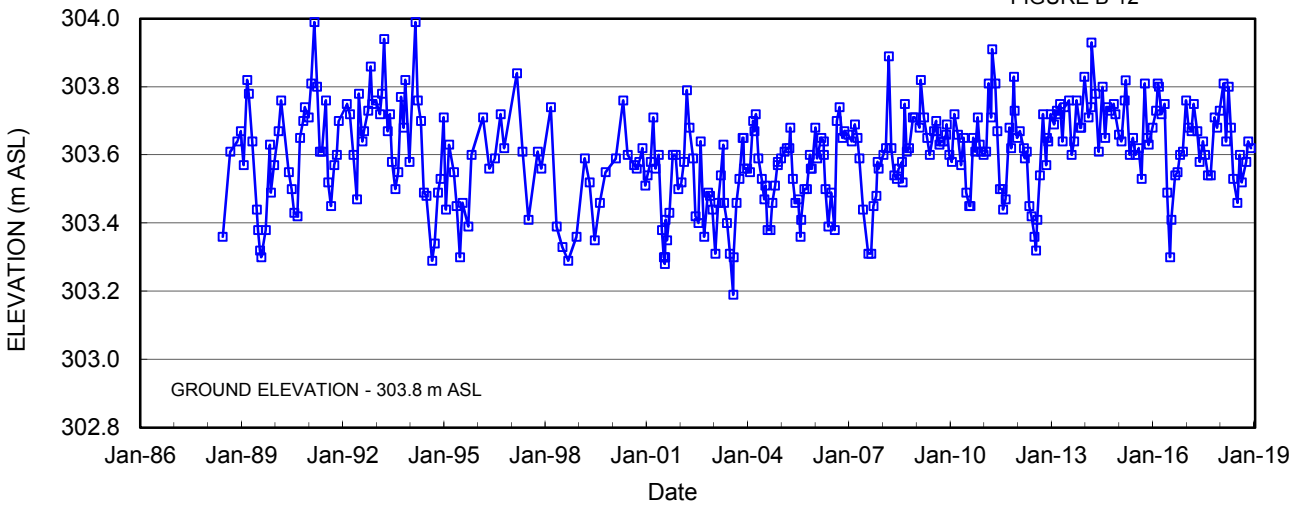
GROUNDWATER HYDROGRAPH
TW16-79

FIGURE B-11



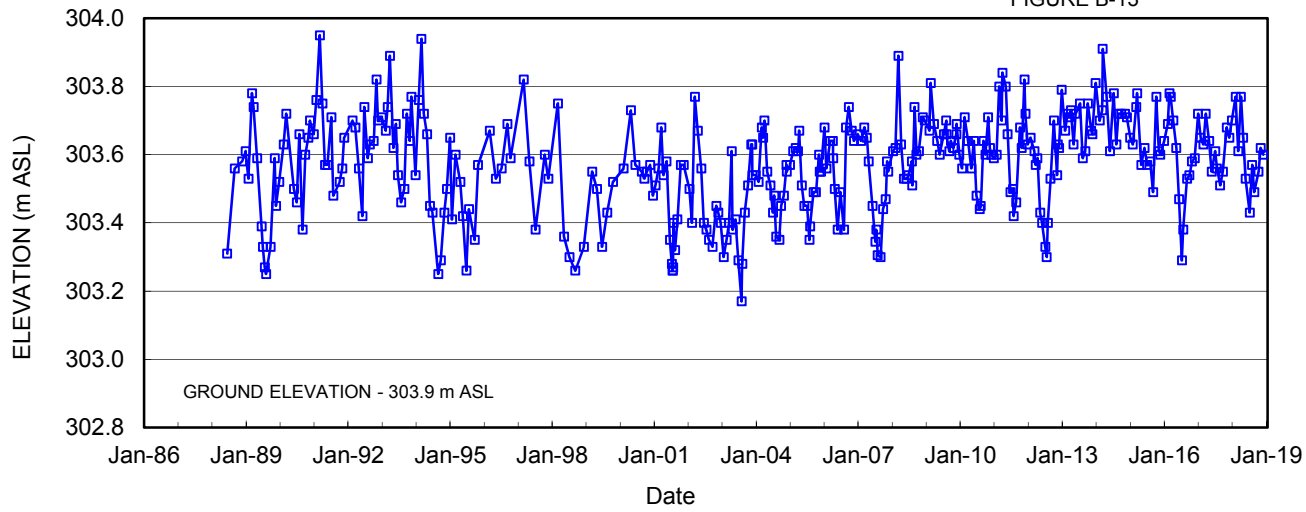
GROUNDWATER HYDROGRAPH
OW1-84

FIGURE B-12



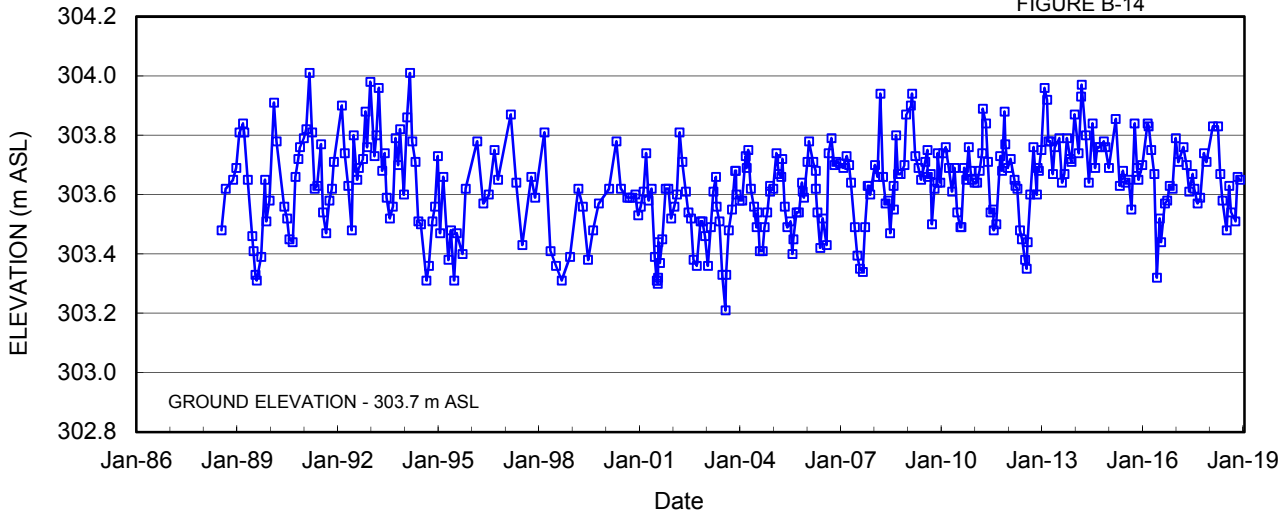
GROUNDWATER HYDROGRAPH
OW2-84

FIGURE B-13



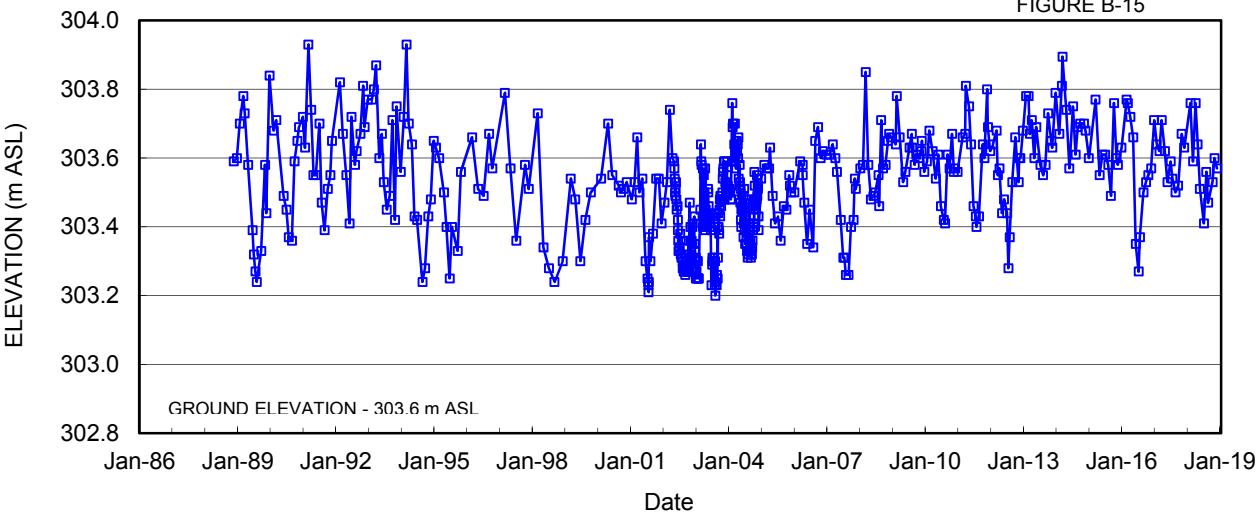
GROUNDWATER HYDROGRAPH
OW4-84

FIGURE B-14



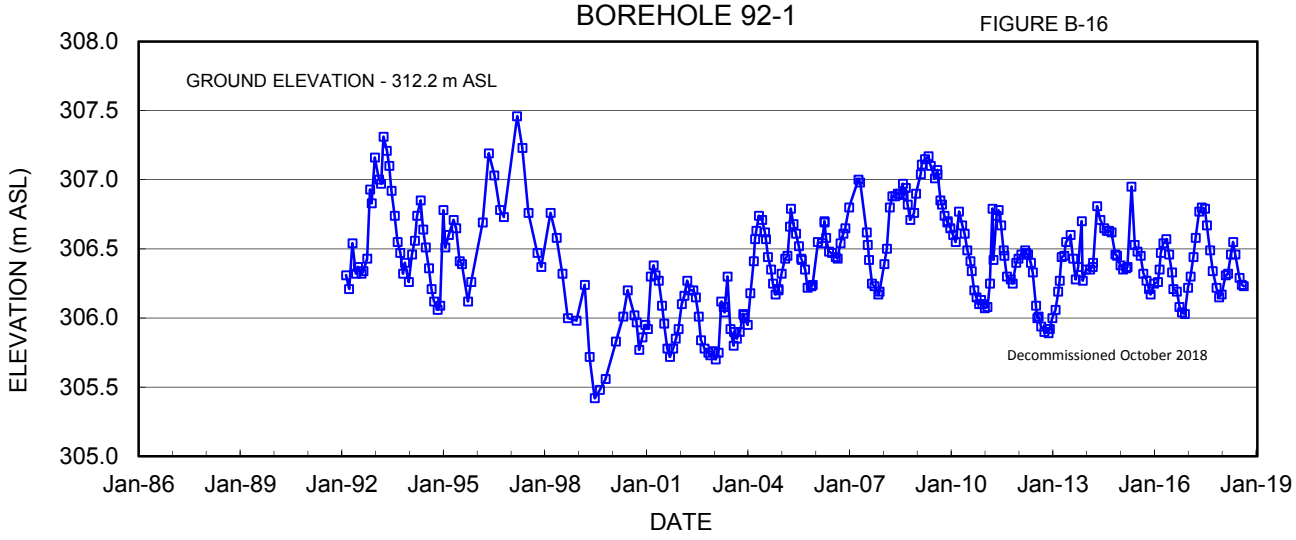
GROUNDWATER HYDROGRAPH
OW5-84

FIGURE B-15



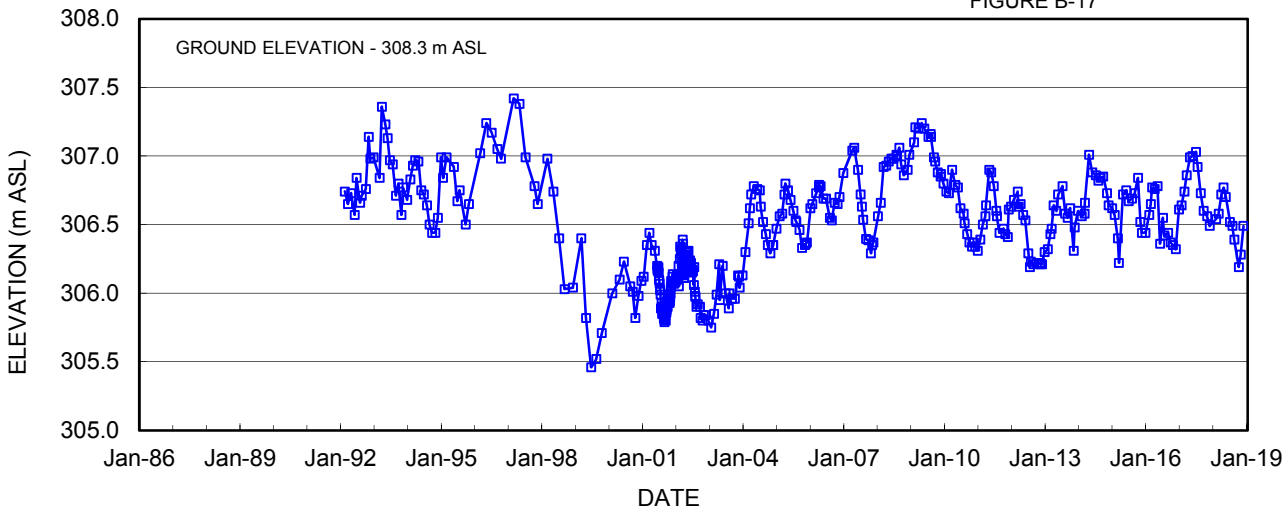
GROUNDWATER HYDROGRAPH
BOREHOLE 92-1

FIGURE B-16



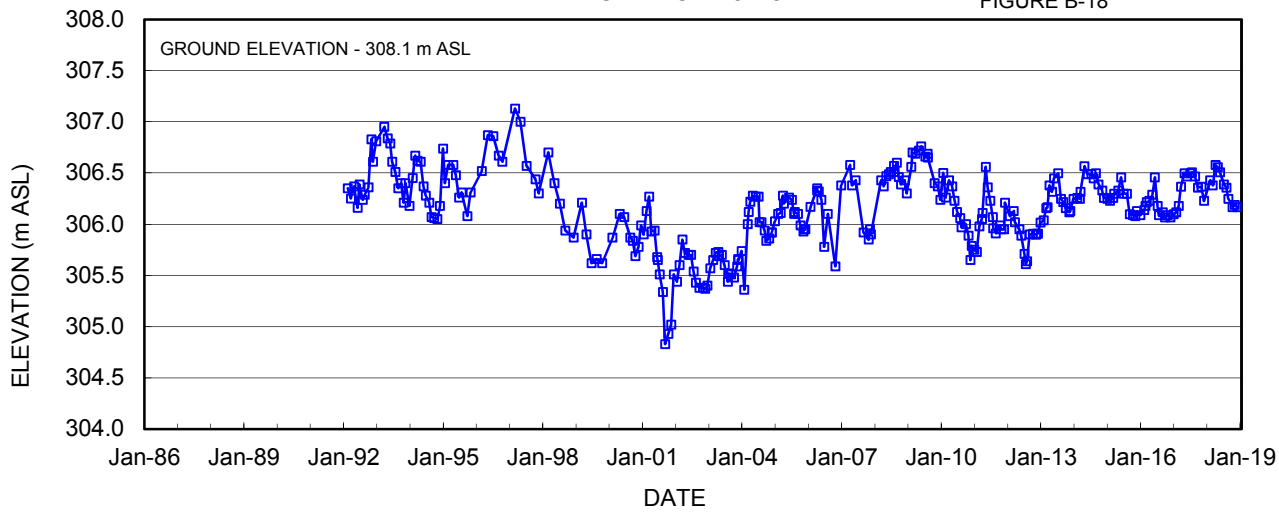
GROUNDWATER HYDROGRAPH
BOREHOLE 92-5

FIGURE B-17



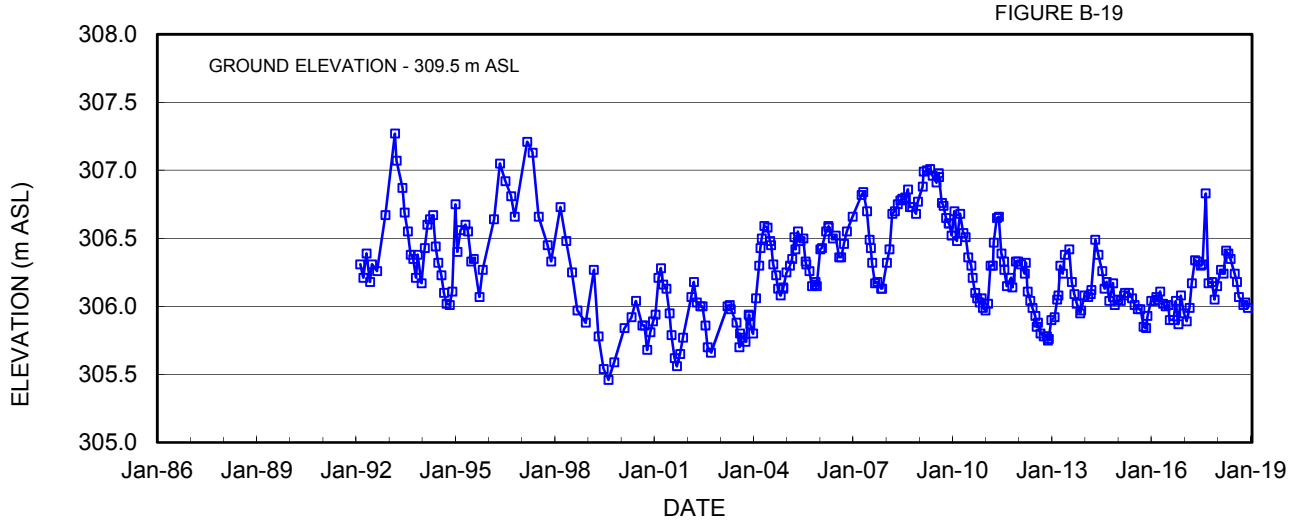
GROUNDWATER HYDROGRAPH
BOREHOLE 92-8

FIGURE B-18



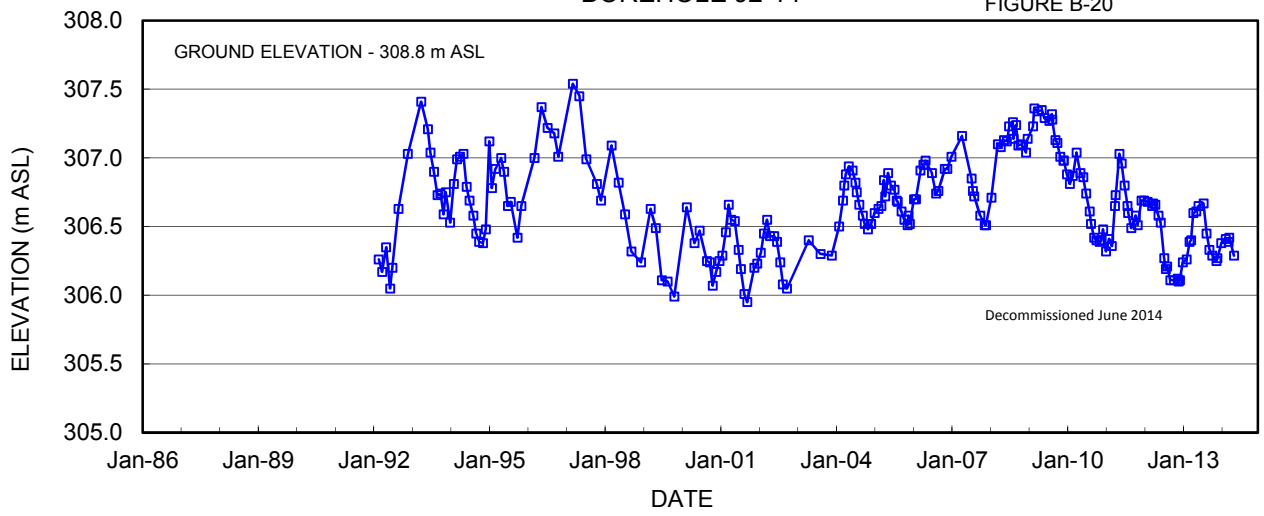
GROUNDWATER HYDROGRAPH
BOREHOLE 92-13

FIGURE B-19



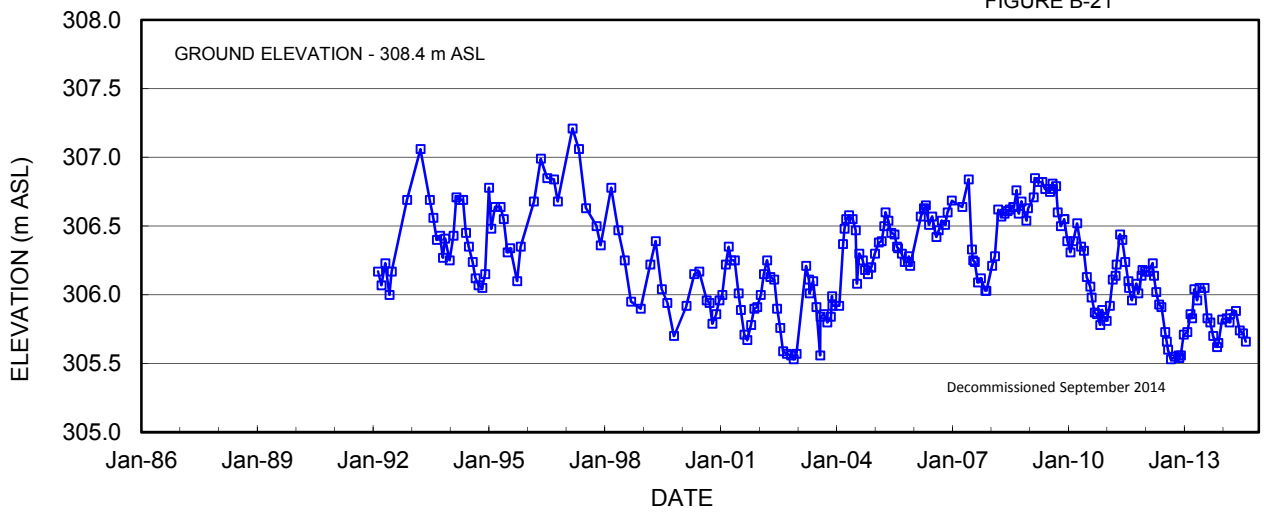
GROUNDWATER HYDROGRAPH
BOREHOLE 92-14

FIGURE B-20



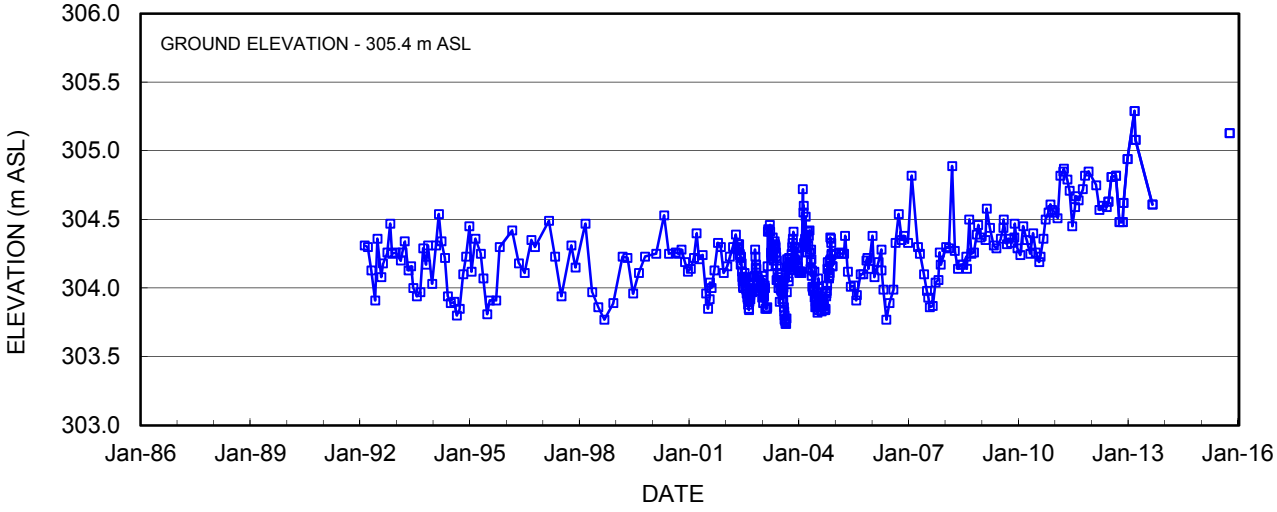
GROUNDWATER HYDROGRAPH
BOREHOLE 92-15

FIGURE B-21



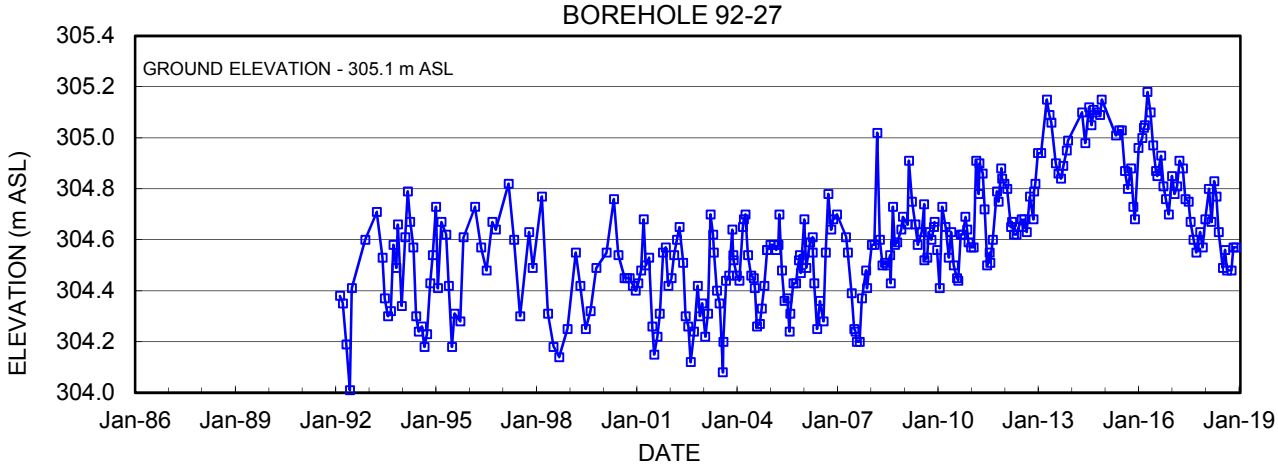
GROUNDWATER HYDROGRAPH
BOREHOLE 92-26

FIGURE B-22



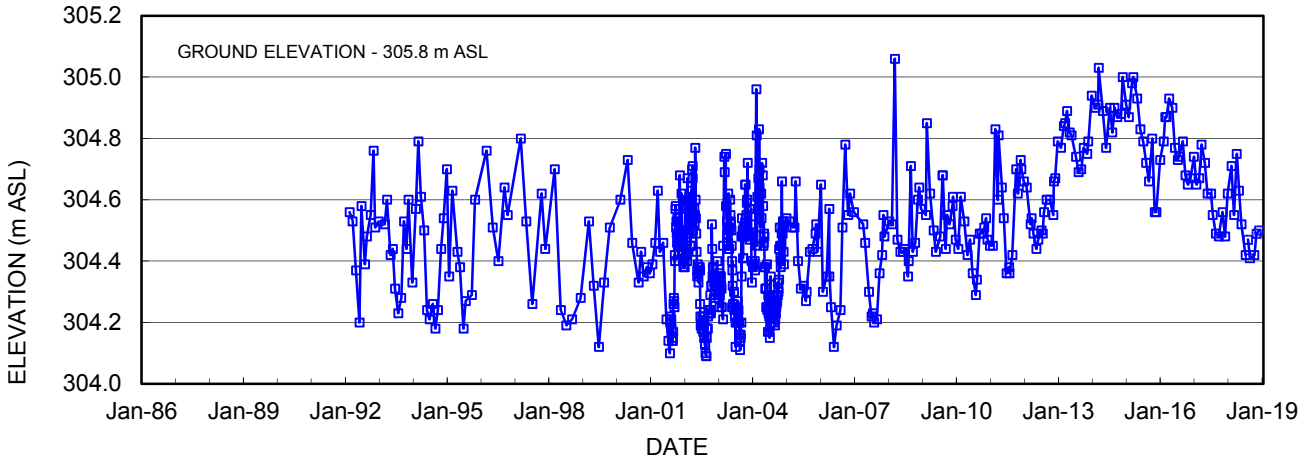
GROUNDWATER HYDROGRAPH
BOREHOLE 92-27

FIGURE B-23



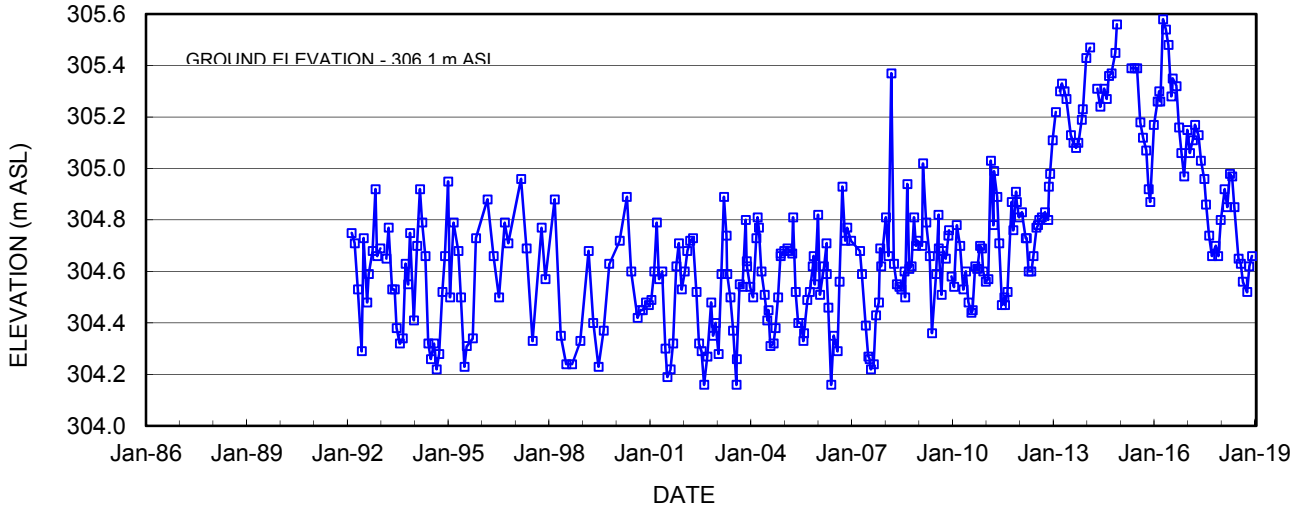
GROUNDWATER HYDROGRAPH
BOREHOLE 92-28

FIGURE B-24



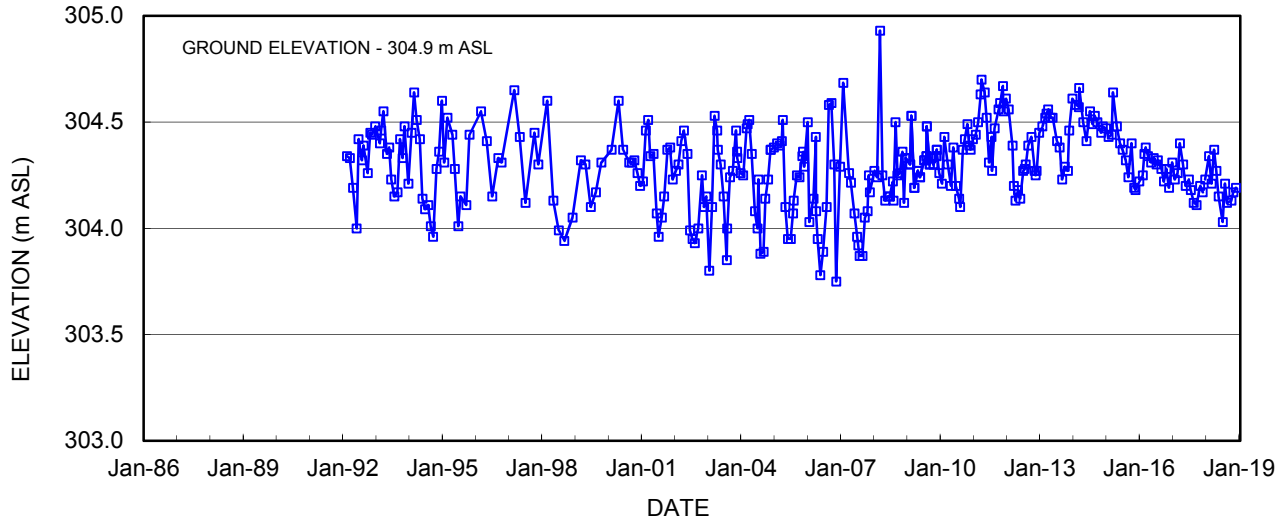
GROUNDWATER HYDROGRAPH
BOREHOLE 92-29

FIGURE B-25



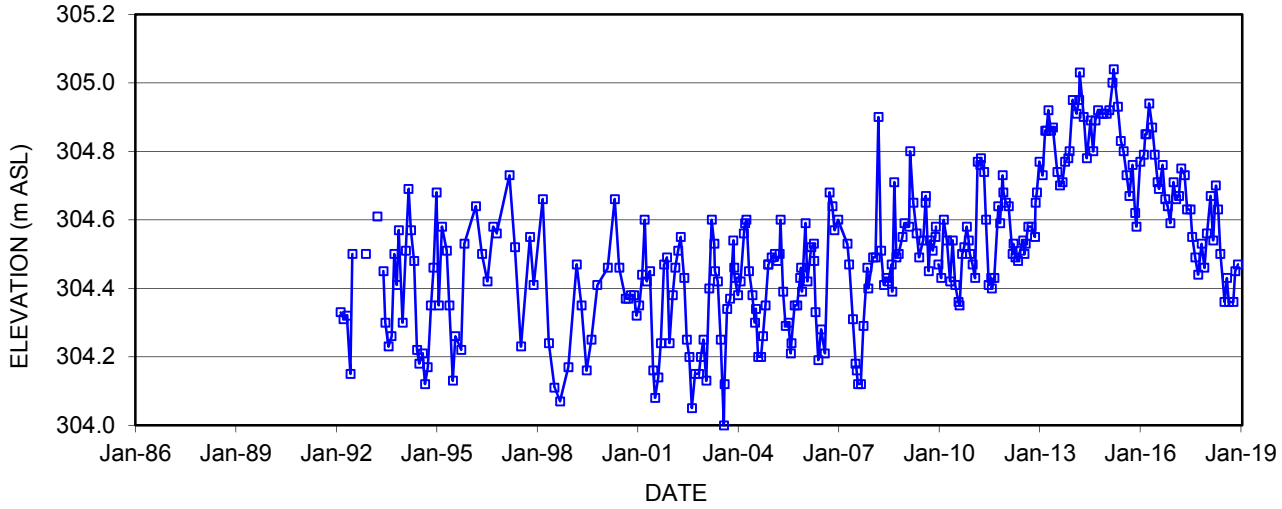
GROUNDWATER HYDROGRAPH
BOREHOLE 92-32

FIGURE B-26



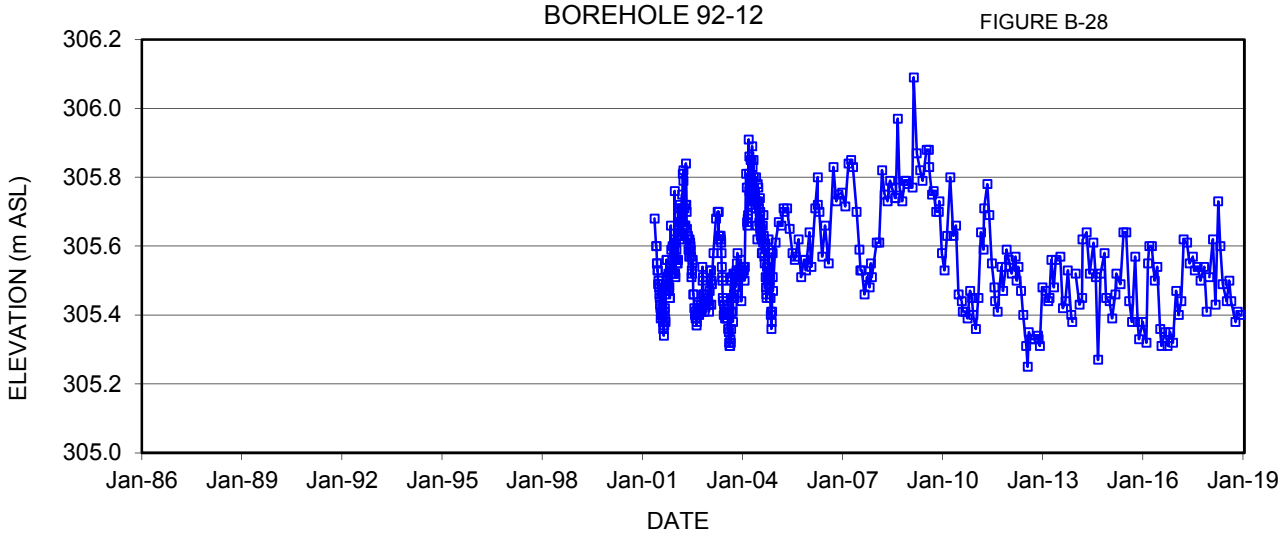
GROUNDWATER HYDROGRAPH
BOREHOLE 92-33

FIGURE B-27



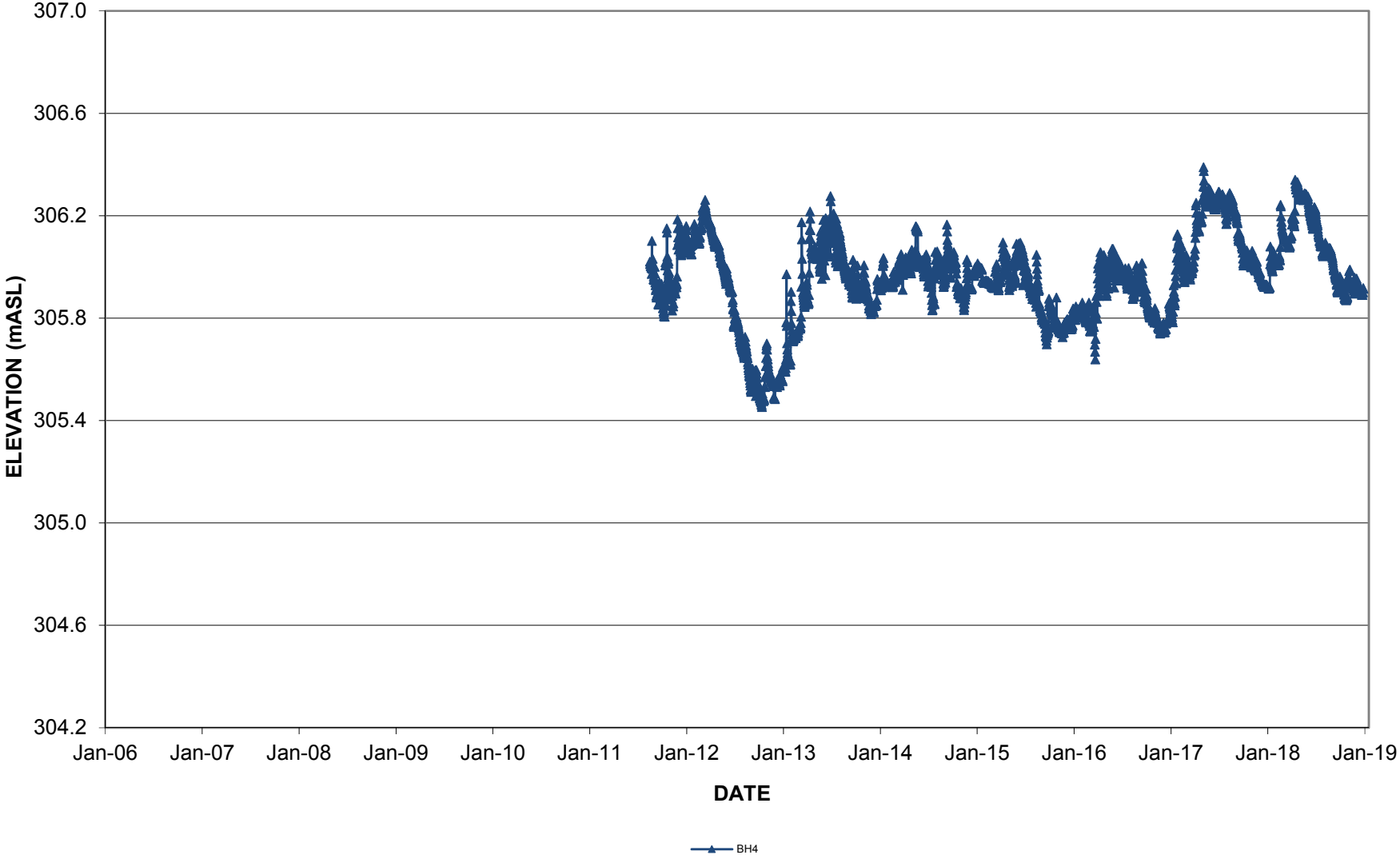
GROUNDWATER HYDROGRAPH
BOREHOLE 92-12

FIGURE B-28



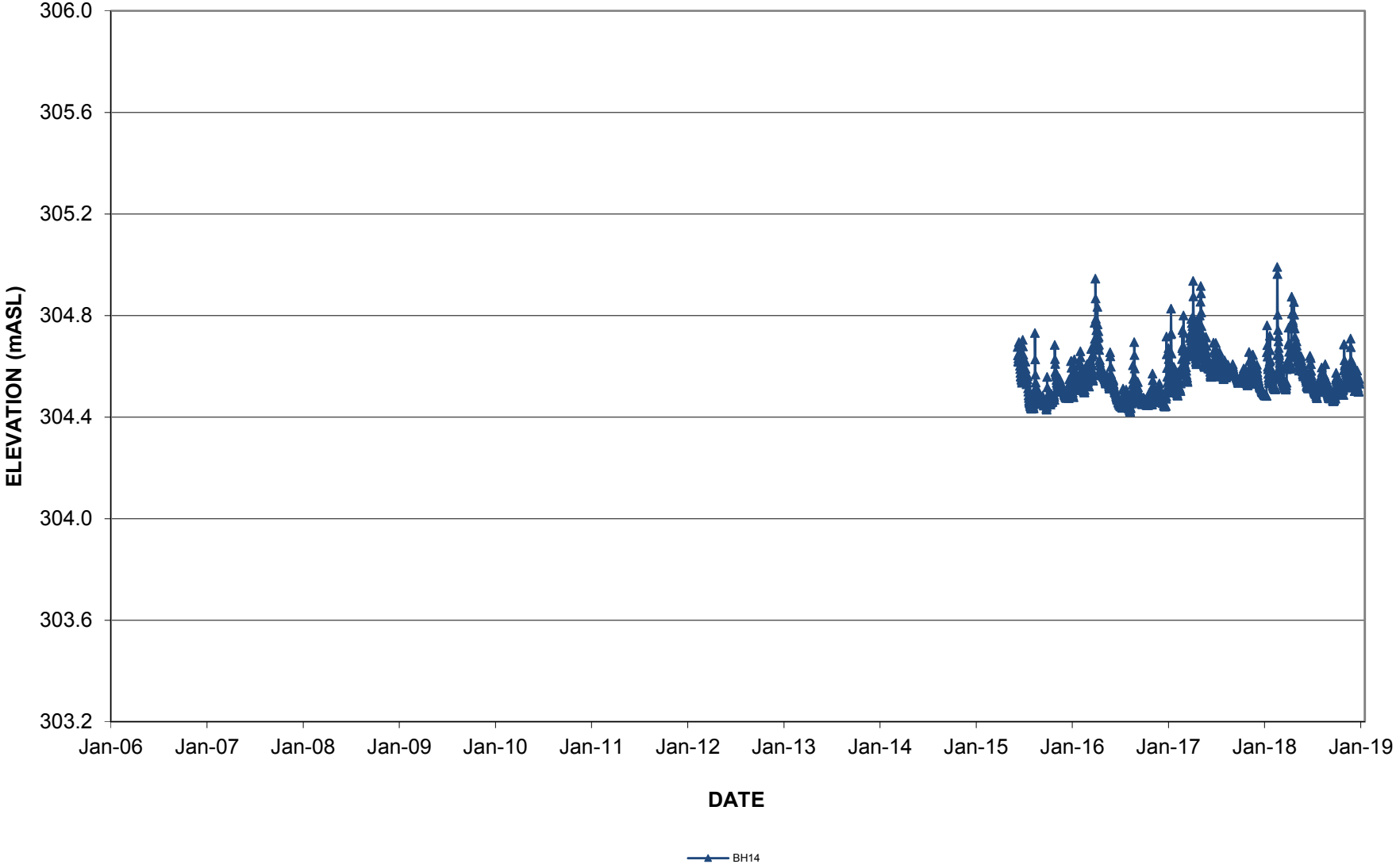
GROUNDWATER HYDROGRAPH

Figure B-29



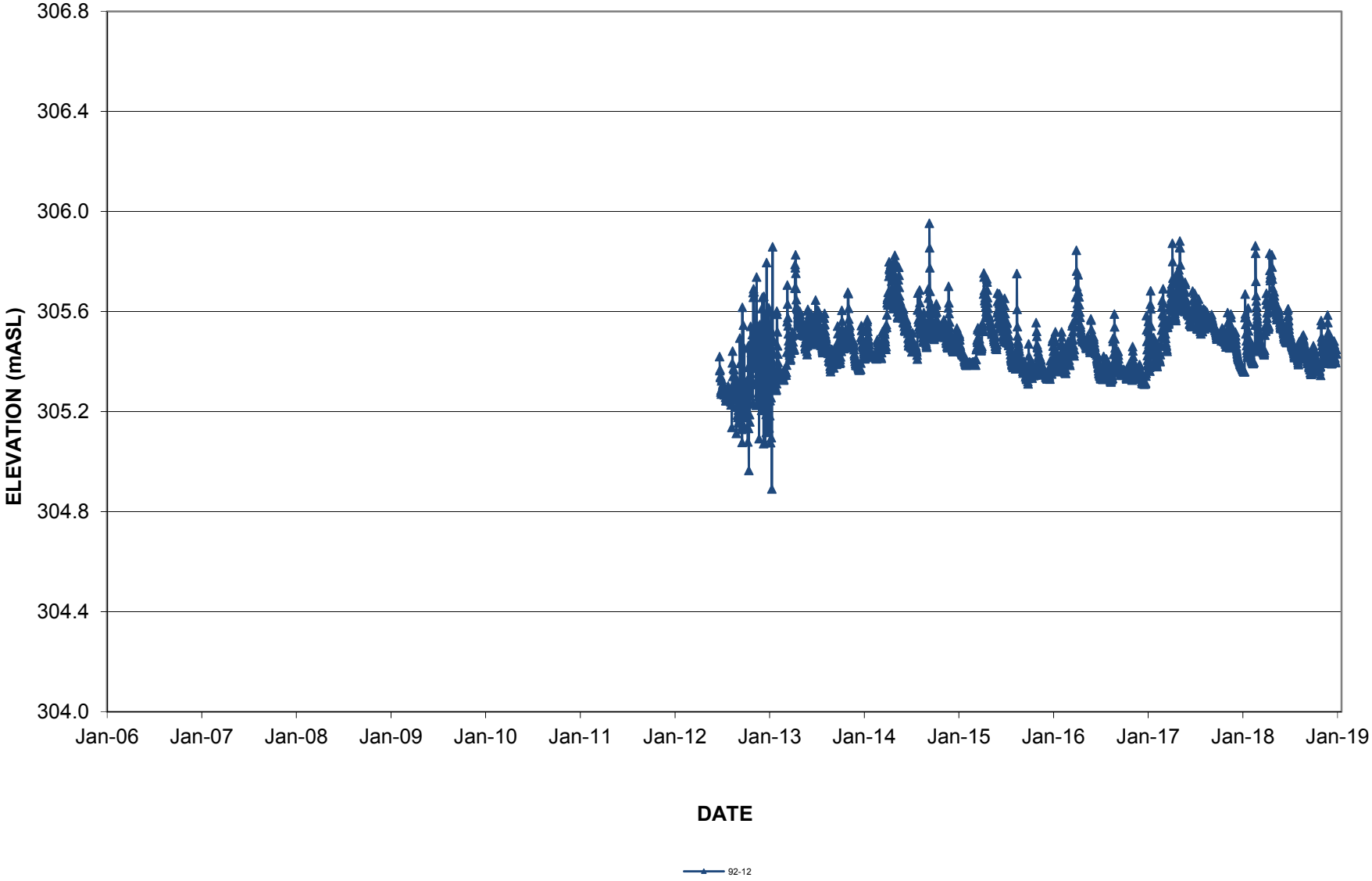
GROUNDWATER HYDROGRAPH

Figure B-30



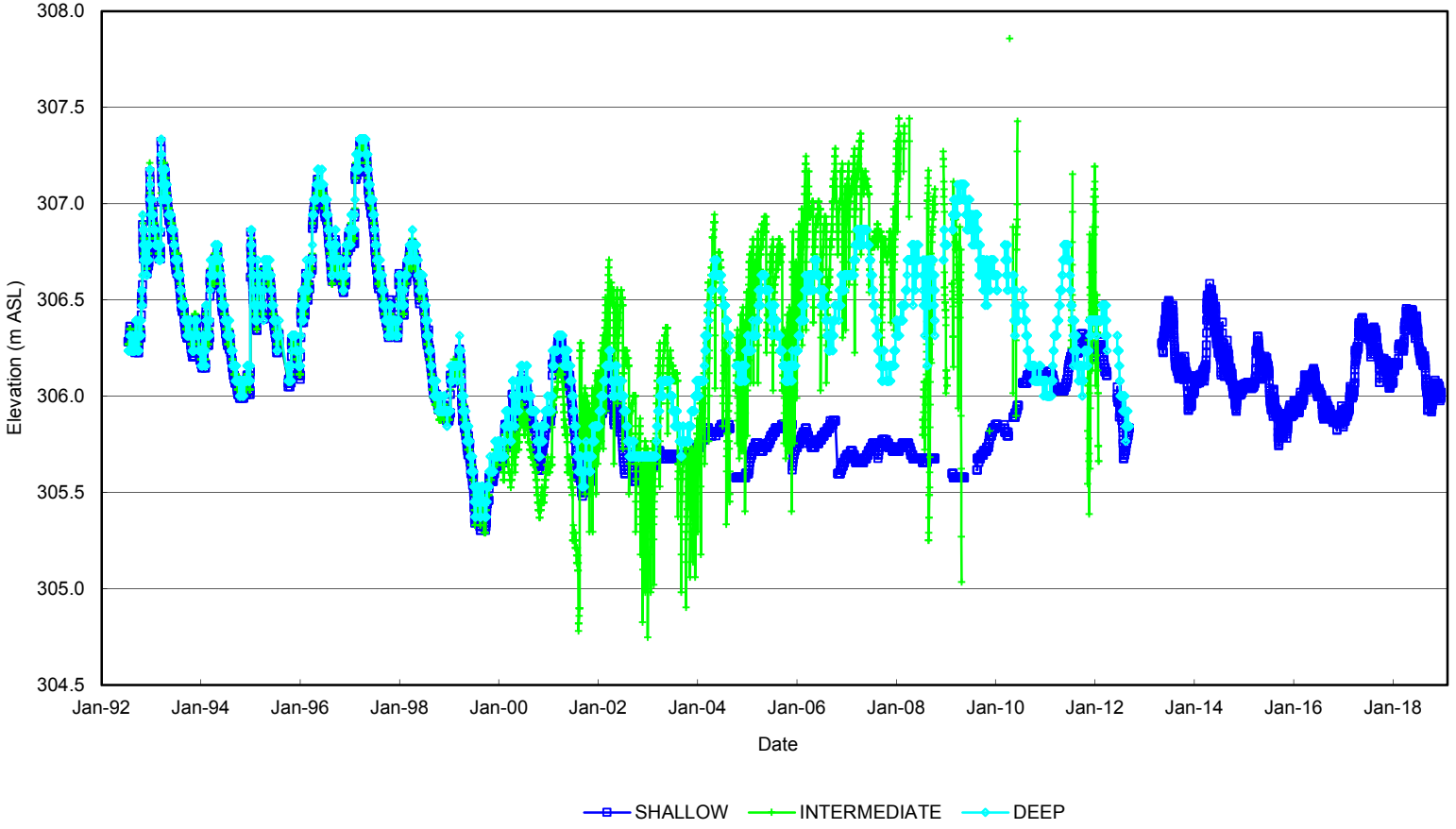
GROUNDWATER HYDROGRAPH

Figure B-31



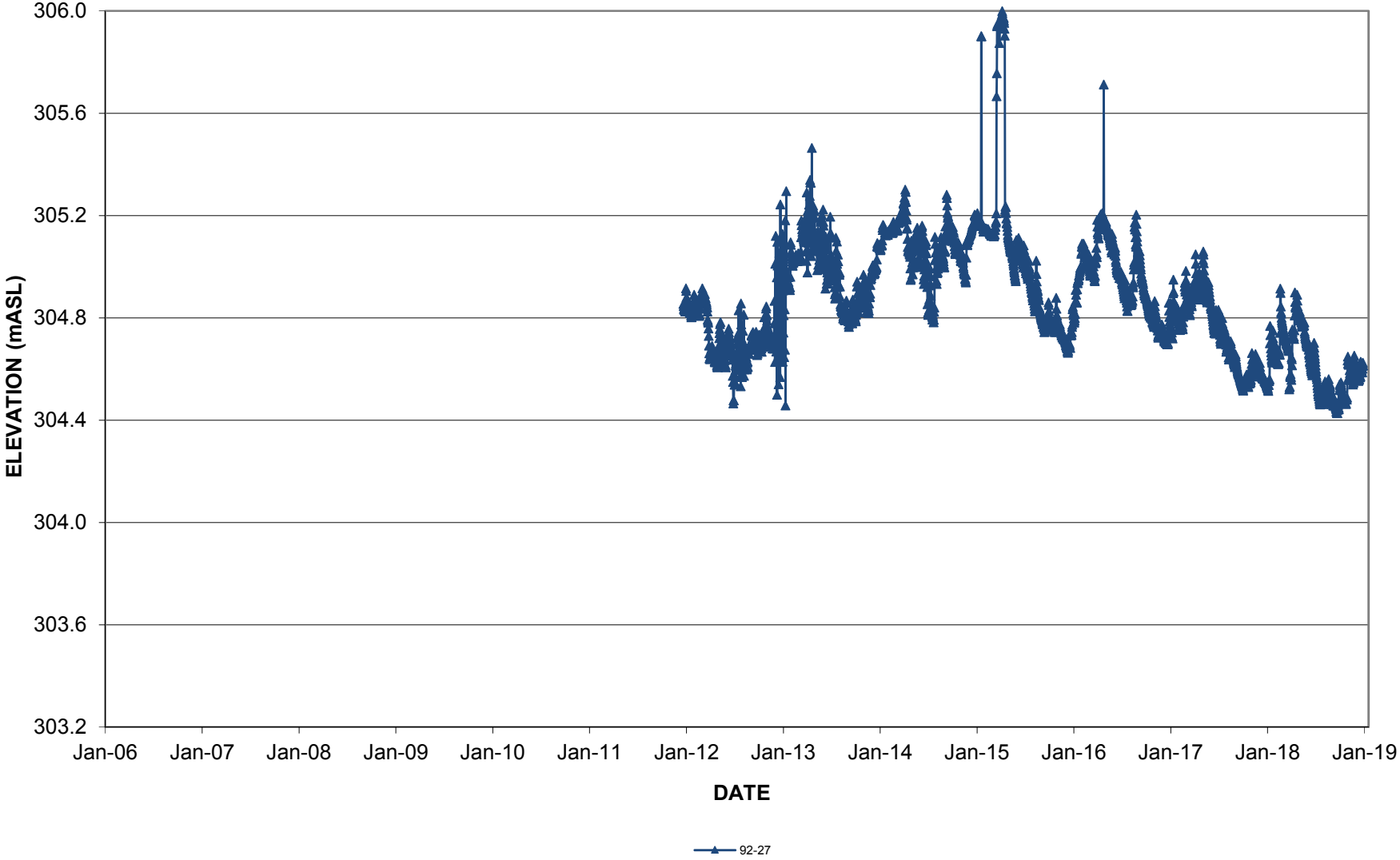
GROUNDWATER HYDROGRAPH
MULTI-LEVEL MONITOR 92-13

FIGURE B-32



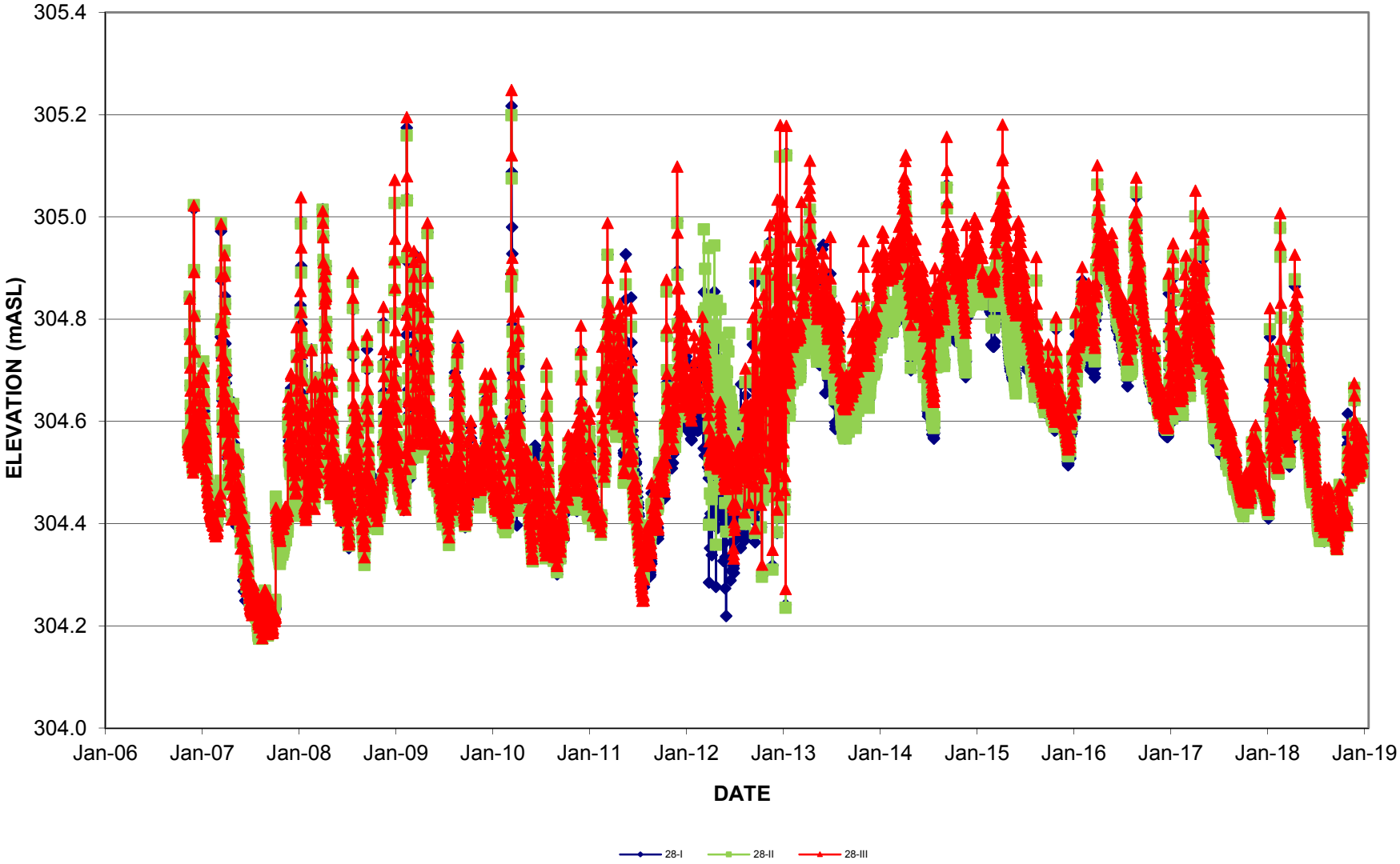
GROUNDWATER HYDROGRAPH

Figure B-33



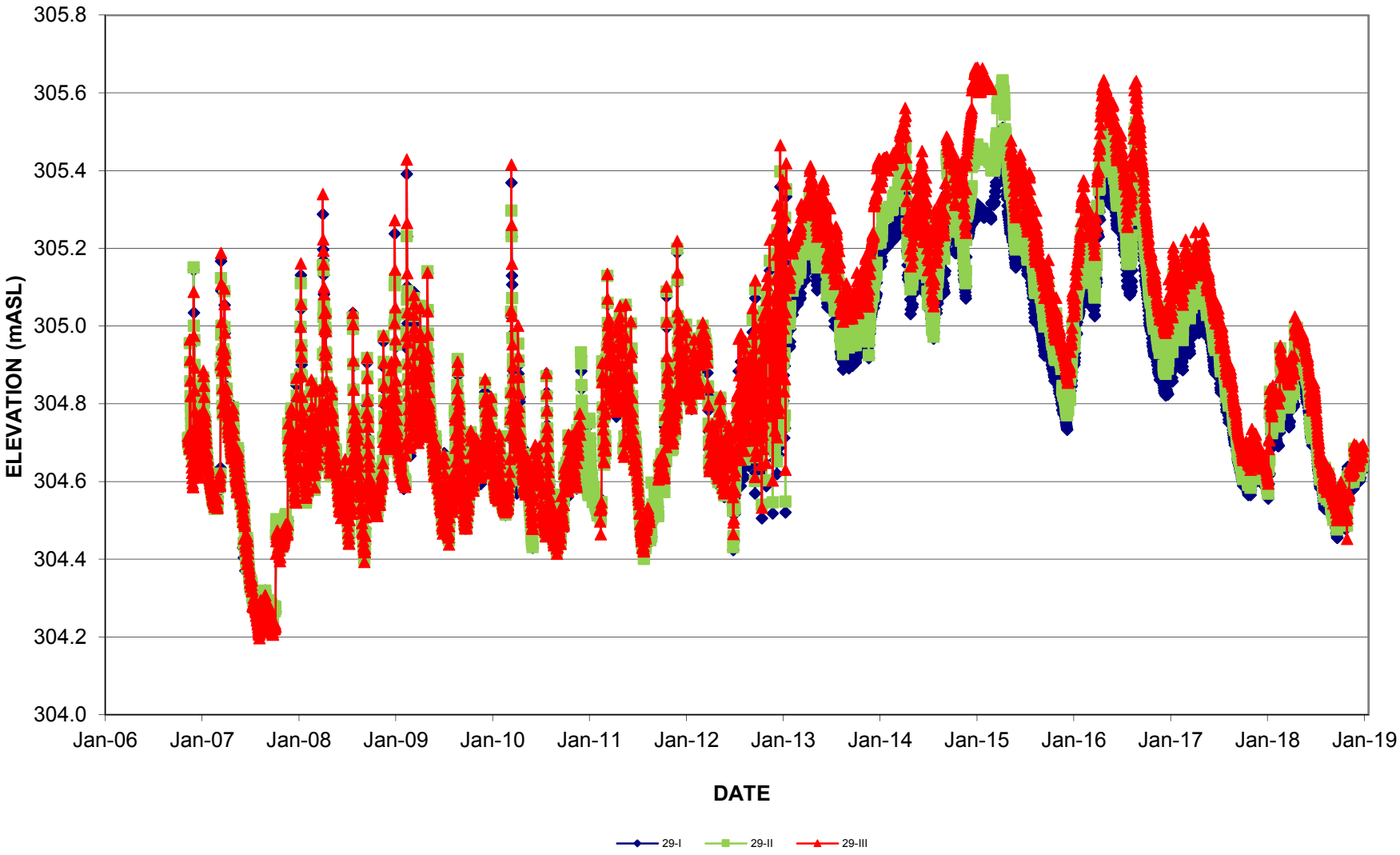
GROUNDWATER HYDROGRAPH

Figure B-34



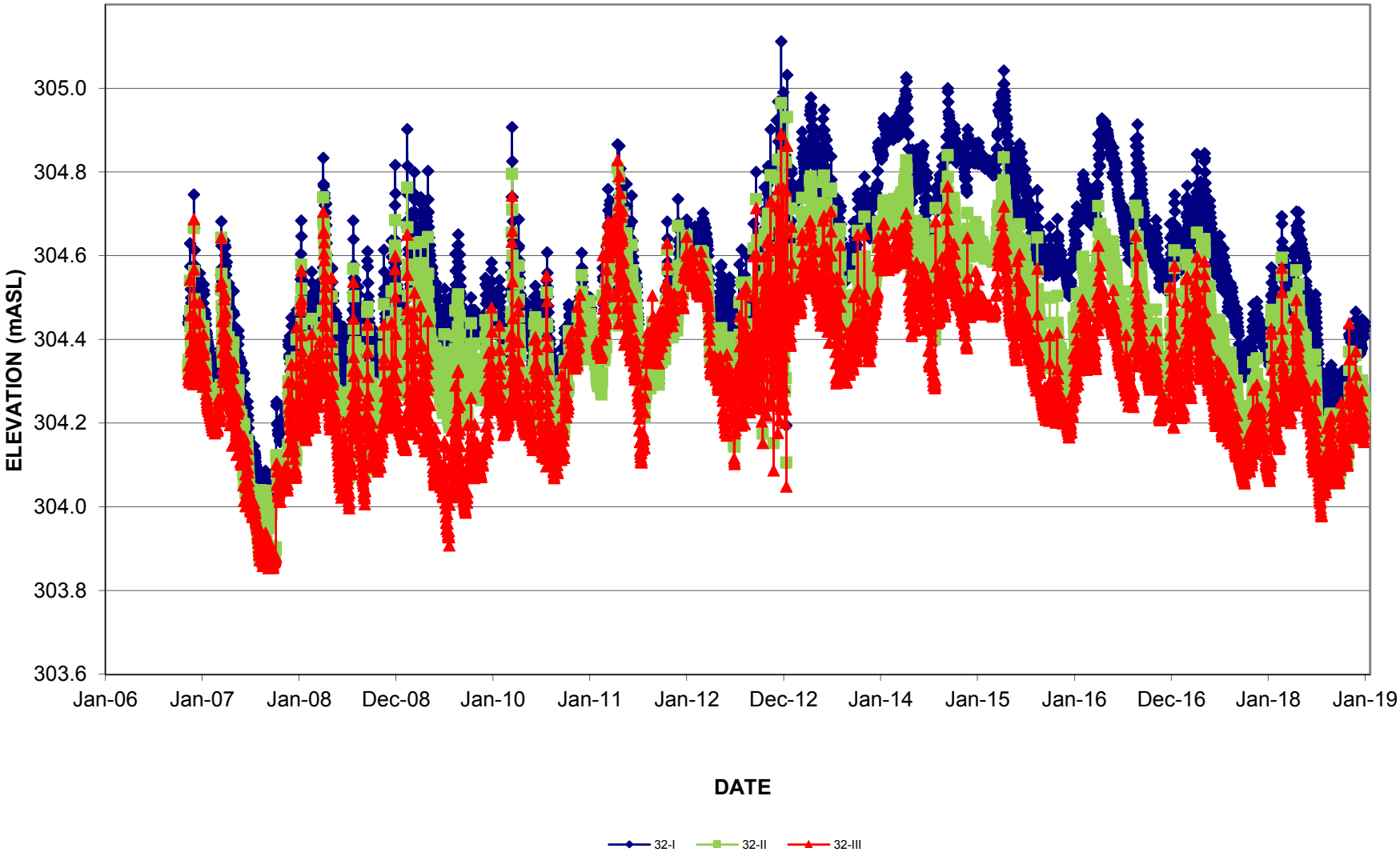
GROUNDWATER HYDROGRAPH

Figure B-35



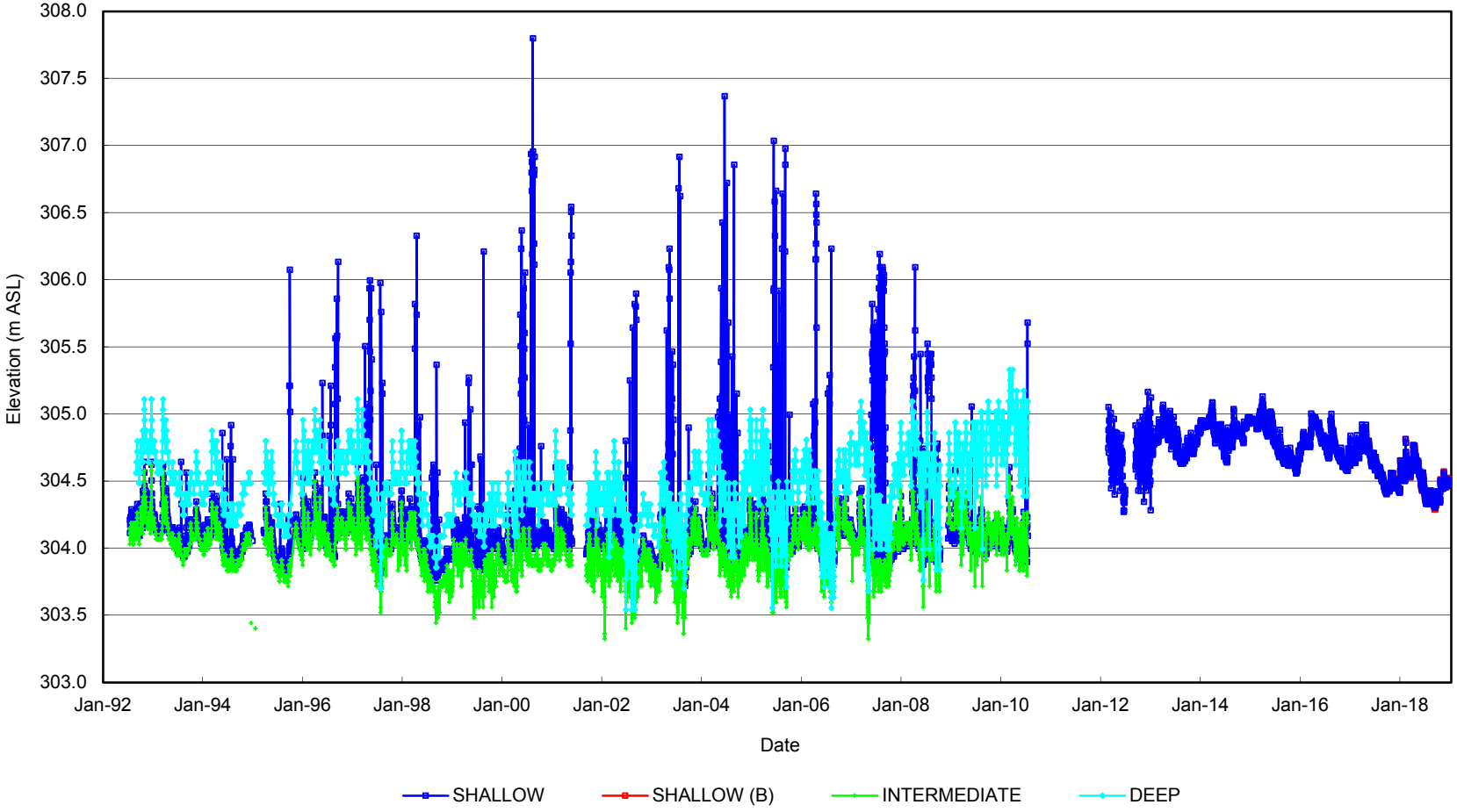
GROUNDWATER HYDROGRAPH

Figure B-36



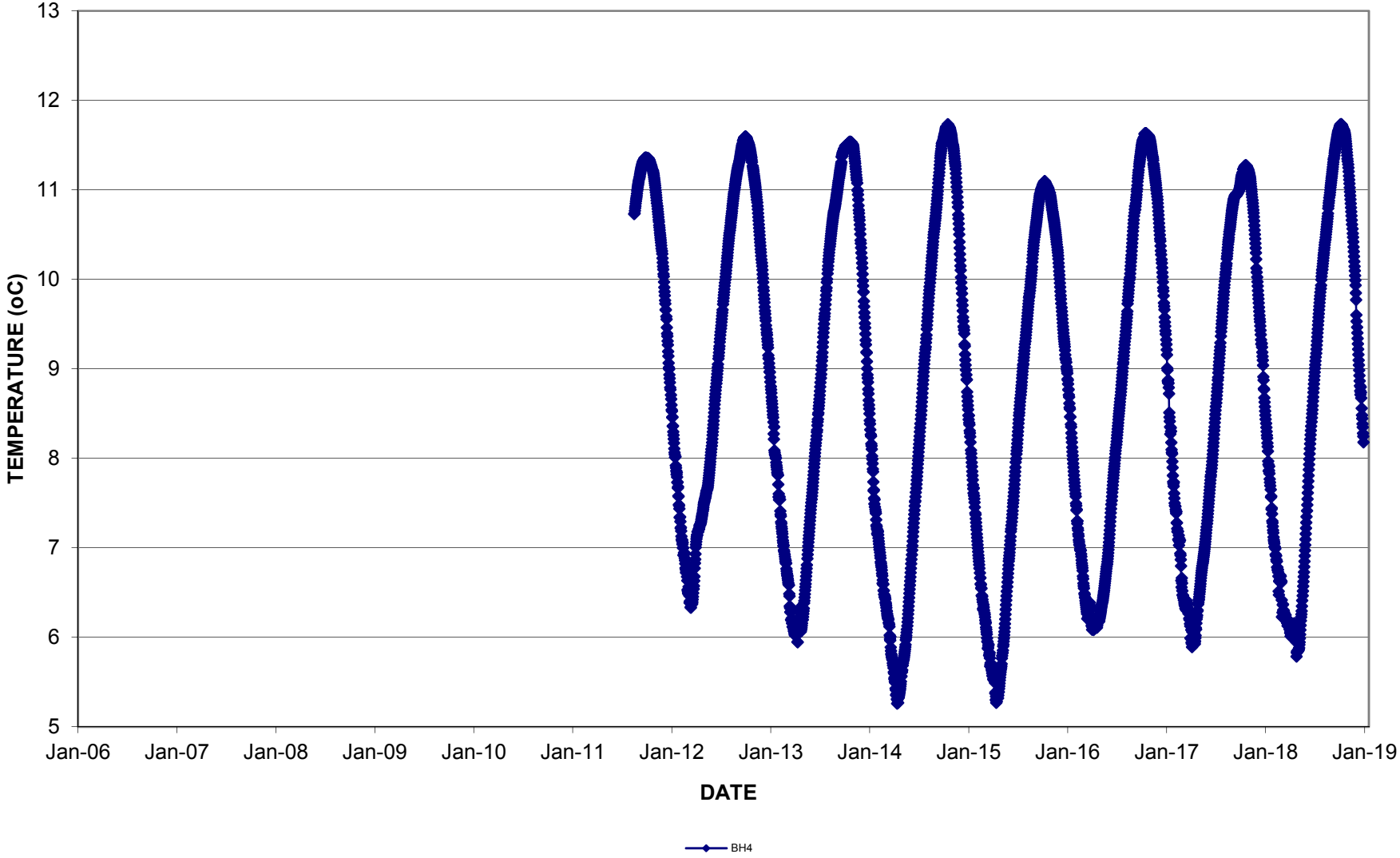
GROUNDWATER HYDROGRAPH
MULTI-LEVEL MONITOR 92-33

FIGURE B-37



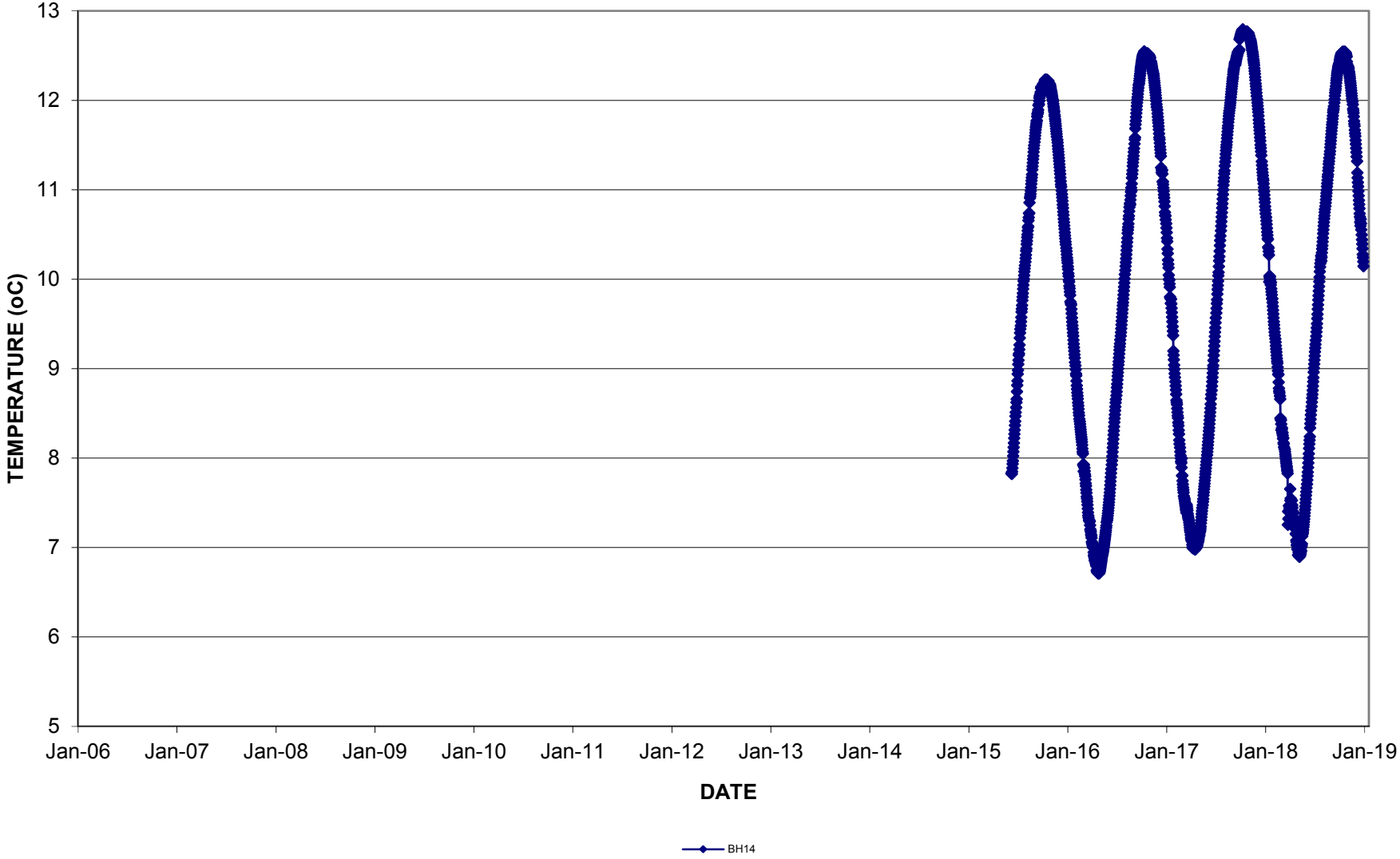
GROUNDWATER THERMOGRAPH

Figure B-38



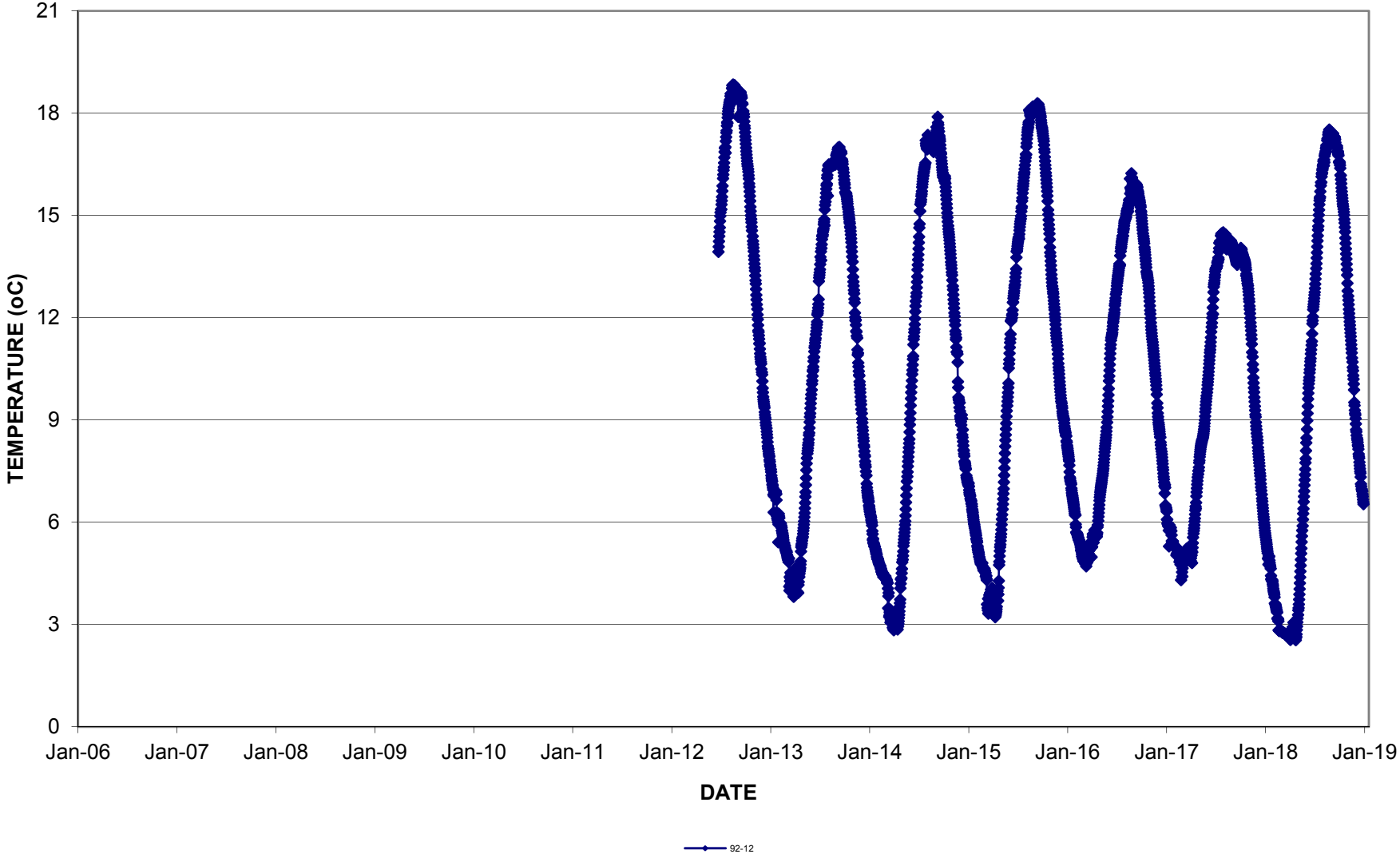
GROUNDWATER THERMOGRAPH

Figure B-39



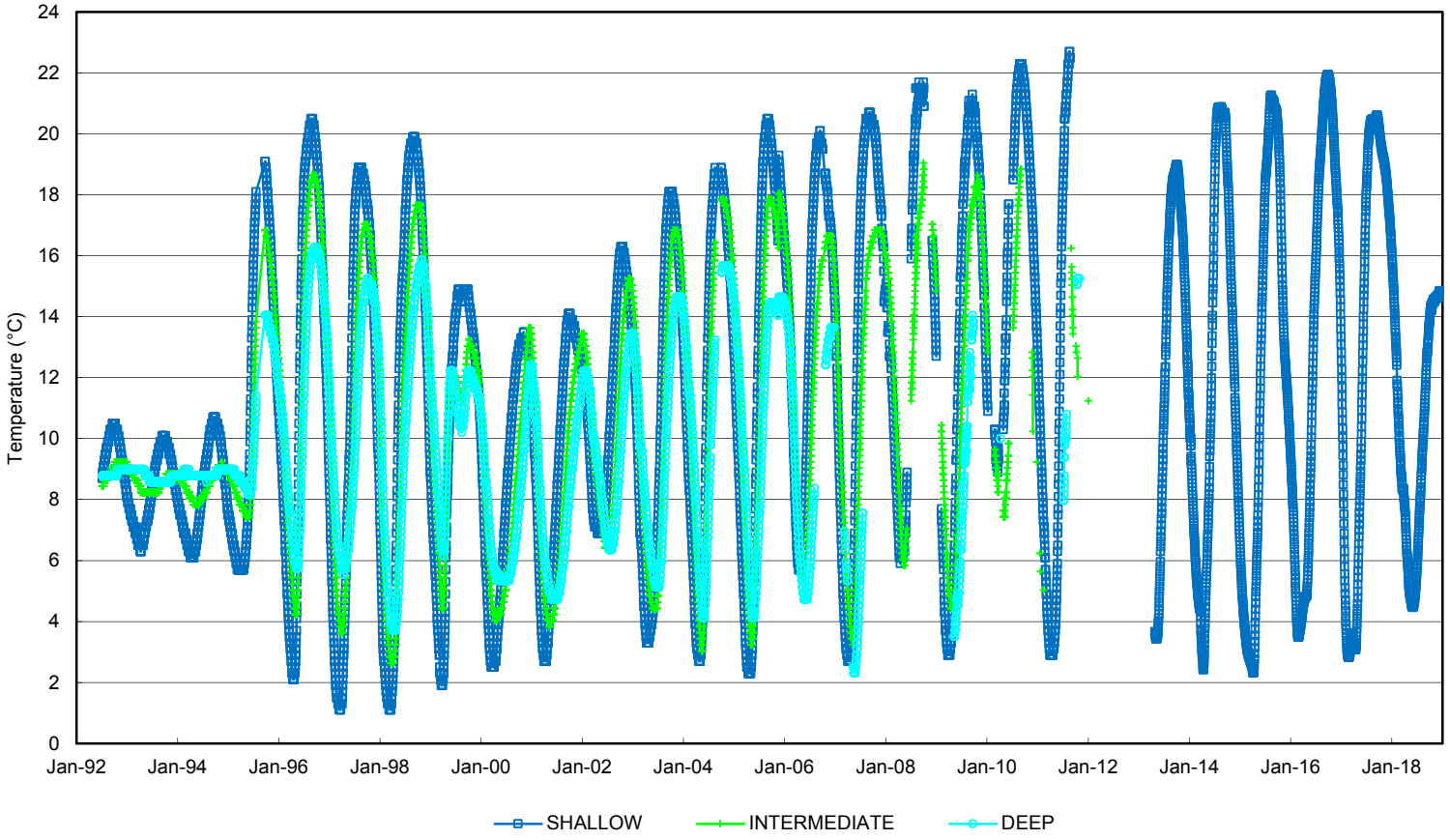
GROUNDWATER THERMOGRAPH

Figure B-40



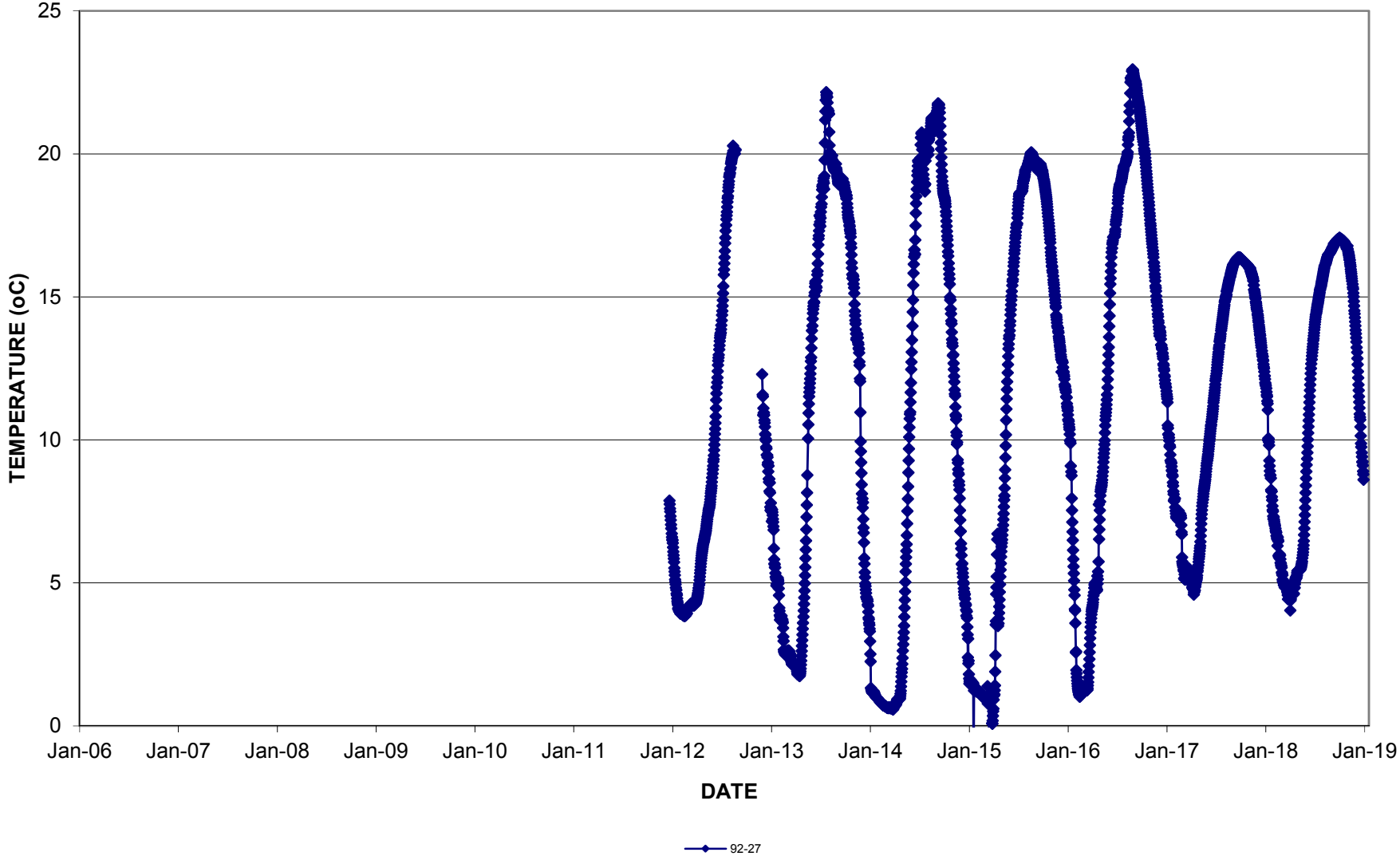
GROUNDWATER THERMOGRAPH
MULTI-LEVEL MONITOR 92-13

FIGURE B-41



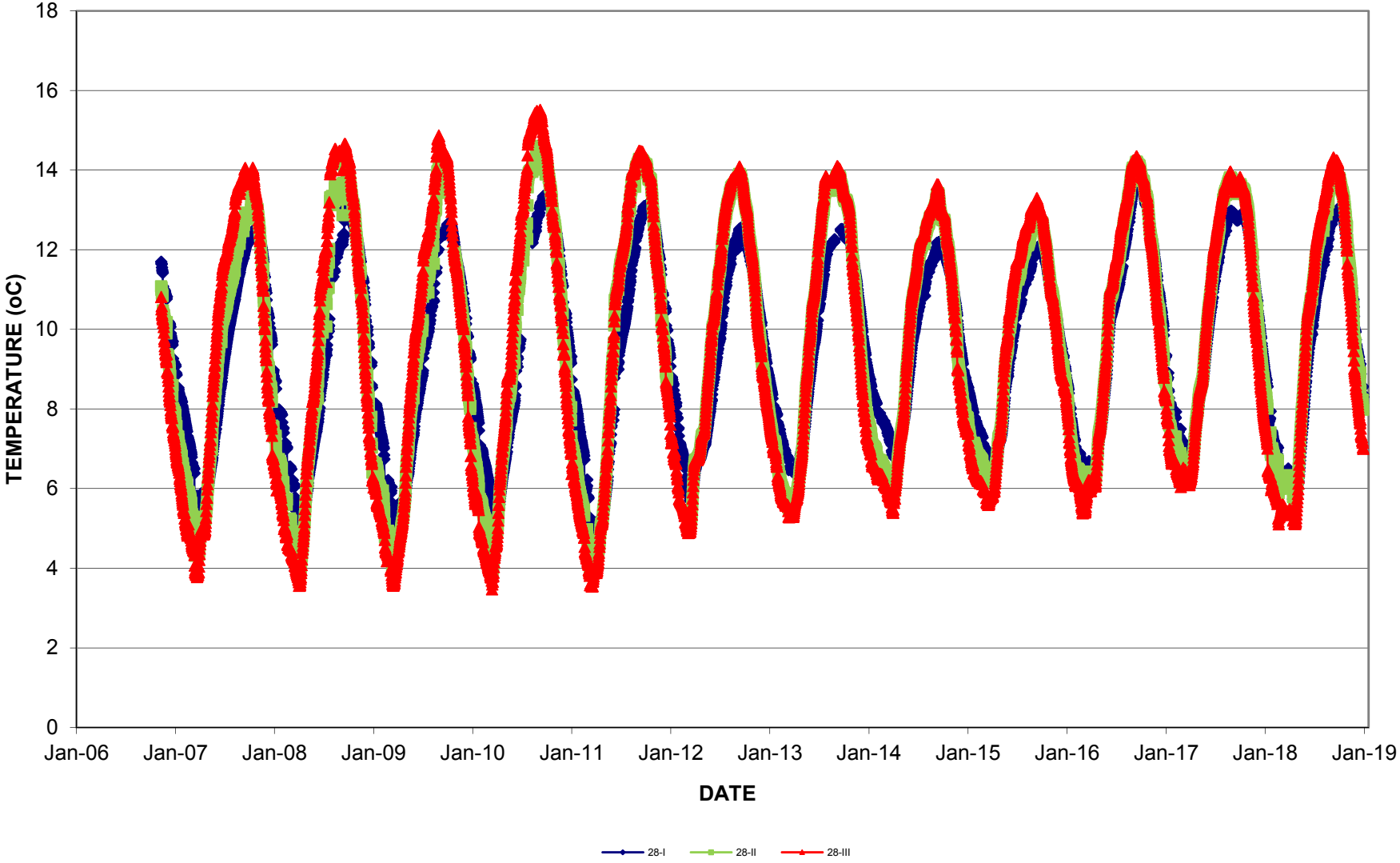
GROUNDWATER THERMOGRAPH

Figure B-42



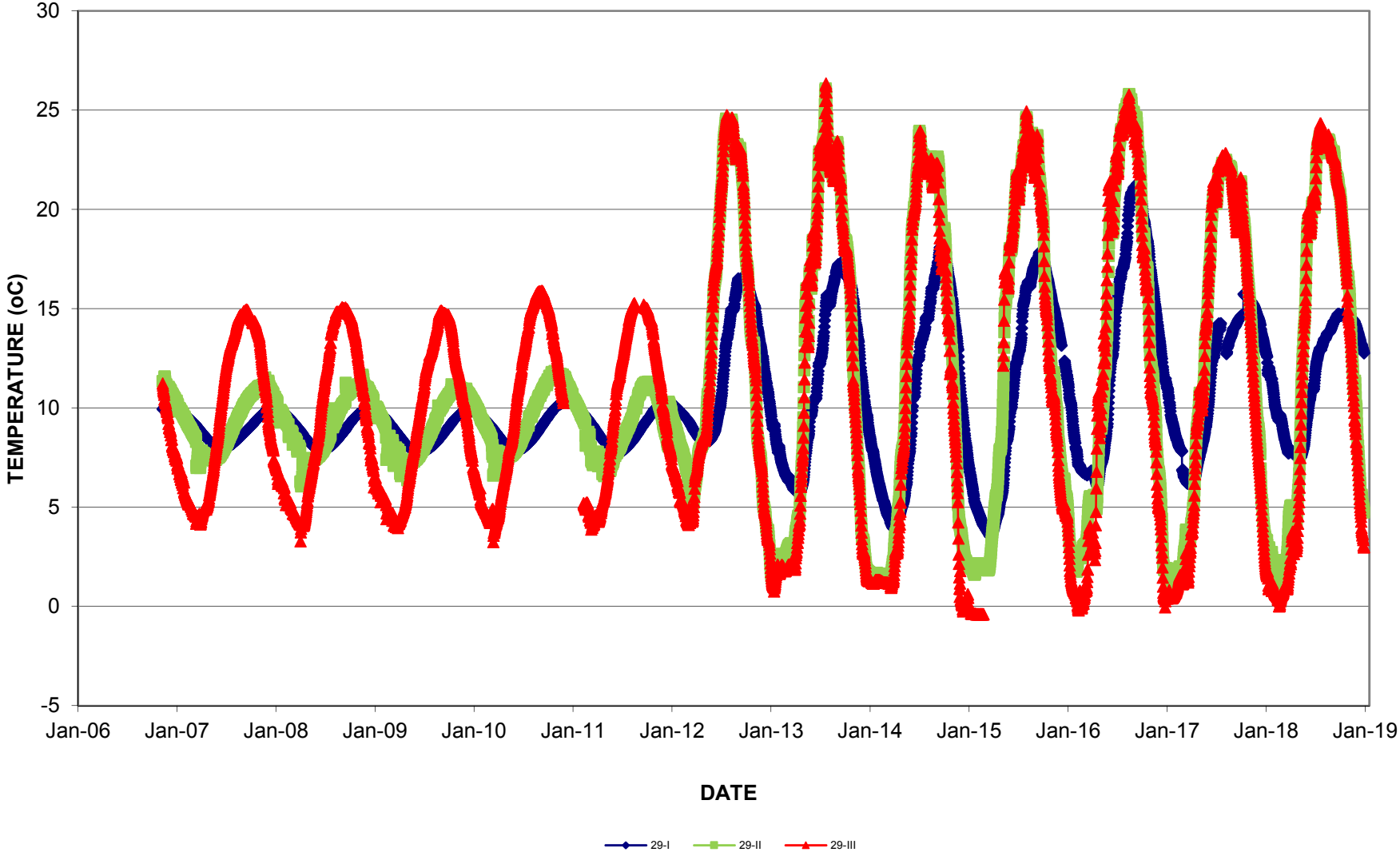
GROUNDWATER THERMOGRAPH

Figure B-43



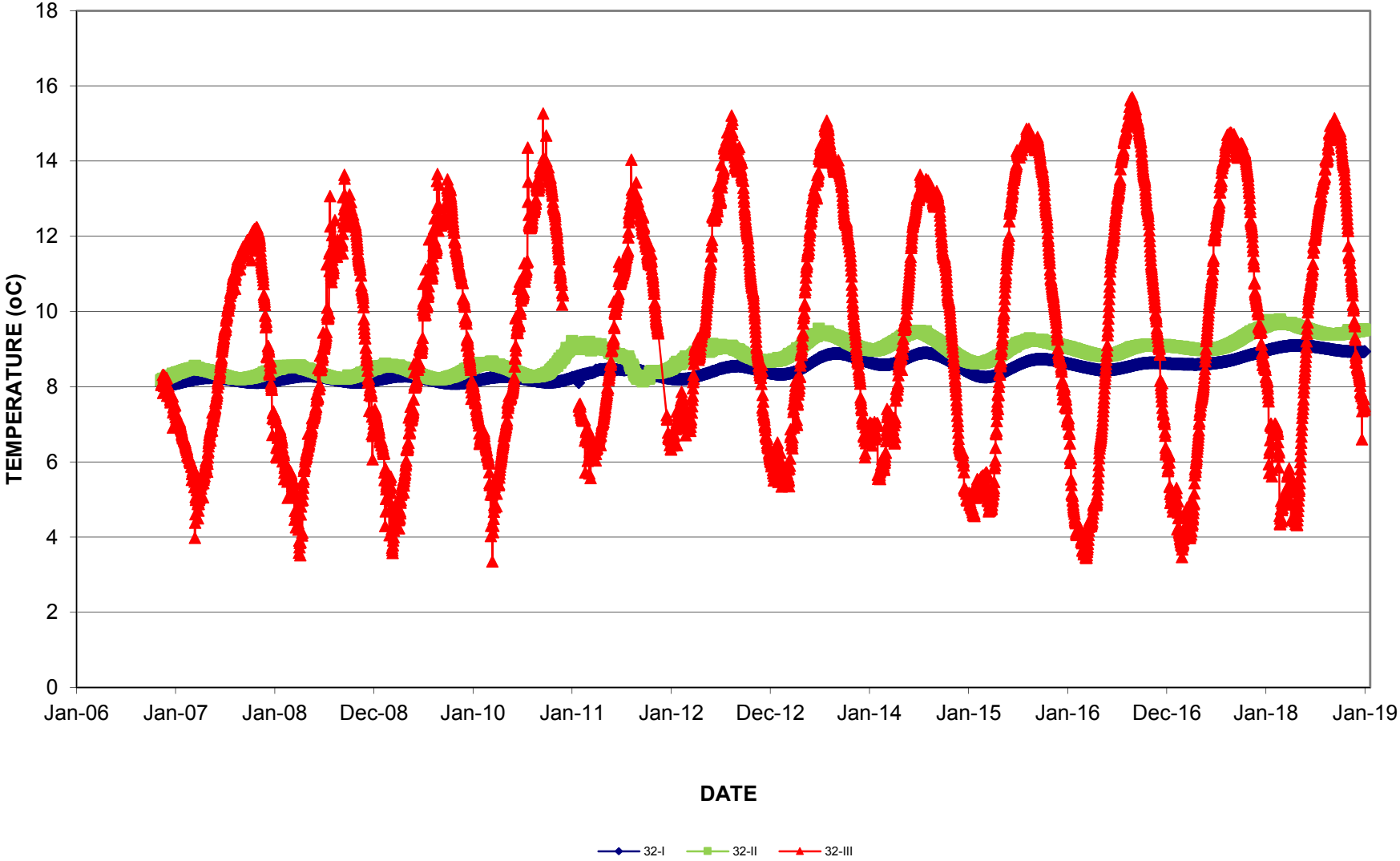
GROUNDWATER THERMOGRAPH

Figure B-44



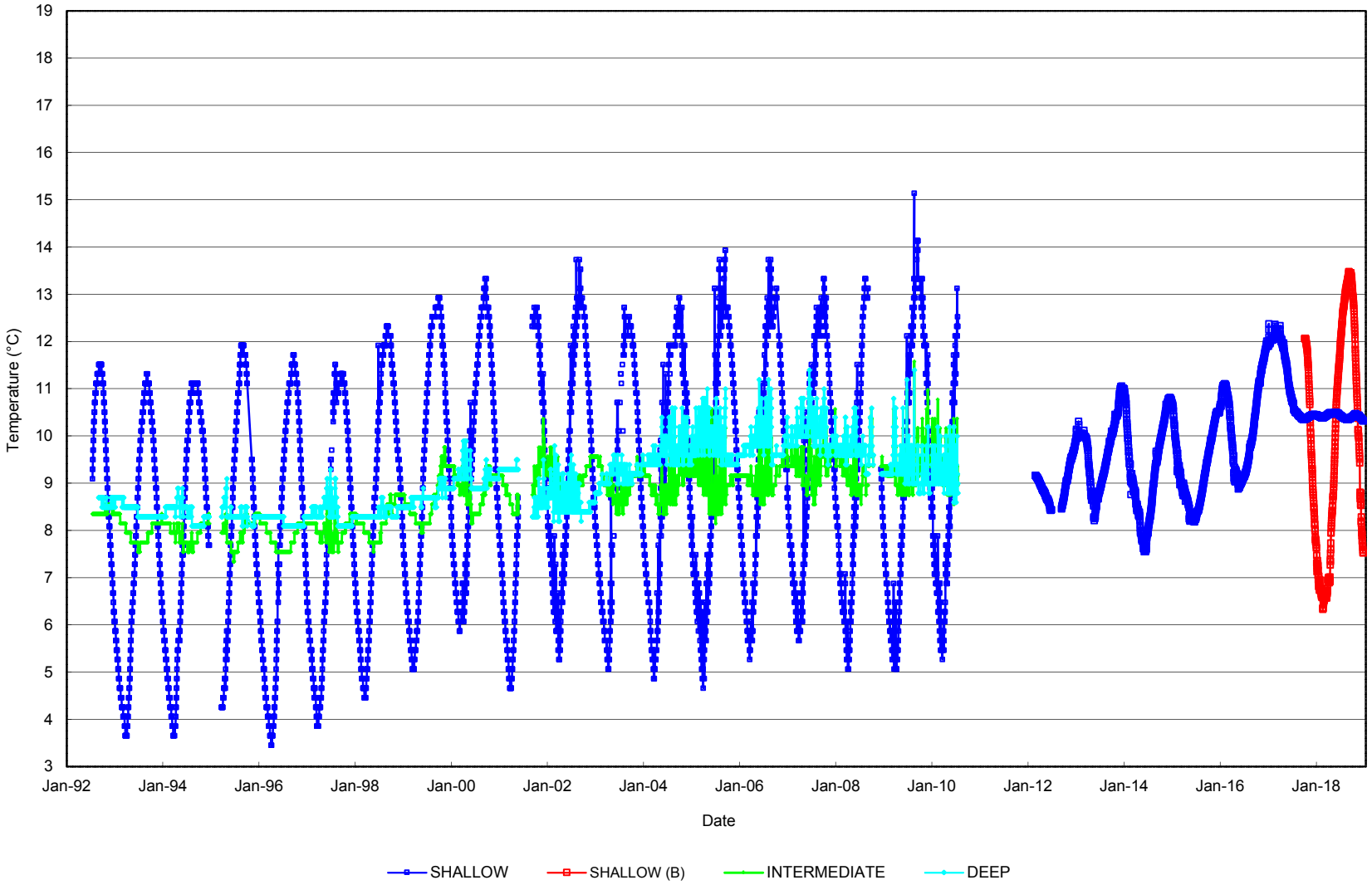
GROUNDWATER THERMOGRAPH

Figure B-45



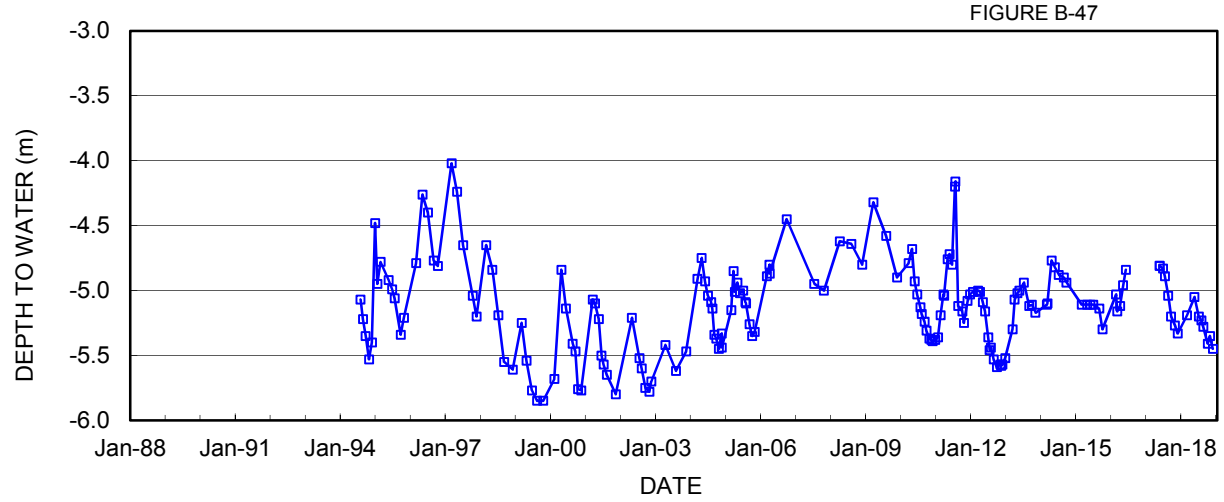
GROUNDWATER THERMOGRAPH
MULTI-LEVEL MONITOR 92-33

FIGURE B-46



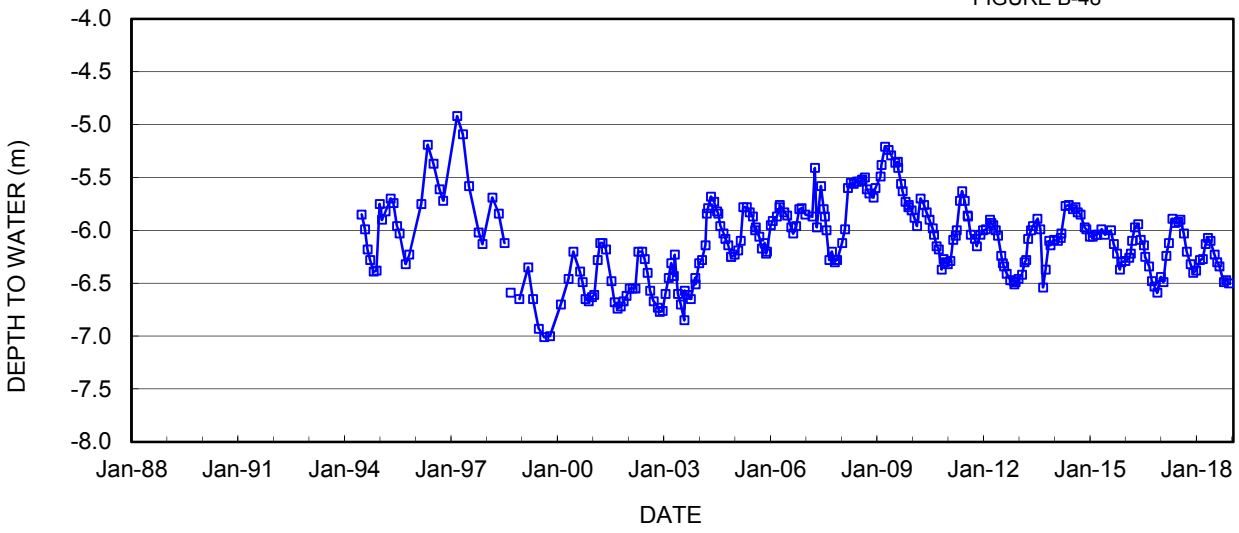
GROUNDWATER HYDROGRAPH
NORTH FARMHOUSE WELL (MOE WELL 4794)

FIGURE B-47



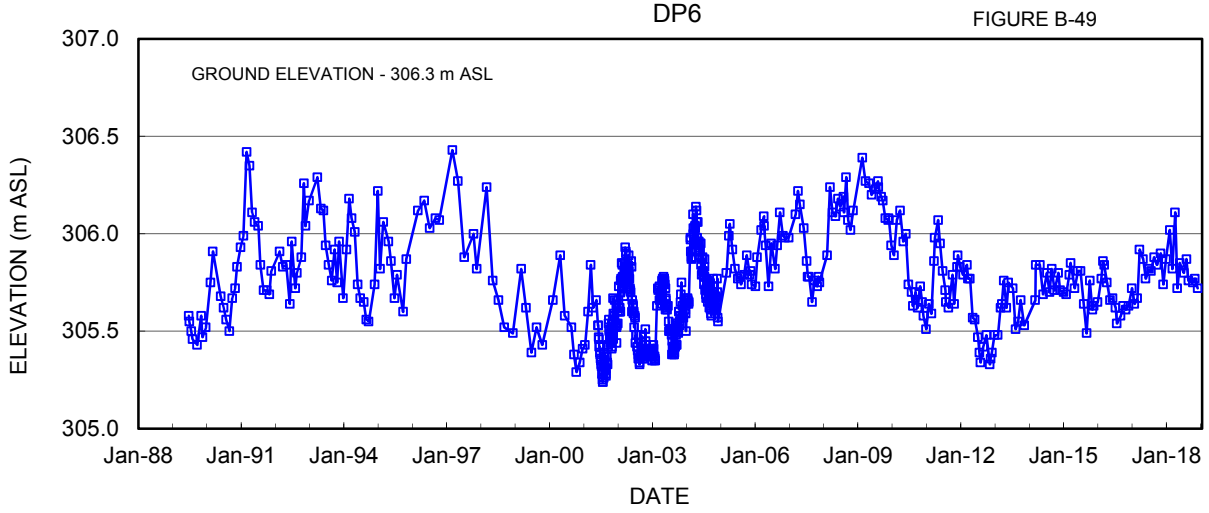
GROUNDWATER HYDROGRAPH
SMITH WELL

FIGURE B-48



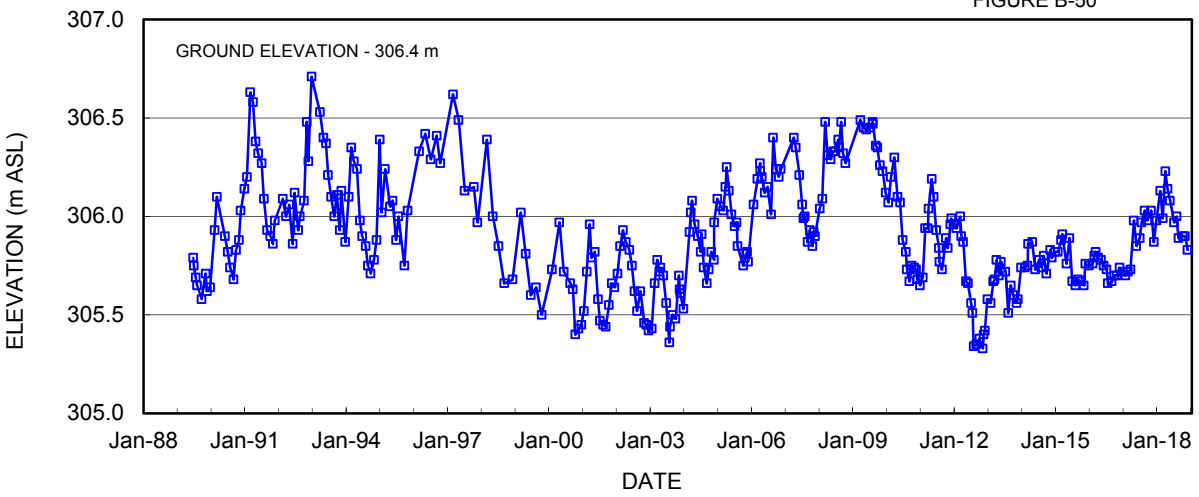
GROUNDWATER HYDROGRAPH
DP6

FIGURE B-49



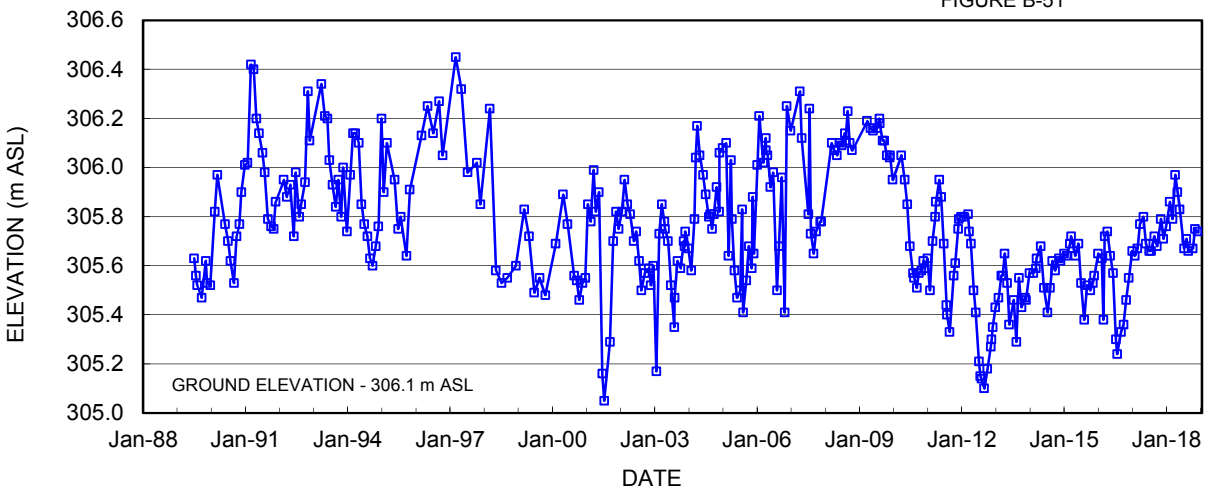
GROUNDWATER HYDROGRAPH
DP7

FIGURE B-50



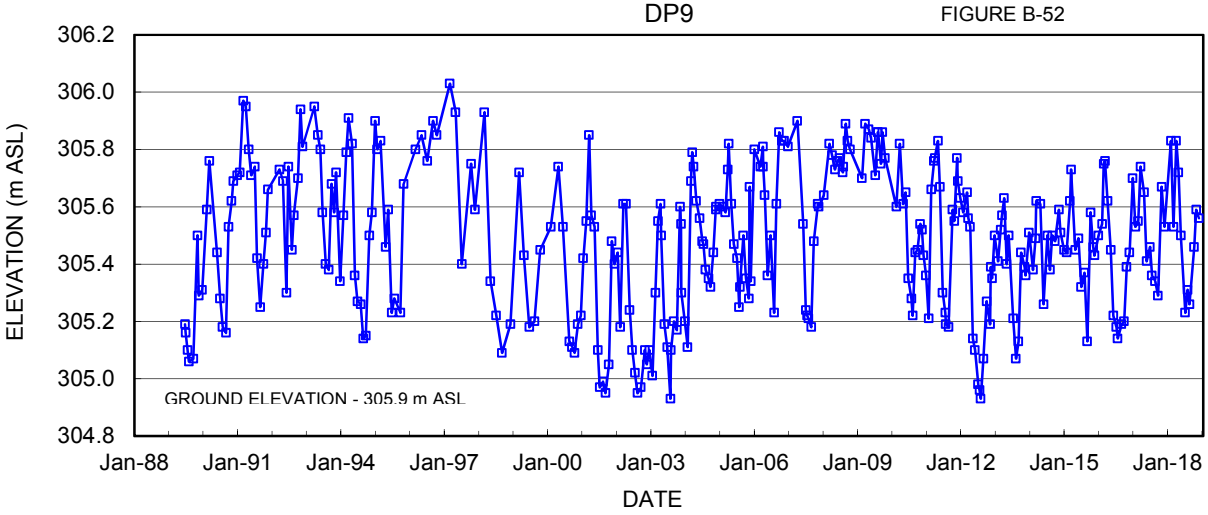
GROUNDWATER HYDROGRAPH
DP8

FIGURE B-51



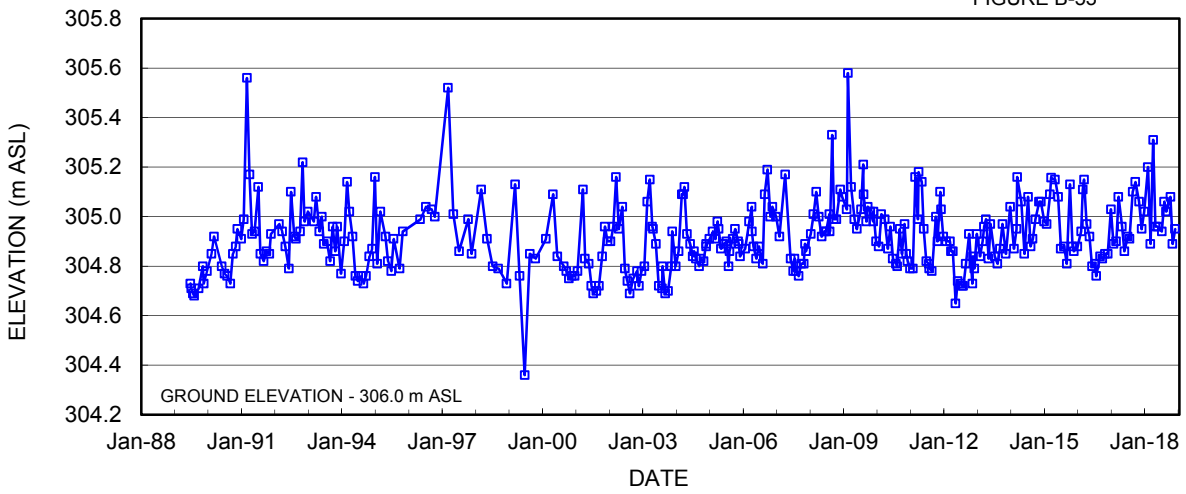
GROUNDWATER HYDROGRAPH
DP9

FIGURE B-52



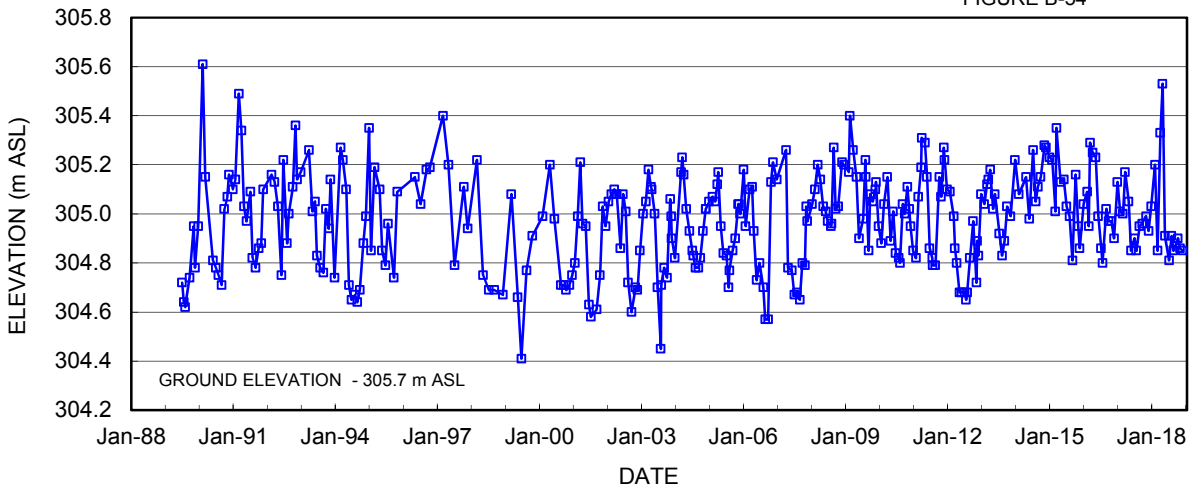
GROUNDWATER HYDROGRAPH
DP10

FIGURE B-53



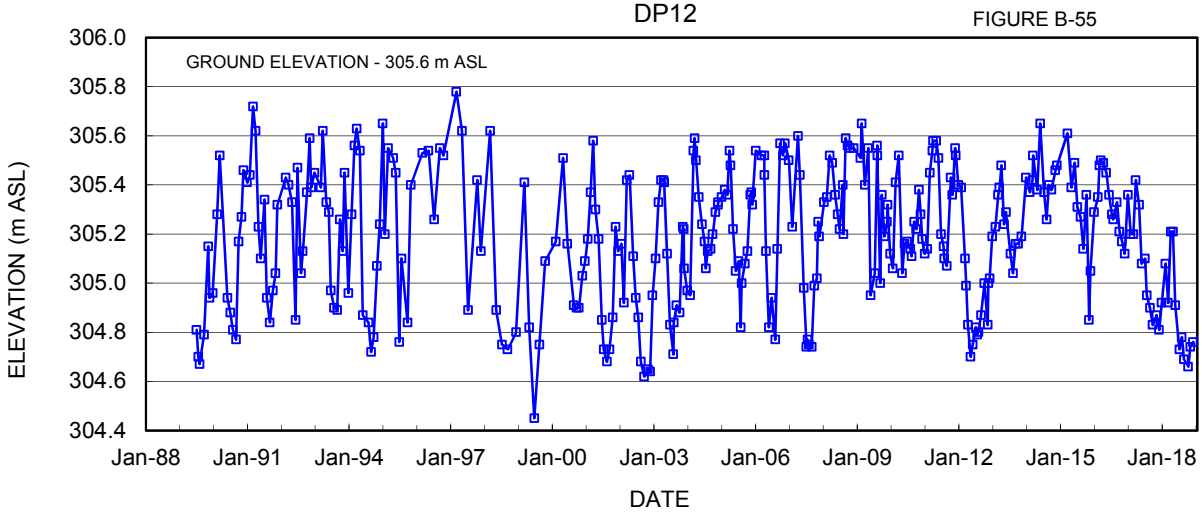
GROUNDWATER HYDROGRAPH
DP11

FIGURE B-54



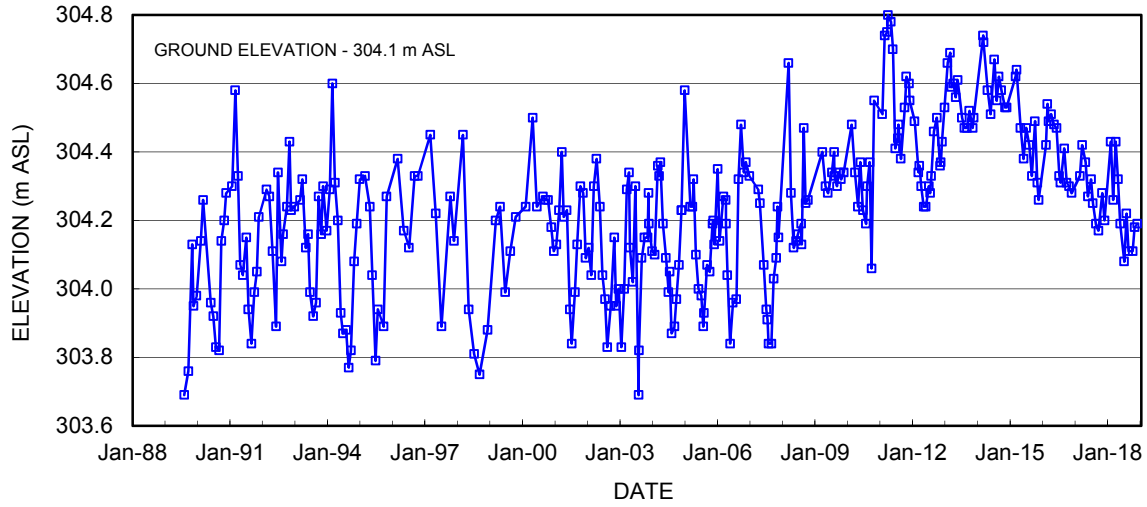
GROUNDWATER HYDROGRAPH
DP12

FIGURE B-55



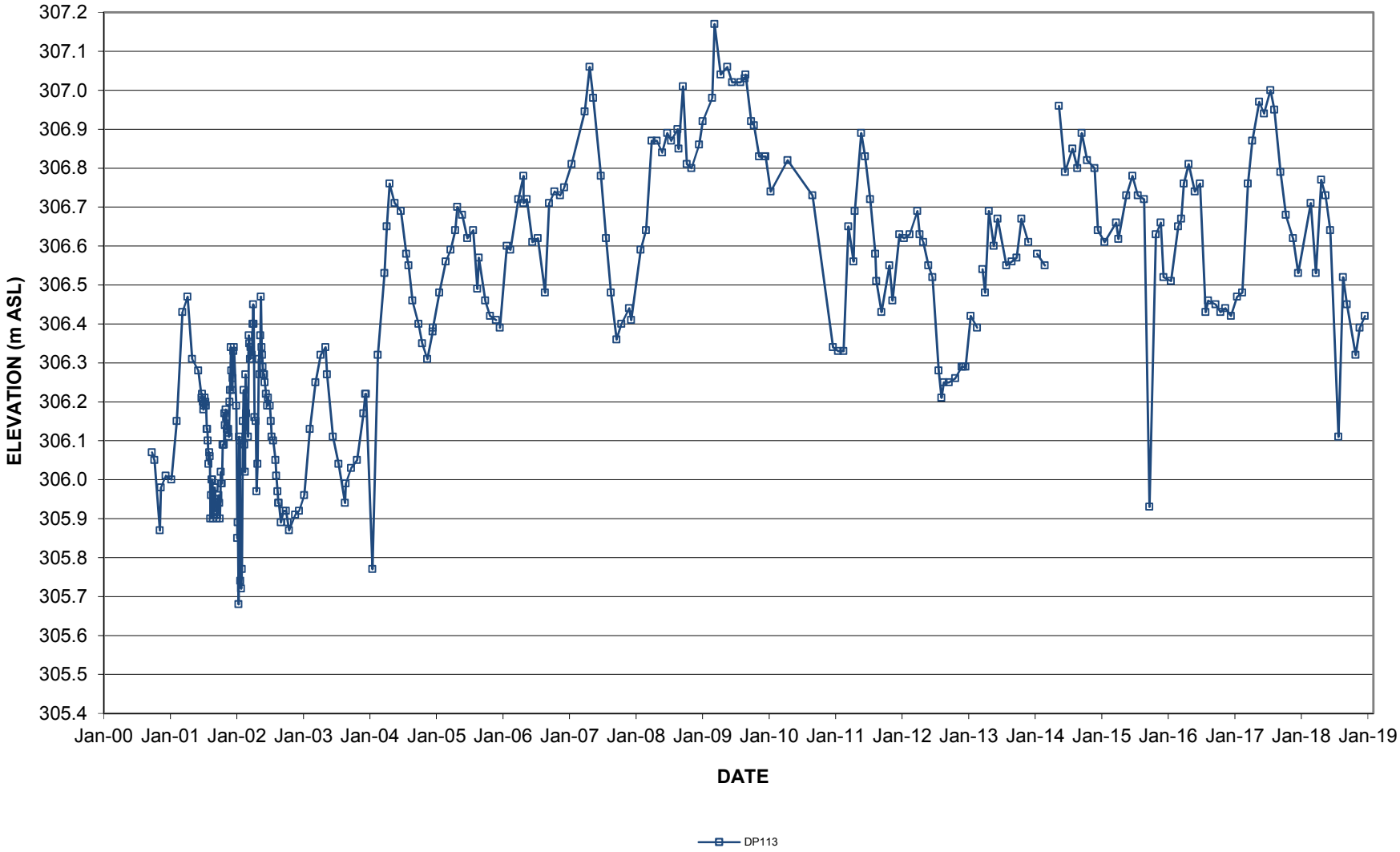
GROUNDWATER HYDROGRAPH
DP16

FIGURE B-56



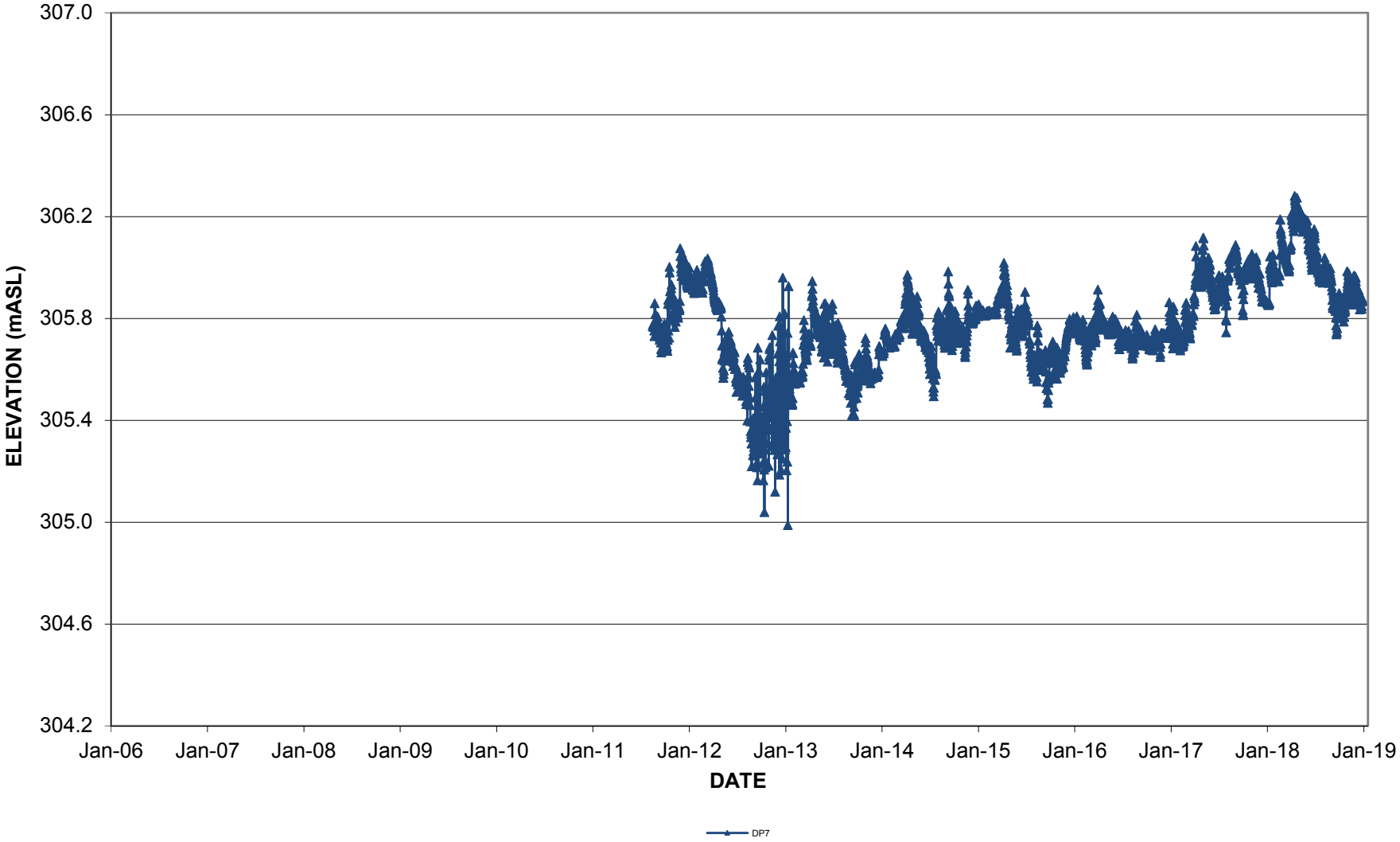
GROUNDWATER HYDROGRAPH
REID MONITOR

FIGURE B-57



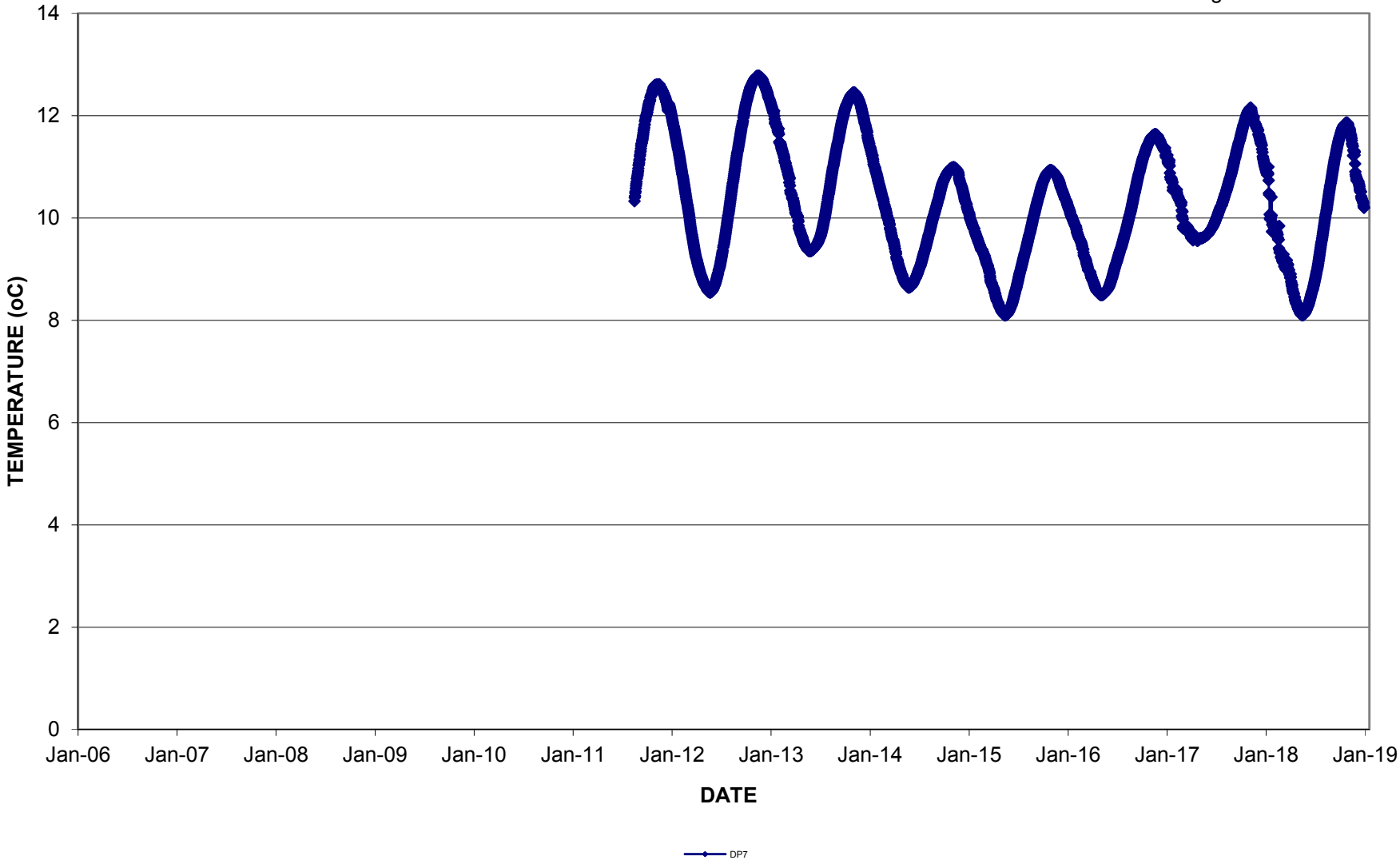
GROUNDWATER HYDROGRAPH

Figure B-58



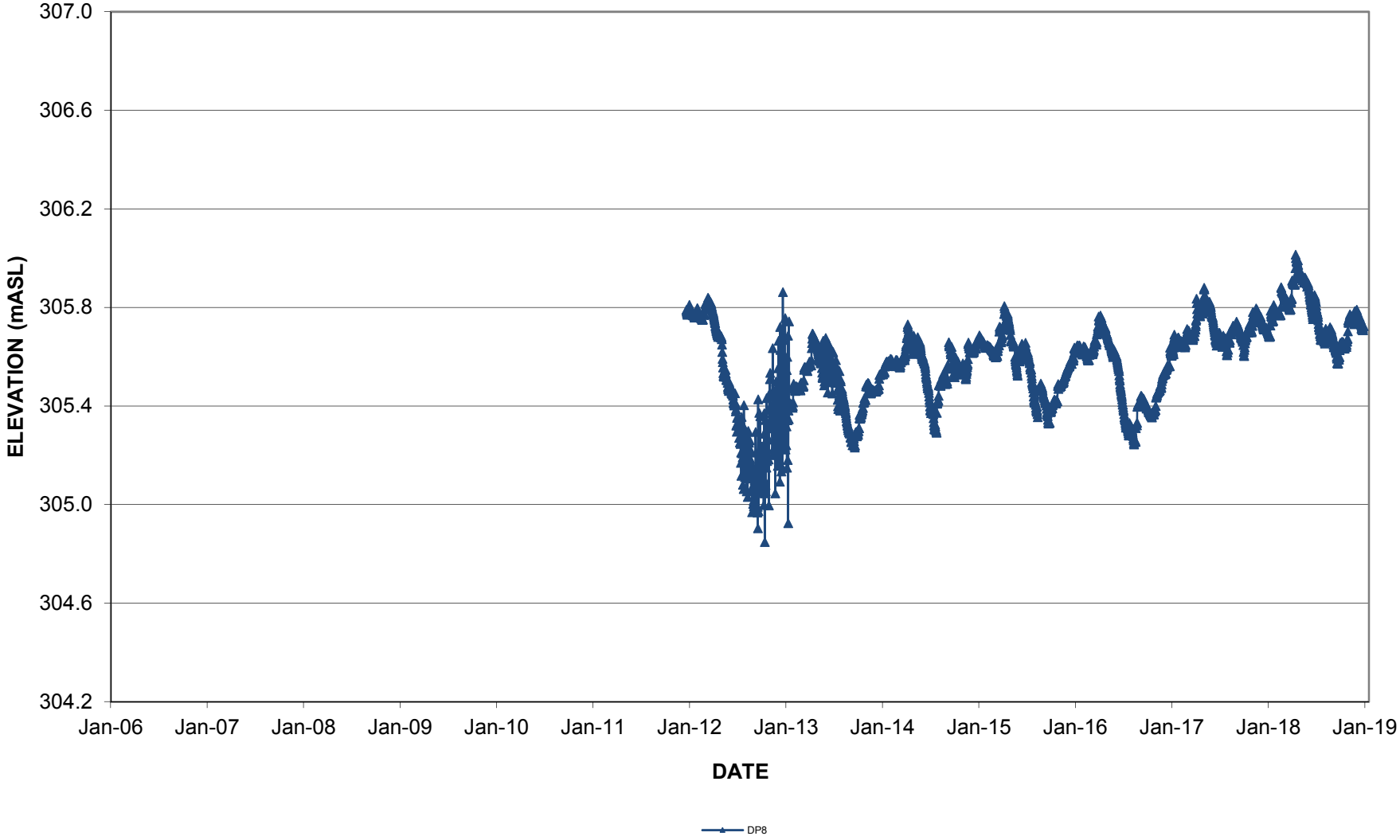
GROUNDWATER THERMOGRAPH

Figure B-59



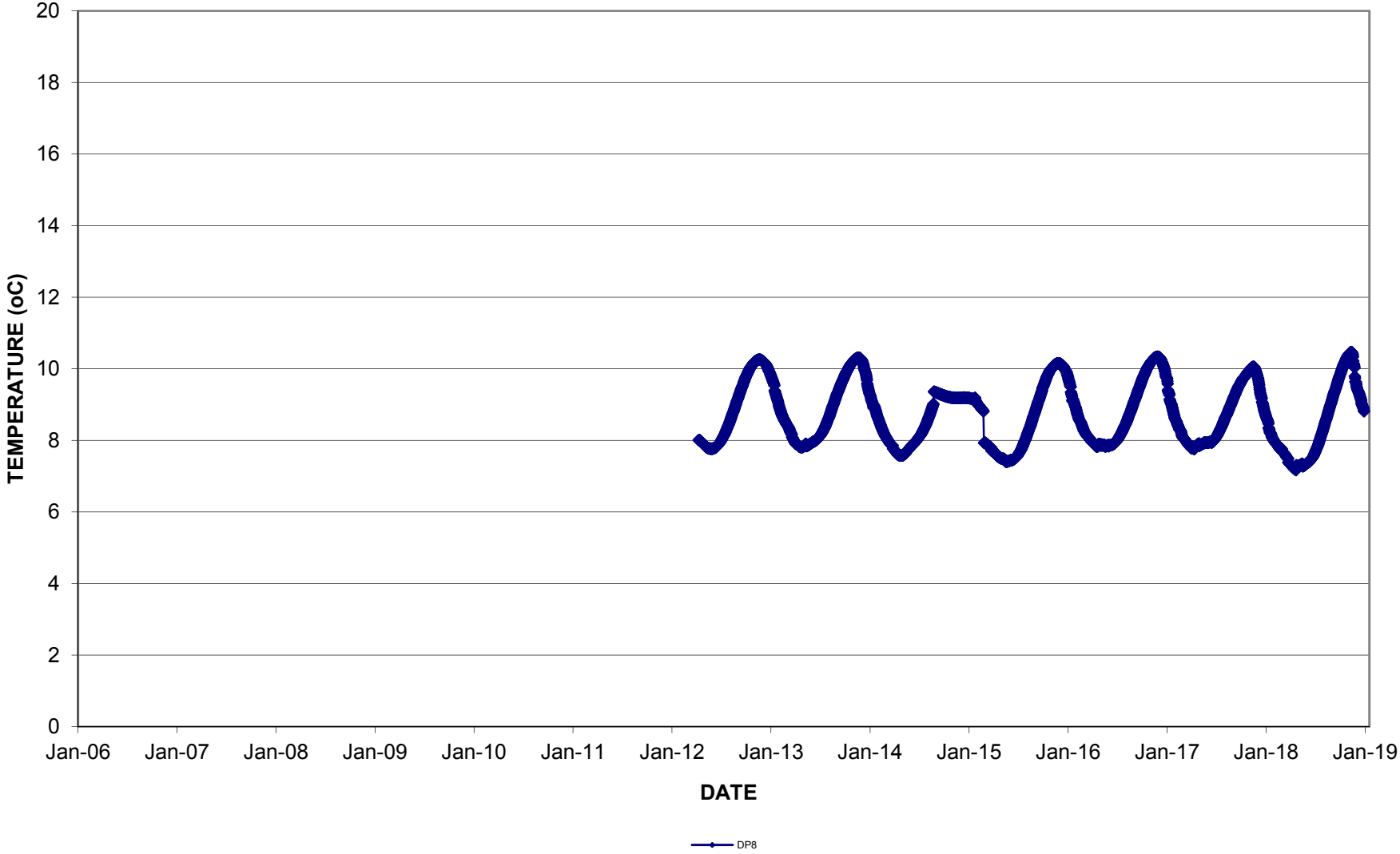
GROUNDWATER HYDROGRAPH

Figure B-60



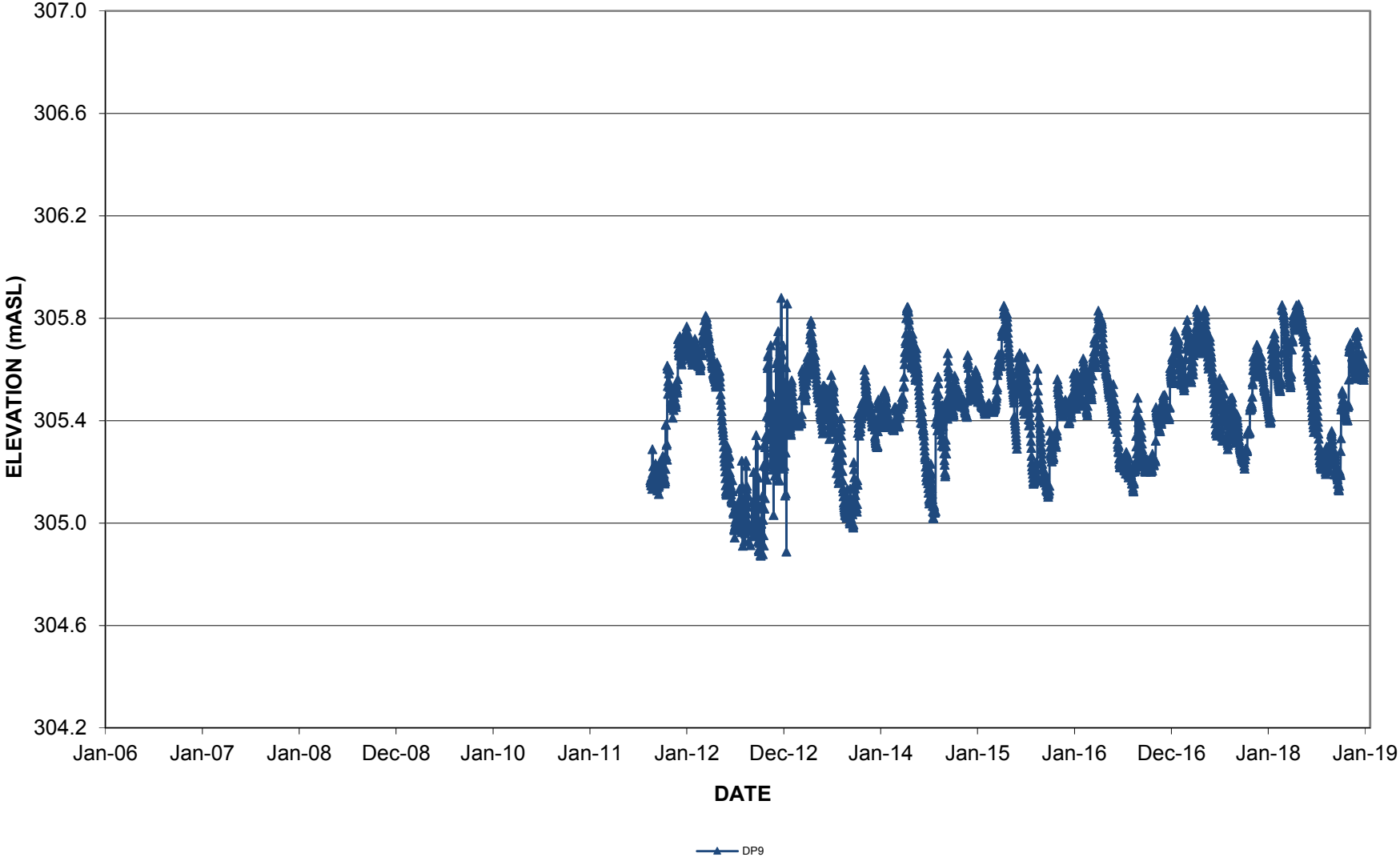
GROUNDWATER THERMOGRAPH

Figure B-61



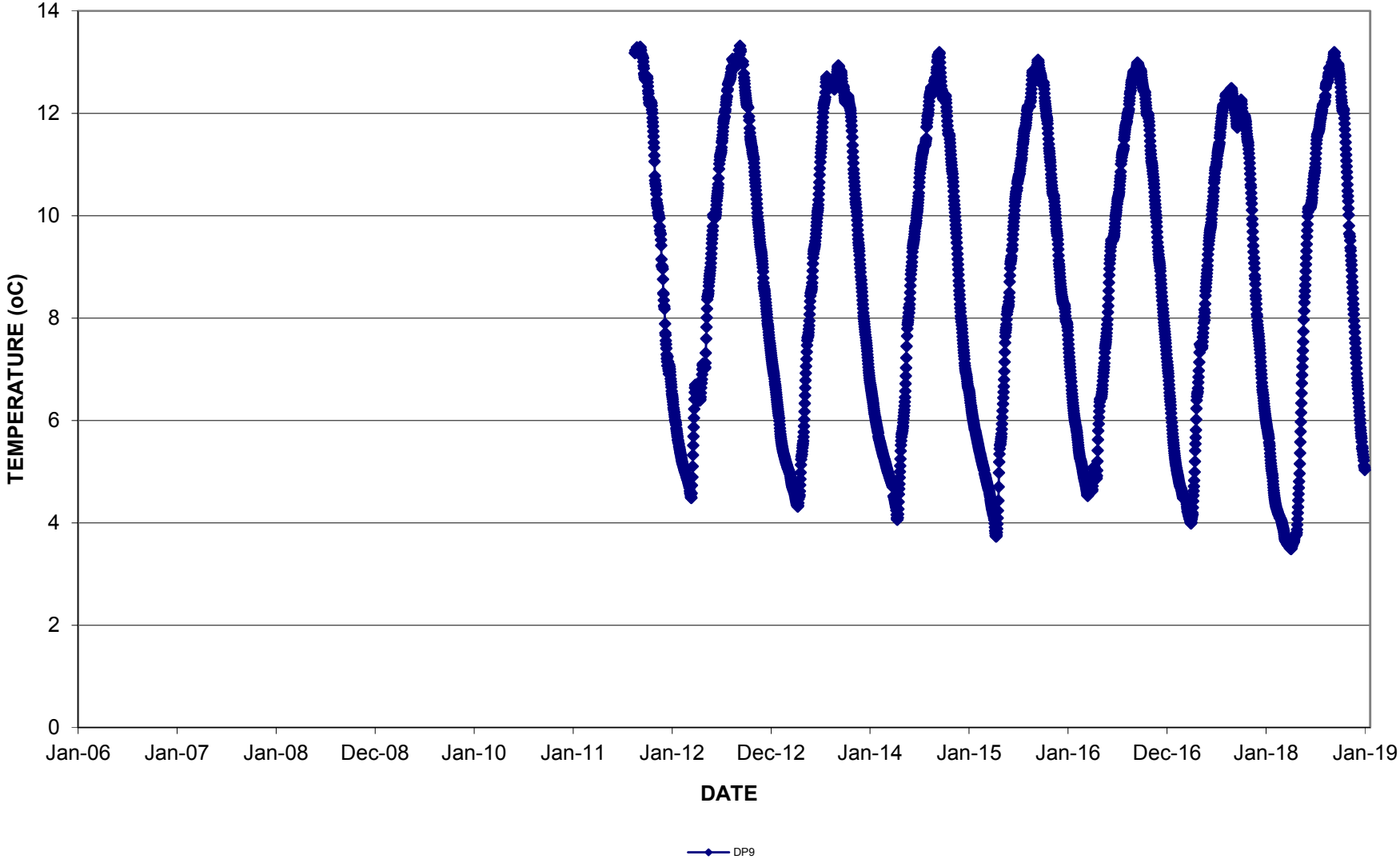
GROUNDWATER HYDROGRAPH

Figure B-62



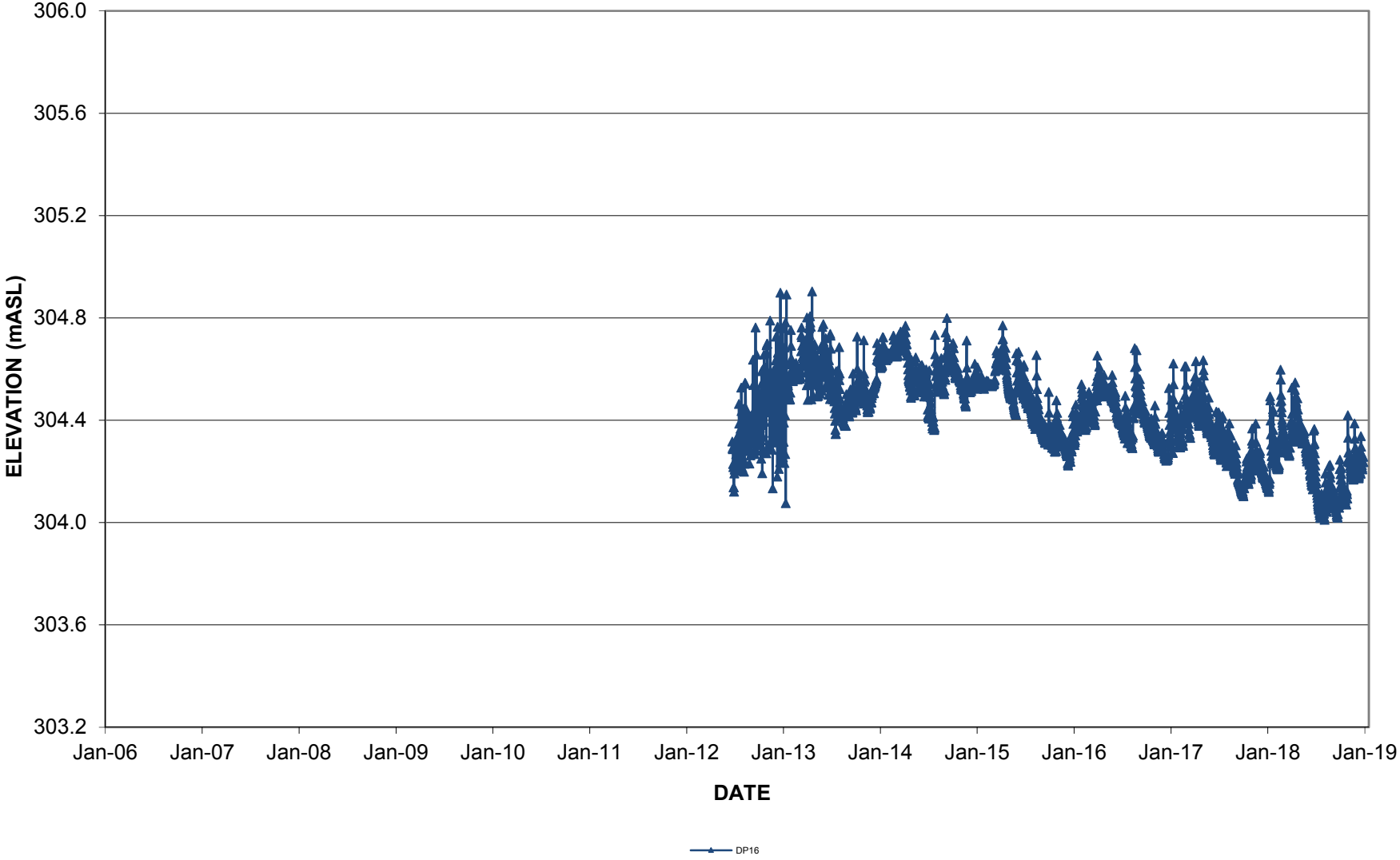
GROUNDWATER THERMOGRAPH

Figure B-63



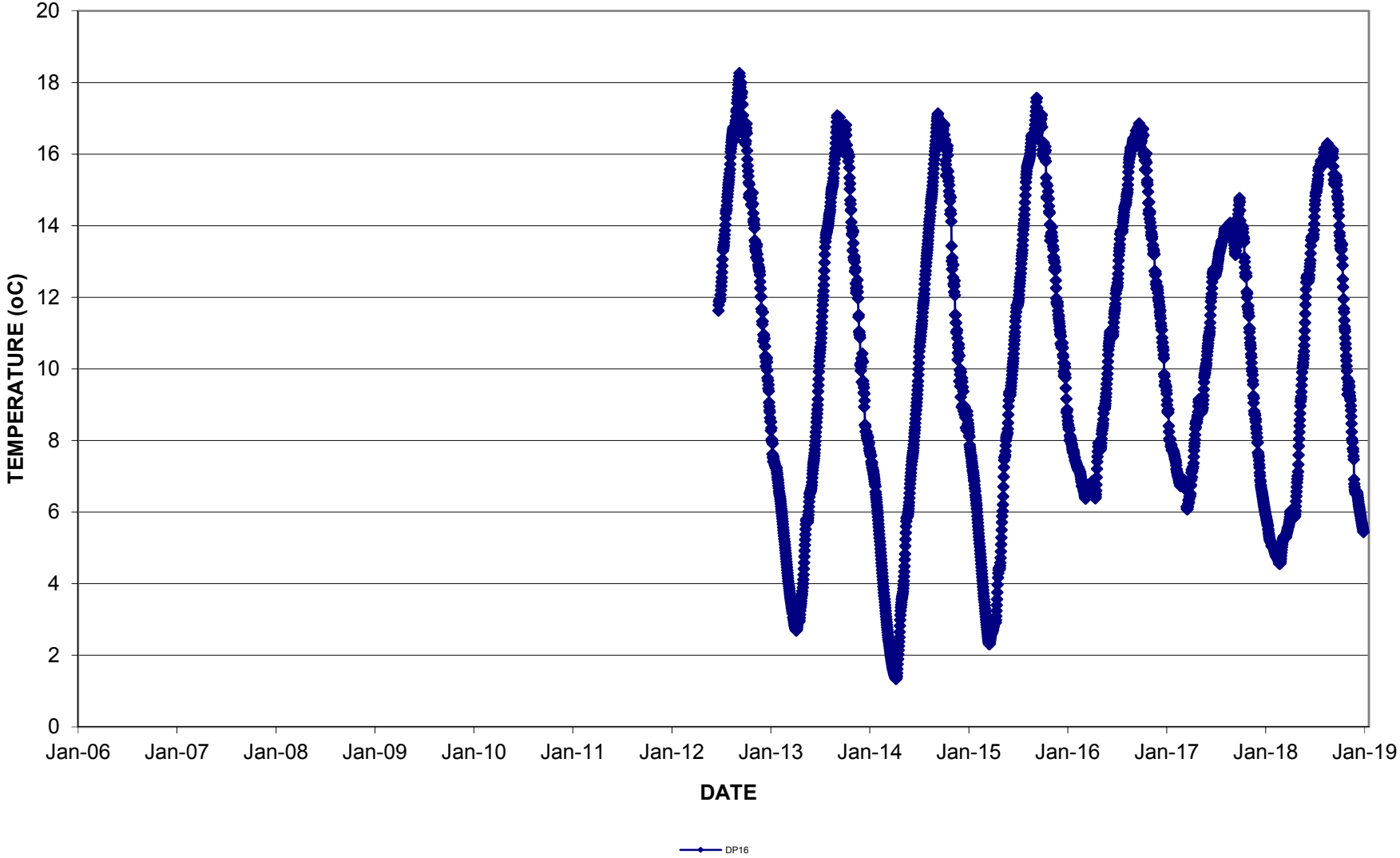
GROUNDWATER HYDROGRAPH

Figure B-64



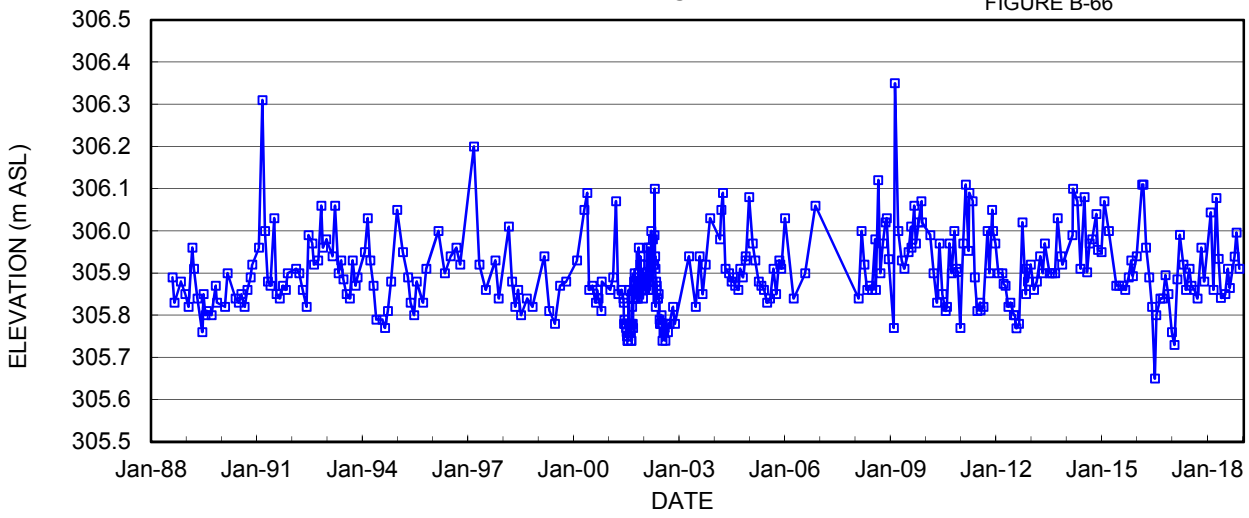
GROUNDWATER THERMOGRAPH

Figure B-65



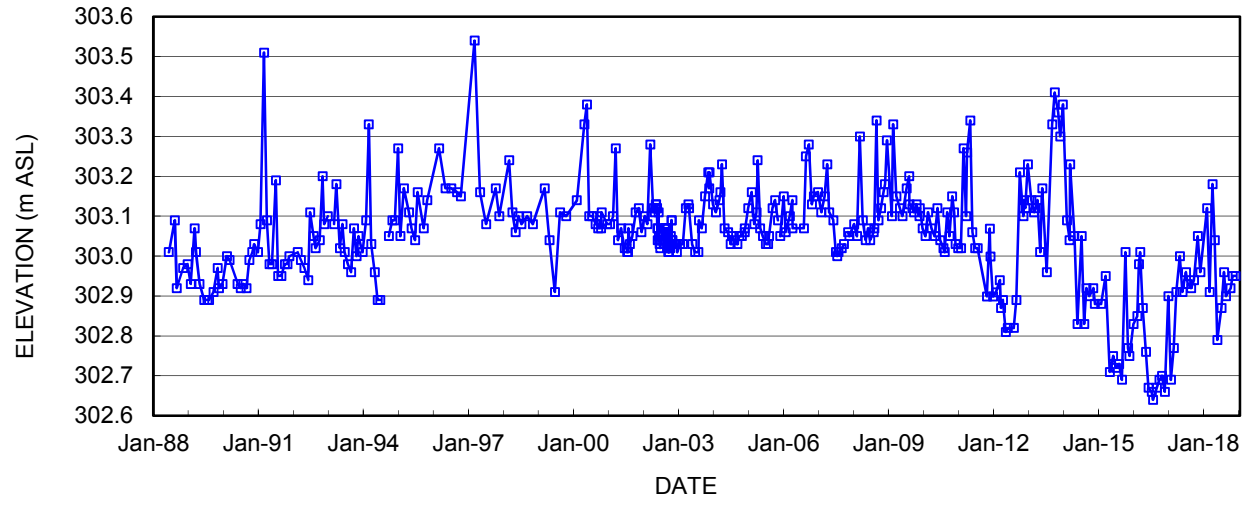
SURFACE WATER HYDROGRAPH
SW1

FIGURE B-66



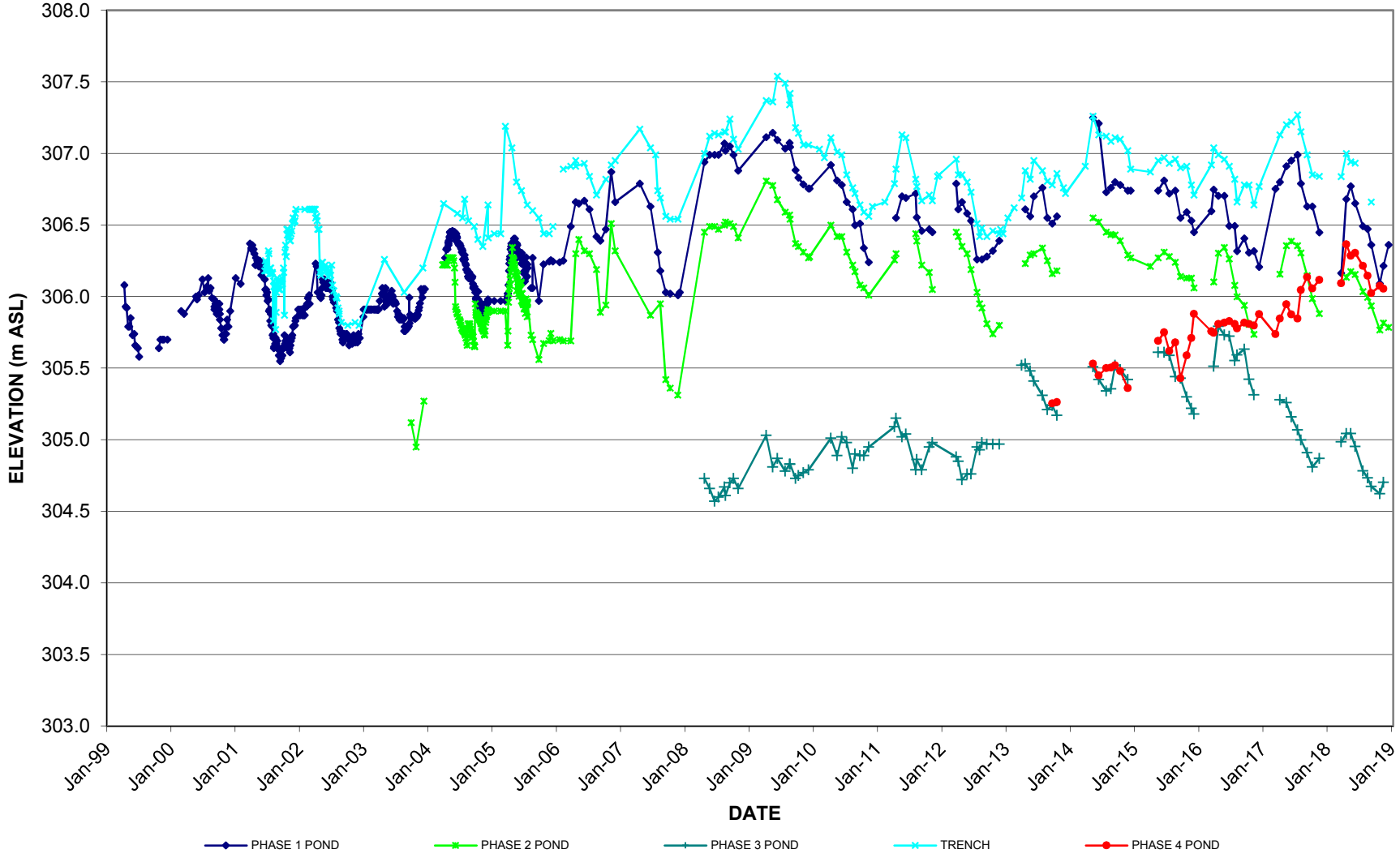
SURFACE WATER HYDROGRAPH
SW2

FIGURE B-67



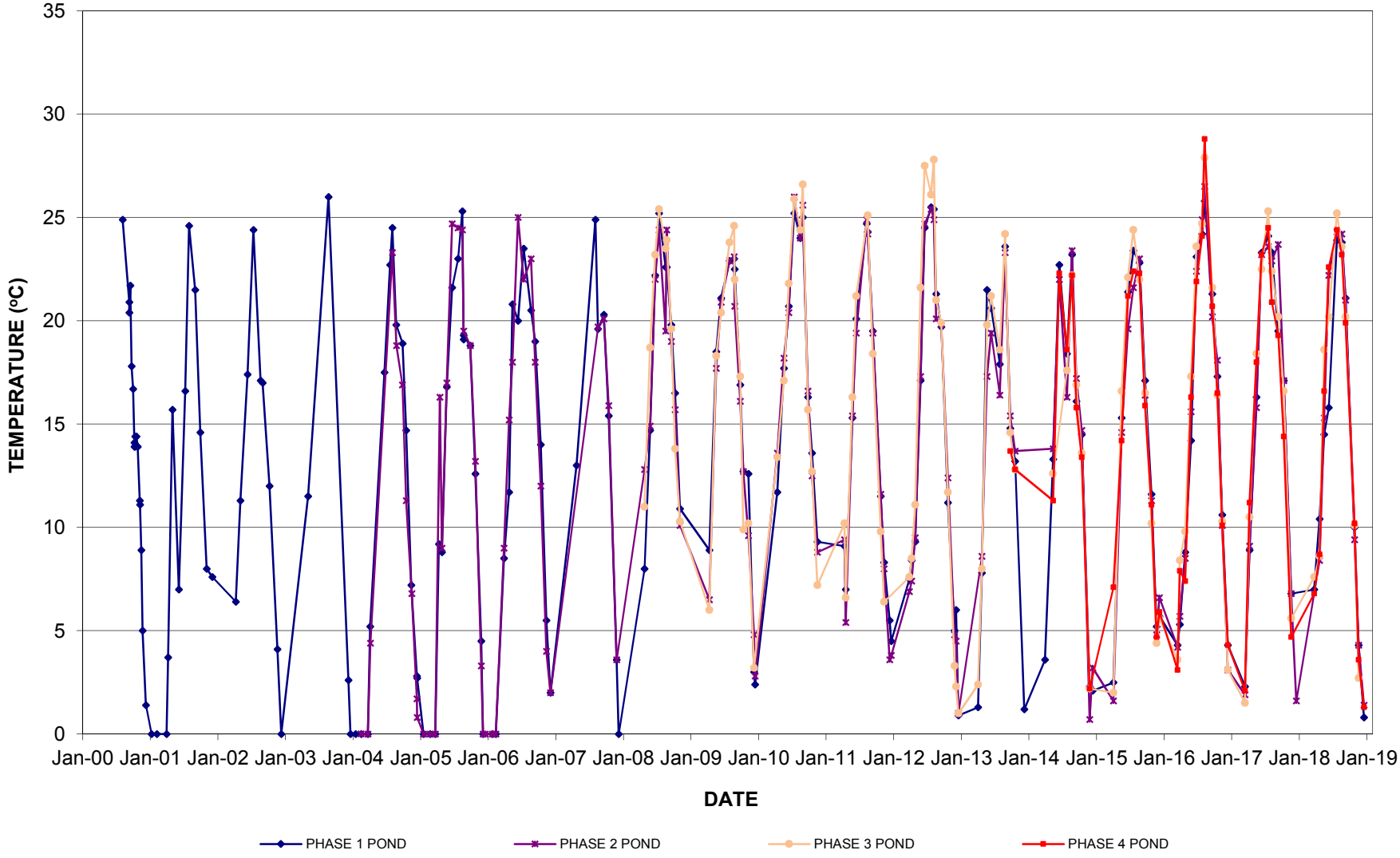
POND HYDROGRAPH

FIGURE B-68



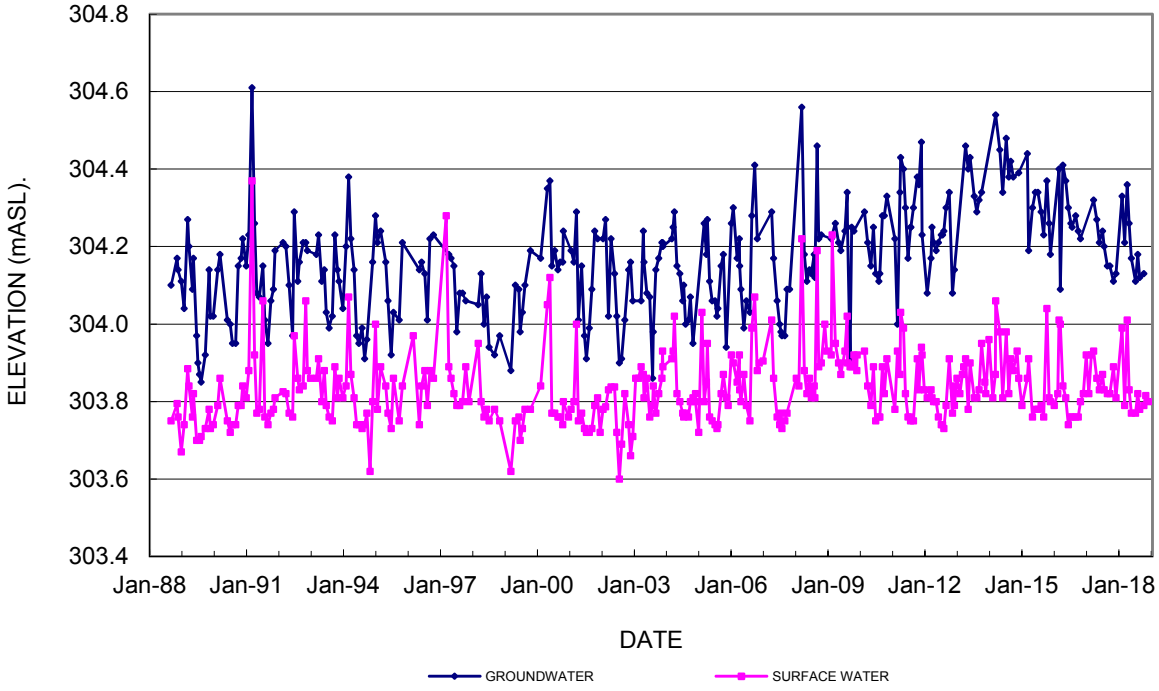
POND THERMOGRAPH

FIGURE B-69



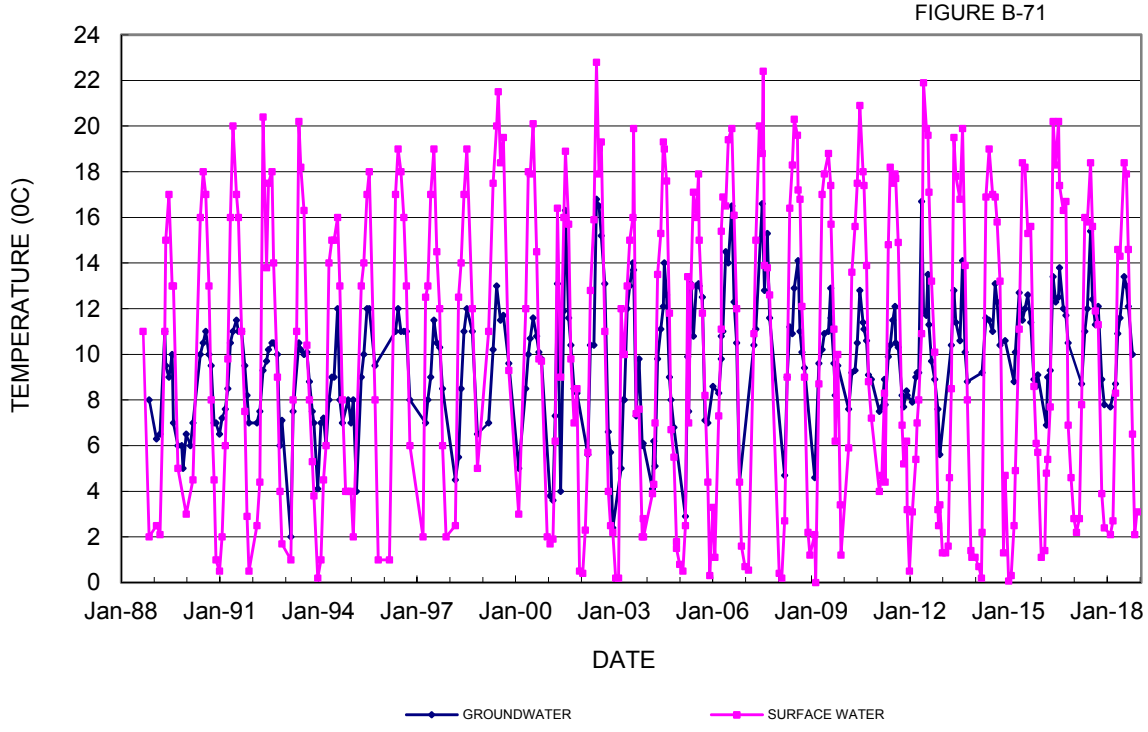
GROUNDWATER/SURFACE WATER HYDROGRAPH
DP1

FIGURE B-70



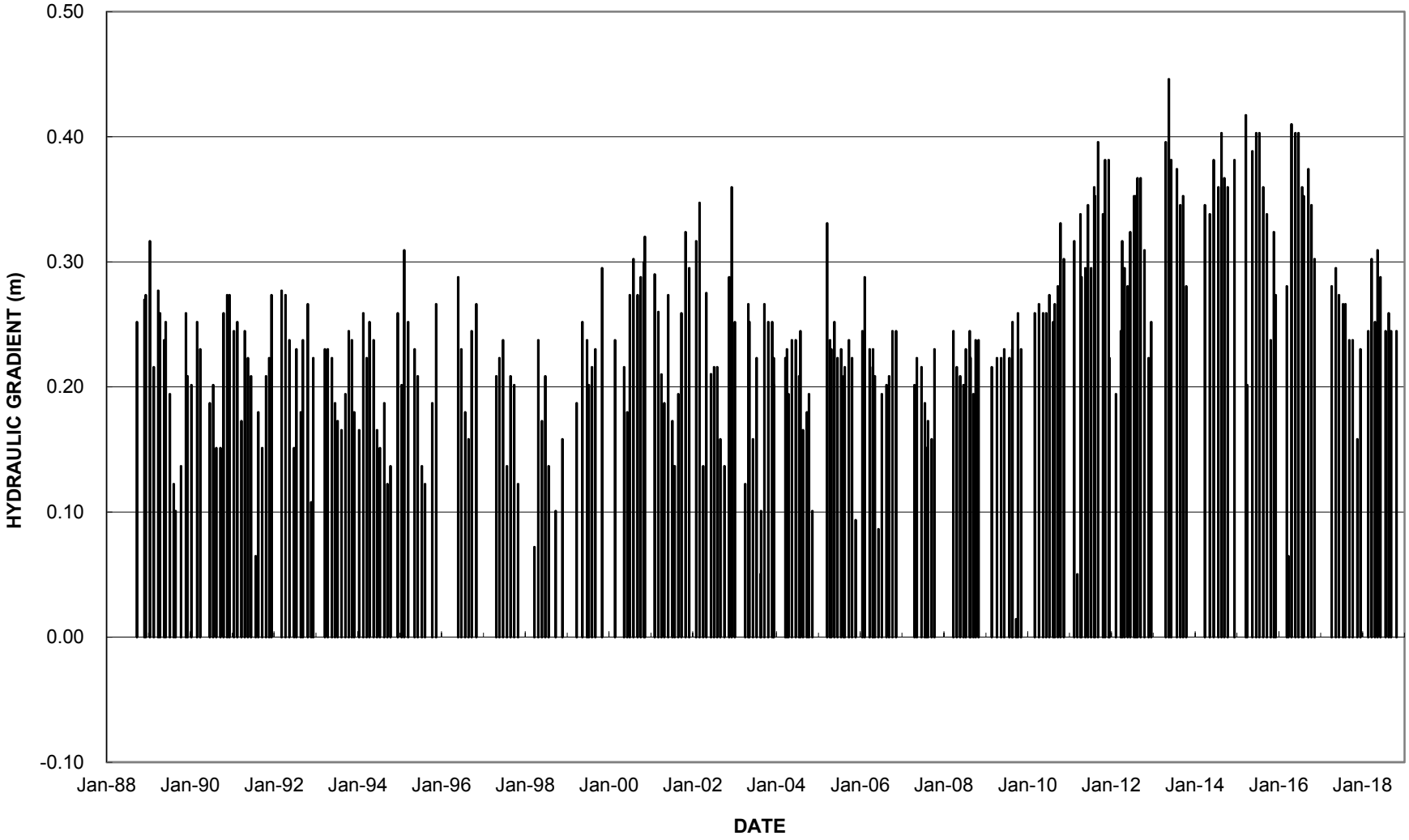
THERMOGRAPH
DP1

FIGURE B-71



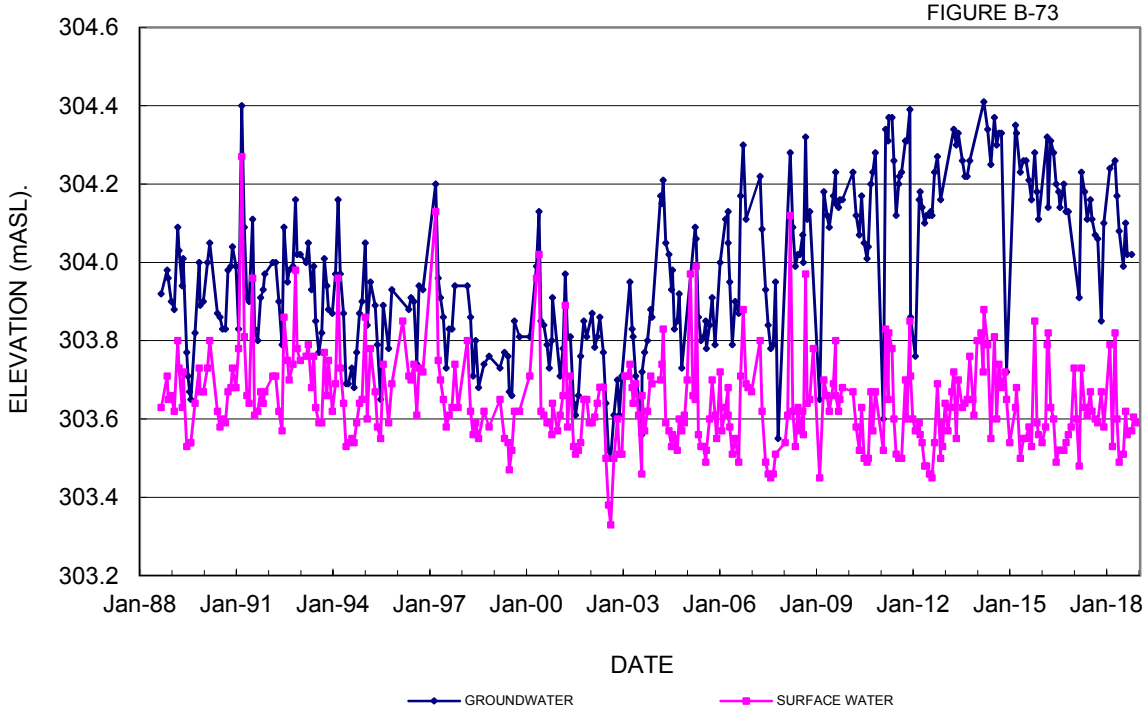
VERTICAL HYDRAULIC GRADIENT
DP1

FIGURE B-72



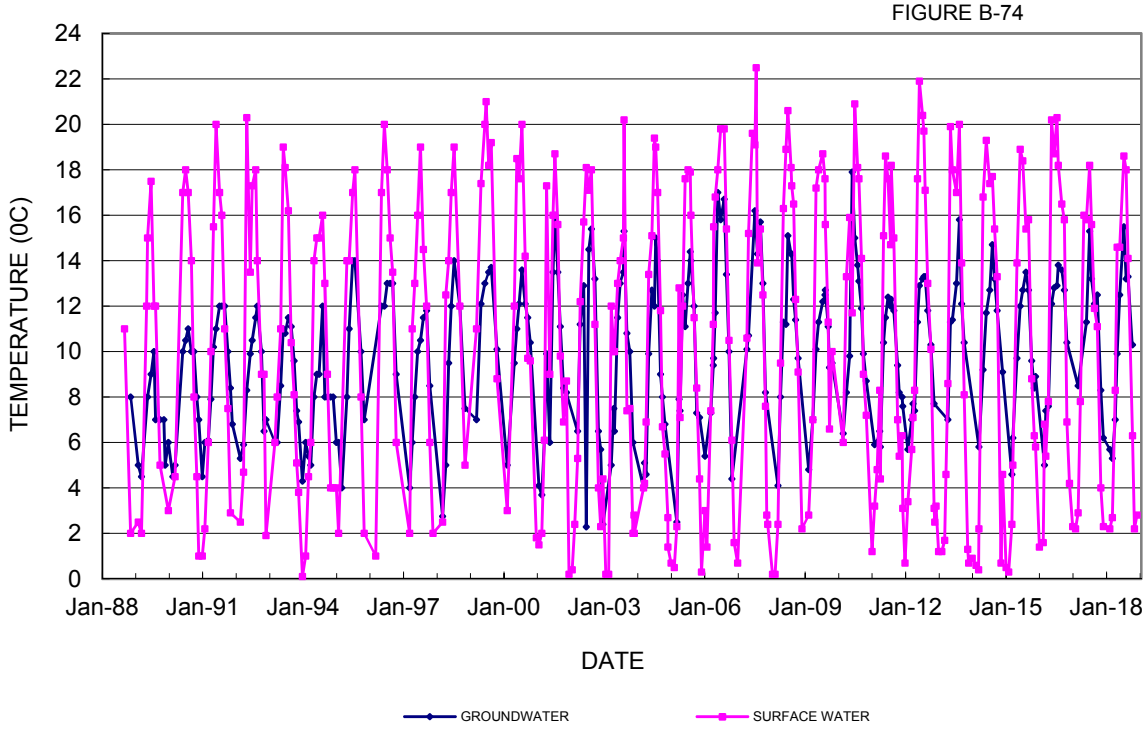
GROUNDWATER/SURFACE WATER HYDROGRAPH
DP2

FIGURE B-73



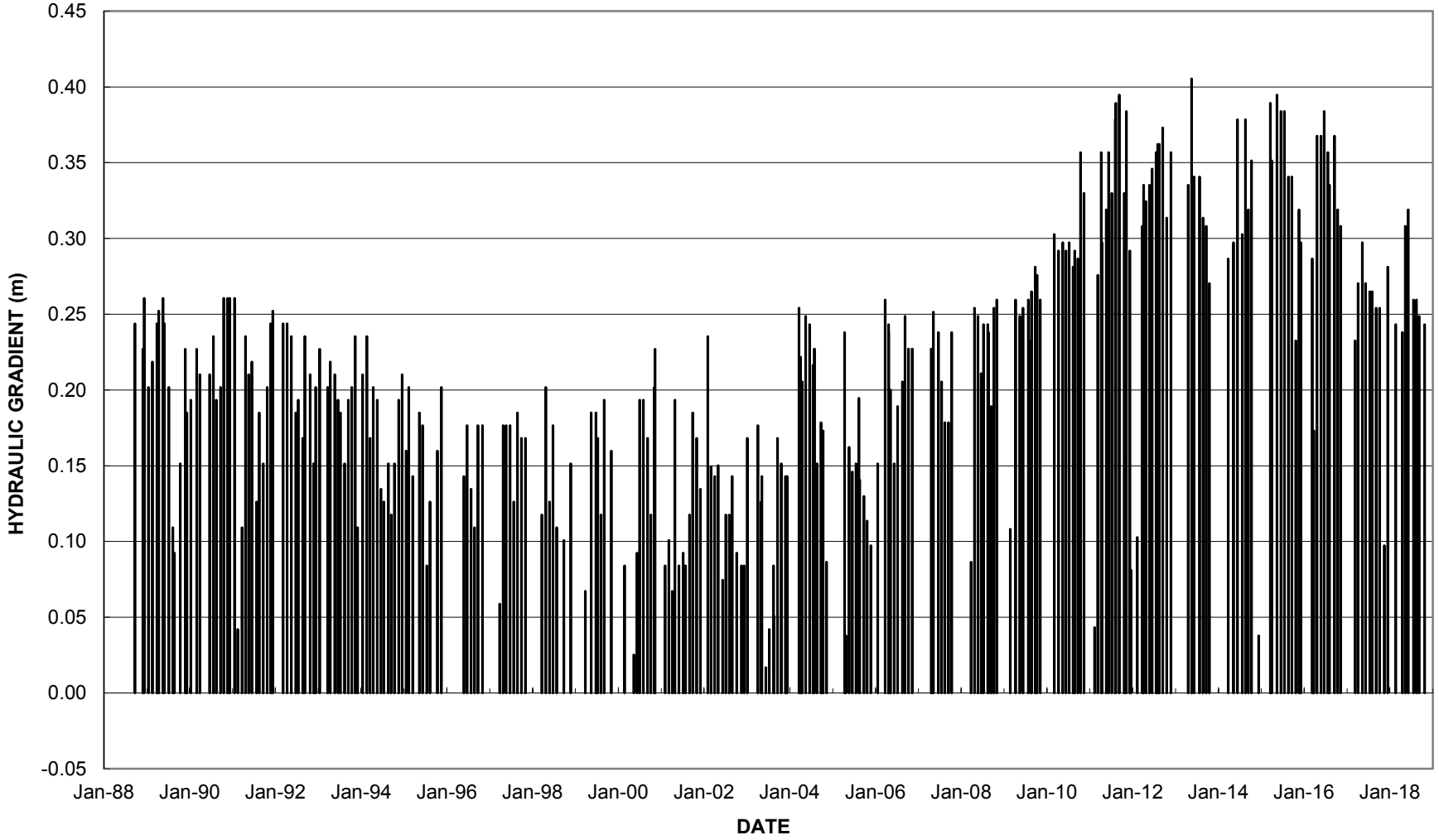
THERMOGRAPH
DP2

FIGURE B-74



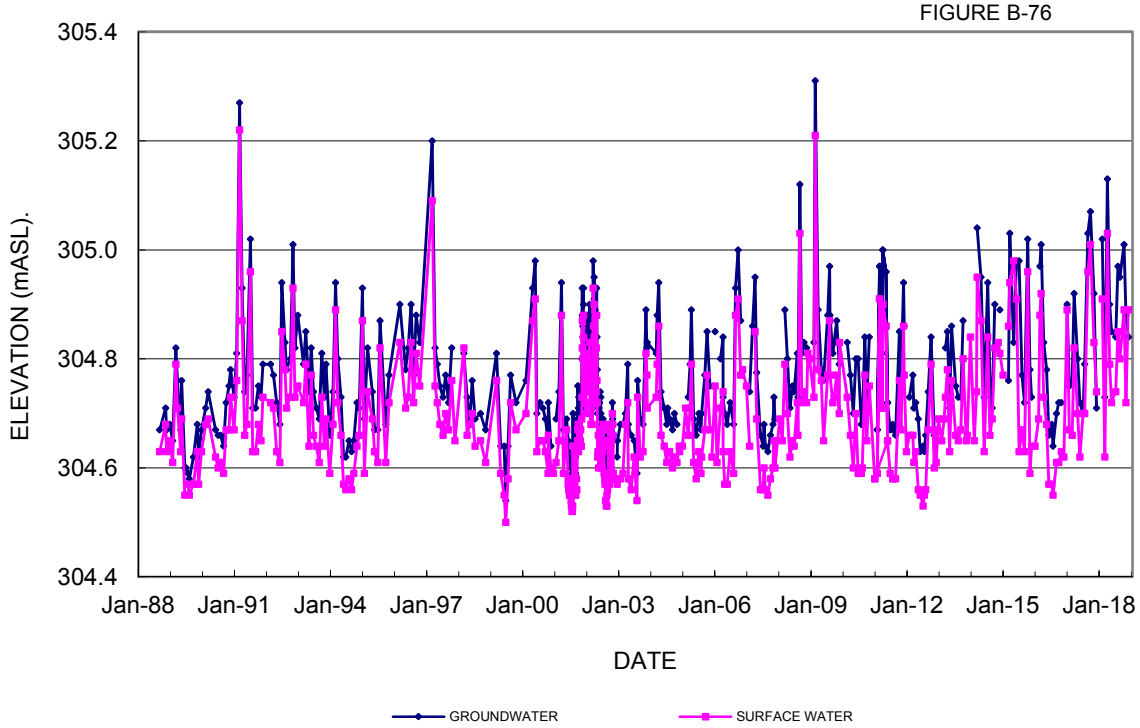
VERTICAL HYDRAULIC GRADIENT
DP2

FIGURE B-75



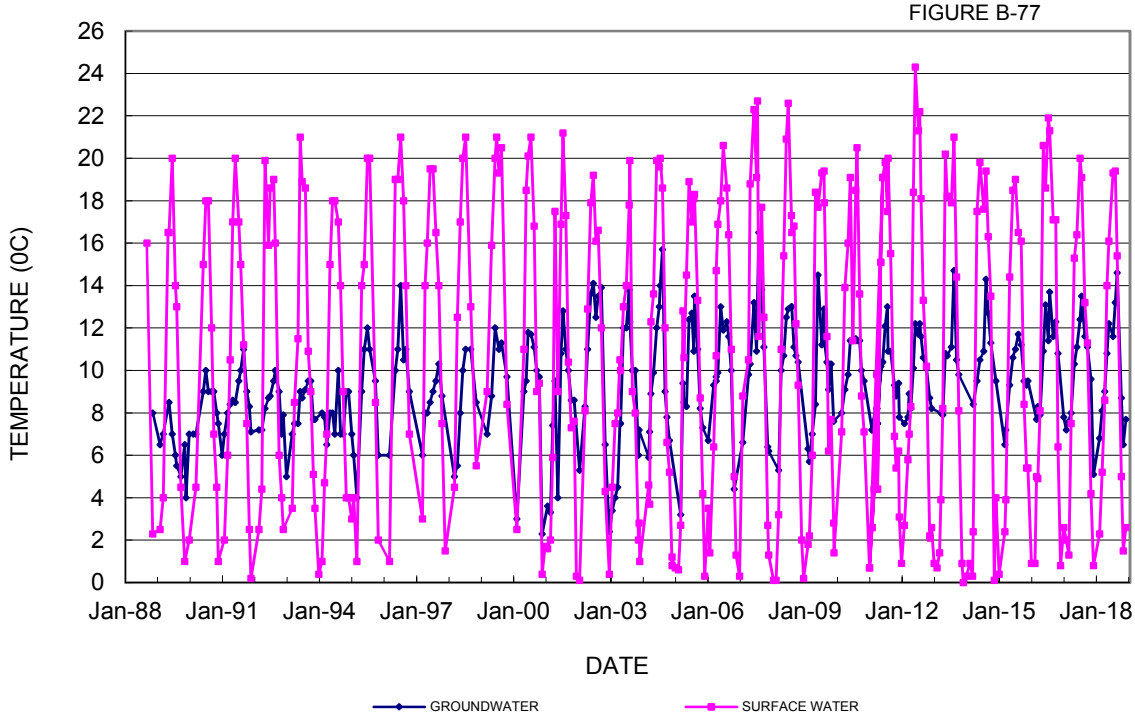
GROUNDWATER/SURFACE WATER HYDROGRAPH
DP3

FIGURE B-76



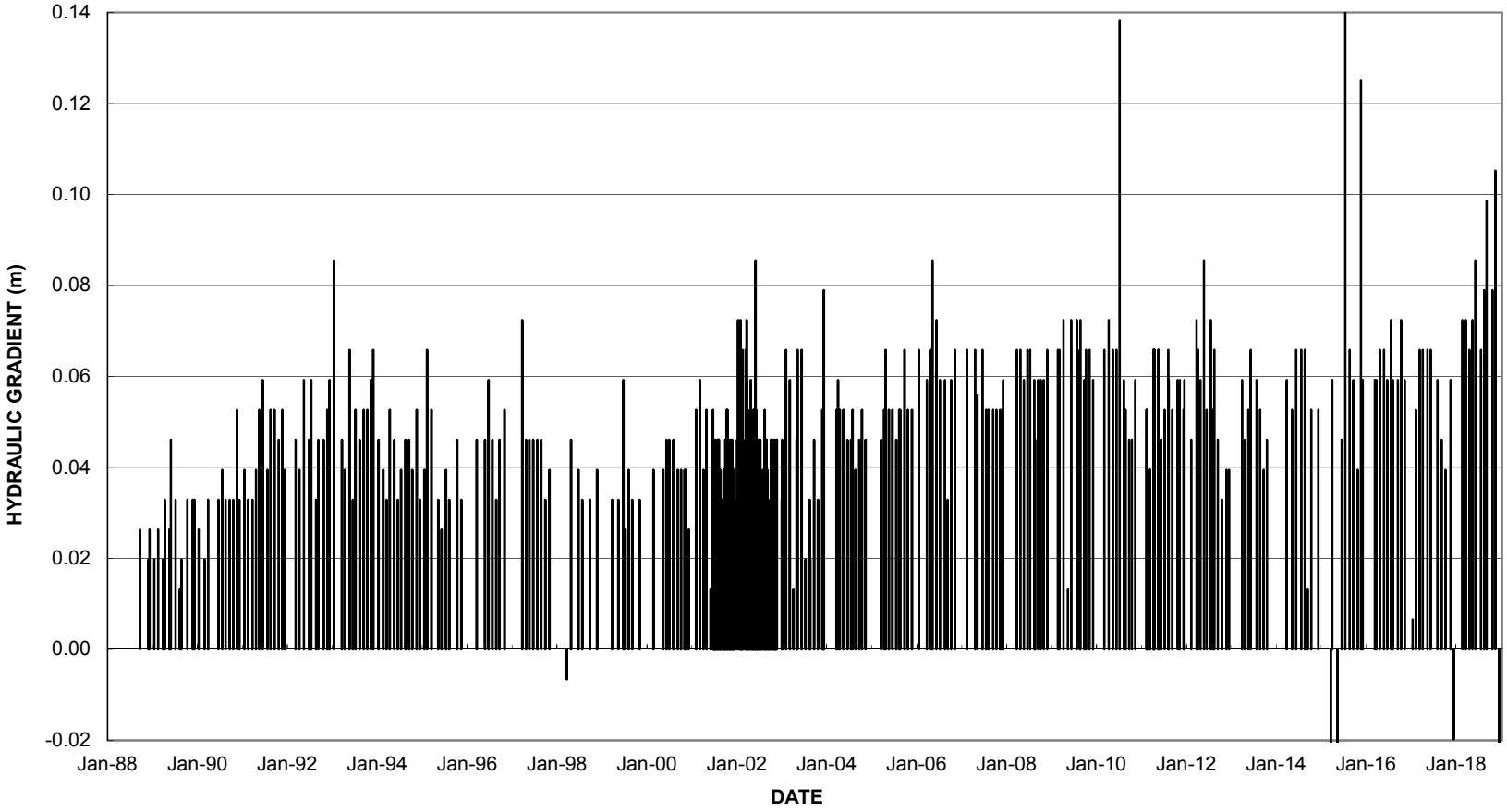
THERMOGRAPH
DP3

FIGURE B-77



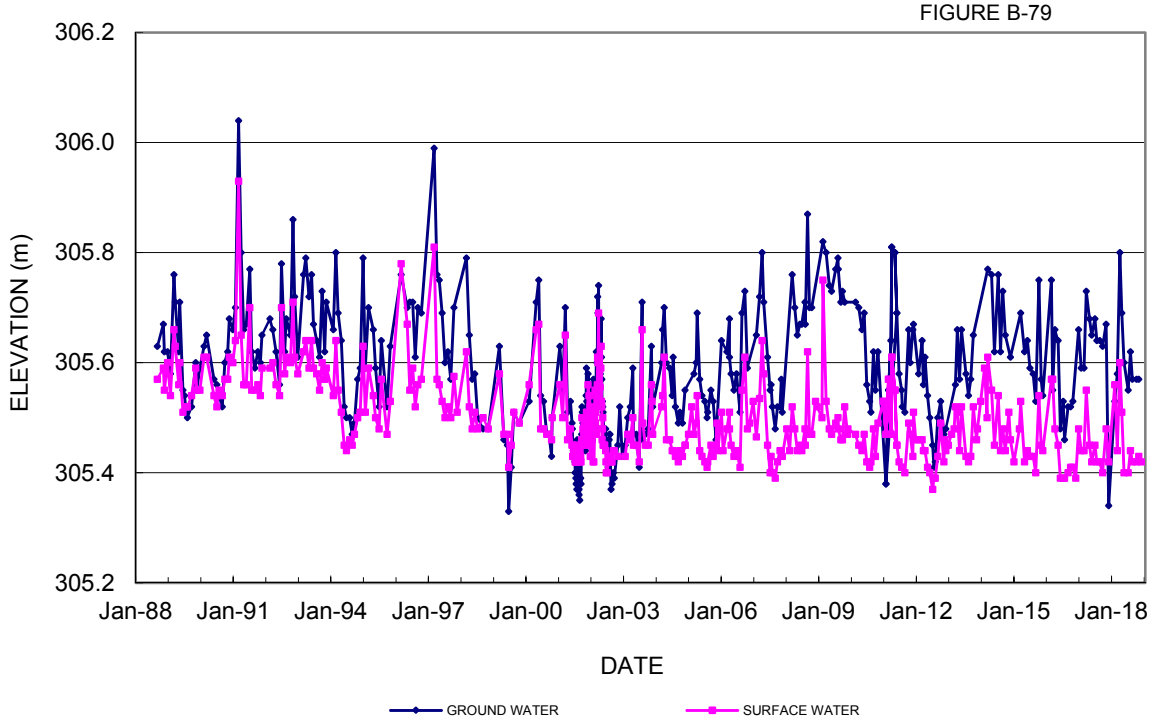
VERTICAL HYDRAULIC GRADIENT
DP3

FIGURE B-78



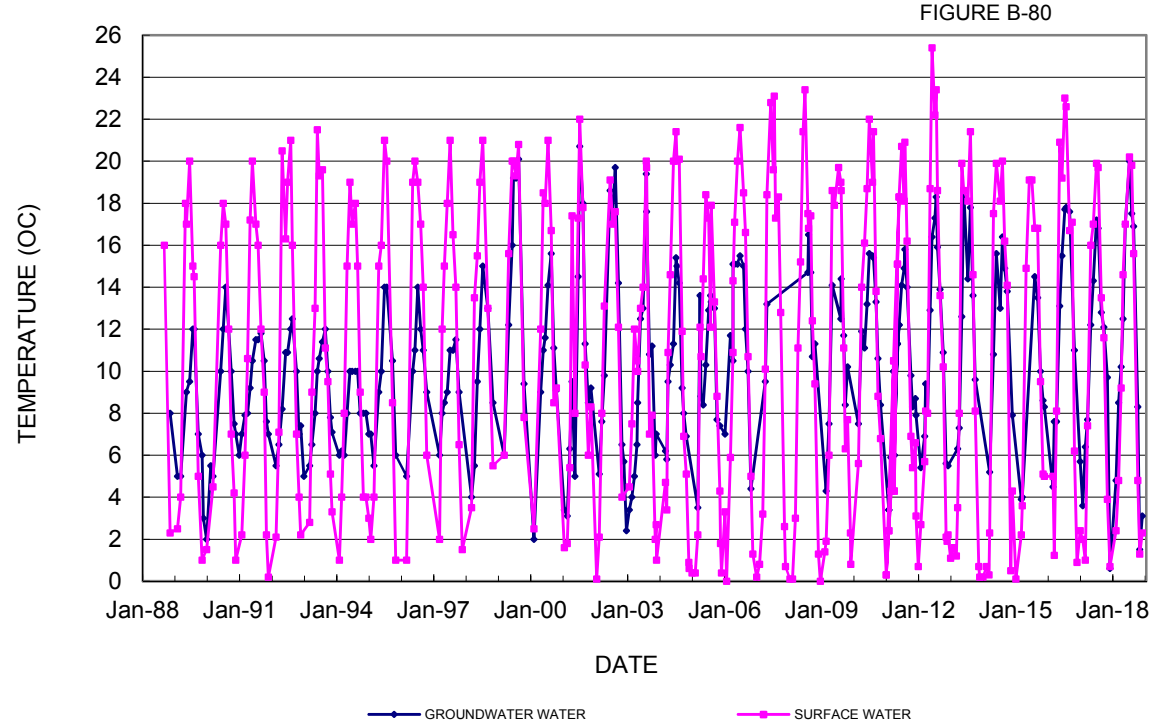
GROUNDWATER/SURFACE WATER HYDROGRAPH
DP4

FIGURE B-79



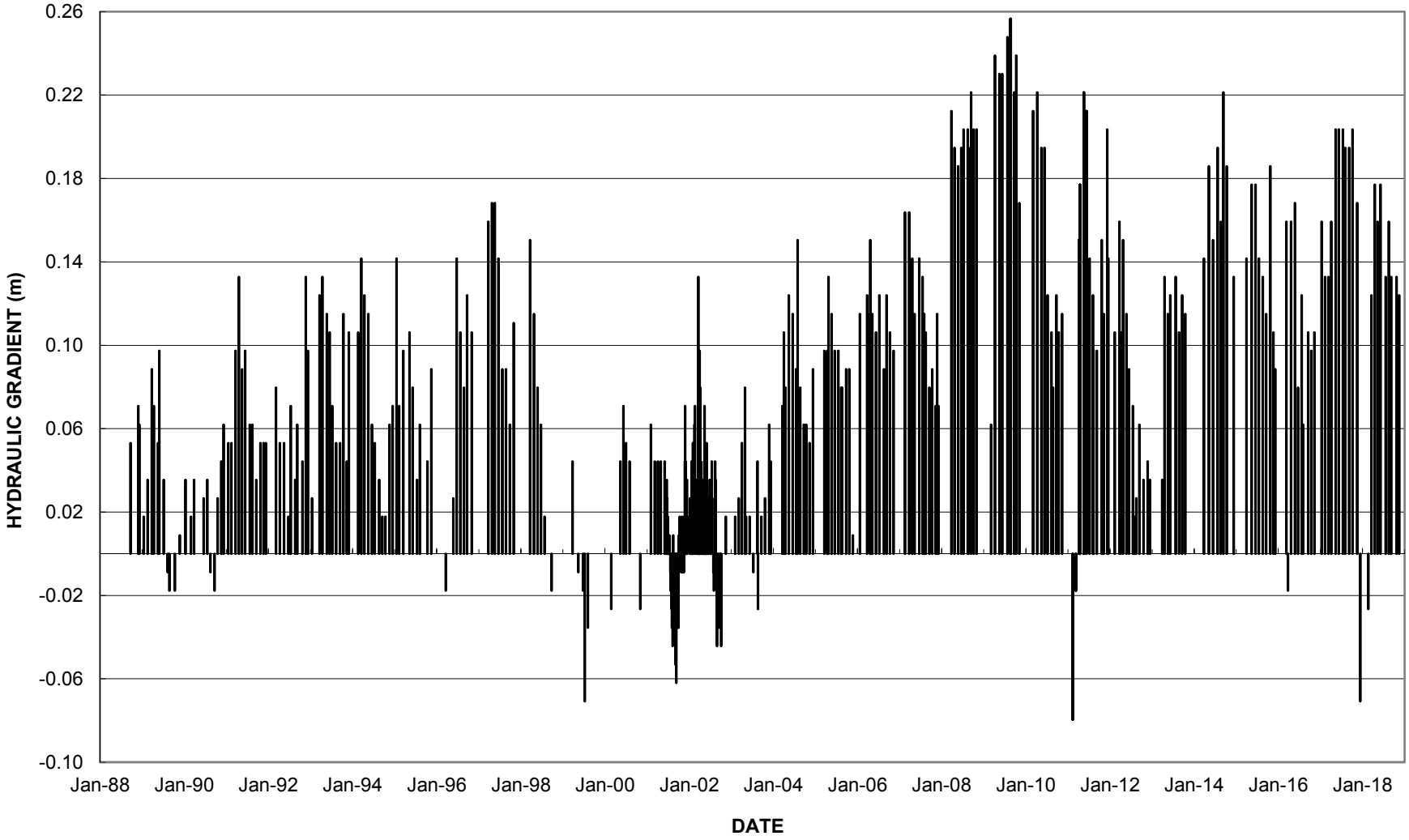
THERMOGRAPH
DP4

FIGURE B-80



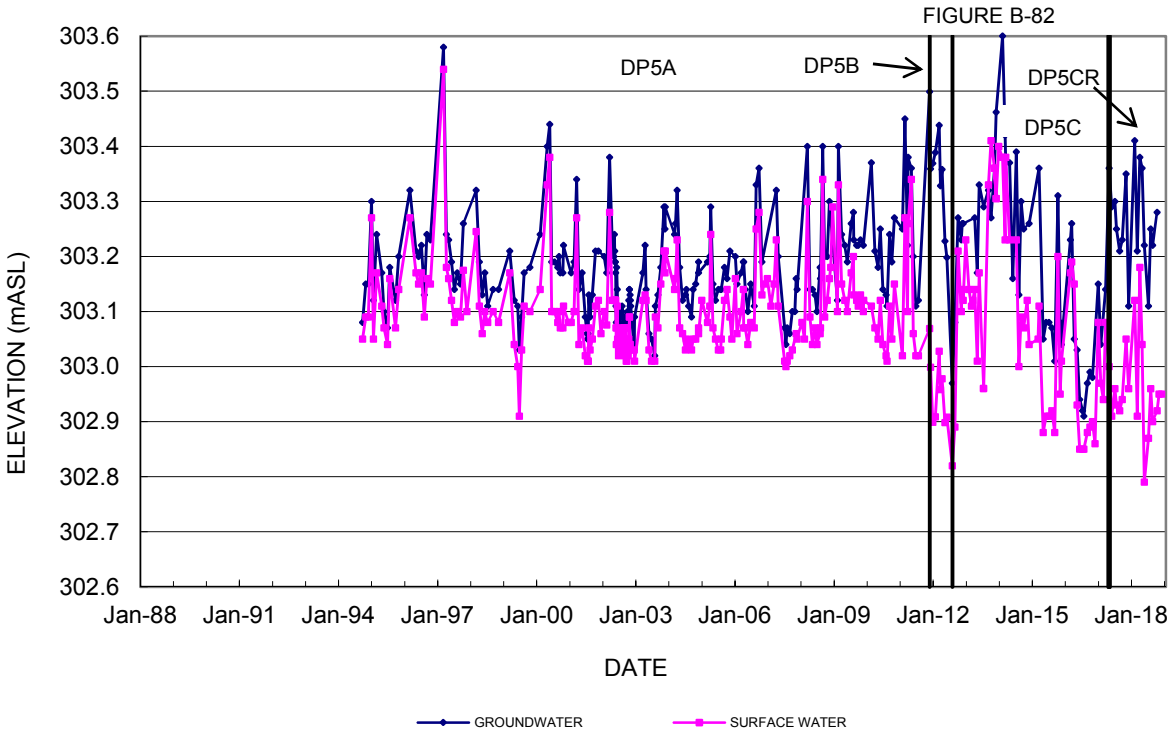
VERTICAL HYDRAULIC GRADIENT
DP4

FIGURE B-81



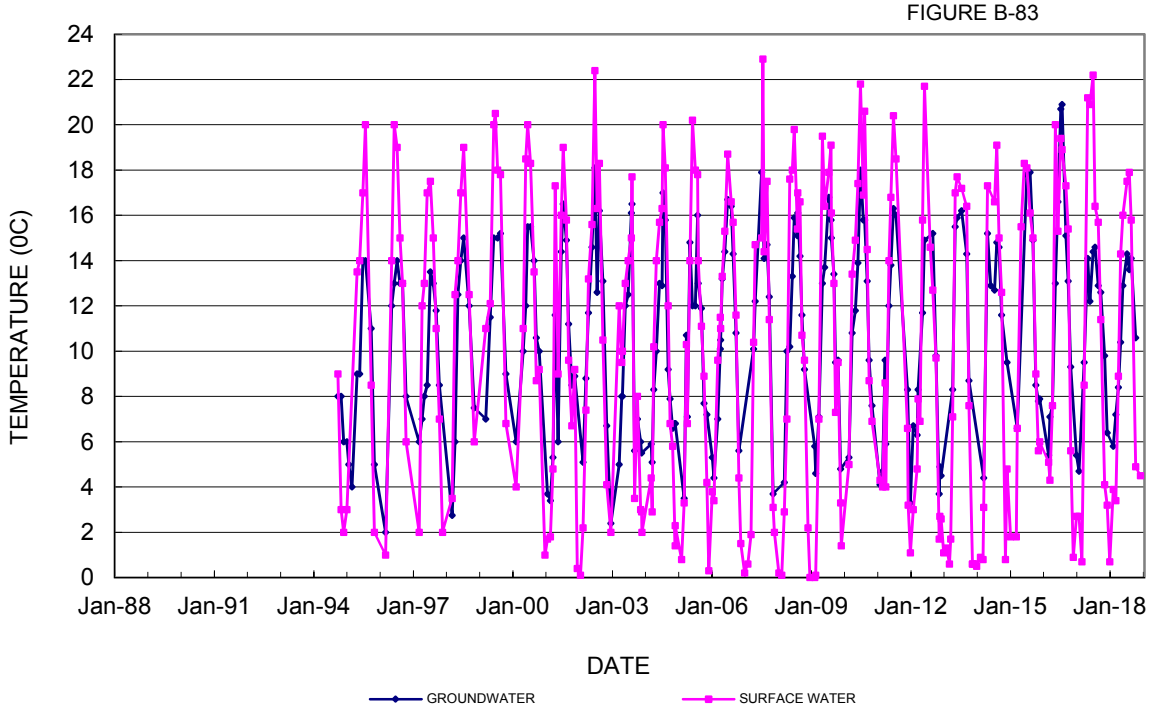
GROUNDWATER/SURFACE WATER HYDROGRAPH
DP5A/B/C/CR

FIGURE B-82



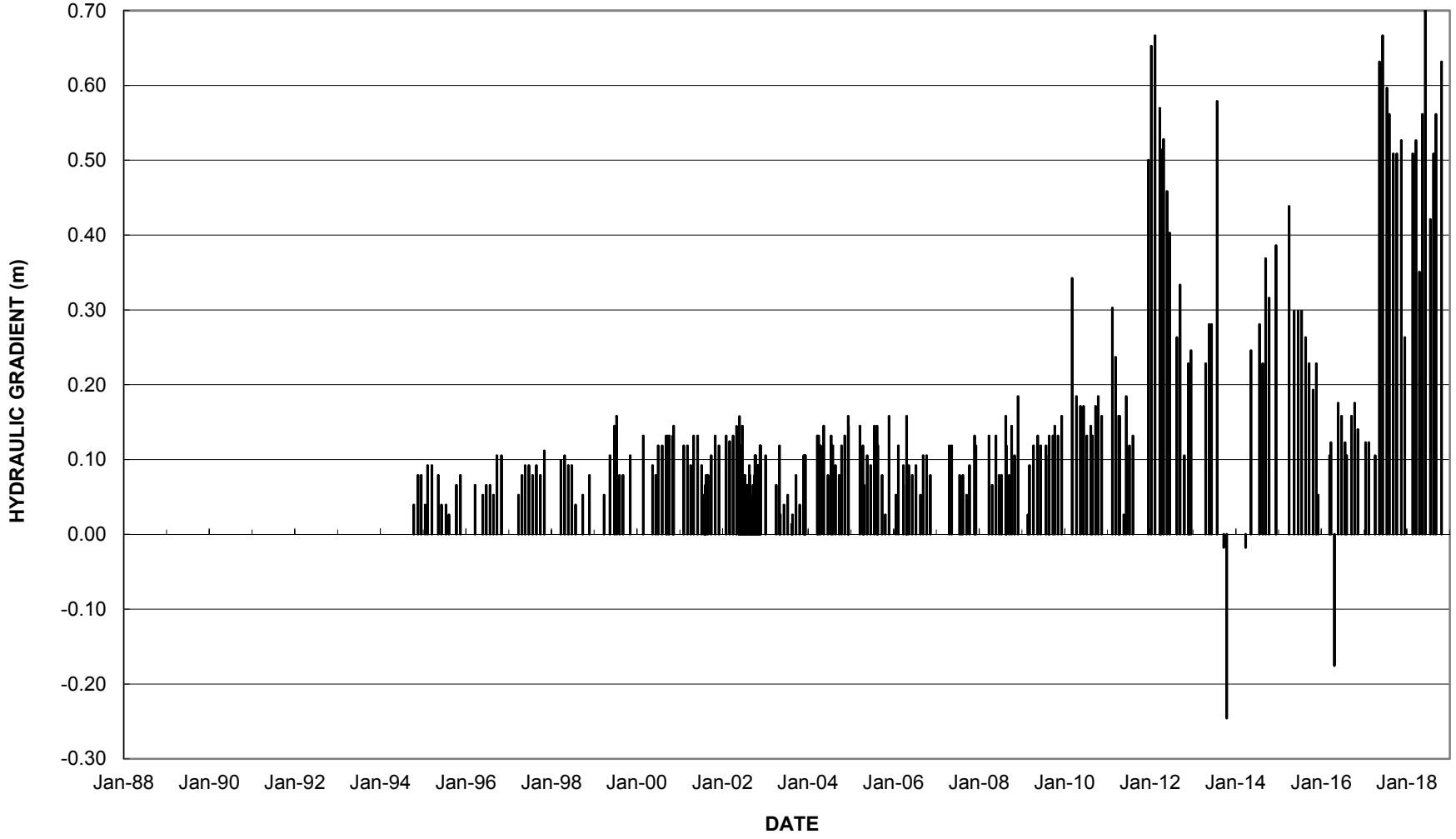
THERMOGRAPH
DP5A/B/C/CR

FIGURE B-83



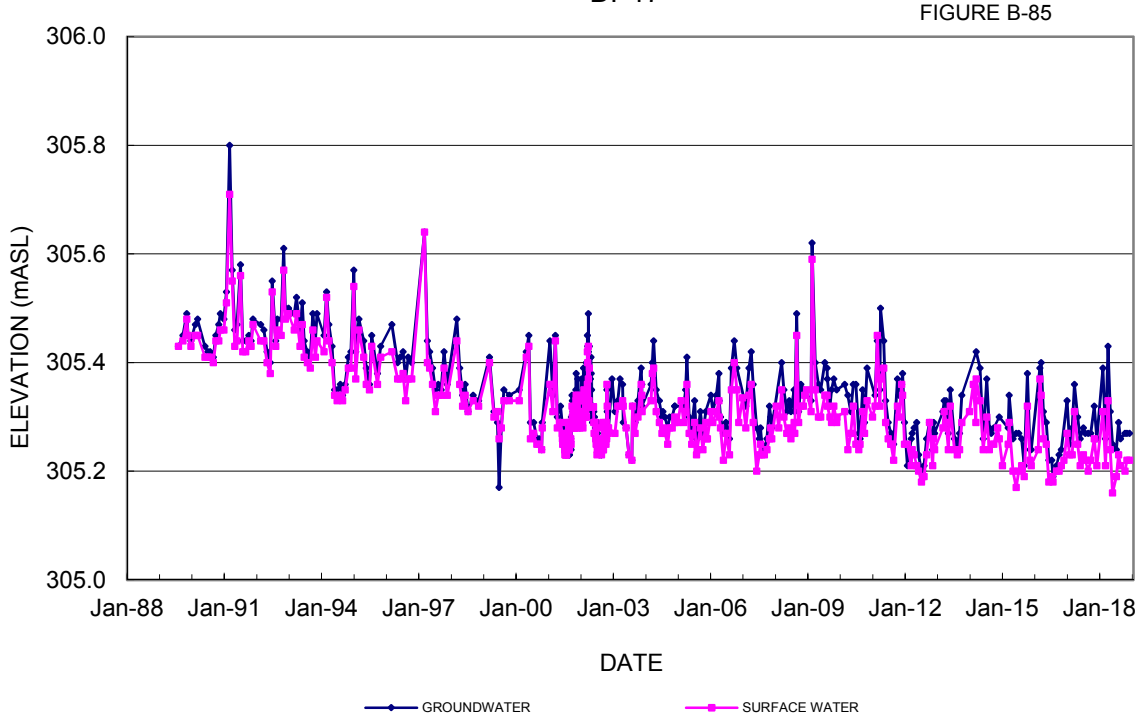
VERTICAL HYDRAULIC GRADIENT
DP5A/B/C/CR

FIGURE B-84



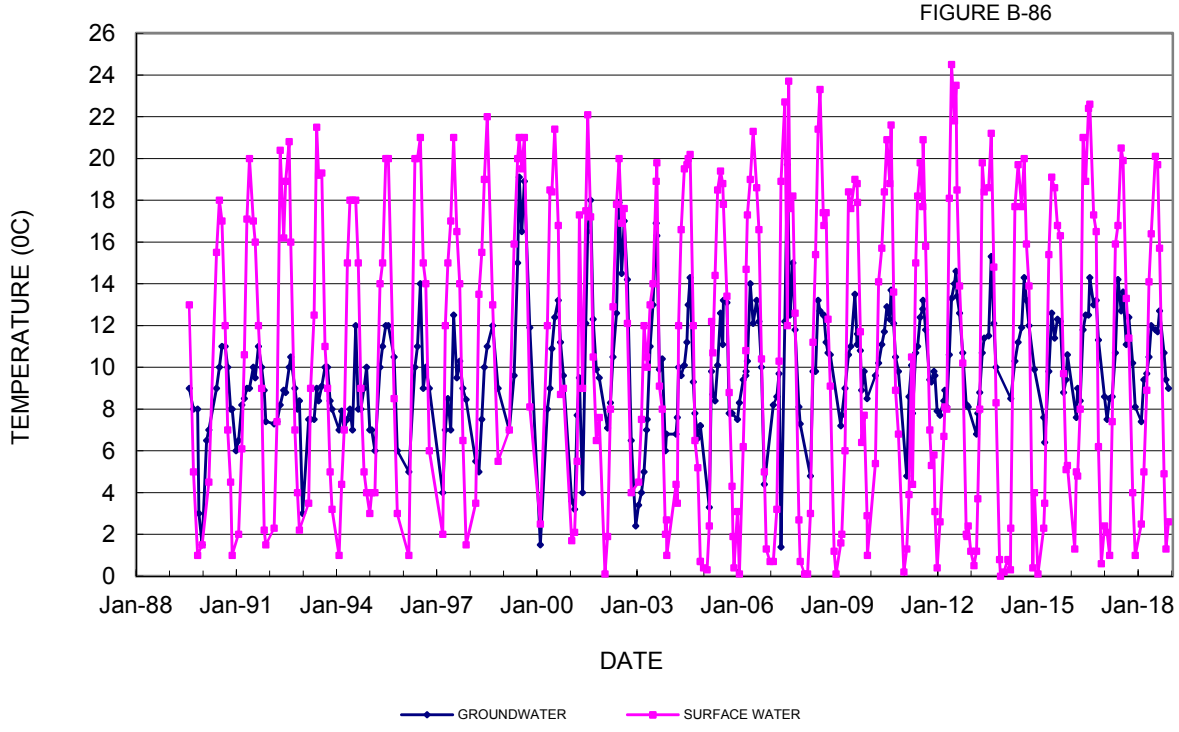
GROUNDWATER/SURFACE WATER HYDROGRAPH
DP17

FIGURE B-85



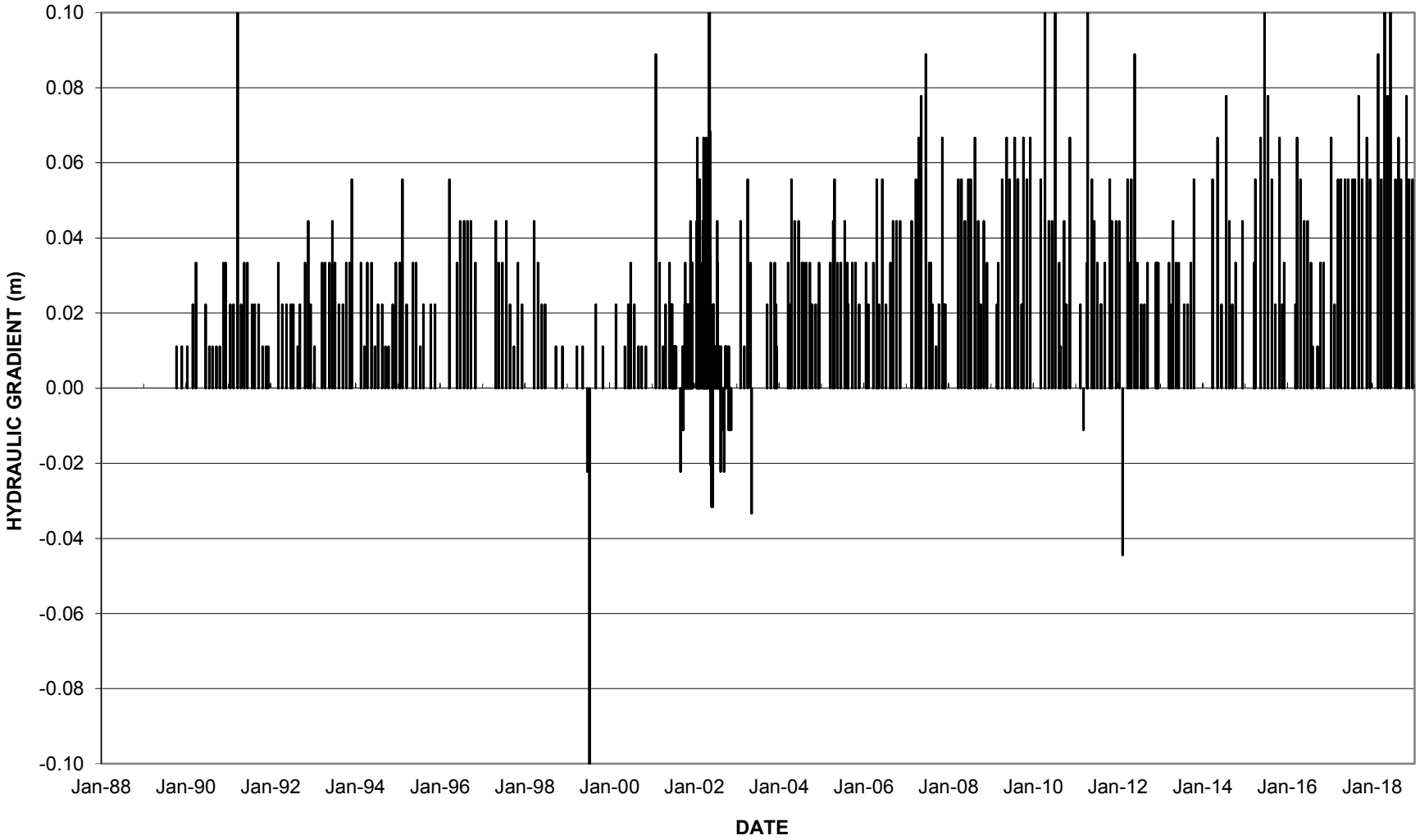
THERMOGRAPH
DP17

FIGURE B-86



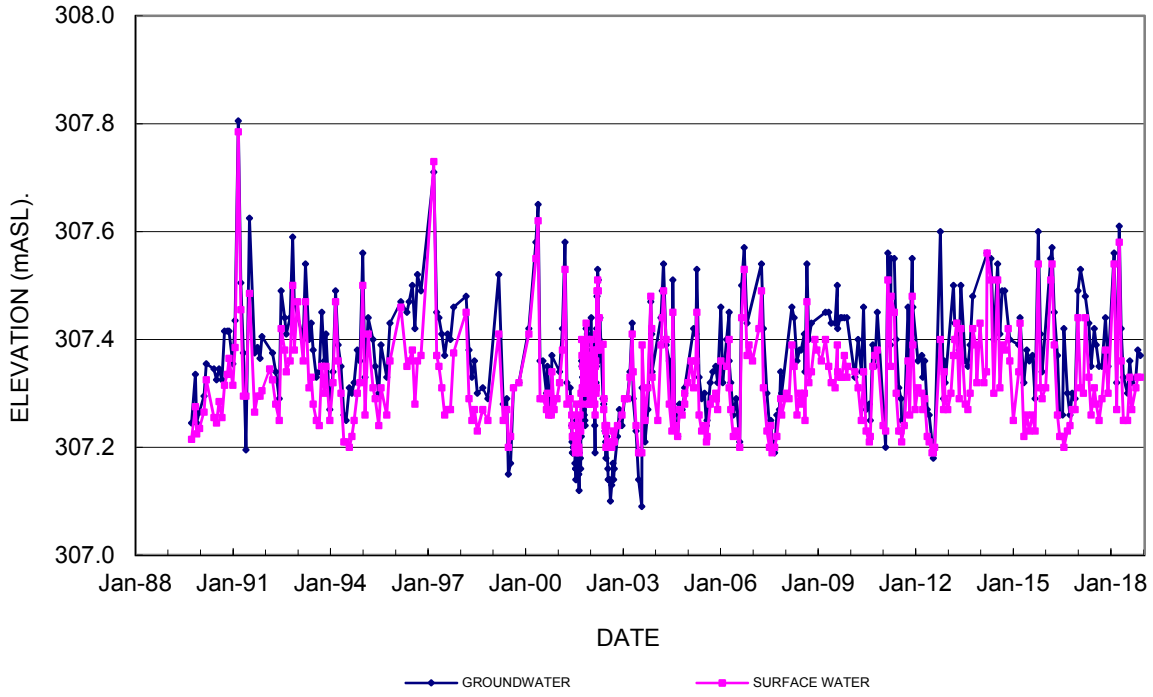
VERTICAL HYDRAULIC GRADIENT
DP17

FIGURE B-87



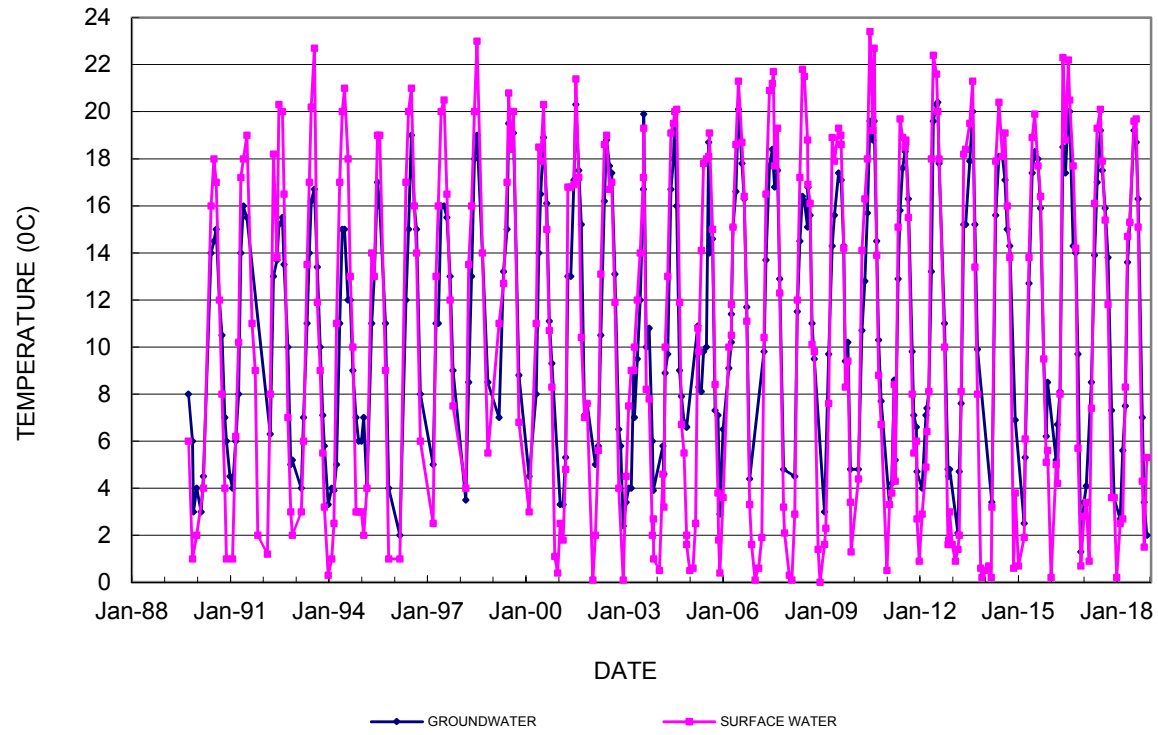
GROUNDWATER/SURFACE WATER HYDROGRAPH
DP18

FIGURE B-88



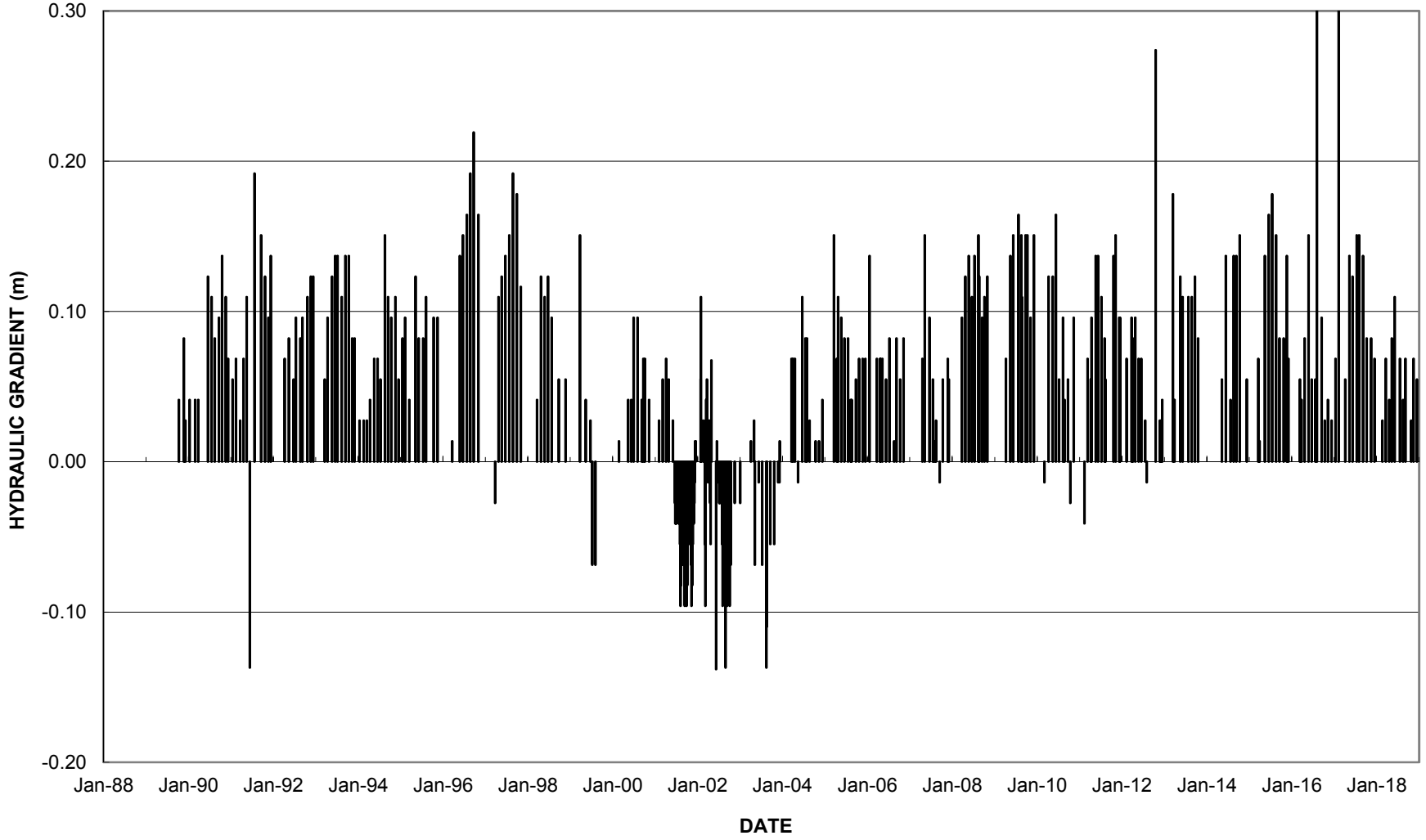
THERMOGRAPH
DP18

FIGURE B-89



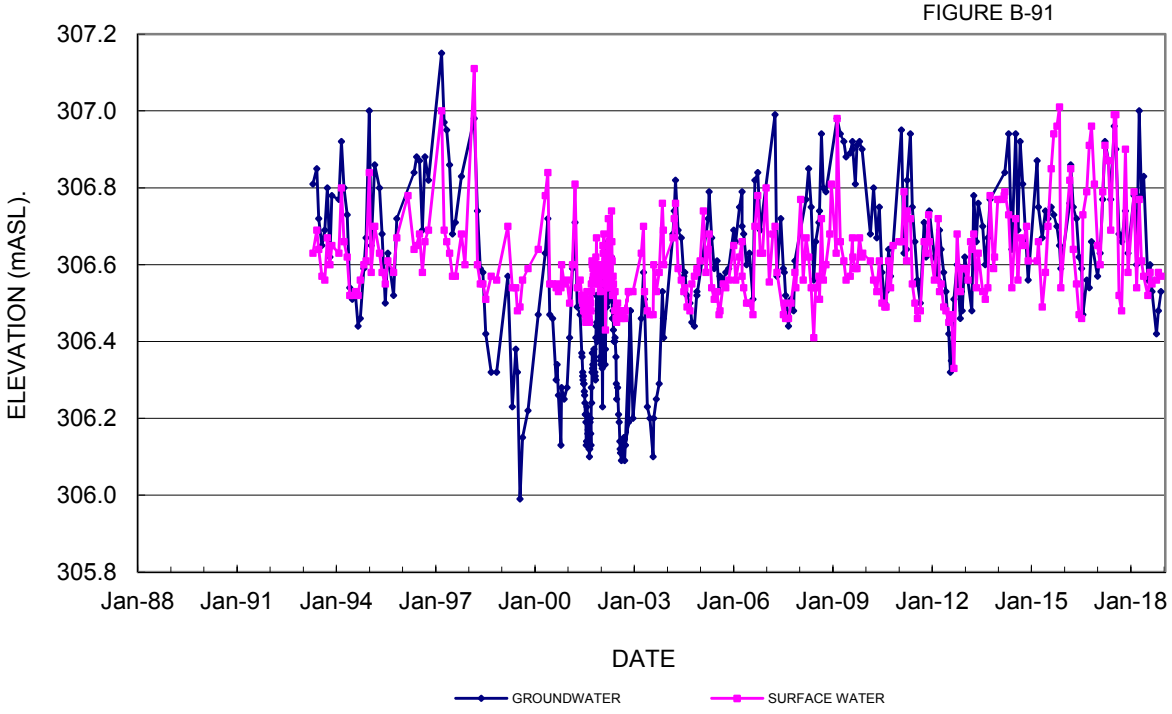
VERTICAL HYDRAULIC GRADIENT
DP18

FIGURE B-90



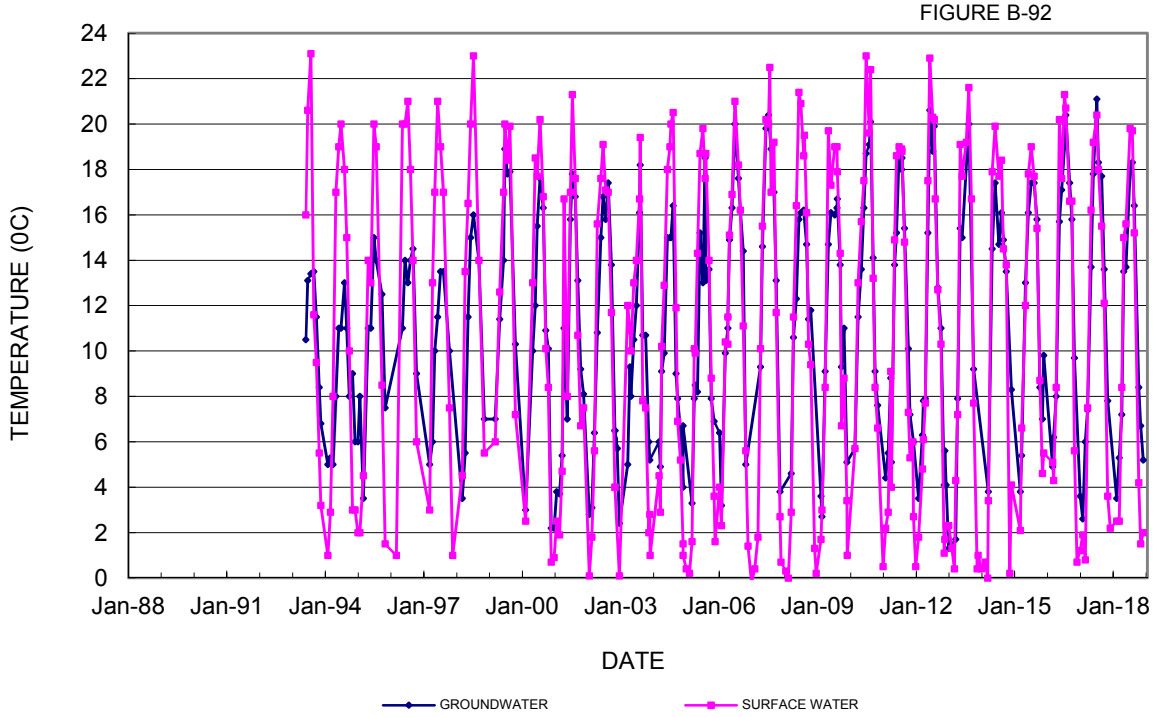
GROUNDWATER/SURFACE WATER HYDROGRAPH
DP19

FIGURE B-91



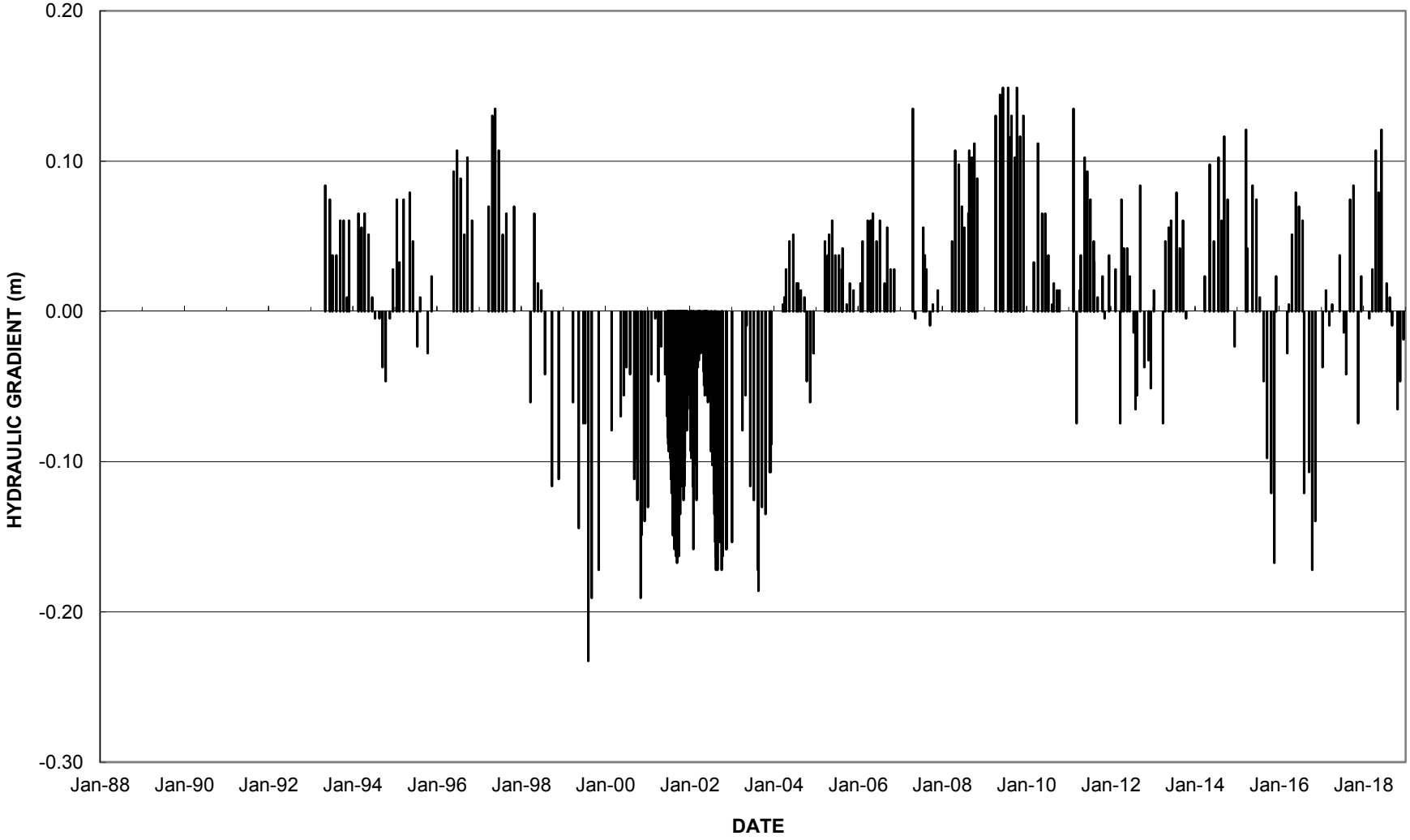
THERMOGRAPH
DP19

FIGURE B-92



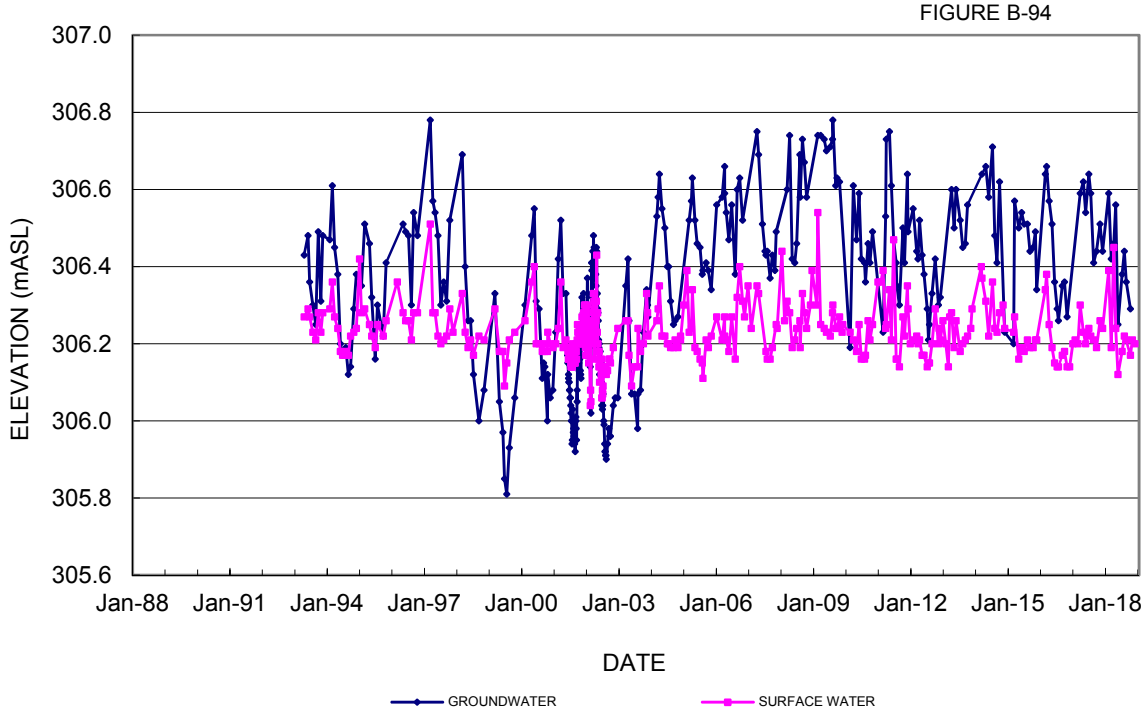
VERTICAL HYDRAULIC GRADIENT
DP19

FIGURE B-93



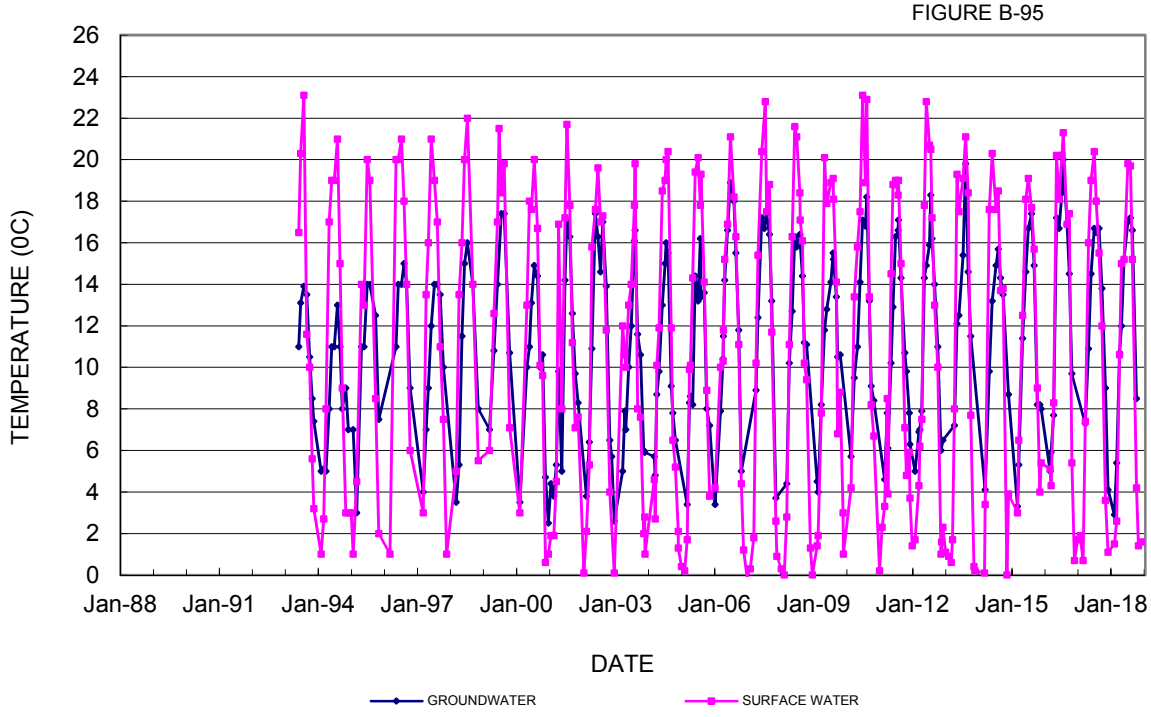
GROUNDWATER/SURFACE WATER HYDROGRAPH
DP20

FIGURE B-94



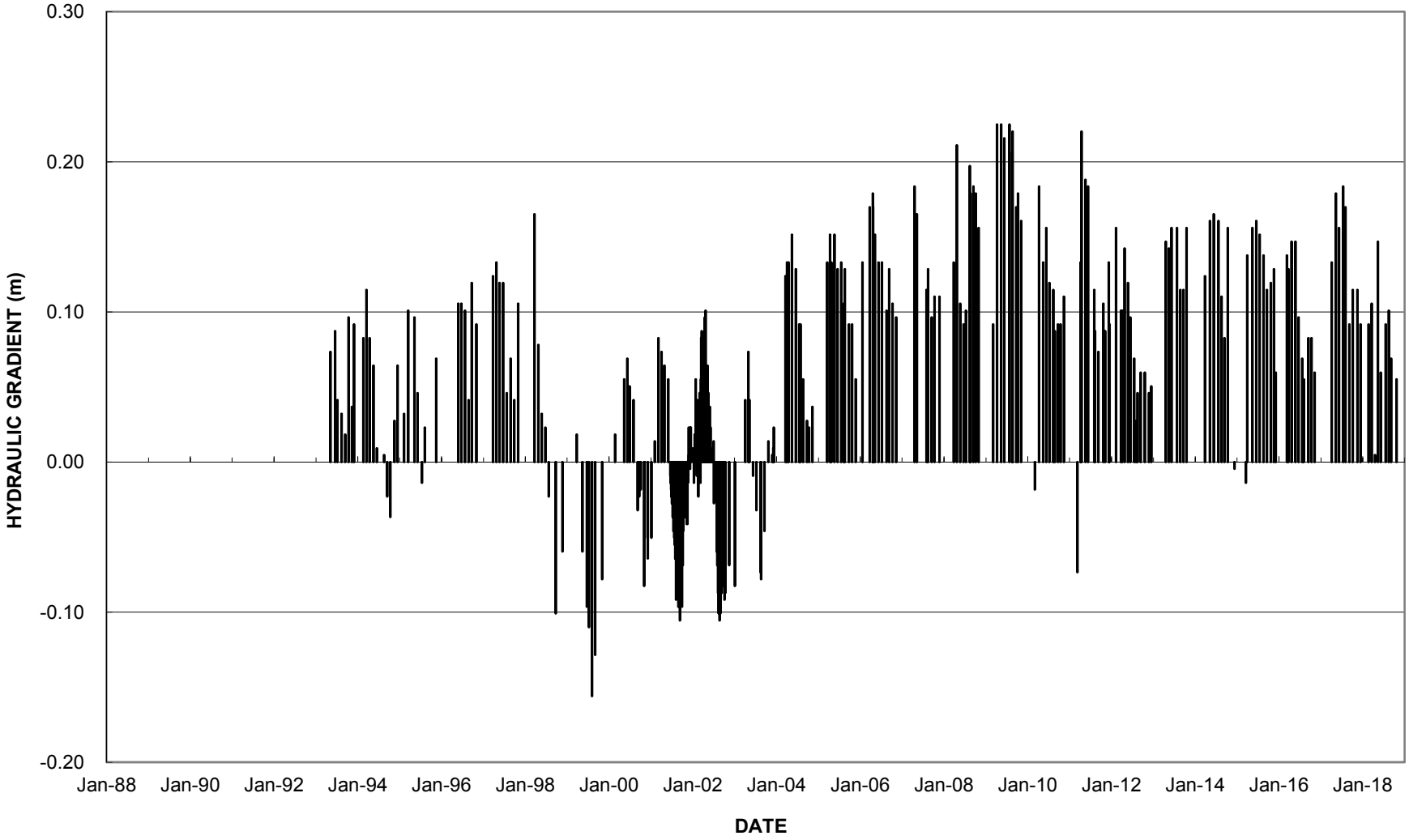
THERMOGRAPH
DP20

FIGURE B-95



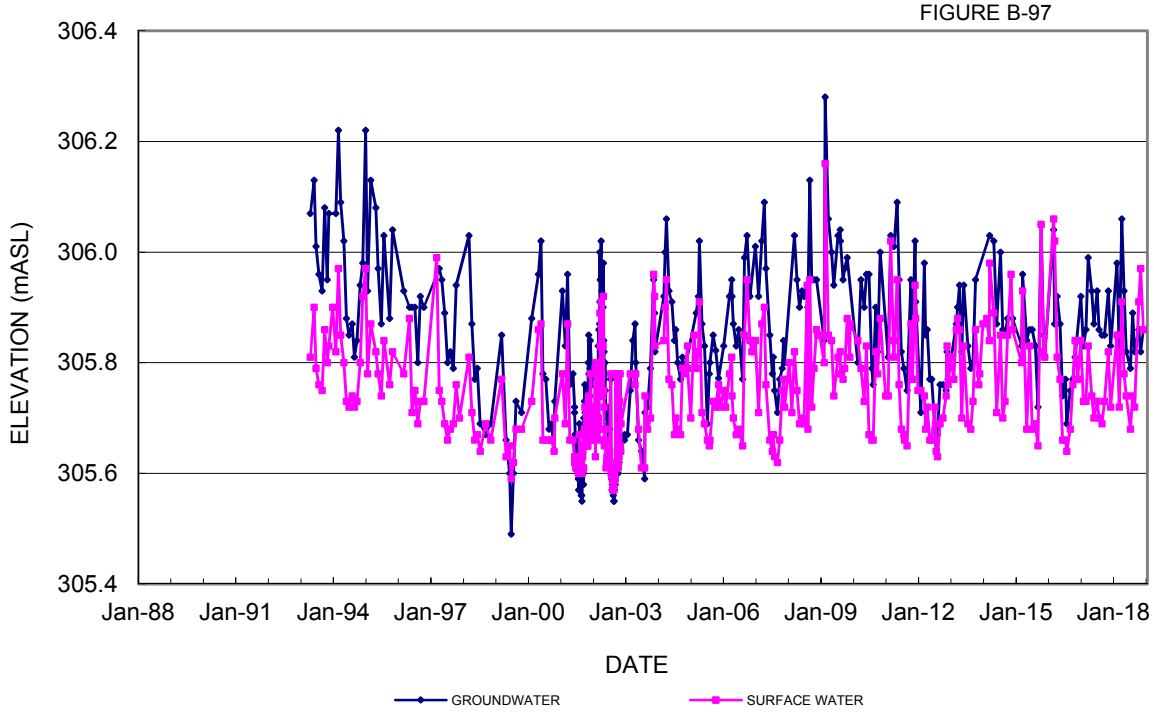
VERTICAL HYDRAULIC GRADIENT
DP20

FIGURE B-96



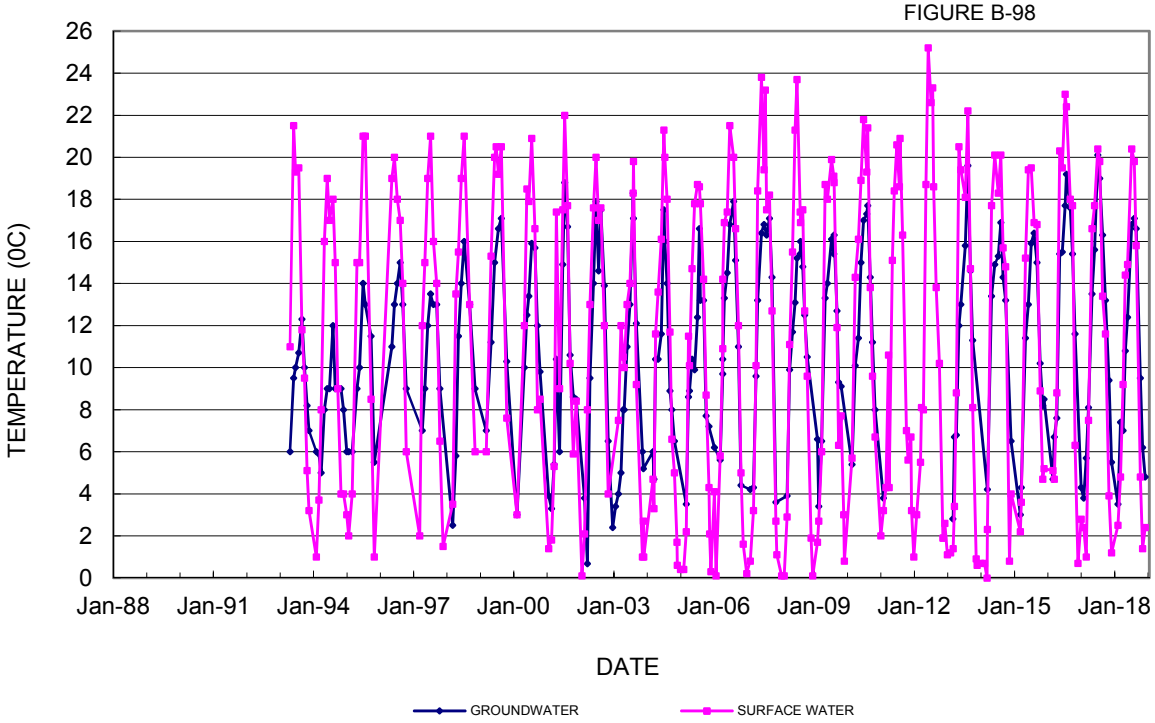
GROUNDWATER/SURFACE WATER HYDROGRAPH
DP21

FIGURE B-97



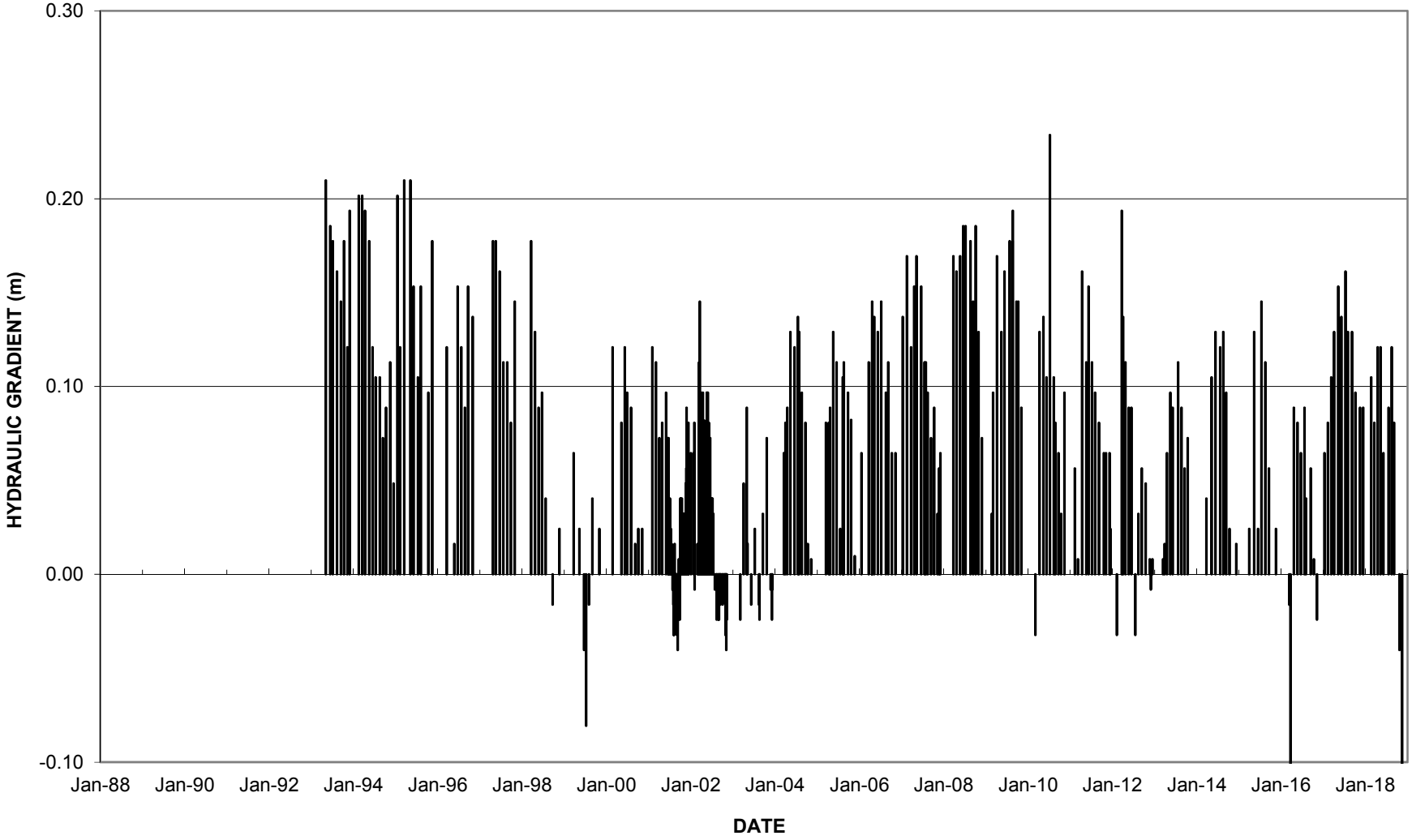
THERMOGRAPH
DP21

FIGURE B-98



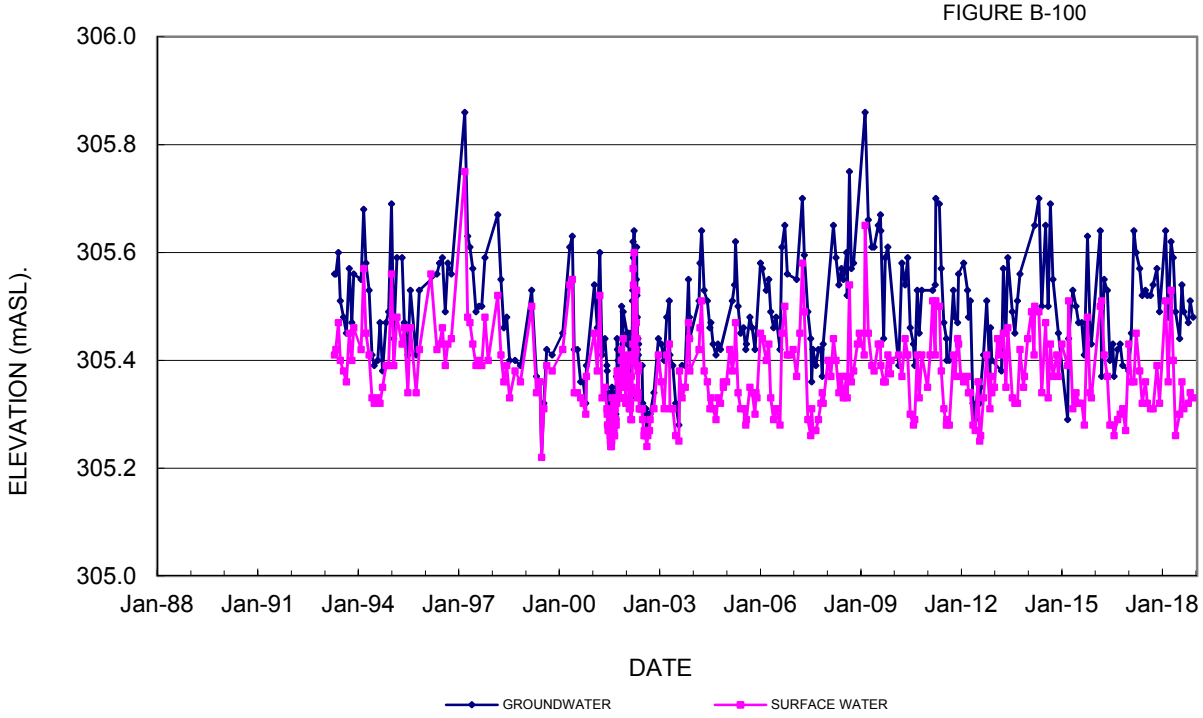
VERTICAL HYDRAULIC GRADIENT
DP21

FIGURE B-99



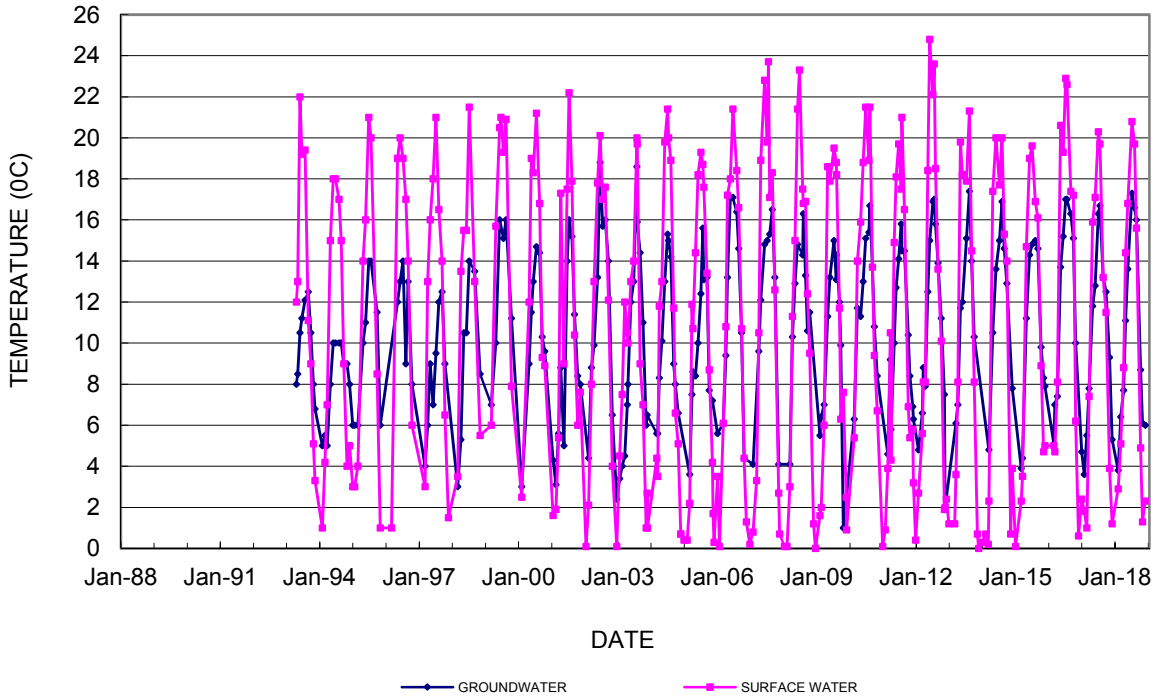
GROUNDWATER/SURFACE WATER HYDROGRAPH
DP22

FIGURE B-100



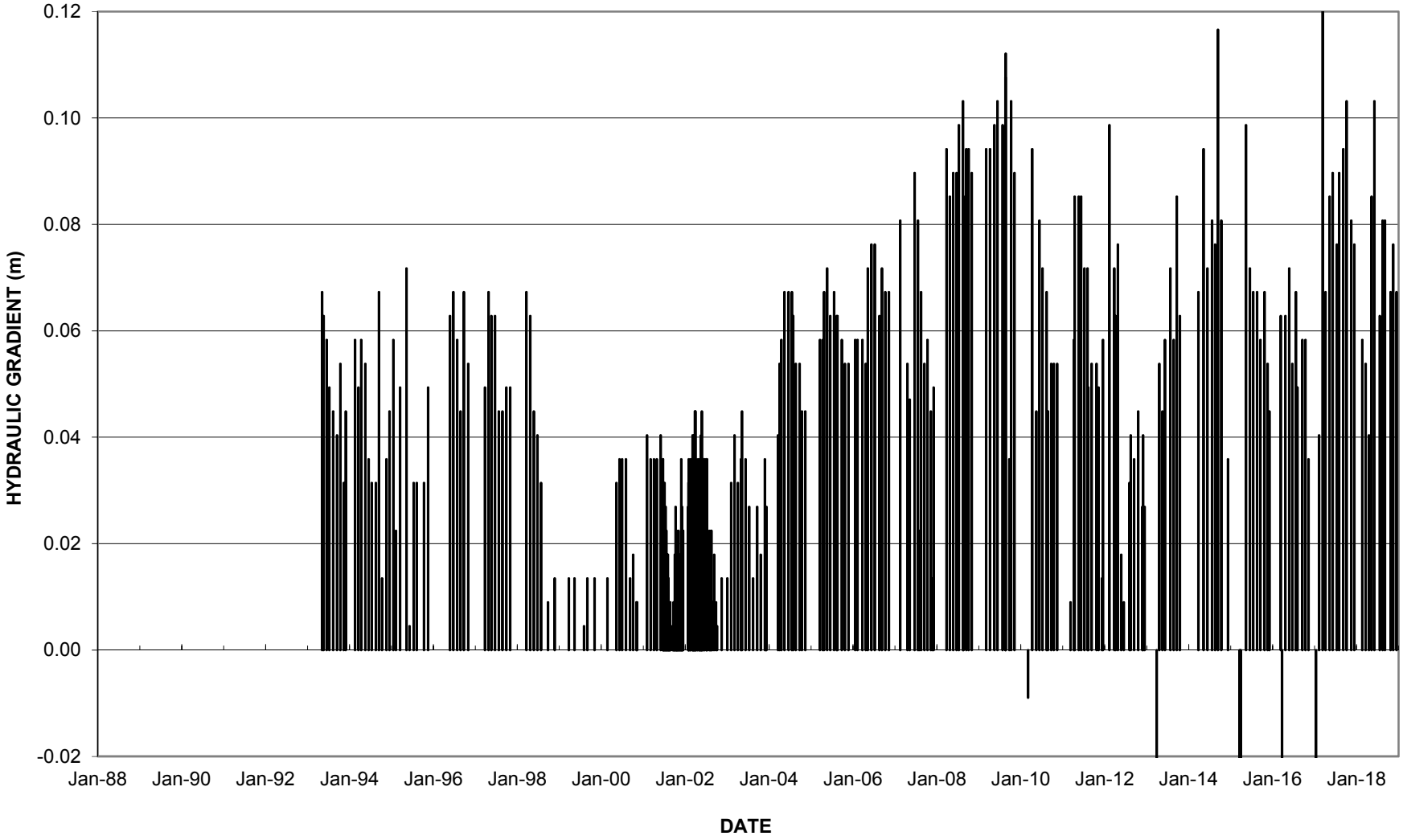
THERMOGRAPH
DP22

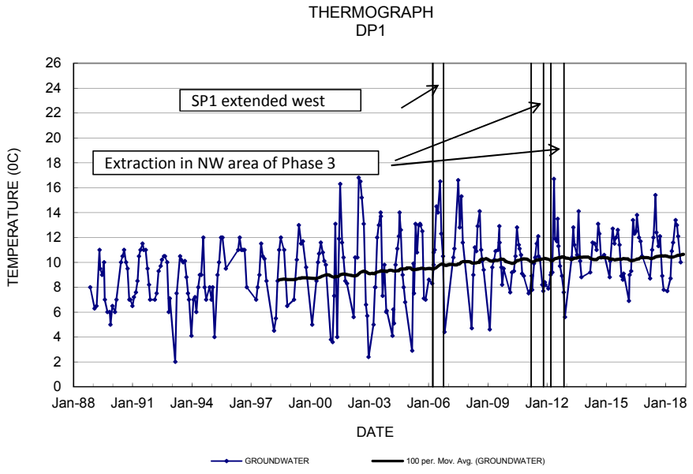
FIGURE B-101

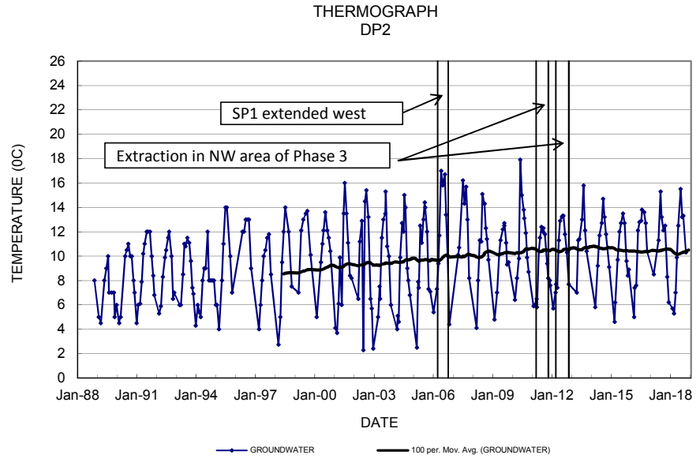


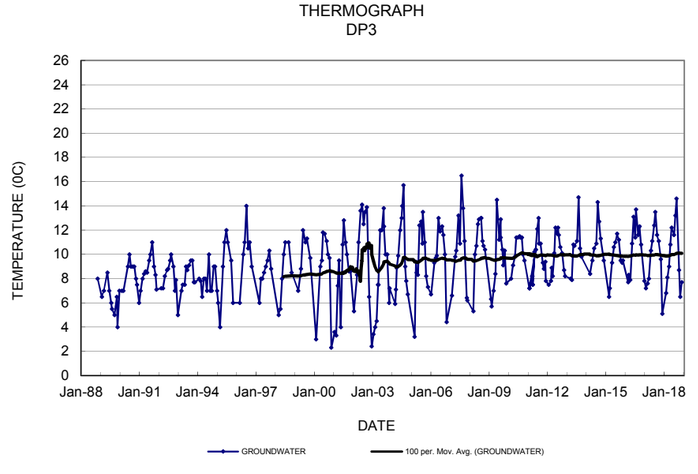
VERTICAL HYDRAULIC GRADIENT
DP22

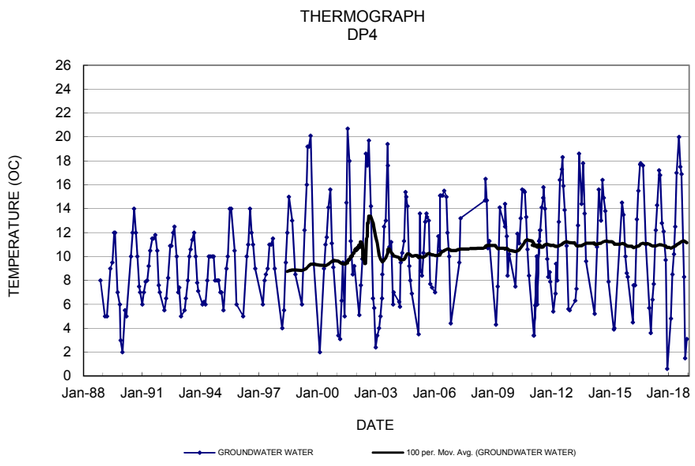
FIGURE B-102

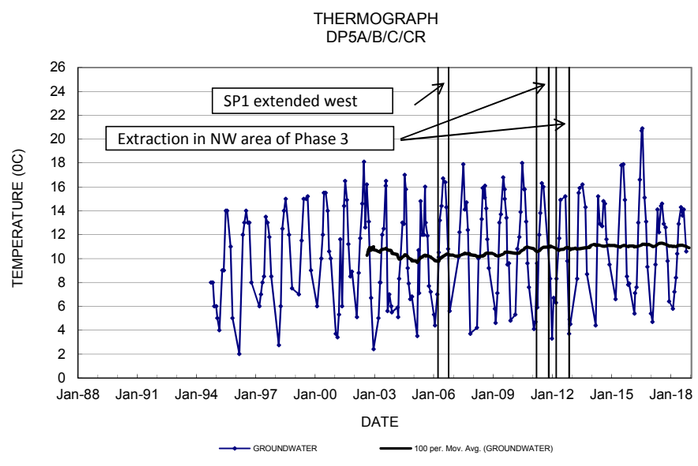


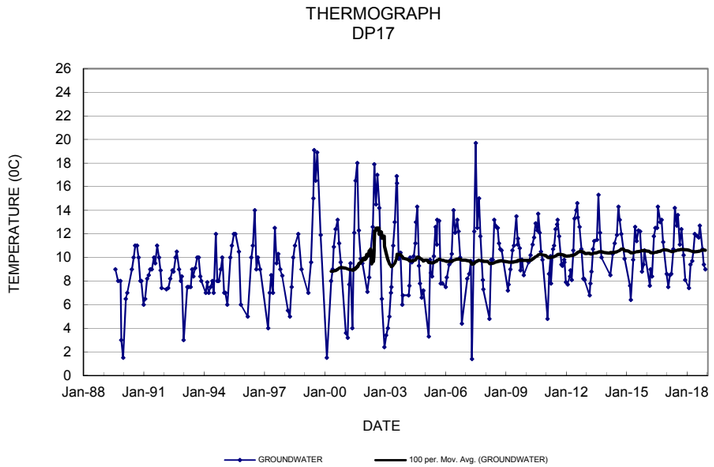

THERMOGRAPH
DP1
SP1 extended west
Extraction in NW area of Phase 3
TEMPERATURE (0C)
DATE
GROUNDWATER
100 per. Mov. Avg. (GROUNDWATER)

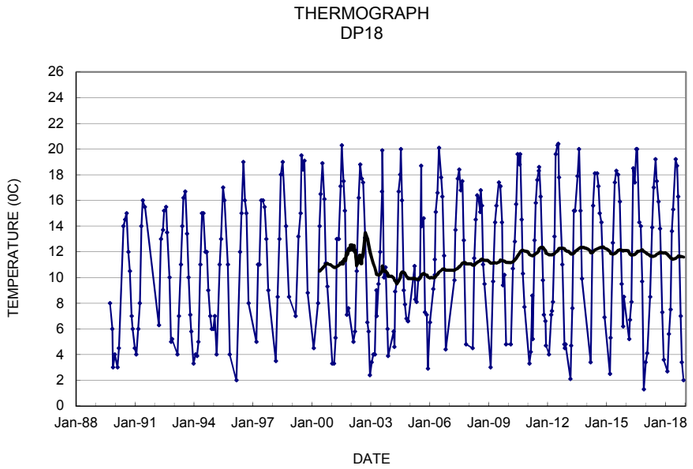

THERMOGRAPH
DP2
SP1 extended west
Extraction in NW area of Phase 3
TEMPERATURE (0C)
DATE
GROUNDWATER
100 per. Mov. Avg. (GROUNDWATER)

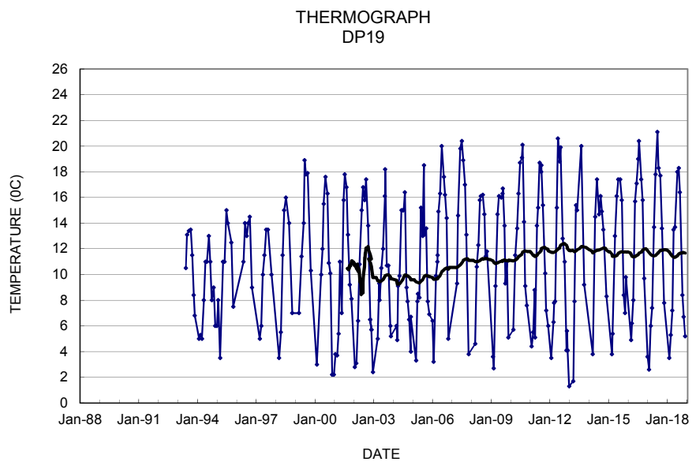

THERMOGRAPH
DP3
TEMPERATURE (0C)
DATE
GROUNDWATER
100 per. Mov. Avg. (GROUNDWATER)

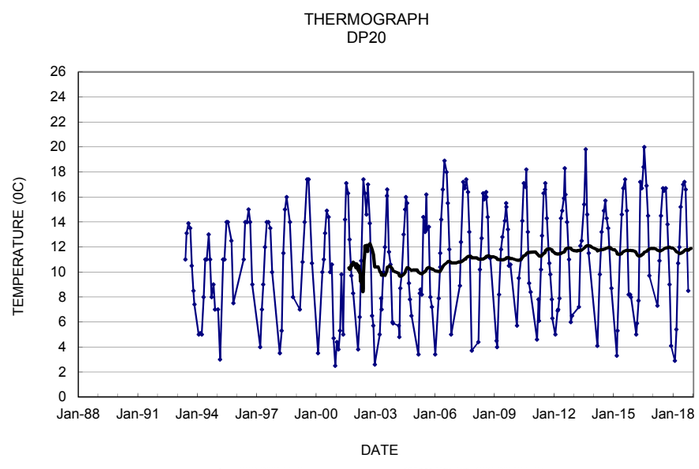

THERMOGRAPH
DP4
TEMPERATURE (OC)
DATE
GROUNDWATER WATER
100 per. Mov. Avg. (GROUNDWATER WATER)

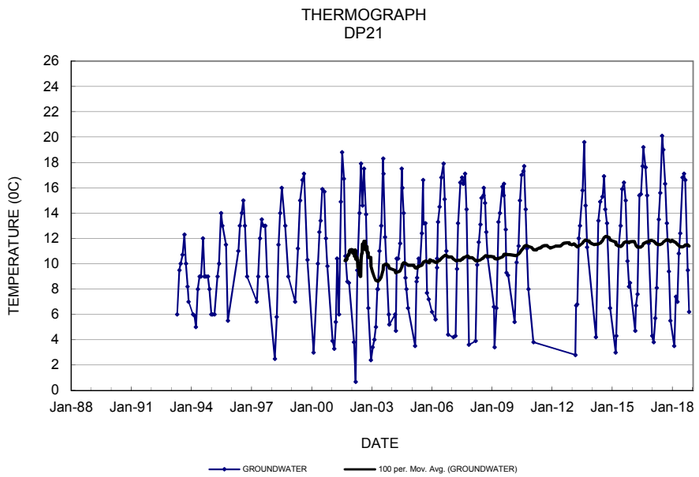

THERMOGRAPH
DP5A/B/C/CR
SP1 extended west
Extraction in NW area of Phase 3
TEMPERATURE (0C)
DATE
GROUNDWATER
100 per. Mov. Avg. (GROUNDWATER)

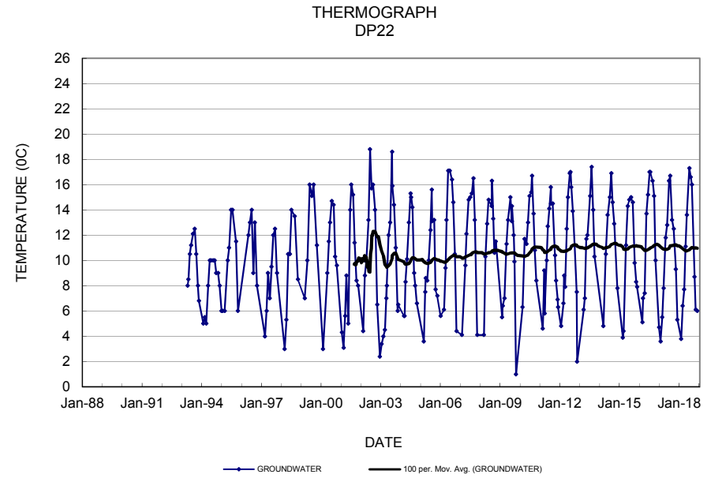

THERMOGRAPH
DP17
TEMPERATURE (0C)
DATE
GROUNDWATER
100 per. Mov. Avg. (GROUNDWATER)


THERMOGRAPH
DP18
TEMPERATURE (0C)
DATE
GROUNDWATER
100 per. Mov. Avg. (GROUNDWATER)


THERMOGRAPH
DP19
TEMPERATURE (0C)
DATE
GROUNDWATER
100 per. Mov. Avg. (GROUNDWATER)


THERMOGRAPH
DP20
TEMPERATURE (0C)
DATE
GROUNDWATER
100 per. Mov. Avg. (GROUNDWATER)


THERMOGRAPH
DP21
TEMPERATURE (0C)
DATE
GROUNDWATER
100 per. Mov. Avg. (GROUNDWATER)


THERMOGRAPH
DP22
TEMPERATURE (0C)
DATE
GROUNDWATER
100 per. Mov. Avg. (GROUNDWATER)

APPENDIX

C GROUNDWATER CHEMISTRY

TABLE C-1
WATER CHEMISTRY - FIELD MEASUREMENTS
MILL CREEK AGGREGATES PIT

LOCATION	DATE	TEMPERATURE (°C)	pH (as units)	CONDUCTIVITY (µS/cm)
BH1-I	December, 1992	9.0	7.4	800
	April, 1993	6.0	7.4	590
	December, 1993	9.6	7.7	455
	April, 1994	3.6	7.7	522
	December, 1994	12.0	7.3	NA
	May, 1995	9.3	7.8	570
	November, 1995	11.0	7.8	600
	November, 1996	11.5	7.4	610
	November, 1997	12.0	7.2	NA
	November, 1998	17.6	8.0	625
	November, 1999	12.9	7.9	600
	November, 2000	10.6	7.7	610
	March, 2001	5.1	7.9	NA
	November, 2001	12.5	7.5	618
	April, 2002	12.0	7.2	660
	November, 2002	13.0	7.2	590
	April, 2003	10.7	7.6	643
	November, 2003	11.1	7.2	716
	March, 2004	8.0	7.3	699
	November, 2004	13.6	7.8	655
	March, 2005	5.9	8.0	708
	December, 2005	11.8	7.8	596
	March,2006	4.2	7.9	681
	November, 2006	14.5	7.8	585
	April, 2007	16.4	7.7	511
	November, 2007	11.9	8.0	639
	April, 2008	11.4	7.8	610
	December,2008	11.9	7.2	649
	April, 2009	10.2	8.9	514
	November,2009	14.3	7.8	725
	April, 2010	NA	NA	NA
	November, 2010	13.6	7.6	724
	March, 2011	11.7	8.0	661
	November, 2011	15.1	8.0	663
	April, 2012	12.2	7.8	644
	December, 2012	11.0	8.1	725
	April, 2013	11.9	8.2	705
	December, 2013	9.1	7.7	712
	April, 2014	11.0	8.3	799
	December, 2014	12.5	7.8	820
	April, 2015	9.9	8.2	792
	December, 2015	12.7	7.7	1111 *
	March, 2016	11.9	7.8	776
	November, 2016	14.3	8.0	803
	March, 2017	12.4	8.1	800
	November, 2017	13.2	7.4	730
	March, 2018	11.9	8.0	750
	November, 2018	11.5	7.8	1072

LOCATION	DATE	TEMPERATURE (°C)	pH (as units)	CONDUCTIVITY (µS/cm)
BH92-8	December, 1992	9.2	7.3	775
	April, 1993	7.0	7.4	700
	December, 1993	9.1	7.6	466
	April, 1994	6.5	7.4	545
	December, 1994	10.0	7.2	NA
	May, 1995	8.3	7.7	600
	November, 1995	8.0	7.8	640
	November, 1996	9.0	7.3	692
	November, 1997	9.5	7.2	NA
	November, 1998	10.9	7.8	620
	November, 1999	13.3	7.8	700
	November, 2000	11.0	8.2	680
	March, 2001	5.0	8.0	NA
	November, 2001	12.5	7.5	670
	April, 2002	7.9	7.2	610
	November, 2002	12.0	7.2	775
	April, 2003	7.6	7.5	706
	November, 2003	11.5	7.4	770
	March, 2004	7.0	7.3	752
	November, 2004	12.0	8.2	725
	January, 2008	8.5	7.5	498
	April, 2008	7.7	7.9	560
	December, 2008	9.8	7.5	508
	April, 2009	8.3	8.2	450
	November, 2009	10.3	8.2	204
	April, 2010	8.8	7.8	289
	November, 2010	10.6	8.2	292
	March, 2011	9.5	8.0	470
	November, 2011	14.4	8.1	447
	April, 2012	8.2	7.4	657
	December, 2012	12.4	7.8	718
	April, 2013	10.0	8.3	710
	December, 2013	10.0	7.5	713
	April, 2014	8.5	8.1	831
	December, 2014	13.6	7.1	804
	April, 2015	7.4	8.1	805
	December, 2015	13.8	6.7	1036 *
	March, 2016	7.4	6.8	750
	November, 2016	16.3	7.6	800
	March, 2017	9.0	8.0	740
	April, 2017	8.7	8.1	740
	November, 2017	16.1	7.4	650
	March, 2018	10.7	8.1	660
	November 2018	13.1	7.7	959
BH6	March, 2005	5.0	7.9	762
	November, 2005	11.0	7.9	466
	March, 2006	4.1	7.9	475
	November, 2006	12.9	7.9	466
	April, 2007	13.1	8.0	430

Notes: NA = Reading not available.
' * ' denotes suspected instrument error.

TABLE C-1
WATER CHEMISTRY - FIELD MEASUREMENTS
MILL CREEK AGGREGATES PIT

LOCATION	DATE	TEMPERATURE (°C)	pH (as units)	CONDUCTIVITY (µS/cm)
BH8-I	December, 1992	5.8	8.2	710
	April, 1993	4.5	7.4	550
	December, 1993	5.7	7.4	423
	April, 1994	4.2	7.2	467
	December, 1994	8.0	7.2	NA
	May, 1995	7.3	7.5	450
	November, 1995	7.0	7.6	500
	November, 1996	9.0	7.4	634
	November, 1997	7.5	7.2	NA
	November, 1998	9.4	7.9	460
	November, 1999	10.7	7.5	500
	November, 2000	10.0	7.2	480
	March, 2001	5.1	8.1	NA
	November, 2001	10.0	7.5	560
	April, 2002	6.2	7.3	530
	November, 2002	9.0	7.2	590
	April, 2003	4.5	7.8	553
	November, 2003	9.9	7.2	700
	March, 2004	4.0	7.2	665
	November, 2004	10.8	7.6	598
	March,2005	5.9	7.8	571
	November, 2005	10.8	7.6	616
	March, 2006	4.0	7.7	553
	November, 2006	12.4	8.0	491
	April, 2007	11.5	7.7	515
	November, 2007	11.7	8.1	509
	April, 2008	7.1	7.8	465
	December, 2008	6.9	7.2	610
	April, 2009	7.7	8.7	439
	November, 2009	9.9	7.7	668
	April, 2010	9.1	7.2	634
	November, 2010	9.6	7.2	665
	March, 2011	7.0	8.5	658
BH32-III	November, 2011	10.1	7.5	739
	April, 2012	9.7	7.1	791
	December, 2012	7.5	8.2	935
	April, 2013	8.4	7.6	886
	December, 2013	8.5	7.9	741
	April, 2014	7.1	7.3	987
	December, 2014	5.9	7.7	962
	April, 2015	5.8	7.5	983
	December, 2015	8.5	7.4	1148 *
	March, 2016	5.4	7.8	840
	November, 2016	10.8	7.9	840
	March, 2017	5.2	7.4	1050
	April, 2017	5.3	7.5	1000
	November, 2017	10.7	7.2	680
	March, 2018	6.1	8.3	720
	November, 2018	9.5	7.0	610

LOCATION	DATE	TEMPERATURE (°C)	pH (as units)	CONDUCTIVITY (µS/cm)
PHASE 1	December, 2000	1.4	6.4	320
POND	April, 2001	3.8	8.5	NA
	November, 2001	10.0	7.8	673
	April, 2002	7.2	7.2	590
	November, 2002	6.0	7.4	540
	April, 2003	9.8	7.9	648
	November, 2003	9.4	8.1	620
	March, 2004	2.7	7.9	179
	November, 2004	10.9	8.4	677
	April, 2005	10.9	7.9	298
	November, 2005	9.3	8.5	677
	April, 2006	9.0	7.9	350
	November, 2006	10	8.1	545
	April, 2007	13.4	8.4	475
	November, 2007	9.9	8.3	605
	April, 2008	12.4	7.0	582
	December, 2008	0.7	7.2	586
	April, 2009	8.9	8.4	497
	November, 2009	8.3	8.4	703
	April, 2010	11.1	7.9	638
	November, 2010	5.3	8.3	670
	April, 2011	9.1	8.8	621
	November, 2011	9.9	8.6	652
	April, 2012	8.0	8.4	626
	December, 2012	6.0	8.3	672
	April, 2013	1.3	7.6	131
	December, 2013	1.2	7.5	930
	April, 2014	3.6	8.4	773
	December, 2014	2.1	8.2	853
	April, 2015	2.5	9.2	325
	December, 2015	5.7	7.7	1078 *
	March, 2016	5.3	7.9	686
	November, 2016	10.6	8.0	1090 *
	March, 2017	2.3	8.5	710
	November, 2017	6.7	7.6	640
	March, 2018	6.8	8.4	650
	November, 2018	4.3	8.2	981

Notes: NA = Reading not available.
' * ' denotes suspected instrument error.

TABLE C-2
GROUNDWATER CHEMICAL RESULTS
MILL CREEK AGGREGATES PIT

PARAMETER	UNITS	ODWQS	BH1-I												
Date			16-Dec-92	20-Apr-93	13-Dec-93	20-Apr-94	21-Dec-94	16-May-95	22-Nov-95	7-Nov-96	26-Nov-97	18-Nov-98	9-Nov-99	8-Nov-00	13-Mar-01
Sodium	mg/L	200 [2]	27.6	20.2	29.1	36.9	35.6	37	38.5	39.4	43	49.5	47.8	46.1	45.4
Potassium	mg/L		2.8	2.1	2.2	1.4	2.1	1.6	2	1.6	1.7	2.2	2	2	1
Calcium	mg/L		72.6	73.8	68.2	64.6	69.3	57.5	58	55.7	50.1	48.4	51.8	49.4	48.1
Magnesium	mg/L		30.2	29	26.9	27.9	25.2	20.7	22.6	20.1	23	23.8	25.7	26	25.6
Alkalinity (as CaCO3)	mg/L	30-500 [3]	231	222	215	172	165	156	160	126	145	137	149	171	143
Sulphate	mg/L	500 [2]	42	40	47	57	61	54	54	46	45	49	45	47.7	47.9
Chloride	mg/L	250 [2]	59.1	49.4	53	69.3	74.3	76.1	74.3	67.8	93.4	91.6	90	101	99.4
Orthophosphate (as P)	mg/L		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.1	<0.3	<0.3	<0.3
Nitrate and Nitrite (as N)	mg/L	10 [1]	7.2	9.4	7	0.56	0.34	0.53	0.17	0.33	0.48	0.44	0.3	0.6	0.4
Ammonia (as N)	mg/L		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.04	0.08	<0.03
Iron	mg/L	0.3 [2]	0.5	0.49	0.13	2.07	1.61	0.03	0.03	<0.02	<0.02	0.06	0.07	<0.01	<0.01
Manganese	mg/L	0.05 [2]	0.19	0.04	<0.01	0.35	0.26	<0.01	<0.01	<0.01	<0.01	<0.01	0.008	<0.005	<0.005
Copper	mg/L	1 [2]	0.01	<0.01	<0.01	0.01	<0.01	0.02	0.01	<0.01	<0.01	<0.01	<0.003	<0.003	<0.003
Zinc	mg/L	5 [2]	0.18	0.19	0.06	0.15	0.19	0.02	0.02	0.01	<0.01	<0.01	0.012	0.018	0.015
Conductivity	µS/cm		825	762	831	675	711	634	688	537	620	641	680	633	646
pH	Units	6.5-8.5 [3]	7.4	7.7	7.9	7.7	7.7	7.4	7.5	7.8	8.2	8.1	7.95	7.84	7.91
Dissolved Organic Carbon	mg/L	5[2]	1.2	<0.5	<0.5	0.6	0.6	<0.5	<0.5	<0.5	0.8	0.6	0.6	1.6	<0.2
Hardness (as CaCO3)	mg/L	80-100 [3]	306	304	281	276	277	229	238	222	220	219	235	230	226
Bicarbonate (as CaCO3)	mg/L		230	221	213	171	164	156	160	125	143	135	148	170	142
Carbonate (as CaCO3)	mg/L		0.54	1.04	1.59	1	1	<1.00	0.5	<1.00	2	2	1	1	1
Total Dissolved Solids	mg/L	500 [2]	411	395	392	366	NA	NA	NA	312	349	354	357	381	359
Cation Sum	meq/L		7.38	7	6.94	7.16	7.13	6.1	6.39	6.19	6.3	6.58	6.82	6.65	6.52
Anion Sum	meq/L		7.67	7.34	7.27	6.62	6.69	6.43	6.43	5.4	6.49	6.38	6.48	7.3	6.69
Ion Balance	%		1.95	2.33	2.34	3.92	3.23	2.59	0.33	6.8	1.48	1.56	2.61	4.65	1.25
Total Oil and Grease	mg/L		<1	<1	<1	<1	<1	<1	<1					<1	<1

PARAMETER	UNITS	ODWQS	BH1-I												
Date			6-Nov-01	12-Apr-02	20-Nov-02	23-Apr-03	6-Nov-03	10-Mar-04	5-Nov-04	18-Mar-05	7-Dec-05	3-Mar-06	6-Nov-06	30-Apr-07	15-Nov-07
Sodium	mg/L	200 [2]	51.8	47.1	50.5	50.5	51.2	49	54.7	56.6	54	63.2	63.6	65	69.8
Potassium	mg/L		2	2	1	2	2	1	1	2	2.4	2	2	1.8	2
Calcium	mg/L		52.2	53	47.8	51.9	45.9	47.3	47	47	41	58.8	47	47	46.2
Magnesium	mg/L		27.8	28	27.3	27.8	26.6	27.6	27.6	27.5	26	36.1	27.8	31	28.6
Alkalinity (as CaCO3)	mg/L	30-500 [3]	172	179	153	160	169	163	145	140	123	145	171	147	156
Sulphate	mg/L	500 [2]	45.9	48.7	48.4	45.7	37.1	44.4	42.9	44.7	35	53	43	47	42
Chloride	mg/L	250 [2]	89.7	93.3	99.9	95.2	102	99.6	107	118	94	115	132	120	120
Orthophosphate (as P)	mg/L		<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	0.189	<0.01	<0.01	<0.01	0.03
Nitrate and Nitrite (as N)	mg/L	10 [1]	0.5	0.5	0.5	0.7	<0.2	1	0.6	0.5	2.9	0.4	0.3	0.4	0.3
Ammonia (as N)	mg/L		0.04	<0.03	<0.03	<0.03	4.23	<0.03	0.03	<0.03	<0.05	<0.05	0.22	0.08	0.14
Iron	mg/L	0.3 [2]	<0.01	<0.01	0.02	0.02	0.12	0.07	0.17	<0.01	<0.05	0.54	<0.02	0.14	0.14
Manganese	mg/L	0.05 [2]	0.01	<0.005	0.011	0.005	0.112	0.039	0.031	<0.005	<0.002	<0.01	<0.01	0.02	0.03
Copper	mg/L	1 [2]	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.003	<0.02	<0.02	0.002	<0.02
Zinc	mg/L	5 [2]	0.015	0.016	0.013	0.081	<0.005	0.29	0.034	0.017	0.025	0.01	<0.01	0.058	0.03
Conductivity	µS/cm		669	699	660	646	680	656	678	713	571	734	779	751	766
pH	Units	6.5-8.5 [3]	7.74	7.98	8.07	7.93	7.51	8	7.99	7.95	8.1	8.1	8.2	8.2	8.2
Dissolved Organic Carbon	mg/L	5[2]	0.4	0.8	0.6	0.4	10	0.8	1.2	0.8	0.8	0.4	1	0.5	0.5
Hardness (as CaCO3)	mg/L	80-100 [3]	245	247	232	244	224	232	231	231	210	300	230	250	230
Bicarbonate (as CaCO3)	mg/L		171	177	151	159	168	161	144	139	121	143	168	144	154
Carbonate (as CaCO3)	mg/L		<1	2	2	1	<1	2	1	1	1	2	3	2	2
Total Dissolved Solids	mg/L	500 [2]	380	386	373	376	376	375	374	386	326	415	419	405	408
Cation Sum	meq/L		7.21	7.05	6.86	7.12	7.06	6.8	7.03	7.14	6.6	8.72	7.47	7.84	7.77
Anion Sum	meq/L		6.96	7.26	6.92	6.89	7.03	7.06	6.85	7.09	6.02	7.26	8.05	7.26	7.41
Ion Balance	%		1.78	1.46	0.43	1.68	0.22	1.92	1.31	0.3	4.63	9.13	3.78	3.83	2.41
Total Oil and Grease	mg/L		1	<1	<1	<1	22	<1	1	<1	<0.5	<0.5	<0.5	<0.5	1.2

NOTES:
- ODWQS Ontario Drinking Water Quality Standards (2006)
- (1) Maximum Acceptable Concentration
- (2) Aesthetic Objective
- (3) Operational Guideline
- * Concentration considered anomalous.

TABLE C-2
GROUNDWATER CHEMICAL RESULTS
MILL CREEK AGGREGATES PIT

PARAMETER	UNITS	ODWQS	BH1-I													
Date			29-Apr-08	17-Dec-08	15-Apr-09	25-Nov-09	16-Apr-10	29-Nov-10	29-Mar-11	16-Nov-11	10-Apr-12	6-Dec-12	4-Apr-13	10-Dec-13	1-Apr-14	15-Dec-14
Sodium	mg/L	200 [2]	64.3	58.1	59.1	62.1	62.4	51	63.4	60	58.9	62.6	61.2	63	60	61
Potassium	mg/L		2	<1	2	2	2	2.1	2	2.5	1	2	2	2	2	2
Calcium	mg/L		46.5	41.2	42.3	44	45.2	38.9	46.1	43	44.5	46.5	46.3	45	43	41
Magnesium	mg/L		28.6	25.6	27.4	29.1	29.7	24.2	29	28	26.6	30.4	31.4	32	30	30
Alkalinity (as CaCO3)	mg/L	30-500 [3]	99	159	147	153	148	144	143	137	130	160	160	150	160	140
Sulphate	mg/L	500 [2]	91	39	39	35	37	32	38	35	38	37	38	37	36	36
Chloride	mg/L	250 [2]	120	120	120	110	130	110	130	120	120	120	130	130	140	120
Orthophosphate (as P)	mg/L		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nitrate and Nitrite (as N)	mg/L	10 [1]	0.4	0.4	0.5	0.3	0.4	0.3	0.2	0.2	<0.1	0.2	0.16	0.1	<0.1	0.17
Ammonia (as N)	mg/L		<0.05	0.09	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.072	0.058
Iron	mg/L	0.3 [2]	<0.02	<0.02	<0.02	<0.02	<0.02	0.027	<0.02	<0.1	<0.02	<0.02	<0.02	0.04	<0.02	<0.02
Manganese	mg/L	0.05 [2]	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.002	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Copper	mg/L	1 [2]	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.001	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Zinc	mg/L	5 [2]	<0.01	0.01	0.01	0.02	0.01	0.012	0.01	0.014	<0.01	0.01	0.01	0.02	0.02	0.01
Conductivity	µS/cm		779	771	724	731	770	716	756	740	690	780	770	770	770	750
pH	Units	6.5-8.5 [3]	7.8	8	7.9	7.9	8.1	8.09	8.05	8.02	8	7.58	8.11	8.06	7.93	7.87
Dissolved Organic Carbon	mg/L	5[2]	0.6	0.4	0.5	0.8	0.5	0.8	0.5	0.7	0.36	0.37	0.41	0.36	0.37	0.64
Hardness (as CaCO3)	mg/L	80-100 [3]	230	210	220	230	230	200	230	220	220	240	240	250	230	230
Bicarbonate (as CaCO3)	mg/L		98	157	146	152	146	142	141	135	130	160	150	150	150	140
Carbonate (as CaCO3)	mg/L		<1	2	1	1	2	2	1	1	1.2	<1	1.9	1.6	1.2	<1.0
Total Dissolved Solids	mg/L	500 [2]	421	380	381	380	401	353	398	374	369	400	406	400	400	380
Cation Sum	meq/L		7.53	6.7	6.98	7.35	7.46	6.21	7.5	7.08	7	7.61	7.62	7.7	7.28	7.24
Anion Sum	meq/L		7.37	7.28	7.12	6.94	7.45	6.77	7.33	6.85	6.73	7.39	7.55	7.26	7.67	7.11
Ion Balance	%		1.12	4.16	0.99	2.85	0.07	4.33	1.18	1.67	1.97	1.47	0.45	2.9	2.62	0.93
Total Oil and Grease	mg/L		<0.5	<0.5	<0.5	1.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.5

PARAMETER	UNITS	ODWQS	BH1-I							
Date			6-Apr-15	10-Dec-15	30-Mar-16	14-Nov-16	17-Mar-17	21-Nov-17	26-Mar-18	21-Nov-18
Sodium	mg/L	200 [2]	65	66	70	75	70	76	73	80
Potassium	mg/L		2	3	2	3	2.6	2.9	2.7	2.5
Calcium	mg/L		41	44	44	45	42	43	42	42
Magnesium	mg/L		28	32	32	32	32	32	31	33
Alkalinity (as CaCO3)	mg/L	30-500 [3]	130	150	150	160	160	160	160	170
Sulphate	mg/L	500 [2]	36	37	38	36	35	32	35	31
Chloride	mg/L	250 [2]	150	130	140	140	140	140	150	160
Orthophosphate (as P)	mg/L		<0.01	<0.01	<0.010	<0.010	<0.010	0.011	<0.010	<0.010
Nitrate and Nitrite (as N)	mg/L	10 [1]	<0.1	<0.1	0.21	<0.10	<0.10	0.17	<0.10	<0.10
Ammonia (as N)	mg/L		<0.05	<0.05	<0.050	<0.050	<0.050	<0.050	<0.050	0.12
Iron	mg/L	0.3 [2]	0.05	<0.02	<0.02	<0.02	<0.1	<0.1	<0.10	<0.10
Manganese	mg/L	0.05 [2]	<0.01	0.02	<0.01	<0.01	<0.002	0.0069	<0.002	<0.002
Copper	mg/L	1 [2]	<0.02	<0.02	<0.02	<0.02	0.0017	<0.001	<0.001	0.0036
Zinc	mg/L	5 [2]	0.01	0.01	0.02	0.01	0.011	<0.010	0.011	0.013
Conductivity	µS/cm		800	830	830	860	880	890	900	920
pH	Units	6.5-8.5 [3]	7.81	8.13	8.04	8.12	8.08	8.07	8.01	8.13
Dissolved Organic Carbon	mg/L	5[2]	0.42	0.6	0.52	0.99	0.65	0.74	<0.50	0.67
Hardness (as CaCO3)	mg/L	80-100 [3]	220	240	240	250	230	240	230	240
Bicarbonate (as CaCO3)	mg/L		130	150	150	160	160	160	160	160
Carbonate (as CaCO3)	mg/L		<1.0	1.9	1.5	2.0	1.8	1.8	1.5	2.1
Total Dissolved Solids	mg/L	500 [2]	400	410	420	430	456	445	395	485
Cation Sum	meq/L		7.23	7.76	7.88	8.25	7.78	8.17	7.93	8.37
Anion Sum	meq/L		7.53	7.59	7.63	7.99	7.87	7.93	8.16	8.52
Ion Balance	%		2.06	1.11	1.63	1.65	0.540	1.50	1.42	0.880
Total Oil and Grease	mg/L		1	<0.5	<0.50	<0.50	0.60	0.70	<0.50	0.80

NOTES:
- ODWQS Ontario Drinking Water Quality Standards (2006)
- (1) Maximum Acceptable Concentration
- (2) Aesthetic Objective
- (3) Operational Guideline
- * Concentration considered anomalous.

TABLE C-2
GROUNDWATER CHEMICAL RESULTS
MILL CREEK AGGREGATES PIT

PARAMETER	UNITS	ODWQS	BH6				
Date			18-Mar-05	11-Nov-05	03-Mar-06	06-Nov-06	30-Apr-07
Sodium	mg/L	200 [2]	44	48.9	46.1	23	38
Potassium	mg/L		2	3	2	2	1.8
Calcium	mg/L		72.4	64.2	88.2	43.3	65
Magnesium	mg/L		26.9	41	32.9	17.9	28
Alkalinity (as CaCO3)	mg/L	30-500 [3]	145	135	163	122	154
Sulphate	mg/L	500 [2]	97.1	79	86	49	82
Chloride	mg/L	250 [2]	105	128	90	63	71
Orthophosphate (as P)	mg/L		<0.3	<0.005	<0.01	<0.01	<0.01
Nitrate and Nitrite (as N)	mg/L	10 [1]	<0.2	0.3	<0.1	0.11	<0.1
Ammonia (as N)	mg/L		0.37	<0.05	<0.05	0.25	0.16
Iron	mg/L	0.3 [2]	0.05	<0.02	0.02	<0.02	<0.05
Manganese	mg/L	0.05 [2]	0.174	<0.01	0.04	<0.01	<0.002
Copper	mg/L	1 [2]	0.006	<0.02	<0.02	<0.02	<0.001
Zinc	mg/L	5 [2]	0.066	0.16	0.78	<0.01	0.43
Conductivity	µS/cm		785	841	763	511	680
pH	Units	6.5-8.5 [3]	7.76	8.09	8.1	8.2	8.2
Dissolved Organic Carbon	mg/L	5[2]	5	1.1	0.9	2.2	1.5
Hardness (as CaCO3)	mg/L	80-100 [3]	292	330	360	180	280
Bicarbonate (as CaCO3)	mg/L		144	134	161	120	152
Carbonate (as CaCO3)	mg/L		<1	2	2	2	2
Total Dissolved Solids	mg/L	500 [2]	439	445	442	272	383
Cation Sum	meq/L		7.82	8.78	9.16	4.71	7.29
Anion Sum	meq/L		7.88	7.98	7.56	5.22	6.79
Ion Balance	%		0.4	4.78	9.56	5.19	3.58
Total Oil and Grease	mg/L		1	1.3	<0.5	1.3	<0.5

PARAMETER	UNITS	ODWQS	BH8-I												
Date			16-Dec-92	20-Apr-93	13-Dec-93	20-Apr-94	21-Dec-94	16-May-95	22-Nov-95	07-Nov-96	26-Nov-97	18-Nov-98	09-Nov-99	08-Nov-00	13-Mar-01
Sodium	mg/L	200 [2]	4.1	2.1	2.3	1.6	1.9	2.7	2.2	1.9	1.5	2.0	2.9	4.4	3.6
Potassium	mg/L		2.7	1.2	1.4	1.2	0.9	0.8	0.6	0.7	<0.5	<1	<1	<1	<1
Calcium	mg/L		89.9	77.6	83.9	208	103	85.6	87.5	91.5	85.8	78.4	98.8	79.1	86.4
Magnesium	mg/L		31.7	26.0	32.1	31.0	33.4	26.5	29.5	28.9	29.2	26.1	32.9	28.4	29.6
Alkalinity (as CaCO3)	mg/L	30-500 [3]	305	261	292	575	288	266	270	290	277	262	320	270	280
Sulphate	mg/L	500 [2]	69	50	67	40	66	44	50	39	49	23	43	43.2	36
Chloride	mg/L	250 [2]	7.6	7.0	5.5	2.3	4.1	5.5	5.0	4.2	4.5	4.4	7.4	18.7	14.2
Orthophosphate (as P)	mg/L		<0.01	<0.01	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.1	<0.3	<0.3	<0.3
Nitrate and Nitrite (as N)	mg/L	10 [1]	<0.05	<0.05	<0.05	<0.05	<0.05	0.07	<0.05	<0.05	<0.05	<0.5	<0.2	0.3	<0.2
Ammonia (as N)	mg/L		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.08	0.06	<0.05	0.03	0.31	<0.03
Iron	mg/L	0.3 [2]	4.10	4.45	1.27	16.0	2.67	0.14	0.56	0.57	0.61	0.56	0.64	<0.01	<0.01
Manganese	mg/L	0.05 [2]	0.88	1.04	0.36	1.04	0.42	0.20	0.23	0.24	0.25	0.16	0.247	0.176	0.329
Copper	mg/L	1 [2]	0.01	<0.01	<0.01	0.09	<0.01	<0.01	0.03	<0.01	<0.01	<0.01	<0.003	<0.003	<0.003
Zinc	mg/L	5 [2]	2.30	2.63	1.08	1.36	0.88	0.24	<0.01	<0.01	<0.01	0.02	0.006	0.649	0.094
Conductivity	µS/cm		800	634	743	1230	723	670	647	572	581	508	669	553	595
pH	Units	6.5-8.5 [3]	7.1	7.4	7.6	7.4	7.4	7.3	7.7	7.2	7.6	8.1	7.56	7.59	7.7
Dissolved Organic Carbon	mg/L	5 [2]	6.0	2.9	4.7	2.3	4.5	2.6	2.8	3.0	4.4	1.5	3.2	3.4	2.9
Hardness (as CaCO3)	mg/L	80-100 [3]	355	301	342	647	395	323	340	347	334	303	382	315	338
Bicarbonate (as CaCO3)	mg/L		305	260	291	574	287	265	269	290	276	259	319	269	279
Carbonate (as CaCO3)	mg/L		0.36	0.61	1.09	1	1	<1	1.3	<1	1	3	1	<1	1
Total Dissolved Solids	mg/L	500 [2]	393	325	372	633	NA	NA	NA	345	342	299	384	343	343
Cation Sum	meq/L		7.34	6.13	6.96	13.0	7.99	6.49	6.42	7.05	6.76	6.18	7.79	6.51	6.92
Anion Sum	meq/L		7.75	6.46	7.39	12.4	7.25	6.40	6.58	6.72	6.69	5.83	7.50	6.85	6.75
Ion Balance	%		2.70	2.57	2.96	2.49	4.89	0.77	1.23	2.36	0.54	2.85	1.88	2.52	1.27
Total Oil and Grease	mg/L		3.9	<1	<1	<1	<1	<1	<1					1	<1

NOTES:
- ODWQS Ontario Drinking Water Quality Standards (2006)
- (1) Maximum Acceptable Concentration
- (2) Aesthetic Objective
- (3) Operational Guideline
- * Concentration considered anomalous.

TABLE C-2
GROUNDWATER CHEMICAL RESULTS
MILL CREEK AGGREGATES PIT

PARAMETER	UNITS	ODWQS	BH8-I												
Date			06-Nov-01	12-Apr-02	20-Nov-02	23-Apr-03	06-Nov-03	10-Mar-04	05-Nov-04	18-Mar-05	11-Nov-05	03-Mar-06	06-Nov-06	30-Apr-07	15-Nov-07
Sodium	mg/L	200 [2]	3.8	4.4	4.9	4.0	4.3	4.9	2.6	2.2	3.5	2.8	2.7	6.4	3.8
Potassium	mg/L		<1	1	<1	<1	1	<1	<1	1	<1	<1	<1	1.2	1
Calcium	mg/L		87.6	87.5	99.9	98.6	97.7	97.7	86.7	83.6	88.1	92.7	69.8	89	*265
Magnesium	mg/L		31.4	29.8	35.2	32.0	33.9	34.4	29.9	28.2	30.3	31.5	22.1	32	*70.3
Alkalinity (as CaCO3)	mg/L	30-500 [3]	280	292	272	254	254	300	213	233	224	233	228	261	266
Sulphate	mg/L	500 [2]	48.7	36.8	91.4	83.4	102	64.0	99.1	78	93	50	57	76	36
Chloride	mg/L	250 [2]	26.3	20.5	25.9	21.5	21.6	18.4	17.9	10.4	13	4	4	12	11
Orthophosphate (as P)	mg/L		<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	0.012	0.06	<0.01	<0.01	<0.01
Nitrate and Nitrite (as N)	mg/L	10 [1]	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1
Ammonia (as N)	mg/L		0.16	0.77	<0.03	<0.03	0.05	<0.03	0.04	0.04	<0.05	<0.05	0.2	0.12	0.08
Iron	mg/L	0.3 [2]	0.35	0.57	0.52	0.58	0.52	0.66	0.43	0.47	0.49	0.57	0.33	<0.05	*5.82
Manganese	mg/L	0.05 [2]	0.212	0.229	0.247	0.236	0.249	0.258	0.211	0.201	0.20	0.19	0.17	0.16	*0.71
Copper	mg/L	1 [2]	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.02	<0.02	<0.02	<0.001	*0.04
Zinc	mg/L	5 [2]	<0.005	0.007	<0.005	0.140	0.008	<0.005	<0.005	<0.005	<0.01	<0.01	<0.01	0.47	*1.64
Conductivity	µS/cm		623	614	670	609	683	645	594	600	519	506	507	632	574
pH	Units	6.5-8.5 [3]	7.75	7.36	7.86	7.60	7.79	7.69	8.12	7.6	8.21	8	8.2	8.3	8.1
Dissolved Organic Carbon	mg/L	5 [2]	1.2	23.9	1.6	2.0	2.5	3.2	2.1	2.5	2.3	1.8	2.1	2	2
Hardness (as CaCO3)	mg/L	80-100 [3]	348	341	395	378	384	385	340	325	340	360	270	350	*950
Bicarbonate (as CaCO3)	mg/L		278	291	270	253	253	299	210	232	221	231	224	257	263
Carbonate (as CaCO3)	mg/L		1	<1	2	<1	1	1	3	<1	3	2	3	4	3
Total Dissolved Solids	mg/L	500 [2]	371	361	427	397	418	404	370	347	363	321	293	378	562
Cation Sum	meq/L		7.13	7.10	8.12	7.75	7.89	7.94	6.92	6.62	7.06	7.36	5.45	7.38	19.6
Anion Sum	meq/L		7.35	7.18	8.07	7.42	7.81	7.85	6.83	6.58	6.77	5.81	5.85	7.13	6.37
Ion Balance	%		1.52	0.60	0.29	2.14	0.48	0.55	0.71	0.34	2.08	11.8	3.57	1.74	*51
Total Oil and Grease	mg/L		16	4	<1	<1	<1	<1	<1	<1	0.6	<0.5	<0.5	<0.5	<0.5

PARAMETER	UNITS	ODWQS	BH8-I							BH92-32-III						
Date			29-Apr-08	17-Dec-08	15-Apr-09	25-Nov-09	16-Apr-10	29-Nov-10	29-Mar-11	16-Nov-11	10-Apr-12	06-Dec-12	04-Apr-13	10-Dec-13	01-Apr-14	15-Dec-14
Sodium	mg/L	200 [2]	6.6	4.1	5	27.3	29.1	42.6	33.9	28.0	39.4	39.2	40.6	43.0	40	42
Potassium	mg/L		2	<1	<1	1	<1	1.1	<1	0.86	1	<1	<1	<1	<1	<1
Calcium	mg/L		83.5	71.9	88.1	70.2	74.4	76.3	76.3	88.0	99.2	113	110	97	92	87
Magnesium	mg/L		27.2	24.2	30.8	24.0	24.3	25.7	25.5	33.0	34.9	42.8	41.8	39	38	35
Alkalinity (as CaCO3)	mg/L	30-500 [3]	249	271	253	157	140	166	173	253	250	320	270	280	310	240
Sulphate	mg/L	500 [2]	56	40	59	82	99	60	67	50	79	78	91	81	76	81
Chloride	mg/L	250 [2]	13	6.0	26	65	76	95	79	82	97	88	93	97	89	99
Orthophosphate (as P)	mg/L		<0.01	<0.01	<0.01	<0.01	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nitrate and Nitrite (as N)	mg/L	10 [1]	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.18	<0.1	<0.1	<0.1
Ammonia (as N)	mg/L		<0.05	0.1	<0.05	<0.05	0.06	<0.05	<0.05	<0.05	<0.05	<0.05	0.072	<0.05	0.089	<0.050
Iron	mg/L	0.3 [2]	0.39	0.39	0.52	0.32	0.42	0.45	1.44	<0.1	<0.02	0.04	<0.02	0.2	0.04	0.05
Manganese	mg/L	0.05 [2]	0.2	0.2	0.25	0.21	0.22	0.26	0.52	0.16	0.03	0.06	0.05	0.15	0.22	0.45
Copper	mg/L	1 [2]	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.001	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Zinc	mg/L	5 [2]	<0.01	<0.01	0.02	<0.01	<0.01	<0.01	<0.01	0.098	0.130	0.150	0.190	0.140	0.140	0.14
Conductivity	µS/cm		592	579	631	685	694	759	717	823	850	1000	970	980	980	910
pH	Units	6.5-8.5 [3]	8.20	7.90	7.7	7.8	8.0	8.0	7.91	7.94	7.84	7.88	7.99	7.78	7.63	7.84
Dissolved Organic Carbon	mg/L	5 [2]	3.9	1.4	2.3	1.6	1.4	1.5	2.7	2.1	1.2	1.4	1.3	1.2	1.3	1.4
Hardness (as CaCO3)	mg/L	80-100 [3]	320	280	350	270	290	300	300	360	390	460	450	400	390	360
Bicarbonate (as CaCO3)	mg/L		246	269	252	156	139	164	172	251	250	320	260	280	310	240
Carbonate (as CaCO3)	mg/L		3	2	1	<1	1	2	1	2	2	2	2	2	1	2
Total Dissolved Solids	mg/L	500 [2]	343	314	366	369	391	406	392	439	505	562	543	530	530	490
Cation Sum	meq/L		6.76	5.78	7.17	6.71	7.00	7.82	7.43	8.36	9.57	10.9	10.7	9.9	9.5	9.04
Anion Sum	meq/L		6.51	6.41	7	6.67	6.99	7.25	7.10	8.40	9.34	10.6	9.85	10.0	10.3	9.31
Ion Balance	%		1.88	5.22	1.19	0.26	0.07	3.79	2.28	0.24	1.22	1.45	4.03	0.57	4.36	1.51
Total Oil and Grease	mg/L		<0.5	<0.5	<0.5	1.4	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.5	<0.5	<0.5	0.80

NOTES:
- ODWQS Ontario Drinking Water Quality Standards (2006)
- (1) Maximum Acceptable Concentration
- (2) Aesthetic Objective
- (3) Operational Guideline
- * Concentration considered anomalous.

TABLE C-2
GROUNDWATER CHEMICAL RESULTS
MILL CREEK AGGREGATES PIT

PARAMETER	UNITS	ODWQS	BH92-32-III								
Date			06-Apr-15	10-Dec-15	30-Mar-16	14-Nov-16	17-Mar-17	04-Apr-17	21-Nov-17	26-Mar-18	21-Nov-18
Sodium	mg/L	200 [2]	43	41	33	42	28	24	38	34	34
Potassium	mg/L		<1	1	<1	<1	0.90	0.94	0.87	0.76	0.98
Calcium	mg/L		100	77	100	82	130	120	78	80	94
Magnesium	mg/L		40	31	41	31	57	55	31	33	38
Alkalinity (as CaCO3)	mg/L	30-500 [3]	320	220	360	210	430	430	220	260	330
Sulphate	mg/L	500 [2]	66	64	50	68	150	120	62	77	50
Chloride	mg/L	250 [2]	85	88	62	100	46	39	90	68	74
Orthophosphate (as P)	mg/L		0.028	<0.01	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Nitrate and Nitrite (as N)	mg/L	10 [1]	<0.1	<0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Ammonia (as N)	mg/L		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.052	<0.050	0.19
Iron	mg/L	0.3 [2]	0.15	0.06	0.04	0.04	0.15	<0.10	<0.10	<0.10	<0.10
Manganese	mg/L	0.05 [2]	0.63	0.48	0.91	0.51	0.93	0.96	0.60	0.60	0.70
Copper	mg/L	1 [2]	<0.02	<0.02	<0.02	<0.02	0.0019	<0.001	0.0012	0.0015	<0.001
Zinc	mg/L	5 [2]	0.180	0.070	0.19	0.06	0.18	0.19	0.063	0.079	0.084
Conductivity	µS/cm		970	850	930	830	1200	1100	820	830	890
pH	Units	6.5-8.5 [3]	7.66	7.93	7.86	8.04	7.70	7.79	7.85	7.84	7.87
Dissolved Organic Carbon	mg/L	5 [2]	1.7	1.5	2.3	1.6	2.7	2.7	1.3	1.6	1.5
Hardness (as CaCO3)	mg/L	80-100 [3]	420	320	430	330	560	540	320	340	390
Bicarbonate (as CaCO3)	mg/L		320	220	360	210	430	430	220	250	320
Carbonate (as CaCO3)	mg/L		1.4	1.8	2.4	2.2	2.0	2.5	1.5	1.6	2.3
Total Dissolved Solids	mg/L	500 [2]	530	440	510	460	692	666	430	395	510
Cation Sum	meq/L		10.2	8.2	10	8.46	12.5	11.8	8.09	8.21	9.38
Anion Sum	meq/L		10.1	8.3	9.98	8.53	13.1	12.2	8.27	8.64	9.63
Ion Balance	%		0.59	0.24	0.19	0.380	2.42	1.62	1.14	2.59	1.28
Total Oil and Grease	mg/L		1	<0.5	<0.50	<0.50	1.4	<0.50	0.50	<0.50	<0.50

PARAMETER	UNITS	ODWQS	BH92-8												
Date			16-Dec-92	20-Apr-93	13-Dec-93	20-Apr-94	21-Dec-94	16-May-95	22-Nov-95	07-Nov-96	26-Nov-97	18-Nov-98	09-Nov-99	08-Nov-00	13-Mar-01
Sodium	mg/L	200 [2]	27.4	26.3	27.3	29.7	27.5	27.8	29.9	28.4	33.2	34.4	43	36.6	36.9
Potassium	mg/L		2.7	2.2	2.3	2.0	2.0	1.8	2.0	1.9	0.8	2.1	2	2	2
Calcium	mg/L		71.9	73.1	74.1	50.0	84.5	74.6	75.1	77.0	69.9	73.2	93.6	99.2	80.8
Magnesium	mg/L		28.0	27.1	29.3	47.3	30.6	26.1	29.1	27.5	26.4	26.0	33.5	35.8	29.4
Alkalinity (as CaCO3)	mg/L	30-500 [3]	244	234	231	219	219	222	208	196	194	192	175	192	198
Sulphate	mg/L	500 [2]	47	52	67	59	73	57	60	59	58	60	129	179	81.5
Chloride	mg/L	250 [2]	44.7	51.0	48.3	80.0	50.5	57.5	59.6	64.4	75.9	65.8	95	91.5	83.8
Orthophosphate (as P)	mg/L		0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.1	<0.3	<0.3	<0.3
Nitrate and Nitrite (as N)	mg/L	10 [1]	2.20	1.44	1.45	0.99	0.42	0.26	<0.05	0.69	0.09	<0.5	<0.2	0.6	<0.2
Ammonia (as N)	mg/L		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.12	<0.05	<0.05	0.03	0.10	<0.03
Iron	mg/L	0.3 [2]	7.45	1.15	1.87	9.53	1.61	0.89	<0.02	0.13	0.03	0.5	0.05	<0.01	<0.01
Manganese	mg/L	0.05 [2]	1.45	0.57	0.60	0.44	0.22	0.03	0.05	0.04	0.04	0.05	0.018	<0.005	0.026
Copper	mg/L	1 [2]	0.14	0.05	0.05	0.05	<0.01	<0.01	0.03	<0.01	<0.01	<0.01	<0.003	<0.003	<0.003
Zinc	mg/L	5 [2]	6.12	1.37	1.83	1.67	1.12	0.53	0.39	0.43	0.42	0.22	0.249	0.299	0.43
Conductivity	µS/cm		780	805	823	840	814	724	760	639	663	669	889	829	735
pH	Units	6.5-8.5 [3]	7.4	7.5	8.1	7.5	7.5	8.0	7.7	7.4	8.1	7.9	7.86	7.71	7.88
Dissolved Organic Carbon	mg/L	5 [2]	1.5	2.6	<0.5	1.6	1.0	<0.5	<0.5	<0.5	1.1	1.2	3.5	1.6	1.0
Hardness (as CaCO3)	mg/L	80-100 [3]	295	294	306	320	337	294	307	305	283	290	372	395	323
Bicarbonate (as CaCO3)	mg/L		243	233	228	218	218	220	207	195	192	191	174	191	197
Carbonate (as CaCO3)	mg/L		0.57	0.69	2.7	1	1	2	1	<1	2	1	1	<1	1
Total Dissolved Solids	mg/L	500 [2]	384	384	399	409	NA	NA	NA	385	386	384	506	567	439
Cation Sum	meq/L		7.15	7.08	7.36	7.73	7.98	6.97	7.13	7.40	7.13	7.34	9.34	9.54	8.10
Anion Sum	meq/L		7.28	7.30	7.48	7.93	7.35	7.27	7.09	7.02	7.23	6.94	8.86	10.20	8.02
Ion Balance	%		0.85	1.56	0.83	1.30	4.11	2.04	0.26	2.60	0.68	2.85	2.64	3.26	0.52
Total Oil and Grease	mg/L		<1	<1	<1	<1	<1	<1	<1					<1	<1

NOTES:
- ODWQS Ontario Drinking Water Quality Standards (2006)
- (1) Maximum Acceptable Concentration
- (2) Aesthetic Objective
- (3) Operational Guideline
- * Concentration considered anomalous.

TABLE C-2
GROUNDWATER CHEMICAL RESULTS
MILL CREEK AGGREGATES PIT

PARAMETER	UNITS	ODWQS	BH92-8														
Date			06-Nov-01	12-Apr-02	20-Nov-02	23-Apr-03	06-Nov-03	10-Mar-04	05-Nov-04	23-Jan-08	29-Apr-08	17-Dec-08	15-Apr-09	25-Nov-09	16-Apr-10	29-Nov-10	10-Apr-12
Sodium	mg/L	200 [2]	31.8	33.6	38.1	36.5	42.9	52.0	15.1	38.5	50.9	11.6	42.3	7.7	17	4.3	52.9
Potassium	mg/L		3	3	1	1	2	2	2	3	2	<1	1	1.0	1.0	1.5	2
Calcium	mg/L		85.1	95.8	99.6	85.4	79.1	72.1	37.6	48.9	56.9	26.7	50.9	20.9	32.0	26.2	54.6
Magnesium	mg/L		29.8	33.4	34.8	30.2	27.0	25.7	10.9	19.3	24	7.19	20.4	6.4	12.9	6.3	28.4
Alkalinity (as CaCO3)	mg/L	30-500 [3]	198	200	180	180	166	160	91	126	143	81	135	84	104	73	150
Sulphate	mg/L	500 [2]	112	126	175	116	96.6	83.4	26.4	52	50	17	44	13	25	14	52
Chloride	mg/L	250 [2]	69.1	77.7	70.4	83.1	100	104	29.2	89	100	25.0	98	16	37	18	110
Orthophosphate (as P)	mg/L		<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.01	0.02	<0.01	<0.01	<0.01	<0.01	0.02	<0.01
Nitrate and Nitrite (as N)	mg/L	10 [1]	<0.2	0.5	<0.2	<0.2	<0.2	<0.2	0.6	0.1	0.2	0.5	<0.1	0.3	0.3	0.4	<0.1
Ammonia (as N)	mg/L		<0.03	<0.03	<0.03	<0.03	0.11	<0.03	0.03	0.09	0.5	0.15	<0.05	0.17	0.13	0.10	<0.05
Iron	mg/L	0.3 [2]	<0.01	<0.01	<0.01	<0.01	0.02	<0.01	<0.01	0.03	0.04	0.03	<0.02	<0.02	<0.02	<0.02	<0.02
Manganese	mg/L	0.05 [2]	<0.005	0.019	0.035	0.064	0.095	0.053	<0.005	0.09	0.1	<0.01	0.03	0.02	0.02	<0.01	0.10
Copper	mg/L	1 [2]	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Zinc	mg/L	5 [2]	0.115	0.359	0.475	0.494	0.353	0.310	0.025	<0.01	0.03	<0.01	0.03	<0.01	0.01	<0.01	<0.01
Conductivity	µS/cm		752	812	826	730	757	727	303	637	708	290	642	238	375	234	710
pH	Units	6.5-8.5 [3]	7.80	7.88	7.88	7.83	7.94	7.94	8.18	8.1	8.20	8.00	7.7	7.9	8.2	8.1	8.01
Dissolved Organic Carbon	mg/L	5 [2]	1.8	2.0	1.2	0.9	2.7	1.3	2.5	2.3	8.0	0.7	0.5	1.1	0.6	0.7	0.72
Hardness (as CaCO3)	mg/L	80-100 [3]	335	377	392	338	309	286	139	200	240	96	210	79	130	92	250
Bicarbonate (as CaCO3)	mg/L		197	199	179	179	165	159	90	125	141	80	134	83	130	72	150
Carbonate (as CaCO3)	mg/L		1	1	1	1	1	1	1	2	2	<1	<1	<1	1	<1	2
Total Dissolved Solids	mg/L	500 [2]	454	497	533	466	453	441	181	331	377	141	340	120	191	119	394
Cation Sum	meq/L		8.15	9.06	9.53	8.37	8.10	8.02	3.48	5.77	7.12	2.44	6.09	1.96	3.44	2.06	7.42
Anion Sum	meq/L		8.24	8.85	9.23	8.36	8.15	7.87	3.24	6.14	6.79	2.73	6.37	2.44	3.67	2.30	7.18
Ion Balance	%		0.56	1.21	1.6	0.11	0.31	0.97	3.61	3.11	2.36		2.25		3.29		1.61
Total Oil and Grease	mg/L		<1	1	<1	<1	<1	<1	<1	<0.5	<0.5	<0.5	<0.5	1.4	0.6	<0.5	<0.5

PARAMETER	UNITS	ODWQS	BH92-8														
Date			29-Mar-11	16-Nov-11	06-Dec-12	04-Apr-13	10-Dec-13	01-Apr-14	15-Dec-14	06-Apr-15	10-Dec-15	30-Mar-16	14-Nov-16	17-Mar-17	04-Apr-17	4-Apr-17 (dup)	21-Nov-17	21-Nov-17 (dup)
Sodium	mg/L	200 [2]	39.1	31	51.2	52.9	51	49	48	51	51	52	56	51			53	
Potassium	mg/L		2.0	2.5	3	2	3	2	3	2	3	2	3	2.4			2.8	
Calcium	mg/L		45.9	46.0	52.8	54.9	54	55	52	58	53	57	56	54			52	
Magnesium	mg/L		19.8	18.0	28.8	31.5	31	32	29	31	30	31	30	31			31	
Alkalinity (as CaCO3)	mg/L	30-500 [3]	124	126	150	140	150	140	140	140	140	140	150	140			160	
Sulphate	mg/L	500 [2]	39	37	58	75	68	79	75	80	64	77	64	63			56	
Chloride	mg/L	250 [2]	79	67	110	120	110	120	110	110	110	110	130	120			130	
Orthophosphate (as P)	mg/L		0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.066	<0.01	<0.010	<0.010	<0.010			<0.010	
Nitrate and Nitrite (as N)	mg/L	10 [1]	0.2	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.10	<0.10	<0.10			<0.10	
Ammonia (as N)	mg/L		0.15	0.32	0.19	0.16	0.07	0.15	0.1	<0.050	<0.05	<0.050	<0.050	<0.050			0.051	
Iron	mg/L	0.3 [2]	<0.02	<0.1	0.25	0.17	0.11	0.11	0.04	0.05	0.04	<0.02	0.03	0.19			0.11	
Manganese	mg/L	0.05 [2]	0.06	0.11	0.13	0.15	0.16	0.16	0.16	0.15	0.16	0.14	0.16	0.14			0.15	
Copper	mg/L	1 [2]	<0.02	<0.001	<0.02	<0.02	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.044			<0.001	
Zinc	mg/L	5 [2]	0.01	0.012	0.01	0.02	0.02	0.02	0.03	0.03	0.04	0.04	0.04	0.079			0.023	
Conductivity	µS/cm		579	538	780	780	800	800	780	800	780	800	800	810			810	
pH	Units	6.5-8.5 [3]	8.1	8.1	7.5	8.15	8.01	7.92	7.95	7.77	8.08	7.97	8.10	8.02			8.02	
Dissolved Organic Carbon	mg/L	5 [2]	0.7	1.0	0.9	0.66	0.55	0.37	0.7	0.66	0.62	0.62	0.85	0.78			0.67	
Hardness (as CaCO3)	mg/L	80-100 [3]	200	190	250	270	260	270	250	270	260	270	260	260			260	
Bicarbonate (as CaCO3)	mg/L		123	125	150	140	140	140	140	140	140	130	150	140			160	
Carbonate (as CaCO3)	mg/L		1	1	<1	1.9	1.4	1.1	1.2	<1	1.6	1.2	1.8	1.4			1.5	
Total Dissolved Solids	mg/L	500 [2]	303	282	397	422	410	420	410	430	400	420	430	418			395	
Cation Sum	meq/L		5.68	5.21	7.32	7.71	7.55	7.55	7.17	7.72	7.39	7.71	7.76	7.56			7.52	
Anion Sum	meq/L		5.53	5.19	7.27	7.64	7.51	7.78	7.52	7.76	7.3	7.49	7.94	7.62			7.84	
Ion Balance	%		1.29	0.210	0.33	0.46	0.29	1.5	2.4	0.28	0.60	1.41	1.09	0.36			2.10	
Total Oil and Grease	mg/L		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.7	1.2	<0.5	<0.50	<0.50	2.1*	1.0	<0.50	<0.50	0.80

NOTES:
- ODWQS Ontario Drinking Water Quality Standards (2006)
- (1) Maximum Acceptable Concentration
- (2) Aesthetic Objective
- (3) Operational Guideline
- * Concentration considered anomalous.

TABLE C-2
GROUNDWATER CHEMICAL RESULTS
MILL CREEK AGGREGATES PIT

PARAMETER	UNITS	ODWQS	BH92-8			
Date			26-Mar-18	26-Mar-18 (dup)	21-Nov-18	21-Nov-18 (dup)
Sodium	mg/L	200 [2]	52		55	
Potassium	mg/L		2.5		2.6	
Calcium	mg/L		49		50	
Magnesium	mg/L		30		31	
Alkalinity (as CaCO3)	mg/L	30-500 [3]	150		150	
Sulphate	mg/L	500 [2]	57		77	
Chloride	mg/L	250 [2]	120		130	
Orthophosphate (as P)	mg/L		<0.010		<0.010	
Nitrate and Nitrite (as N)	mg/L	10 [1]	<0.10		<0.10	
Ammonia (as N)	mg/L		0.054		0.19	
Iron	mg/L	0.3 [2]	<0.10		<0.10	
Manganese	mg/L	0.05 [2]	0.12		0.16	
Copper	mg/L	1 [2]	0.0013		0.0044	
Zinc	mg/L	5 [2]	0.023		0.022	
Conductivity	µS/cm		800		810	
pH	Units	6.5-8.5 [3]	8.01		8.06	
Dissolved Organic Carbon	mg/L	5 [2]	0.56		0.81	
Hardness (as CaCO3)	mg/L	80-100 [3]	250		250	
Bicarbonate (as CaCO3)	mg/L		150		150	
Carbonate (as CaCO3)	mg/L		1.4		1.6	
Total Dissolved Solids	mg/L	500 [2]	350		480	
Cation Sum	meq/L		7.26		7.51	
Anion Sum	meq/L		7.66		8.31	
Ion Balance	%		2.64		5.06	
Total Oil and Grease	mg/L		<0.50	<0.50	0.70	0.90

NOTES:
- ODWQS Ontario Drinking Water Quality Standards (2006)
- (1) Maximum Acceptable Concentration
- (2) Aesthetic Objective
- (3) Operational Guideline
- * Concentration considered anomalous.

TABLE C-3
PHASE 1 POND CHEMICAL RESULTS
MILL CREEK AGGREGATES PIT

PARAMETER	UNITS	PWQO												
Date			14-Dec-00	10-Apr-01	06-Nov-01	12-Apr-02	20-Nov-02	23-Apr-03	06-Nov-03	10-Mar-04	05-Nov-04	18-Apr-05	11-Nov-05	27-Apr-06	06-Nov-06
Sodium	mg/L		48.1	42.4	48	46.1	50.8	51.2	50.6	11.1	50.6	46.8	53.8	49.9	52
Potassium	mg/L		3	2	2	2	2	2	2	<1	2	2	2	2	2
Calcium	mg/L		51.3	45.6	53.1	55.4	51.9	52.5	46.1	14.7	52.0	43.9	45.1	46.1	43
Magnesium	mg/L		27.3	22.7	25.9	25.4	28.9	28.5	28.9	5.96	32.8	28.1	32	30.2	30
Alkalinity (as CaCO3)	mg/L		146	126	150	158	136	139	129	41	137	140	127	147	140
Sulphate	mg/L		62	58.4	68.9	64.5	69.5	67.4	71.2	16.2	68.4	59.7	55	42	57
Chloride	mg/L		97.8	83.5	97	91.7	99.7	98.1	105	23.3	105	105	105	107	114
Orthophosphate (as P)	mg/L		<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.005	0.01	<0.01
Nitrate and Nitrite (as N)	mg/L		0.3	<0.2	<0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.1	0.1	<0.1
Ammonia (as N)	mg/L		<0.05	<0.03	<0.03	0.04	<0.03	<0.03	0.04	0.13	<0.03	<0.03	<0.05	<0.05	0.08
Un-ionized Ammonia	mg/L	0.02	<0.05	<0.03	<0.03	0.001	<0.0009	<0.001	0.002	0.001	<0.001	<0.001	<0.001	<0.001	0.003
Iron	mg/L	0.3	0.01	0.04	0.32	0.48	0.04	0.08	0.05	0.18	0.41	0.04	0.04	0.07	0.02
Manganese	mg/L		<0.005	0.007	0.021	0.025	0.009	0.006	0.006	0.009	0.047	0.005	<0.01	0.01	<0.01
Copper	mg/L	0.005	<0.003	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.02	<0.02	<0.02
Zinc	mg/L	0.03	0.009	0.006	0.038	0.105	0.018	0.021	0.01	0.019	0.033	0.01	<0.01	0.02	<0.01
Colour	TCU		<3	<3	18	31	<3	<3	4	16	22	<2			
Turbidity	NTU		0.6	0.9	10.2	18.6	3.6	3	0.9	5.9	25	2			
Conductivity	µS/cm		651	571	713	692	683	653	683	185	686	707	606	724	723
pH	Units	6.5-8.5	8.1	8.04	8.13	8.24	8.28	8.25	8.31	7.79	8.35	8.4	8.31	8.3	8.3
Dissolved Organic Carbon	mg/L		0.9	0.7	0.5	0.9	1	0.8	1.1	0.7	1.1	0.9	1.4	1.4	1.8
Hardness (as CaCO3)	mg/L		240	207	239	243	249	249	234	61.2	265	225	240	240	220
Bicarbonate (as CaCO3)	mg/L		144	125	148	155	134	137	126	41	134	137	125	144	138
Carbonate (as CaCO3)	mg/L		2	1	2	3	2	2	2	<1	3	3	2	3	3
Total Dissolved Solids	mg/L		382	333	389	385	389	387	384	99	396	372	370	366	378
Cation Sum	meq/L		6.96	6.03	6.91	6.90	7.23	7.24	6.94	1.73	7.56	6.59	7.29	7.02	6.68
Anion Sum	meq/L		6.99	6.09	7.17	7.11	7	6.97	7.04	1.84	7.15	7.02	6.66	6.83	7.21
% Difference	%		0.2	0.53	1.83	1.46	1.6	1.92	0.76	3.00	2.81	3.2	4.47	1.42	3.85
Animal/Vegetable Oil	mg/L		<1	<1	<1	<1	<1								<0.5
Mineral Oil	mg/L				<1	<1	<1								<0.5
Total Oil and Grease	mg/L		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	0.8	<0.5	<0.5
Reactive Silica	mg/L		3.9	3.3	4.1	3.8	3.8	3.1	1.6	1.3	1.1	0.8			

NOTE: PWQO - Provincial Water Quality Objectives (February 1999)

TABLE C-3
PHASE 1 POND CHEMICAL RESULTS
MILL CREEK AGGREGATES PIT

PARAMETER	UNITS	PWQO											
Date			30-Apr-07	15-Nov-07	29-Apr-08	17-Dec-08	15-Apr-09	25-Nov-09	16-Apr-10	29-Nov-10	13-Apr-11	16-Nov-11	10-Apr-12	06-Dec-12
Sodium	mg/L		53	55	59	42	54.3	57	54	57	60	54	57	56
Potassium	mg/L		2.4	2.6	2.5	2.0	2	2.4	2.2	2.6	2.6	2.5	2.5	2.5
Calcium	mg/L		45	44	46	52	43.9	44.7	44	46	49	45	46	50
Magnesium	mg/L		31	32	34	26	29.6	29.7	29	33	33	30	31	31
Alkalinity (as CaCO3)	mg/L		142	130	141	185	150	140	141	134	137	134	140	150
Sulphate	mg/L		81	64	46	40	45	46	46	48	47	54	52	58
Chloride	mg/L		110	120	110	83	110	110	120	110	120	110	110	110
Orthophosphate (as P)	mg/L		<0.01	0.02	<0.01	<0.01	<0.01	<0.01	0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nitrate and Nitrite (as N)	mg/L		<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Ammonia (as N)	mg/L		0.07	<0.05	<0.05	0.09	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Un-ionized Ammonia	mg/L	0.02	0.004	<0.001	<0.0001	0.0001	<0.0001	<0.0001	0.0004	0.0006		0.001	<0.001	<0.001
Iron	mg/L	0.3	<0.05	<0.1	<0.1	<0.02	0.04	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Manganese	mg/L		0.005	0.007	0.004	<0.01	<0.01	<0.002	0.004	0.005	0.005	0.003	0.0045	0.0047
Copper	mg/L	0.005	0.005	0.001	<0.001	<0.02	<0.02	<0.001	0.001	0.002	0.001	0.001	0.0022	0.0012
Zinc	mg/L	0.03	0.01	0.013	0.01	<0.01	0.01	0.006	0.005	0.010	0.008	0.012	0.012	0.0091
Turbidity	NTU		1.9	2.5	1.2	2.1					1.1	1.3	0.9	1.6
Conductivity	µS/cm		722	749	723	692	718	736	724	730	725	741	680	780
pH	Units	6.5-8.5	8.3	8.1	8.3	8.0	7.8	8.2	8.2	8.3	8.2	8.3	8.2	7.84
Dissolved Organic Carbon	mg/L						1.4	1.4		1.5				
Hardness (as CaCO3)	mg/L		230	220	220	240	230	230	220	240	220	230	230	250
Bicarbonate (as CaCO3)	mg/L		139	130	138	183	149	138	139	131	134	131	130	150
Carbonate (as CaCO3)	mg/L		2	2	3	2	<1	2	2	3	2	2	2	<1.0
Total Dissolved Solids	mg/L			389	362	357	379	373	377	377	372		372	404
Cation Sum	meq/L						7.05	7.09		7.32				
Anion Sum	meq/L						7.11	6.88		6.86				
% Difference	%						0.46	1.5		3.29				
Animal/Vegetable Oil	mg/L		<0.5				<0.5	1.6		<0.5				
Mineral Oil	mg/L		<0.5				<0.5	<0.5		<0.5	<0.5			
Total Oil and Grease	mg/L		<0.5	<0.5	<0.5	<0.5	<0.5	1.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5

NOTE: PWQO - Provincial Water Quality Objectives (February 1999)

TABLE C-3
PHASE 1 POND CHEMICAL RESULTS
MILL CREEK AGGREGATES PIT

PARAMETER	UNITS	PWQO											
Date			04-Apr-13	10-Dec-13	01-Apr-14	15-Dec-14	06-Apr-15	10-Dec-15	30-Mar-16	14-Nov-16	17-Mar-17	21-Nov-17	26-Mar-18	21-Nov-18
Sodium	mg/L		9.6*	55	12	53	1.8	52	58	56	49	56	56	62
Potassium	mg/L		<1*	2.6	0.95	2.7	<0.2	3	3	3	2.6	2.6	2.8	2.8
Calcium	mg/L		9.88*	55	26	53	3.1	46	52	42	45	42	41	40
Magnesium	mg/L		4.48*	34	12	32	1.1	32	34	32	31	33	33	35
Alkalinity (as CaCO3)	mg/L		28	140	64	140	6.5	130	140	130	140	130	140	140
Sulphate	mg/L		8	66	12	64	1	62	60	60	60	50	49	43
Chloride	mg/L		19	120	22	110	4	110	110	130	120	130	120	140
Orthophosphate (as P)	mg/L		0.013	<0.01	<0.01	<0.01	<0.01	<0.01	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Nitrate and Nitrite (as N)	mg/L		<0.1	<0.1	0.48	<0.1	<0.1	<0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Ammonia (as N)	mg/L		0.14	<0.05	0.33	0.056	0.088	<0.05	<0.050	<0.050	<0.050	<0.050	<0.050	0.073
Un-ionized Ammonia	mg/L	0.02	<0.001	<0.001	0.009	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001
Iron	mg/L	0.3	0.05*	<0.1	0.75	<0.1	0.17	<0.1	<0.1	<0.1	<0.1	<0.1	<0.10	0.41
Manganese	mg/L		<0.01*	0.011	0.042	0.002	0.011	0.003	0.0087	0.0029	0.0097	0.0029	0.0064	0.047
Copper	mg/L	0.005	<0.02*	0.0012	0.0034	0.0011	0.0017	0.0010	0.0011	0.0012	<0.1	<0.001	<0.001	0.0022
Zinc	mg/L	0.03	<0.01*	0.032	0.042	0.009	0.026	0.005	0.014	0.0051	0.017	0.0053	0.011	0.048
Turbidity	NTU			3.3	23	0.5	0.7	0.5	1.6	0.7	0.7	0.5	0.9	6.3
Conductivity	µS/cm		140	780	220	760	29	760	770	760	780	780	770	790
pH	Units	6.5-8.5	7.27	8.24	7.82	8.09	6.71	8.26	8.17	8.26	8.19	8.26	8.10	8.04
Dissolved Organic Carbon	mg/L		0.31											
Total Organic Carbon	mg/L			1.3	2.2	1.4	0.28	1.2	1.1	1.4	0.98	1.2	1.1	1.1
Hardness (as CaCO3)	mg/L		43	250	84	260	8.7	260	270	240	240	250	250	260
Bicarbonate (as CaCO3)	mg/L		28	140	64	140	6.5	130	140	130	140	130	140	130
Carbonate (as CaCO3)	mg/L		<1.0	2.3	<1.0	1.6	<1.0	2.2	1.9	2.2	2.0	2.3	1.6	1.4
Total Dissolved Solids	mg/L		68.0	400	120	400	14	400	400	400	398	370	360	430
Cation Sum	meq/L		1.30											
Anion Sum	meq/L		1.27											
% Difference	%													
Animal/Vegetable Oil	mg/L													
Mineral Oil	mg/L													
Total Oil and Grease	mg/L		0.70	<0.5	<0.5	<0.5	0.80	<0.5	<0.50	<0.50	0.90	0.80	<0.50	0.60

NOTE: PWQO - Provincial Water Quality Objectives (February 1999)
* Dissolved concentration

Maxxam
A Bureau Veritas Group Company

Your Project #: 111-52958-02-100-1002
Site#: Mill Creek
Your C.O.C. #: 653544-01-01

Attention: Greg Siiskonen

WSP Canada Inc
55 King St
Suite 600
St. Catharines, ON
CANADA L2R3H5

Report Date: 2018/04/04
Report #: R5064867
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B868493
Received: 2018/03/27, 15:15

Sample Matrix: Water
Samples Received: 5

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Reference
Alkalinity	4	N/A	2018/03/29	CAM SOP-00448	SM 23 2320 B m
Carbonate, Bicarbonate and Hydroxide	4	N/A	2018/04/02	CAM SOP-00102	APHA 4500-CO2 D
Chloride by Automated Colourimetry	4	N/A	2018/04/03	CAM SOP-00463	EPA 325.2 m
Conductivity	4	N/A	2018/03/29	CAM SOP-00414	SM 23 2510 m
Dissolved Organic Carbon (DOC) (1)	3	N/A	2018/03/29	CAM SOP-00446	SM 23 5310 B m
Hardness (calculated as CaCO3)	4	N/A	2018/04/03	CAM SOP 00102/00408/00447	SM 2340 B
Dissolved Calcium and Magnesium	1	2018/04/02	2018/04/03	CAM SOP-00408	EPA 6010D m
Dissolved Metals by ICPMS	3	N/A	2018/04/02	CAM SOP-00447	EPA 6020B m
Total Metals Analysis by ICPMS	1	N/A	2018/04/03	CAM SOP-00447	EPA 6020B m
Ion Balance (% Difference)	3	N/A	2018/04/04		
Anion and Cation Sum	3	N/A	2018/04/03		
Total Ammonia-N	1	N/A	2018/04/02	CAM SOP-00441	EPA GS I-2522-90 m
Total Ammonia-N	3	N/A	2018/04/03	CAM SOP-00441	EPA GS I-2522-90 m
Nitrate (NO3) and Nitrite (NO2) in Water (2)	2	N/A	2018/03/28	CAM SOP-00440	SM 23 4500-NO3I/NO2B
Nitrate (NO3) and Nitrite (NO2) in Water (2)	2	N/A	2018/03/29	CAM SOP-00440	SM 23 4500-NO3I/NO2B
Total Oil and Grease	5	2018/04/02	2018/04/02	CAM SOP-00326	EPA1664B m,SM5520A m
pH	4	N/A	2018/03/29	CAM SOP-00413	SM 4500H+ B m
Orthophosphate	4	N/A	2018/04/04	CAM SOP-00461	EPA 365.1 m
Sulphate by Automated Colourimetry	4	N/A	2018/04/03	CAM SOP-00464	EPA 375.4 m
Total Dissolved Solids	3	2018/03/28	2018/03/29	CAM SOP-00428	SM 23 2540C m
Total Dissolved Solids	1	2018/03/29	2018/04/02	CAM SOP-00428	SM 23 2540C m
Total Organic Carbon (TOC) (3)	1	N/A	2018/04/03	CAM SOP-00446	SM 23 5310B m
Turbidity	1	N/A	2018/03/28	CAM SOP-00417	SM 23 2130 B m

Remarks:

Maxxam Analytics' laboratories are accredited to ISO/IEC 17025:2005 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Maxxam are based upon recognized Provincial, Federal or US method compendia such as CCME, MDDELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Maxxam's profession using

Maxxam Analytics International Corporation o/a Maxxam Analytics 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.maxxam.ca

Maxxam
A Bureau Veritas Group Company

Your Project #: 111-52958-02-100-1002
Site#: Mill Creek
Your C.O.C. #: 653544-01-01

Attention: Greg Siiskonen

WSP Canada Inc
55 King St
Suite 600
St. Catharines, ON
CANADA L2R3H5

Report Date: 2018/04/04
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Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B868493
Received: 2018/03/27, 15:15

accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Maxxam in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected.

Maxxam Analytics' liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Maxxam has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Maxxam, unless otherwise agreed in writing.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested.
This Certificate shall not be reproduced except in full, without the written approval of the laboratory.

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) Dissolved Organic Carbon (DOC) present in the sample should be considered as non-purgeable DOC.
(2) Values for calculated parameters may not appear to add up due to rounding of raw data and significant figures.
(3) Total Organic Carbon (TOC) present in the sample should be considered as non-purgeable TOC.

Encryption Key

Ashton Gibson
Project Manager
04 Apr 2018 17:57:05

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Ashton Gibson, Project Manager
Email: AGibson@maxxam.ca
Phone# (905) 817-5700

==========

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Maxxam Analytics International Corporation o/a Maxxam Analytics 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.maxxam.ca

Maxxam Job #: B868493
Report Date: 2018/04/04

WSP Canada Inc
Client Project #: 111-52958-02-100-1002

RESULTS OF ANALYSES OF WATER

Maxxam ID		GIN098			GIN099		GIN100		
Sampling Date		2018/03/26 12:00			2018/03/26 12:00		2018/03/26 12:00		
COC Number		653544-01-01			653544-01-01		653544-01-01		
	UNITS	BH1	RDL	QC Batch	92-8	QC Batch	92-32-111	RDL	QC Batch
Calculated Parameters									
Anion Sum	me/L	8.16	N/A	5458989	7.66	5458989	8.64	N/A	5458989
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	160	1.0	5458987	150	5458987	250	1.0	5458987
Carb. Alkalinity (calc. as CaCO3)	mg/L	1.5	1.0	5458987	1.4	5458987	1.6	1.0	5458987
Cation Sum	me/L	7.93	N/A	5458989	7.26	5458989	8.21	N/A	5458989
Hardness (CaCO3)	mg/L	230	1.0	5458490	250	5458490	340	1.0	5458490
Ion Balance (% Difference)	%	1.42	N/A	5458988	2.64	5458988	2.59	N/A	5458988
Inorganics									
Total Ammonia-N	mg/L	<0.050	0.050	5462668	0.054	5465626	<0.050	0.050	5465626
Conductivity	umho/cm	900	1.0	5462669	800	5462669	830	1.0	5462669
Total Dissolved Solids	mg/L	395	10	5463316	350	5461683	395	10	5461683
Dissolved Organic Carbon	mg/L	<0.50	0.50	5460450	0.56	5460450	1.6	0.50	5463297
Orthophosphate (P)	mg/L	<0.010	0.010	5466054	<0.010	5466054	<0.010	0.010	5466054
pH	pH	8.01		5462665	8.01	5462665	7.84		5462665
Dissolved Sulphate (SO4)	mg/L	35	1.0	5466053	57	5466053	77	1.0	5466053
Alkalinity (Total as CaCO3)	mg/L	160	1.0	5462667	150	5462667	260	1.0	5462667
Dissolved Chloride (Cl)	mg/L	150	2.0	5466052	120	5466052	68	1.0	5466052
Nitrite (N)	mg/L	<0.010	0.010	5460799	<0.010	5462898	<0.010	0.010	5462898
Nitrate (N)	mg/L	<0.10	0.10	5460799	<0.10	5462898	<0.10	0.10	5462898
Nitrate + Nitrite (N)	mg/L	<0.10	0.10	5460799	<0.10	5462898	<0.10	0.10	5462898
Petroleum Hydrocarbons									
Total Oil & Grease	mg/L	<0.50	0.50	5465711	<0.50	5465711	<0.50	0.50	5465711

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
N/A = Not Applicable

Maxxam Analytics International Corporation o/a Maxxam Analytics 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.maxxam.ca

Maxxam Job #: B868493
Report Date: 2018/04/04

WSP Canada Inc
Client Project #: 111-52958-02-100-1002

RESULTS OF ANALYSES OF WATER

Maxxam ID		GIN101			GIN102		
Sampling Date		2018/03/26 12:00			2018/03/26 12:00		
COC Number		653544-01-01			653544-01-01		
	UNITS	SW1	RDL	QC Batch	FD1	RDL	QC Batch
Calculated Parameters							
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	140	1.0	5458987			
Carb. Alkalinity (calc. as CaCO3)	mg/L	1.6	1.0	5458987			
Hardness (CaCO3)	mg/L	250	1.0	5458490			
Inorganics							
Total Ammonia-N	mg/L	<0.050	0.050	5466095			
Conductivity	umho/cm	770	1.0	5462669			
Total Dissolved Solids	mg/L	360	10	5461683			
Total Organic Carbon (TOC)	mg/L	1.1	0.50	5465989			
Orthophosphate (P)	mg/L	<0.010	0.010	5466054			
pH	pH	8.10		5462665			
Dissolved Sulphate (SO4)	mg/L	49	1.0	5466053			
Turbidity	NTU	0.9	0.1	5458632			
Alkalinity (Total as CaCO3)	mg/L	140	1.0	5462667			
Dissolved Chloride (Cl)	mg/L	120	1.0	5466052			
Nitrite (N)	mg/L	<0.010	0.010	5460799			
Nitrate (N)	mg/L	<0.10	0.10	5460799			
Nitrate + Nitrite (N)	mg/L	<0.10	0.10	5460799			
Petroleum Hydrocarbons							
Total Oil & Grease	mg/L	<0.50	0.50	5465711	<0.50	0.50	5465711

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B868493
Report Date: 2018/04/04

WSP Canada Inc
Client Project #: 111-52958-02-100-1002

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		GIN098	GIN099	GIN100			GIN101		
Sampling Date		2018/03/26 12:00	2018/03/26 12:00	2018/03/26 12:00			2018/03/26 12:00		
COC Number		653544-01-01	653544-01-01	653544-01-01			653544-01-01		
	UNITS	BH1	92-8	92-32-111	RDL	QC Batch	SW1	RDL	QC Batch
Metals									
Dissolved Calcium (Ca)	mg/L						42	0.050	5465571
Dissolved Magnesium (Mg)	mg/L						34	0.050	5465571
Dissolved Calcium (Ca)	ug/L	42000	49000	80000	200	5462391			
Total Calcium (Ca)	ug/L						41000	200	5465604
Dissolved Copper (Cu)	ug/L	<1.0	1.3	1.5	1.0	5462391			
Total Copper (Cu)	ug/L						<1.0	1.0	5465604
Dissolved Iron (Fe)	ug/L	<100	<100	<100	100	5462391			
Total Iron (Fe)	ug/L						<100	100	5465604
Dissolved Magnesium (Mg)	ug/L	31000	30000	33000	50	5462391			
Total Magnesium (Mg)	ug/L						33000	50	5465604
Dissolved Manganese (Mn)	ug/L	<2.0	120	600	2.0	5462391			
Total Manganese (Mn)	ug/L						6.4	2.0	5465604
Dissolved Potassium (K)	ug/L	2700	2500	760	200	5462391			
Total Potassium (K)	ug/L						2800	200	5465604
Dissolved Sodium (Na)	ug/L	73000	52000	34000	100	5462391			
Total Sodium (Na)	ug/L						56000	100	5465604
Dissolved Zinc (Zn)	ug/L	11	23	79	5.0	5462391			
Total Zinc (Zn)	ug/L						11	5.0	5465604

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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GENERAL COMMENTS

Results relate only to the items tested.

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Maxxam Job #: B868493
Report Date: 2018/04/04

WSP Canada Inc
Client Project #: 111-52958-02-100-1002

QUALITY ASSURANCE REPORT

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
5458632	TA1	Spiked Blank	Turbidity	2018/03/28		100	%	85 - 115
5458632	TA1	Method Blank	Turbidity	2018/03/28	<0.1		NTU	
5458632	TA1	RPD	Turbidity	2018/03/28	NC		%	20
5460450	NS3	Matrix Spike	Dissolved Organic Carbon	2018/03/28		96	%	80 - 120
5460450	NS3	Spiked Blank	Dissolved Organic Carbon	2018/03/28		98	%	80 - 120
5460450	NS3	Method Blank	Dissolved Organic Carbon	2018/03/28	<0.50		mg/L	
5460450	NS3	RPD	Dissolved Organic Carbon	2018/03/28	5.9		%	20
5460799	C_N	Matrix Spike [GIN101-02]	Nitrite (N)	2018/03/28		101	%	80 - 120
			Nitrate (N)	2018/03/28		99	%	80 - 120
5460799	C_N	Spiked Blank	Nitrite (N)	2018/03/28		98	%	80 - 120
			Nitrate (N)	2018/03/28		98	%	80 - 120
5460799	C_N	Method Blank	Nitrite (N)	2018/03/28	<0.010		mg/L	
			Nitrate (N)	2018/03/28	<0.10		mg/L	
5460799	C_N	RPD [GIN101-02]	Nitrite (N)	2018/03/28	NC		%	20
			Nitrate (N)	2018/03/28	NC		%	20
5461683	MJ1	QC Standard	Total Dissolved Solids	2018/03/29		97	%	90 - 110
5461683	MJ1	Method Blank	Total Dissolved Solids	2018/03/29	<10		mg/L	
5461683	MJ1	RPD	Total Dissolved Solids	2018/03/29	15		%	25
5462391	TNG	Matrix Spike	Dissolved Calcium (Ca)	2018/04/02		93	%	80 - 120
			Dissolved Copper (Cu)	2018/04/02		98	%	80 - 120
			Dissolved Iron (Fe)	2018/04/02		97	%	80 - 120
			Dissolved Magnesium (Mg)	2018/04/02		96	%	80 - 120
			Dissolved Manganese (Mn)	2018/04/02		96	%	80 - 120
			Dissolved Potassium (K)	2018/04/02		96	%	80 - 120
			Dissolved Sodium (Na)	2018/04/02		NC	%	80 - 120
			Dissolved Zinc (Zn)	2018/04/02		94	%	80 - 120
5462391	TNG	Spiked Blank	Dissolved Calcium (Ca)	2018/04/02		94	%	80 - 120
			Dissolved Copper (Cu)	2018/04/02		97	%	80 - 120
			Dissolved Iron (Fe)	2018/04/02		98	%	80 - 120
			Dissolved Magnesium (Mg)	2018/04/02		97	%	80 - 120
			Dissolved Manganese (Mn)	2018/04/02		96	%	80 - 120
			Dissolved Potassium (K)	2018/04/02		96	%	80 - 120
			Dissolved Sodium (Na)	2018/04/02		96	%	80 - 120
			Dissolved Zinc (Zn)	2018/04/02		96	%	80 - 120
5462391	TNG	Method Blank	Dissolved Calcium (Ca)	2018/04/02	<200		ug/L	
			Dissolved Copper (Cu)	2018/04/02	<1.0		ug/L	
			Dissolved Iron (Fe)	2018/04/02	<100		ug/L	
			Dissolved Magnesium (Mg)	2018/04/02	<50		ug/L	
			Dissolved Manganese (Mn)	2018/04/02	<2.0		ug/L	
			Dissolved Potassium (K)	2018/04/02	<200		ug/L	
			Dissolved Sodium (Na)	2018/04/02	<100		ug/L	
			Dissolved Zinc (Zn)	2018/04/02	<5.0		ug/L	
5462391	TNG	RPD	Dissolved Calcium (Ca)	2018/04/02	5.9		%	20
			Dissolved Copper (Cu)	2018/04/02	7.3		%	20
			Dissolved Iron (Fe)	2018/04/02	NC		%	20
			Dissolved Magnesium (Mg)	2018/04/02	5.7		%	20
			Dissolved Manganese (Mn)	2018/04/02	2.9		%	20
			Dissolved Potassium (K)	2018/04/02	7.3		%	20
			Dissolved Sodium (Na)	2018/04/02	0.45		%	20
			Dissolved Zinc (Zn)	2018/04/02	NC		%	20
5462665	SAU	Spiked Blank	pH	2018/03/29		102	%	98 - 103
5462665	SAU	RPD [GIN101-02]	pH	2018/03/29	0.66		%	N/A
5462667	SAU	Spiked Blank	Alkalinity (Total as CaCO3)	2018/03/29		98	%	85 - 115
5462667	SAU	Method Blank	Alkalinity (Total as CaCO3)	2018/03/29	<1.0		mg/L	
5462667	SAU	RPD [GIN101-02]	Alkalinity (Total as CaCO3)	2018/03/29	2.0		%	20

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
5462668	SAN	Matrix Spike [GIN098-04]	Total Ammonia-N	2018/04/02		94	%	75 - 125
5462668	SAN	Spiked Blank	Total Ammonia-N	2018/04/02		100	%	80 - 120
5462668	SAN	Method Blank	Total Ammonia-N	2018/04/02	<0.050		mg/L	
5462668	SAN	RPD [GIN098-04]	Total Ammonia-N	2018/04/02	NC		%	20
5462669	SAU	Spiked Blank	Conductivity	2018/03/29		100	%	85 - 115
5462669	SAU	Method Blank	Conductivity	2018/03/29	<1.0		umho/cm	
5462669	SAU	RPD [GIN101-02]	Conductivity	2018/03/29	0		%	25
5462898	C_N	Matrix Spike	Nitrite (N)	2018/03/29		100	%	80 - 120
			Nitrate (N)	2018/03/29		106	%	80 - 120
5462898	C_N	Spiked Blank	Nitrite (N)	2018/03/29		96	%	80 - 120
			Nitrate (N)	2018/03/29		100	%	80 - 120
5462898	C_N	Method Blank	Nitrite (N)	2018/03/29	<0.010		mg/L	
			Nitrate (N)	2018/03/29	<0.10		mg/L	
5462898	C_N	RPD	Nitrite (N)	2018/03/29	NC		%	20
			Nitrate (N)	2018/03/29	0.36		%	20
5463297	NS3	Matrix Spike	Dissolved Organic Carbon	2018/03/29		97	%	80 - 120
5463297	NS3	Spiked Blank	Dissolved Organic Carbon	2018/03/29		100	%	80 - 120
5463297	NS3	Method Blank	Dissolved Organic Carbon	2018/03/29	<0.50		mg/L	
5463297	NS3	RPD	Dissolved Organic Carbon	2018/03/29	0.80		%	20
5463316	SDE	QC Standard	Total Dissolved Solids	2018/04/02		97	%	90 - 110
5463316	SDE	Method Blank	Total Dissolved Solids	2018/04/02	<10		mg/L	
5463316	SDE	RPD	Total Dissolved Solids	2018/04/02	0.74		%	25
5465571	JOH	Matrix Spike	Dissolved Calcium (Ca)	2018/04/03		NC	%	80 - 120
			Dissolved Magnesium (Mg)	2018/04/03		NC	%	80 - 120
5465571	JOH	Spiked Blank	Dissolved Calcium (Ca)	2018/04/03		101	%	80 - 120
			Dissolved Magnesium (Mg)	2018/04/03		102	%	80 - 120
5465571	JOH	Method Blank	Dissolved Calcium (Ca)	2018/04/03	<0.050		mg/L	
			Dissolved Magnesium (Mg)	2018/04/03	<0.050		mg/L	
5465604	ADA	Matrix Spike	Total Calcium (Ca)	2018/04/03		NC	%	80 - 120
			Total Copper (Cu)	2018/04/03		101	%	80 - 120
			Total Iron (Fe)	2018/04/03		100	%	80 - 120
			Total Magnesium (Mg)	2018/04/03		94	%	80 - 120
			Total Manganese (Mn)	2018/04/03		95	%	80 - 120
			Total Potassium (K)	2018/04/03		NC	%	80 - 120
			Total Sodium (Na)	2018/04/03		NC	%	80 - 120
			Total Zinc (Zn)	2018/04/03		NC	%	80 - 120
5465604	ADA	Spiked Blank	Total Calcium (Ca)	2018/04/03		94	%	80 - 120
			Total Copper (Cu)	2018/04/03		101	%	80 - 120
			Total Iron (Fe)	2018/04/03		103	%	80 - 120
			Total Magnesium (Mg)	2018/04/03		100	%	80 - 120
			Total Manganese (Mn)	2018/04/03		96	%	80 - 120
			Total Potassium (K)	2018/04/03		96	%	80 - 120
			Total Sodium (Na)	2018/04/03		97	%	80 - 120
			Total Zinc (Zn)	2018/04/03		104	%	80 - 120
5465604	ADA	Method Blank	Total Calcium (Ca)	2018/04/03	<200		ug/L	
			Total Copper (Cu)	2018/04/03	<1.0		ug/L	
			Total Iron (Fe)	2018/04/03	<100		ug/L	
			Total Magnesium (Mg)	2018/04/03	<50		ug/L	
			Total Manganese (Mn)	2018/04/03	<2.0		ug/L	
			Total Potassium (K)	2018/04/03	<200		ug/L	
			Total Sodium (Na)	2018/04/03	130, RDL=100		ug/L	
			Total Zinc (Zn)	2018/04/03	<5.0		ug/L	
5465604	ADA	RPD	Total Copper (Cu)	2018/04/03	0.034		%	20
			Total Iron (Fe)	2018/04/03	1.3		%	20

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			Total Zinc (Zn)	2018/04/03	1.1		%	20
5465626	SAN	Matrix Spike	Total Ammonia-N	2018/04/03		94	%	75 - 125
5465626	SAN	Spiked Blank	Total Ammonia-N	2018/04/03		101	%	80 - 120
5465626	SAN	Method Blank	Total Ammonia-N	2018/04/03	<0.050		mg/L	
5465626	SAN	RPD	Total Ammonia-N	2018/04/03	NC		%	20
5465711	AMJ	Spiked Blank	Total Oil & Grease	2018/04/02		97	%	85 - 115
5465711	AMJ	RPD	Total Oil & Grease	2018/04/02	2.0		%	25
5465711	AMJ	Method Blank	Total Oil & Grease	2018/04/02	<0.50		mg/L	
5465989	NS3	Matrix Spike	Total Organic Carbon (TOC)	2018/04/02		95	%	80 - 120
5465989	NS3	Spiked Blank	Total Organic Carbon (TOC)	2018/04/02		98	%	80 - 120
5465989	NS3	Method Blank	Total Organic Carbon (TOC)	2018/04/02	<0.50		mg/L	
5465989	NS3	RPD	Total Organic Carbon (TOC)	2018/04/02	NC		%	20
5466052	DRM	Matrix Spike [GIN101-02]	Dissolved Chloride (Cl)	2018/04/03		NC	%	80 - 120
5466052	DRM	Spiked Blank	Dissolved Chloride (Cl)	2018/04/03		103	%	80 - 120
5466052	DRM	Method Blank	Dissolved Chloride (Cl)	2018/04/03	<1.0		mg/L	
5466052	DRM	RPD [GIN101-02]	Dissolved Chloride (Cl)	2018/04/03	0.69		%	20
5466053	ADB	Matrix Spike [GIN101-02]	Dissolved Sulphate (SO4)	2018/04/03		NC	%	75 - 125
5466053	ADB	Spiked Blank	Dissolved Sulphate (SO4)	2018/04/03		100	%	80 - 120
5466053	ADB	Method Blank	Dissolved Sulphate (SO4)	2018/04/03	<1.0		mg/L	
5466053	ADB	RPD [GIN101-02]	Dissolved Sulphate (SO4)	2018/04/03	0.91		%	20
5466054	ADB	Matrix Spike [GIN101-02]	Orthophosphate (P)	2018/04/04		106	%	75 - 125
5466054	ADB	Spiked Blank	Orthophosphate (P)	2018/04/04		100	%	80 - 120
5466054	ADB	Method Blank	Orthophosphate (P)	2018/04/04	<0.010		mg/L	
5466054	ADB	RPD [GIN101-02]	Orthophosphate (P)	2018/04/04	NC		%	25
5466095	SAN	Matrix Spike [GIN101-04]	Total Ammonia-N	2018/04/03		95	%	75 - 125
5466095	SAN	Spiked Blank	Total Ammonia-N	2018/04/03		100	%	80 - 120
5466095	SAN	Method Blank	Total Ammonia-N	2018/04/03	<0.050		mg/L	
5466095	SAN	RPD [GIN101-04]	Total Ammonia-N	2018/04/03	NC		%	20

N/A = Not Applicable

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

QC Standard: A sample of known concentration prepared by an external agency under stringent conditions. Used as an independent check of method accuracy.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

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VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

Ewa Pranjic, M.Sc., C.Chem, Scientific Specialist

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

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Maxxam
A Bureau Veritas Group Company

Your Project #: 111-52958-02-100-1002
Site#: Mill Creek
Site Location: Mill Creek
Your C.O.C. #: 690961-01-01

Attention: Philip Resendes

WSP Group Inc
180 Shearson Cres
Unit 5
Cambridge, ON
CANADA N1T 1P4

Report Date: 2018/11/30
Report #: R5506327
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B8V2999
Received: 2018/11/22, 15:24

Sample Matrix: Water
Samples Received: 5

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Reference
Alkalinity	4	N/A	2018/11/27	CAM SOP-00448	SM 23 2320 B m
Carbonate, Bicarbonate and Hydroxide	3	N/A	2018/11/27	CAM SOP-00102	APHA 4500-CO2 D
Carbonate, Bicarbonate and Hydroxide	1	N/A	2018/11/28	CAM SOP-00102	APHA 4500-CO2 D
Chloride by Automated Colourimetry	4	N/A	2018/11/26	CAM SOP-00463	EPA 325.2 m
Conductivity	4	N/A	2018/11/27	CAM SOP-00414	SM 23 2510 m
Dissolved Organic Carbon (DOC) (1)	3	N/A	2018/11/26	CAM SOP-00446	SM 23 5310 B m
Hardness (calculated as CaCO3)	3	N/A	2018/11/26	CAM SOP 00102/00408/00447	SM 2340 B
Hardness (calculated as CaCO3)	1	N/A	2018/11/27	CAM SOP 00102/00408/00447	SM 2340 B
Dissolved Calcium and Magnesium	1	2018/11/24	2018/11/27	CAM SOP-00408	EPA 6010D m
Dissolved Metals by ICPMS	3	N/A	2018/11/26	CAM SOP-00447	EPA 6020B m
Total Metals Analysis by ICPMS	1	N/A	2018/11/28	CAM SOP-00447	EPA 6020B m
Ion Balance (% Difference)	3	N/A	2018/11/28		
Anion and Cation Sum	3	N/A	2018/11/27		
Total Ammonia-N	1	N/A	2018/11/29	CAM SOP-00441	EPA GS I-2522-90 m
Total Ammonia-N	3	N/A	2018/11/30	CAM SOP-00441	EPA GS I-2522-90 m
Nitrate (NO3) and Nitrite (NO2) in Water (2)	4	N/A	2018/11/27	CAM SOP-00440	SM 23 4500-NO3I/NO2B
Total Oil and Grease	5	2018/11/27	2018/11/28	CAM SOP-00326	EPA1664B m,SM5520A m
pH	4	N/A	2018/11/27	CAM SOP-00413	SM 4500H+ B m
Orthophosphate	4	N/A	2018/11/26	CAM SOP-00461	EPA 365.1 m
Sulphate by Automated Colourimetry	4	N/A	2018/11/26	CAM SOP-00464	EPA 375.4 m
Total Dissolved Solids	4	2018/11/24	2018/11/26	CAM SOP-00428	SM 23 2540C m
Total Organic Carbon (TOC) (3)	1	N/A	2018/11/26	CAM SOP-00446	SM 23 5310B m
Turbidity	1	N/A	2018/11/26	CAM SOP-00417	SM 23 2130 B m

Remarks:

Maxxam Analytics' laboratories are accredited to ISO/IEC 17025:2005 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Maxxam are based upon recognized Provincial, Federal or US method compendia such as CCME, MDDELCC, EPA, APHA.

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Maxxam
A Bureau Veritas Group Company

Your Project #: 111-52958-02-100-1002
Site#: Mill Creek
Site Location: Mill Creek
Your C.O.C. #: 690961-01-01

Attention: Philip Resendes

WSP Group Inc
180 Shearson Cres
Unit 5
Cambridge, ON
CANADA N1T 1P4

Report Date: 2018/11/30
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Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B8V2999
Received: 2018/11/22, 15:24

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Maxxam's profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Maxxam in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Maxxam Analytics' liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Maxxam has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Maxxam, unless otherwise agreed in writing. Maxxam is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested. When sampling is not conducted by Maxxam, results relate to the supplied samples tested.
This Certificate shall not be reproduced except in full, without the written approval of the laboratory.

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) Dissolved Organic Carbon (DOC) present in the sample should be considered as non-purgeable DOC.
(2) Values for calculated parameters may not appear to add up due to rounding of raw data and significant figures.
(3) Total Organic Carbon (TOC) present in the sample should be considered as non-purgeable TOC.

Encryption Key

Ashton Gibson
Project Manager
30 Nov 2018 16:20:59

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Ashton Gibson, Project Manager
Email: AGibson@maxxam.ca
Phone# (905) 817-5700

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Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

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Maxxam Job #: B8V2999
Report Date: 2018/11/30

WSP Group Inc
Client Project #: 111-52958-02-100-1002
Site Location: Mill Creek

RESULTS OF ANALYSES OF WATER

Maxxam ID		IJF286			IJF287		IJF288		
Sampling Date		2018/11/21			2018/11/21		2018/11/21		
COC Number		690961-01-01			690961-01-01		690961-01-01		
	UNITS	BH1	RDL	QC Batch	92-8	QC Batch	92-32-111	RDL	QC Batch
Calculated Parameters									
Anion Sum	me/L	8.52	N/A	5853770	8.31	5853770	9.63	N/A	5853770
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	160	1.0	5853766	150	5853766	320	1.0	5853766
Carb. Alkalinity (calc. as CaCO3)	mg/L	2.1	1.0	5853766	1.6	5853766	2.3	1.0	5853766
Cation Sum	me/L	8.37	N/A	5853770	7.51	5853770	9.38	N/A	5853770
Hardness (CaCO3)	mg/L	240	1.0	5853768	250	5853768	390	1.0	5853768
Ion Balance (% Difference)	%	0.880	N/A	5853769	5.06	5853769	1.28	N/A	5853769
Inorganics									
Total Ammonia-N	mg/L	0.12	0.050	5856379	0.19	5856376	0.19	0.050	5856376
Conductivity	umho/cm	920	1.0	5855519	810	5855519	890	1.0	5855519
Total Dissolved Solids	mg/L	485	10	5855548	480	5855548	510	10	5855524
Dissolved Organic Carbon	mg/L	0.67	0.50	5854903	0.81	5854903	1.5	0.50	5854903
Orthophosphate (P)	mg/L	<0.010	0.010	5855598	<0.010	5855598	<0.010	0.010	5855598
pH	pH	8.13		5855520	8.06	5855520	7.87		5855520
Dissolved Sulphate (SO4)	mg/L	31	1.0	5855597	77	5855597	50	1.0	5855597
Alkalinity (Total as CaCO3)	mg/L	170	1.0	5855518	150	5855518	330	1.0	5855518
Dissolved Chloride (Cl-)	mg/L	160	2.0	5855596	130	5855596	74	1.0	5855596
Nitrite (N)	mg/L	<0.010	0.010	5855618	<0.010	5855618	<0.010	0.010	5855618
Nitrate (N)	mg/L	<0.10	0.10	5855618	<0.10	5855618	<0.10	0.10	5855618
Nitrate + Nitrite (N)	mg/L	<0.10	0.10	5855618	<0.10	5855618	<0.10	0.10	5855618
Petroleum Hydrocarbons									
Total Oil & Grease	mg/L	0.80	0.50	5858284	0.70	5858284	<0.50	0.50	5858284

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
N/A = Not Applicable

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Maxxam Job #: B8V2999
Report Date: 2018/11/30

WSP Group Inc
Client Project #: 111-52958-02-100-1002
Site Location: Mill Creek

RESULTS OF ANALYSES OF WATER

Maxxam ID		IJF289			IJF290		
Sampling Date		2018/11/21			2018/11/21		
COC Number		690961-01-01			690961-01-01		
	UNITS	MW100	RDL	QC Batch	SW1	RDL	QC Batch
Calculated Parameters							
Bicarb. Alkalinity (calc. as CaCO3)	mg/L				130	1.0	5853766
Carb. Alkalinity (calc. as CaCO3)	mg/L				1.4	1.0	5853766
Hardness (CaCO3)	mg/L				260	1.0	5853768
Inorganics							
Total Ammonia-N	mg/L				0.073	0.050	5856376
Conductivity	umho/cm				790	1.0	5855611
Total Dissolved Solids	mg/L				430	10	5855548
Total Organic Carbon (TOC)	mg/L				1.1	0.50	5856827
Orthophosphate (P)	mg/L				<0.010	0.010	5855598
pH	pH				8.04		5855613
Dissolved Sulphate (SO4)	mg/L				43	1.0	5855597
Turbidity	NTU				6.3	0.1	5854718
Alkalinity (Total as CaCO3)	mg/L				140	1.0	5855610
Dissolved Chloride (Cl-)	mg/L				140	1.0	5855596
Nitrite (N)	mg/L				<0.010	0.010	5855618
Nitrate (N)	mg/L				<0.10	0.10	5855618
Nitrate + Nitrite (N)	mg/L				<0.10	0.10	5855618
Petroleum Hydrocarbons							
Total Oil & Grease	mg/L	0.90	0.50	5858284	0.60	0.50	5858284

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Maxxam Job #: B8V2999
Report Date: 2018/11/30

WSP Group Inc
Client Project #: 111-52958-02-100-1002
Site Location: Mill Creek

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Maxxam ID		IJF286	IJF287	IJF288			IJF290		
Sampling Date		2018/11/21	2018/11/21	2018/11/21			2018/11/21		
COC Number		690961-01-01	690961-01-01	690961-01-01			690961-01-01		
	UNITS	BH1	92-8	92-32-111	RDL	QC Batch	SW1	RDL	QC Batch
Metals									
Dissolved Calcium (Ca)	mg/L						45	0.050	5855391
Dissolved Magnesium (Mg)	mg/L						37	0.050	5855391
Dissolved Calcium (Ca)	ug/L	42000	50000	94000	200	5856399			
Total Calcium (Ca)	ug/L						40000	200	5860190
Dissolved Copper (Cu)	ug/L	3.6	4.4	<1.0	1.0	5856399			
Total Copper (Cu)	ug/L						2.2	1.0	5860190
Dissolved Iron (Fe)	ug/L	<100	<100	<100	100	5856399			
Total Iron (Fe)	ug/L						410	100	5860190
Dissolved Magnesium (Mg)	ug/L	33000	31000	38000	50	5856399			
Total Magnesium (Mg)	ug/L						35000	50	5860190
Dissolved Manganese (Mn)	ug/L	<2.0	160	700	2.0	5856399			
Total Manganese (Mn)	ug/L						47	2.0	5860190
Dissolved Potassium (K)	ug/L	2500	2600	980	200	5856399			
Total Potassium (K)	ug/L						2800	200	5860190
Dissolved Sodium (Na)	ug/L	80000	55000	34000	100	5856399			
Total Sodium (Na)	ug/L						62000	100	5860190
Dissolved Zinc (Zn)	ug/L	13	22	84	5.0	5856399			
Total Zinc (Zn)	ug/L						48	5.0	5860190

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Maxxam Job #: B8V2999
Report Date: 2018/11/30

WSP Group Inc
Client Project #: 111-52958-02-100-1002
Site Location: Mill Creek

TEST SUMMARY

Maxxam ID: IJF286
Sample ID: BH1
Matrix: Water

Collected: 2018/11/21
Shipped:
Received: 2018/11/22

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	5855518	N/A	2018/11/27	Surinder Rai
Carbonate, Bicarbonate and Hydroxide	CALC	5853766	N/A	2018/11/27	Automated Statchk
Chloride by Automated Colourimetry	KONE	5855596	N/A	2018/11/26	Deonarine Ramnarine
Conductivity	AT	5855519	N/A	2018/11/27	Surinder Rai
Dissolved Organic Carbon (DOC)	TOCV/NDIR	5854903	N/A	2018/11/26	Yogesh Patel
Hardness (calculated as CaCO3)		5853768	N/A	2018/11/26	Automated Statchk
Dissolved Metals by ICPMS	ICP/MS	5856399	N/A	2018/11/26	Arefa Dabhad
Ion Balance (% Difference)	CALC	5853769	N/A	2018/11/28	Automated Statchk
Anion and Cation Sum	CALC	5853770	N/A	2018/11/27	Automated Statchk
Total Ammonia-N	LACH/NH4	5856379	N/A	2018/11/29	Charles Opoku-Ware
Nitrate (NO3) and Nitrite (NO2) in Water	LACH	5855618	N/A	2018/11/27	Chandra Nandlal
Total Oil and Grease	BAL	5858284	2018/11/27	2018/11/28	Francis Afonso
pH	AT	5855520	N/A	2018/11/27	Surinder Rai
Orthophosphate	KONE	5855598	N/A	2018/11/26	Alina Dobreanu
Sulphate by Automated Colourimetry	KONE	5855597	N/A	2018/11/26	Alina Dobreanu
Total Dissolved Solids	BAL	5855548	2018/11/24	2018/11/26	Jingwei (Alvin) Shi

Maxxam ID: IJF286 Dup
Sample ID: BH1
Matrix: Water

Collected: 2018/11/21
Shipped:
Received: 2018/11/22

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Total Ammonia-N	LACH/NH4	5856379	N/A	2018/11/29	Charles Opoku-Ware

Maxxam ID: IJF287
Sample ID: 92-8
Matrix: Water

Collected: 2018/11/21
Shipped:
Received: 2018/11/22

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	5855518	N/A	2018/11/27	Surinder Rai
Carbonate, Bicarbonate and Hydroxide	CALC	5853766	N/A	2018/11/27	Automated Statchk
Chloride by Automated Colourimetry	KONE	5855596	N/A	2018/11/26	Deonarine Ramnarine
Conductivity	AT	5855519	N/A	2018/11/27	Surinder Rai
Dissolved Organic Carbon (DOC)	TOCV/NDIR	5854903	N/A	2018/11/26	Yogesh Patel
Hardness (calculated as CaCO3)		5853768	N/A	2018/11/26	Automated Statchk
Dissolved Metals by ICPMS	ICP/MS	5856399	N/A	2018/11/26	Arefa Dabhad
Ion Balance (% Difference)	CALC	5853769	N/A	2018/11/28	Automated Statchk
Anion and Cation Sum	CALC	5853770	N/A	2018/11/27	Automated Statchk
Total Ammonia-N	LACH/NH4	5856376	N/A	2018/11/30	Charles Opoku-Ware
Nitrate (NO3) and Nitrite (NO2) in Water	LACH	5855618	N/A	2018/11/27	Chandra Nandlal
Total Oil and Grease	BAL	5858284	2018/11/27	2018/11/28	Francis Afonso
pH	AT	5855520	N/A	2018/11/27	Surinder Rai
Orthophosphate	KONE	5855598	N/A	2018/11/26	Alina Dobreanu
Sulphate by Automated Colourimetry	KONE	5855597	N/A	2018/11/26	Alina Dobreanu
Total Dissolved Solids	BAL	5855548	2018/11/24	2018/11/26	Jingwei (Alvin) Shi

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Maxxam Job #: B8V2999
Report Date: 2018/11/30

WSP Group Inc
Client Project #: 111-52958-02-100-1002
Site Location: Mill Creek

TEST SUMMARY

Maxxam ID: IJF288
Sample ID: 92-32-111
Matrix: Water

Collected: 2018/11/21
Shipped:
Received: 2018/11/22

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	5855518	N/A	2018/11/27	Surinder Rai
Carbonate, Bicarbonate and Hydroxide	CALC	5853766	N/A	2018/11/27	Automated Statchk
Chloride by Automated Colourimetry	KONE	5855596	N/A	2018/11/26	Deonarine Ramnarine
Conductivity	AT	5855519	N/A	2018/11/27	Surinder Rai
Dissolved Organic Carbon (DOC)	TOCV/NDIR	5854903	N/A	2018/11/26	Yogesh Patel
Hardness (calculated as CaCO3)		5853768	N/A	2018/11/26	Automated Statchk
Dissolved Metals by ICPMS	ICP/MS	5856399	N/A	2018/11/26	Arefa Dabhad
Ion Balance (% Difference)	CALC	5853769	N/A	2018/11/28	Automated Statchk
Anion and Cation Sum	CALC	5853770	N/A	2018/11/27	Automated Statchk
Total Ammonia-N	LACH/NH4	5856376	N/A	2018/11/30	Charles Opoku-Ware
Nitrate (NO3) and Nitrite (NO2) in Water	LACH	5855618	N/A	2018/11/27	Chandra Nandlal
Total Oil and Grease	BAL	5858284	2018/11/27	2018/11/28	Francis Afonso
pH	AT	5855520	N/A	2018/11/27	Surinder Rai
Orthophosphate	KONE	5855598	N/A	2018/11/26	Alina Dobreanu
Sulphate by Automated Colourimetry	KONE	5855597	N/A	2018/11/26	Alina Dobreanu
Total Dissolved Solids	BAL	5855524	2018/11/24	2018/11/26	Nilam Borole

Maxxam ID: IJF288 Dup
Sample ID: 92-32-111
Matrix: Water

Collected: 2018/11/21
Shipped:
Received: 2018/11/22

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Total Dissolved Solids	BAL	5855524	2018/11/24	2018/11/26	Nilam Borole

Maxxam ID: IJF289
Sample ID: MW100
Matrix: Water

Collected: 2018/11/21
Shipped:
Received: 2018/11/22

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Total Oil and Grease	BAL	5858284	2018/11/27	2018/11/28	Francis Afonso

Maxxam ID: IJF290
Sample ID: SW1
Matrix: Water

Collected: 2018/11/21
Shipped:
Received: 2018/11/22

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	5855610	N/A	2018/11/27	Surinder Rai
Carbonate, Bicarbonate and Hydroxide	CALC	5853766	N/A	2018/11/28	Automated Statchk
Chloride by Automated Colourimetry	KONE	5855596	N/A	2018/11/26	Deonarine Ramnarine
Conductivity	AT	5855611	N/A	2018/11/27	Surinder Rai
Hardness (calculated as CaCO3)		5853768	N/A	2018/11/27	Automated Statchk
Dissolved Calcium and Magnesium	ICP	5855391	2018/11/24	2018/11/27	Azita Fazaeli
Total Metals Analysis by ICPMS	ICP/MS	5860190	N/A	2018/11/28	Arefa Dabhad
Total Ammonia-N	LACH/NH4	5856376	N/A	2018/11/30	Charles Opoku-Ware
Nitrate (NO3) and Nitrite (NO2) in Water	LACH	5855618	N/A	2018/11/27	Chandra Nandlal

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Maxxam Job #: B8V2999
Report Date: 2018/11/30

WSP Group Inc
Client Project #: 111-52958-02-100-1002
Site Location: Mill Creek

TEST SUMMARY

Maxxam ID: IJF290
Sample ID: SW1
Matrix: Water

Collected: 2018/11/21
Shipped:
Received: 2018/11/22

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Total Oil and Grease	BAL	5858284	2018/11/27	2018/11/28	Francis Afonso
pH	AT	5855613	N/A	2018/11/27	Surinder Rai
Orthophosphate	KONE	5855598	N/A	2018/11/26	Alina Dobreanu
Sulphate by Automated Colourimetry	KONE	5855597	N/A	2018/11/26	Alina Dobreanu
Total Dissolved Solids	BAL	5855548	2018/11/24	2018/11/26	Jingwei (Alvin) Shi
Total Organic Carbon (TOC)	TOCV/NDIR	5856827	N/A	2018/11/26	Yogesh Patel
Turbidity	AT	5854718	N/A	2018/11/26	Barbara Kalbasi Esfahani

Maxxam ID: IJF290 Dup
Sample ID: SW1
Matrix: Water

Collected: 2018/11/21
Shipped:
Received: 2018/11/22

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	5855610	N/A	2018/11/27	Surinder Rai
Conductivity	AT	5855611	N/A	2018/11/27	Surinder Rai
pH	AT	5855613	N/A	2018/11/27	Surinder Rai

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GENERAL COMMENTS

Results relate only to the items tested.

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Group Company

8V2999
8/11/30

QUALITY ASSURANCE REPORT

WSP Group Inc
Client Project #: 111-52958-02-100-1002
Site Location: Mill Creek

		Matrix Spike		SPIKED BLANK		Method Blank		RPD		
rameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Re
bidity	2018/11/26			100	85 - 115	<0.1	NTU	2.3	20	
solved Organic Carbon	2018/11/26	93	80 - 120	98	80 - 120	<0.50	mg/L	2.6	20	
solved Calcium (Ca)	2018/11/27	NC	80 - 120	102	80 - 120	<0.050	mg/L			
solved Magnesium (Mg)	2018/11/27	NC	80 - 120	101	80 - 120	<0.050	mg/L			
alinity (Total as CaCO3)	2018/11/27			96	85 - 115	<1.0	mg/L	0.73	20	
nductivity	2018/11/27			101	85 - 115	<1.0	umho/cm	0.67	25	
	2018/11/27			101	98 - 103			0.26	N/A	
al Dissolved Solids	2018/11/26					<10	mg/L	4.8	25	
al Dissolved Solids	2018/11/26					<10	mg/L	1.3	25	
solved Chloride (Cl-)	2018/11/26	NC	80 - 120	102	80 - 120	<1.0	mg/L	0.57	20	
solved Sulphate (SO4)	2018/11/26	NC	75 - 125	100	80 - 120	<1.0	mg/L	0.71	20	
hophosphate (P)	2018/11/26	107	75 - 125	100	80 - 120	<0.010	mg/L	4.9	25	
alinity (Total as CaCO3)	2018/11/27			97	85 - 115	<1.0	mg/L	2.2	20	
nductivity	2018/11/27			100	85 - 115	<1.0	umho/cm	0.12	25	
	2018/11/27			102	98 - 103			1.4	N/A	
rate (N)	2018/11/27	111	80 - 120	100	80 - 120	<0.10	mg/L	NC	20	
rite (N)	2018/11/27	113	80 - 120	101	80 - 120	<0.010	mg/L	NC	20	
al Ammonia-N	2018/11/30	104	75 - 125	101	80 - 120	<0.050	mg/L	4.0	20	
al Ammonia-N	2018/11/29	102	75 - 125	101	80 - 120	<0.050	mg/L	12	20	
solved Calcium (Ca)	2018/11/26	NC	80 - 120	98	80 - 120	<200	ug/L			
solved Copper (Cu)	2018/11/26	105	80 - 120	101	80 - 120	<1.0	ug/L	8.3	20	
solved Iron (Fe)	2018/11/26	106	80 - 120	98	80 - 120	<100	ug/L			
solved Magnesium (Mg)	2018/11/26	NC	80 - 120	100	80 - 120	<50	ug/L			
solved Manganese (Mn)	2018/11/26	104	80 - 120	98	80 - 120	<2.0	ug/L			
solved Potassium (K)	2018/11/26	106	80 - 120	100	80 - 120	<200	ug/L			
solved Sodium (Na)	2018/11/26	NC	80 - 120	98	80 - 120	<100	ug/L			
solved Zinc (Zn)	2018/11/26	101	80 - 120	98	80 - 120	<5.0	ug/L	NC	20	
al Organic Carbon (TOC)	2018/11/26	94	80 - 120	97	80 - 120	<0.50	mg/L	0.28	20	
al Oil & Grease	2018/11/28	89	75 - 125	98	85 - 115	<0.50	mg/L	13	25	
al Calcium (Ca)	2018/11/28	NC	80 - 120	93	80 - 120	<200	ug/L			

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Group Company

8V2999
8/11/30

QUALITY ASSURANCE REPORT(CONT'D)

WSP Group Inc
Client Project #: 111-52958-02-100-1002
Site Location: Mill Creek

		Matrix Spike		SPIKED BLANK		Method Blank		RPD		
rameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Re
al Copper (Cu)	2018/11/28	97	80 - 120	95	80 - 120	<1.0	ug/L	2.2	20	
al Iron (Fe)	2018/11/28	100	80 - 120	99	80 - 120	<100	ug/L			
al Magnesium (Mg)	2018/11/28	99	80 - 120	101	80 - 120	<50	ug/L			
al Manganese (Mn)	2018/11/28	101	80 - 120	100	80 - 120	<2.0	ug/L			
al Potassium (K)	2018/11/28	101	80 - 120	99	80 - 120	<200	ug/L			
al Sodium (Na)	2018/11/28	NC	80 - 120	102	80 - 120	<100	ug/L			
al Zinc (Zn)	2018/11/28	103	80 - 120	103	80 - 120	<5.0	ug/L			

cable

d analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

ample of known concentration prepared by an external agency under stringent conditions. Used as an independent check of method accuracy.

lank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to p
tion (matrix spike concentration was less than the native sample concentration)

PD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x

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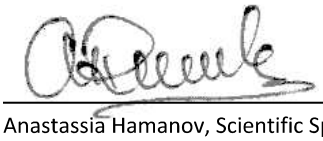
Report Date: 2018/11/30

WSP Group Inc
Client Project #: 111-52958-02-100-1002
Site Location: Mill Creek

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).



Anastassia Hamanov, Scientific Specialist

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APPENDIX

D CLIMATE DATA

TABLE D-1

1951 - 1980 WATER BUDGET SUMMARY - GUELPH ARBORETUM

MILL CREEK AGGREGATES PIT

Month	Mean Temperature (°C)	I	E (mm)	Daylight Factor	E adj. (mm)	Total Precipitation (mm)	WHC (mm)	Surplus (mm)	Deficit (mm)
JANUARY	-7.2	0.00	0.00	0.82	0.00	56.3	100.0	56.3	0.0
FEBRUARY	-6.5	0.00	0.00	0.82	0.00	50.5	100.0	50.5	0.0
MARCH	-1.9	0.00	0.00	1.03	0.00	62.5	100.0	62.5	0.0
APRIL	5.8	1.25	27.58	1.12	30.89	73.9	100.0	43.0	0.0
MAY	11.7	3.61	57.43	1.27	72.94	72.7	99.8	0.0	0.0
JUNE	17.4	6.57	86.96	1.28	111.31	70.6	59.0	0.0	0.0
JULY	19.7	7.93	99.02	1.30	128.72	82.4	12.7	0.0	0.0
AUGUST	18.8	7.39	94.29	1.20	113.15	81.5	0.0	0.0	18.9
SEPTEMBER	15	5.25	74.47	1.04	77.44	63.4	0.0	0.0	14.0
OCTOBER	9.2	2.51	44.67	0.95	42.44	73.4	31.0	0.0	0.0
NOVEMBER	2.5	0.35	11.44	0.81	9.27	74.9	96.6	0.0	0.0
DECEMBER	-4.1	0.00	0.00	0.78	0.00	71.2	100.0	67.8	0.0
Total		**34.87**			**586.16**	**833.3**		**280.2**	**33.0**
						Net Water Surplus		**247.2 mm**	

Notes:

- I - Heat Index
- E - Evaporation
- WHC - Water Holding Capacity
- A value of 100 mm was used for the water holding capacity of the soils
- Data is from the 1951 to 1980 Canadian Climate Normals for the Guelph Arboretum Climatological Station located at 43°31'N 80°14'W, elevation 334 m ASL.

TABLE D-2

1961 - 1990 WATER BUDGET SUMMARY - PRESTON

MILL CREEK AGGREGATES PIT

Month	Mean Temperature (°C)	I	E (mm)	Daylight Factor	E adj. (mm)	Total Precipitation (mm)	WHC (mm)	Surplus (mm)	Deficit (mm)
JANUARY	-7.1	0.00	0.00	0.82	0.00	62.2	100.0	62.2	0.0
FEBRUARY	-6.4	0.00	0.00	0.82	0.00	59.7	100.0	59.7	0.0
MARCH	-1.1	0.00	0.00	1.03	0.00	69.8	100.0	69.8	0.0
APRIL	6.0	1.32	27.84	1.12	31.18	74.8	100.0	43.6	0.0
MAY	12.5	3.99	60.74	1.27	77.14	75.1	98.0	0.0	0.0
JUNE	17.5	6.63	86.86	1.28	111.18	83.9	70.7	0.0	0.0
JULY	20.3	8.30	101.70	1.30	132.21	82.7	21.2	0.0	0.0
AUGUST	19.2	7.63	95.85	1.20	115.02	93.5	0.0	0.0	0.3
SEPTEMBER	15.2	5.36	74.78	1.04	77.77	85.5	7.7	0.0	0.0
OCTOBER	8.9	2.39	42.34	0.95	40.22	73.9	41.4	0.0	0.0
NOVEMBER	2.9	0.44	12.86	0.81	10.41	87.0	100.0	18.0	0.0
DECEMBER	-3.8	0.00	0.00	0.78	0.00	83.6	100.0	83.6	0.0
Total		**36.05**			**595.13**	**931.7**		**336.9**	**0.3**
						Net Water Surplus		**336.6**	**mm**

Notes:

- I - Heat Index
- E - Evaporation
- WHC - Water Holding Capacity
- A value of 100 mm was used for the water holding capacity of the soils
- Data is from the 1951 to 1980 Canadian Climate Normals for the Preston Climatological Station located at 43°24'N 80°25'W, elevation 291 m ASL.

TABLE D-3
1971 - 2000 WATER BUDGET SUMMARY - WATERLOO-WELLINGTON
MILL CREEK AGGREGATES PIT

Month	Mean Temperature (°C)	I	E (mm)	Daylight Factor	E adj. (mm)	Total Precipitation (mm)	WHC (mm)	Surplus (mm)	Deficit (mm)
JANUARY	-7.1	0.00	0.00	0.82	0.00	64.4	100.0	64.4	0.0
FEBRUARY	-6.4	0.00	0.00	0.82	0.00	51.5	100.0	51.5	0.0
MARCH	-1.2	0.00	0.00	1.03	0.00	69.9	100.0	69.9	0.0
APRIL	5.8	1.25	27.88	1.12	31.22	76.9	100.0	45.7	0.0
MAY	12.5	3.99	61.88	1.27	78.58	78.3	99.7	0.0	0.0
JUNE	17.3	6.52	86.71	1.28	110.98	81.3	70.0	0.0	0.0
JULY	19.8	7.99	99.75	1.30	129.67	91.8	32.2	0.0	0.0
AUGUST	18.7	7.33	94.00	1.20	112.80	86.3	5.7	0.0	0.0
SEPTEMBER	14.3	4.89	71.15	1.04	74.00	85.8	17.5	0.0	0.0
OCTOBER	8.2	2.11	39.94	0.95	37.94	65.6	45.1	0.0	0.0
NOVEMBER	2.3	0.31	10.67	0.81	8.64	82.7	100.0	19.2	0.0
DECEMBER	-3.8	0.00	0.00	0.78	0.00	73.6	100.0	73.6	0.0
Total		**34.38**			**583.85**	**908.1**		**324.2**	**0.0**
						Net Water Surplus		**324.2**	**mm**

Notes:
- I - Heat Index
- E - Evaporation
- WHC - Water Holding Capacity
- A value of 100 mm was used for the water holding capacity of the soils
- Data is from Canadian Climate Normals for the Waterloo-Wellington Climatological Station.

TABLE D-4

1983 - 2012 WATER BUDGET SUMMARY - ELORA CLIMATE STATIONS

MILL CREEK AGGREGATES PIT

Month	Mean Temperature (°C)	I	E (mm)	Daylight Factor	E adj. (mm)	Total Precipitation (mm)	WHC (mm)	Surplus (mm)	Deficit (mm)
JANUARY	-7.0	0.00	0.00	0.82	0.00	63.4	100.0	63.4	0.0
FEBRUARY	-6.5	0.00	0.00	0.82	0.00	46.0	100.0	46.0	0.0
MARCH	-1.3	0.00	0.00	1.03	0.00	59.1	100.0	59.1	0.0
APRIL	6.1	1.35	29.51	1.12	33.06	70.0	100.0	36.9	0.0
MAY	12.1	3.80	59.97	1.27	76.16	78.8	100.0	2.6	0.0
JUNE	17.2	6.46	86.30	1.28	110.47	85.1	74.6	0.0	0.0
JULY	19.6	7.87	98.80	1.30	128.44	83.0	29.2	0.0	0.0
AUGUST	18.5	7.21	93.06	1.20	111.68	82.5	0.0	0.0	0.0
SEPTEMBER	14.6	5.04	72.84	1.04	75.75	77.3	1.6	0.0	0.0
OCTOBER	8.2	2.11	40.09	0.95	38.08	74.8	38.3	0.0	0.0
NOVEMBER	2.4	0.33	11.24	0.81	9.10	76.3	100.0	5.5	0.0
DECEMBER	-3.8	0.00	0.00	0.78	0.00	60.5	100.0	60.5	0.0
Total		**34.17**			**582.73**	**856.8**		**274.1**	**0.0**
						Net Water Surplus		**274.1 mm**	

Notes:

- I - Heat Index
- E - Evaporation
- WHC - Water Holding Capacity
- A value of 100 mm was used for the water holding capacity of the soils
- Data is from the 1983 to 2012 Canadian Climate Normals for the Elora Research Station (1983-1985), Elora Automatic Climate Station (1986-2003) and Elora RCS (2003-2012)
- Climatological Station located at 43°39'N 80°25'W, elevation 376 m ASL.

TABLE D-5

1985 - 2014 WATER BUDGET SUMMARY - SHADE'S MILLS CLIMATE STATION

MILL CREEK AGGREGATES PIT

Month	Mean Temperature (°C)	I	E (mm)	Daylight Factor	E adj. (mm)	Total Precipitation (mm)	WHC (mm)	Surplus (mm)	Deficit (mm)
JANUARY	-5.6	0.00	0.00	0.82	0.00	70.4	100.0	70.4	0.0
FEBRUARY	-5.3	0.00	0.00	0.82	0.00	56.3	100.0	56.3	0.0
MARCH	-0.4	0.00	0.00	1.03	0.00	60.2	100.0	60.2	0.0
APRIL	6.7	1.56	29.06	1.12	32.55	76.0	100.0	43.4	0.0
MAY	13.5	4.48	63.56	1.27	80.72	81.4	100.0	0.7	0.0
JUNE	19.0	7.51	93.10	1.28	119.17	83.6	64.4	0.0	0.0
JULY	21.5	9.05	106.88	1.30	138.95	98.0	23.5	0.0	0.0
AUGUST	20.3	8.30	100.24	1.20	120.29	71.9	0.0	0.0	24.9
SEPTEMBER	16.0	5.79	76.84	1.04	79.92	89.1	9.2	0.0	0.0
OCTOBER	9.2	2.51	41.42	0.95	39.35	80.7	50.5	0.0	0.0
NOVEMBER	3.2	0.51	12.73	0.81	10.31	79.8	100.0	20.0	0.0
DECEMBER	-2.7	0.00	0.00	0.78	0.00	69.3	100.0	69.3	0.0
Total		**39.70**			**621.26**	**916.7**		**320.4**	**24.9**
						Net Water Surplus		**295.4 mm**	

Notes:
- I - Heat Index
- E - Evaporation
- WHC - Water Holding Capacity
- A value of 100 mm was used for the water holding capacity of the soils
- Data is from the 1985 to 2014 Canadian Climate Normals for the Shade's Mills Climatological Station located at 43°23'N 80°17'W, which was provided by GRCA.

TABLE D-6
1988 WATER BUDGET - GUELPH ARBORETUM
MILL CREEK AGGREGATES PIT

Month	Mean Temperature (°C)	I	E (mm)	Daylight Factor	E adj. (mm)	Total Precipitation (mm)	WHC (mm)	Surplus (mm)	Deficit (mm)
JANUARY	-6.7	0.00	0.00	0.82	0.00	39.2	100.0	39.2	0.0
FEBRUARY	-7.6	0.00	0.00	0.82	0.00	68.6	100.0	68.6	0.0
MARCH	-1.8	0.00	0.00	1.03	0.00	31.9	100.0	31.9	0.0
APRIL	5.6	1.19	25.77	1.12	28.86	61.3	100.0	32.4	0.0
MAY	13.5	4.48	65.80	1.27	83.57	58.4	74.8	0.0	0.0
JUNE	17.0	6.35	84.12	1.28	107.67	11.2	0.0	0.0	21.6
JULY	21.8	9.24	109.64	1.30	142.54	128.3	0.0	0.0	14.2
AUGUST	20.1	8.17	100.56	1.20	120.67	92.8	0.0	0.0	27.9
SEPTEMBER	14.1	4.78	68.92	1.04	71.68	106.9	35.2	0.0	0.0
OCTOBER	6.2	1.38	28.72	0.95	27.28	94.0	100.0	1.9	0.0
NOVEMBER	3.7	0.63	16.57	0.81	13.42	99.0	100.0	85.6	0.0
DECEMBER	-4.3	0.00	0.00	0.78	0.00	47.2	100.0	47.2	0.0
Total		**36.23**			**595.68**	**838.8**		**306.9**	**63.7**
						Net Water Surplus		**243.2**	**mm**

Notes:
- I - Heat Index
- E - Evaporation
- WHC - Water Holding Capacity
- A value of 100 mm was used for the water holding capacity of the soils
- Data from the Guelph Arboretum Climatological Station located at 43°31'N 80°14'W, elevation 334 m ASL.

TABLE D-7
1989 WATER BUDGET - GUELPH ARBORETUM
MILL CREEK AGGREGATES PIT

Month	Mean Temperature (°C)	I	E (mm)	Daylight Factor	E adj. (mm)	Total Precipitation (mm)	WHC (mm)	Surplus (mm)	Deficit (mm)
JANUARY	-3.3	0.00	0.00	0.82	0.00	49.0	100.0	49.0	0.0
FEBRUARY	-7.5	0.00	0.00	0.82	0.00	23.9	100.0	23.9	0.0
MARCH	-3.0	0.00	0.00	1.03	0.00	69.3	100.0	69.3	0.0
APRIL	3.9	0.69	18.51	1.12	20.73	55.5	100.0	34.8	0.0
MAY	12.1	3.80	59.88	1.27	76.05	96.5	100.0	20.4	0.0
JUNE	17.5	6.63	87.80	1.28	112.38	118.0	100.0	5.6	0.0
JULY	20.3	8.30	102.40	1.30	133.12	28.5	0.0	0.0	4.6
AUGUST	18.8	7.39	94.57	1.20	113.48	31.5	0.0	0.0	82.0
SEPTEMBER	14.6	5.04	72.76	1.04	75.67	24.4	0.0	0.0	51.3
OCTOBER	8.8	2.35	43.04	0.95	40.89	62.3	21.4	0.0	0.0
NOVEMBER	1.1	0.10	4.98	0.81	4.04	137.6	100.0	55.0	0.0
DECEMBER	-10.8	0.00	0.00	0.78	0.00	40.0	100.0	40.0	0.0
Total		**34.29**			**576.36**	**736.5**		**298.0**	**137.9**
						Net Water Surplus		**160.1**	**mm**

Notes:
- I - Heat Index
- E - Evaporation
- WHC - Water Holding Capacity
- A value of 100 mm was used for the water holding capacity of the soils
- Data from the Guelph Arboretum Climatological Station located at 43°31'N 80°14'W, elevation 334 m ASL.

TABLE D-8
1990 WATER BUDGET - GUELPH ARBORETUM
MILL CREEK AGGREGATES PIT

Month	Mean Temperature (°C)	I	E (mm)	Daylight Factor	E adj. (mm)	Total Precipitation (mm)	WHC (mm)	Surplus (mm)	Deficit (mm)
JANUARY	-2.3	0.00	0.00	0.82	0.00	58.6	100.0	58.6	0.0
FEBRUARY	-4.6	0.00	0.00	0.82	0.00	100.5	100.0	100.5	0.0
MARCH	0.3	0.01	1.24	1.03	1.27	45.6	100.0	44.3	0.0
APRIL	7.9	2.00	38.02	1.12	42.58	52.5	100.0	9.9	0.0
MAY	10.8	3.20	52.74	1.27	66.98	97.7	100.0	30.7	0.0
JUNE	17.5	6.63	87.43	1.28	111.90	71.4	59.5	0.0	0.0
JULY	19.5	7.81	97.91	1.30	127.29	119.7	51.9	0.0	0.0
AUGUST	19.0	7.51	95.29	1.20	114.35	78.7	16.3	0.0	0.0
SEPTEMBER	14.4	4.94	71.28	1.04	74.13	89.4	31.5	0.0	0.0
OCTOBER	8.5	2.23	41.04	0.95	38.99	125.0	100.0	17.5	0.0
NOVEMBER	3.8	0.66	17.67	0.81	14.31	80.4	100.0	66.1	0.0
DECEMBER	-1.8	0.00	0.00	0.78	0.00	135.9	100.0	135.9	0.0
Total		**34.98**			**591.80**	**1055.4**		**463.6**	**0.0**
						Net Water Surplus		**463.6**	**mm**

Notes:
- I - Heat Index
- E - Evaporation
- WHC - Water Holding Capacity
- A value of 100 mm was used for the water holding capacity of the soils
- Data from the Guelph Arboretum Climatological Station located at 43°31'N 80°14'W, elevation 334 m ASL.

TABLE D-9
1991 WATER BUDGET - GUELPH ARBORETUM
MILL CREEK AGGREGATES PIT

Month	Mean Temperature (°C)	I	E (mm)	Daylight Factor	E adj. (mm)	Total Precipitation (mm)	WHC (mm)	Surplus (mm)	Deficit (mm)
JANUARY	-6.8	0.00	0.00	0.82	0.00	48.3	100.0	48.3	0.0
FEBRUARY	-3.5	0.00	0.00	0.82	0.00	43.5	100.0	43.5	0.0
MARCH	0.5	0.03	1.68	1.03	1.72	142.1	100.0	140.4	0.0
APRIL	7.9	2.00	35.45	1.12	39.71	110.5	100.0	70.8	0.0
MAY	16.0	5.79	77.31	1.27	98.19	79.4	81.2	0.0	0.0
JUNE	18.8	7.39	92.39	1.28	118.26	27.9	0.0	0.0	9.1
JULY	20.2	8.23	100.02	1.30	130.03	132.5	2.5	0.0	0.0
AUGUST	19.0	7.51	93.48	1.20	112.17	49.6	0.0	0.0	60.1
SEPTEMBER	14.2	4.84	67.76	1.04	70.47	48.1	0.0	0.0	22.4
OCTOBER	10.2	2.93	47.02	0.95	44.67	74.0	29.3	0.0	0.0
NOVEMBER	1.5	0.16	5.66	0.81	4.58	76.1	100.0	0.8	0.0
DECEMBER	-3.2	0.00	0.00	0.78	0.00	59.8	100.0	59.8	0.0
Total		**38.88**			**619.80**	**891.8**		**363.6**	**91.6**
						Net Water Surplus		**272.0**	**mm**

Notes:
- I - Heat Index
- E - Evaporation
- WHC - Water Holding Capacity
- A value of 100 mm was used for the water holding capacity of the soils
- Data from the Guelph Arboretum Climatological Station located at 43°31'N 80°14'W, elevation 334 m ASL.

TABLE D-10
1992 WATER BUDGET - GUELPH ARBORETUM
MILL CREEK AGGREGATES PIT

Month	Mean Temperature (°C)	I	E (mm)	Daylight Factor	E adj. (mm)	Total Precipitation (mm)	WHC (mm)	Surplus (mm)	Deficit (mm)
JANUARY	-4.7	0.00	0.00	0.82	0.00	36.7	100.0	36.7	0.0
FEBRUARY	-4.6	0.00	0.00	0.82	0.00	49.2	100.0	49.2	0.0
MARCH	-1.9	0.00	0.00	1.03	0.00	31.2	100.0	31.2	0.0
APRIL	4.7	0.91	25.44	1.12	28.49	136.4	100.0	107.9	0.0
MAY	12.0	3.75	62.85	1.27	79.82	75.4	95.6	0.0	0.0
JUNE	15.2	5.36	78.95	1.28	101.06	48.5	43.0	0.0	0.0
JULY	17.1	6.40	88.46	1.30	115.00	162.7	90.7	0.0	0.0
AUGUST	17.0	6.35	87.96	1.20	105.55	140.9	100.0	26.1	0.0
SEPTEMBER	14.2	4.84	73.94	1.04	76.89	125.9	100.0	49.0	0.0
OCTOBER	6.8	1.59	36.33	0.95	34.51	83.6	100.0	49.1	0.0
NOVEMBER	2.0	0.25	11.15	0.81	9.03	155.5	100.0	146.5	0.0
DECEMBER	-2.4	0.00	0.00	0.78	0.00	74.7	100.0	74.7	0.0
Total		**29.45**			**550.35**	**1120.7**		**570.3**	**0.0**
						Net Water Surplus		**570.3**	**mm**

Notes:
- I - Heat Index
- E - Evaporation
- WHC - Water Holding Capacity
- A value of 100 mm was used for the water holding capacity of the soils
- Data from the Guelph Arboretum Climatological Station located at 43°31'N 80°14'W, elevation 334 m ASL.

TABLE D-11
1993 WATER BUDGET - PRESTON
MILL CREEK AGGREGATES PIT

Month	Mean Temperature (°C)	I	E (mm)	Daylight Factor	E adj. (mm)	Total Precipitation (mm)	WHC (mm)	Surplus (mm)	Deficit (mm)
JANUARY	-4.2	0.00	0.00	0.82	0.00	100.6	100.0	100.6	0.0
FEBRUARY	-8.6	0.00	0.00	0.82	0.00	27.4	100.0	27.4	0.0
MARCH	-2.6	0.00	0.00	1.03	0.00	41.7	100.0	41.7	0.0
APRIL	6.6	1.52	30.90	1.12	34.61	91.4	100.0	56.8	0.0
MAY	12.5	3.99	60.84	1.27	77.27	51.0	73.7	0.0	0.0
JUNE	17.3	6.52	85.88	1.28	109.93	102.6	66.4	0.0	0.0
JULY	21.0	8.73	105.48	1.30	137.12	142.8	72.1	0.0	0.0
AUGUST	20.7	8.54	103.88	1.20	124.66	34.0	0.0	0.0	18.6
SEPTEMBER	13.2	4.33	64.46	1.04	67.04	87.2	20.2	0.0	0.0
OCTOBER	7.7	1.92	36.39	0.95	34.57	81.4	67.0	0.0	0.0
NOVEMBER	2.5	0.35	11.03	0.81	8.94	67.6	100.0	25.7	0.0
DECEMBER	-3.3	0.00	0.00	0.78	0.00	37.8	100.0	37.8	0.0
Total		**35.90**			**594.13**	**865.5**		**289.9**	**18.6**
						Net Water Surplus		**271.3**	**mm**

Notes:
- I - Heat Index
- E - Evaporation
- WHC - Water Holding Capacity
- A value of 100 mm was used for the water holding capacity of the soils
- Data from the Preston Climatological Station located at 43°24'N 80°25'W, elevation 291 m ASL.

TABLE D-12
1994 WATER BUDGET - PRESTON
MILL CREEK AGGREGATES PIT

Month	Mean Temperature (°C)	I	E (mm)	Daylight Factor	E adj. (mm)	Total Precipitation (mm)	WHC (mm)	Surplus (mm)	Deficit (mm)
JANUARY	-12.4	0.00	0.00	0.82	0.00	81.4	100.0	81.4	0.0
FEBRUARY	-8.9	0.00	0.00	0.82	0.00	24.8	100.0	24.8	0.0
MARCH	-1.4	0.00	0.00	1.03	0.00	50.8	100.0	50.8	0.0
APRIL	7.3	1.77	32.87	1.12	36.82	110.6	100.0	73.8	0.0
MAY	11.4	3.47	53.57	1.27	68.04	118.8	100.0	50.8	0.0
JUNE	19.1	7.57	94.30	1.28	120.70	65.4	44.7	0.0	0.0
JULY	20.7	8.54	102.99	1.30	133.89	54.8	0.0	0.0	34.4
AUGUST	18.4	7.15	90.52	1.20	108.62	64.6	0.0	0.0	44.0
SEPTEMBER	15.9	5.74	77.14	1.04	80.22	26.2	0.0	0.0	54.0
OCTOBER	10.2	2.93	47.43	0.95	45.05	42.8	0.0	0.0	2.3
NOVEMBER	5.3	1.09	23.15	0.81	18.75	66.5	100.0	52.2	0.0
DECEMBER	-0.6	0.00	0.00	0.78	0.00	54.8	100.0	54.8	0.0
Total		**38.27**			**612.09**	**761.5**		**388.6**	**134.7**
					Net Water Surplus		**253.9**	**mm**	

Notes:
- I - Heat Index
- E - Evaporation
- WHC - Water Holding Capacity
- A value of 100 mm was used for the water holding capacity of the soils
- Data from the Preston Climatological Station located at 43°24'N 80°25'W, elevation 291 m ASL.

TABLE D-13
1995 WATER BUDGET - PRESTON
MILL CREEK AGGREGATES PIT

Month	Mean Temperature (°C)	I	E (mm)	Daylight Factor	E adj. (mm)	Total Precipitation (mm)	WHC (mm)	Surplus (mm)	Deficit (mm)
JANUARY	-3.3	0.00	0.00	0.82	0.00	131.6	100.0	131.6	0.0
FEBRUARY	-7.8	0.00	0.00	0.82	0.00	28.2	100.0	28.2	0.0
MARCH	1.4	0.15	5.18	1.03	5.31	49.4	100.0	44.1	0.0
APRIL	4.0	0.71	16.59	1.12	18.58	94.0	100.0	75.4	0.0
MAY	12.9	4.18	60.77	1.27	77.18	91.0	100.0	13.8	0.0
JUNE	19.9	8.05	98.27	1.28	125.78	71.0	45.2	0.0	0.0
JULY	21.3	8.92	105.96	1.30	137.75	52.8	0.0	0.0	39.7
AUGUST	21.7	9.18	108.17	1.20	129.80	92.4	0.0	0.0	37.4
SEPTEMBER	14.3	4.89	68.12	1.04	70.85	34.2	0.0	0.0	36.6
OCTOBER	10.5	3.07	48.37	0.95	45.95	118.8	72.9	0.0	0.0
NOVEMBER	0.2	0.01	0.60	0.81	0.49	137.8	100.0	110.2	0.0
DECEMBER	-5.5	0.00	0.00	0.78	0.00	35.7	100.0	35.7	0.0
Total		**39.15**			**611.68**	**936.9**		**439.0**	**113.8**
					Net Water Surplus		**325.2**	**mm**	

Notes:
- I - Heat Index
- E - Evaporation
- WHC - Water Holding Capacity
- A value of 100 mm was used for the water holding capacity of the soils
- Data from the Preston Climatological Station located at 43°24'N 80°25'W, elevation 291 m ASL.

TABLE D-14
1996 WATER BUDGET - WATERLOO-WELLINGTON
MILL CREEK AGGREGATES PIT

Month	Mean Temperature (°C)	I	E (mm)	Daylight Factor	E adj. (mm)	Total Precipitation (mm)	WHC (mm)	Surplus (mm)	Deficit (mm)
JANUARY	-7.6	0.00	0.00	0.82	0.00	92.0	100.0	92.0	0.0
FEBRUARY	-6.8	0.00	0.00	0.82	0.00	55.0	100.0	55.0	0.0
MARCH	-3.6	0.00	0.00	1.03	0.00	37.8	100.0	37.8	0.0
APRIL	3.9	0.69	18.70	1.12	20.94	120.6	100.0	99.7	0.0
MAY	11.2	3.38	55.52	1.27	70.51	112.8	100.0	42.3	0.0
JUNE	18.3	7.09	92.14	1.28	117.94	128.3	100.0	10.4	0.0
JULY	18.9	7.45	95.26	1.30	123.83	91.8	68.0	0.0	0.0
AUGUST	19.7	7.93	99.42	1.20	119.30	43.1	0.0	0.0	8.2
SEPTEMBER	15.0	5.25	75.05	1.04	78.05	154.6	76.5	0.0	0.0
OCTOBER	8.3	2.15	40.76	0.95	38.72	59.2	97.0	0.0	0.0
NOVEMBER	-0.3	0.00	0.00	0.81	0.00	40.2	100.0	37.2	0.0
DECEMBER	-1.2	0.00	0.00	0.78	0.00	104.7	100.0	104.7	0.0
Total		**33.94**			**569.30**	**1040.1**		**479.0**	**8.2**
						Net Water Surplus		**470.8**	**mm**

Notes:
- I - Heat Index
- E - Evaporation
- WHC - Water Holding Capacity
- A value of 100 mm was used for the water holding capacity of the soils
- Data from the Waterloo-Wellington Climatological Station.

TABLE D-15
1997 WATER BUDGET - WATERLOO-WELLINGTON
MILL CREEK AGGREGATES PIT

Month	Mean Temperature (°C)	I	E (mm)	Daylight Factor	E adj. (mm)	Total Precipitation (mm)	WHC (mm)	Surplus (mm)	Deficit (mm)
JANUARY	-7.1	0.00	0.00	0.82	0.00	89.2	100.0	89.2	0.0
FEBRUARY	-4.0	0.00	0.00	0.82	0.00	87.5	100.0	87.5	0.0
MARCH	-2.0	0.00	0.00	1.03	0.00	111.7	100.0	111.7	0.0
APRIL	4.9	0.97	24.88	1.12	27.86	25.5	97.6	0.0	0.0
MAY	8.7	2.31	44.22	1.27	56.16	88.6	100.0	30.1	0.0
JUNE	18.7	7.33	95.20	1.28	121.85	71.7	49.8	0.0	0.0
JULY	19.2	7.63	97.75	1.30	127.07	47.8	0.0	0.0	29.4
AUGUST	17.1	6.40	87.04	1.20	104.44	84.6	0.0	0.0	19.8
SEPTEMBER	14.3	4.89	72.76	1.04	75.67	39.0	0.0	0.0	36.7
OCTOBER	8.7	2.31	44.22	0.95	42.01	53.5	11.5	0.0	0.0
NOVEMBER	1.1	0.10	5.57	0.81	4.51	63.4	70.4	0.0	0.0
DECEMBER	-2.3	0.00	0.00	0.78	0.00	42.8	100.0	13.2	0.0
Total		**31.93**			**559.59**	**805.3**		**331.7**	**85.9**
						Net Water Surplus		**245.7**	**mm**

Notes:
- I - Heat Index
- E - Evaporation
- WHC - Water Holding Capacity
- A value of 100 mm was used for the water holding capacity of the soils
- Data from the Waterloo-Wellington Climatological Station.

TABLE D-16

1998 WATER BUDGET - WATERLOO-WELLINGTON

MILL CREEK AGGREGATES PIT

Month	Mean Temperature (°C)	I	E (mm)	Daylight Factor	E adj. (mm)	Total Precipitation (mm)	WHC (mm)	Surplus (mm)	Deficit (mm)
JANUARY	-3.1	0.00	0.00	0.82	0.00	105.8	100.0	105.8	0.0
FEBRUARY	-1.6	0.00	0.00	0.82	0.00	32.4	100.0	32.4	0.0
MARCH	0.9	0.08	2.97	1.03	3.04	95.5	100.0	92.5	0.0
APRIL	7.6	1.88	32.97	1.12	36.92	53.8	100.0	16.9	0.0
MAY	16.1	5.85	76.92	1.27	97.69	39.8	42.1	0.0	0.0
JUNE	17.9	6.86	86.70	1.28	110.97	75.0	6.1	0.0	0.0
JULY	19.9	8.05	97.71	1.30	127.02	30.4	0.0	0.0	90.5
AUGUST	20.3	8.30	99.93	1.20	119.91	40.2	0.0	0.0	79.7
SEPTEMBER	16.8	6.23	80.71	1.04	83.94	42.5	0.0	0.0	41.4
OCTOBER	9.7	2.72	43.42	0.95	41.25	19.0	0.0	0.0	22.2
NOVEMBER	3.3	0.53	12.86	0.81	10.41	49.4	39.0	0.0	0.0
DECEMBER	-0.5	0.00	0.00	0.78	0.00	72.8	100.0	11.8	0.0
Total		**40.50**			**631.16**	**656.6**		**259.3**	**233.9**
						Net Water Surplus		**25.4**	**mm**

Notes:
- I - Heat Index
- E - Evaporation
- WHC - Water Holding Capacity
- A value of 100 mm was used for the water holding capacity of the soils
- Data from the Waterloo-Wellington Climatological Station.

TABLE D-17

1999 WATER BUDGET - WATERLOO-WELLINGTON

MILL CREEK AGGREGATES PIT

Month	Mean Temperature (°C)	I	E (mm)	Daylight Factor	E adj. (mm)	Total Precipitation (mm)	WHC (mm)	Surplus (mm)	Deficit (mm)
JANUARY	-7.5	0.00	0.00	0.82	0.00	117.6	100.0	117.6	0.0
FEBRUARY	-2.7	0.00	0.00	0.82	0.00	40.6	100.0	40.6	0.0
MARCH	-1.1	0.00	0.00	1.03	0.00	27.4	100.0	27.4	0.0
APRIL	6.9	1.63	30.42	1.12	34.06	27.6	93.5	0.0	0.0
MAY	14.3	4.89	68.17	1.27	86.58	42.8	49.8	0.0	0.0
JUNE	18.9	7.45	92.85	1.28	118.84	86.0	16.9	0.0	0.0
JULY	22.4	9.63	112.07	1.30	145.69	71.0	0.0	0.0	57.8
AUGUST	18.0	6.92	87.96	1.20	105.55	63.0	0.0	0.0	42.6
SEPTEMBER	16.0	5.79	77.20	1.04	80.29	115.6	35.3	0.0	0.0
OCTOBER	7.7	1.92	34.34	0.95	32.63	67.0	69.7	0.0	0.0
NOVEMBER	4.5	0.85	18.94	0.81	15.35	70.6	100.0	24.9	0.0
DECEMBER	-2.1	0.00	0.00	0.78	0.00	61.8	100.0	61.8	0.0
Total		**39.07**			**619.00**	**791.0**		**272.3**	**100.3**
						Net Water Surplus		**172.0**	**mm**

Notes:
- I - Heat Index
- E - Evaporation
- WHC - Water Holding Capacity
- A value of 100 mm was used for the water holding capacity of the soils
- Data from the Waterloo-Wellington Climatological Station.

TABLE D-18

2000 WATER BUDGET - WATERLOO-WELLINGTON

MILL CREEK AGGREGATES PIT

Month	Mean Temperature (°C)	I	E (mm)	Daylight Factor	E adj. (mm)	Total Precipitation (mm)	WHC (mm)	Surplus (mm)	Deficit (mm)
JANUARY	-6.9	0.00	0.00	0.82	0.00	39.9	100.0	39.9	0.0
FEBRUARY	-4.3	0.00	0.00	0.82	0.00	48.5	100.0	48.5	0.0
MARCH	3.5	0.58	15.72	1.03	16.12	45.0	100.0	28.9	0.0
APRIL	6.0	1.32	27.87	1.12	31.22	75.2	100.0	44.0	0.0
MAY	13.8	4.63	67.51	1.27	85.74	145.3	100.0	59.6	0.0
JUNE	17.8	6.80	88.47	1.28	113.24	150.0	100.0	36.8	0.0
JULY	18.9	7.45	94.28	1.30	122.57	98.0	75.4	0.0	0.0
AUGUST	18.5	7.21	92.17	1.20	110.60	53.0	17.8	0.0	0.0
SEPTEMBER	14.3	4.89	70.11	1.04	72.92	95.5	40.4	0.0	0.0
OCTOBER	9.9	2.81	47.44	0.95	45.07	21.1	16.4	0.0	0.0
NOVEMBER	2.3	0.31	10.07	0.81	8.15	70.3	78.6	0.0	0.0
DECEMBER	-8.7	0.00	0.00	0.78	0.00	91.1	100.0	69.7	0.0
Total		**36.00**			**605.62**	**932.9**		**327.3**	**0.0**
						Net Water Surplus		**327.3**	**mm**

Notes:
- I - Heat Index
- E - Evaporation
- WHC - Water Holding Capacity
- A value of 100 mm was used for the water holding capacity of the soils
- Data from the Waterloo-Wellington Climatological Station.

TABLE D-19

2001 WATER BUDGET - WATERLOO-WELLINGTON

MILL CREEK AGGREGATES PIT

Month	Mean Temperature (°C)	I	E (mm)	Daylight Factor	E adj. (mm)	Total Precipitation (mm)	WHC (mm)	Surplus (mm)	Deficit (mm)
JANUARY	-5.1	0.00	0.00	0.82	0.00	43.8	100.0	43.8	0.0
FEBRUARY	-4.2	0.00	0.00	0.82	0.00	110.9	100.0	110.9	0.0
MARCH	-2.0	0.00	0.00	1.03	0.00	42.5	100.0	42.5	0.0
APRIL	7.2	1.73	31.19	1.12	34.94	45.5	100.0	10.6	0.0
MAY	13.7	4.58	64.30	1.27	81.66	88.2	100.0	6.5	0.0
JUNE	18.5	7.21	90.13	1.28	115.36	53.7	38.3	0.0	0.0
JULY	20.3	8.30	100.05	1.30	130.06	21.5	0.0	0.0	70.2
AUGUST	22.4	9.63	111.75	1.20	134.10	57.8	0.0	0.0	76.3
SEPTEMBER	14.7	5.10	69.60	1.04	72.38	87.9	15.5	0.0	0.0
OCTOBER	9.1	2.47	40.59	0.95	38.56	131.3	100.0	8.3	0.0
NOVEMBER	5.6	1.19	23.52	0.81	19.05	91.9	100.0	72.9	0.0
DECEMBER	-0.2	0.00	0.00	0.78	0.00	62.0	100.0	62.0	0.0
Total		**40.20**			**626.11**	**837.0**		**357.4**	**146.5**
						Net Water Surplus		**210.9**	**mm**

Notes:
- I - Heat Index
- E - Evaporation
- WHC - Water Holding Capacity
- A value of 100 mm was used for the water holding capacity of the soils
- Data from the Waterloo-Wellington Climatological Station.

TABLE D-20
2002 WATER BUDGET - WATERLOO-WELLINGTON
MILL CREEK AGGREGATES PIT

Month	Mean Temperature (°C)	I	E (mm)	Daylight Factor	E adj. (mm)	Total Precipitation (mm)	WHC (mm)	Surplus (mm)	Deficit (mm)
JANUARY	-2.1	0.00	0.00	0.82	0.00	64.3	100.0	64.3	0.0
FEBRUARY	-3.2	0.00	0.00	0.82	0.00	66.5	100.0	66.5	0.0
MARCH	-0.8	0.00	0.00	1.03	0.00	64.4	100.0	64.4	0.0
APRIL	6.4	1.45	29.05	1.12	32.54	110.1	100.0	77.6	0.0
MAY	9.6	2.68	45.04	1.27	57.20	105.9	100.0	48.7	0.0
JUNE	18.1	6.98	89.40	1.28	114.43	95.8	81.4	0.0	0.0
JULY	22.0	9.37	110.40	1.30	143.51	69.0	6.9	0.0	0.0
AUGUST	20.0	8.11	99.59	1.20	119.50	10.7	0.0	0.0	101.9
SEPTEMBER	17.9	6.86	88.33	1.04	91.86	80.7	0.0	0.0	11.2
OCTOBER	6.9	1.63	31.51	0.95	29.94	55.7	25.8	0.0	0.0
NOVEMBER	1.8	0.21	7.37	0.81	5.97	57.0	76.8	0.0	0.0
DECEMBER	-3.8	0.00	0.00	0.78	0.00	16.0	92.8	0.0	0.0
Total		**37.29**			**594.96**	**796.1**		**321.5**	**113.1**
						Net Water Surplus		**208.4**	**mm**

Notes:
- I - Heat Index
- E - Evaporation
- WHC - Water Holding Capacity
- A value of 100 mm was used for the water holding capacity of the soils
- Data from the Waterloo-Wellington Climatological Station.

TABLE D-21
2003 WATER BUDGET - WATERLOO-WELLINGTON
MILL CREEK AGGREGATES PIT

Month	Mean Temperature (°C)	I	E (mm)	Daylight Factor	E adj. (mm)	Total Precipitation (mm)	WHC (mm)	Surplus (mm)	Deficit (mm)
JANUARY	-10.0	0.00	0.00	0.82	0.00	31.1	100.0	31.1	0.0
FEBRUARY	-9.0	0.00	0.00	0.82	0.00	52.0	100.0	52.0	0.0
MARCH	-2.6	0.00	0.00	1.03	0.00	57.0	100.0	57.0	0.0
APRIL	4.8	0.94	23.44	1.12	26.25	62.0	100.0	35.7	0.0
MAY	11.0	3.29	54.83	1.27	69.63	97.6	100.0	28.0	0.0
JUNE	16.7	6.18	84.11	1.28	107.66	39.1	31.4	0.0	0.0
JULY	19.2	7.63	97.03	1.30	126.14	65.3	0.0	0.0	29.4
AUGUST	19.8	7.99	100.14	1.20	120.17	123.5	3.3	0.0	0.0
SEPTEMBER	14.7	5.10	73.80	1.04	76.75	105.5	32.1	0.0	0.0
OCTOBER	7.3	1.77	36.02	0.95	34.22	70.6	68.5	0.0	0.0
NOVEMBER	3.5	0.58	16.96	0.81	13.74	146.9	100.0	101.6	0.0
DECEMBER	-1.7	0.00	0.00	0.78	0.00	79.4	100.0	79.4	0.0
Total		**33.47**			**574.56**	**930.0**		**384.8**	**29.4**
						Net Water Surplus		**355.4**	**mm**

Notes:
- I - Heat Index
- E - Evaporation
- WHC - Water Holding Capacity
- A value of 100 mm was used for the water holding capacity of the soils
- Data from the Waterloo-Wellington Climatological Station except precipitation for January (Georgetown Station).

TABLE D-22
2004 WATER BUDGET - WATERLOO-WELLINGTON
MILL CREEK AGGREGATES PIT

Month	Mean Temperature (°C)	I	E (mm)	Daylight Factor	E adj. (mm)	Total Precipitation (mm)	WHC (mm)	Surplus (mm)	Deficit (mm)
JANUARY	-10.4	0.00	0.00	0.82	0.00	37.5	100.0	37.5	0.0
FEBRUARY	-6.1	0.00	0.00	0.82	0.00	22.0	100.0	22.0	0.0
MARCH	0.6	0.04	2.81	1.03	2.88	84.5	100.0	81.6	0.0
APRIL	6.2	1.38	30.57	1.12	34.24	63.5	100.0	29.3	0.0
MAY	11.9	3.70	59.54	1.27	75.62	116.5	100.0	40.9	0.0
JUNE	15.5	5.52	78.02	1.28	99.86	60.5	60.6	0.0	0.0
JULY	18.9	7.45	95.55	1.30	124.22	86.0	22.4	0.0	0.0
AUGUST	17.2	6.46	86.77	1.20	104.13	45.0	0.0	0.0	36.7
SEPTEMBER	16.1	5.85	81.10	1.04	84.35	27.0	0.0	0.0	57.3
OCTOBER	8.7	2.31	43.22	0.95	41.06	70.5	29.4	0.0	0.0
NOVEMBER	3.6	0.61	17.53	0.81	14.20	66.0	81.2	0.0	0.0
DECEMBER	-4.6	0.00	0.00	0.78	0.00	77.5	100.0	58.7	0.0
Total		**33.32**			**580.56**	**756.5**		**270.0**	**94.1**
						Net Water Surplus		**175.9**	**mm**

Notes:
- I - Heat Index
- E - Evaporation
- WHC - Water Holding Capacity
- A value of 100 mm was used for the water holding capacity of the soils
- Data from the Waterloo-Wellington Climatological Station.

TABLE D-23
2005 WATER BUDGET - WATERLOO-WELLINGTON
MILL CREEK AGGREGATES PIT

Month	Mean Temperature (°C)	I	E (mm)	Daylight Factor	E adj. (mm)	Total Precipitation (mm)	WHC (mm)	Surplus (mm)	Deficit (mm)
JANUARY	-8.3	0.00	0.00	0.82	0.00	59.5	100.0	59.5	0.0
FEBRUARY	-6.4	0.00	0.00	0.82	0.00	59.5	100.0	59.5	0.0
MARCH	-4.0	0.00	0.00	1.03	0.00	17.0	100.0	17.0	0.0
APRIL	6.1	1.35	26.66	1.12	29.86	52.0	100.0	22.1	0.0
MAY	10.1	2.89	46.52	1.27	59.09	27.0	67.9	0.0	0.0
JUNE	20.6	8.48	102.22	1.28	130.84	36.0	0.0	0.0	26.9
JULY	21.2	8.86	105.51	1.30	137.17	190.5	53.3	0.0	0.0
AUGUST	19.8	7.99	97.85	1.20	117.41	109.0	44.9	0.0	0.0
SEPTEMBER	16.3	5.96	78.93	1.04	82.09	80.5	43.3	0.0	0.0
OCTOBER	9.7	2.72	44.49	0.95	42.27	36.0	37.1	0.0	0.0
NOVEMBER	3.6	0.61	14.89	0.81	12.06	103.0	100.0	28.0	0.0
DECEMBER	-5.3	0.00	0.00	0.78	0.00	33.0	100.0	33.0	0.0
Total		**38.86**			**610.79**	**803.0**		**219.1**	**26.9**
						Net Water Surplus		**192.2**	**mm**

Notes:
- I - Heat Index
- E - Evaporation
- WHC - Water Holding Capacity
- A value of 100 mm was used for the water holding capacity of the soils
- Data from the Waterloo-Wellington Climatological Station.

TABLE D-24
2006 WATER BUDGET - WATERLOO-WELLINGTON
MILL CREEK AGGREGATES PIT

Month	Mean Temperature (°C)	I	E (mm)	Daylight Factor	E adj. (mm)	Total Precipitation (mm)	WHC (mm)	Surplus (mm)	Deficit (mm)
JANUARY	-1.1	0.00	0.00	0.82	0.00	93.8	100.0	93.8	0.0
FEBRUARY	-5.3	0.00	0.00	0.82	0.00	85.0	100.0	85.0	0.0
MARCH	-0.1	0.00	0.00	1.03	0.00	62.8	100.0	62.8	0.0
APRIL	7.2	1.73	33.82	1.12	37.87	69.5	100.0	31.6	0.0
MAY	12.8	4.13	62.31	1.27	79.14	93.5	100.0	14.4	0.0
JUNE	17.6	6.69	87.40	1.28	111.87	18.0	6.1	0.0	0.0
JULY	21.6	9.11	108.64	1.30	141.24	182.5	47.4	0.0	0.0
AUGUST	18.6	7.27	92.68	1.20	111.22	38.0	0.0	0.0	25.8
SEPTEMBER	13.7	4.58	66.98	1.04	69.66	141.0	71.3	0.0	0.0
OCTOBER	7.2	1.73	33.82	0.95	32.12	45.0	84.2	0.0	0.0
NOVEMBER	4.1	0.74	18.59	0.81	15.06	105.4	100.0	74.6	0.0
DECEMBER	0.4	0.02	1.57	0.78	1.22	85.6	100.0	84.4	0.0
Total		**36.02**			**599.40**	**1020.1**		**446.5**	**25.8**
						Net Water Surplus		**420.7**	**mm**

Notes:
- I - Heat Index
- E - Evaporation
- WHC - Water Holding Capacity
- A value of 100 mm was used for the water holding capacity of the soils
- Data from the Waterloo-Wellington Climatological Station.

TABLE D-25
2007 WATER BUDGET - WATERLOO-WELLINGTON
MILL CREEK AGGREGATES PIT

Month	Mean Temperature (°C)	I	E (mm)	Daylight Factor	E adj. (mm)	Total Precipitation (mm)	WHC (mm)	Surplus (mm)	Deficit (mm)
JANUARY	-4.5	0.00	0.00	0.82	0.00	73.3	100.0	73.3	0.0
FEBRUARY	-10.0	0.00	0.00	0.82	0.00	65.0	100.0	65.0	0.0
MARCH	-0.8	0.00	0.00	1.03	0.00	53.4	100.0	53.4	0.0
APRIL	4.6	0.87	20.00	1.12	22.40	103.8	100.0	81.4	0.0
MAY	13.0	4.22	62.24	1.27	79.04	103.0	100.0	24.0	0.0
JUNE	18.5	7.21	91.45	1.28	117.06	25.5	8.4	0.0	0.0
JULY	18.8	7.39	93.06	1.30	120.98	66.5	0.0	0.0	46.0
AUGUST	19.4	7.77	96.50	1.20	115.80	56.5	0.0	0.0	59.3
SEPTEMBER	16.4	6.00	80.15	1.04	83.36	45.6	0.0	0.0	37.8
OCTOBER	12.4	3.93	59.12	0.95	56.17	61.6	5.4	0.0	0.0
NOVEMBER	0.9	0.08	3.58	0.81	2.90	83.3	85.8	0.0	0.0
DECEMBER	-4.1	0.00	0.00	0.78	0.00	89.0	100.0	74.8	0.0
Total		**37.46**			**597.69**	**826.5**		**371.9**	**143.1**
						Net Water Surplus		**228.8**	**mm**

Notes:
- I - Heat Index
- E - Evaporation
- WHC - Water Holding Capacity
- A value of 100 mm was used for the water holding capacity of the soils
- Temperature data from the Waterloo-Wellington A Climatological Station.
- Precipitation data from the Elora Climatological Station.

TABLE D-26
2008 WATER BUDGET - ELORA
MILL CREEK AGGREGATES PIT

Month	Mean Temperature (°C)	I	E (mm)	Daylight Factor	E adj. (mm)	Total Precipitation (mm)	WHC (mm)	Surplus (mm)	Deficit (mm)
JANUARY	-4.7	0.00	0.00	0.82	0.00	98.5	100.0	98.5	0.0
FEBRUARY	-8.6	0.00	0.00	0.82	0.00	57.4	100.0	57.4	0.0
MARCH	-5.2	0.00	0.00	1.03	0.00	85.5	100.0	85.5	0.0
APRIL	7.5	1.84	37.85	1.12	42.39	64.6	100.0	22.2	0.0
MAY	9.8	2.78	49.81	1.27	63.26	86.1	100.0	22.8	0.0
JUNE	17.6	6.66	89.22	1.28	114.20	81.6	67.4	0.0	0.0
JULY	19.1	7.54	96.89	1.30	125.96	131.3	72.7	0.0	0.0
AUGUST	17.2	6.47	87.48	1.20	104.98	120.7	88.5	0.0	0.0
SEPTEMBER	14.8	5.16	75.27	1.04	78.28	119.3	100.0	29.5	0.0
OCTOBER	7.2	1.72	36.17	0.95	34.36	68.4	100.0	34.0	0.0
NOVEMBER	0.7	0.05	3.48	0.81	2.82	103.1	100.0	100.3	0.0
DECEMBER	-5.5	0.00	0.00	0.78	0.00	100.4	100.0	100.4	0.0
Total		**32.23**			**566.25**	**1116.9**		**550.7**	**0.0**
						Net Water Surplus		**550.7**	**mm**

Notes:
- I - Heat Index
- E - Evaporation
- WHC - Water Holding Capacity
- A value of 100 mm was used for the water holding capacity of the soils
- Data from the Elora Climatological Station.

TABLE D-27
2009 WATER BUDGET - ELORA
MILL CREEK AGGREGATES PIT

Month	Mean Temperature (°C)	I	E (mm)	Daylight Factor	E adj. (mm)	Total Precipitation (mm)	WHC (mm)	Surplus (mm)	Deficit (mm)
JANUARY	-10.8	0.00	0.00	0.82	0.00	30.5	100.0	30.5	0.0
FEBRUARY	-5.2	0.00	0.00	0.82	0.00	68.0	100.0	68.0	0.0
MARCH	-0.2	0.00	0.00	1.03	0.00	59.0	100.0	59.0	0.0
APRIL	6.7	1.56	33.30	1.12	37.30	113.5	100.0	76.2	0.0
MAY	11.8	3.66	59.25	1.27	75.24	79.0	100.0	3.8	0.0
JUNE	16.3	5.96	82.32	1.28	105.37	84.0	78.6	0.0	0.0
JULY	17.2	6.46	86.95	1.30	113.03	114.5	78.6	1.5	0.0
AUGUST	18.7	7.33	94.67	1.20	113.60	108.0	73.0	0.0	0.0
SEPTEMBER	15.1	5.31	76.15	1.04	79.20	32.0	0.0	0.0	0.0
OCTOBER	7.4	1.81	36.84	0.95	35.00	72.5	37.5	0.0	0.0
NOVEMBER	4.8	0.94	23.71	0.81	19.21	33.0	51.3	0.0	0.0
DECEMBER	-3.6	0.00	0.00	0.78	0.00	58.5	100.0	9.8	0.0
Total		**33.01**			**577.95**	**852.5**		**248.7**	**0.0**
						Net Water Surplus		**248.7**	**mm**

Notes:
- I - Heat Index
- E - Evaporation
- WHC - Water Holding Capacity
- A value of 100 mm was used for the water holding capacity of the soils
- Data from the Elora Climatological Station.

TABLE D-28
2010 WATER BUDGET - REGION OF WATERLOO INT'L AIRPORT
MILL CREEK AGGREGATES PIT

Month	Mean Temperature (°C)	I	E (mm)	Daylight Factor	E adj. (mm)	Total Precipitation (mm)	WHC (mm)	Surplus (mm)	Deficit (mm)
JANUARY	-6.2	0.00	0.00	0.82	0.00	20.5	100.0	20.5	0.0
FEBRUARY	-5.0	0.00	0.00	0.82	0.00	14.5	100.0	14.5	0.0
MARCH	2.8	0.42	11.13	1.03	11.41	47.0	100.0	35.6	0.0
APRIL	9.1	2.47	41.25	1.12	46.20	57.7	100.0	11.5	0.0
MAY	14.0	4.73	66.47	1.27	84.42	67.1	82.7	0.0	0.0
JUNE	17.7	6.75	86.24	1.28	110.39	130.7	100.0	3.0	0.0
JULY	21.2	8.86	105.37	1.30	136.99	129.3	92.3	0.0	0.0
AUGUST	20.4	8.36	100.97	1.20	121.16	27.7	0.0	0.0	1.1
SEPTEMBER	14.5	4.99	69.11	1.04	71.88	112.6	40.7	0.0	0.0
OCTOBER	8.7	2.31	39.20	0.95	37.24	76.2	79.7	0.0	0.0
NOVEMBER	2.6	0.37	10.25	0.81	8.30	33.2	100.0	4.6	0.0
DECEMBER	-5.2	0.00	0.00	0.78	0.00	14.2	100.0	14.2	0.0
Total		**39.26**			**627.99**	**730.7**		**103.9**	**1.1**
						Net Water Surplus		**102.7**	**mm**

Notes:
- I - Heat Index
- E - Evaporation
- WHC - Water Holding Capacity
- A value of 100 mm was used for the water holding capacity of the soils
- Data from the Region of Waterloo International Airport Climatological Station.

TABLE D-29
2011 WATER BUDGET - ELORA
MILL CREEK AGGREGATES PIT

Month	Mean Temperature (°C)	I	E (mm)	Daylight Factor	E adj. (mm)	Total Precipitation (mm)	WHC (mm)	Surplus (mm)	Deficit (mm)
JANUARY	-10.2	0.00	0.00	0.82	0.00	47.6	100.0	47.6	0.0
FEBRUARY	-8.0	0.00	0.00	0.82	0.00	58.2	100.0	58.2	0.0
MARCH	-3.4	0.00	0.00	1.03	0.00	86.1	100.0	86.1	0.0
APRIL	5.5	1.15	25.18	1.12	28.20	100.7	100.0	72.5	0.0
MAY	12.6	4.04	61.03	1.27	77.50	113.3	100.0	35.8	0.0
JUNE	16.5	6.07	81.39	1.28	104.18	87.0	82.8	0.0	0.0
JULY	21.4	8.98	107.45	1.30	139.68	31.9	0.0	0.0	25.0
AUGUST	19.1	7.57	95.16	1.20	114.19	158.6	44.4	0.0	0.0
SEPTEMBER	15.0	5.25	73.52	1.04	76.46	76.1	44.0	0.0	0.0
OCTOBER	8.9	2.39	42.10	0.95	39.99	128.9	100.0	32.9	0.0
NOVEMBER	4.8	0.94	21.77	0.81	17.64	90.5	100.0	72.9	0.0
DECEMBER	-1.3	0.00	0.00	0.78	0.00	85.5	100.0	85.5	0.0
Total		**36.39**			**597.85**	**1064.4**		**491.5**	**25.0**
						Net Water Surplus		**466.5**	**mm**

Notes:
- I - Heat Index
- E - Evaporation
- WHC - Water Holding Capacity
- A value of 100 mm was used for the water holding capacity of the soils.
- Data from the Elora Climatological Station.

TABLE D-30
2012 WATER BUDGET - ELORA
MILL CREEK AGGREGATES PIT

Month	Mean Temperature (°C)	I	E (mm)	Daylight Factor	E adj. (mm)	Total Precipitation (mm)	WHC (mm)	Surplus (mm)	Deficit (mm)
JANUARY	-3.9	0.00	0.00	0.82	0.00	46.8	100.0	46.8	0.0
FEBRUARY	-2.5	0.00	0.00	0.82	0.00	32.0	100.0	32.0	0.0
MARCH	5.6	1.19	24.90	1.03	25.52	31.0	100.0	5.5	0.0
APRIL	5.3	1.09	23.45	1.12	26.26	30.0	100.0	3.7	0.0
MAY	14.7	5.10	71.12	1.27	90.32	28.2	37.9	0.0	0.0
JUNE	18.3	7.09	90.25	1.28	115.52	64.6	0.0	0.0	13.0
JULY	21.3	8.92	106.45	1.30	138.39	30.4	0.0	0.0	108.0
AUGUST	18.6	7.27	91.86	1.20	110.23	62.6	0.0	0.0	47.6
SEPTEMBER	13.8	4.63	66.40	1.04	69.05	106.2	37.1	0.0	0.0
OCTOBER	8.6	2.27	39.70	0.95	37.71	127.3	100.0	26.7	0.0
NOVEMBER	1.5	0.16	5.94	0.81	4.81	40.2	100.0	35.4	0.0
DECEMBER	-0.7	0.00	0.00	0.78	0.00	79.9	100.0	79.9	0.0
Total		**37.72**			**617.83**	**679.2**		**230.0**	**168.7**
						Net Water Surplus		**61.4**	**mm**

Notes:
- I - Heat Index
- E - Evaporation
- WHC - Water Holding Capacity
- A value of 100 mm was used for the water holding capacity of the soils.
- Data from the Elora Climatological Station.

TABLE D-31
2013 WATER BUDGET - ELORA
MILL CREEK AGGREGATES PIT

Month	Mean Temperature (°C)	I	E (mm)	Daylight Factor	E adj. (mm)	Total Precipitation (mm)	WHC (mm)	Surplus (mm)	Deficit (mm)
JANUARY	-4.8	0.00	0.00	0.82	0.00	80.5	100.0	80.5	0.0
FEBRUARY	-7.4	0.00	0.00	0.82	0.00	71.2	100.0	71.2	0.0
MARCH	-1.6	0.00	0.00	1.03	0.00	40.6	100.0	40.6	0.0
APRIL	4.9	0.97	23.51	1.12	26.33	123.8	100.0	97.5	0.0
MAY	13.5	4.48	67.15	1.27	85.28	102.0	100.0	16.7	0.0
JUNE	17.1	6.40	85.77	1.28	109.79	122.3	100.0	12.5	0.0
JULY	19.7	7.93	99.31	1.30	129.10	130.9	100.0	1.8	0.0
AUGUST	17.9	6.86	89.93	1.20	107.91	69.5	61.6	0.0	0.0
SEPTEMBER	14.0	4.73	69.72	1.04	72.51	142.9	100.0	32.0	0.0
OCTOBER	9.9	2.81	48.70	0.95	46.27	142.9	100.0	96.6	0.0
NOVEMBER	0.3	0.01	1.30	0.81	1.06	33.7	100.0	32.6	0.0
DECEMBER	-5.2	0.00	0.00	0.78	0.00	52.2	100.0	52.2	0.0
Total		**34.20**			**578.25**	**1112.5**		**534.3**	**0.0**
						Net Water Surplus		**534.3**	**mm**

Notes:
- I - Heat Index
- E - Evaporation
- WHC - Water Holding Capacity
- A value of 100 mm was used for the water holding capacity of the soils.
- Data from the Elora Climatological Station except for missing data on October 25, November 3, 9, and 24, and December 24 to 31 which is from the Roseville Climatological Station.

TABLE D-32
2014 WATER BUDGET - SHADE'S MILLS
MILL CREEK AGGREGATES PIT

Month	Mean Temperature (°C)	I	E (mm)	Daylight Factor	E adj. (mm)	Total Precipitation (mm)	WHC (mm)	Surplus (mm)	Deficit (mm)
JANUARY	-9.5	0.00	0.00	0.82	0.00	90.7	100.0	90.7	0.0
FEBRUARY	-9.8	0.00	0.00	0.82	0.00	70.5	100.0	70.5	0.0
MARCH	-5.9	0.00	0.00	1.03	0.00	45.0	100.0	45.0	0.0
APRIL	6.2	1.38	26.24	1.12	29.39	87.2	100.0	57.8	0.0
MAY	14.3	4.89	67.34	1.27	85.52	79.1	93.6	0.0	0.0
JUNE	20.7	8.54	102.18	1.28	130.79	51.6	14.4	0.0	0.0
JULY	20.4	8.36	100.51	1.30	130.67	127.9	11.6	0.0	0.0
AUGUST	20.0	8.11	98.30	1.20	117.95	25.2	0.0	0.0	81.1
SEPTEMBER	16.5	6.07	79.13	1.04	82.29	144.2	61.9	0.0	0.0
OCTOBER	10.3	2.98	46.51	0.95	44.19	71.8	89.5	0.0	0.0
NOVEMBER	1.0	0.09	3.35	0.81	2.72	78.2	100.0	65.0	0.0
DECEMBER	-0.4	0.00	0.00	0.78	0.00	27.3	100.0	27.3	0.0
Total		**40.42**			**623.53**	**898.7**		**356.3**	**81.1**
						Net Water Surplus		**275.2**	**mm**

Notes:
- I - Heat Index
- E - Evaporation
- WHC - Water Holding Capacity
- A value of 100 mm was used for the water holding capacity of the soils.
- Data from the Shade's Mills Climatological Station

TABLE D-33
2015 WATER BUDGET - SHADE'S MILLS
MILL CREEK AGGREGATES PIT

Month	Mean Temperature (°C)	I	E (mm)	Daylight Factor	E adj. (mm)	Total Precipitation (mm)	WHC (mm)	Surplus (mm)	Deficit (mm)
JANUARY	-8.6	0.00	0.00	0.82	0.0	35.0	100.0	35.0	0.0
FEBRUARY	-14.2	0.00	0.00	0.82	0.0	56.3	100.0	56.3	0.0
MARCH	-3.3	0.00	0.00	1.03	0.0	14.0	100.0	14.0	0.0
APRIL	6.7	1.56	25.92	1.12	29.0	98.9	100.0	69.9	0.0
MAY	17.1	6.40	79.80	1.27	101.3	69.4	68.1	0.0	0.0
JUNE	18.4	7.15	87.13	1.28	111.5	160.3	100.0	16.8	0.0
JULY	21.5	9.05	105.04	1.30	136.5	69.7	33.2	0.0	0.0
AUGUST	20.5	8.42	99.20	1.20	119.0	85.0	0.0	0.0	0.9
SEPTEMBER	19.7	7.93	94.57	1.04	98.4	72.6	0.0	0.0	25.8
OCTOBER	9.7	2.72	40.41	0.95	38.4	84.0	45.6	0.0	0.0
NOVEMBER	6.5	1.49	24.99	0.81	20.2	54.4	79.8	0.0	0.0
DECEMBER	3.5	0.58	11.89	0.78	9.3	59.2	100.0	29.7	0.0
Total		**45.30**			**663.7**	**858.8**		**221.7**	**26.6**
						Net Water Surplus		**195.1**	**mm**

Notes:
- I - Heat Index
- E - Evaporation
- WHC - Water Holding Capacity
- A value of 100 mm was used for the water holding capacity of the soils.
- Data from the Shade's Mills Climatological Station
- August 14, 2015 precipitation data from the Guelph Lake Climatological Station

TABLE D-34
2016 WATER BUDGET - SHADE'S MILLS
MILL CREEK AGGREGATES PIT

Month	Mean Temperature (°C)	I	E (mm)	Daylight Factor	E adj. (mm)	Total Precipitation (mm)	WHC (mm)	Surplus (mm)	Deficit (mm)
JANUARY	-4.5	0.00	0.00	0.82	0.0	44.8	100.0	44.8	0.0
FEBRUARY	-3.0	0.00	0.00	0.82	0.0	52.4	100.0	52.4	0.0
MARCH	2.4	0.33	6.89	1.03	7.1	99.5	100.0	92.4	0.0
APRIL	4.7	0.91	15.85	1.12	17.7	90.8	100.0	73.1	0.0
MAY	14.9	5.20	66.16	1.27	84.0	31.8	47.8	0.0	0.0
JUNE	19.7	7.93	93.50	1.28	119.7	42.2	0.0	0.0	29.7
JULY	23.4	10.28	115.72	1.30	150.4	93.0	0.0	0.0	57.4
AUGUST	23.8	10.55	118.18	1.20	141.8	183.3	41.5	0.0	0.0
SEPTEMBER	19.1	7.57	89.99	1.04	93.6	68.8	16.7	0.0	0.0
OCTOBER	11.8	3.66	49.56	0.95	47.1	45.8	15.4	0.0	0.0
NOVEMBER	6.3	1.42	22.78	0.81	18.5	67.6	64.5	0.0	0.0
DECEMBER	-2.0	0.00	0.00	0.78	0.0	113.5	100.0	78.0	0.0
Total		**47.84**			**679.9**	**933.5**		**340.7**	**87.1**
						Net Water Surplus		**253.6**	**mm**

Notes:
- I - Heat Index
- E - Evaporation
- WHC - Water Holding Capacity
- A value of 100 mm was used for the water holding capacity of the soils.
- Data from the Shade's Mills Climatological Station

TABLE D-35
2017 WATER BUDGET - SHADE'S MILLS
MILL CREEK AGGREGATES PIT

Month	Mean Temperature (°C)	I	E (mm)	Daylight Factor	E adj. (mm)	Total Precipitation (mm)	WHC (mm)	Surplus (mm)	Deficit (mm)
JANUARY	-2.2	0.00	0.00	0.82	0.0	110.2	100.0	110.2	0.0
FEBRUARY	-0.3	0.00	0.00	0.82	0.0	77.1	100.0	77.1	0.0
MARCH	-0.3	0.00	0.00	1.03	0.0	93.4	100.0	93.4	0.0
APRIL	9.3	2.55	39.23	1.12	43.9	120.3	100.0	76.4	0.0
MAY	12.5	3.99	55.62	1.27	70.6	137.1	100.0	66.5	0.0
JUNE	19.5	7.81	94.00	1.28	120.3	78.9	58.6	0.0	0.0
JULY	21.6	9.11	106.06	1.30	137.9	92.6	13.3	0.0	0.0
AUGUST	20.4	8.36	99.14	1.20	119.0	138.0	32.3	0.0	0.0
SEPTEMBER	18.8	7.39	90.03	1.04	93.6	25.5	0.0	0.0	35.8
OCTOBER	13.1	4.28	58.78	0.95	55.8	76.6	20.8	0.0	0.0
NOVEMBER	3.0	0.46	10.32	0.81	8.4	88.7	100.0	1.1	0.0
DECEMBER	-4.7	0.00	0.00	0.78	0.0	53.4	100.0	53.4	0.0
Total		**43.95**			**649.6**	**1091.8**		**478.0**	**35.8**
						Net Water Surplus		**442.2**	**mm**

Notes:
- I - Heat Index
- E - Evaporation
- WHC - Water Holding Capacity
- A value of 100 mm was used for the water holding capacity of the soils.
- Data from the Shade's Mills Climatological Station except for missing temperature data on April 28, November 20, and December 7 and 8, which is from Guelph Lake Climatological Station.

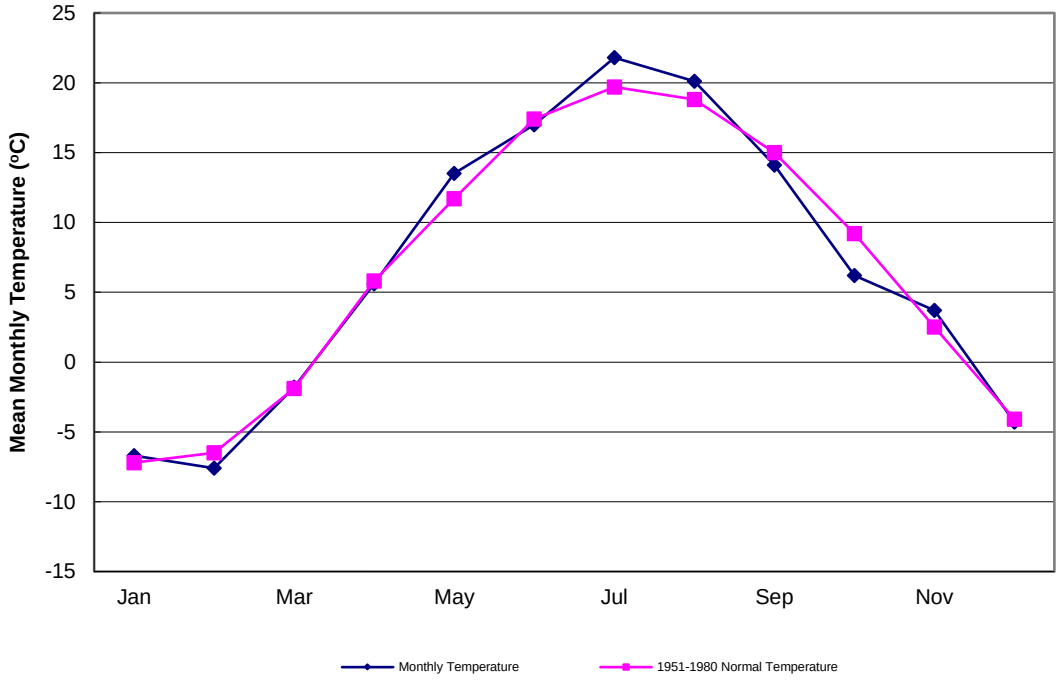
TABLE D-36
2018 WATER BUDGET - SHADE'S MILLS
MILL CREEK AGGREGATES PIT

Month	Mean Temperature (°C)	I	E (mm)	Daylight Factor	E adj. (mm)	Total Precipitation (mm)	WHC (mm)	Surplus (mm)	Deficit (mm)
JANUARY	-6.9	0.00	0.00	0.82	0.0	87.4	100.0	87.4	0.0
FEBRUARY	-2.5	0.00	0.00	0.82	0.0	81.5	100.0	81.5	0.0
MARCH	-0.5	0.00	0.00	1.03	0.0	32.5	100.0	32.5	0.0
APRIL	3.0	0.46	8.68	1.12	9.7	139.7	100.0	130.0	0.0
MAY	17.9	6.86	82.35	1.27	104.6	57.3	52.7	0.0	0.0
JUNE	24.4	10.95	121.66	1.28	155.7	86.5	0.0	0.0	16.5
JULY	23.4	10.28	115.42	1.30	150.0	71.1	0.0	0.0	78.9
AUGUST	23.3	10.22	114.80	1.20	137.8	165.5	27.7	0.0	0.0
SEPTEMBER	19.4	7.75	91.14	1.04	94.8	51.1	0.0	0.0	16.0
OCTOBER	9.3	2.55	36.10	0.95	34.3	92.9	58.6	0.0	0.0
NOVEMBER	1.5	0.16	3.62	0.81	2.9	121.4	100.0	77.1	0.0
DECEMBER	-0.5	0.00	0.00	0.78	0.0	55.3	100.0	55.3	0.0
Total		**49.23**			**689.9**	**1042.2**		**463.8**	**111.4**
						Net Water Surplus		**352.4**	**mm**

Notes:
- I - Heat Index
- E - Evaporation
- WHC - Water Holding Capacity
- A value of 100 mm was used for the water holding capacity of the soils.
- Data from the Shade's Mills Climatological Station except for missing data on March 16, October 27, November 10 and 11 and December 8, which is from Guelph Lake Climatological Station.

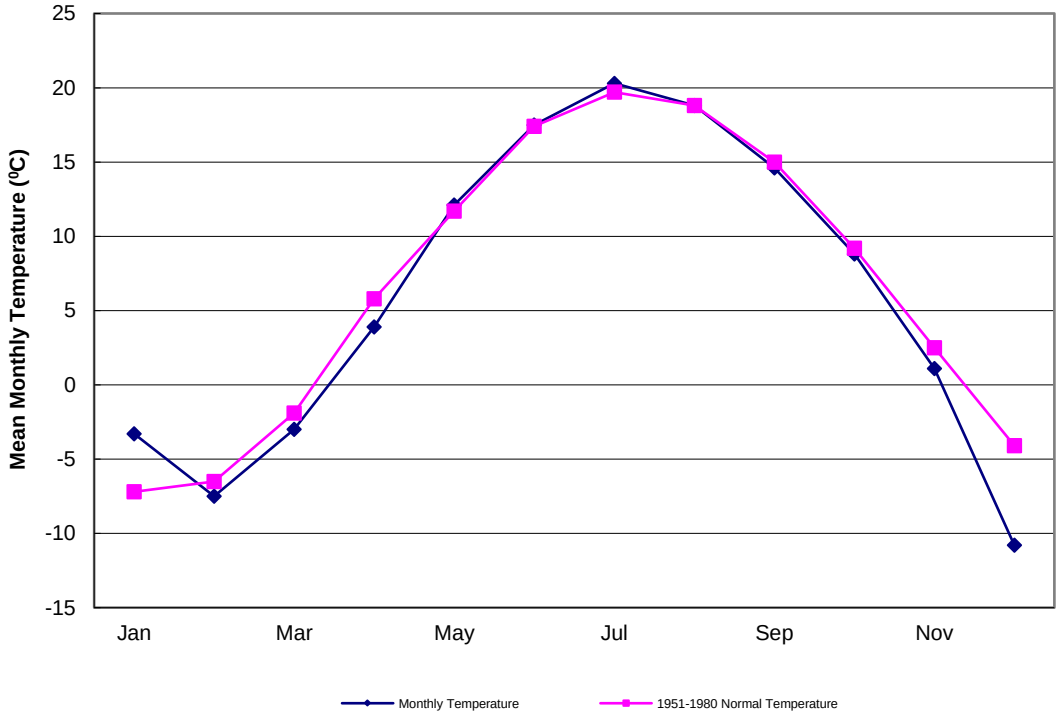
1988 TEMPERATURE DATA
GUELPH ARBORETUM CLIMATOLOGICAL STATION.

FIGURE D-1



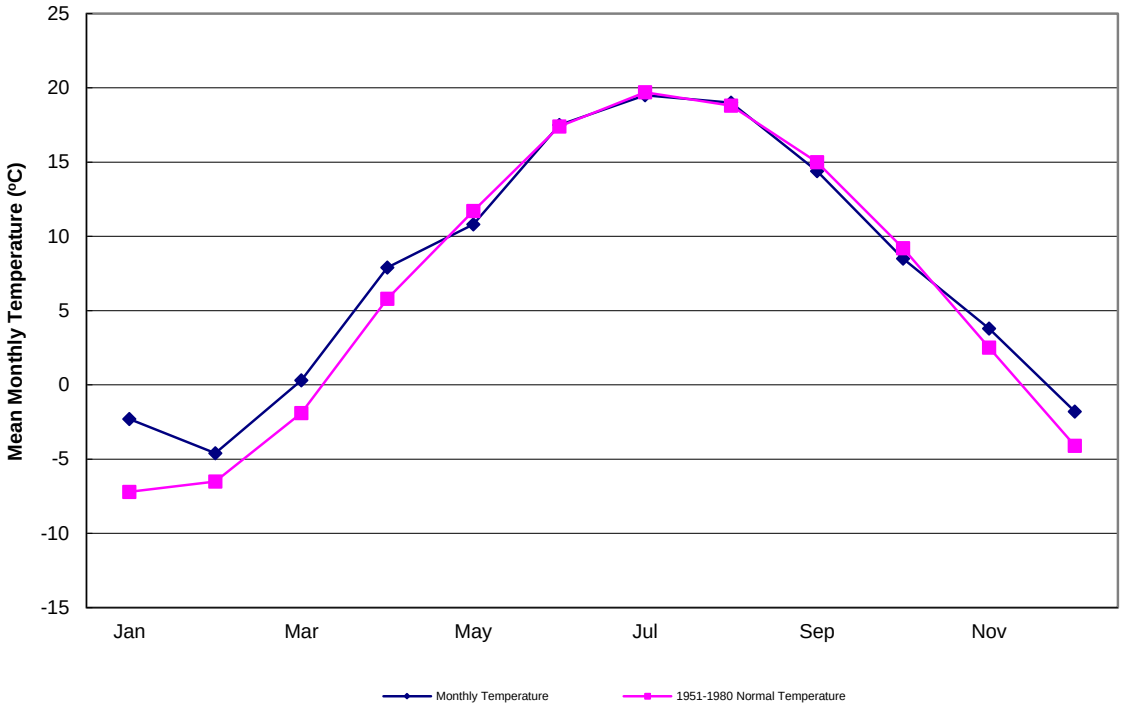
1989 TEMPERATURE DATA
GUELPH ARBORETUM CLIMATOLOGICAL STATION.

FIGURE D-2



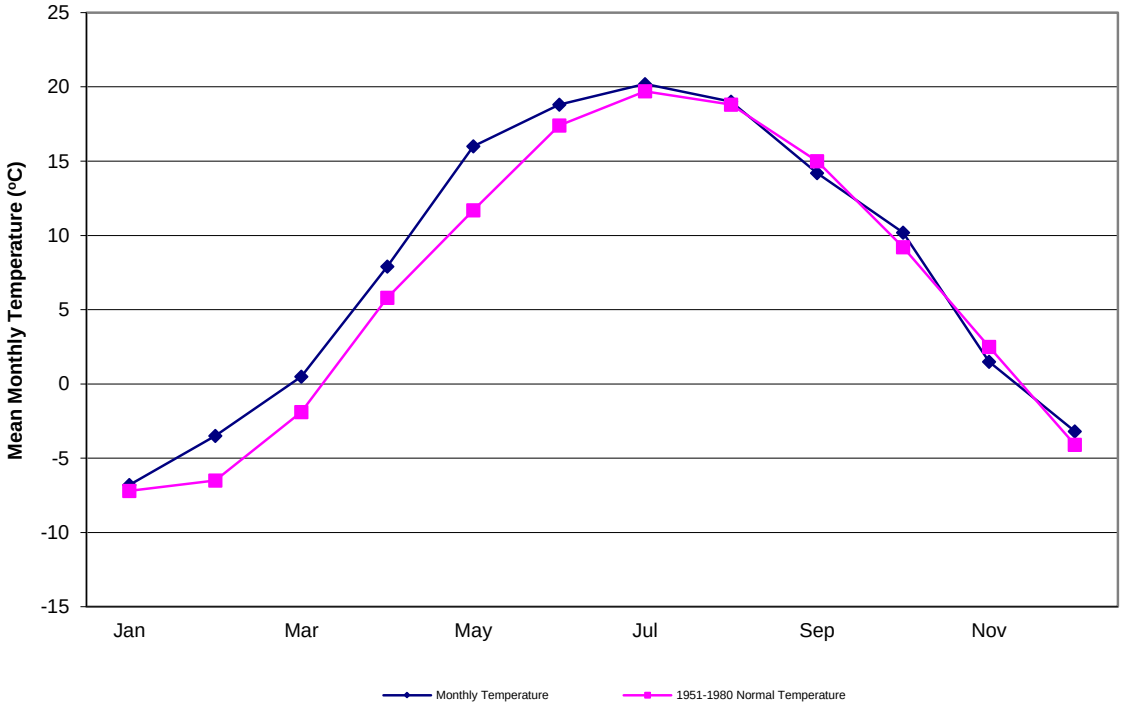
1990 TEMPERATURE DATA
GUELPH ARBORETUM CLIMATOLOGICAL STATION.

FIGURE D-3



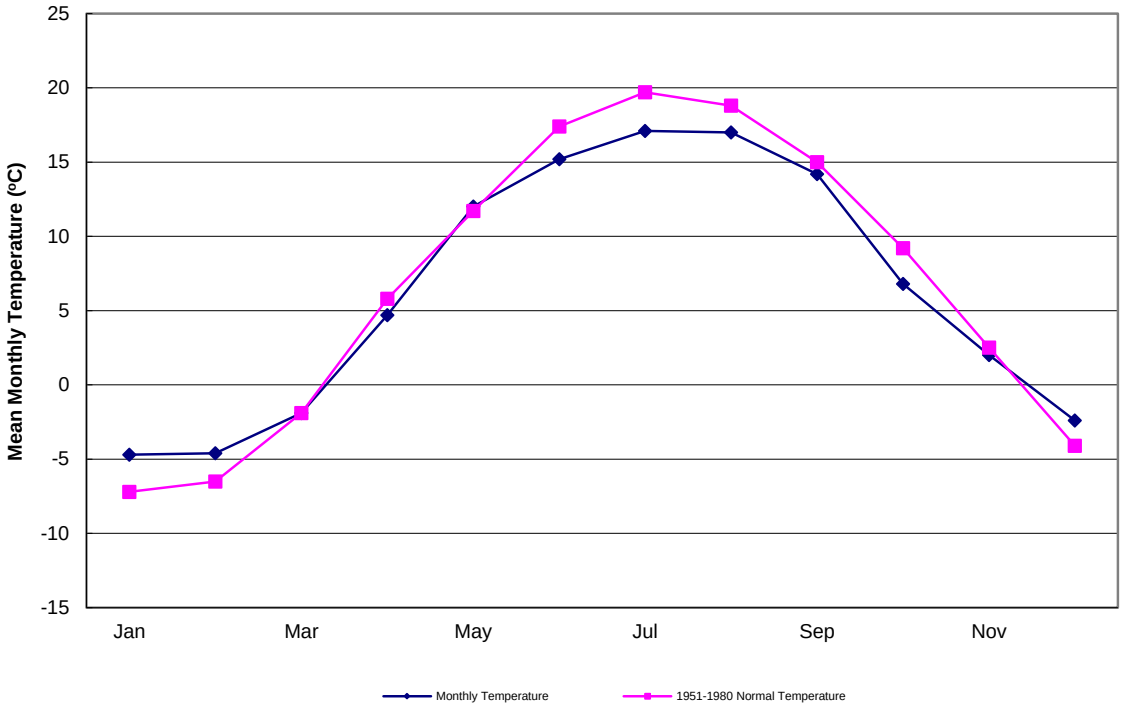
1991 TEMPERATURE DATA
GUELPH ARBORETUM CLIMATOLOGICAL STATION.

FIGURE D-4



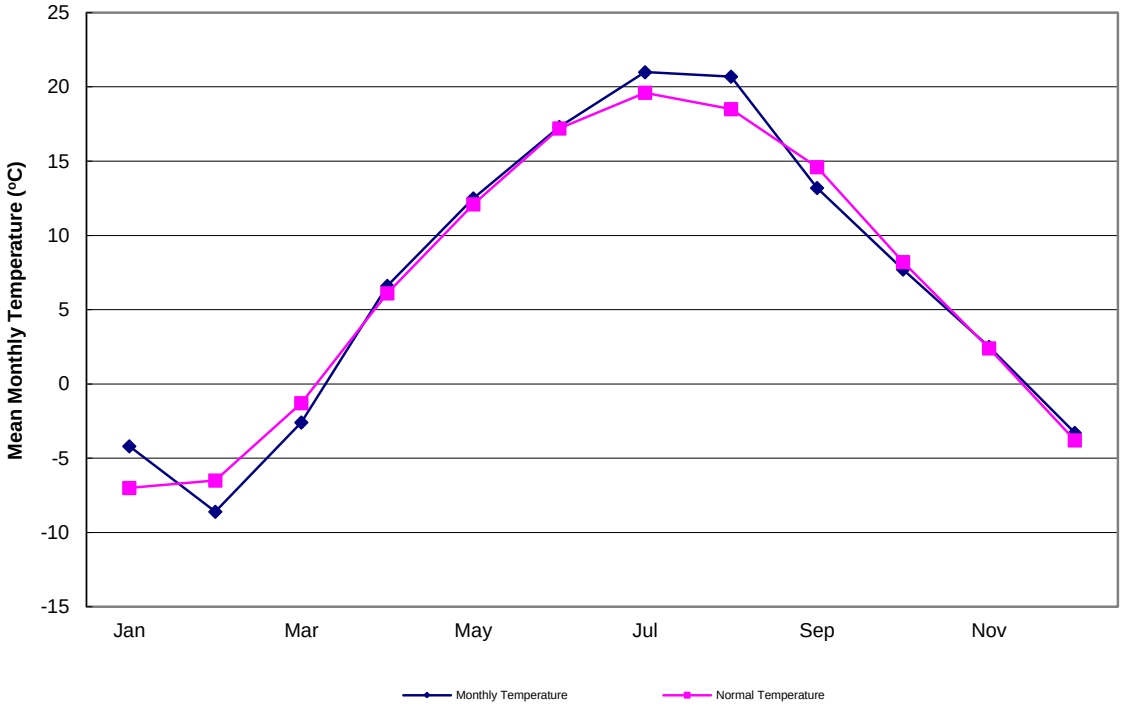
1992 TEMPERATURE DATA
GUELPH ARBORETUM CLIMATOLOGICAL STATION.

FIGURE D-5



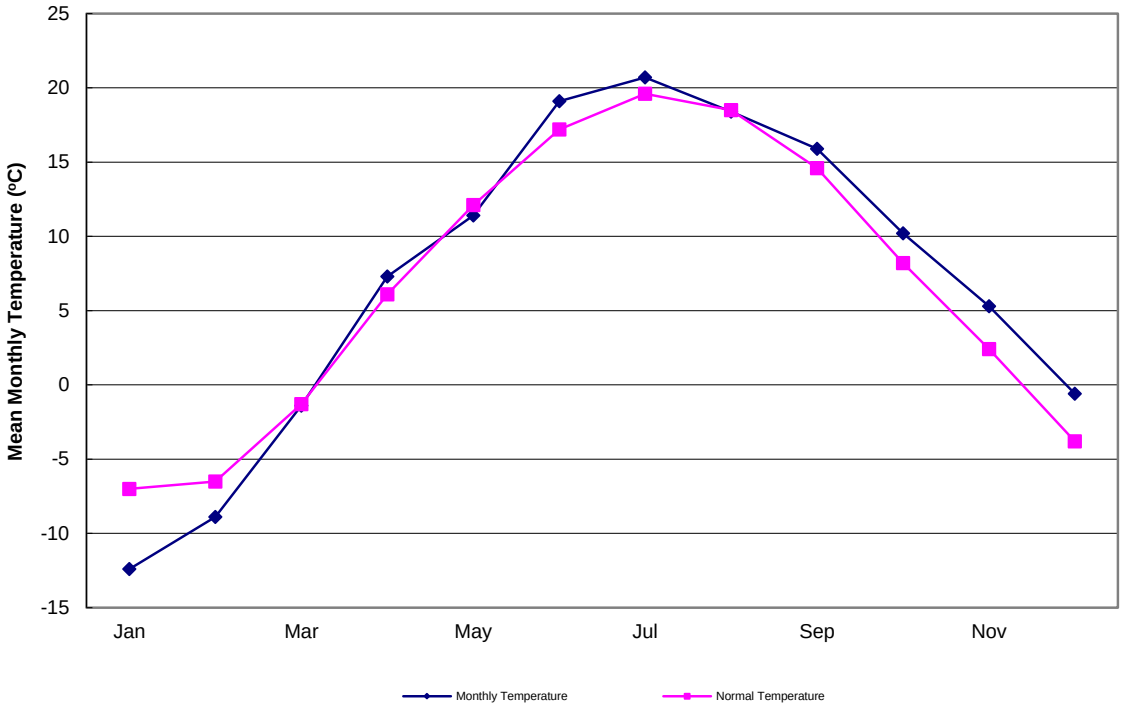
1993 TEMPERATURE DATA
PRESTON CLIMATOLOGICAL STATION.

FIGURE D-6



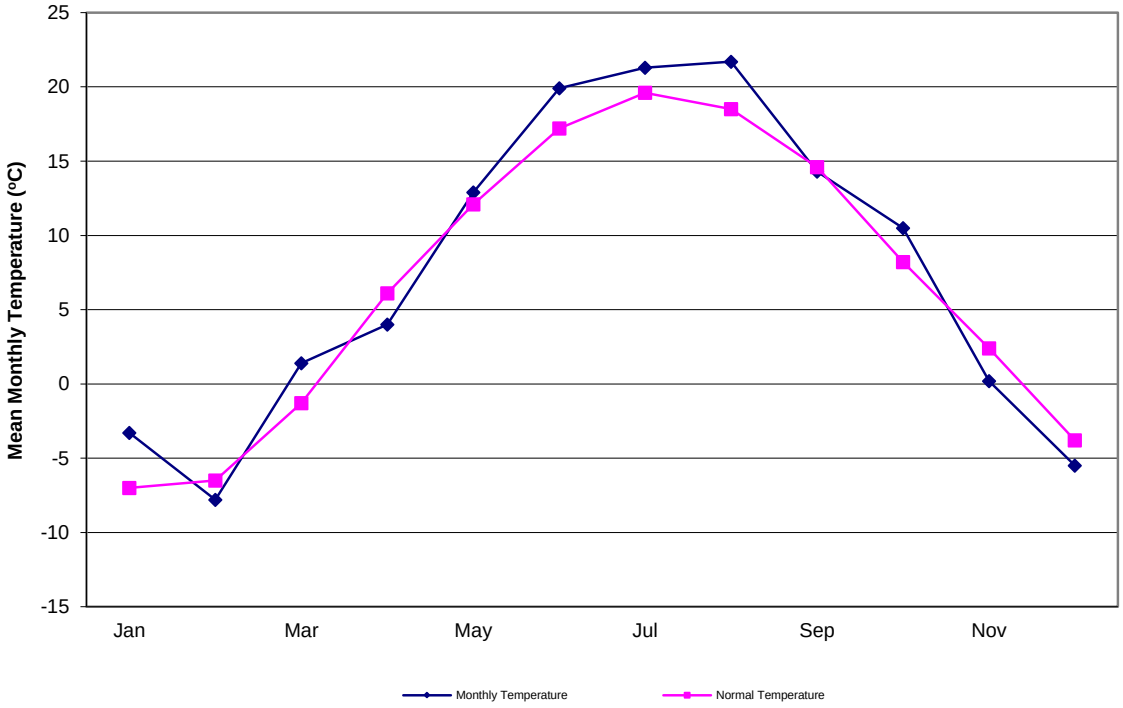
1994 TEMPERATURE DATA
PRESTON CLIMATOLOGICAL STATION.

FIGURE D-7



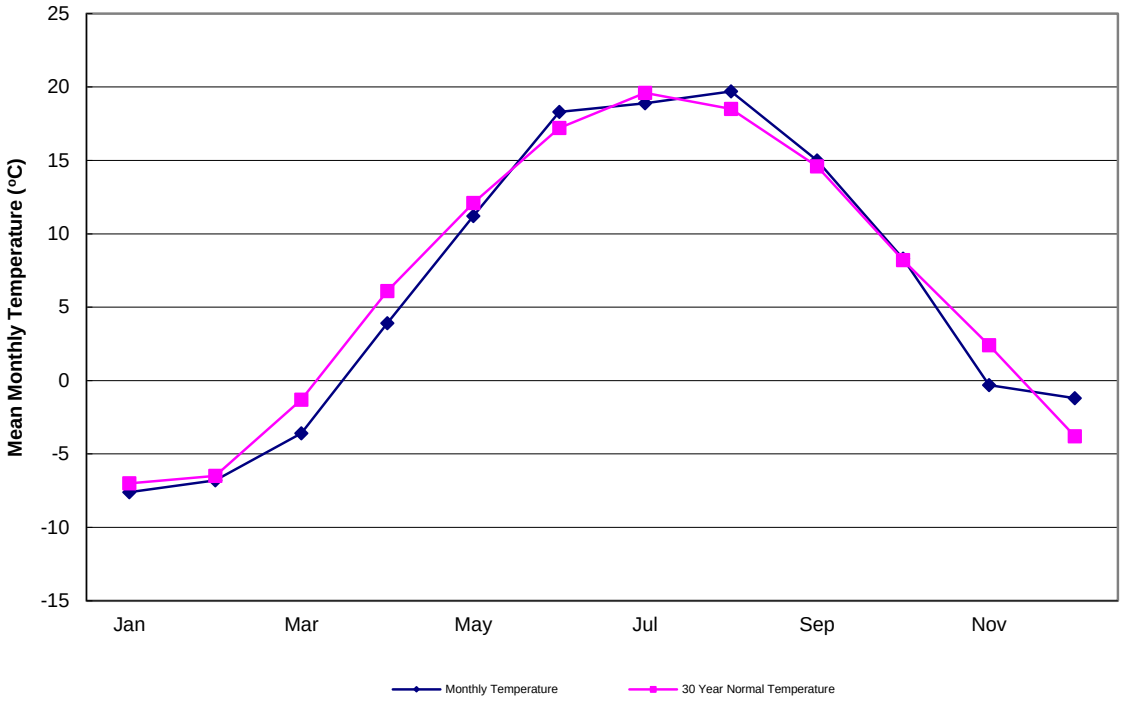
1995 TEMPERATURE DATA
PRESTON CLIMATOLOGICAL STATION.

FIGURE D-8



1996 TEMPERATURE DATA
WATERLOO-WELLINGTON CLIMATE STATION.

FIGURE D-9

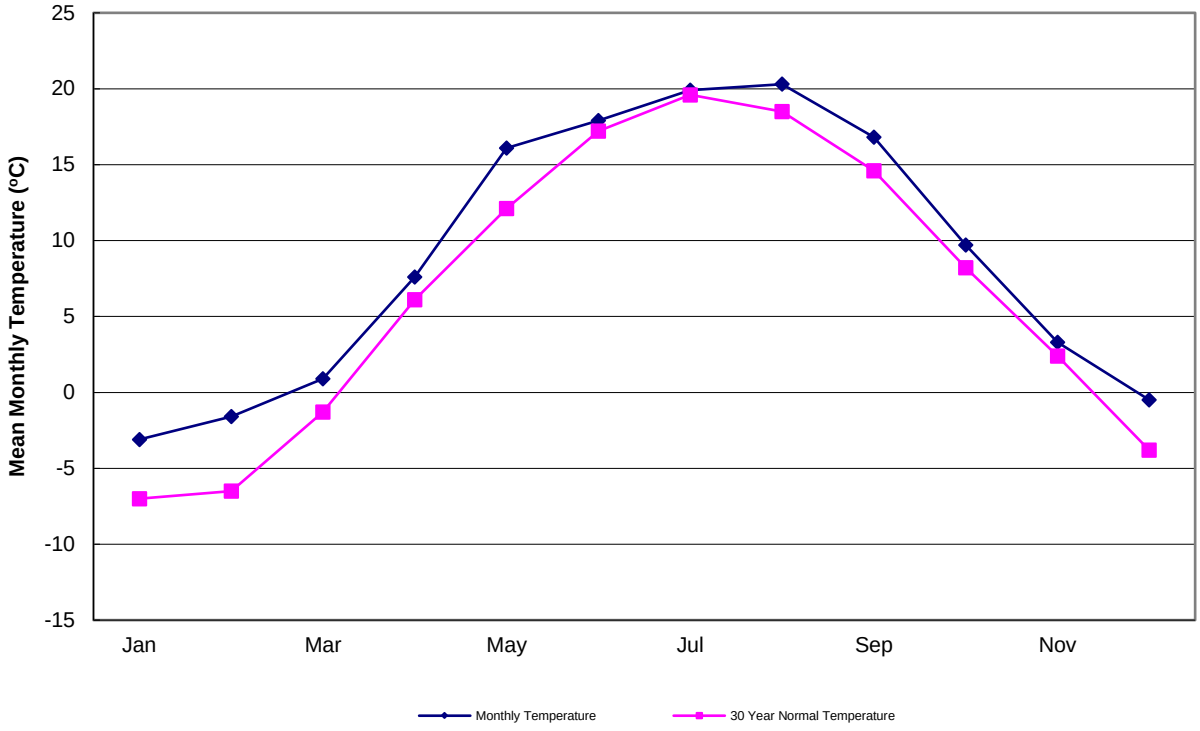


1997 TEMPERATURE DATA
WATERLOO-WELLINGTON CLIMATE STATION.

FIGURE D-10

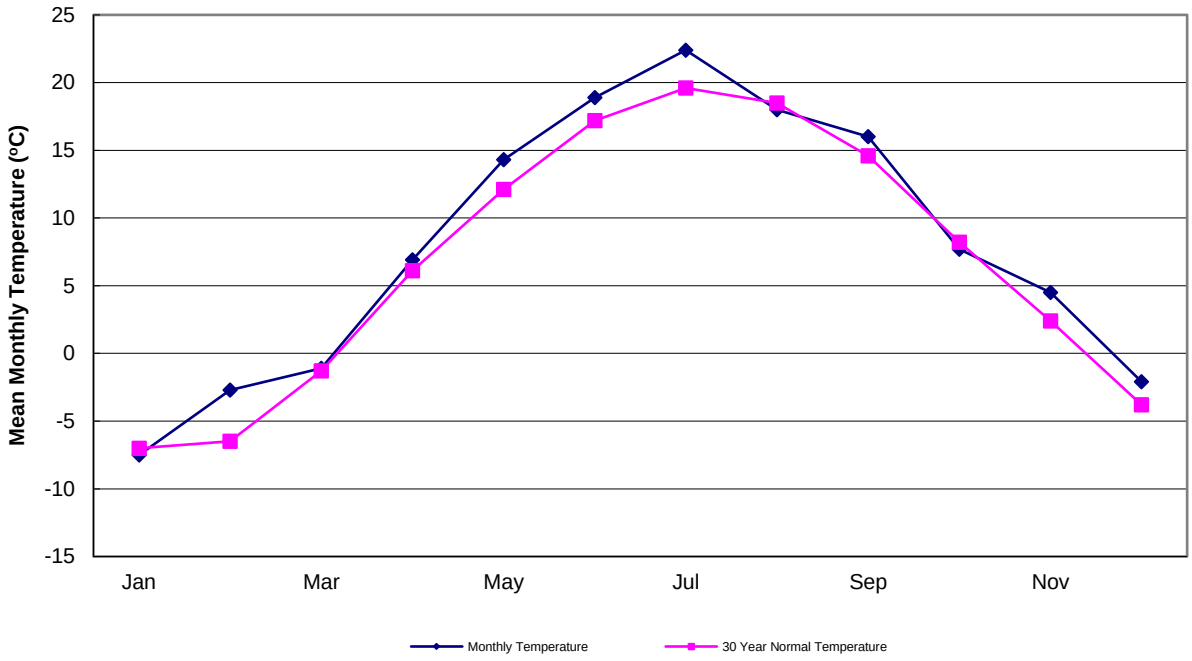
1998 TEMPERATURE DATA
WATERLOO-WELLINGTON CLIMATE STATION.

FIGURE D-11



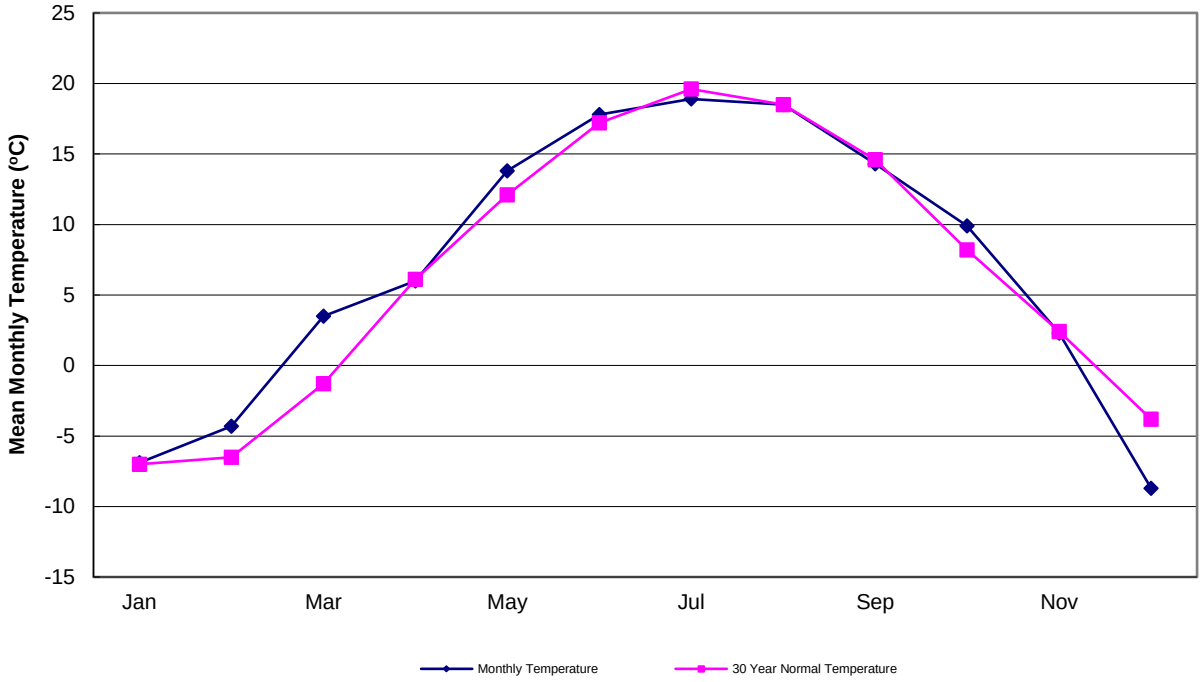
1999 TEMPERATURE DATA
WATERLOO-WELLINGTON CLIMATE STATION.

FIGURE D-12



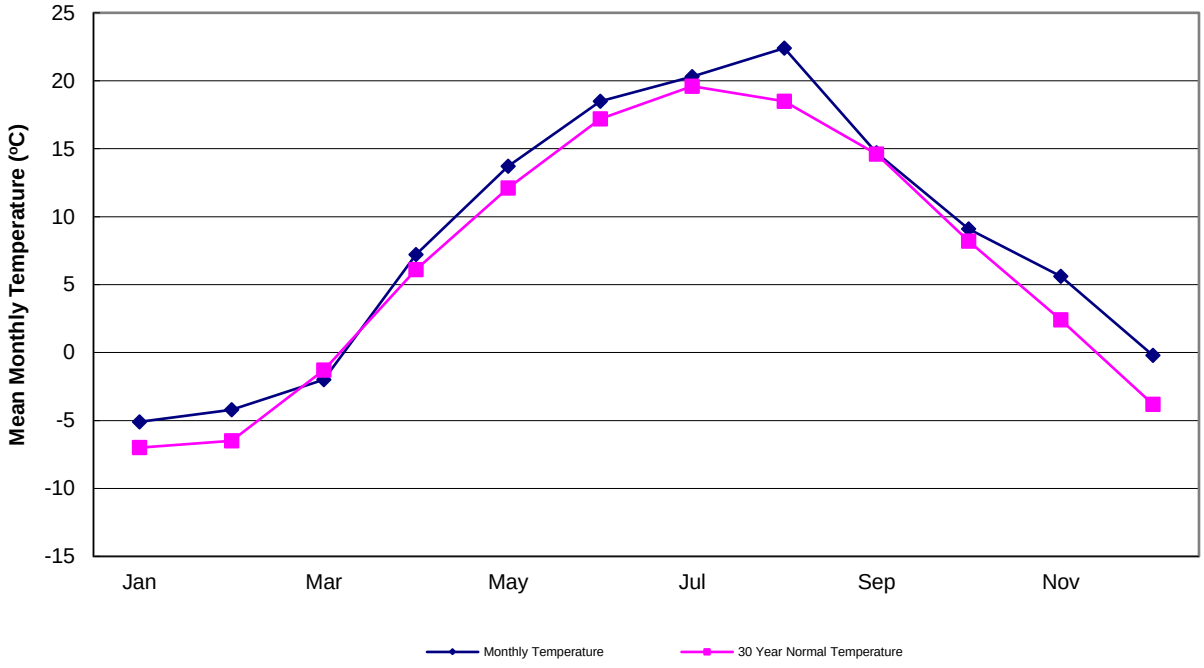
2000 TEMPERATURE DATA
WATERLOO-WELLINGTON CLIMATE STATION.

FIGURE D-13



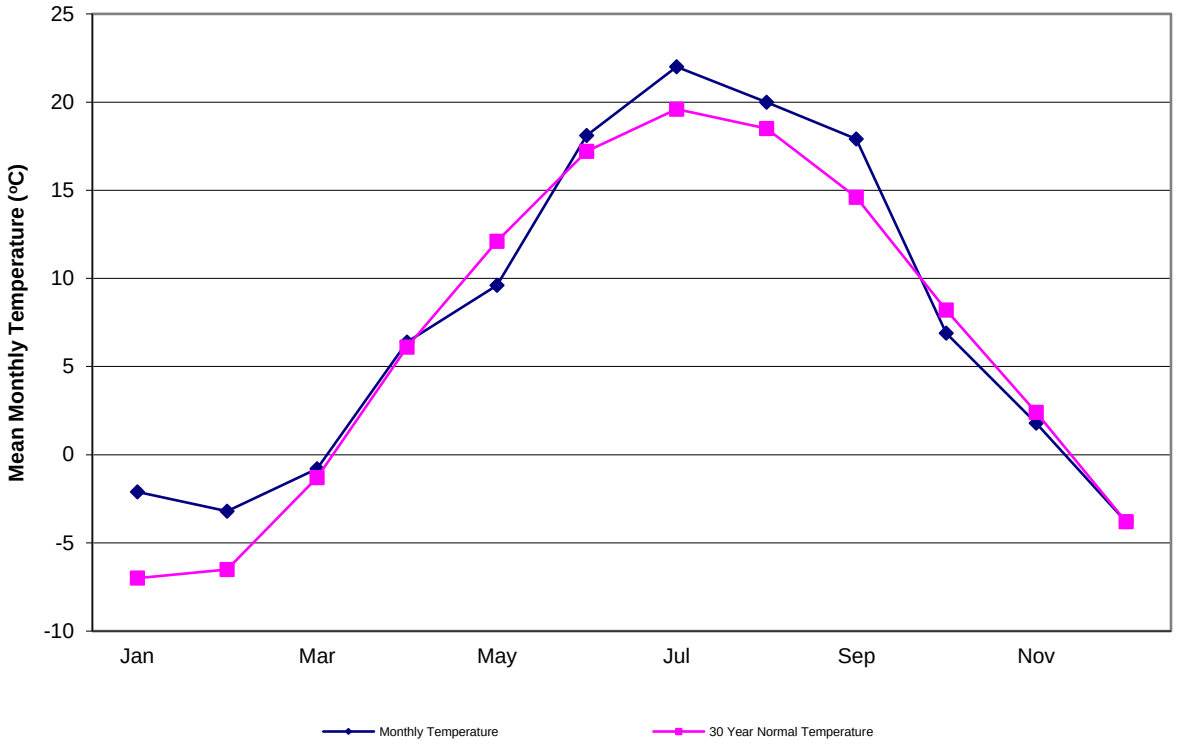
2001 TEMPERATURE DATA
WATERLOO-WELLINGTON CLIMATE STATION.

FIGURE D-14



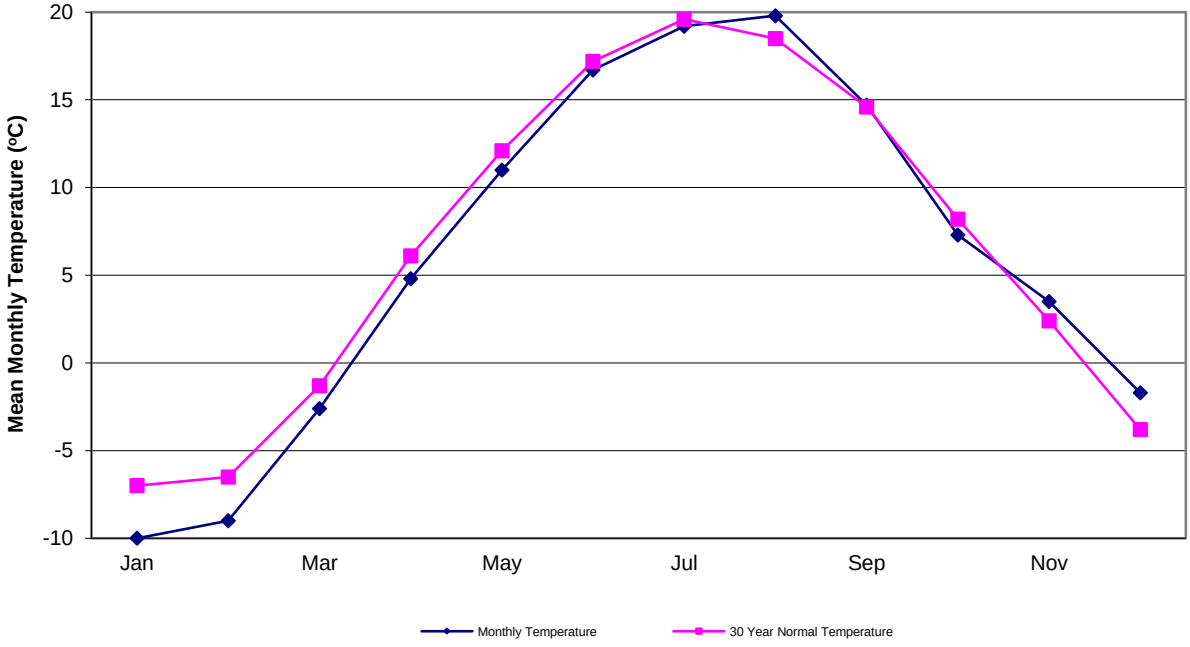
2002 TEMPERATURE DATA
WATERLOO-WELLINGTON CLIMATE STATION

FIGURE D-15



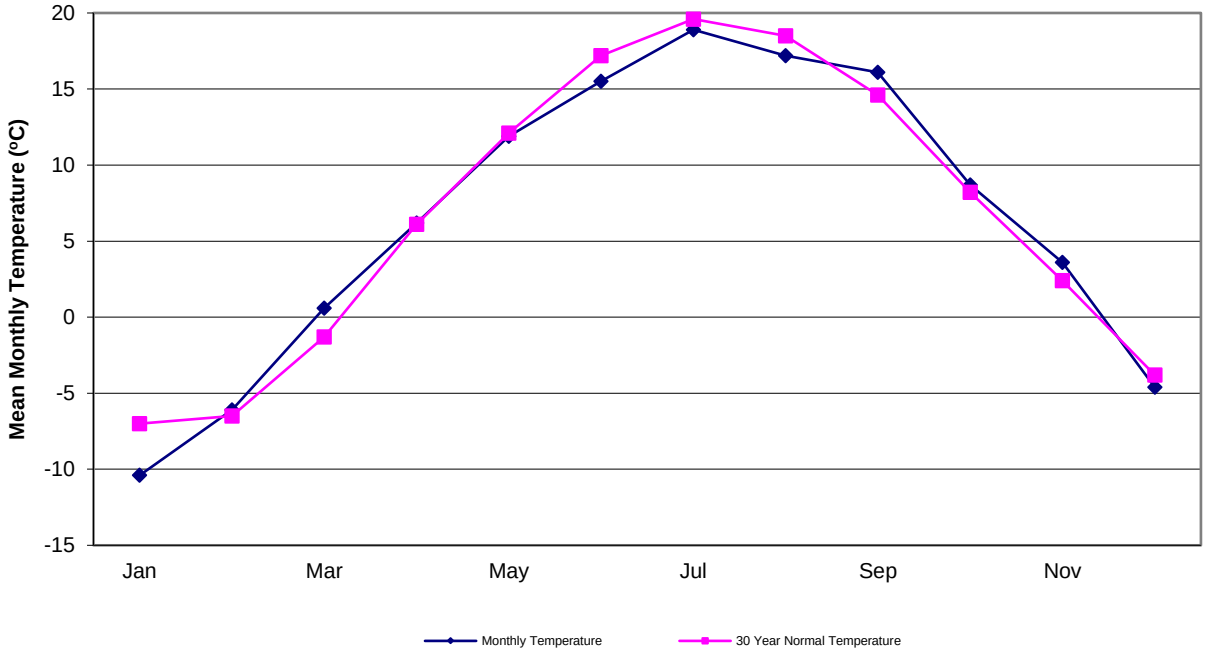
2003 TEMPERATURE DATA
WATERLOO-WELLINGTON CLIMATE STATION

FIGURE D-16



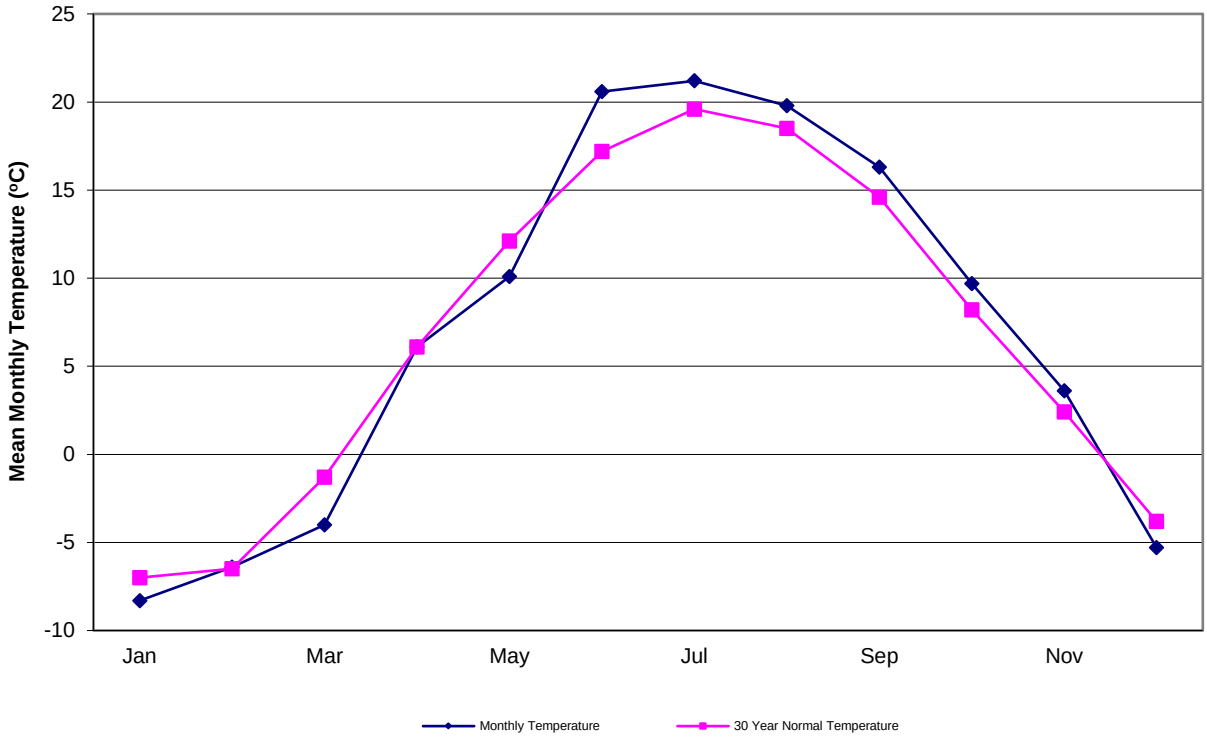
2004 TEMPERATURE DATA
WATERLOO-WELLINGTON CLIMATE STATION

FIGURE D-17



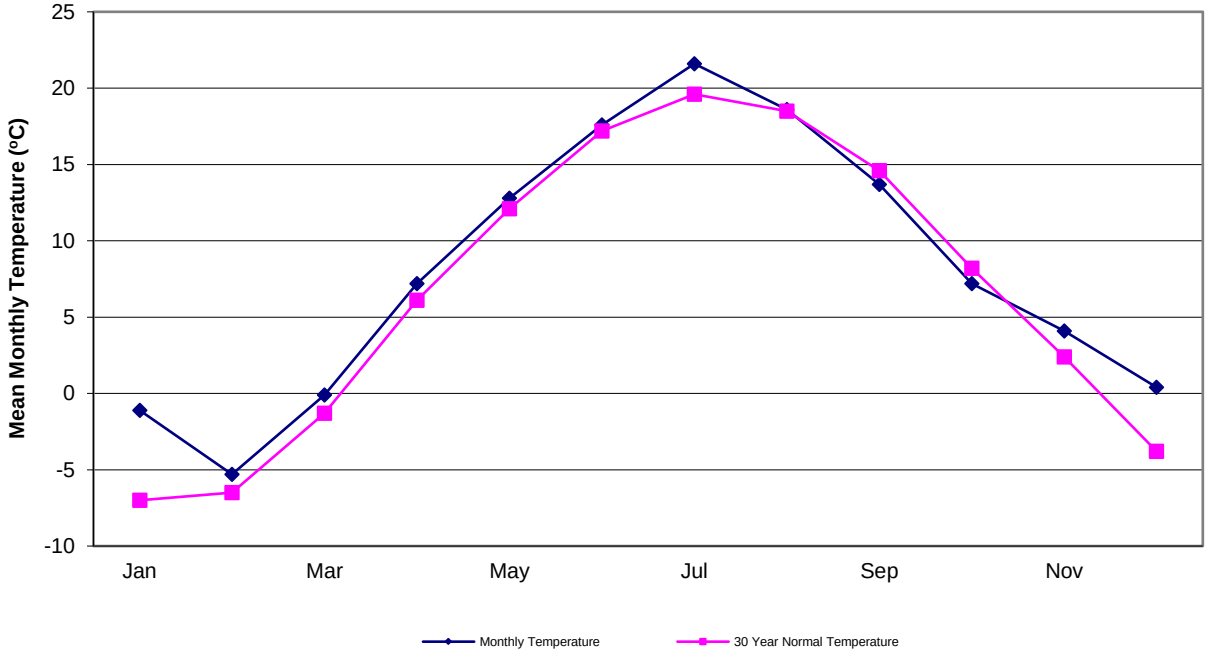
2005 TEMPERATURE DATA
WATERLOO-WELLINGTON CLIMATE STATION

FIGURE D-18



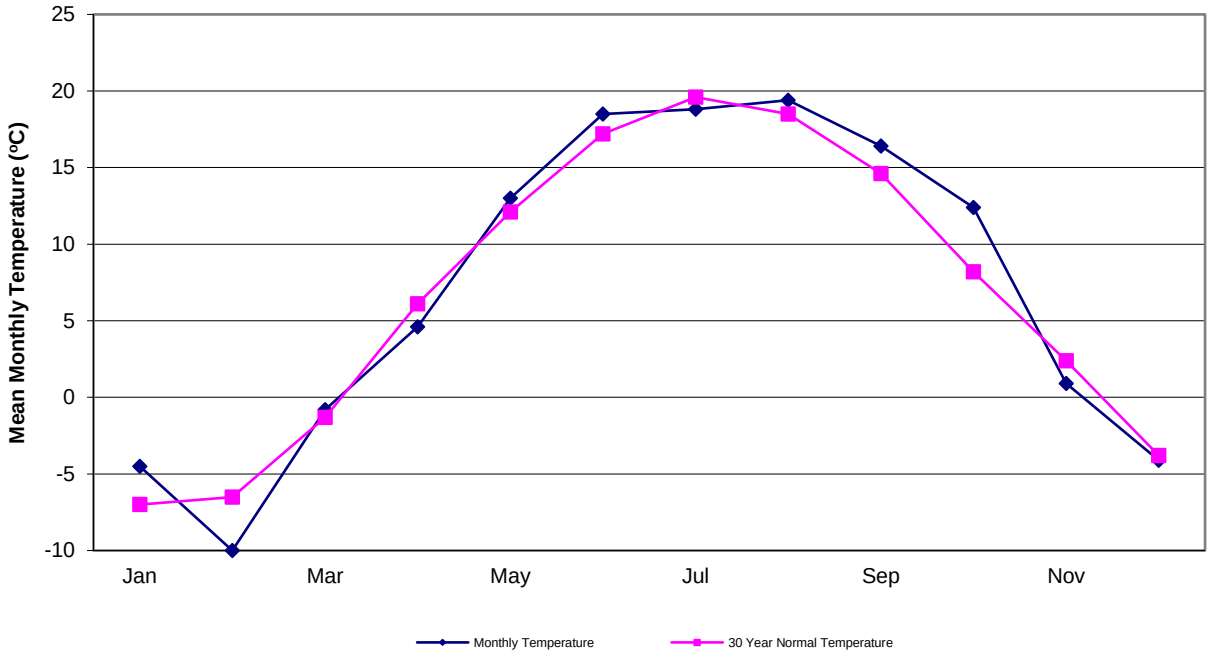
2006 TEMPERATURE DATA
WATERLOO-WELLINGTON CLIMATE STATION

FIGURE D-19



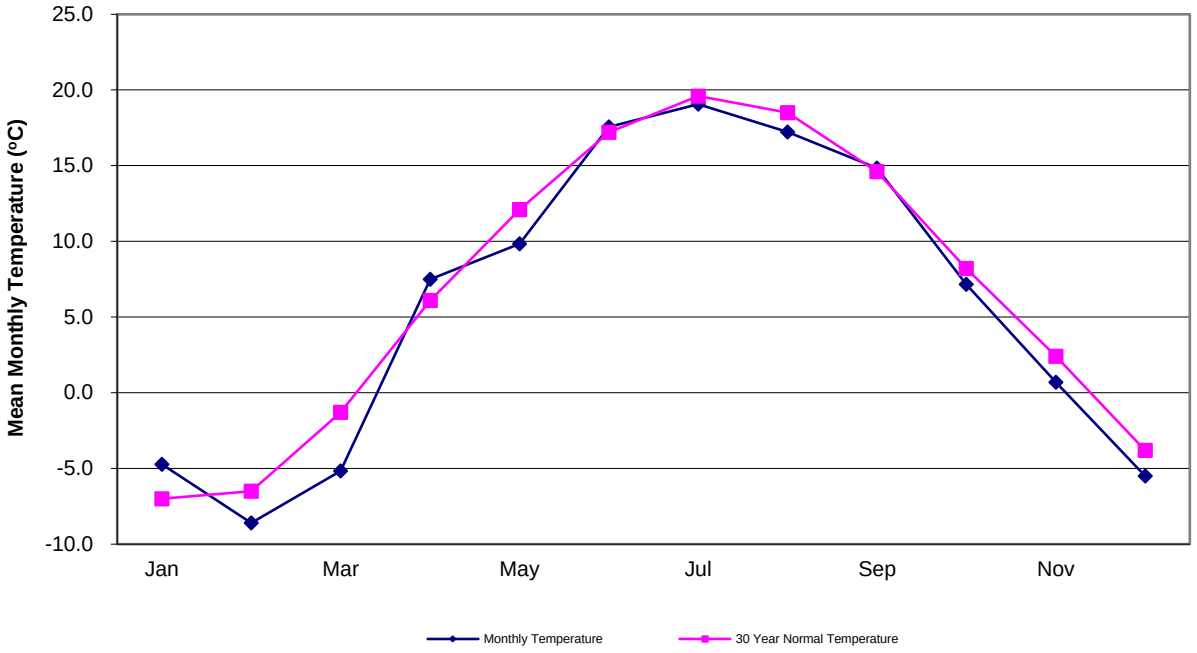
2007 TEMPERATURE DATA
WATERLOO-WELLINGTON CLIMATE STATION

FIGURE D-20



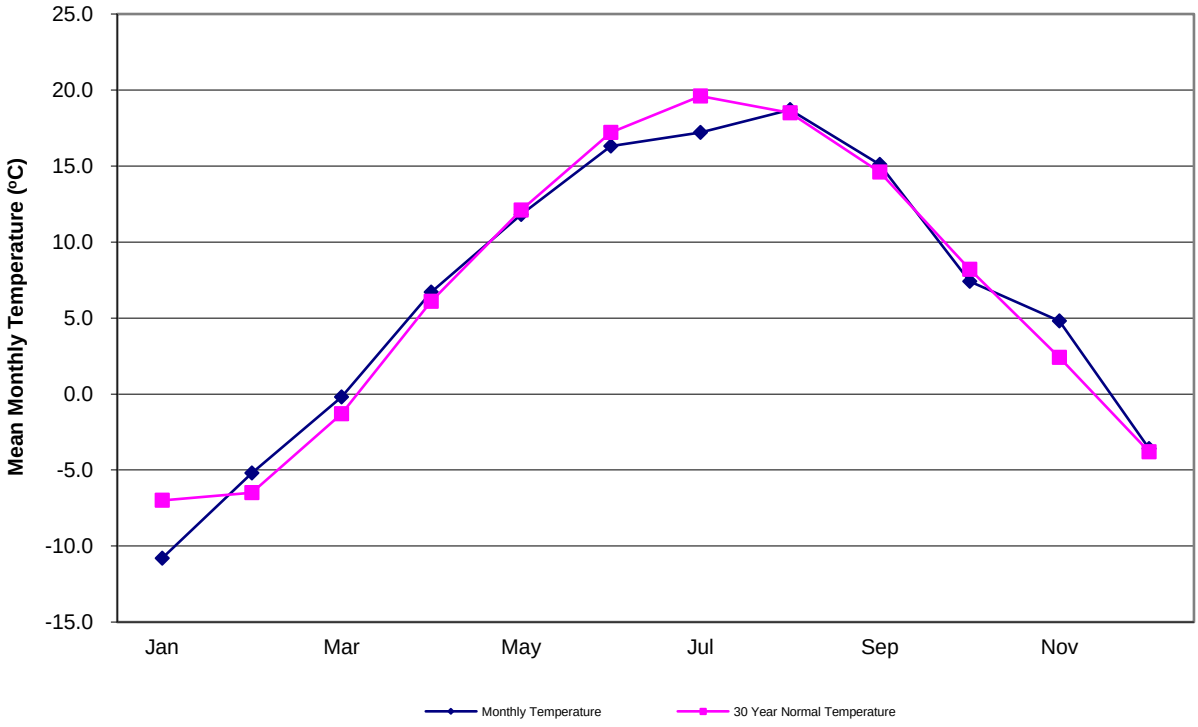
2008 TEMPERATURE DATA
ELORA CLIMATE STATION

FIGURE D-21



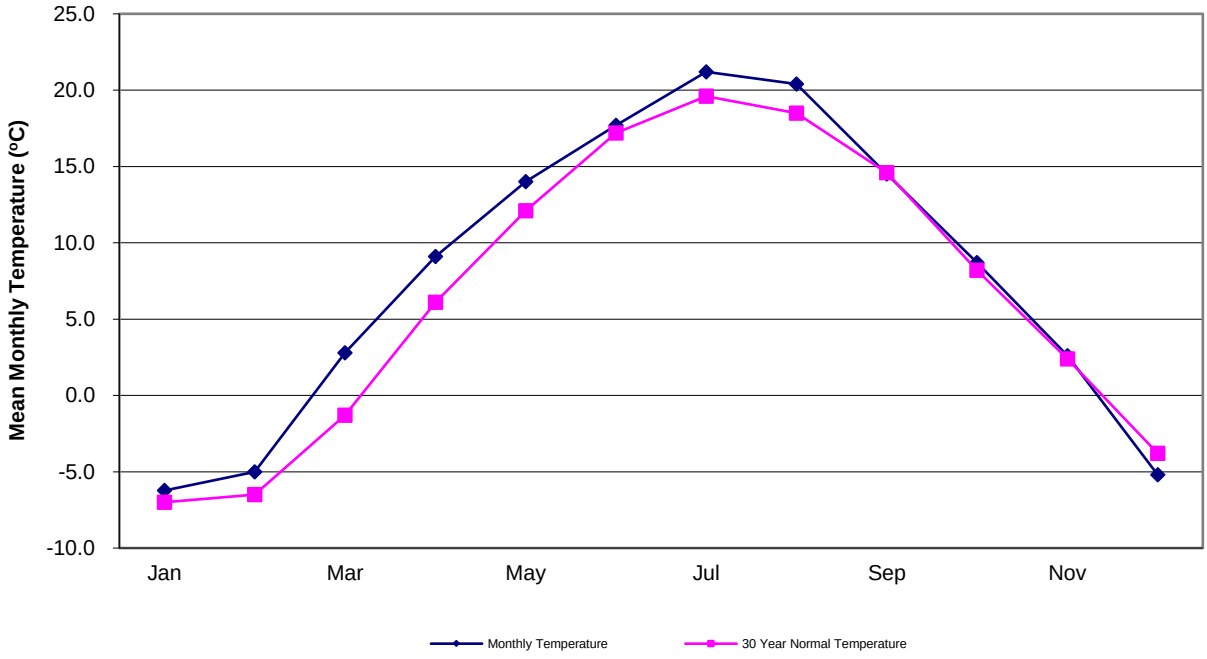
2009 TEMPERATURE DATA
ELORA CLIMATE STATION

FIGURE D-22



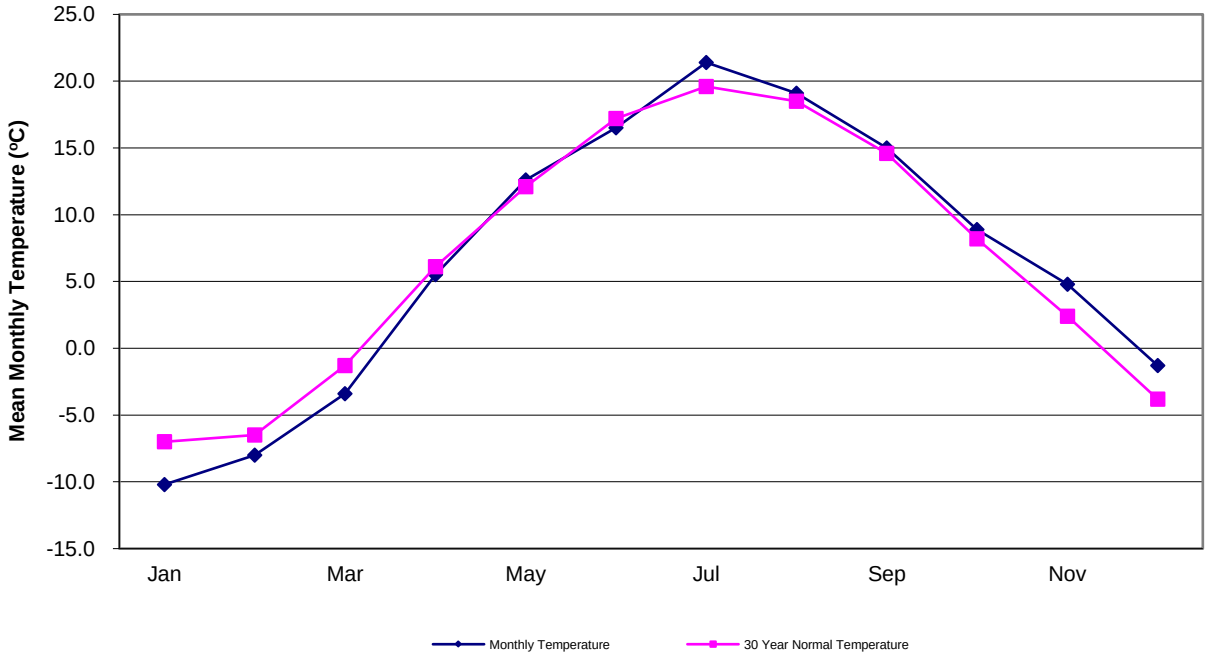
2010 TEMPERATURE DATA
REGION OF WATERLOO INT'L AIRPORT CLIMATE STATION

FIGURE D-23



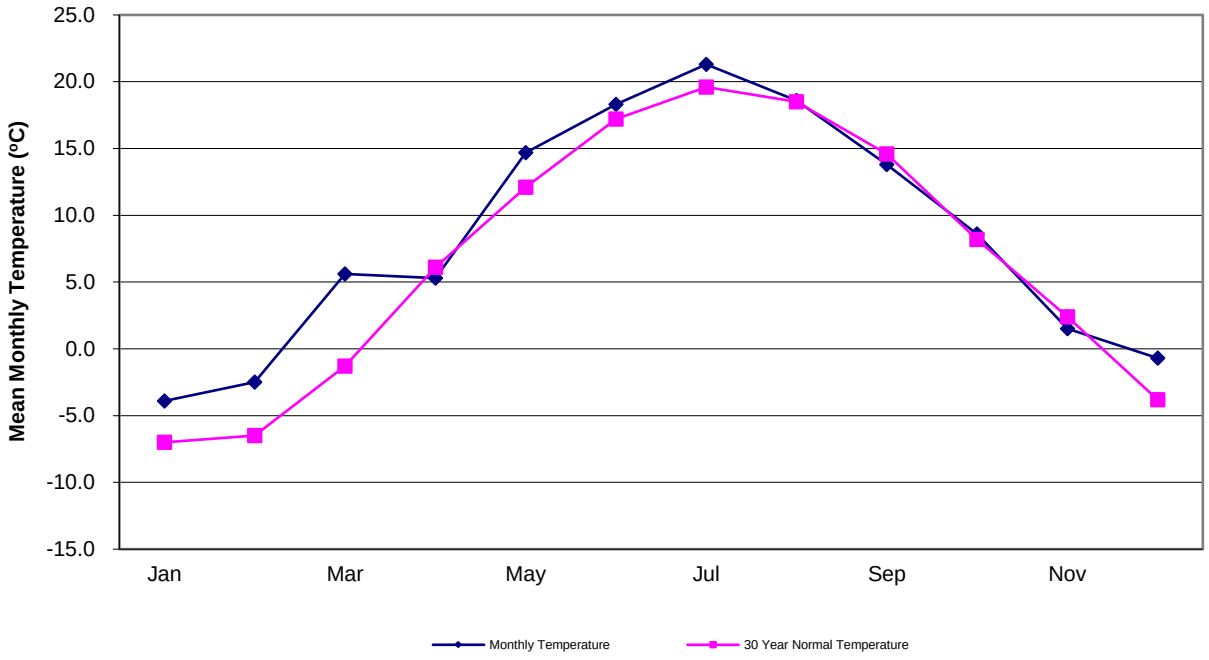
2011 TEMPERATURE DATA
ELORA CLIMATE STATION

FIGURE D-24



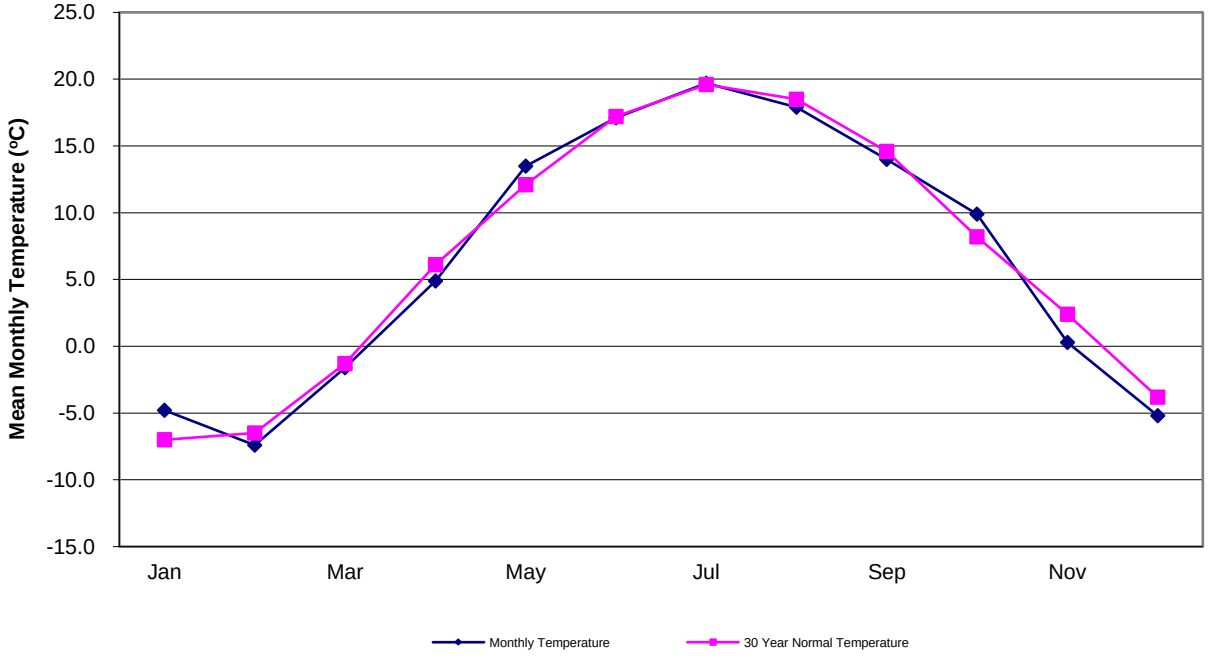
2012 TEMPERATURE DATA
ELORA CLIMATE STATION

FIGURE D-25



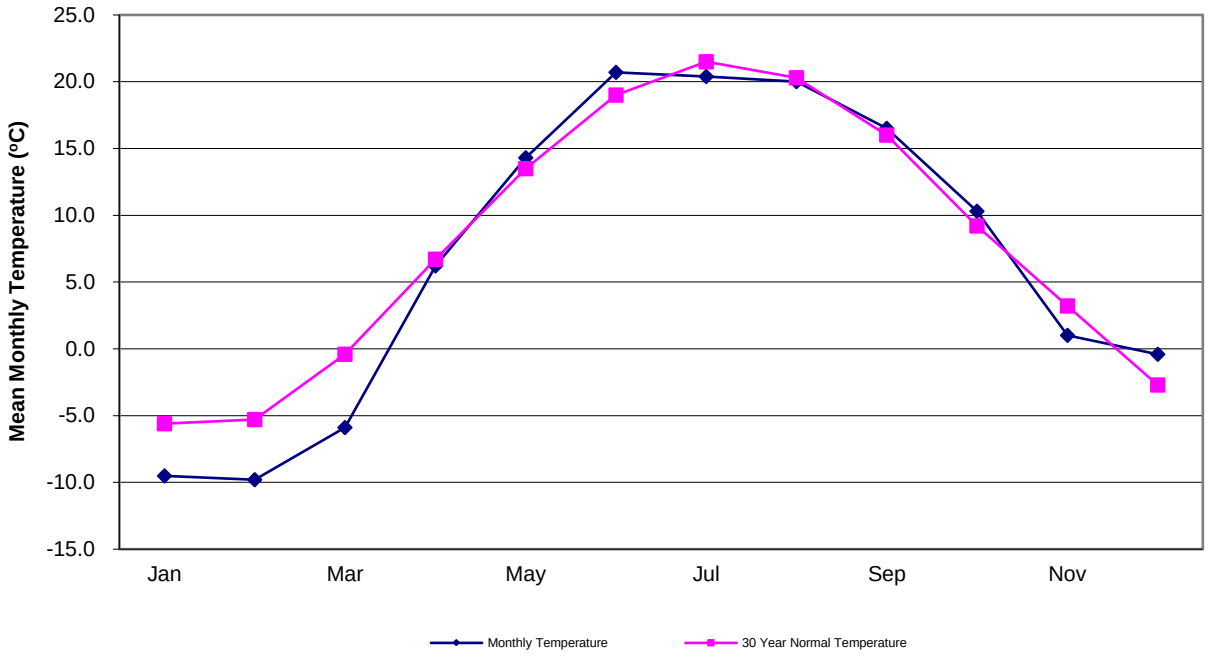
2013 TEMPERATURE DATA
ELORA CLIMATE STATION

FIGURE D-26



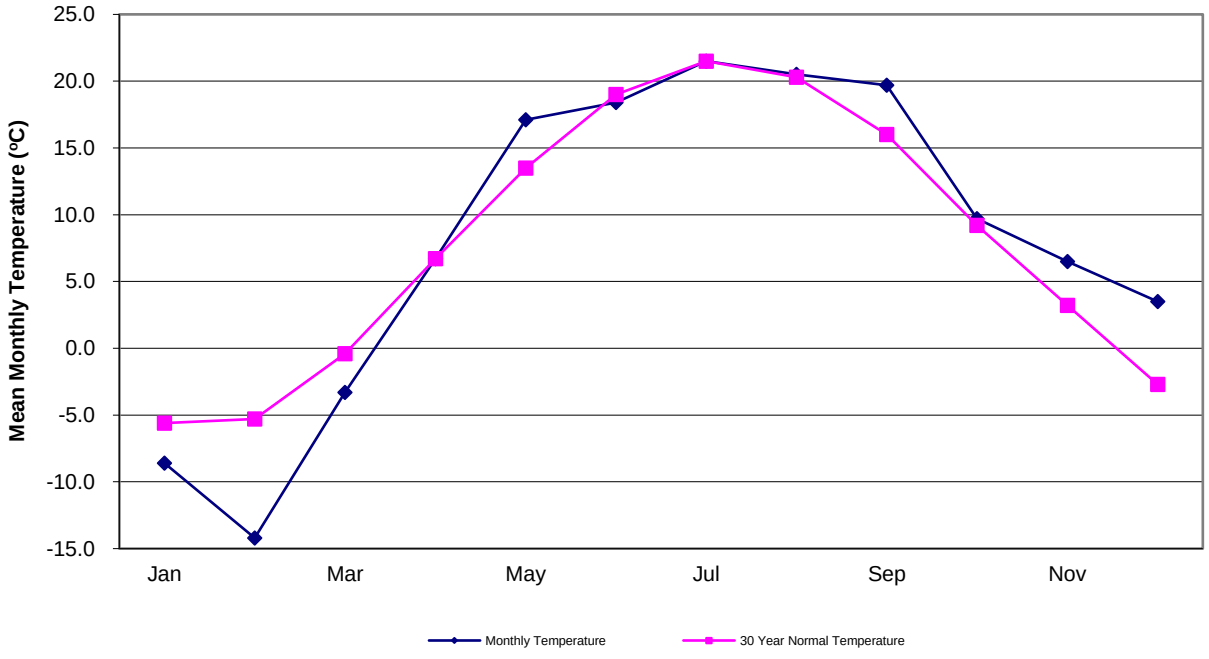
2014 TEMPERATURE DATA
SHADE'S MILLS CLIMATE STATION

FIGURE D-27



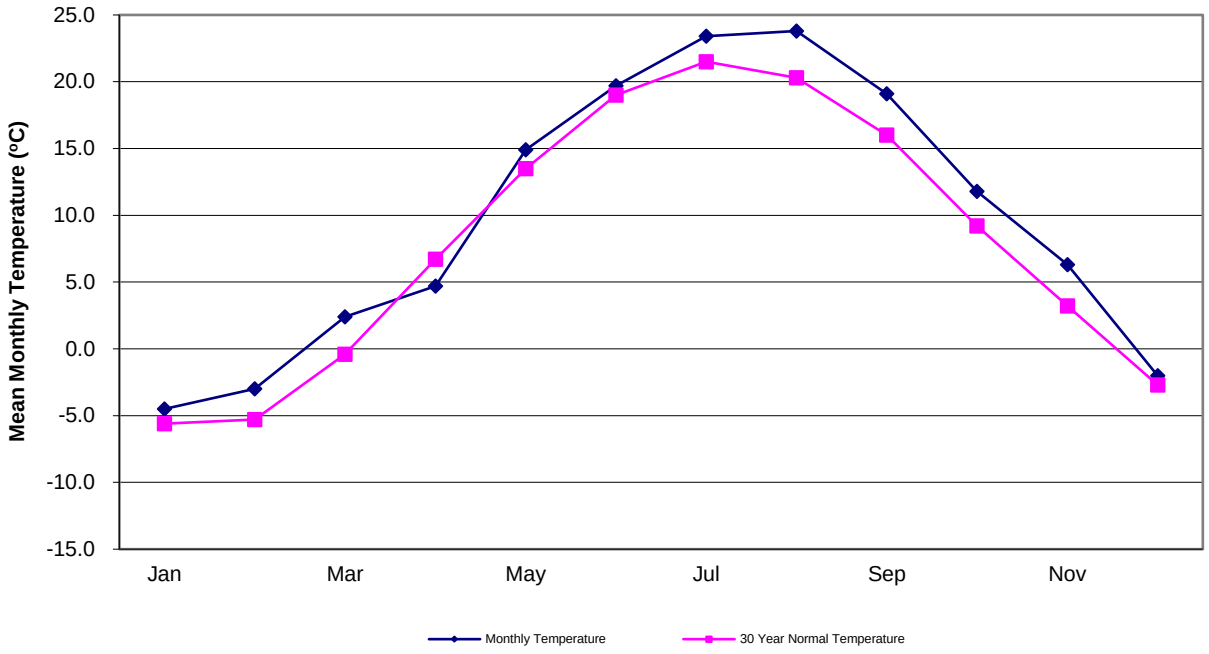
2015 TEMPERATURE DATA
SHADE'S MILLS CLIMATE STATION

FIGURE D-28



2016 TEMPERATURE DATA
SHADE'S MILLS CLIMATE STATION

FIGURE D-29

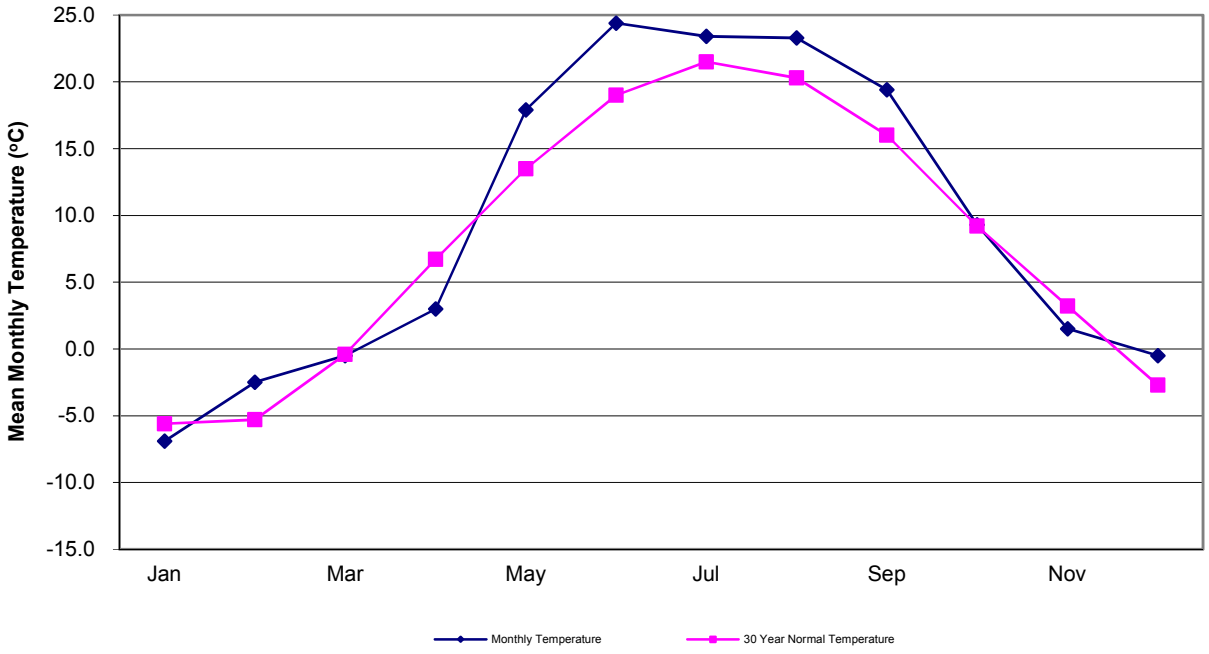


2017 TEMPERATURE DATA
SHADE'S MILLS CLIMATE STATION

FIGURE D-30

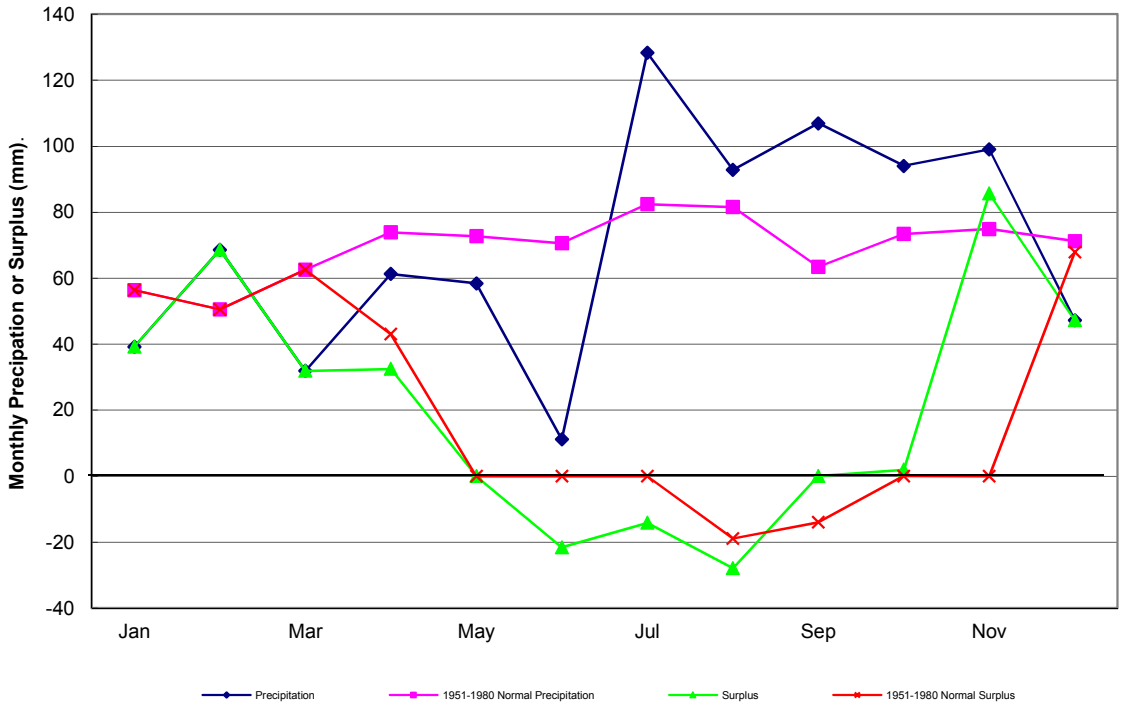
2018 TEMPERATURE DATA
SHADE'S MILLS CLIMATE STATION

FIGURE D-31



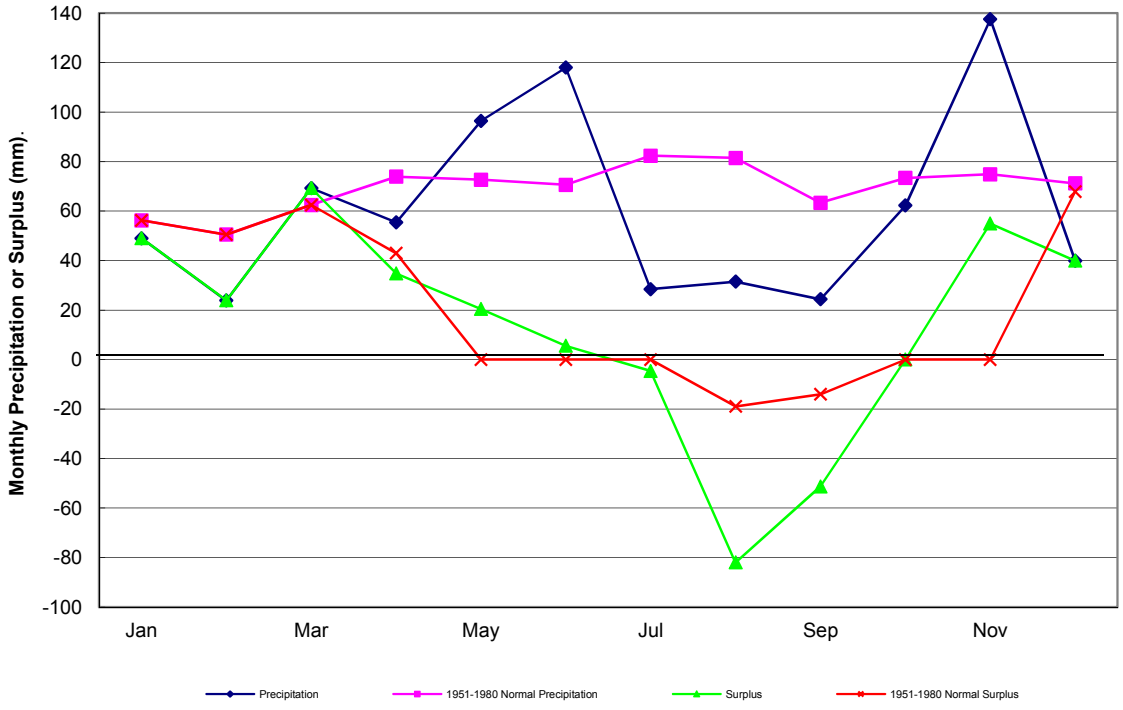
1988 PRECIPITATION DATA
GUELPH ARBORETUM CLIMATOLOGICAL STATION.

FIGURE D-32



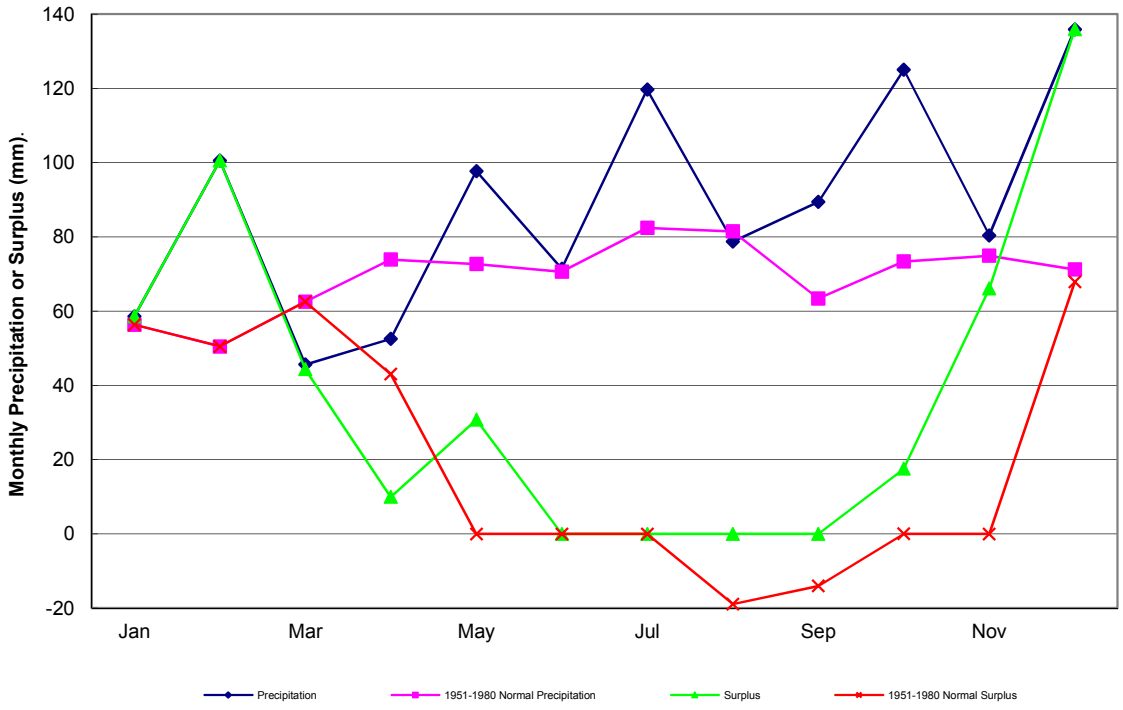
1989 PRECIPITATION DATA
GUELPH ARBORETUM CLIMATOLOGICAL STATION.

FIGURE D-33



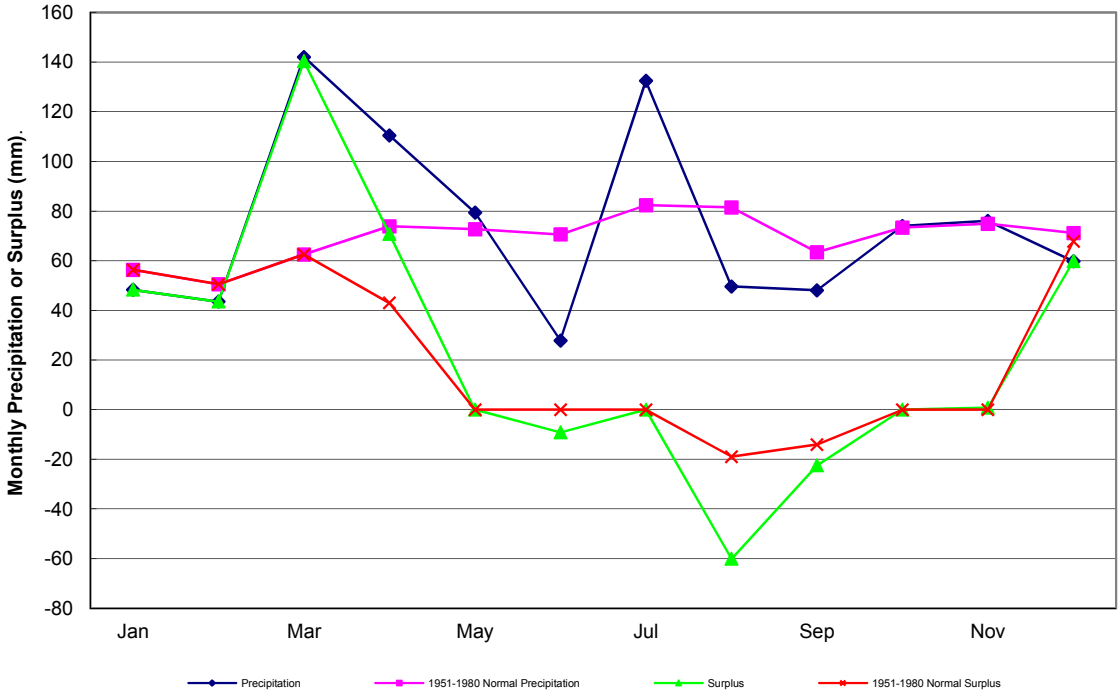
1990 PRECIPITATION DATA
GUELPH ARBORETUM CLIMATOLOGICAL STATION.

FIGURE D-34



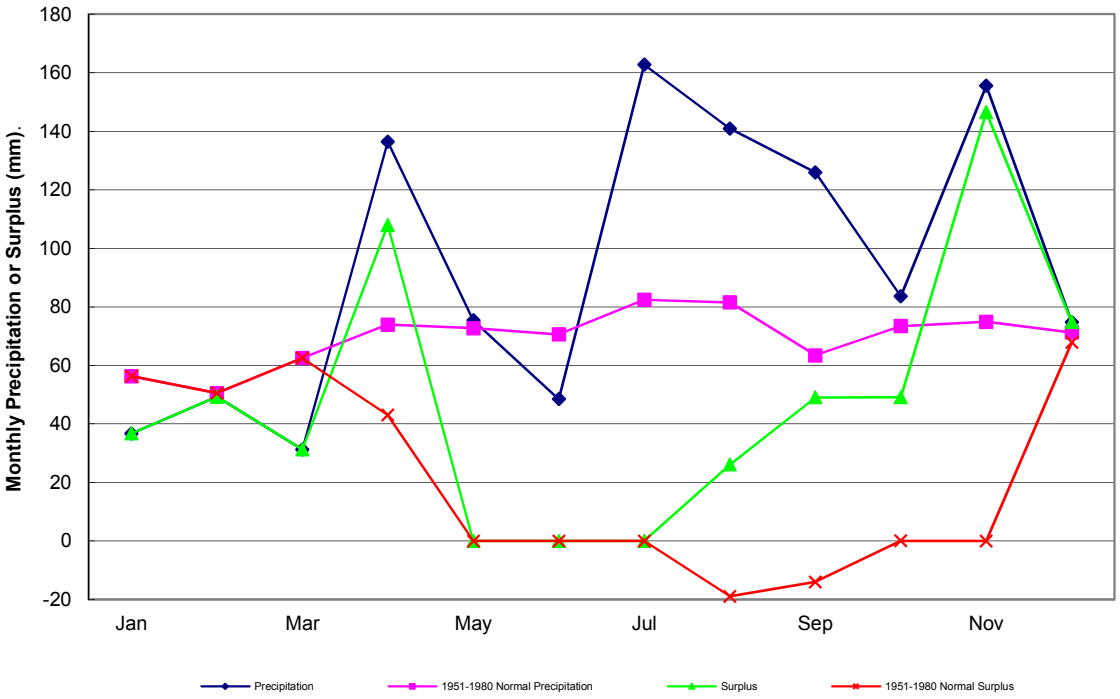
1991 PRECIPITATION DATA
GUELPH ARBORETUM CLIMATOLOGICAL STATION.

FIGURE D-35



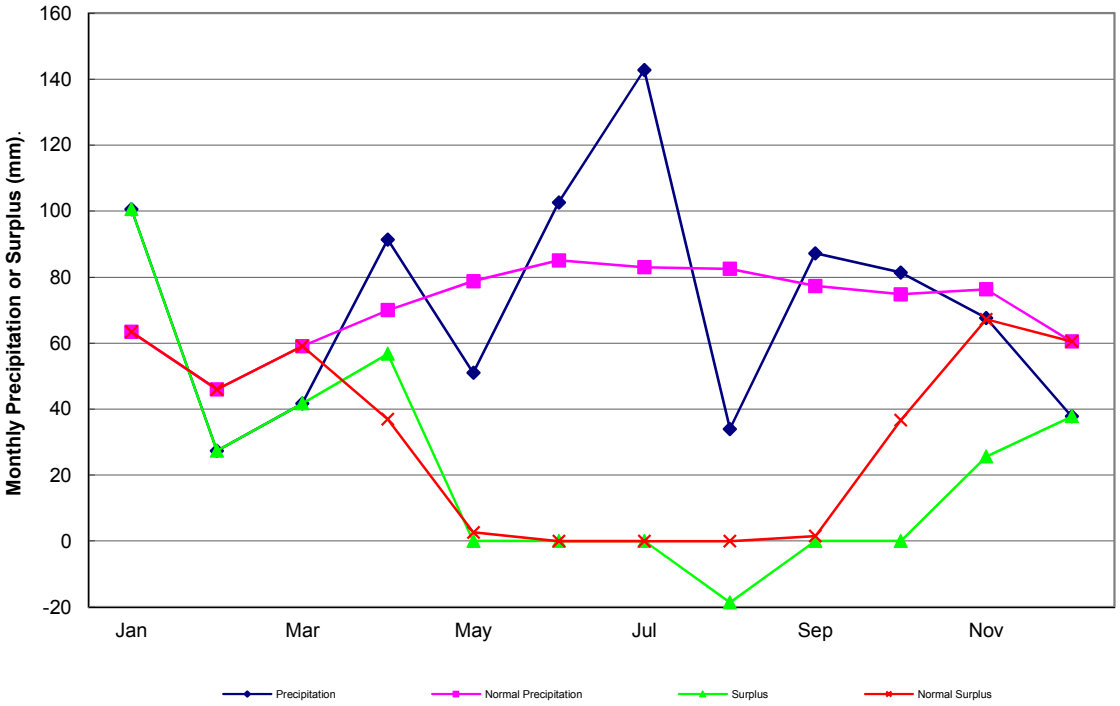
1992 PRECIPITATION DATA
GUELPH ARBORETUM CLIMATOLOGICAL STATION.

FIGURE D-36



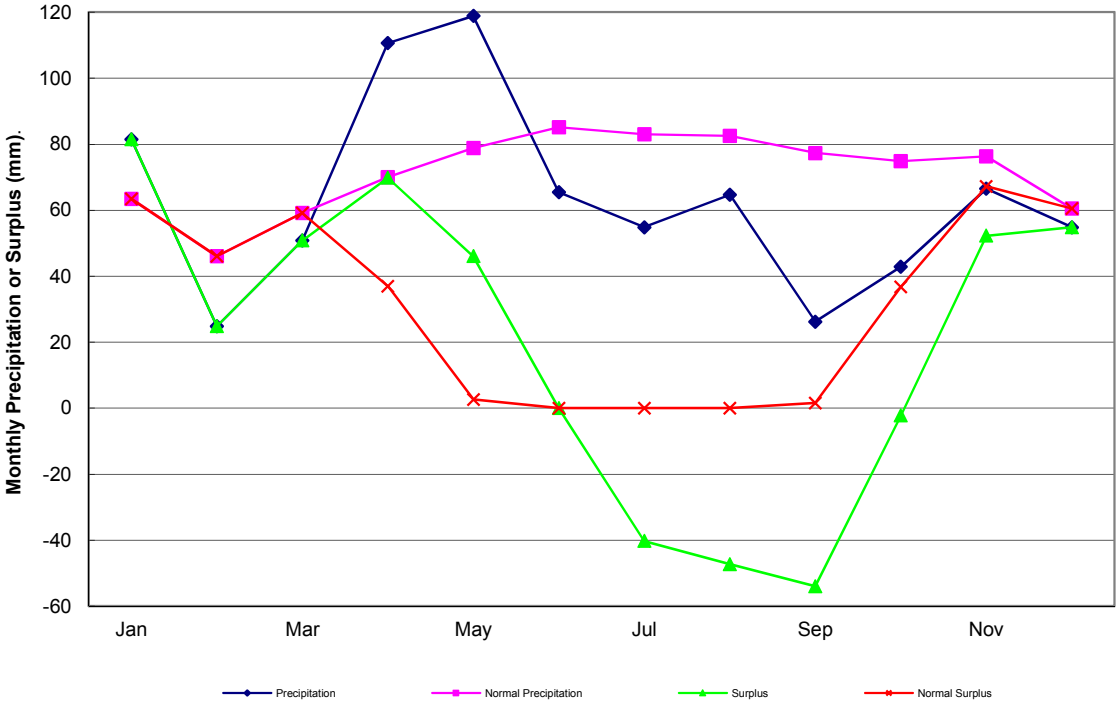
1993 PRECIPITATION DATA
PRESTON CLIMATOLOGICAL STATION.

FIGURE D-37



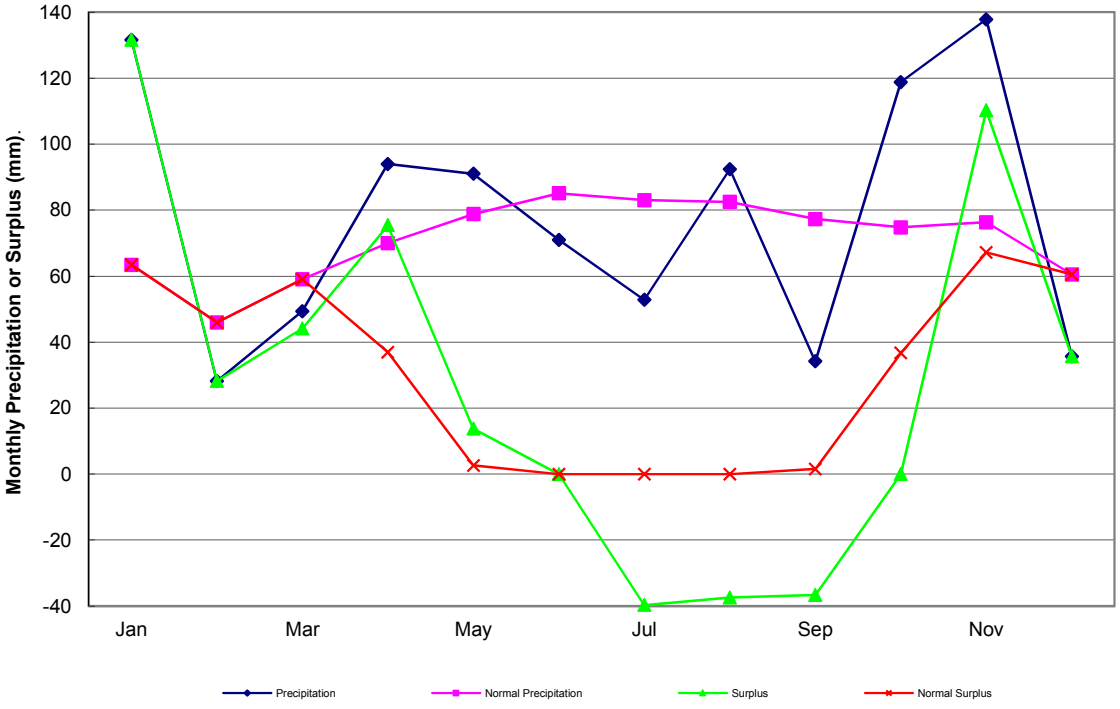
1994 PRECIPITATION DATA
PRESTON CLIMATOLOGICAL STATION.

FIGURE D-38



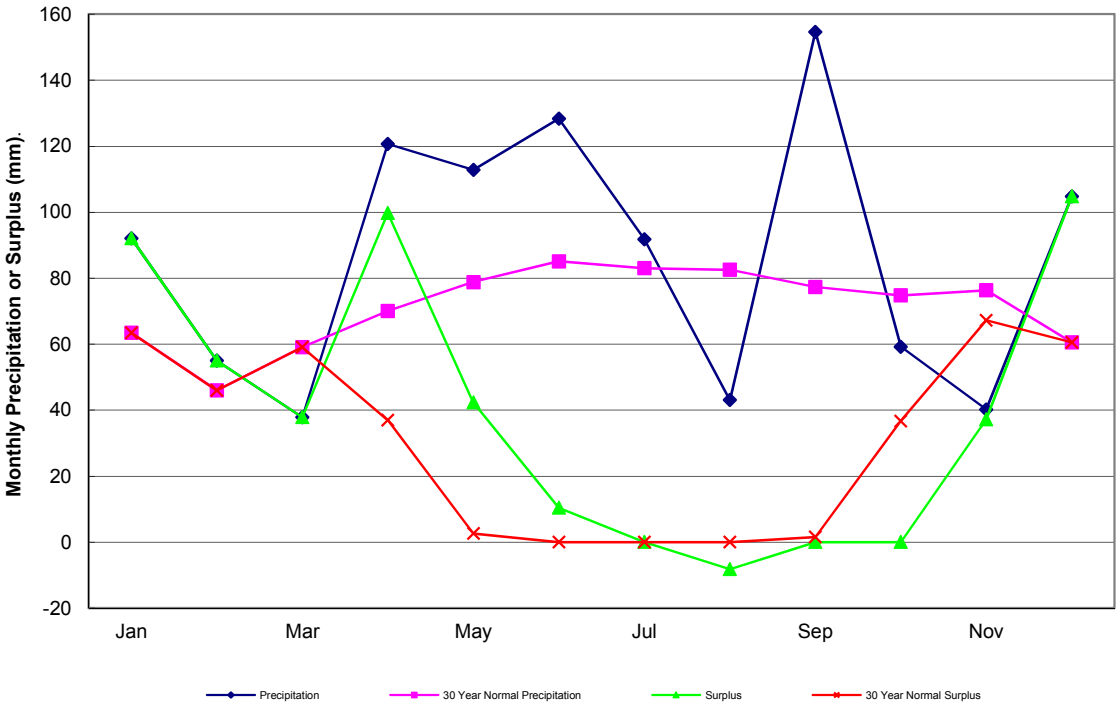
1995 PRECIPITATION DATA
PRESTON CLIMATOLOGICAL STATION.

FIGURE D-39



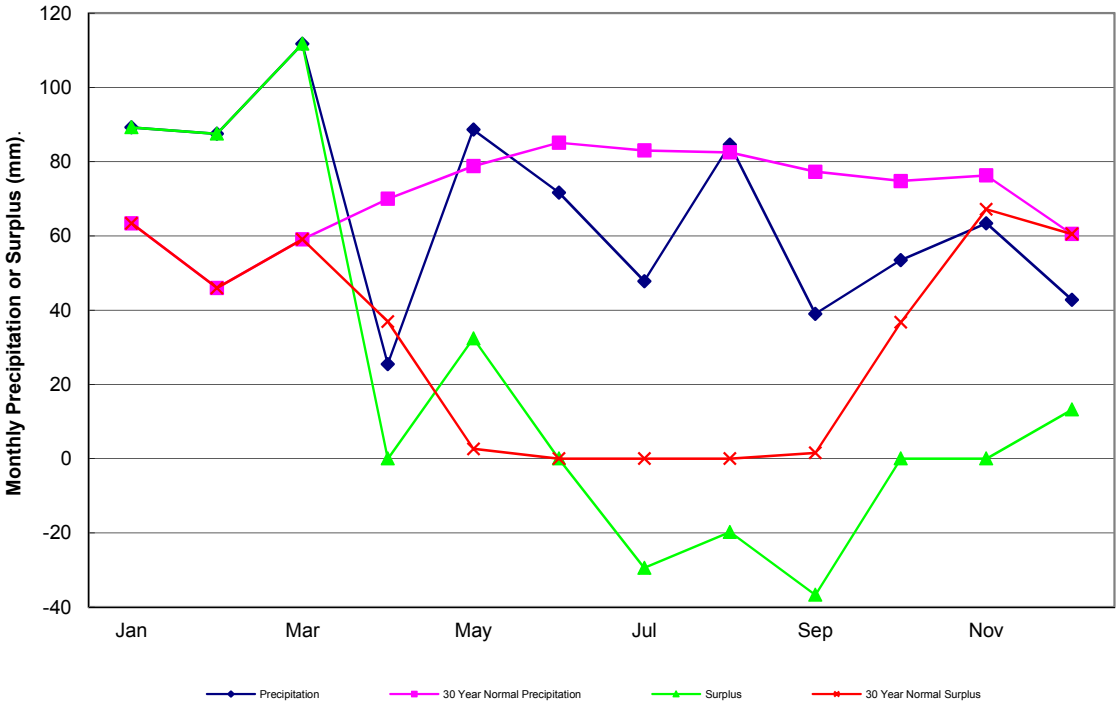
1996 PRECIPITATION DATA
WATERLOO-WELLINGTON CLIMATE STATION.

FIGURE D-40



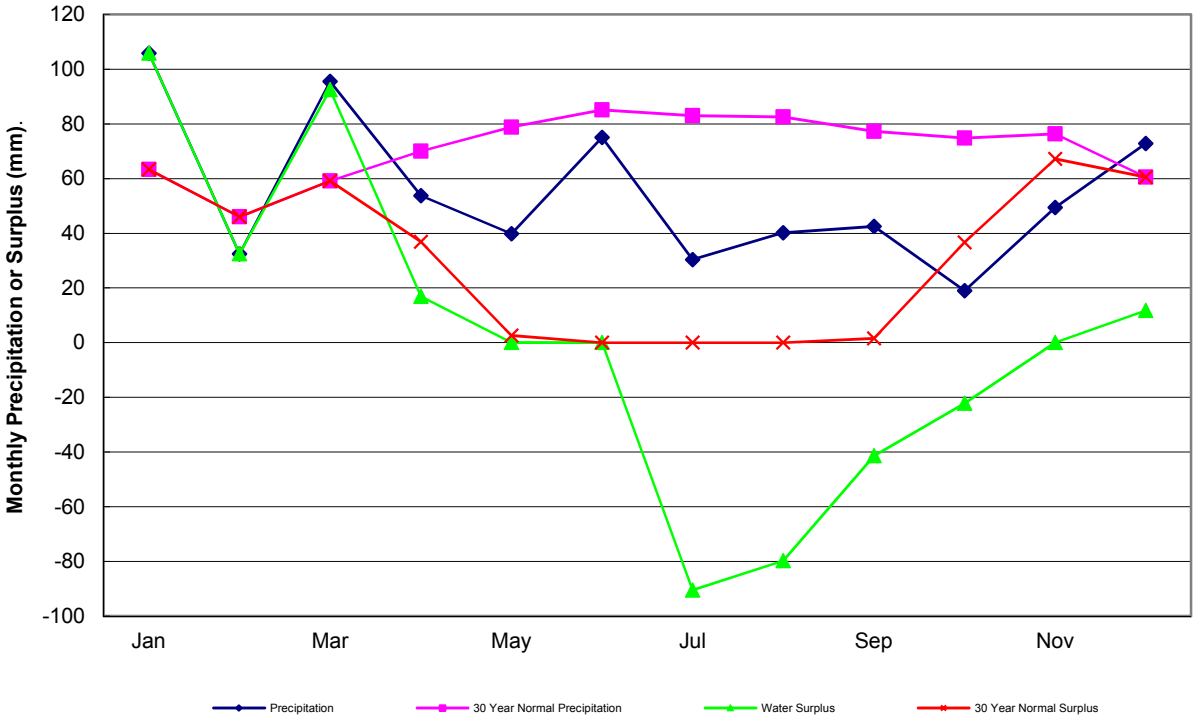
1997 PRECIPITATION DATA
WATERLOO-WELLINGTON CLIMATE STATION.

FIGURE D-41



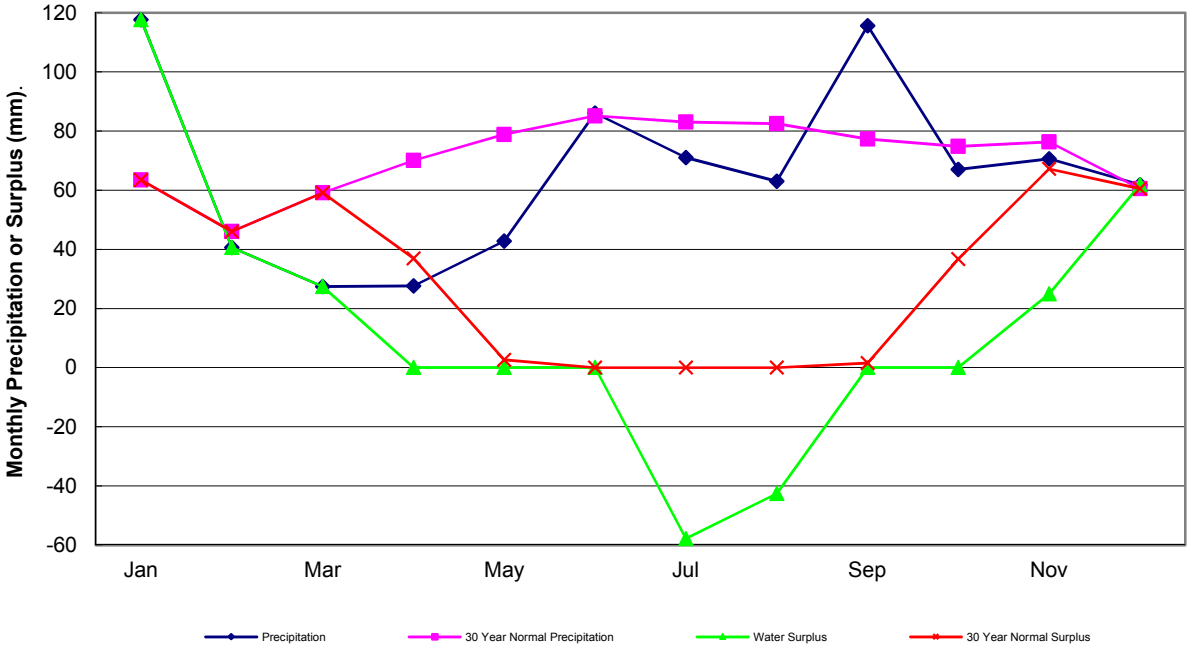
1998 PRECIPITATION DATA
WATERLOO-WELLINGTON CLIMATE STATION.

FIGURE D-42



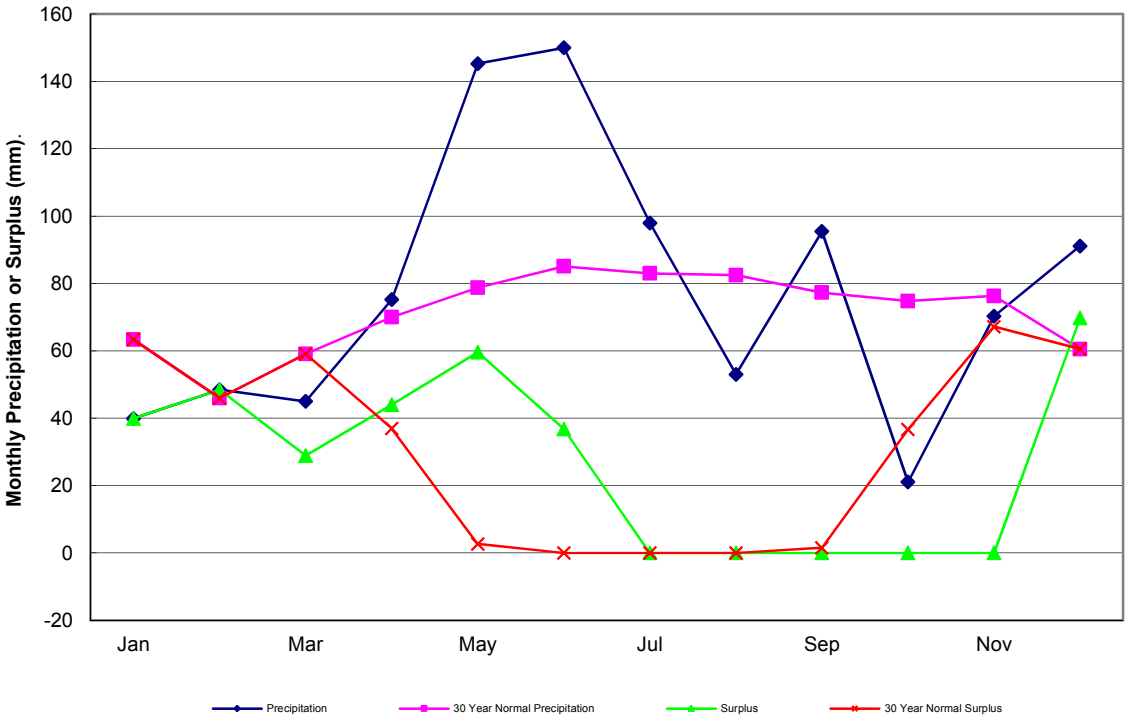
1999 PRECIPITATION DATA
WATERLOO-WELLINGTON CLIMATE STATION.

FIGURE D-43



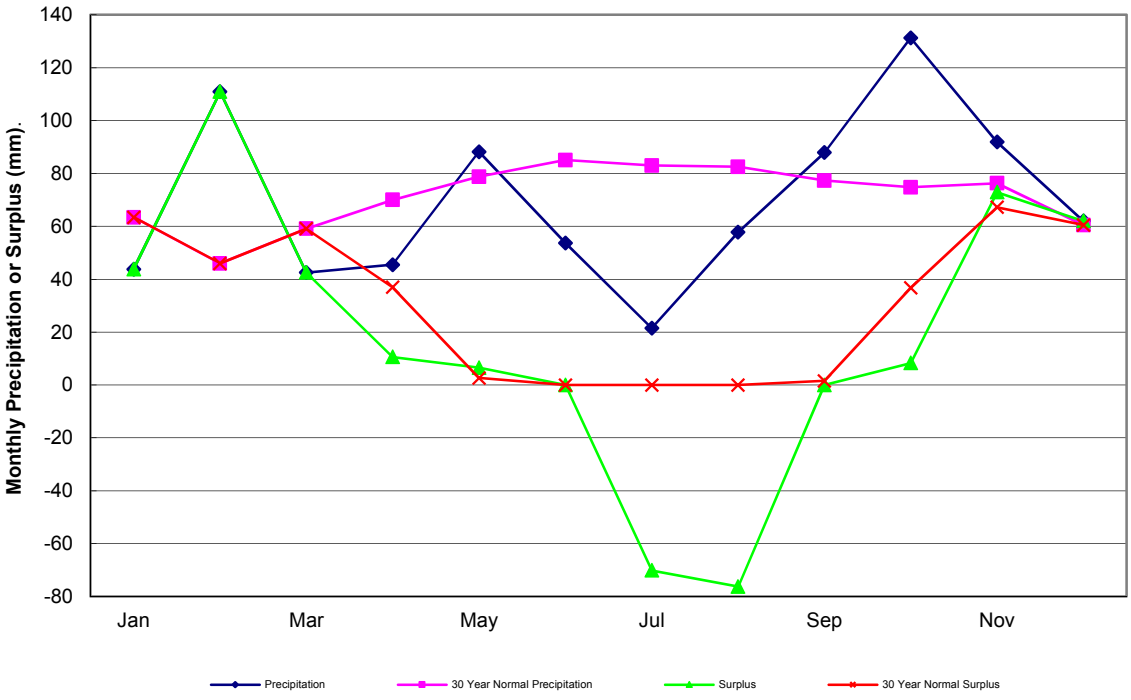
2000 PRECIPITATION DATA
WATERLOO-WELLINGTON CLIMATE STATION.

FIGURE D-44



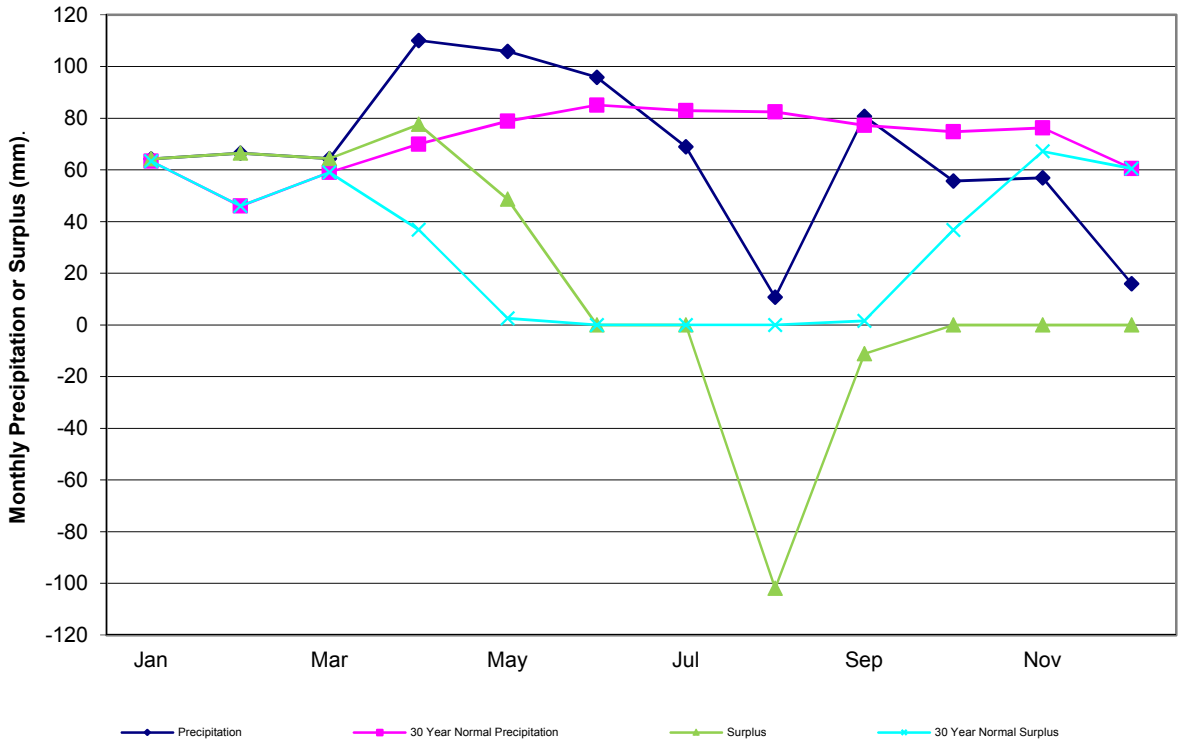
2001 PRECIPITATION DATA
WATERLOO-WELLINGTON CLIMATE STATION.

FIGURE D-45



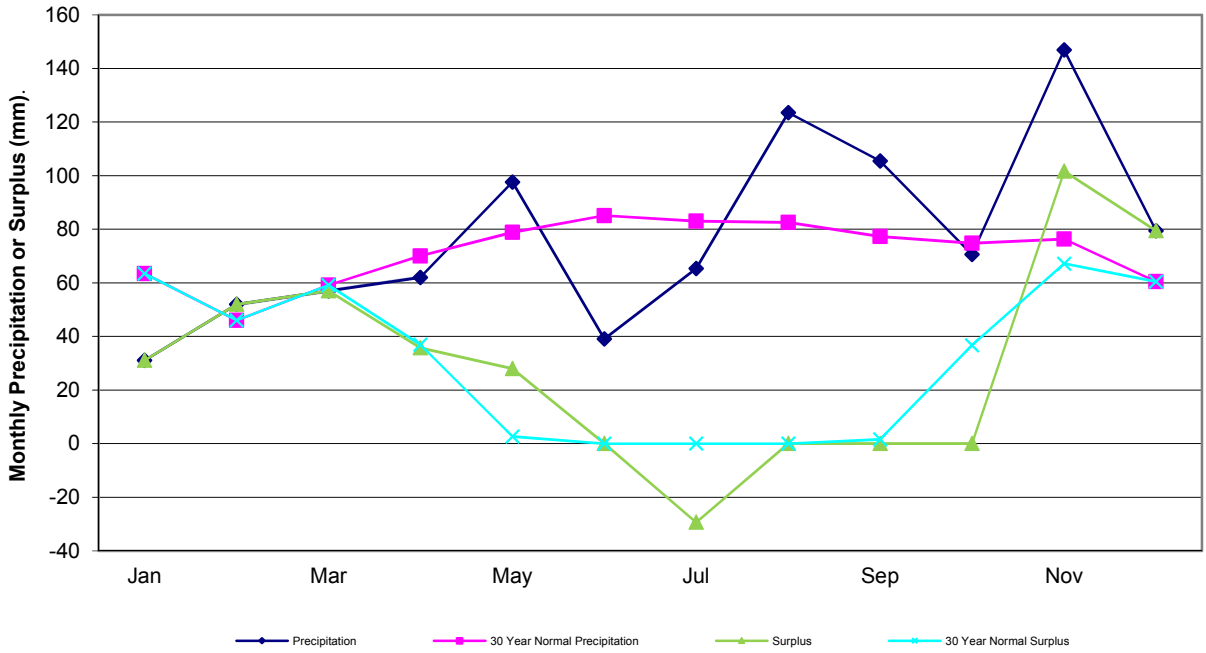
2002 PRECIPITATION DATA
WATERLOO-WELLINGTON CLIMATE STATION

FIGURE D-46



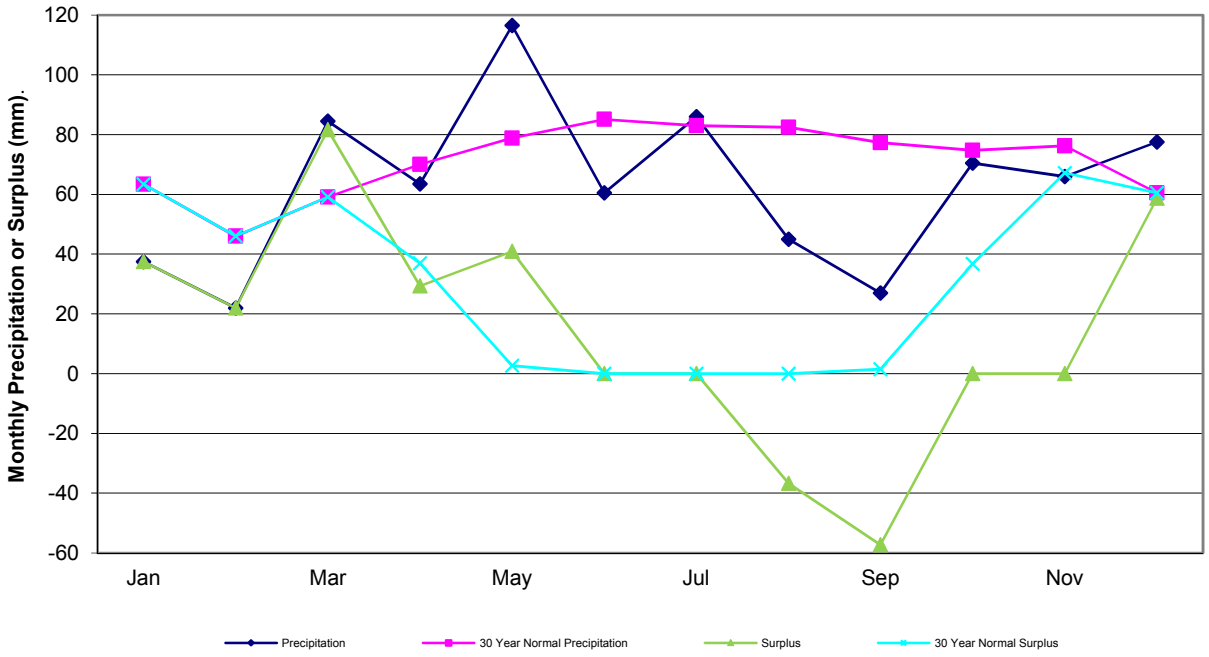
2003 PRECIPITATION DATA
WATERLOO-WELLINGTON CLIMATE STATION

FIGURE D-47



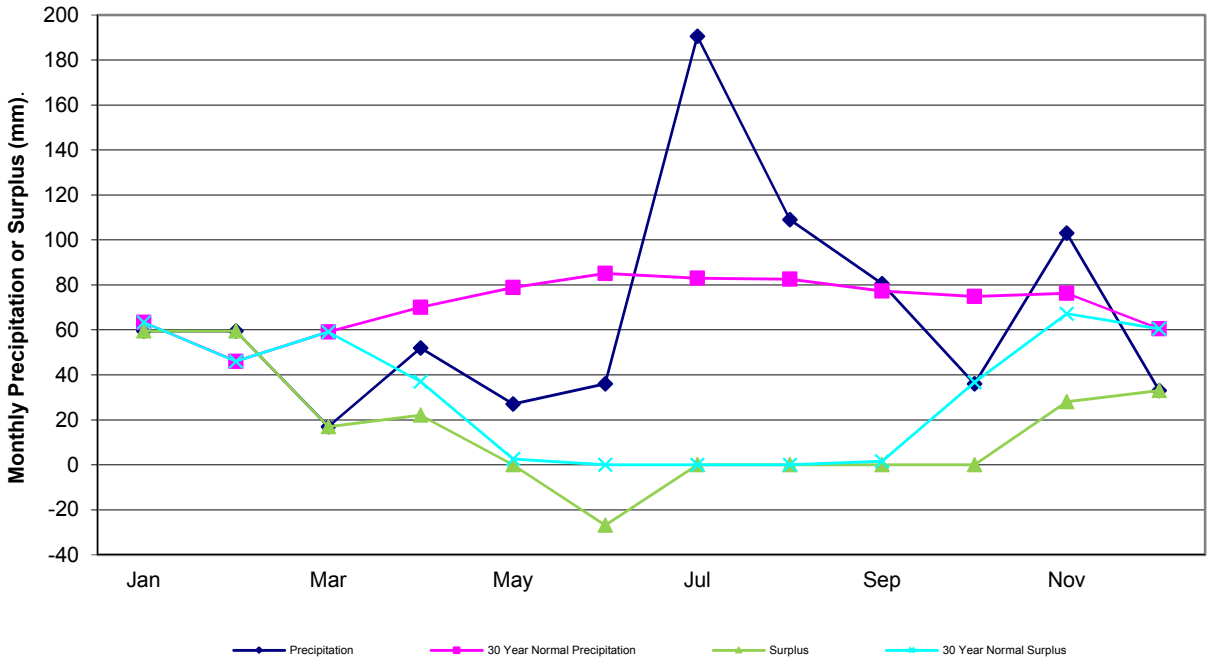
2004 PRECIPITATION DATA
WATERLOO-WELLINGTON CLIMATE STATION

FIGURE D-48



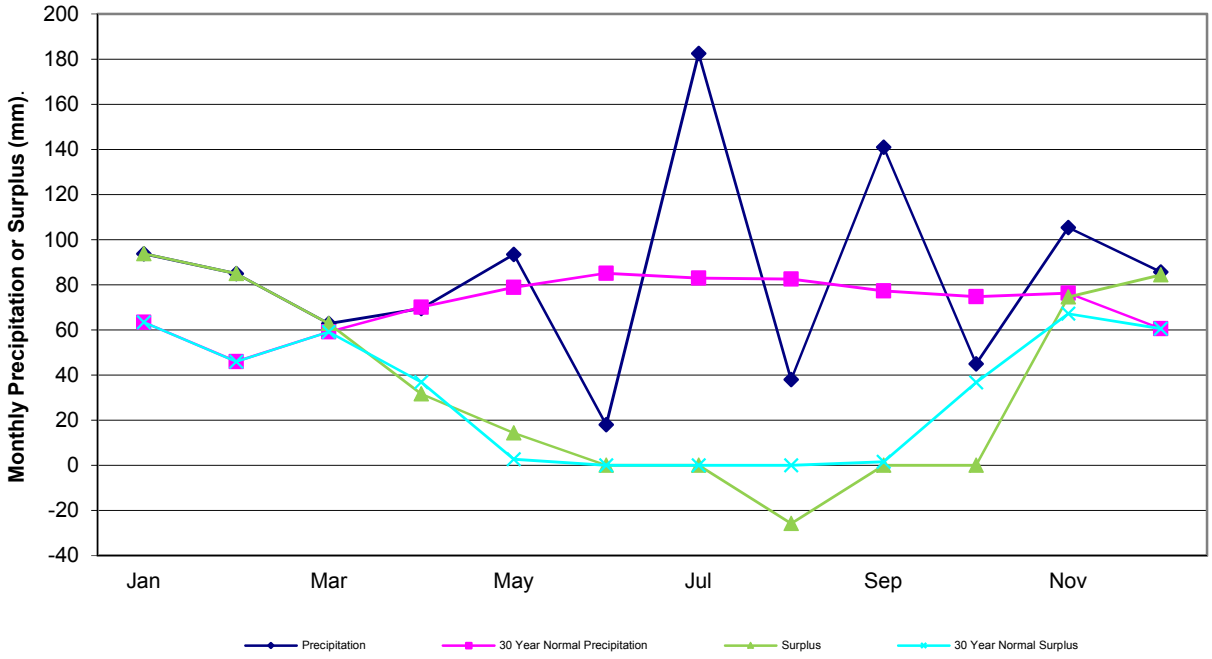
2005 PRECIPITATION DATA
WATERLOO-WELLINGTON CLIMATE STATION

FIGURE D-49



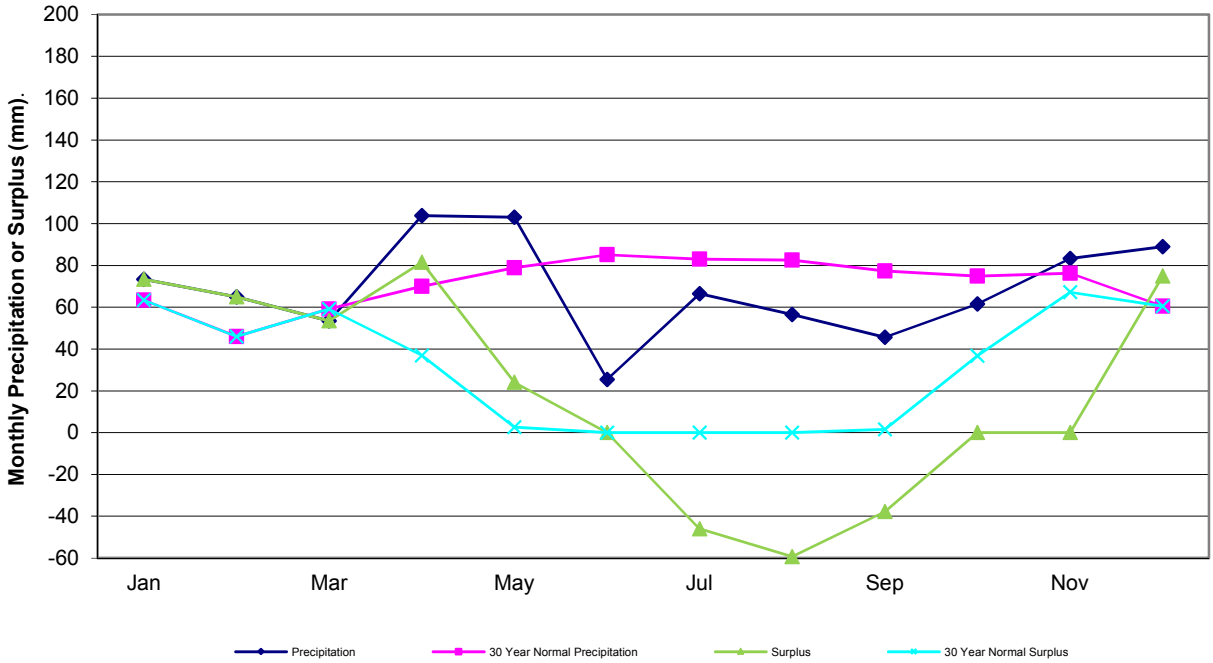
2006 PRECIPITATION DATA
WATERLOO-WELLINGTON CLIMATE STATION

FIGURE D-50



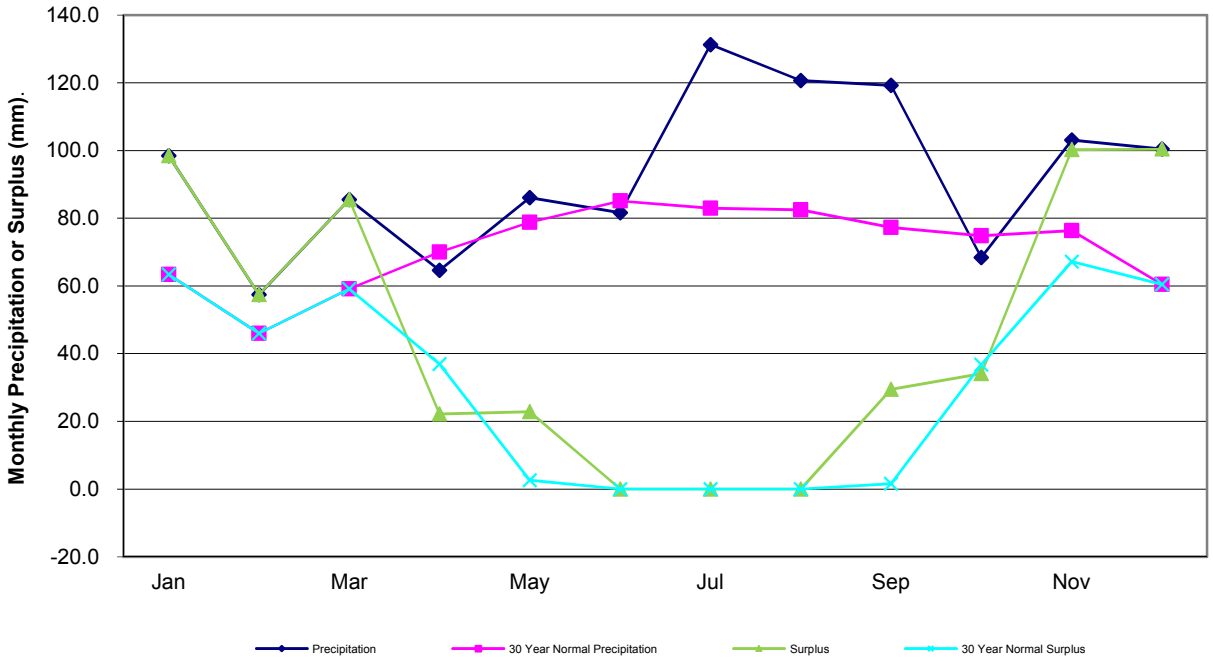
2007 PRECIPITATION DATA
WATERLOO-WELLINGTON CLIMATE STATION

FIGURE D-51



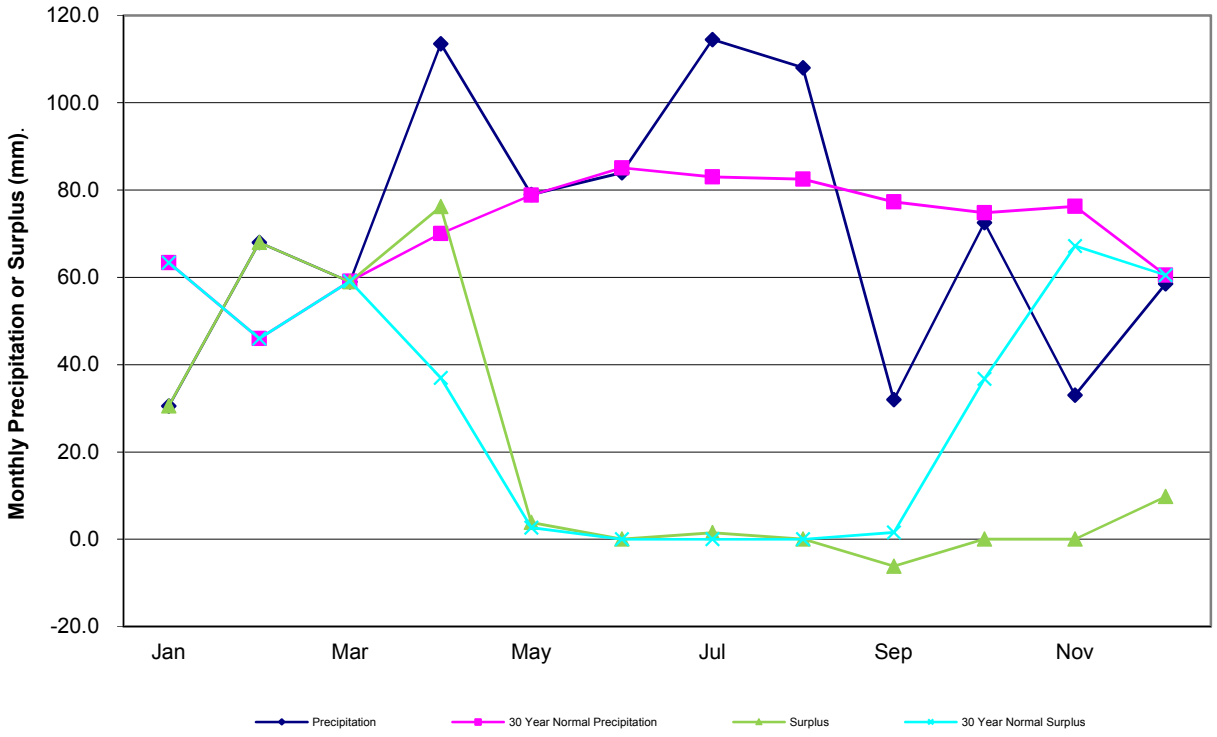
2008 PRECIPITATION DATA
ELORA CLIMATE STATION

FIGURE D-52



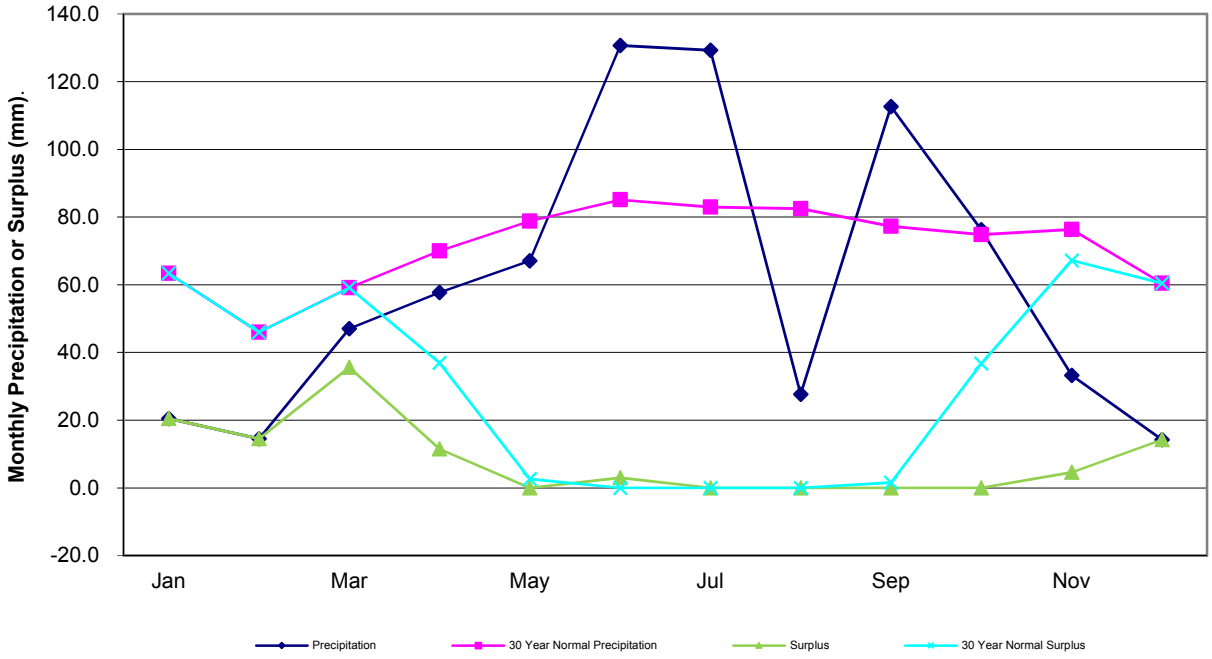
2009 PRECIPITATION DATA
ELORA CLIMATE STATION

FIGURE D-53



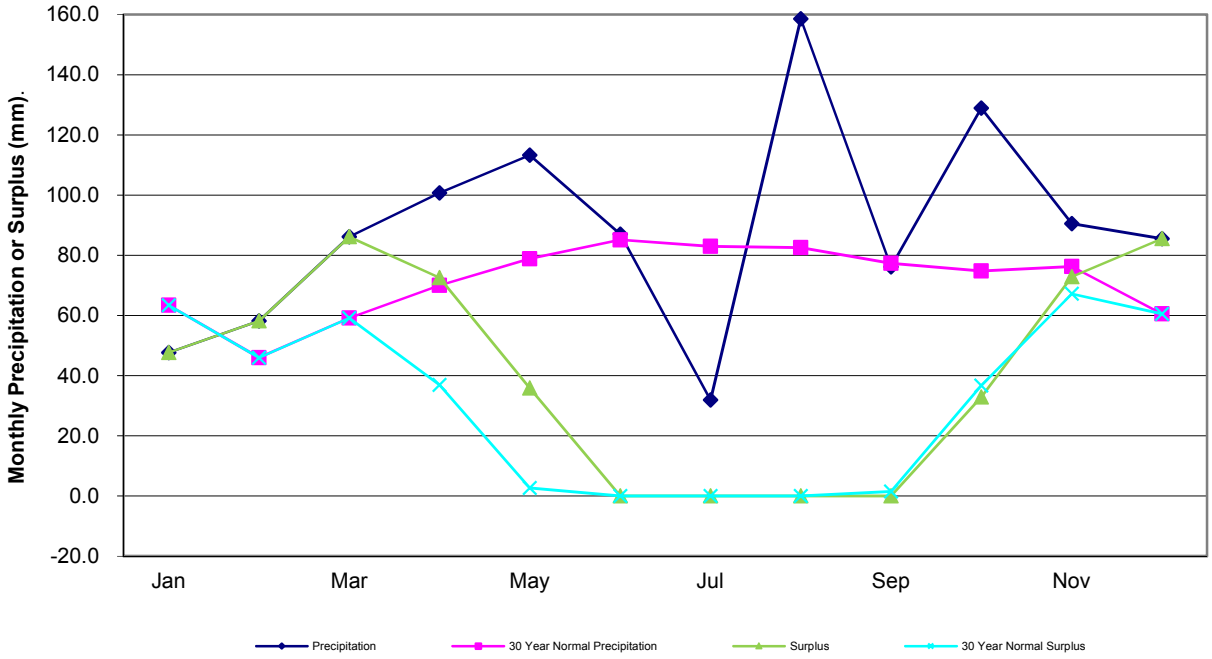
2010 PRECIPITATION DATA
REGION OF WATERLOO INT'L AIRPORT CLIMATE STATION

FIGURE D-54



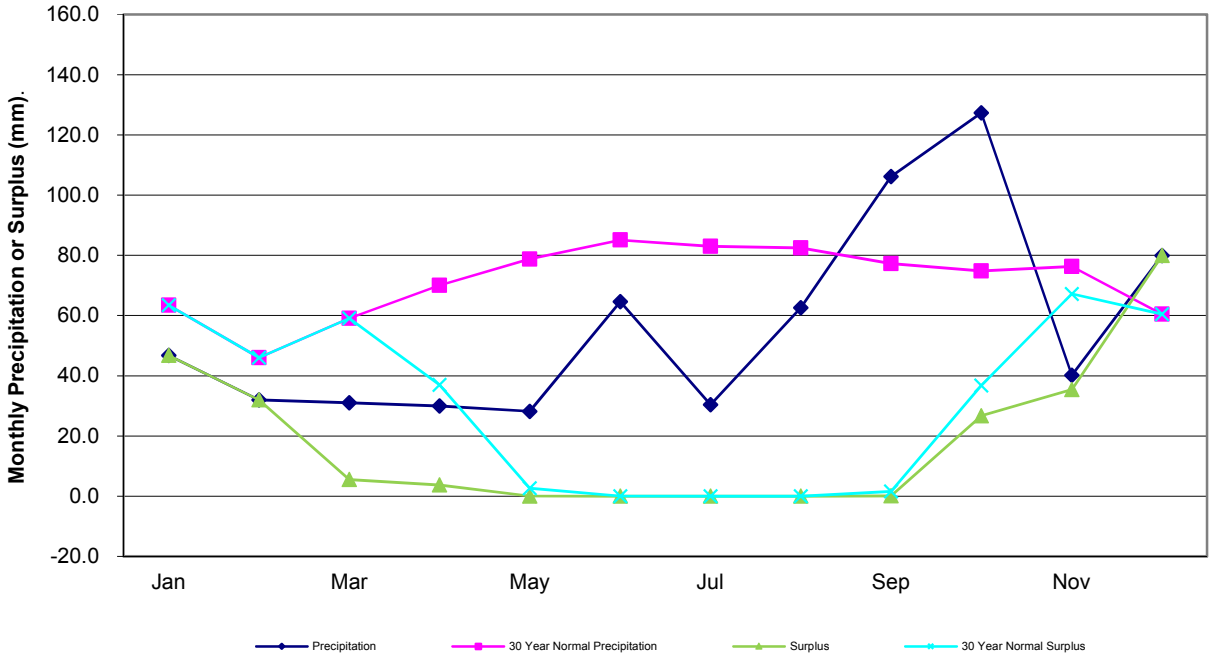
2011 PRECIPITATION DATA
ELORA CLIMATE STATION

FIGURE D-55



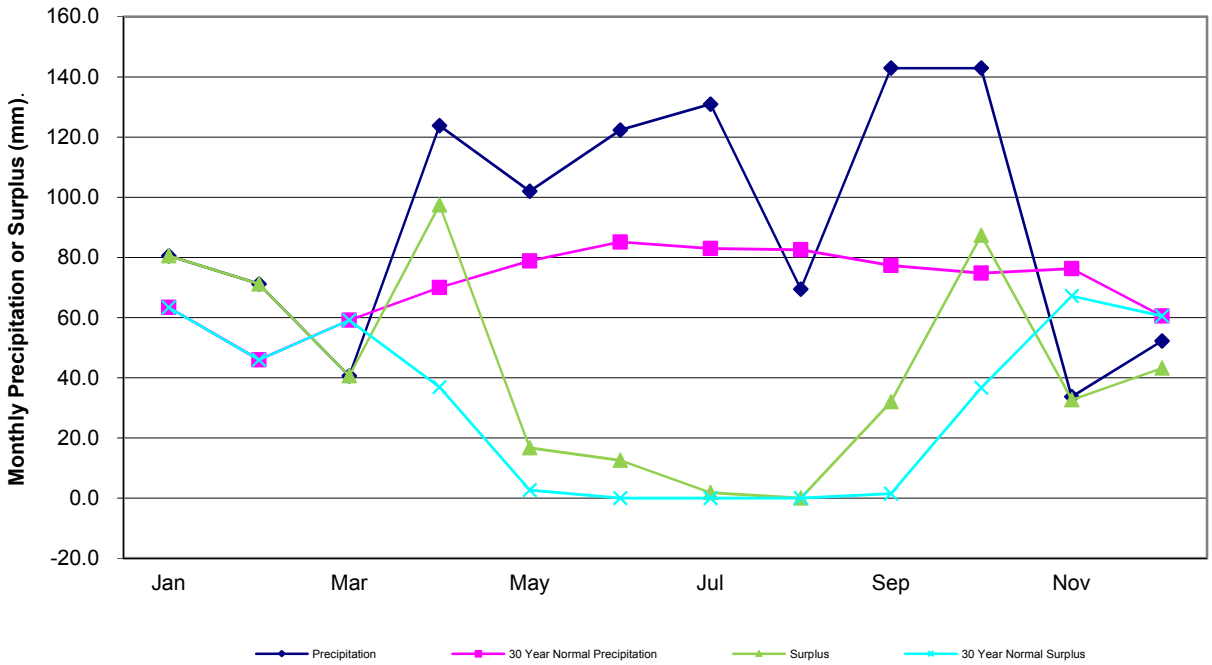
2012 PRECIPITATION DATA
ELORA CLIMATE STATION

FIGURE D-56



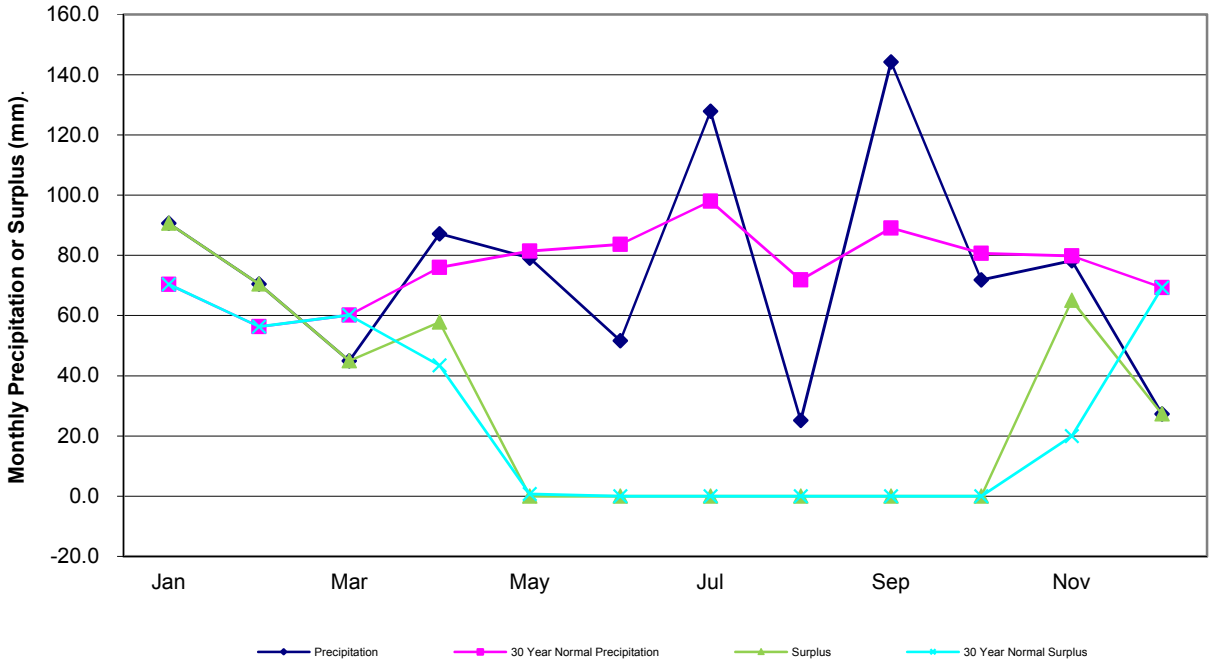
2013 PRECIPITATION DATA
ELORA CLIMATE STATION

FIGURE D-57



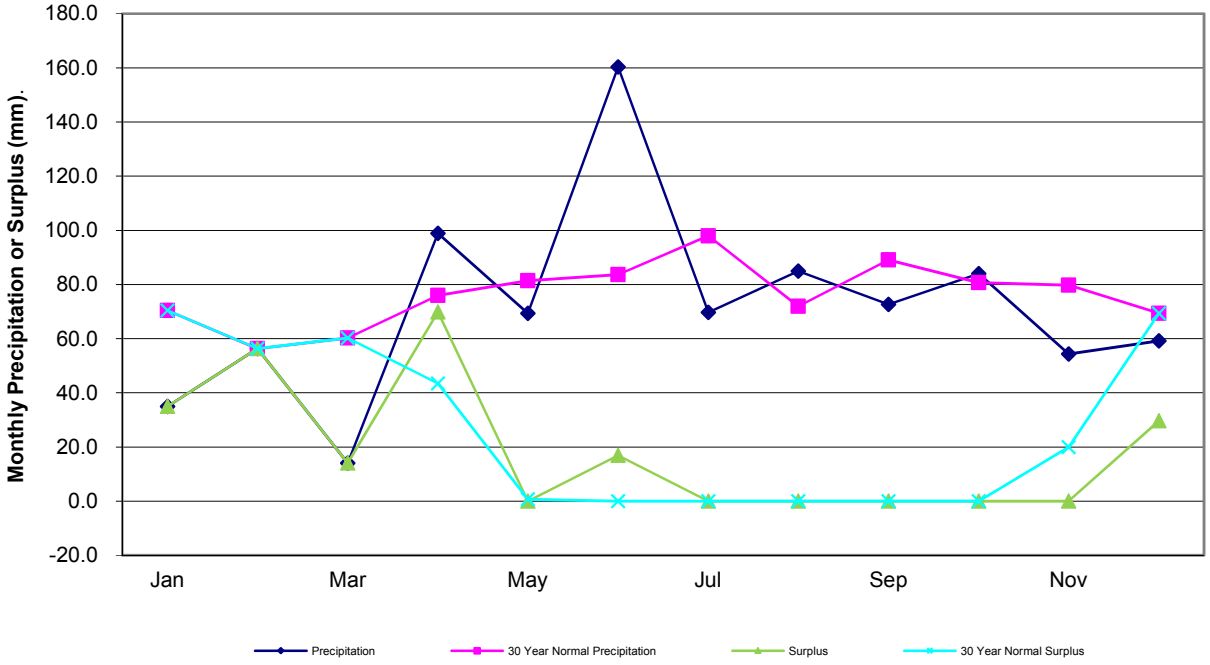
2014 PRECIPITATION DATA
SHADE'S MILLS CLIMATE STATION

FIGURE D-58



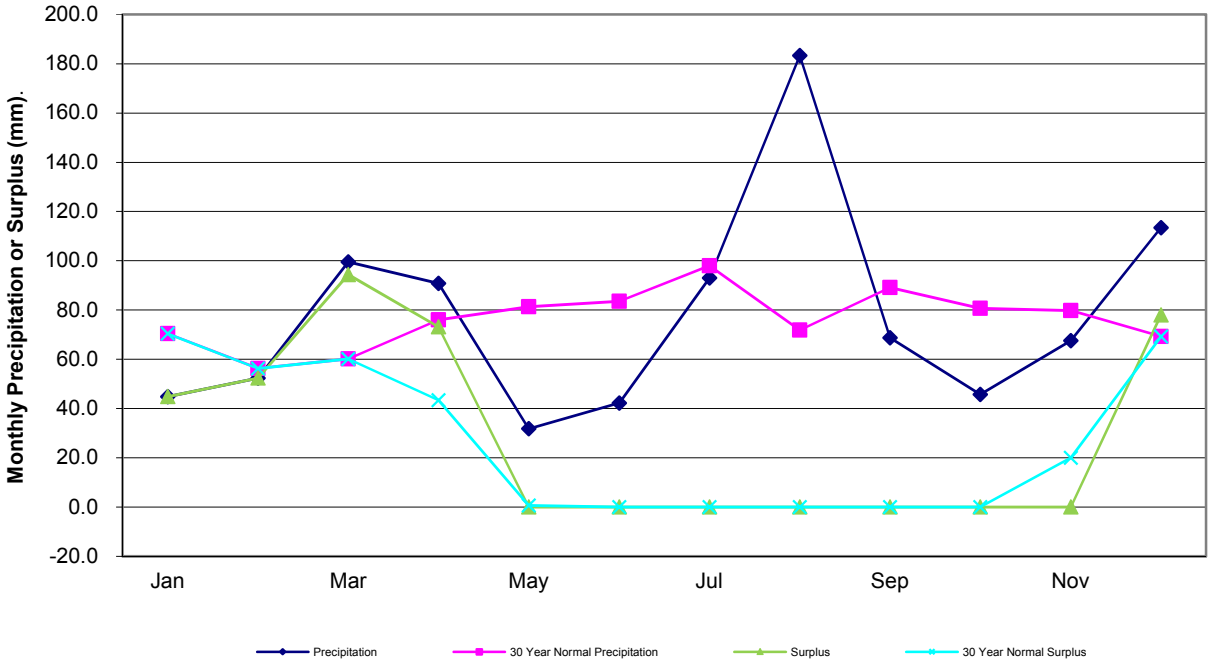
2015 PRECIPITATION DATA
SHADE'S MILLS CLIMATE STATION

FIGURE D-59



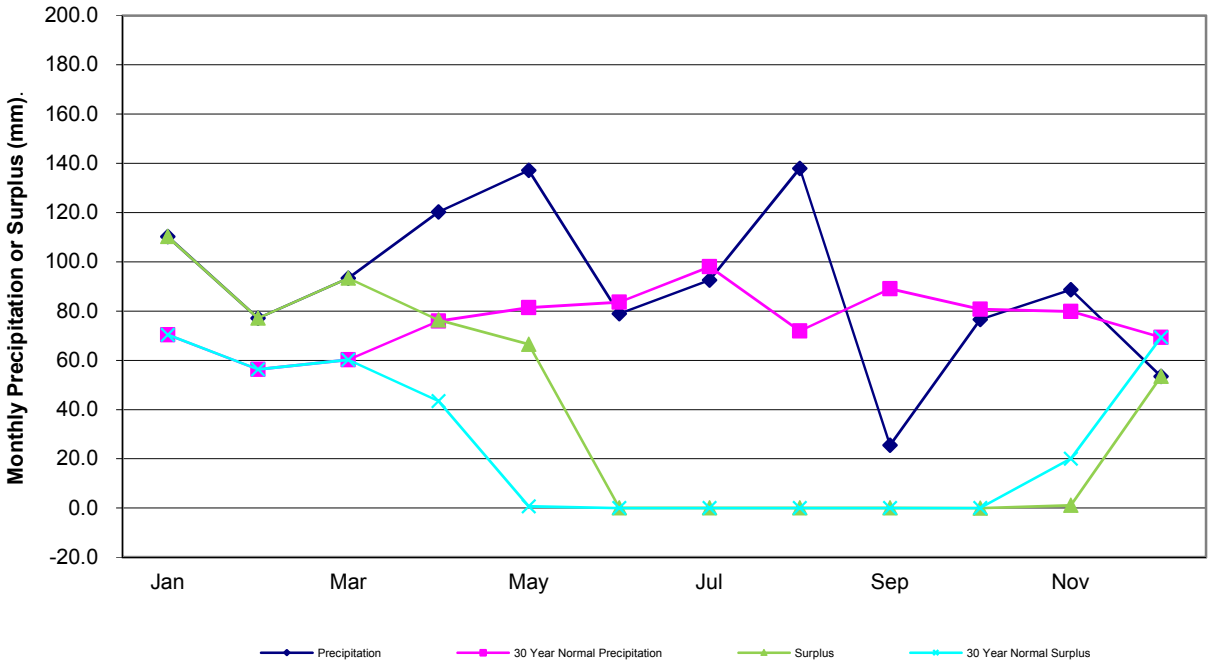
2016 PRECIPITATION DATA
SHADE'S MILLS CLIMATE STATION

FIGURE D-60



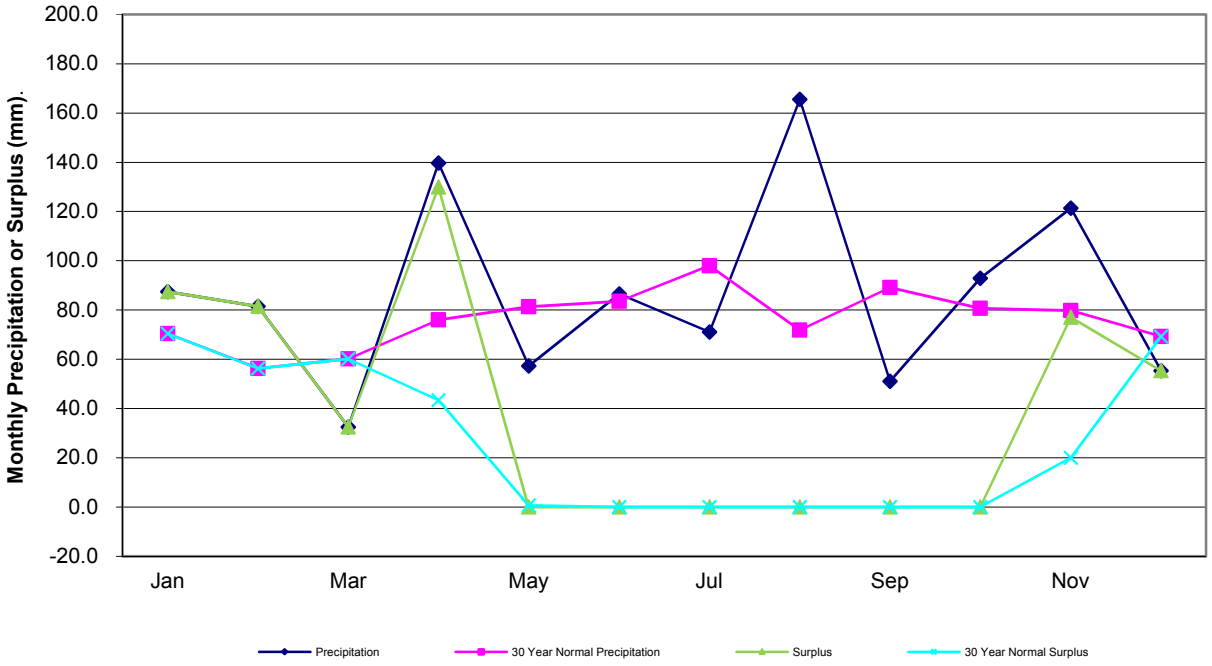
2017 PRECIPITATION DATA
SHADE'S MILLS CLIMATE STATION

FIGURE D-61



2018 PRECIPITATION DATA
SHADE'S MILLS CLIMATE STATION

FIGURE D-62



APPENDIX

E PUMPING DATA

TABLE E-1
2018 PUMPING DATA - APRIL AND MAY
MILL CREEK AGGREGATES PIT

Date	From Phase 1 Pond for Washing	Production Losses (5%)	Discharge to Phase 4 Pond	From Phase 4 to Phase 1 Pond	Change in Volume from Processing	
					Phase 1 Pond	Phase 4 Pond
1-Apr-18	0	0	0	0	0	0
2-Apr-18	1,294,519	64,726	1,229,793	0	-1,294,519	1,229,793
3-Apr-18	1,486,552	74,328	1,412,225	0	-1,486,552	1,412,225
4-Apr-18	1,599,836	79,992	1,519,845	0	-1,599,836	1,519,845
5-Apr-18	0	0	0	0	0	0
6-Apr-18	0	0	0	0	0	0
7-Apr-18	0	0	0	0	0	0
8-Apr-18	0	0	0	0	0	0
9-Apr-18	0	0	0	0	0	0
10-Apr-18	1,360,070	0	0	1,996,535	0	0
11-Apr-18	1,529,886	0	0	2,007,359	0	0
12-Apr-18	1,483,033	0	0	2,740,865	0	0
13-Apr-18	1,610,615	80,531	1,530,084	0	-1,610,615	1,530,084
14-Apr-18	0	0	0	0	0	0
15-Apr-18	0	0	0	0	0	0
16-Apr-18	0	0	0	0	0	0
17-Apr-18	439,938	21,997	417,942	0	-439,938	417,942
18-Apr-18	1,627,772	81,389	1,546,384	1,935,757	307,984	-389,373
19-Apr-18	1,613,474	80,674	1,532,801	2,497,751	884,276	-964,950
20-Apr-18	1,583,119	79,156	1,503,963	3,049,754	1,466,635	-1,545,791
21-Apr-18	679,265	33,963	645,302	0	-679,265	645,302
22-Apr-18	0	0	0	0	0	0
23-Apr-18	1,554,523	77,726	1,476,797	2,566,023	1,011,500	-1,089,226
24-Apr-18	1,540,665	77,033	1,463,631	2,127,251	586,586	-663,620
25-Apr-18	1,512,069	75,603	1,436,465	2,315,415	803,346	-878,950
26-Apr-18	1,481,713	74,086	1,407,627	2,215,505	733,792	-807,878
27-Apr-18	1,556,282	77,814	1,478,468	0	-1,556,282	1,478,468
28-Apr-18	650,009	32,500	617,509	0	-650,009	617,509
29-Apr-18	0	0	0	0	0	0
30-Apr-18	1,581,359	79,068	1,502,291	1,920,770	339,411	-418,479
TOTAL	26,184,699	1,090,586	25,094,114	25,372,985	-811,714	-278,872

Date	From Phase 1 Pond for Washing	Production Losses (5%)	Discharge to Phase 4 Pond	From Phase 4 to Phase 1 Pond	Change in Volume from Processing	
					Phase 1 Pond	Phase 4 Pond
1-May-18	1,584,878	79,244	1,505,635	1,879,141	294,263	-373,507
2-May-18	1,573,000	78,650	1,494,350	1,529,456	-43,544	-35,106
3-May-18	1,571,900	78,595	1,493,305	3,547,639	1,975,738	-2,054,334
4-May-18	1,569,921	78,496	1,491,424	0	-1,569,921	1,491,424
5-May-18	593,257	29,663	563,594	0	-593,257	563,594
6-May-18	0	0	0	0	0	0
7-May-18	1,568,381	78,419	1,489,962	0	-1,568,381	1,489,962
8-May-18	1,569,481	78,474	1,491,007	0	-1,569,481	1,491,007
9-May-18	1,382,287	0	1,382,287	1,311,319	-70,968	70,968
10-May-18	1,555,183	0	1,555,183	2,588,502	1,033,320	-1,033,320
11-May-18	1,569,481	0	1,569,481	2,160,554	591,074	-591,074
12-May-18	651,109	0	651,109	0	-651,109	651,109
13-May-18	0	0	0	0	0	0
14-May-18	1,558,262	77,913	1,480,349	2,524,393	966,131	-1,044,044
15-May-18	1,445,418	72,271	1,373,147	2,487,760	1,042,342	-1,114,613
16-May-18	1,570,360	78,518	1,491,842	2,409,497	839,136	-917,655
17-May-18	1,561,562	78,078	1,483,484	2,575,181	1,013,619	-1,091,697
18-May-18	1,569,041	78,452	1,490,589	0	-1,569,041	1,490,589
19-May-18	645,170	32,258	612,911	0	-645,170	612,911
20-May-18	0	0	0	0	0	0
21-May-18	0	0	0	0	0	0
22-May-18	1,570,140	78,507	1,491,633	2,218,835	648,695	-727,202
23-May-18	1,569,261	78,463	1,490,798	1,924,101	354,840	-433,303
24-May-18	1,664,067	83,203	1,580,864	0	-1,664,067	1,580,864
25-May-18	1,525,047	76,252	1,448,794	0	-1,525,047	1,448,794
26-May-18	633,731	31,687	602,045	0	-633,731	602,045
27-May-18	0	0	0	0	0	0
28-May-18	1,516,468	75,823	1,440,645	1,573,583	57,115	-132,938
29-May-18	1,481,933	74,097	1,407,836	464,582	-1,017,351	943,255
30-May-18	1,438,819	71,941	1,366,878	2,298,763	859,944	-931,885
31-May-18	1,539,125	2191553.618	-652,429	0	-1,539,125	-652,429
TOTAL	36,477,280	3,680,558	32,796,722	31,493,307	-4,983,973	1,303,415

NOTES: 1) All values are imperial gallons.
2) Lost in Production is the estimated volume of water that is carried out with produced material.

TABLE E-1
2018 PUMPING DATA - JUNE AND JULY
MILL CREEK AGGREGATES PIT

Date	From Phase 1 Pond for Washing	Production Losses (5%)	Discharge to Phase 4 Pond	From Phase 4 to Phase 1 Pond	Change in Volume from Processing	
					Phase 1 Pond	Phase 4 Pond
1-Jun-18	1,537,585	76,879	1,460,706	2,159,722	622,137	-699,016
2-Jun-18	572,360	28,618	543,742	695,207	122,847	-151,465
3-Jun-18	0	0	0	0	0	0
4-Jun-18	1,544,844	77,242	1,467,602	1,918,273	373,429	-450,671
5-Jun-18	1,548,144	77,407	1,470,736	2,522,728	974,585	-1,051,992
6-Jun-18	1,563,541	78,177	1,485,364	2,337,062	773,521	-851,698
7-Jun-18	1,532,526	76,626	1,455,899	2,555,199	1,022,673	-1,099,300
8-Jun-18	1,577,839	78,892	1,498,947	2,307,089	729,250	-808,142
9-Jun-18	624,713	31,236	593,477	0	-624,713	593,477
10-Jun-18	0	0	0	0	0	0
11-Jun-18	1,560,682	78,034	1,482,648	721,850	-838,832	760,798
12-Jun-18	1,551,443	77,572	1,473,871	0	-1,551,443	1,473,871
13-Jun-18	1,517,788	75,889	1,441,898	0	-1,517,788	1,441,898
14-Jun-18	1,536,705	76,835	1,459,870	2,792,485	1,255,780	-1,332,615
15-Jun-18	1,536,705	76,835	1,459,870	2,730,042	1,193,336	-1,270,172
16-Jun-18	639,451	31,973	607,478	418,790	-220,661	188,689
17-Jun-18	0	0	0	0	0	0
18-Jun-18	1,528,786	76,439	1,452,347	2,869,916	1,341,129	-1,417,569
19-Jun-18	1,543,304	77,165	1,466,139	2,198,853	655,549	-732,714
20-Jun-18	1,543,084	77,154	1,465,930	2,114,762	571,678	-648,832
21-Jun-18	1,510,749	75,537	1,435,211	2,039,830	529,081	-604,618
22-Jun-18	1,536,265	76,813	1,459,452	1,601,891	65,626	-142,439
23-Jun-18	610,635	30,532	580,103	888,367	277,732	-308,264
24-Jun-18	0	0	0	0	0	0
25-Jun-18	1,661,208	83,060	1,578,147	666,067	-995,141	912,080
26-Jun-18	1,551,663	77,583	1,474,080	611,116	-940,547	862,964
27-Jun-18	1,550,783	77,539	1,473,244	74,933	-1,475,851	1,398,312
28-Jun-18	1,499,310	74,966	1,424,345	1,005,761	-493,549	418,584
29-Jun-18	1,544,624	77,231	1,467,393	0	-1,544,624	1,467,393
30-Jun-18	0	0	0	0	0	0
TOTAL	34,924,737	1,746,237	33,178,501	35,229,943	305,205	-2,051,442

Date	From Phase 1 Pond for Washing	Production Losses (5%)	Discharge to Phase 4 Pond	From Phase 4 to Phase 1 Pond	Change in Volume from Processing	
					Phase 1 Pond	Phase 4 Pond
1-Jul-18	0	0	0	0	0	0
2-Jul-18	0	0	0	0	0	0
3-Jul-18	1,540,225	77,011	1,463,213	2,746,693	1,206,469	-1,283,480
4-Jul-18	0	0	0	2,444,465	2,444,465	-2,444,465
5-Jul-18	1,508,109	75,405	1,432,704	2,370,366	862,256	-937,662
6-Jul-18	1,551,443	77,572	1,473,871	930,828	-620,615	543,042
7-Jul-18	608,875	30,444	578,431	0	-608,875	578,431
8-Jul-18	0	0	0	0	0	0
9-Jul-18	1,586,198	79,310	1,506,888	0	-1,586,198	1,506,888
10-Jul-18	1,512,289	75,614	1,436,674	763,479	-748,809	673,195
11-Jul-18	1,505,030	75,251	1,429,778	2,596,828	1,091,799	-1,167,050
12-Jul-18	1,542,204	77,110	1,465,094	2,492,755	950,551	-1,027,661
13-Jul-18	1,534,725	76,736	1,457,989	1,942,418	407,692	-484,428
14-Jul-18	604,915	30,246	574,670	0	-604,915	574,670
15-Jul-18	0	0	0	0	0	0
16-Jul-18	1,504,590	75,229	1,429,360	1,395,410	-109,180	33,950
17-Jul-18	1,509,869	75,493	1,434,375	0	-1,509,869	1,434,375
18-Jul-18	1,532,746	76,637	1,456,108	2,708,394	1,175,649	-1,252,286
19-Jul-18	1,524,167	76,208	1,447,959	1,562,759	38,593	-114,801
20-Jul-18	1,522,627	76,131	1,446,496	2,314,582	791,955	-868,087
21-Jul-18	633,071	31,654	601,418	0	-633,071	601,418
22-Jul-18	0	0	0	0	0	0
23-Jul-18	1,522,627	76,131	1,446,496	2,539,380	1,016,753	-1,092,884
24-Jul-18	1,501,070	75,054	1,426,017	0	-1,501,070	1,426,017
25-Jul-18	1,480,613	74,031	1,406,582	3,533,485	2,052,872	-2,126,902
26-Jul-18	1,526,587	76,329	1,450,257	0	-1,526,587	1,450,257
27-Jul-18	1,518,668	75,933	1,442,734	2,262,130	743,462	-819,395
28-Jul-18	620,313	31,016	589,298	0	-620,313	589,298
29-Jul-18	0	0	0	0	0	0
30-Jul-18	1,523,067	76,153	1,446,914	3,209,610	1,686,543	-1,762,696
31-Jul-18	1,484,352	74,218	1,410,135	2,177,206	692,854	-767,071
TOTAL	32,898,381	1,644,919	31,253,462	37,990,790	5,092,409	-6,737,328

NOTES: 1) All values are imperial gallons.
2) Lost in Production is the estimated volume of water that is carried out with produced material.

TABLE E-1
2018 PUMPING DATA - AUGUST AND SEPTEMBER
MILL CREEK AGGREGATES PIT

Date	From Phase 1 Pond for Washing	Production Losses (5%)	Discharge to Phase 4 Pond	From Phase 4 to Phase 1 Pond	Change in Volume from Processing	
					Phase 1 Pond	Phase 4 Pond
1-Aug-18	1,563,981	78199.06766	1,485,782	185,666	-1,378,315	1,300,116
2-Aug-18	1,512,069	75603.43054	1,436,465	2,133,912	621,843	-697,447
3-Aug-18	1,519,768	75,988	1,443,779	0	-1,519,768	1,443,779
4-Aug-18	0	0	0	0	0	0
5-Aug-18	0	0	0	0	0	0
6-Aug-18	0	0	0	2,382,022	2,382,022	-2,382,022
7-Aug-18	1,514,708	75,735	1,438,973	0	-1,514,708	1,438,973
8-Aug-18	1,510,309	75,515	1,434,793	2,493,588	983,279	-1,058,794
9-Aug-18	1,474,894	73,745	1,401,149	0	-1,474,894	1,401,149
10-Aug-18	1,520,647	76,032	1,444,615	0	-1,520,647	1,444,615
11-Aug-18	590,397	29,520	560,878	0	-590,397	560,878
12-Aug-18	0	0	0	0	0	0
13-Aug-18	1,339,173	66,959	1,272,214	2,209,677	870,504	-937,463
14-Aug-18	1,507,229	75,361	1,431,868	880,041	-627,188	551,827
15-Aug-18	1,510,749	75,537	1,435,211	2,698,403	1,187,655	-1,263,192
16-Aug-18	1,517,348	75,867	1,441,480	2,528,556	1,011,209	-1,087,076
17-Aug-18	1,516,908	75,845	1,441,063	2,242,980	726,072	-801,918
18-Aug-18	594,137	29,707	564,430	0	-594,137	564,430
19-Aug-18	0	0	0	0	0	0
20-Aug-18	1,519,328	75,966	1,443,361	0	-1,519,328	1,443,361
21-Aug-18	1,509,649	75,482	1,434,167	2,562,692	1,053,043	-1,128,526
22-Aug-18	1,513,828	75,691	1,438,137	0	-1,513,828	1,438,137
23-Aug-18	1,518,448	75,922	1,442,525	2,503,579	985,131	-1,061,054
24-Aug-18	1,391,525	69,576	1,321,949	2,285,442	893,917	-963,493
25-Aug-18	575,220	28,761	546,459	0	-575,220	546,459
26-Aug-18	0	0	0	0	0	0
27-Aug-18	1,669,567	83,478	1,586,088	2,274,618	605,052	-688,530
28-Aug-18	1,518,668	75,933	1,442,734	0	-1,518,668	1,442,734
29-Aug-18	1,522,627	76,131	1,446,496	0	-1,522,627	1,446,496
30-Aug-18	1,518,008	75,900	1,442,107	2,318,745	800,738	-876,638
31-Aug-18	1,517,788	75,889	1,441,898	1,398,740	-119,047	43,158
TOTAL	34,966,972	1,748,349	33,218,623	31,098,663	-3,868,309	2,119,960

Date	From Phase 1 Pond for Washing	Production Losses (5%)	Discharge to Phase 4 Pond	From Phase 4 to Phase 1 Pond	Change in Volume from Processing	
					Phase 1 Pond	Phase 4 Pond
1-Sep-18	0	0	0	0	0	0
2-Sep-18	0	0	0	0	0	0
3-Sep-18	0	0	0	0	0	0
4-Sep-18	1,518,228	75,911	1,442,316	2,388,682	870,455	-946,366
5-Sep-18	1,513,608	75,680	1,437,928	2,856,594	1,342,986	-1,418,666
6-Sep-18	721,499	36,075	685,424	2,362,040	1,640,541	-1,676,616
7-Sep-18	0	0	0	1,419,555	1,419,555	-1,419,555
8-Sep-18	622,733	31,137	591,596	0	-622,733	591,596
9-Sep-18	0	0	0	0	0	0
10-Sep-18	1,522,187	76,109	1,446,078	0	-1,522,187	1,446,078
11-Sep-18	1,521,307	76,065	1,445,242	2,018,183	496,875	-572,941
12-Sep-18	1,502,830	75,141	1,427,688	2,792,485	1,289,656	-1,364,797
13-Sep-18	1,523,727	76,186	1,447,541	2,539,380	1,015,653	-1,091,839
14-Sep-18	1,521,087	76,054	1,445,033	1,973,223	452,136	-528,190
15-Sep-18	625,813	31,291	594,522	0	-625,813	594,522
16-Sep-18	0	0	0	0	0	0
17-Sep-18	1,509,649	75,482	1,434,167	1,707,629	197,980	-273,462
18-Sep-18	1,509,869	75,493	1,434,375	1,959,069	449,200	-524,694
19-Sep-18	1,516,688	75,834	1,440,854	2,443,633	926,945	-1,002,779
20-Sep-18	604,256	30,213	574,043	2,586,005	1,981,749	-2,011,962
21-Sep-18	878,557	43,928	834,629	2,239,650	1,361,093	-1,405,021
22-Sep-18	380,547	19,027	361,519	0	-380,547	361,519
23-Sep-18	0	0	0	0	0	0
24-Sep-18	897,035	44,852	852,183	800,945	-96,089	51,237
25-Sep-18	908,473	45,424	863,049	54,951	-853,522	808,099
26-Sep-18	873,278	43,664	829,614	0	-873,278	829,614
27-Sep-18	1,527,466	76,373	1,451,093	1,177,273	-350,193	273,820
28-Sep-18	1,517,788	75,889	1,441,898	247,277	-1,270,510	1,194,621
29-Sep-18	628,672	31,434	597,239	0	-628,672	597,239
30-Sep-18	0	0	0	0	0	0
TOTAL	25,345,297	1,267,265	24,078,032	31,566,575	6,221,278	-7,488,543

NOTES: 1) All values are imperial gallons.
2) Lost in Production is the estimated volume of water that is carried out with produced material.

TABLE E-1
2018 PUMPING DATA - OCTOBER AND NOVEMBER
MILL CREEK AGGREGATES PIT

Date	From Phase 1 Pond for Washing	Production Losses (5%)	Discharge to Phase 4 Pond	From Phase 4 to Phase 1 Pond	Change in Volume from Processing	
					Phase 1 Pond	Phase 4 Pond
1-Oct-18	1,472,914	73,646	1,399,268	2,332,899	859,985	-933,631
2-Oct-18	1,518,008	75,900	1,442,107	2,507,742	989,734	-1,065,634
3-Oct-18	1,403,184	70,159	1,333,025	2,613,480	1,210,296	-1,280,455
4-Oct-18	1,491,831	74,592	1,417,240	2,283,777	791,945	-866,537
5-Oct-18	1,533,186	76,659	1,456,526	1,710,127	176,941	-253,600
6-Oct-18	618,993	30,950	588,044	0	-618,993	588,044
7-Oct-18	0	0	0	0	0	0
8-Oct-18	0	0	0	0	0	0
9-Oct-18	1,510,089	75,504	1,434,584	2,471,108	961,019	-1,036,524
10-Oct-18	1,507,889	75,394	1,432,495	0	-1,507,889	1,432,495
11-Oct-18	1,496,231	74,812	1,421,419	2,416,990	920,759	-995,571
12-Oct-18	1,492,051	74,603	1,417,449	0	-1,492,051	1,417,449
13-Oct-18	620,093	31,005	589,089	0	-620,093	589,089
14-Oct-18	0	0	0	0	0	0
15-Oct-18	1,490,512	74,526	1,415,986	2,545,208	1,054,696	-1,129,222
16-Oct-18	1,502,610	75,130	1,427,479	2,578,511	1,075,901	-1,151,032
17-Oct-18	1,496,011	74,801	1,421,210	1,608,552	112,541	-187,341
18-Oct-18	1,494,251	74,713	1,419,539	1,813,367	319,116	-393,829
19-Oct-18	1,501,290	75,065	1,426,226	2,230,491	729,201	-804,266
20-Oct-18	617,014	30,851	586,163	0	-617,014	586,163
21-Oct-18	0	0	0	0	0	0
22-Oct-18	1,506,349	75,317	1,431,032	0	-1,506,349	1,431,032
23-Oct-18	1,494,471	74,724	1,419,748	0	-1,494,471	1,419,748
24-Oct-18	1,507,889	75,394	1,432,495	0	-1,507,889	1,432,495
25-Oct-18	1,504,370	75,218	1,429,151	3,326,171	1,821,802	-1,897,020
26-Oct-18	1,501,510	75,076	1,426,435	0	-1,501,510	1,426,435
27-Oct-18	585,778	29,289	556,489	0	-585,778	556,489
28-Oct-18	0	0	0	0	0	0
29-Oct-18	1,487,212	74,361	1,412,851	49,122	-1,438,090	1,363,729
30-Oct-18	1,411,103	70,555	1,340,548	2,219,668	808,565	-879,120
31-Oct-18	1,391,965	69,598	1,322,367	2,219,668	827,702	-897,301
TOTAL	35,156,805	1,757,840	33,398,965	34,926,882	-229,923	-1,527,917

NOTES: 1) All values are imperial gallons.
2) Lost in Production is the estimated volume of water that is carried out with produced material.

Date	From Phase 1 Pond for Washing	Production Losses (5%)	Discharge to Phase 4 Pond	From Phase 4 to Phase 1 Pond	Change in Volume from Processing	
					Phase 1 Pond	Phase 4 Pond
1-Nov-18	1,501,070	75,054	1,426,017	3,216,270	1,715,200	-1,790,254
2-Nov-18	1,505,690	75,284	1,430,405	2,706,729	1,201,040	-1,276,324
3-Nov-18	608,655	30,433	578,222	0	-608,655	578,222
4-Nov-18	0	0	0	0	0	0
5-Nov-18	1,511,849	75,592	1,436,256	0	-1,511,849	1,436,256
6-Nov-18	1,457,736	72,887	1,384,849	1,294,668	-163,069	90,182
7-Nov-18	1,501,730	75,087	1,426,644	0	-1,501,730	1,426,644
8-Nov-18	1,517,348	75,867	1,441,480	2,372,863	855,515	-931,383
9-Nov-18	1,521,307	76,065	1,445,242	0	-1,521,307	1,445,242
10-Nov-18	0	0	0	0	0	0
11-Nov-18	0	0	0	0	0	0
12-Nov-18	1,455,317	72,766	1,382,551	1,983,214	527,898	-600,663
13-Nov-18	817,846	40,892	776,953	0	-817,846	776,953
14-Nov-18	1,061,792	53,090	1,008,702	463,749	-598,042	544,953
15-Nov-18	1,238,427	61,921	1,176,506	0	-1,238,427	1,176,506
16-Nov-18	837,643	41,882	795,761	920,837	83,195	-125,077
17-Nov-18	0	0	0	0	0	0
18-Nov-18	0	0	0	0	0	0
19-Nov-18	887,136	44,357	842,779	1,503,646	616,510	-660,867
20-Nov-18	1,187,394	59,370	1,128,024	489	-1,186,906	1,127,536
21-Nov-18	0	0	0	597,795	597,795	-597,795
22-Nov-18	0	0	0	1,268,025	1,268,025	-1,268,025
23-Nov-18	891,975	44,599	847,377	0	-891,975	847,377
24-Nov-18	604,256	30,213	574,043	0	-604,256	574,043
25-Nov-18	0	0	0	0	0	0
26-Nov-18	1,445,858	72,293	1,373,565	2,261,297	815,439	-887,732
27-Nov-18	1,450,037	72,502	1,377,535	0	-1,450,037	1,377,535
28-Nov-18	1,403,404	70,170	1,333,234	1,182,269	-221,135	150,965
29-Nov-18	1,400,324	70,016	1,330,308	1,223,065	-177,259	107,243
30-Nov-18	1,489,852	74,493	1,415,359	1,825,023	335,172	-409,664
TOTAL	27,296,644	1,364,832	25,931,812	22,819,940	-4,476,704	3,111,872

NOTES: 1) All values are imperial gallons.
2) Lost in Production is the estimated volume of water that is carried out with produced material.

TABLE E-1
2018 PUMPING DATA - DECEMBER
MILL CREEK AGGREGATES PIT

Date	From Phase 1 Pond for Washing	Production Losses (5%)	Discharge to Phase 4 Pond	From Phase 4 to Phase 1 Pond	Change in Volume from Processing	
					Phase 1 Pond	Phase 4 Pond
1-Dec-18	0	0	0	0	0	0
2-Dec-18	0	0	0	0	0	0
3-Dec-18	1,313,436	65,672	1,247,765	1,150,631	-162,806	97,134
4-Dec-18	988,982	49,449	939,533	837,579	-151,403	101,954
5-Dec-18	966,105	48,305	917,800	671,895	-294,210	245,905
6-Dec-18	944,768	47,238	897,530	950,810	6,043	-53,281
7-Dec-18	0	0	0	1,060,712	1,060,712	-1,060,712
8-Dec-18	0	0	0	0	0	0
9-Dec-18	0	0	0	0	0	0
10-Dec-18	0	0	0	0	0	0
11-Dec-18	0	0	0	0	0	0
12-Dec-18	1,395,705	69,785	1,325,920	1,811,702	415,997	-485,782
13-Dec-18	1,218,630	60,931	1,157,698	0	-1,218,630	1,157,698
14-Dec-18	1,390,206	69,510	1,320,695	0	-1,390,206	1,320,695
15-Dec-18	588,858	29,443	559,415	0	-588,858	559,415
16-Dec-18	0	0	0	0	0	0
17-Dec-18	0	0	0	0	0	0
18-Dec-18	0	0	0	0	0	0
19-Dec-18	0	0	0	0	0	0
20-Dec-18	0	0	0	0	0	0
21-Dec-18	0	0	0	0	0	0
22-Dec-18	0	0	0	0	0	0
23-Dec-18	0	0	0	0	0	0
24-Dec-18	0	0	0	0	0	0
25-Dec-18	0	0	0	0	0	0
26-Dec-18	0	0	0	0	0	0
27-Dec-18	0	0	0	0	0	0
28-Dec-18	0	0	0	0	0	0
29-Dec-18	0	0	0	0	0	0
30-Dec-18	0	0	0	0	0	0
31-Dec-18	0	0	0	0	0	0
TOTAL	8,806,689	440,334	8,366,354	6,483,329	-2,323,360	1,883,026

NOTES: 1) All values are imperial gallons.
2) Lost in Production is the estimated volume of water that is carried out with produced material.

TABLE E-2
2018 PUMPING DATA - MONTHLY TOTALS
MILL CREEK AGGREGATES PIT

Month	Units	From Phase 1 Pond for Washing	Production Losses (5%)	Discharge to Phase 4 Pond	From Phase 4 to Phase 1 Pond	Change in Volume from Processing	
						Phase 1 Pond	Phase 4 Pond
April	Imperial Gallons	26,184,699	871,540	25,094,114	25,372,985	-811,714	-278,872
	Cubic Metres	119,038	3,962	115,076	115,348	-3,690	-1,268
May	Imperial Gallons	36,477,280	3,680,558	32,796,722	31,493,307	-4,983,973	1,303,415
	Cubic Metres	165,829	16,732	149,097	143,171	-22,658	5,925
June	Imperial Gallons	34,924,737	1,746,237	33,178,501	35,229,943	305,205	-2,051,442
	Cubic Metres	158,771	7,939	150,833	160,159	1,387	-9,326
July	Imperial Gallons	32,898,381	1,644,919	31,253,462	37,990,790	5,092,409	-6,737,328
	Cubic Metres	149,559	7,478	142,081	172,710	23,151	-30,629
August	Imperial Gallons	34,966,972	1,748,349	33,218,623	31,098,663	-3,868,309	2,119,960
	Cubic Metres	158,963	7,948	151,015	141,377	-17,586	9,638
September	Imperial Gallons	25,345,297	1,267,265	24,078,032	31,566,575	6,221,278	-7,488,543
	Cubic Metres	115,222	5,761	109,461	143,505	28,283	-34,044
October	Imperial Gallons	35,156,805	1,757,840	33,398,965	34,926,882	-229,923	-1,527,917
	Cubic Metres	159,826	7,991	151,835	158,781	-1,045	-6,946
November	Imperial Gallons	27,296,644	1,364,832	25,931,812	22,819,940	-4,476,704	3,111,872
	Cubic Metres	124,093	6,205	117,888	103,742	-20,352	14,147
December	Imperial Gallons	8,806,689	440,334	8,366,354	6,483,329	-2,323,360	1,883,026
	Cubic Metres	40,036	2,002	38,034	29,474	-10,562	8,560
TOTAL	Imperial Gallons	262,057,504	14,521,875	247,316,584	256,982,413	-5,075,091	-9,665,829
	Cubic Metres	1,191,338	66,018	1,124,324	1,168,266	-23,072	-43,942

APPENDIX

F CORRESPONDENCE

Ontario

Ministry of the Environment
Ministère de l'Environnement

PERMIT TO TAKE WATER
Ground Water
NUMBER 7287-9KHPZG

Pursuant to Section 34 of the Ontario Water Resources Act, R.S.O. 1990 this Permit To Take Water is hereby issued to:

Holcim (Canada) Inc.
Suite 400 - 2300 Steeles Avenue W.
Concord, Ontario L4K 5X6

For the water taking from: Phase 1 Pond

Located at: Lot 24, Concession 2, Geographic Township of Puslinch
Puslinch, County of Wellington

For the purposes of this Permit, and the terms and conditions specified below, the following definitions apply:

DEFINITIONS

(a) "Director" means any person appointed in writing as a Director pursuant to section 5 of the OWRA for the purposes of section 34, OWRA.

(b) "Provincial Officer" means any person designated in writing by the Minister as a Provincial Officer pursuant to section 5 of the OWRA.

(c) "Ministry" means Ontario Ministry of the Environment.

(d) "District Office" means the Guelph District Office.

(e) "Permit" means this Permit to Take Water No. 7287-9KHPZG including its Schedules, if any, issued in accordance with Section 34 of the OWRA.

(f) "Permit Holder" means Holcim (Canada) Inc..

(g) "OWRA " means the *Ontario Water Resources Act,* R.S.O. 1990, c. O. 40, as amended.

You are hereby notified that this Permit is issued subject to the terms and conditions outlined below:

TERMS AND CONDITIONS

1. Compliance with Permit

1.1 Except where modified by this Permit, the water taking shall be in accordance with the application for this Permit To Take Water, dated April 3, 2014 and signed by John Bayliss, and all Schedules included in this Permit.

1.2 The Permit Holder shall ensure that any person authorized by the Permit Holder to take water under this Permit is provided with a copy of this Permit and shall take all reasonable measures to ensure that any such person complies with the conditions of this Permit.

1.3 Any person authorized by the Permit Holder to take water under this Permit shall comply with the conditions of this Permit.

1.4 This Permit is not transferable to another person.

1.5 This Permit provides the Permit Holder with permission to take water in accordance with the conditions of this Permit, up to the date of the expiry of this Permit. This Permit does not constitute a legal right, vested or otherwise, to a water allocation, and the issuance of this Permit does not guarantee that, upon its expiry, it will be renewed.

1.6 The Permit Holder shall keep this Permit available at all times at or near the site of the taking, and shall produce this Permit immediately for inspection by a Provincial Officer upon his or her request.

1.7 The Permit Holder shall report any changes of address to the Director within thirty days of any such change. The Permit Holder shall report any change of ownership of the property for which this Permit is issued within thirty days of any such change. A change in ownership in the property shall cause this Permit to be cancelled.

2. General Conditions and Interpretation

2.1 Inspections

The Permit Holder must forthwith, upon presentation of credentials, permit a Provincial Officer to carry out any and all inspections authorized by the OWRA, the *Environmental Protection Act* , R.S.O. 1990, the *Pesticides Act* , R.S.O. 1990, or the *Safe Drinking Water Act,* S. O. 2002.

2.2 Other Approvals

The issuance of, and compliance with this Permit, does not:

(a) relieve the Permit Holder or any other person from any obligation to comply with any other applicable legal requirements, including the provisions of the *Ontario Water Resources Act* , and the *Environmental Protection Act* , and any regulations made thereunder; or

(b) limit in any way any authority of the Ministry, a Director, or a Provincial Officer, including the authority to require certain steps be taken or to require the Permit Holder to furnish any further information related to this Permit.

2.3 Information

The receipt of any information by the Ministry, the failure of the Ministry to take any action or require any person to take any action in relation to the information, or the failure of a Provincial Officer to prosecute any person in relation to the information, shall not be construed as:

(a) an approval, waiver or justification by the Ministry of any act or omission of any person that contravenes this Permit or other legal requirement; or

(b) acceptance by the Ministry of the information's completeness or accuracy.

2.4 Rights of Action

The issuance of, and compliance with this Permit shall not be construed as precluding or limiting any legal claims or rights of action that any person, including the Crown in right of Ontario or any agency thereof, has or may have against the Permit Holder, its officers, employees, agents, and contractors.

2.5 Severability

The requirements of this Permit are severable. If any requirements of this Permit, or the application of any requirements of this Permit to any circumstance, is held invalid or unenforceable, the application of such requirements to other circumstances and the remainder of this Permit shall not be affected thereby.

2.6 Conflicts

Where there is a conflict between a provision of any submitted document referred to in this Permit, including its Schedules, and the conditions of this Permit, the conditions in this Permit shall take precedence.

3. Water Takings Authorized by This Permit

3 **Expiry**

This Permit expires on **March 31, 2019**. No water shall be taken under authority of this Permit after the expiry date.

3.2 Amounts of Taking Permitted

The Permit Holder shall only take water from the source, during the periods and at the rates and amounts of taking specified in Table A. Water takings are authorized only for the purposes specified in Table A.

Table A

	Source Name / Description:	Source: Type:	Taking Specific Purpose:	Taking Major Category:	Max. Taken per Minute (litres):	Max. Num. of Hrs Taken per Day:	Max. Taken per Day (litres):	Max. Num. of Days Taken per Year:	Zone/ Easting/ Northing:
1	Phase 1 Pond	Pond Dugout	Aggregate Washing	Industrial	11,366	12	8,183,000	275	17 567290 4810630
						Total Taking:	8,183,000		

3.3 This Permit is valid annually between March 15 and December 15 from date of issue to March 31, 2019.

3.4 This Permit is issued for the sole purpose of washing gravel in a closed system where the majority of the water is recirculated. No dewatering off the gravel pit by pumping or gravity flow is allowed.

4. Monitoring

4.1 Under section 9 of O. Reg. 387/04, and as authorized by subsection 34(6) of the *Ontario Water Resources Act* , the Permit Holder shall, on each day water is taken under the authorization of this Permit, record the date, the volume of water taken on that date and the rate at which it was taken. The daily volume of water taken shall be measured by a flow meter or calculated in accordance with the method described in the application for this Permit, or as otherwise accepted by the Director. The Permit Holder shall keep all records required by this condition current and available at or near the site of the taking and shall produce the records immediately for inspection by a Provincial Officer upon his or her request. The Permit Holder, unless otherwise required by the Director, shall submit, on or before March 31st in every year, the records required by this condition to the ministry's Water Taking Reporting System.

4.2 The Permit Holder shall prepare a work plan to assess the impacts that may be caused by the activities of the aggregate extraction on the quantity and quality of groundwater and Mill Creek and its ecosystems. The work plan shall include measures to assess changes in a) the thermal regime in Mill Creek and in the groundwater in the vicinity of the pit; b) the flow in Mill Creek and c) the aquatic ecosystem that may be induced by changes in either the thermal regime or the flow in Mill Creek. This work plan should be submitted to the Director within 90 days of the date of issue of this Permit for the Director's approval.

5. Impacts of the Water Taking

5.1 Notification

The Permit Holder shall immediately notify the local District Office of any complaint arising from the taking of water authorized under this Permit and shall report any action which has been taken or is proposed with regard to such complaint. The Permit Holder shall immediately notify the local District Office if the taking of water is observed to have any significant impact on the surrounding waters. After hours, calls shall be directed to the Ministry's Spills Action Centre at 1-800-268-6060.

5.2 For Groundwater Takings

If the taking of water is observed to cause any negative impact to other water supplies obtained from any adequate sources that were in use prior to initial issuance of a Permit for this water taking, the Permit Holder shall take such action necessary to make available to those affected, a supply of water equivalent in quantity and quality to their normal takings, or shall compensate such persons for their reasonable costs of so doing, or shall reduce the rate and amount of taking to prevent or alleviate the observed negative impact. Pending permanent restoration of the affected supplies, the Permit Holder shall provide, to those affected, temporary water supplies adequate to meet their normal requirements, or shall compensate such persons for their reasonable costs of doing so.

If permanent interference is caused by the water taking, the Permit Holder shall restore the water supplies of those permanently affected.

5.3 It is possible for water takings from the dugout pond to have a significant effect on water levels in neighbouring wells and flow in adjacent watercourses. Whether or not neighbouring water supplies are affected depends on a number of factors, one of which is the depth of the pond. You should be aware that any deepening of your dugout pond may lead to significant interference with neighbouring water supply wells. If significant interference does occur because of the water taking from your dugout pond, it is your responsibility to cease the taking and restore the affected water supply in accordance with Condition No. 5.2 of your Permit. If the dugout pond is constructed close to watercourses (streams and creeks) the dugout pond may drain water from these water bodies and their natural function be impaired.

6. Director May Amend Permit

The Director may amend this Permit by letter requiring the Permit Holder to suspend or reduce the taking to an amount or threshold specified by the Director in the letter. The suspension or reduction in taking shall be effective immediately and may be revoked at any time upon notification by the Director. This condition does not affect your right to appeal the suspension or reduction in taking to the Environmental Review Tribunal under the *Ontario Water Resources Act* , Section 100 (4).

The reasons for the imposition of these terms and conditions are as follows:

1. Condition 1 is included to ensure that the conditions in this Permit are complied with and can be enforced.

2. Condition 2 is included to clarify the legal interpretation of aspects of this Permit.

3. Conditions 3 through 6 are included to protect the quality of the natural environment so as to safeguard the ecosystem and human health and foster efficient use and conservation of waters. These conditions allow for the beneficial use of waters while ensuring the fair sharing, conservation and sustainable use of the waters of Ontario. The conditions also specify the water takings that are authorized by this Permit and the scope of this Permit.

In accordance with Section 100 of the Ontario Water Resources Act, R.S.O. 1990, you may by written notice served upon me, the Environmental Review Tribunal and the Environmental Commissioner, ***Environmental Bill of Rights****, R.S.O. 1993, Chapter 28, within 15 days after receipt of this Notice, require a hearing by the Tribunal. The Environmental Commissioner will place notice of your appeal on the Environmental Registry. Section 101 of the Ontario Water Resources Act, as amended provides that the Notice requiring a hearing shall state:*

1. The portions of the Permit or each term or condition in the Permit in respect of which the hearing is required, and;
2. The grounds on which you intend to rely at the hearing in relation to each portion appealed.

In addition to these legal requirements, the Notice should also include:

3. The name of the appellant;
4. The address of the appellant;
5. The Permit to Take Water number;
6. The date of the Permit to Take Water;
7. The name of the Director;
8. The municipality within which the works are located;

This notice must be served upon:

The Secretary
Environmental Review Tribunal
655 Bay Street, 15th Floor
Toronto ON
M5G 1E5
Fax: (416) 314-4506
Email:
ERTTribunalsecretary@ontario.ca

AND

The Environmental Commissioner
1075 Bay Street
6th Floor, Suite 605
Toronto, Ontario M5S 2W5

AND

The Director, Section 34
Ministry of the Environment
12th Floor
119 King St W
Hamilton ON L8P 4Y7
Fax: (905)521-7820

Further information on the Environmental Review Tribunal's requirements for an appeal can be obtained directly from the Tribunal:

by telephone at (416) 314-4600 ***by fax at (416) 314-4506*** ***by e-mail at www.ert.gov.on.ca***

This instrument is subject to Section 38 of the ***Environmental Bill of Rights*** *that allows residents of Ontario to seek leave to appeal the decision on this instrument. Residents of Ontario may seek to appeal for 15 days from the date this decision is placed on the Environmental Registry. By accessing the Environmental Registry, you can determine when the leave to appeal period ends.*

This Permit cancels and replaces Permit Number 3132-82GQKV, issued on 2010/02/24.

Dated at Hamilton this 27th day of June, 2014.

B. Koblik

Belinda Koblik
Director, Section 34
Ontario Water Resources Act , R.S.O. 1990

Schedule A

This Schedule "A" forms part of Permit To Take Water 7287-9KHPZG, dated June 27, 2014.

Ministry of the Environment and Climate Change
West-Central Region
Technical Support Section
Water Resources
12th Floor
119 King St W
Hamilton ON L8P 4Y7
Fax: (905) 521-7820
Tel: (905) 521-7640

Ministère de l'Environnement et de l'Action en matière de changement climatique
Direction régionale du Centre-Ouest
Secteur du Soutien Technique
Ressource en eau
12e étage
119 rue King W
Hamilton ON L8P 4Y7
Télécopieur: (905) 521-7820
Tél:(905) 521-7640

September 22, 2014

Holcim (Canada) Inc.
Suite 400 - 2300 Steeles Ave. W.
Concord, Ontario
L4K 5X6

Attention: John Baylis

Dear Sir/Madam:

RE: Lot 24, Concession 2
Geographic Township of Puslinch
County of Wellington
Permit Number 6405-9NFQKL

Please find attached a Permit to Take Water which authorizes the withdrawal of water in accordance with the application for this Permit to Take Water, dated April 3, 2014 and signed by John Bayliss.

This Permit expires on March 31, 2019. Authorized rates and amounts are indicated on Table A. This Permit cancels and replaces Permit Number 7287-9KHPZG, issued on 2014/06/27.

Ontario Regulation 387/04 (Water Taking) requires all water takers to report daily water taking amounts to the Water Taking Reporting System (WTRS) electronic database: http://www.ene.gov.on.ca/envision/water/pttw.htm . Daily water taking must be reported on a calendar year basis. If no water is taken, then a "no taking" report must be entered. Please consult the Regulation and Section 4 of this Permit for monitoring requirements.

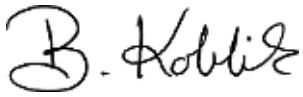
If you have questions about reporting requirements, please call the WTRS Help Desk at 416-235-6322 (toll free: 1-877-344-2011) or by email, WTRSHelpdesk@ontario.ca . It is preferred that you submit your data directly and electronically to the WTRS. Where this is impracticable, please use the Water Taking Submission Form *(included as Appendix C of the Technical Bulletin: Permit To Take Water (PTTW)-Monitoring and Reporting of Water Takings),* which can be downloaded from the above website, and fax your completed forms to 416-235-6549 or mail them to: Water User Reporting Section, 125 Resources Rd. Toronto, ON

M9P 3V6.

Please also note Condition 1.4 specifically indicates that this Permit is not transferable to another party. Any queries regarding a change in owner/operator should be made to the Permit to Take Water Evaluator at the above address.

Take notice that in issuing this Permit, terms and conditions pertaining to the taking of water and to the results of the taking have been imposed. The terms and conditions have been designed to allow for the development of water resources, while providing reasonable protection to existing water uses and users.

Yours truly,



Belinda Koblik
Director, Section 34
Ontario Water Resources Act, R.S.O. 1990
West Central Region

File Storage Number: AP28 PU HO

Ontario

Ministry of the Environment and Climate Change
Ministère de l'Environnement et de l'Action en matière de changement climatique

AMENDED PERMIT TO TAKE WATER
Ground Water
NUMBER 6405-9NFQKL

Pursuant to Section 34 of the Ontario Water Resources Act, R.S.O. 1990 this Permit To Take Water is hereby issued to:

Holcim (Canada) Inc.
Suite 400 - 2300 Steeles Ave W
Concord, Ontario L4K 5X6

For the water taking from: Phase 1 Pond, Pond 4

Located at: Lot 24, Concession 2, Geographic Township of Puslinch
Puslinch, County of Wellington

For the purposes of this Permit, and the terms and conditions specified below, the following definitions apply:

DEFINITIONS

(a) "Director" means any person appointed in writing as a Director pursuant to section 5 of the OWRA for the purposes of section 34, OWRA.

(b) "Provincial Officer" means any person designated in writing by the Minister as a Provincial Officer pursuant to section 5 of the OWRA.

(c) "Ministry" means Ontario Ministry of the Environment and Climate Change.

(d) "District Office" means the Guelph District Office.

(e) "Permit" means this Permit to Take Water No. 6405-9NFQKL including its Schedules, if any, issued in accordance with Section 34 of the OWRA.

(f) "Permit Holder" means Holcim (Canada) Inc..

(g) "OWRA " means the *Ontario Water Resources Act*, R.S.O. 1990, c. O. 40, as amended.

You are hereby notified that this Permit is issued subject to the terms and conditions outlined below:

TERMS AND CONDITIONS

1. Compliance with Permit

1.1 Except where modified by this Permit, the water taking shall be in accordance with the application for this Permit To Take Water, dated April 3, 2014 and signed by John Bayliss, and all Schedules included in this Permit.

1.2 The Permit Holder shall ensure that any person authorized by the Permit Holder to take water under this Permit is provided with a copy of this Permit and shall take all reasonable measures to ensure that any such person complies with the conditions of this Permit.

1.3 Any person authorized by the Permit Holder to take water under this Permit shall comply with the conditions of this Permit.

1.4 This Permit is not transferable to another person.

1.5 This Permit provides the Permit Holder with permission to take water in accordance with the conditions of this Permit, up to the date of the expiry of this Permit. This Permit does not constitute a legal right, vested or otherwise, to a water allocation, and the issuance of this Permit does not guarantee that, upon its expiry, it will be renewed.

1.6 The Permit Holder shall keep this Permit available at all times at or near the site of the taking, and shall produce this Permit immediately for inspection by a Provincial Officer upon his or her request.

1.7 The Permit Holder shall report any changes of address to the Director within thirty days of any such change. The Permit Holder shall report any change of ownership of the property for which this Permit is issued within thirty days of any such change. A change in ownership in the property shall cause this Permit to be cancelled.

2. General Conditions and Interpretation

2.1 Inspections

The Permit Holder must forthwith, upon presentation of credentials, permit a Provincial Officer to carry out any and all inspections authorized by the OWRA, the *Environmental Protection Act* , R.S.O. 1990, the *Pesticides Act* , R.S.O. 1990, or the *Safe Drinking Water Act*, S. O. 2002.

2.2 Other Approvals

The issuance of, and compliance with this Permit, does not:

(a) relieve the Permit Holder or any other person from any obligation to comply with any other applicable legal requirements, including the provisions of the *Ontario Water Resources Act* , and

the *Environmental Protection Act* , and any regulations made thereunder; or

(b) limit in any way any authority of the Ministry, a Director, or a Provincial Officer, including the authority to require certain steps be taken or to require the Permit Holder to furnish any further information related to this Permit.

2.3 Information

The receipt of any information by the Ministry, the failure of the Ministry to take any action or require any person to take any action in relation to the information, or the failure of a Provincial Officer to prosecute any person in relation to the information, shall not be construed as:

(a) an approval, waiver or justification by the Ministry of any act or omission of any person that contravenes this Permit or other legal requirement; or

(b) acceptance by the Ministry of the information's completeness or accuracy.

2.4 Rights of Action

The issuance of, and compliance with this Permit shall not be construed as precluding or limiting any legal claims or rights of action that any person, including the Crown in right of Ontario or any agency thereof, has or may have against the Permit Holder, its officers, employees, agents, and contractors.

2.5 Severability

The requirements of this Permit are severable. If any requirements of this Permit, or the application of any requirements of this Permit to any circumstance, is held invalid or unenforceable, the application of such requirements to other circumstances and the remainder of this Permit shall not be affected thereby.

2.6 Conflicts

Where there is a conflict between a provision of any submitted document referred to in this Permit, including its Schedules, and the conditions of this Permit, the conditions in this Permit shall take precedence.

3. Water Takings Authorized by This Permit

3.1 **Expiry**

This Permit expires on **March 31, 2019**. No water shall be taken under authority of this Permit after the expiry date.

3.2 Amounts of Taking Permitted

The Permit Holder shall only take water from the source, during the periods and at the rates and amounts of taking specified in Table A. Water takings are authorized only for the purposes specified in Table A.

Table A

	Source Name / Description:	Source: Type:	Taking Specific Purpose:	Taking Major Category:	Max. Taken per Minute (litres):	Max. Num. of Hrs Taken per Day:	Max. Taken per Day (litres):	Max. Num. of Days Taken per Year:	Zone/ Easting/ Northing:
1	Phase 1 Pond	Pond Dugout	Aggregate Washing	Industrial	11,366	12	8,183,000	275	17 567290 4810630
2	Pond 4	Pond Dugout	Other - Industrial	Industrial	11,806	24	17,000,000	364	17 566820 481015
						Total Taking:	8,183,000		

3.3 Notwithstanding Table A, the purpose of the water taking from Pond 4 is to maintain the water level elevation of Pond 4 to an elevation between that of Ponds 1 and 3. The water taking from Pond 4 shall be discharged to Pond 1. The Permit Holder shall maintain the average monthly pumping rate from Pond 4 at 8,183,000 Litres per day or less.

3.4 The Permit Holder shall ensure that aggregate washing occur annually between March 15th and December 15th from date of issue to March 31, 2019.

3.5 This Permit is issued for the sole purpose of washing gravel in a closed system where the majority of the water is recirculated.

4. Monitoring

4.1 Under section 9 of O. Reg. 387/04, and as authorized by subsection 34(6) of the *Ontario Water Resources Act* , the Permit Holder shall, on each day water is taken under the authorization of this Permit, record the date, the volume of water taken on that date and the rate at which it was taken. The daily volume of water taken shall be measured by a flow meter or calculated in accordance with the method described in the application for this Permit, or as otherwise accepted by the Director. The Permit Holder shall keep all records required by this condition current and available at or near the site of the taking and shall produce the records immediately for inspection by a Provincial Officer upon his or her request. The Permit Holder, unless otherwise required by the Director, shall submit, on or before March 31st in every year, the records required by this condition to the ministry's Water Taking Reporting System.

4.2 The Permit Holder shall submit copies of the monitoring reports produced for the Ministry of Natural Resources and Forestry (as part of the Permit Holder's license under the Aggregate Resources Act) as described in the letter dated September 3, 2014, from Nicolle Bellissimo, Environmental Coordinator, Dufferin Aggregates, to Belinda Koblik, Director, Section 34, Water Resources Unit, MOECC, RE: *Work Plan to assess impacts caused by the University of Guelph Mill Creek Pit (License ID. #5738 Part Lots 24 and 21-24, Concessions 1 and 2, Township of Puslinch, County of Wellington) on groundwater and Mill Creek and its ecosystems,* to the Director within 90 days of the date of issuance of this Permit for the

Director's approval.

5. Impacts of the Water Taking

5.1 Notification

The Permit Holder shall immediately notify the local District Office of any complaint arising from the taking of water authorized under this Permit and shall report any action which has been taken or is proposed with regard to such complaint. The Permit Holder shall immediately notify the local District Office if the taking of water is observed to have any significant impact on the surrounding waters. After hours, calls shall be directed to the Ministry's Spills Action Centre at 1-800-268-6060.

5.2 For Groundwater Takings

If the taking of water is observed to cause any negative impact to other water supplies obtained from any adequate sources that were in use prior to initial issuance of a Permit for this water taking, the Permit Holder shall take such action necessary to make available to those affected, a supply of water equivalent in quantity and quality to their normal takings, or shall compensate such persons for their reasonable costs of so doing, or shall reduce the rate and amount of taking to prevent or alleviate the observed negative impact. Pending permanent restoration of the affected supplies, the Permit Holder shall provide, to those affected, temporary water supplies adequate to meet their normal requirements, or shall compensate such persons for their reasonable costs of doing so.

If permanent interference is caused by the water taking, the Permit Holder shall restore the water supplies of those permanently affected.

6. Director May Amend Permit

The Director may amend this Permit by letter requiring the Permit Holder to suspend or reduce the taking to an amount or threshold specified by the Director in the letter. The suspension or reduction in taking shall be effective immediately and may be revoked at any time upon notification by the Director. This condition does not affect your right to appeal the suspension or reduction in taking to the Environmental Review Tribunal under the *Ontario Water Resources Act* , Section 100 (4).

The reasons for the imposition of these terms and conditions are as follows:

1. Condition 1 is included to ensure that the conditions in this Permit are complied with and can be enforced.

2. Condition 2 is included to clarify the legal interpretation of aspects of this Permit.

3. Conditions 3 through 6 are included to protect the quality of the natural environment so as to safeguard the ecosystem and human health and foster efficient use and conservation of waters. These conditions allow for the beneficial use of waters while ensuring the fair sharing, conservation and sustainable use of the waters of Ontario. The conditions also specify the water takings that are authorized by this Permit and the scope of this Permit.

In accordance with Section 100 of the Ontario Water Resources Act, R.S.O. 1990, you may by written Notice served upon me and the Environmental Review Tribunal within 15 days after receipt of this Notice, require a hearing by the Tribunal. Section 101 of the Ontario Water Resources Act, R.S.O. 1990, as amended, provides that the Notice requiring the hearing shall state:

1. The portions of the Permit or each term or condition in the Permit in respect of which the hearing is required, and;
2. The grounds on which you intend to rely at the hearing in relation to each portion appealed.

In addition to these legal requirements, the Notice should also include:

3. The name of the appellant;
4. The address of the appellant;
5. The Permit to Take Water number;
6. The date of the Permit to Take Water;
7. The name of the Director;
8. The municipality within which the works are located;

This notice must be served upon:

The Secretary
Environmental Review Tribunal
655 Bay Street, 15th Floor
Toronto ON
M5G 1E5
Fax: (416) 314-4506
Email: ERTTribunalsecretary@ontario.ca

AND

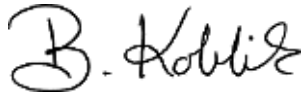
The Director, Section 34, Ministry of the Environment and Climate Change
12th Floor
119 King St W
Hamilton ON L8P 4Y7
Fax: (905) 521-7820

Further information on the Environmental Review Tribunal's requirements for an appeal can be obtained directly from the Tribunal:

by telephone at (416) 314-4600 by fax at (416) 314-4506 by e-mail at www.ert.gov.on.ca

This Permit cancels and replaces Permit Number 7287-9KHPZG, issued on 2014/06/27.

Dated at Hamilton this 22nd day of September, 2014.



Belinda Koblik
Director, Section 34
Ontario Water Resources Act , R.S.O. 1990

Schedule A

This Schedule "A" forms part of Permit To Take Water 6405-9NFQKL, dated September 22, 2014.

Phase 4 Pond (Pond 4) UTM Coordinates 17T 566820E 4810150N

Letter submitted from Nicolle Bellissimo, Environment Coordinator, Dufferin Aggregates, dated September 3, 2014 to Belinda Koblik, Director, Section 34, Water Resources Unit, MOECC, *RE: Work Plan to assess impacts caused by the University of Guelph Mill Creek Pit (License ID. #5738 Part Lots 24 and 21-24, Concessions 1 and 2, Township of Puslinch, County of Wellington) on groundwater and Mill Creek and its ecosystem,* to fulfil the requirement of Condition 4.2 of Permit Number 7287-9KHPZG issued on June 27, 2014.

Ontario

Ministry of the Environment and Climate Change
Ministère de l'Environnement et de l'Action en matière de changement climatique

AMENDED PERMIT TO TAKE WATER
Ground Water
NUMBER 8520-A48LDY

Pursuant to Section 34.1 of the Ontario Water Resources Act, R.S.O. 1990 this Permit To Take Water is hereby issued to:

CRH Canada Group Inc.
2300 Steeles Avenue W., 4th Floor
Vaughan, Ontario L4K 5X6

For the water taking from: Phase 1 Pond, Pond 4

Located at: Lot 24, Concession 2, Geographic Township of Puslinch
Puslinch, County of Wellington

For the purposes of this Permit, and the terms and conditions specified below, the following definitions apply:

DEFINITIONS

(a) "Director" means any person appointed in writing as a Director pursuant to section 5 of the OWRA for the purposes of section 34.1, OWRA.

(b) "Provincial Officer" means any person designated in writing by the Minister as a Provincial Officer pursuant to section 5 of the OWRA.

(c) "Ministry" means Ontario Ministry of the Environment and Climate Change.

(d) "District Office" means the Guelph District Office.

(e) "Permit" means this Permit to Take Water No. 8520-A48LDY including its Schedules, if any, issued in accordance with Section 34.1 of the OWRA.

(f) "Permit Holder" means CRH Canada Group Inc..

(g) "OWRA " means the *Ontario Water Resources Act*, R.S.O. 1990, c. O. 40, as amended.

You are hereby notified that this Permit is issued subject to the terms and conditions outlined below:

TERMS AND CONDITIONS

1. Compliance with Permit

1.1 Except where modified by this Permit, the water taking shall be in accordance with the application for this Permit To Take Water, dated April 3, 2014 and signed by John Bayliss, and all Schedules included in this Permit.

1.2 The Permit Holder shall ensure that any person authorized by the Permit Holder to take water under this Permit is provided with a copy of this Permit and shall take all reasonable measures to ensure that any such person complies with the conditions of this Permit.

1.3 Any person authorized by the Permit Holder to take water under this Permit shall comply with the conditions of this Permit.

1.4 This Permit is not transferable to another person.

1.5 This Permit provides the Permit Holder with permission to take water in accordance with the conditions of this Permit, up to the date of the expiry of this Permit. This Permit does not constitute a legal right, vested or otherwise, to a water allocation, and the issuance of this Permit does not guarantee that, upon its expiry, it will be renewed.

1.6 The Permit Holder shall keep this Permit available at all times at or near the site of the taking, and shall produce this Permit immediately for inspection by a Provincial Officer upon his or her request.

1.7 The Permit Holder shall report any changes of address to the Director within thirty days of any such change. The Permit Holder shall report any change of ownership of the property for which this Permit is issued within thirty days of any such change. A change in ownership in the property shall cause this Permit to be cancelled.

2. General Conditions and Interpretation

2.1 Inspections

The Permit Holder must forthwith, upon presentation of credentials, permit a Provincial Officer to carry out any and all inspections authorized by the OWRA, the *Environmental Protection Act* , R.S.O. 1990, the *Pesticides Act* , R.S.O. 1990, or the *Safe Drinking Water Act*, S. O. 2002.

2.2 Other Approvals

The issuance of, and compliance with this Permit, does not:

(a) relieve the Permit Holder or any other person from any obligation to comply with any other applicable legal requirements, including the provisions of the *Ontario Water Resources Act* , and

the *Environmental Protection Act* , and any regulations made thereunder; or

(b) limit in any way any authority of the Ministry, a Director, or a Provincial Officer, including the authority to require certain steps be taken or to require the Permit Holder to furnish any further information related to this Permit.

2.3 Information

The receipt of any information by the Ministry, the failure of the Ministry to take any action or require any person to take any action in relation to the information, or the failure of a Provincial Officer to prosecute any person in relation to the information, shall not be construed as:

(a) an approval, waiver or justification by the Ministry of any act or omission of any person that contravenes this Permit or other legal requirement; or

(b) acceptance by the Ministry of the information's completeness or accuracy.

2.4 Rights of Action

The issuance of, and compliance with this Permit shall not be construed as precluding or limiting any legal claims or rights of action that any person, including the Crown in right of Ontario or any agency thereof, has or may have against the Permit Holder, its officers, employees, agents, and contractors.

2.5 Severability

The requirements of this Permit are severable. If any requirements of this Permit, or the application of any requirements of this Permit to any circumstance, is held invalid or unenforceable, the application of such requirements to other circumstances and the remainder of this Permit shall not be affected thereby.

2.6 Conflicts

Where there is a conflict between a provision of any submitted document referred to in this Permit, including its Schedules, and the conditions of this Permit, the conditions in this Permit shall take precedence.

3. Water Takings Authorized by This Permit

3.1 **Expiry**

This Permit expires on **March 31, 2019**. No water shall be taken under authority of this Permit after the expiry date.

3.2 Amounts of Taking Permitted

The Permit Holder shall only take water from the source, during the periods and at the rates and amounts of taking specified in Table A. Water takings are authorized only for the purposes specified in Table A.

Table A

	Source Name / Description:	Source: Type:	Taking Specific Purpose:	Taking Major Category:	Max. Taken per Minute (litres):	Max. Num. of Hrs Taken per Day:	Max. Taken per Day (litres):	Max. Num. of Days Taken per Year:	Zone/ Easting/ Northing:
1	Phase 1 Pond	Pond Dugout	Aggregate Washing	Industrial	11,366	12	8,183,000	275	17 567290 4810630
2	Pond 4	Pond Dugout	Other - Industrial	Industrial	11,806	24	17,000,000	364	17 566820 4810150
						Total Taking:	8,183,000		

3.3 Notwithstanding Table A, the purpose of the water taking from Pond 4 is to maintain the water level elevation of Pond 4 to an elevation between that of Ponds 1 and 3. The water taking from Pond 4 shall be discharged to Pond 1. The Permit Holder shall maintain the average monthly pumping rate from Pond 4 at 8,183,000 Litres per day or less.

3.4 The Permit Holder shall ensure that aggregate washing occur annually between March 15th and December 15th from date of issue to March 31, 2019.

3.5 This Permit is issued for the sole purpose of washing gravel in a closed system where the majority of the water is recirculated.

4. Monitoring

4.1 Under section 9 of O. Reg. 387/04, and as authorized by subsection 34(6) of the *Ontario Water Resources Act* , the Permit Holder shall, on each day water is taken under the authorization of this Permit, record the date, the volume of water taken on that date and the rate at which it was taken. The daily volume of water taken shall be measured by a flow meter or calculated in accordance with the method described in the application for this Permit, or as otherwise accepted by the Director. The Permit Holder shall keep all records required by this condition current and available at or near the site of the taking and shall produce the records immediately for inspection by a Provincial Officer upon his or her request. The Permit Holder, unless otherwise required by the Director, shall submit, on or before March 31st in every year, the records required by this condition to the ministry's Water Taking Reporting System.

4.2 The Permit Holder shall submit copies of the monitoring reports produced for the Ministry of Natural Resources and Forestry (as part of the Permit Holder's license under the Aggregate Resources Act) as described in the letter dated September 3, 2014, from Nicolle Bellissimo, Environmental Coordinator, Dufferin Aggregates, to Belinda Koblik, Director, Section 34, Water Resources Unit, MOECC, RE: *Work Plan to assess impacts caused by the University of Guelph Mill Creek Pit (License ID. #5738 Part Lots 24 and 21-24, Concessions 1 and 2, Township of Puslinch, County of Wellington) on groundwater and Mill Creek and its*

ecosystems, to the Director within 90 days of the date of issuance of this Permit for the Director's approval.

5. Impacts of the Water Taking

5.1 Notification

The Permit Holder shall immediately notify the local District Office of any complaint arising from the taking of water authorized under this Permit and shall report any action which has been taken or is proposed with regard to such complaint. The Permit Holder shall immediately notify the local District Office if the taking of water is observed to have any significant impact on the surrounding waters. After hours, calls shall be directed to the Ministry's Spills Action Centre at 1-800-268-6060.

5.2 For Groundwater Takings

If the taking of water is observed to cause any negative impact to other water supplies obtained from any adequate sources that were in use prior to initial issuance of a Permit for this water taking, the Permit Holder shall take such action necessary to make available to those affected, a supply of water equivalent in quantity and quality to their normal takings, or shall compensate such persons for their reasonable costs of so doing, or shall reduce the rate and amount of taking to prevent or alleviate the observed negative impact. Pending permanent restoration of the affected supplies, the Permit Holder shall provide, to those affected, temporary water supplies adequate to meet their normal requirements, or shall compensate such persons for their reasonable costs of doing so.

If permanent interference is caused by the water taking, the Permit Holder shall restore the water supplies of those permanently affected.

6. Director May Amend Permit

The Director may amend this Permit by letter requiring the Permit Holder to suspend or reduce the taking to an amount or threshold specified by the Director in the letter. The suspension or reduction in taking shall be effective immediately and may be revoked at any time upon notification by the Director. This condition does not affect your right to appeal the suspension or reduction in taking to the Environmental Review Tribunal under the *Ontario Water Resources Act* , Section 100 (4).

The reasons for the imposition of these terms and conditions are as follows:

1. Condition 1 is included to ensure that the conditions in this Permit are complied with and can be enforced.

2. Condition 2 is included to clarify the legal interpretation of aspects of this Permit.

3. Conditions 3 through 6 are included to protect the quality of the natural environment so as to safeguard the ecosystem and human health and foster efficient use and conservation of waters. These conditions allow for the beneficial use of waters while ensuring the fair sharing, conservation and sustainable use of the waters of Ontario. The conditions also specify the water takings that are authorized by this Permit and the scope of this Permit.

In accordance with Section 100 of the Ontario Water Resources Act, R.S.O. 1990, you may by written Notice served upon me and the Environmental Review Tribunal within 15 days after receipt of this Notice, require a hearing by the Tribunal. Section 101 of the Ontario Water Resources Act, R.S.O. 1990, as amended, provides that the Notice requiring the hearing shall state:

1. The portions of the Permit or each term or condition in the Permit in respect of which the hearing is required, and;
2. The grounds on which you intend to rely at the hearing in relation to each portion appealed.

In addition to these legal requirements, the Notice should also include:

3. The name of the appellant;
4. The address of the appellant;
5. The Permit to Take Water number;
6. The date of the Permit to Take Water;
7. The name of the Director;
8. The municipality within which the works are located;

This notice must be served upon:

The Secretary
Environmental Review Tribunal
655 Bay Street, 15th Floor
Toronto ON
M5G 1E5
Fax: (416) 326-5370
Email: ERTTribunalsecretary@ontario.ca

AND

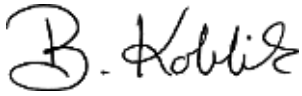
The Director, Section 34.1, Ministry of the Environment and Climate Change
12th Floor
119 King St W
Hamilton ON L8P 4Y7
Fax: (905) 521-7820

Further information on the Environmental Review Tribunal's requirements for an appeal can be obtained directly from the Tribunal:

by Telephone at	by Fax at	by e-mail at
(416) 212-6349	(416) 326-5370	www.ert.gov.on.ca
Toll Free 1(866) 448-2248	Toll Free 1(844) 213-3474	

This Permit cancels and replaces Permit Number 6405-9NFQKL, issued on 2014/09/22.

Dated at Hamilton this 16th day of November, 2015.



Belinda Koblik
Director, Section 34.1
Ontario Water Resources Act , R.S.O. 1990

Schedule A

This Schedule "A" forms part of Permit To Take Water 8520-A48LDY, dated November 16, 2015.

Phase 4 Pond (Pond 4) UTM Coordinates 17T 566820E 4810150N

Letter submitted from Nicolle Bellissimo, Environment Coordinator, Dufferin Aggregates, dated September 3, 2014 to Belinda Koblik, Director, Section 34, Water Resources Unit, MOECC, *RE: Work Plan to assess impacts caused by the University of Guelph Mill Creek Pit (License ID. #5738 Part Lots 24 and 21-24, Concessions 1 and 2, Township of Puslinch, County of Wellington) on groundwater and Mill Creek and its ecosystem,* to fulfil the requirement of Condition 4.2 of Permit Number 7287-9KHPZG issued on June 27, 2014.

Harden Environmental Services Ltd.
4622 Nassagaweya-Puslinch Townline Road
R.R. 1, Moffat, Ontario, L0P 1J0
Phone: (519) 826-0099 Fax: (519) 826-9099

Our File: 0004

May 23, 2018

Township of Puslinch
7404 Wellington Road 34
Guelph, ON, N1H 6H9

Attention: Ms. Karen Landry
CAO

Dear Ms. Landry;

Re: Mill Creek Pit
Review of 2017 Monitoring Data

We are pleased to provide a review of the 2017 monitoring data. We have reviewed the following documents;

Mill Creek Aggregates Pit Hydrogeology, Appendix B of the Coordinated Monitoring Report, WSP March 26, 2018

Technical Appendix A of the Mill Creek Coordinated Monitoring Report 2017, Surface Water Monitoring Report, Stantec, March 26, 2018

Mill Creek Coordinated Monitoring Report, January 1 to December 31, 2017, LRG Environmental, March 22, 2018

Previous Correspondence

We reviewed the WSP response to the 2016 review and the following comment remains.

Mill Creek Water Levels at DP5(A,B,C,D, R)

We understand that vandalism may well force the relocation of DP5 and these new locations may have different stream bed elevations. However, graph B-82 represents the surface water elevation, not stream bed elevation. Unless the profile of the wetted perimeter of the stream has changed dramatically, there does not seem to be a good explanation for lower surface water levels from 2014 onwards. There is no other similar surface water level change elsewhere in Mill Creek. Figure 15 of the

Stantec Surface Water Monitoring Report does not suggest decreased flow in the same period as would be expected with lower water levels. Is DP5 or any of its replacements accurately measuring the surface water level in Mill Creek upgradient of Concession 2 Road?

2017 Monitoring Report

Our comments on the 2017 reports are as follows;

1) The Phase 3 pond elevation decreased throughout 2017. This has the affect of lowering groundwater levels westward towards Mill Creek and decreasing thermal impact west of Phase 3 Pond. The lower water levels are attributed to the silt barrier between Phase 4 pond and Phase 3 pond. Phase 4 pond water levels show an upward trend between 2013 and 2018 perhaps as a result of retaining water otherwise flowing westward. If this trend continues, how will water levels in Phase 3 will be maintained to provide historical hydraulic gradients between the Phase 3 pond area and Mill Creek?

2) We have no surface water comments. There are no issues with surface water quality and quantity.

3) We have no comments on the Coordinated Monitoring Report.

Sincerely,

Harden Environmental Services Ltd.

Stan Denhoed, P.Eng., M.Sc.
Senior Hydrogeologist

July 31, 2018

Dufferin Aggregates, a division of CRH Canada Group Inc.
2300 Steeles Ave W, 4th floor
Concord, Ontario L4K 5X6

Attention: **Mr. Ron Van Ooteghem**
Site Manager, Mill Creek Pit

Dear Mr. Van Ooteghem:

Subject: **Mill Creek Pit**
2017 Coordinated Monitoring Report: Appendix B: Hydrogeology
Response to Harden Environmental Services Ltd. Review Comments
Project 111-52958-02

Harden Environmental Services Ltd. (Harden) was retained by the Township of Puslinch to complete a review of *Appendix B - Hydrogeology* of the *2017 Coordinated Monitoring Report* for the Mill Creek Aggregates Pit, prepared by WSP Canada Inc. on behalf of Dufferin Aggregates in March 2018. The Harden comments were provided in a letter to the Township dated May 23, 2018. A response to the review comments is provided below.

Previous Correspondence: *Mill Creek Water Levels at DP5 (A,B,C,D,R)*

We understand that vandalism may well force the relocation of DP5 and these new locations may have different stream bed elevations. However, graph B-82 represents the surface water elevation, not stream bed elevation. Unless the profile of the wetted perimeter of the stream has changed dramatically, there does not seem to be a good explanation for lower surface water levels from 2014 onwards. There is no other similar surface water level change elsewhere in Mill Creek. Figure 15 of the Stantec Surface Water Monitoring Report does not suggest decreased flow in the same period as would be expected with lower water levels. Is DP5 or any of its replacements accurately measuring the surface water level in Mill Creek upgradient of Concession 2 Road?

Response: As the reviewer indicated, the historical daily average stream flow data presented on Figure 15 of the 2017 Appendix A Surface Water Monitoring Report (Stantec, 2018) show an overall stable discharge rate immediately upstream of the DP5 drive points (SWM2). As such, the notable decrease in surface water levels suggested by the DP5D data would not be expected. Upon further assessment of the DP5D monitoring data, it appears that another act of vandalism occurred at DP5D in winter 2014, resulting in the measuring point of the drive point being raised by about 0.2 m. An alternative, but less likely cause of the raised drive point is frost heave, as the groundwater inside the monitor was recorded as frozen throughout the winter. We cannot, however, be certain what actually occurred, and since the drive point was completely removed by vandals in 2017, we are unable to re-survey the drive point. Drive point DP5C was present during the period in which

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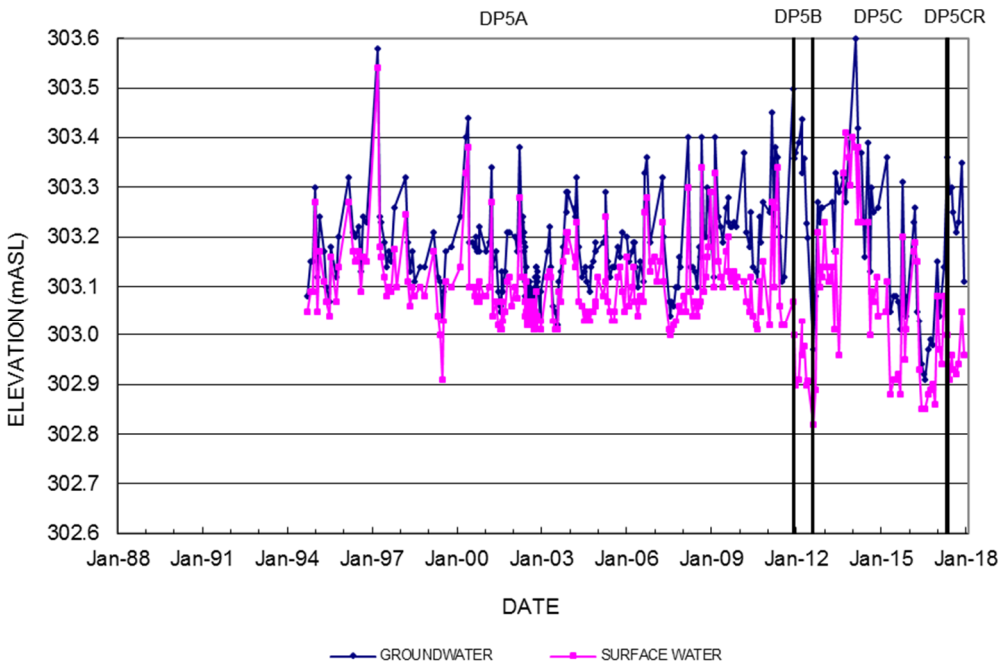
DP5D was monitored, and data from DP5C was used for threshold pair trigger assessments during that time. In Figure 1, the DP5D groundwater and surface water elevation data are replaced with DP5C data, which results in higher (i.e. more reasonable) water levels. The DP5C water levels remain lower than the historic levels recorded at DP5A, which is expected since DP5A was located upstream from the bridge, and DP5C was located just downstream from the bridge.

FIGURE 1: GROUNDWATER/SURFACE WATER HYDROGRAPH
DP5A/B/C/CR



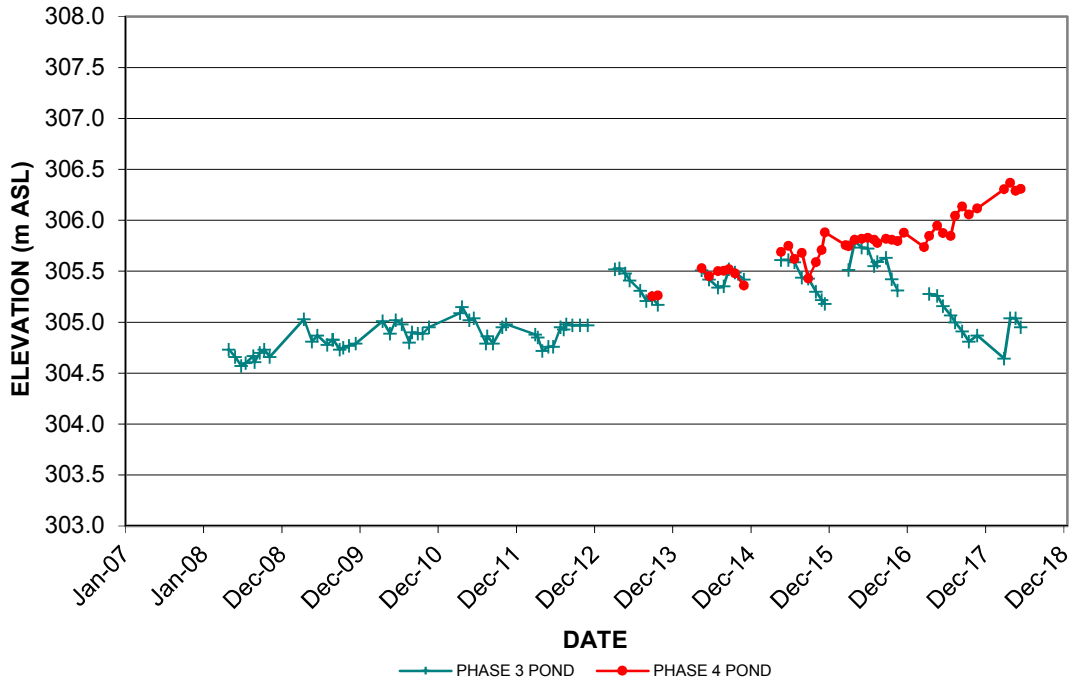
Additionally, it is noted that the elevation of current replacement drive point DP5CR was surveyed by licensed surveyors in 2017. Based on the above, we are confident that the surface water levels measured both currently and historically at the DP5 locations, as presented in Figure 1, are representative of conditions in Mill Creek at that general location. In the above comment, the reviewer referred to surface water levels upgradient of Concession 2 Road. Only DP5A, however, was located upstream of the bridge; DP5B, DP5C, DP5D, and DP5CR were/are each located downstream of the bridge due to property access restrictions.

Comment 1: *The Phase 3 pond elevation decreased throughout 2017. This has the affect of lowering groundwater levels westward towards Mill Creek and decreasing thermal impact west of Phase 3 Pond. The lower water levels are attributed to the silt barrier between Phase 4 pond and Phase 3 pond. Phase 4 pond water levels show an upward trend between 2013 and 2018 perhaps as a result of retaining water otherwise*

flowing westward. If this trend continues, how will water levels in Phase 3 will [sic] be maintained to provide historical hydraulic gradients between the Phase 3 pond area and Mill Creek?

Response 1: Notwithstanding lower groundwater levels adjacent to the west side of the Phase 3 pond in 2017 compared to recent years, the 2017 groundwater discharge along Mill Creek was similar to that observed in 2016. As shown in Figure 2, the routine monitoring results from January to June 2018 indicate that the water level in the Phase 4 pond has continued to increase, with a commensurate increase in the Phase 3 pond water level.

FIGURE 2: POND HYDROGRAPH



As shown in Figures 3 through 6, the groundwater levels measured adjacent to the west side of the Phase 3 pond from January to June 2018 indicate that a similar increase has occurred, most notably at well nest 92-29. These groundwater levels adjacent to the Phase 3 pond continue to be similar to, or higher than, the pre-Phase 3 extraction groundwater levels. As such, historic or higher groundwater discharge to Mill Creek continues to be maintained. Also, it is expected that the water level in the Phase 4 pond will stabilize once pit operations cease, and the outflow through the silt barrier will equilibrate to the head differential between the Phase 3 and Phase 4 ponds. This equilibration will result in stabilized (a) water levels in the Phase 3 pond, (b) head differential between the Phase 3 pond and Mill Creek, and (c) groundwater discharge to Mill Creek. With the silt barrier now fully established, the current water level in the Phase 3 pond represents the approximate final water level for the pond, as water levels 'step down' from the St. Marys Cement (McNally) pond east of the site, to the Phase 1 pond, the Phase 4 pond, and ultimately the Phase 3 pond.

In the unlikely event that hydraulic gradients between the Phase 3 pond and Mill Creek decrease to levels that result in consistent threshold pair exceedances as a result of pit operations, mitigation measures will be implemented in consultation with the Ministry of Natural Resources and Forestry.

FIGURE 3: GROUNDWATER HYDROGRAPH

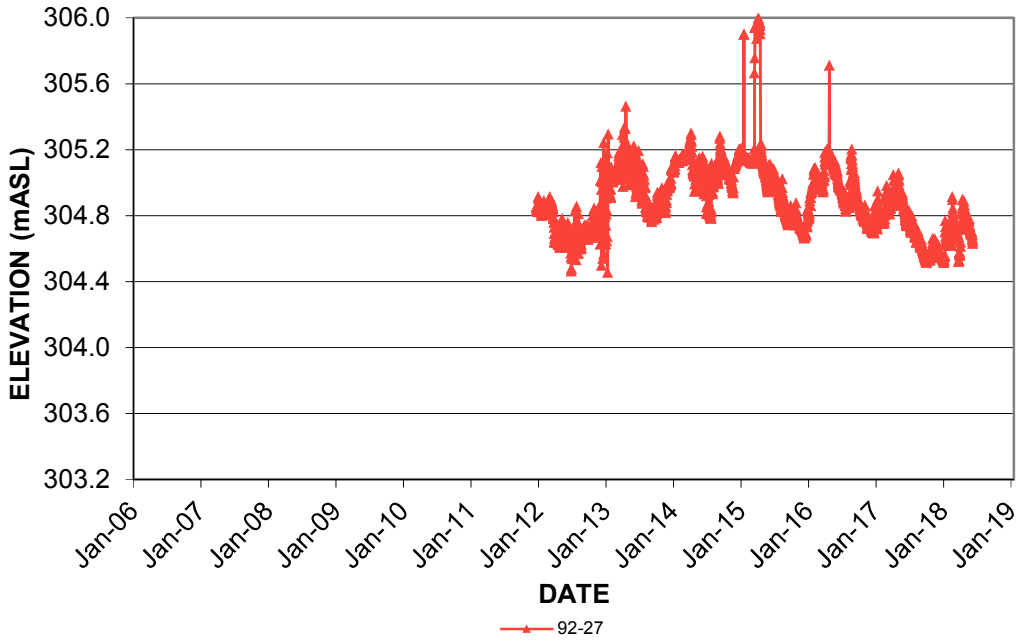


FIGURE 4: GROUNDWATER HYDROGRAPH

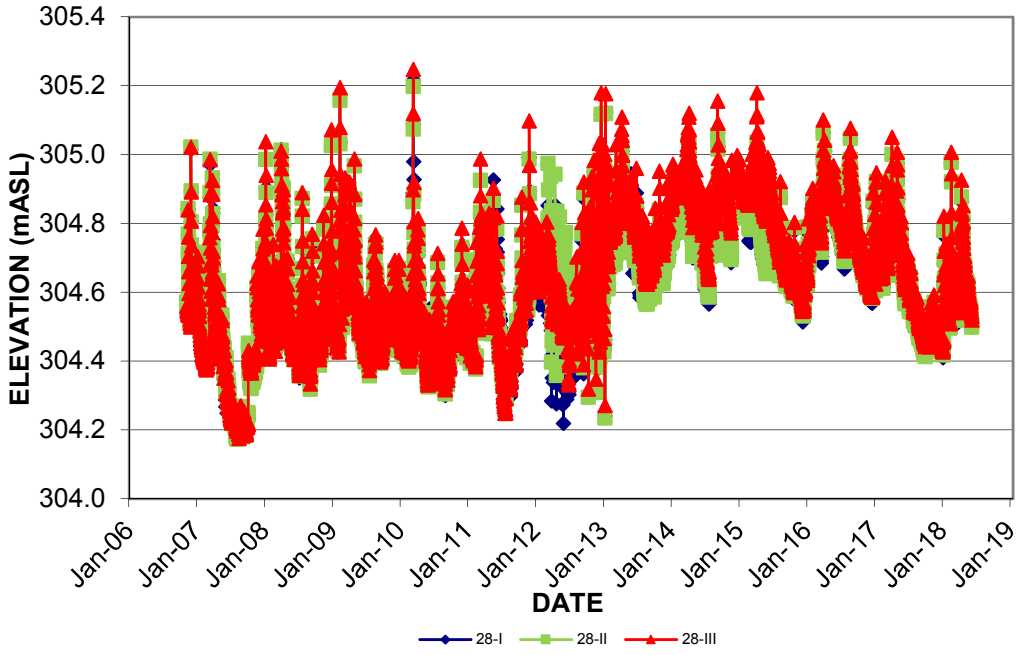


FIGURE 5: GROUNDWATER HYDROGRAPH

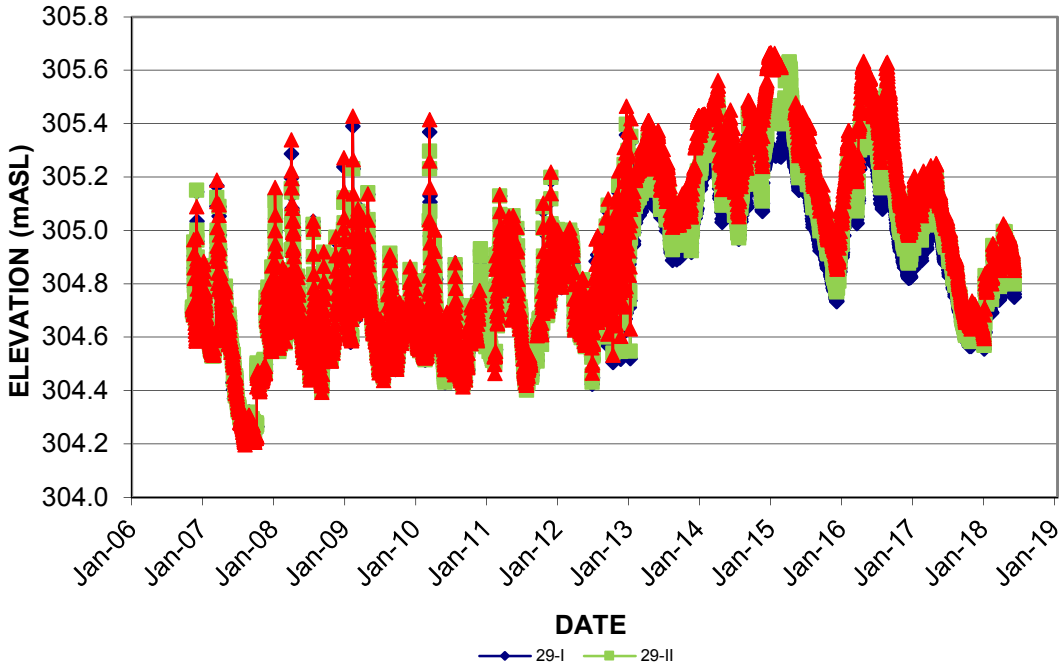
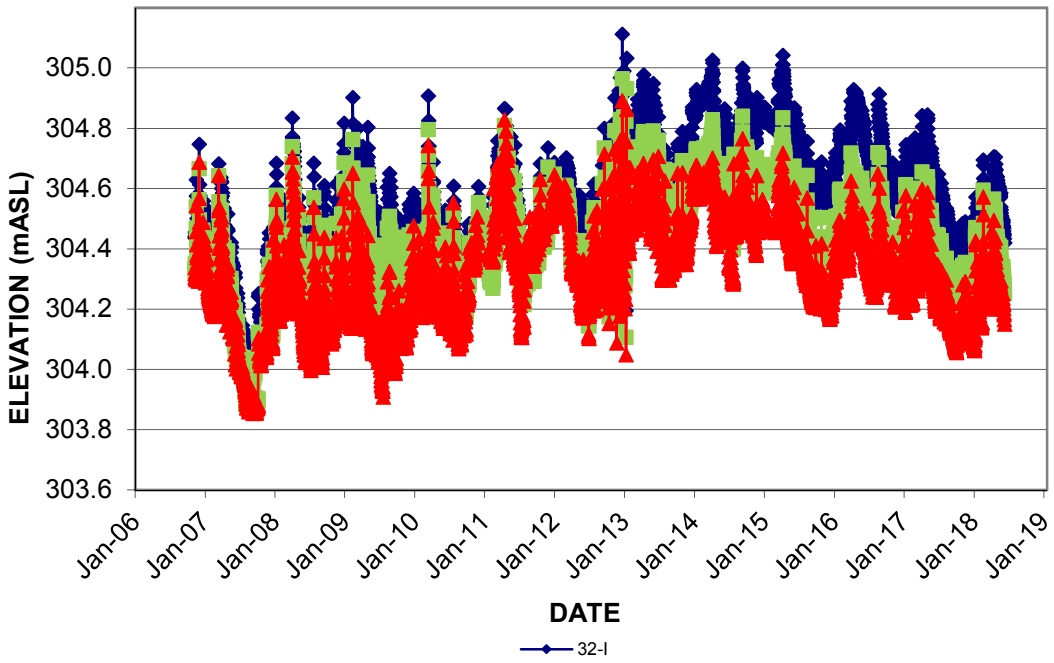


FIGURE 6: GROUNDWATER HYDROGRAPH



We trust that this response is satisfactory at this time. If you have any questions, please do not hesitate to contact us.

Yours truly,
WSP Canada Inc.

Greg R. Siiskonen, P.Eng.
Project Engineer

CRH Canada Group Inc.
2300 Steeles Ave W, 4th floor
Concord, Ontario
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June 19, 2018

Ms. Karen Landry
Township of Puslinch
7404 Wellington Rd 34
Puslinch, ON N0B 2J0

Dear Ms. Landry,

Re: Response to Council Questions – 2017 Mill Creek Monitoring Report
Dufferin Aggregates Mill Creek Pit

In regards to your email dated June 14, 2018, please accept the following responses to the Township of Puslinch Council questions related to the 2017 Mill Creek Monitoring Report for the Dufferin Aggregates Mill Creek Pit (Dufferin). Dufferin Aggregates is a division of CRH Canada Group Inc. These responses have been developed in consultation with Dufferin's consultants, LRG Environmental and WSP.

Question 1: *p7 of Executive Summary under Hydrology cite no recommends "No changes to the surface water program are recommended for 2018" however p.77 cites "Continued monitoring is required to ensure that threshold values related to the Phase 3 pond and threshold pairs downgradient from the pond continue to be maintained. The water levels in the Phase 1 pond, Phase 2 pond, and Phase 4 pond were higher in 2017 compared to 2016."*
-will monitoring continue

Dufferin Response: The surface water, fisheries, and groundwater technical consultants have not recommended changes to the monitoring program and consequently the entire monitoring program will continue (and has) in 2018. Until the Ministry of Natural Resources and Forestry (MNRF) surrenders the licence, monitoring will continue.

Question 2: *p8 of Executive Summary under Groundwater cites "No changes to the groundwater monitoring program are recommended for 2018." However p97 cites "It is recommended that revised early warning and threshold values be established for the OW5-84 to DP5CR pair, following the collection of a sufficient amount of monitoring data at DP5CR, to better reflect the hydrogeological conditions at DP5CR. The existing OW5-84 to DP5C early warning and threshold values do not appear to be representative of the actual conditions at this location."*
And p. 62 cites "The existing DP5C early warning and threshold values do not appear to be representative of the actual conditions at replacement monitor DP5CR and it is recommended these values be reviewed further in 2018."
-will recommendations in main report be followed?

Dufferin Response: It is unfortunate that vandalization has resulted in the need to re-evaluate the thresholds. The data being collected during monitoring in 2018 will be reviewed so that a recommendation can be made as to whether the existing early warning and threshold values are still applicable to the pair since the replacement monitor has changed. Any recommendations will be communicated to the approval agencies for discussion and approval. It should be noted that water levels remain within historical ranges.

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Question 3: *p9 of Executive Summary under General Conclusions cites "Based on the extensive monitoring data there is no indication that aggregate extraction on the Mill Creek Property has negatively affected water flow in Mill Creek or trout populations in the study area; trout populations have been consistent and/or increased since below water table extraction began in 1995;"*
-while this statement is true on the face, however the plan on p.1062 appears to show a general trend downward in the fish count over the last few years. Comments are required.

Dufferin Response: Population numbers are well within historical ranges. We expect natural fluctuations in the numbers. Redd counts in both the Hanlon and University of Guelph (UofG) reach are above historical counts indicating strong reproduction in this portion of Mill Creek. The young of the year numbers in both the Hanlon and UofG reach are also higher than historical averages, but slightly lower than a few years earlier. The adult counts also confirm a strong trout population.

Question 4: *p29 does not mention whether precipitation data is consistent with Nestle*

Dufferin response: We do not have a copy of the Nestle report referenced nor are we aware of which climate station's data is used in the Nestle report. The Mill Creek monitoring report uses the Shade's Mills manual precipitation data, which we request from the GRCA.

Question 5: *p258 under instrument nest 92-32 cites "A slight increasing trend in groundwater temperatures at the intermediate and deep monitors was apparent in 2013 and 2014, but in 2015 the temperatures at these two monitors decreased to values similar to 2011 and 2012 temperatures. A further minor decrease occurred in 2016. This cooling effect suggested stabilizing conditions at this location now that extraction has ceased in Phase 3, but the slight increase in temperatures in 2017 suggests that the decrease was natural. Continued monitoring will assist in the confirmation of this interpretation."*
-will this monitoring continue and what will be the long term effects one extraction is fully complete

Dufferin Response: Extraction on the west side of the site is complete and the barrier between the Phase 3 and 4 ponds is complete. Monitoring will continue at 92-32 and will assist in the further assessment of the thermal influence of the now fully established Phase 3 pond on the groundwater between the pond and Mill Creek.

Question 6: *p279 "The re-circulation of clean silt pond water back to the Phase 1 pond appears to reduce pond temperatures at least locally at the south end, which reduced the range of groundwater temperatures observed at 92-13 after 2000. It appears that the absence of aggregate extraction in the Phase 1 pond has resulted in this increase in peak summer temperatures of the groundwater immediately downgradient from the Phase 1 pond. Aggregate extraction likely induced the flow of cooler groundwater toward the pond during the summer months."*
-what is expected to be the long term effect once extraction ends

Dufferin Response: Groundwater temperatures similar to those observed in recent years are expected at 92-13 once extraction at the site is complete.

Question 7: *p295 again cites further recommendations as follows; "We respectfully submit the following recommendations, based on the study findings, for your consideration.*
— The groundwater monitoring program should be continued in 2018, as detailed in Section 5.0. The original 1993 monitoring program was updated in July 2002 to include the monitoring of

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Concord, Ontario
L4K 5X6 Canada

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threshold pairs, in October 2004 to monitor extraction activities in Phase 2, in January 2006 to monitor extraction activities in Phase 3, and in June 2015 to monitor future extraction activities in Phase 5 with the addition of Monitor BH14 to the monitoring program.
— Revised early warning and threshold values should be established for the OW5-84 to DP5CR pair, following the collection of a sufficient amount of monitoring data at DP5CR, to reflect the hydrogeological conditions at DP5CR. The existing OW5-84 to DP5C early warning and threshold values do not appear to be representative of the actual conditions at DP5CR.
— It should be proposed to the MNRF that the Phase 4 pond threshold values be applied to silt pond SP3."
-will these recommendations be followed

Dufferin Response: Please see comment to question 2 above. The recommendations in the report will be followed.

Question 8: *p1022 suggest Puslinch be copied on any correspondence with MNR regarding threshold breaches*

Dufferin Response: The monthly report submitted to MNRF is also submitted to the Township, therefore if a threshold is exceeded, it will be identified in the report**.**

Question 9: *with regard to p9 and p1061 perhaps we should ask Friends of Mill Creek to work in the area of the Hanlon Bypass to improve the scouring and reduce the silting as well as advise GRCA of the beaver dams*

Dufferin Response: GRCA has been made aware of the beaver activity in the Hanlon Reach. FOMC has removed beaver dams for us in the past and we have reached out to them again to do so this year.

In regards to scouring and removal of silt from the Hanlon reach, this has been offered by Dufferin and never been permitted by MNRF so as to not influence monitoring results. There are discussions about this reach being improved as part of works undertaken for the proposed Morriston by-pass as the historical channelization of this area was done by MTO causing the silt deposition. Dufferin continues to support the idea of habitat improvements in this reach.

If you have any further questions or require any other information, please do not hesitate to contact me.

Regards,

Maria Topalovic
Environment Manager
CRH Canada Group Inc.
M : (647) 924-5498
E: maria.topalovic@ca.crh.com

Township of Puslinch
7404 Wellington Rd 34
Puslinch, ON
N0B 2J0

June 22, 2018

Dear Sir/Madam:

RE: Annual Reports and Precipitation Data
Our File: E13PRE

Site ID: 5483
5609

Council at its meeting held on April 19, 2017 reviewed groundwater monitoring reports for various permit to take water permit holders, and noted significant differences in the reporting of precipitation levels in those reports.

Council subsequently at its meeting held on June 6, 2017, requested the Ministry of Environment and Climate Change and the Ministry of Natural Resources to respond with possible solutions for the coordinated monitoring of precipitation levels for groundwater monitoring reports. Enclosed for your reference are the responses received by the Ministry of Natural Resources and the Ministry of Environment and Climate Change.

As a result, Council has requested staff to contact all permit to take water holders to determine their willingness to utilize a single weather station, to be identified by the Township, so that consistent data is reported by all permit to take water holders when submitting their annual groundwater monitoring reports.

We appreciate your consideration of this request. Please advise the undersigned by July 31, 2018 if you would be willing to participate in utilizing a single weather station identified by the Township for groundwater monitoring reports.

If you have any questions, please give me a call at 519-763-1226 ext. 214.

Sincerely,

Karen M. Landry
CAO/Clerk

Encl.

7(16)(9)

From:	MIN Feedback (MNRF)
To:	Nina Lecic
Cc:	Minister, MOECC (MOECC)
Subject:	Message from the Ministry of Natural Resources and Forestry
Date:	June-30-17 9:57:31 AM

MNR6446MC-2017-1220

June 30, 2017

Ms. Nina Lecic
Deputy Clerk
Township of Puslinch
nlecic@puslinch.ca

Dear Ms. Lecic:

Thank you for your email to the Honourable Kathryn McGarry, Minister of Natural Resources and Forestry, inviting ministry staff to attend a future council meeting to provide an overview of precipitation level monitoring. Minister McGarry appreciates receiving your correspondence.

We note that you also wrote to the Honourable Glen Murray, Minister of the Environment and Climate Change (MOECC). As the issue of groundwater monitoring falls under the jurisdiction of MOECC, we trust that they will give your township's letter their full consideration.

Thank you for writing.

Sincerely,

Lorelei Friesen
Manager, Editorial and Correspondence Services Unit
Communications Services Branch

c: The Honourable Glen Murray, Minister of the Environment and Climate Change

7(9)

Ministry of the Environment
and Climate Change
West Central Region

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12th Floor
Hamilton, Ontario L8P 4Y7
Tel.: 905 521-7640
Fax: 905 521-7820

Ministere de l'Environnement
et de l'Action en matière de changement climatique
Direction régionale du Centre-Ouest

119 rue King Ouest
12e étage
Hamilton (Ontario) L8P 4Y7
Tél. : 905 521-7640
Téléc. : 905 521-7820

Ontario

Log: ENV1283MC-2017-1687

July 26, 2017

Ms Nina Lecic
Deputy Clerk
Township of Puslinch
7404 Wellington Road 34
Puslinch, ON N0B 2J0

Dear Ms Lecic:

Thank you for your letter of June 22, 2017, concerning differences in the way precipitation data is incorporated into annual monitoring reports prepared on behalf of Capital Paving and Nestle Waters Canada. The Minister has asked me to respond on his behalf.

Neither Permit to Take Water issued to Nestle Waters Canada nor Capital Paving actually requires the inclusion or assessment of precipitation data. However, consultants who are preparing the annual monitoring reports required under many permits often find this type of data to be useful in interpreting changes in groundwater and surface water levels. It helps the consultants to differentiate changes caused by the permitted water taking from those that are due to weather conditions. Accordingly, consultants' assessments usually consider data gathered from one or more nearby weather stations.

It is important to note that precipitation varies geographically, sometimes with large variation over short distances (e.g. thunderstorms). Unless measurements are made on-site, there is no assurance that the data from any given station is an accurate reflection of on-site precipitation. Data from nearby stations does provide a point of comparison though, and is valuable from that perspective.

Nor should it be expected that different sites, even in the same township, will necessarily use data from the same meteorological station in their interpretation. Proximity, historical continuity of data and the range of measured parameters are all possible reasons for preferring data from one station over another. Of course there is nothing to prevent more than one station's data from being used in the comparison. And since the meteorological data is a matter of historical record, if any party wishes to use the data from a different station in their own interpretation, this is easily done.

Fundamentally, this ministry's principal interest is not in the accurate monitoring of precipitation at the sites of water takings, but rather in the accurate presentation of environmental effects of a water taking. We feel that this is generally well done in the consulting community in the context of the Permit to Take Water program. For this reason, a technical meeting on this subject is not warranted at this time.

Again, thank you and I hope you find this information helpful.

Yours sincerely,

Mili New
Director
West Central Region

c: Dan Dobrin, MOECC, Manager Technical Support

Monthly Reporting
Mill Creek Aggregates Pit
January 2018

Date	DP21 (mASL)	Threshold Value (mASL)	Exceedance
2-Jan-18	FROZEN	305.66	--
11-Jan-18	FROZEN	305.66	--
16-Jan-18	FROZEN	305.66	--
26-Jan-18	FROZEN	305.66	--

Date	BH13 (mASL)	DP21 (mASL)	Head Difference (m)	Threshold Value (m)	Exceedance
2-Jan-18	FROZEN	FROZEN	--	0.11	--
11-Jan-18	FROZEN	FROZEN	--	0.11	--
16-Jan-18	306.26	FROZEN	--	0.11	--
26-Jan-18	306.26	FROZEN	--	0.11	--

Date	DP17 (mASL)	Threshold Value (mASL)	Exceedance
2-Jan-18	FROZEN	305.17	--
11-Jan-18	FROZEN	305.17	--
16-Jan-18	FROZEN	305.17	--
26-Jan-18	FROZEN	305.17	--

Date	BH92-12 (mASL)	DP17 (mASL)	Head Difference (m)	Threshold Value (m)	Exceedance
2-Jan-18	FROZEN	FROZEN	--	0.07	--
11-Jan-18	FROZEN	FROZEN	--	0.07	--
16-Jan-18	305.51	FROZEN	--	0.07	--
26-Jan-18	305.52	FROZEN	--	0.07	--

Date	DP3 (mASL)	Threshold Value (mASL)	Exceedance
2-Jan-18	FROZEN	304.54	--
11-Jan-18	FROZEN	304.54	--
16-Jan-18	FROZEN	304.54	--
26-Jan-18	FROZEN	304.54	--

Date	DP6 (mASL)	DP3 (mASL)	Head Difference (m)	Threshold Value (m)	Exceedance
2-Jan-18	FROZEN	FROZEN	--	0.57	--
11-Jan-18	FROZEN	FROZEN	--	0.57	--
16-Jan-18	FROZEN	FROZEN	--	0.57	--
26-Jan-18	305.87	FROZEN	--	0.57	--

Date	DP2 (mASL)	Threshold Value (mASL)	Exceedance
2-Jan-18	FROZEN	303.65	--
11-Jan-18	FROZEN	303.65	--
16-Jan-18	FROZEN	303.65	--
26-Jan-18	FROZEN	303.65	--

Date	BH92-27 (mASL)	DP2 (mASL)	Head Difference (m)	Threshold Value (m)	Exceedance
2-Jan-18	FROZEN	FROZEN	--	0.43	--
11-Jan-18	FROZEN	FROZEN	--	0.43	--
16-Jan-18	304.68	FROZEN	--	0.43	--
26-Jan-18	304.69	FROZEN	--	0.43	--

Date	DP1 (mASL)	Threshold Value (mASL)	Exceedance
2-Jan-18	FROZEN	303.88	--
11-Jan-18	FROZEN	303.88	--
16-Jan-18	FROZEN	303.88	--
26-Jan-18	FROZEN	303.88	--

Date	BH92-29 (mASL)	DP1 (mASL)	Head Difference (m)	Threshold Value (m)	Exceedance
2-Jan-18	FROZEN	FROZEN	--	0.29	--
11-Jan-18	FROZEN	FROZEN	--	0.29	--
16-Jan-18	304.80	FROZEN	--	0.29	--
26-Jan-18	FROZEN	FROZEN	--	0.29	--

Date	DP5CR (mASL)	Threshold Value (mASL)	Exceedance
2-Jan-18	FROZEN	302.88	--
11-Jan-18	FROZEN	302.88	--
16-Jan-18	FROZEN	302.88	--
26-Jan-18	FROZEN	302.88	--

Date	OW5-84 (mASL)	DP5CR (mASL)	Head Difference (m)	Threshold Value (m)	Exceedance
2-Jan-18	FROZEN	FROZEN	--	0.30	--
11-Jan-18	FROZEN	FROZEN	--	0.30	--
16-Jan-18	FROZEN	FROZEN	--	0.30	--
26-Jan-18	303.69	FROZEN	--	0.30	--

Note:No exceedances to report for January for those wells that could be measured. All other wells were frozen as indicated above.

Monthly Reporting
Mill Creek Aggregates Pit
January 2018

								Max. Allowable as per PTTW- Main Pond				
								(Imperial Gallons)				(Litres)
Total Monthly Precipitation (mm):		57.7	Kitchener/Waterloo (January Actual)					2,500			per minute	11,365
Total Monthly Normal Precipitation (mm):		65.2	Waterloo-Wellington A (30-year Normal)					1,800,000			per day	8,183,000
Date	Below Water Table Extraction (wet tonnes) Phase 2	Below Water Table Extraction (wet tonnes)	Water Pumped from Main Pond (gals)	Water Pumped from Active Silt Pond (gals)	Main Pond Level (mASL)	Exceedance Y/N (BELOW 305.5 mASL)	Phase 2 Pond Level (mASL)	Exceedance Y/N (BELOW 305.0 mASL)	Phase 3 Pond Level (mASL)	Exceedance Y/N (BELOW 303.85 mASL)	Phase 4 Pond Level (mASL)	Exceedance Y/N (BELOW 304.5 mASL)
1-Jan-18	0	0	0	0	-	-	-	-	-	-	-	-
2-Jan-18	0	0	0	0	-	-	-	-	-	-	-	-
3-Jan-18	0	0	0	0	-	-	-	-	-	-	-	-
4-Jan-18	0	0	0	0	-	-	-	-	-	-	-	-
5-Jan-18	0	0	0	0	-	-	-	-	-	-	-	-
6-Jan-18	0	0	0	0	-	-	-	-	-	-	-	-
7-Jan-18	0	0	0	0	-	-	-	-	-	-	-	-
8-Jan-18	0	0	0	0	-	-	-	-	-	-	-	-
9-Jan-18	0	0	0	0	-	-	-	-	-	-	-	-
10-Jan-18	0	0	0	0	-	-	-	-	-	-	-	-
11-Jan-18	0	0	0	0	-	-	-	-	-	-	-	-
12-Jan-18	0	0	0	0	-	-	-	-	-	-	-	-
13-Jan-18	0	0	0	0	-	-	-	-	-	-	-	-
14-Jan-18	0	0	0	0	-	-	-	-	-	-	-	-
15-Jan-18	0	0	0	0	-	-	-	-	-	-	-	-
16-Jan-18	0	0	0	0	-	-	-	-	-	-	-	-
17-Jan-18	0	0	0	0	-	-	-	-	-	-	-	-
18-Jan-18	0	0	0	0	-	-	-	-	-	-	-	-
19-Jan-18	0	0	0	0	-	-	-	-	-	-	-	-
20-Jan-18	0	0	0	0	-	-	-	-	-	-	-	-
21-Jan-18	0	0	0	0	-	-	-	-	-	-	-	-
22-Jan-18	0	0	0	0	-	-	-	-	-	-	-	-
23-Jan-18	0	0	0	0	-	-	-	-	-	-	-	-
24-Jan-18	0	0	0	0	-	-	-	-	-	-	-	-
25-Jan-18	0	0	0	0	-	-	-	-	-	-	-	-
26-Jan-18	0	0	0	0	-	-	-	-	-	-	-	-
27-Jan-18	0	0	0	0	-	-	-	-	-	-	-	-
28-Jan-18	0	0	0	0	-	-	-	-	-	-	-	-
29-Jan-18	0	0	0	0	-	-	-	-	-	-	-	-
30-Jan-18	0	0	0	0	-	-	-	-	-	-	-	-
31-Jan-18	0	0	0	0	-	-	-	-	-	-	-	-
Total	0	0	-	-	--	--	--	--	--	--	--	--
Avg./ day	0.0	0.00	-	-	--	--	--	--	--	--	--	--

Note: No exceedences to report. All staff guages were removed as of December 15th, 2017.

Monthly Reporting
Mill Creek Aggregates Pit
February 2018

Date	DP21 (mASL)	Threshold Value (mASL)	Exceedance
1-Feb-18	FROZEN	305.66	--
9-Feb-18	FROZEN	305.66	--
16-Feb-18	305.89	305.66	NO
26-Feb-18	305.98	305.66	NO

Date	BH13 (mASL)	DP21 (mASL)	Head Difference (m)	Threshold Value (m)	Exceedance
1-Feb-18	306.22	FROZEN	--	0.11	--
9-Feb-18	306.18	FROZEN	--	0.11	--
16-Feb-18	306.27	305.89	0.38	0.11	NO
26-Feb-18	306.37	305.98	0.39	0.11	NO

Date	DP17 (mASL)	Threshold Value (mASL)	Exceedance
1-Feb-18	FROZEN	305.17	--
9-Feb-18	FROZEN	305.17	--
16-Feb-18	305.30	305.17	NO
26-Feb-18	305.39	305.17	NO

Date	BH92-12 (mASL)	DP17 (mASL)	Head Difference (m)	Threshold Value (m)	Exceedance
1-Feb-18	305.46	FROZEN	--	0.07	--
9-Feb-18	305.41	FROZEN	--	0.07	--
16-Feb-18	305.47	305.30	0.17	0.07	NO
26-Feb-18	305.62	305.39	0.23	0.07	NO

Date	DP3 (mASL)	Threshold Value (mASL)	Exceedance
1-Feb-18	FROZEN	304.54	--
9-Feb-18	FROZEN	304.54	--
16-Feb-18	304.81	304.54	NO
26-Feb-18	305.02	304.54	NO

Date	DP6 (mASL)	DP3 (mASL)	Head Difference (m)	Threshold Value (m)	Exceedance
1-Feb-18	305.82	FROZEN	--	0.57	--
9-Feb-18	305.77	FROZEN	--	0.57	--
16-Feb-18	305.85	304.81	1.04	0.57	NO
26-Feb-18	306.02	305.02	1.00	0.57	NO

Date	DP2 (mASL)	Threshold Value (mASL)	Exceedance
1-Feb-18	FROZEN	303.65	--
9-Feb-18	FROZEN	303.65	--
16-Feb-18	FROZEN	303.65	--
26-Feb-18	304.24	303.65	NO

Date	BH92-27 (mASL)	DP2 (mASL)	Head Difference (m)	Threshold Value (m)	Exceedance
1-Feb-18	304.67	FROZEN	--	0.43	--
9-Feb-18	304.63	FROZEN	--	0.43	--
16-Feb-18	304.68	FROZEN	--	0.43	--
26-Feb-18	304.80	304.24	0.56	0.43	NO

Date	DP1 (mASL)	Threshold Value (mASL)	Exceedance
1-Feb-18	FROZEN	303.88	--
9-Feb-18	FROZEN	303.88	--
16-Feb-18	FROZEN	303.88	--
26-Feb-18	304.33	303.88	NO

Date	BH92-29 (mASL)	DP1 (mASL)	Head Difference (m)	Threshold Value (m)	Exceedance
1-Feb-18	304.78	FROZEN	--	0.29	--
9-Feb-18	304.75	FROZEN	--	0.29	--
16-Feb-18	304.82	FROZEN	--	0.29	--
26-Feb-18	304.92	304.33	0.59	0.29	NO

Date	DP5CR (mASL)	Threshold Value (mASL)	Exceedance
1-Feb-18	FROZEN	302.88	--
9-Feb-18	FROZEN	302.88	--
16-Feb-18	FROZEN	302.88	--
26-Feb-18	303.42	302.88	NO

Date	OW5-84 (mASL)	DP5CR (mASL)	Head Difference (m)	Threshold Value (m)	Exceedance
1-Feb-18	303.64	FROZEN	--	0.30	--
9-Feb-18	FROZEN	FROZEN	--	0.30	--
16-Feb-18	303.72	FROZEN	--	0.30	--
26-Feb-18	303.76	303.42	0.35	0.30	NO

Note:No exceedances to report for February for those wells that could be measured. All other wells were frozen as indicated above.

Monthly Reporting
Mill Creek Aggregates Pit
February 2018

								Max. Allowable as per PTTW- Main Pond				
								(Imperial Gallons)				(Litres)
Total Monthly Precipitation (mm):	44.7	Kitchener/Waterloo (February Actual)						2,500			per minute	11,365
Total Monthly Normal Precipitation (mm):	54.9	Waterloo-Wellington A (30-year Normal)						1,800,000			per day	8,183,000

Date	Below Water Table Extraction (wet tonnes) Phase 2	Below Water Table Extraction (wet tonnes)	Water Pumped from Main Pond (gals)	Water Pumped from Active Silt Pond (gals)	Main Pond Level (mASL)	Exceedance Y/N (BELOW 305.5 mASL)	Phase 2 Pond Level (mASL)	Exceedance Y/N (BELOW 305.0 mASL)	Phase 3 Pond Level (mASL)	Exceedance Y/N (BELOW 303.85 mASL)	Phase 4 Pond Level (mASL)	Exceedance Y/N (BELOW 304.5 mASL)
1-Feb-18	0	0	0	0	-	-	-	-	-	-	-	-
2-Feb-18	0	0	0	0	-	-	-	-	-	-	-	-
3-Feb-18	0	0	0	0	-	-	-	-	-	-	-	-
4-Feb-18	0	0	0	0	-	-	-	-	-	-	-	-
5-Feb-18	0	0	0	0	-	-	-	-	-	-	-	-
6-Feb-18	0	0	0	0	-	-	-	-	-	-	-	-
7-Feb-18	0	0	0	0	-	-	-	-	-	-	-	-
8-Feb-18	0	0	0	0	-	-	-	-	-	-	-	-
9-Feb-18	0	0	0	0	-	-	-	-	-	-	-	-
10-Feb-18	0	0	0	0	-	-	-	-	-	-	-	-
11-Feb-18	0	0	0	0	-	-	-	-	-	-	-	-
12-Feb-18	0	0	0	0	-	-	-	-	-	-	-	-
13-Feb-18	0	0	0	0	-	-	-	-	-	-	-	-
14-Feb-18	0	0	0	0	-	-	-	-	-	-	-	-
15-Feb-18	0	0	0	0	-	-	-	-	-	-	-	-
16-Feb-18	0	0	0	0	-	-	-	-	-	-	-	-
17-Feb-18	0	0	0	0	-	-	-	-	-	-	-	-
18-Feb-18	0	0	0	0	-	-	-	-	-	-	-	-
19-Feb-18	0	0	0	0	-	-	-	-	-	-	-	-
20-Feb-18	0	0	0	0	-	-	-	-	-	-	-	-
21-Feb-18	0	0	0	0	-	-	-	-	-	-	-	-
22-Feb-18	0	0	0	0	-	-	-	-	-	-	-	-
23-Feb-18	0	0	0	0	-	-	-	-	-	-	-	-
24-Feb-18	0	0	0	0	-	-	-	-	-	-	-	-
25-Feb-18	0	0	0	0	-	-	-	-	-	-	-	-
26-Feb-18	0	0	0	0	-	-	-	-	-	-	-	-
27-Feb-18	0	0	0	0	-	-	-	-	-	-	-	-
28-Feb-18	0	0	0	0	-	-	-	-	-	-	-	-
Total	0	0	-	-	--	--	--	--	--	--	--	--
Avg./ day	0.0	0.00	-	-	--	--	--	--	--	--	--	--

Note: All ponds are frozen.

Monthly Reporting
Mill Creek Aggregates Pit
March 2018

Date	DP21 (mASL)	Threshold Value (mASL)	Exceedance
5-Mar-18	305.90	305.66	NO
16-Mar-18	FROZEN	305.66	--
23-Mar-18	FROZEN	305.66	--
26-Mar-18	305.82	305.66	NO

Date	BH13 (mASL)	DP21 (mASL)	Head Difference (m)	Threshold Value (m)	Exceedance
5-Mar-18	306.27	305.90	0.37	0.11	NO
16-Mar-18	306.23	FROZEN	--	0.11	--
23-Mar-18	306.21	FROZEN	--	0.11	--
26-Mar-18	306.21	305.82	0.39	0.11	NO

Date	DP17 (mASL)	Threshold Value (mASL)	Exceedance
5-Mar-18	305.31	305.17	NO
16-Mar-18	FROZEN	305.17	--
23-Mar-18	FROZEN	305.17	--
26-Mar-18	305.26	305.17	NO

Date	BH92-12 (mASL)	DP17 (mASL)	Head Difference (m)	Threshold Value (m)	Exceedance
5-Mar-18	305.52	305.31	0.21	0.07	NO
16-Mar-18	305.46	FROZEN	--	0.07	--
23-Mar-18	305.43	FROZEN	--	0.07	--
26-Mar-18	305.43	305.26	0.17	0.07	NO

Date	DP3 (mASL)	Threshold Value (mASL)	Exceedance
5-Mar-18	304.84	304.54	NO
16-Mar-18	FROZEN	304.54	--
23-Mar-18	FROZEN	304.54	--
26-Mar-18	304.73	304.54	NO

Date	DP6 (mASL)	DP3 (mASL)	Head Difference (m)	Threshold Value (m)	Exceedance
5-Mar-18	305.92	304.84	1.08	0.57	NO
16-Mar-18	305.83	FROZEN	--	0.57	--
23-Mar-18	305.81	FROZEN	--	0.57	--
26-Mar-18	305.82	304.73	1.09	0.57	NO

Date	DP2 (mASL)	Threshold Value (mASL)	Exceedance
5-Mar-18	304.14	303.65	NO
16-Mar-18	FROZEN	303.65	--
23-Mar-18	FROZEN	303.65	--
26-Mar-18	FROZEN	303.65	--

Date	BH92-27 (mASL)	DP2 (mASL)	Head Difference (m)	Threshold Value (m)	Exceedance
5-Mar-18	304.75	304.14	0.61	0.43	NO
16-Mar-18	304.70	FROZEN	--	0.43	--
23-Mar-18	304.68	FROZEN	--	0.43	--
26-Mar-18	304.67	FROZEN	--	0.43	--

Date	DP1 (mASL)	Threshold Value (mASL)	Exceedance
5-Mar-18	304.23	303.88	NO
16-Mar-18	FROZEN	303.88	--
23-Mar-18	FROZEN	303.88	--
26-Mar-18	304.21	303.88	NO

Date	BH92-29 (mASL)	DP1 (mASL)	Head Difference (m)	Threshold Value (m)	Exceedance
5-Mar-18	304.89	304.23	0.66	0.29	NO
16-Mar-18	304.86	FROZEN	--	0.29	--
23-Mar-18	304.85	FROZEN	--	0.29	--
26-Mar-18	304.85	304.21	0.64	0.29	NO

Date	DP5CR (mASL)	Threshold Value (mASL)	Exceedance
5-Mar-18	303.29	302.88	NO
16-Mar-18	FROZEN	302.88	--
23-Mar-18	FROZEN	302.88	--
26-Mar-18	303.21	302.88	NO

Date	OW5-84 (mASL)	DP5CR (mASL)	Head Difference (m)	Threshold Value (m)	Exceedance
5-Mar-18	303.68	303.29	0.39	0.30	NO
16-Mar-18	303.63	FROZEN	--	0.30	--
23-Mar-18	303.60	FROZEN	--	0.30	--
26-Mar-18	303.59	303.21	0.38	0.30	NO

Note:No exceedances to report for March for those wells that could be measured. All other wells were frozen as indicated above.

Monthly Reporting
Mill Creek Aggregates Pit
March 2018

								Max. Allowable as per PTTW- Main Pond				
								(Imperial Gallons)				(Litres)
Total Monthly Precipitation (mm):		30.9	Kitchener/Waterloo (March Actual)					2,500			per minute	11,365
Total Monthly Normal Precipitation (mm):		61	Waterloo-Wellington A (30-year Normal)					1,800,000			per day	8,183,000
Date	Below Water Table Extraction (wet tonnes) Phase 2	Below Water Table Extraction (wet tonnes)	Water Pumped from Main Pond (gals)	Water Pumped from Active Silt Pond (gals)	Main Pond Level (mASL)	Exceedance Y/N (BELOW 305.5 mASL)	Phase 2 Pond Level (mASL)	Exceedance Y/N (BELOW 305.0 mASL)	Phase 3 Pond Level (mASL)	Exceedance Y/N (BELOW 303.85 mASL)	Phase 4 Pond Level (mASL)	Exceedance Y/N (BELOW 304.5 mASL)
1-Mar-18	0	0	0	0	-	-	-	-	-	-	-	-
2-Mar-18	0	0	0	0	-	-	-	-	-	-	-	-
3-Mar-18	0	0	0	0	-	-	-	-	-	-	-	-
4-Mar-18	0	0	0	0	-	-	-	-	-	-	-	-
5-Mar-18	0	0	0	0	-	-	-	-	-	-	-	-
6-Mar-18	0	0	0	0	-	-	-	-	-	-	-	-
7-Mar-18	0	0	0	0	-	-	-	-	-	-	-	-
8-Mar-18	0	0	0	0	-	-	-	-	-	-	-	-
9-Mar-18	0	0	0	0	-	-	-	-	-	-	-	-
10-Mar-18	0	0	0	0	-	-	-	-	-	-	-	-
11-Mar-18	0	0	0	0	-	-	-	-	-	-	-	-
12-Mar-18	0	0	0	0	-	-	-	-	-	-	-	-
13-Mar-18	0	0	0	0	-	-	-	-	-	-	-	-
14-Mar-18	0	0	0	0	-	-	-	-	-	-	-	-
15-Mar-18	0	0	0	0	-	-	-	-	-	-	-	-
16-Mar-18	0	0	0	0	-	-	-	-	-	-	-	-
17-Mar-18	0	0	0	0	-	-	-	-	-	-	-	-
18-Mar-18	0	0	0	0	-	-	-	-	-	-	-	-
19-Mar-18	0	0	0	0	-	-	-	-	-	-	-	-
20-Mar-18	0	0	0	0	-	-	-	-	-	-	-	-
21-Mar-18	0	0	0	0	-	-	-	-	-	-	-	-
22-Mar-18	0	0	0	0	-	-	-	-	-	-	-	-
23-Mar-18	0	0	0	0	-	-	-	-	-	-	-	-
24-Mar-18	0	0	0	0	-	-	-	-	-	-	-	-
25-Mar-18	0	0	0	0	-	-	-	-	-	-	-	-
26-Mar-18	0	0	0	0	-	-	-	-	-	-	-	-
27-Mar-18	0	0	0	0	-	-	-	-	-	-	-	-
28-Mar-18	0	0	0	0	-	-	-	-	-	-	-	-
29-Mar-18	0	0	0	0	-	-	-	-	-	-	-	-
30-Mar-18	0	0	0	0	-	-	-	-	-	-	-	-
31-Mar-18	0	0	0	0	-	-	-	-	-	-	-	-
Total	0	0	-	-	--	--	--	--	--	--	--	--
Avg./ day	0.0	0.00	-	-	--	--	--	--	--	--	--	--

Note: No pumping done in March.

Monthly Reporting
Mill Creek Aggregates Pit
April 2018

Date	DP21 (mASL)	Threshold Value (mASL)	Exceedance
6-Apr-18	FROZEN	305.60	N/A
13-Apr-18	305.74	305.60	NO
19-Apr-18	305.82	305.60	NO
24-Apr-18	306.06	305.60	NO

Date	BH13 (mASL)	DP21 (mASL)	Head Difference (m)	Threshold Value (m)	Exceedance
6-Apr-18	306.33	FROZEN	N/A	0.11	N/A
13-Apr-18	306.27	305.74	0.53	0.11	NO
19-Apr-18	306.45	305.82	0.63	0.11	NO
24-Apr-18	306.37	306.06	0.31	0.11	NO

Date	DP17 (mASL)	Threshold Value (mASL)	Exceedance
6-Apr-18	FROZEN	305.17	N/A
13-Apr-18	305.31	305.17	NO
19-Apr-18	FROZEN	305.17	N/A
24-Apr-18	305.43	305.17	NO

Date	BH92-12 (mASL)	DP17 (mASL)	Head Difference (m)	Threshold Value (m)	Exceedance
6-Apr-18	305.62	FROZEN	N/A	0.14	N/A
13-Apr-18	305.54	305.31	0.23	0.14	NO
19-Apr-18	305.71	FROZEN	N/A	0.14	N/A
24-Apr-18	305.73	305.43	0.30	0.14	NO

Date	DP3 (mASL)	Threshold Value (mASL)	Exceedance
6-Apr-18	FROZEN	304.54	N/A
13-Apr-18	304.88	304.54	NO
19-Apr-18	FROZEN	304.54	N/A
24-Apr-18	305.13	304.54	NO

Date	DP6 (mASL)	DP3 (mASL)	Head Difference (m)	Threshold Value (m)	Exceedance
6-Apr-18	306.00	FROZEN	N/A	0.73	N/A
13-Apr-18	305.99	304.88	1.11	0.73	NO
19-Apr-18	306.12	FROZEN	N/A	0.73	N/A
24-Apr-18	306.11	305.13	0.98	0.73	NO

Date	DP2 (mASL)	Threshold Value (mASL)	Exceedance
6-Apr-18	FROZEN	303.69	N/A
13-Apr-18	303.81	303.69	NO
19-Apr-18	FROZEN	303.69	N/A
24-Apr-18	304.26	303.69	NO

Date	BH92-27 (mASL)	DP2 (mASL)	Head Difference (m)	Threshold Value (m)	Exceedance
6-Apr-18	304.77	FROZEN	N/A	0.34	N/A
13-Apr-18	304.73	303.81	0.92	0.34	NO
19-Apr-18	304.83	FROZEN	N/A	0.34	N/A
24-Apr-18	304.83	304.26	0.57	0.34	NO

Date	DP1 (mASL)	Threshold Value (mASL)	Exceedance
6-Apr-18	FROZEN	303.97	N/A
13-Apr-18	304.01	303.97	NO
19-Apr-18	FROZEN	303.97	N/A
24-Apr-18	304.36	303.97	NO

Date	BH92-29 (mASL)	DP1 (mASL)	Head Difference (m)	Threshold Value (m)	Exceedance
6-Apr-18	304.89	FROZEN	N/A	0.17	N/A
13-Apr-18	304.86	304.01	0.85	0.17	NO
19-Apr-18	305.01	FROZEN	N/A	0.17	N/A
24-Apr-18	304.98	304.36	0.62	0.17	NO

Date	DP5CR (mASL)	Threshold Value (mASL)	Exceedance
6-Apr-18	FROZEN	302.86	N/A
13-Apr-18	303.11	302.86	NO
19-Apr-18	FROZEN	302.86	N/A
24-Apr-18	303.38	302.86	NO

Date	OW5-84 (mASL)	DP5CR (mASL)	Head Difference (m)	Threshold Value (m)	Exceedance
6-Apr-18	FROZEN	FROZEN	N/A	0.30	N/A
13-Apr-18	303.69	303.11	0.58	0.30	NO
19-Apr-18	303.79	FROZEN	N/A	0.30	N/A
24-Apr-18	303.76	303.38	0.38	0.30	NO

Note: No exceedances to report for April for the wells that could be measured. Where measurements could not be taken, the wells were frozen as indicated above.

Monthly Reporting
Mill Creek Aggregates Pit
April 2018

								Max. Allowable as per PTTW- Main Pond				
								(Imperial Gallons)				(Litres)
Total Monthly Precipitation (mm):	96.9	Kitchener/Waterloo (April Actual)						2,500			per minute	11,365
Total Monthly Normal Precipitation (mm):	74.5	Waterloo-Wellington A (30-year Normal)						1,800,000			per day	8,183,000

Date	Below Water Table Extraction (wet tonnes) Phase 2	Below Water Table Extraction (wet tonnes)	Water Pumped from Main Pond (gals)	Water Pumped from Active Silt Pond (gals)	Main Pond Level (mASL)	Exceedance Y/N (BELOW 305.5 mASL)	Phase 2 Pond Level (mASL)	Exceedance Y/N (BELOW 305.0 mASL)	Phase 3 Pond Level (mASL)	Exceedance Y/N (BELOW 303.85 mASL)	Phase 4 Pond Level (mASL)	Exceedance Y/N (BELOW 304.5 mASL)
1-Apr-18	0	0	0	0	-	-	-	-	-	-	-	-
2-Apr-18	0	0	1,294,519	0	306.52	N	306.03	-	304.94	-	306.23	-
3-Apr-18	0	0	1,486,552	0	306.50	N	306.03	-	304.95	-	306.25	-
4-Apr-18	0	0	1,599,836	0	306.50	N	306.04	-	304.96	-	306.27	-
5-Apr-18	0	0	0	0	306.58	N	306.04	-	304.98	-	306.35	-
6-Apr-18	0	0	0	0	306.47	N	306.07	-	304.96	-	306.37	-
7-Apr-18	0	0	0	0	-	-	-	-	-	-	-	-
8-Apr-18	0	0	0	0	-	-	-	-	-	-	-	-
9-Apr-18	0	0	0	0	306.47	N	306.04	-	304.97	-	306.52	-
10-Apr-18	0	0	1,360,070	1,996,535	306.46	N	306.02	-	304.97	-	306.45	-
11-Apr-18	0	0	1,529,886	2,007,359	306.48	N	306.06	-	304.95	-	306.42	-
12-Apr-18	0	0	1,483,033	2,740,865	306.50	N	306.04	-	304.95	-	306.38	-
13-Apr-18	0	0	1,610,615	0	306.53	N	306.04	-	304.94	-	306.36	-
14-Apr-18	0	0	0	0	-	-	-	-	-	-	-	-
15-Apr-18	0	0	0	0	-	-	-	-	-	-	-	-
16-Apr-18	0	0	0	0	-	-	-	-	-	-	-	-
17-Apr-18	0	0	439,938	0	-	-	-	-	-	-	-	-
18-Apr-18	0	0	1,627,772	1,935,757	306.61	N	306.12	-	305.06	-	306.46	-
19-Apr-18	0	0	1,613,474	2,497,751	306.60	N	306.09	-	305.07	-	306.46	-
20-Apr-18	0	0	1,583,119	3,049,754	306.65	N	306.10	-	305.04	-	306.40	-
21-Apr-18	0	0	679,265	0	306.67	N	306.10	-	305.04	-	306.37	-
22-Apr-18	0	0	0	0	-	-	-	-	-	-	-	-
23-Apr-18	0	0	1,554,523	2,566,023	306.66	N	306.13	-	305.05	-	306.41	-
24-Apr-18	0	0	1,540,665	2,127,251	306.68	N	306.14	-	305.04	-	306.37	-
25-Apr-18	0	0	1,512,069	2,315,415	306.70	N	306.15	-	305.04	-	306.36	-
26-Apr-18	0	0	1,481,713	2,215,505	306.72	N	306.16	-	305.04	-	306.36	-
27-Apr-18	0	0	1,556,282	0	306.74	N	306.16	-	305.07	-	306.34	-
28-Apr-18	0	0	650,009	0	306.75	N	306.16	-	305.07	-	306.32	-
29-Apr-18	0	0	0	0	-	-	-	-	-	-	-	-
30-Apr-18	0	0	1,581,359	1,920,770	306.72	N	306.16	-	305.06	-	306.36	-
Total	0	0	24,603,340	23,452,215	--	--	--	--	--	--	--	--
Avg./ day	0.0	0.00	878,690.73	837,579.11	--	--	--	--	--	--	--	--

Monthly Reporting
Mill Creek Aggregates Pit
May 2018

Date	DP21 (mASL)	Threshold Value (mASL)	Exceedance
7-May-18	305.98	305.60	NO
18-May-18	305.93	305.60	NO
25-May-18	305.90	305.60	NO
31-May-18	305.86	305.60	NO

Date	BH13 (mASL)	DP21 (mASL)	Head Difference (m)	Threshold Value (m)	Exceedance
7-May-18	306.40	305.98	0.42	0.11	NO
18-May-18	306.36	305.93	0.43	0.11	NO
25-May-18	306.33	305.90	0.43	0.11	NO
31-May-18	306.27	305.86	0.41	0.11	NO

Date	DP17 (mASL)	Threshold Value (mASL)	Exceedance
7-May-18	305.35	305.17	NO
18-May-18	305.31	305.17	NO
25-May-18	305.29	305.17	NO
31-May-18	305.26	305.17	NO

Date	BH92-12 (mASL)	DP17 (mASL)	Head Difference (m)	Threshold Value (m)	Exceedance
7-May-18	305.64	305.35	0.29	0.14	NO
18-May-18	305.60	305.31	0.29	0.14	NO
25-May-18	305.57	305.29	0.28	0.14	NO
31-May-18	305.53	305.26	0.27	0.14	NO

Date	DP3 (mASL)	Threshold Value (mASL)	Exceedance
7-May-18	304.99	304.54	NO
18-May-18	304.90	304.54	NO
25-May-18	304.87	304.54	NO
31-May-18	304.83	304.54	NO

Date	DP6 (mASL)	DP3 (mASL)	Head Difference (m)	Threshold Value (m)	Exceedance
7-May-18	306.02	304.99	1.03	0.73	NO
18-May-18	305.95	304.90	1.05	0.73	NO
25-May-18	305.96	304.87	1.09	0.73	NO
31-May-18	305.92	304.83	1.09	0.73	NO

Date	DP2 (mASL)	Threshold Value (mASL)	Exceedance
7-May-18	304.17	303.69	NO
18-May-18	304.17	303.69	NO
25-May-18	304.16	303.69	NO
31-May-18	304.10	303.69	NO

Date	BH92-27 (mASL)	DP2 (mASL)	Head Difference (m)	Threshold Value (m)	Exceedance
7-May-18	304.81	304.17	0.64	0.34	NO
18-May-18	304.77	304.17	0.6	0.34	NO
25-May-18	304.74	304.16	0.58	0.34	NO
31-May-18	304.69	304.10	0.59	0.34	NO

Date	DP1 (mASL)	Threshold Value (mASL)	Exceedance
7-May-18	304.27	303.97	NO
18-May-18	304.26	303.97	NO
25-May-18	304.24	303.97	NO
31-May-18	304.21	303.97	NO

Date	BH92-29 (mASL)	DP1 (mASL)	Head Difference (m)	Threshold Value (m)	Exceedance
7-May-18	304.99	304.27	0.72	0.17	NO
18-May-18	304.97	304.26	0.71	0.17	NO
25-May-18	304.95	304.24	0.71	0.17	NO
31-May-18	304.92	304.21	0.71	0.17	NO

Date	DP5CR (mASL)	Threshold Value (mASL)	Exceedance
7-May-18	303.35	302.86	NO
18-May-18	303.35	302.86	NO
25-May-18	303.31	302.86	NO
31-May-18	303.27	302.86	NO

Date	OW5-84 (mASL)	DP5CR (mASL)	Head Difference (m)	Threshold Value (m)	Exceedance
7-May-18	303.71	303.35	0.36	0.30	NO
18-May-18	303.65	303.35	0.3	0.30	NO
25-May-18	303.63	303.31	0.32	0.30	NO
31-May-18	303.57	303.27	0.30	0.30	NO

Note: No exceedances to report for May.

Monthly Reporting
Mill Creek Aggregates Pit
May 2018

					Max. Allowable as per PTTW- Main Pond				*Max. Allowable as per PTTW- Silt Pond*			
					(Imperial Gallons)		(Litres)		(Imperial Gallons)		(Litres)	
Total Monthly Precipitation (mm):	72.3	Kitchener/Waterloo (April Actual)			2,500	per minute	11,365		3,119	per minute	11,806	
Total Monthly Normal Precipitation (mm):	82.3	Waterloo-Wellington A (30-year Normal)			1,800,000	per day	8,183,000		4,490,925	per day	17,000,000	

Date	Below Water Table Extraction (wet tonnes) Phase 2	Below Water Table Extraction (wet tonnes)	Water Pumped from Main Pond (gals)	Water Pumped from Active Silt Pond (gals)	Main Pond Level (mASL)	Exceedance Y/N (BELOW 305.5 mASL)	Phase 2 Pond Level (mASL)	Exceedance Y/N (BELOW 305.0 mASL)	Phase 3 Pond Level (mASL)	Exceedance Y/N (BELOW 303.85 mASL)	Phase 4 Pond Level (mASL)	Exceedance Y/N (BELOW 304.5 mASL)
1-May-18	0	0	1,584,878	1,879,141	306.76	N	306.17	N	305.07	N	306.30	N
2-May-18	0	0	1,573,000	1,529,456	306.75	N	306.17	N	305.07	N	306.28	N
3-May-18	0	0	1,571,900	3,547,639	306.75	N	306.17	N	305.05	N	306.29	N
4-May-18	0	0	1,569,921	0	306.80	N	306.19	N	305.09	N	306.25	N
5-May-18	0	0	593,257	0	306.73	N	306.19	N	305.05	N	306.30	N
6-May-18	0	0	0	0								
7-May-18	0	0	1,568,381	0	306.75	N	306.19	N	305.09	N	306.35	N
8-May-18	0	0	1,569,481	0	306.71	N	306.19	N	305.09	N	306.40	N
9-May-18	0	0	1,382,287	1,311,319	306.68	N	306.19	N	305.08	N	306.46	N
10-May-18	0	0	1,555,183	2,588,502	306.68	N	306.20	N	305.08	N	306.42	N
11-May-18	0	0	1,569,481	2,160,554	306.70	N	306.19	N	305.08	N	306.39	N
12-May-18	0	0	651,109	0	306.71	N	306.19	N	305.06	N	306.37	N
13-May-18	0	0	0	0								
14-May-18	0	0	1,558,262	2,524,393	306.69	N	306.19	N	305.06	N	306.39	N
15-May-18	0	0	1,445,418	2,487,760	306.72	N	306.22	N	305.06	N	306.37	N
16-May-18	0	0	1,570,360	2,409,497	306.72	N	306.21	N	305.04	N	306.33	N
17-May-18	0	0	1,561,562	2,575,181	306.75	N	306.19	N	305.06	N	306.32	N
18-May-18	0	0	1,569,041	0	306.77	N	306.18	N	305.04	N	306.29	N
19-May-18	0	0	645,170	0	306.71	N	306.19	N	305.04	N	306.34	N
20-May-18	0	0	0	0								
21-May-18	0	0	0	0								
22-May-18	0	0	1,570,140	2,218,835	306.73	N	306.23	N	305.05	N	306.37	N
23-May-18	0	0	1,569,261	1,924,101	306.74	N	306.23	N	305.04	N	306.35	N
24-May-18	0	0	1,664,067	0	306.74	N	306.23	N	305.04	N	306.35	N
25-May-18	0	0	1,525,047	0	306.70	N	306.22	N	305.04	N	306.40	N
26-May-18	0	0	633,731	0	306.66	N	306.21	N	305.04	N	306.43	N
27-May-18	0	0	0	0								
28-May-18	0	0	1,516,468	1,573,583	306.68	N	306.19	N	305.03	N	306.46	N
29-May-18	0	0	1,481,933	464,582	306.77	N	306.22	N	305.03	N	306.45	N
30-May-18	0	0	1,438,819	2,298,763	306.62	N	306.22	N	305.01	N	306.46	N
31-May-18	0	0	1,539,125	0	306.65	N	306.21	N	305.01	N	306.42	N
Total	0	0	32,017,404	28,729,962	--	--	--	--	--	--	--	--
Avg./ day	0.0	0.00	1,143,478.71	1,026,070.09	--	--	--	--	--	--	--	--

Note: No exceedences to report

Monthly Reporting
Mill Creek Aggregates Pit
June 2018

Date	DP21 (mASL)	Threshold Value (mASL)	Exceedance
8-Jun-18	305.86	305.60	NO
12-Jun-18	305.82	305.60	NO
26-Jun-18	305.85	305.60	NO

Date	BH13 (mASL)	DP21 (mASL)	Head Difference (m)	Threshold Value (m)	Exceedance
8-Jun-18	306.29	305.86	0.43	0.11	NO
12-Jun-18	306.26	305.82	0.44	0.11	NO
26-Jun-18	306.31	305.85	0.46	0.11	NO

Date	DP17 (mASL)	Threshold Value (mASL)	Exceedance
8-Jun-18	305.27	305.17	NO
12-Jun-18	305.25	305.17	NO
26-Jun-18	305.27	305.17	NO

Date	BH92-12 (mASL)	DP17 (mASL)	Head Difference (m)	Threshold Value (m)	Exceedance
8-Jun-18	305.53	305.27	0.26	0.14	NO
12-Jun-18	305.49	305.25	0.24	0.14	NO
26-Jun-18	305.52	305.27	0.25	0.14	NO

Date	DP3 (mASL)	Threshold Value (mASL)	Exceedance
8-Jun-18	304.82	304.54	NO
12-Jun-18	304.85	304.54	NO
26-Jun-18	304.95	304.54	NO

Date	DP6 (mASL)	DP3 (mASL)	Head Difference (m)	Threshold Value (m)	Exceedance
8-Jun-18	305.90	304.82	1.08	0.73	NO
12-Jun-18	305.85	304.85	1	0.73	NO
26-Jun-18	305.88	304.95	0.93	0.73	NO

Date	DP2 (mASL)	Threshold Value (mASL)	Exceedance
8-Jun-18	304.13	303.69	NO
12-Jun-18	304.08	303.69	NO
26-Jun-18	304.07	303.69	NO

Date	BH92-27 (mASL)	DP2 (mASL)	Head Difference (m)	Threshold Value (m)	Exceedance
8-Jun-18	304.68	304.13	0.55	0.34	NO
12-Jun-18	304.63	304.08	0.55	0.34	NO
26-Jun-18	304.60	304.07	0.53	0.34	NO

Date	DP1 (mASL)	Threshold Value (mASL)	Exceedance
8-Jun-18	304.21	303.97	NO
12-Jun-18	304.17	303.97	NO
26-Jun-18	304.15	303.97	NO

Date	BH92-29 (mASL)	DP1 (mASL)	Head Difference (m)	Threshold Value (m)	Exceedance
8-Jun-18	304.90	304.21	0.69	0.17	NO
12-Jun-18	304.82	304.17	0.65	0.17	NO
26-Jun-18	304.83	304.15	0.68	0.17	NO

Date	DP5CR (mASL)	Threshold Value (mASL)	Exceedance
8-Jun-18	303.27	302.86	NO
12-Jun-18	303.22	302.86	NO
26-Jun-18	303.25	302.86	NO

Date	OW5-84 (mASL)	DP5CR (mASL)	Head Difference (m)	Threshold Value (m)	Exceedance
8-Jun-18	303.55	303.27	0.28	0.30	YES
12-Jun-18	303.52	303.22	0.30	0.30	NO
26-Jun-18	303.54	303.25	0.29	0.30	YES

Note: Exceedances on the OW5-84 and DP5CR head difference June 8th & June 26th.

Monthly Reporting
Mill Creek Aggregates Pit
June 2018

					Max. Allowable as per PTTW- Main Pond				*Max. Allowable as per PTTW- Silt Pond*			
					(Imperial Gallons)		(Litres)		(Imperial Gallons)		(Litres)	
Total Monthly Precipitation (mm):	59.4	Kitchener/Waterloo (April Actual)			2,500	per minute	11,365		2,597	per minute	11,806	
Total Monthly Normal Precipitation (mm):	82.4	Waterloo-Wellington A (30-year Normal)			1,800,000	per day	8,183,000		3,739,477	per day	17,000,000	

Date	Below Water Table Extraction (wet tonnes) Phase 2	Below Water Table Extraction (wet tonnes)	Water Pumped from Main Pond (gals)	Water Pumped from Active Silt Pond (gals)	Main Pond Level (mASL)	Exceedance Y/N (BELOW 305.5 mASL)	Phase 2 Pond Level (mASL)	Exceedance Y/N (BELOW 305.0 mASL)	Phase 3 Pond Level (mASL)	Exceedance Y/N (BELOW 303.85 mASL)	Phase 4 Pond Level (mASL)	Exceedance Y/N (BELOW 304.5 mASL)
1-Jun-18	0	0	1,537,585	2,159,722	306.64	N	306.21	N	305.02	N	306.46	N
2-Jun-18	0	0	572,360	695,207	306.65	N	306.19	N	305.00	N	306.43	N
3-Jun-18	0	0	0	0	-	-	-	-	-	-	-	-
4-Jun-18	0	0	1,544,844	1,918,273	306.67	N	306.19	N	305.01	N	306.43	N
5-Jun-18	0	0	1,548,144	2,522,728	306.68	N	306.19	N	305.00	N	306.39	N
6-Jun-18	0	0	1,563,541	2,337,062	306.68	N	306.18	N	305.01	N	306.35	N
7-Jun-18	0	0	1,532,526	2,555,199	306.70	N	306.18	N	304.99	N	306.32	N
8-Jun-18	0	0	1,577,839	2,307,089	306.71	N	306.18	N	304.99	N	306.28	N
9-Jun-18	0	0	624,713	0	306.69	N	306.19	N	304.98	N	306.28	N
10-Jun-18	0	0	0	0	-	-	-	-	-	-	-	-
11-Jun-18	0	0	1,560,682	721,850	306.67	N	306.18	N	304.96	N	306.28	N
12-Jun-18	0	0	1,551,443	0	306.65	N	306.16	N	304.95	N	306.31	N
13-Jun-18	0	0	1,517,788	0	306.62	N	306.16	N	304.95	N	306.34	N
14-Jun-18	0	0	1,536,705	2,792,485	306.59	N	306.17	N	304.95	N	306.39	N
15-Jun-18	0	0	1,536,705	2,730,042	306.61	N	306.15	N	304.93	N	306.34	N
16-Jun-18	0	0	639,451	418,790	306.62	N	306.15	N	304.93	N	306.32	N
17-Jun-18	0	0	0	0	-	-	-	-	-	-	-	-
18-Jun-18	0	0	1,528,786	2,869,916	306.62	N	306.14	N	304.92	N	306.30	N
19-Jun-18	0	0	1,543,304	2,198,853	306.66	N	306.14	N	304.92	N	306.26	N
20-Jun-18	0	0	1,543,084	2,114,762	306.65	N	306.14	N	304.92	N	306.24	N
21-Jun-18	0	0	1,510,749	2,039,830	306.64	N	306.13	N	304.92	N	306.23	N
22-Jun-18	0	0	1,536,265	1,601,891	306.66	N	306.14	N	304.91	N	306.21	N
23-Jun-18	0	0	610,635	888,367	306.65	N	306.13	N	304.91	N	306.22	N
24-Jun-18	0	0	0	0	-	-	-	-	-	-	-	-
25-Jun-18	0	0	1,661,208	666,067	306.66	N	306.16	N	304.93	N	306.28	N
26-Jun-18	0	0	1,551,663	611,116	306.63	N	306.16	N	304.93	N	306.32	N
27-Jun-18	0	0	1,550,783	74,933	306.61	N	306.17	N	304.93	N	306.37	N
28-Jun-18	0	0	1,499,310	1,005,761	306.65	N	306.16	N	304.93	N	306.37	N
29-Jun-18	0	0	1,544,624	0	306.65	N	306.17	N	304.94	N	306.38	N
30-Jun-18	0	0	0	0	-	-	-	-	-	-	-	-
Total	0	0	33,380,113	35,229,943	--	--	--	--	--	--	--	--
Avg./ day	0.0	0.00	1,192,146.91	1,258,212.24	--	--	--	--	--	--	--	--

Note: No exceedences to report

Monthly Reporting
Mill Creek Aggregates Pit
July 2018

Date	DP21 (mASL)	Threshold Value (mASL)	Exceedance
5-Jul-18	305.84	305.49	NO
12-Jul-18	305.80	305.49	NO
27-Jul-18	305.79	305.49	NO

Date	BH13 (mASL)	DP21 (mASL)	Head Difference (m)	Threshold Value (m)	Exceedance
5-Jul-18	306.25	305.84	0.41	0.10	NO
12-Jul-18	306.18	305.80	0.38	0.10	NO
27-Jul-18	306.17	305.79	0.38	0.10	NO

Date	DP17 (mASL)	Threshold Value (mASL)	Exceedance
5-Jul-18	305.25	305.17	NO
12-Jul-18	305.22	305.17	NO
27-Jul-18	305.24	305.17	NO

Date	BH92-12 (mASL)	DP17 (mASL)	Head Difference (m)	Threshold Value (m)	Exceedance
5-Jul-18	305.50	305.25	0.25	0.06	NO
12-Jul-18	305.45	305.22	0.23	0.06	NO
27-Jul-18	305.44	305.24	0.2	0.06	NO

Date	DP3 (mASL)	Threshold Value (mASL)	Exceedance
5-Jul-18	304.92	304.54	NO
12-Jul-18	304.86	304.54	NO
27-Jul-18	304.84	304.54	NO

Date	DP6 (mASL)	DP3 (mASL)	Head Difference (m)	Threshold Value (m)	Exceedance
5-Jul-18	305.89	304.92	0.97	0.58	NO
12-Jul-18	305.81	304.86	0.95	0.58	NO
27-Jul-18	305.80	304.84	0.96	0.58	NO

Date	DP2 (mASL)	Threshold Value (mASL)	Exceedance
5-Jul-18	304.05	303.50	NO
12-Jul-18	303.97	303.50	NO
27-Jul-18	303.99	303.50	NO

Date	BH92-27 (mASL)	DP2 (mASL)	Head Difference (m)	Threshold Value (m)	Exceedance
5-Jul-18	304.61	304.05	0.56	0.32	NO
12-Jul-18	304.53	303.97	0.56	0.32	NO
27-Jul-18	304.49	303.99	0.5	0.32	NO

Date	DP1 (mASL)	Threshold Value (mASL)	Exceedance
5-Jul-18	304.09	303.91	NO
12-Jul-18	304.08	303.91	NO
27-Jul-18	304.11	303.91	NO

Date	BH92-29 (mASL)	DP1 (mASL)	Head Difference (m)	Threshold Value (m)	Exceedance
5-Jul-18	304.81	304.09	0.72	0.23	NO
12-Jul-18	304.73	304.08	0.65	0.23	NO
27-Jul-18	304.65	304.11	0.54	0.23	NO

Date	DP5CR (mASL)	Threshold Value (mASL)	Exceedance
5-Jul-18	303.16	302.79	NO
12-Jul-18	303.09	302.79	NO
27-Jul-18	303.11	302.79	NO

Date	OW5-84 (mASL)	DP5CR (mASL)	Head Difference (m)	Threshold Value (m)	Exceedance
5-Jul-18	303.49	303.16	0.33	0.25	NO
12-Jul-18	303.40	303.09	0.31	0.25	NO
27-Jul-18	303.42	303.11	0.31	0.25	NO

No exceedances to report

Monthly Reporting
Mill Creek Aggregates Pit
July 2018

					Max. Allowable as per PTTW- Main Pond				*Max. Allowable as per PTTW- Silt Pond*			
					(Imperial Gallons)		(Litres)		(Imperial Gallons)		(Litres)	
Total Monthly Precipitation (mm):	72.0	Kitchener/Waterloo (July Actual)			2,500	per minute	11,365		2,597	per minute	11,806	
Total Monthly Normal Precipitation (mm):	98.6	Waterloo-Wellington A (30-year Normal)			1,800,000	per day	8,183,000		3,739,477	per day	17,000,000	

Date	Below Water Table Extraction (wet tonnes) Phase 2	Below Water Table Extraction (wet tonnes)	Water Pumped from Main Pond (gals)	Water Pumped from Active Silt Pond (gals)	Main Pond Level (mASL)	Exceedance Y/N (BELOW 305.5 mASL)	Phase 2 Pond Level (mASL)	Exceedance Y/N (BELOW 305.0 mASL)	Phase 3 Pond Level (mASL)	Exceedance Y/N (BELOW 303.85 mASL)	Phase 4 Pond Level (mASL)	Exceedance Y/N (BELOW 304.5 mASL)
1-Jul-18	0	0	0	0	--	--	--	--	--	--	--	--
2-Jul-18	0	0	0	0	--	--	--	--	--	--	--	--
3-Jul-18	0	0	1,540,225	2,746,693	306.61	N	306.17	N	304.92	N	306.39	N
4-Jul-18	0	0	0	2,444,465	306.62	N	306.15	N	304.92	N	306.35	N
5-Jul-18	0	0	1,508,109	2,370,366	306.63	N	306.15	N	304.91	N	306.31	N
6-Jul-18	0	0	1,551,443	930,828	306.64	N	306.16	N	304.91	N	306.28	N
7-Jul-18	0	0	608,875	0	306.60	N	306.12	N	304.89	N	306.33	N
8-Jul-18	0	0	0	0	--	--	--	--	--	--	--	--
9-Jul-18	0	0	1,586,198	0	306.58	N	306.11	N	304.88	N	306.34	N
10-Jul-18	0	0	1,512,289	763,479	306.54	N	306.10	N	304.85	N	306.35	N
11-Jul-18	0	0	1,505,030	2,596,828	306.53	N	306.09	N	304.86	N	306.33	N
12-Jul-18	0	0	1,542,204	2,492,755	306.56	N	306.09	N	304.84	N	306.28	N
13-Jul-18	0	0	1,534,725	1,942,418	306.56	N	306.08	N	304.84	N	306.26	N
14-Jul-18	0	0	604,915	0	306.58	N	306.07	N	304.83	N	306.24	N
15-Jul-18	0	0	0	0	--	--	--	--	--	--	--	--
16-Jul-18	0	0	1,504,590	1,395,410	306.56	N	306.07	N	304.82	N	306.24	N
17-Jul-18	0	0	1,509,869	0	306.55	N	306.07	N	304.81	N	306.23	N
18-Jul-18	0	0	1,532,746	2,708,394	306.55	N	306.07	N	304.82	N	306.20	N
19-Jul-18	0	0	1,524,167	1,562,759	306.53	N	306.05	N	304.80	N	306.23	N
20-Jul-18	0	0	1,522,627	2,314,582	306.52	N	306.06	N	304.79	N	306.22	N
21-Jul-18	0	0	633,071	0	306.53	N	306.07	N	304.80	N	306.21	N
22-Jul-18	0	0	0	0	--	--	--	--	--	--	--	--
23-Jul-18	0	0	1,522,627	2,539,380	306.51	N	306.04	N	304.79	N	306.22	N
24-Jul-18	0	0	1,501,070	0	306.53	N	306.05	N	304.79	N	306.18	N
25-Jul-18	0	0	1,480,613	3,533,485	306.51	N	306.03	N	304.77	N	306.17	N
26-Jul-18	0	0	1,526,587	0	306.52	N	306.03	N	304.77	N	306.16	N
27-Jul-18	0	0	1,518,668	2,262,130	306.49	N	306.04	N	304.78	N	306.22	N
28-Jul-18	0	0	620,313	0	306.51	N	306.03	N	304.75	N	306.18	N
29-Jul-18	0	0	0	0	--	--	--	--	--	--	--	--
30-Jul-18	0	0	1,523,067	3,209,610	306.50	N	306.03	N	304.76	N	306.17	N
31-Jul-18	0	0	1,484,352	2,177,206	306.51	N	306.03	N	304.74	N	306.15	N
Total	0	0	29,890,961	32,603,974	--	--	--	--	--	--	--	--
Avg./ day	0.0	0.00	1,067,534.33	1,164,427.64	--	--	--	--	--	--	--	--

Note: No exceedences to report

Monthly Reporting
Mill Creek Aggregates Pit
August 2018

Date	DP21 (mASL)	Threshold Value (mASL)	Exceedance
3-Aug-18	305.75	305.49	NO
10-Aug-18	305.84	305.49	NO
22-Aug-18	305.89	305.49	NO
29-Aug-18	305.82	305.49	NO

Date	BH13 (mASL)	DP21 (mASL)	Head Difference (m)	Threshold Value (m)	Exceedance
3-Aug-18	306.13	305.75	0.38	0.10	NO
10-Aug-18	306.20	305.84	0.36	0.10	NO
22-Aug-18	306.24	305.89	0.35	0.10	NO
29-Aug-18	306.17	305.82	0.35	0.10	NO

Date	DP17 (mASL)	Threshold Value (mASL)	Exceedance
3-Aug-18	305.17	305.17	NO
10-Aug-18	305.24	305.17	NO
22-Aug-18	305.29	305.17	NO
29-Aug-18	305.26	305.17	NO

Date	BH92-12 (mASL)	DP17 (mASL)	Head Difference (m)	Threshold Value (m)	Exceedance
3-Aug-18	305.41	305.17	0.24	0.06	NO
10-Aug-18	305.45	305.24	0.21	0.06	NO
22-Aug-18	305.50	305.29	0.21	0.06	NO
29-Aug-18	305.46	305.26	0.20	0.06	NO

Date	DP3 (mASL)	Threshold Value (mASL)	Exceedance
3-Aug-18	304.82	304.54	NO
10-Aug-18	304.91	304.54	NO
22-Aug-18	304.97	304.54	NO
29-Aug-18	304.91	304.54	NO

Date	DP6 (mASL)	DP3 (mASL)	Head Difference (m)	Threshold Value (m)	Exceedance
3-Aug-18	305.74	304.82	0.92	0.58	NO
10-Aug-18	305.77	304.91	0.86	0.58	NO
22-Aug-18	305.87	304.97	0.90	0.58	NO
29-Aug-18	305.83	304.91	0.92	0.58	NO

Date	DP2 (mASL)	Threshold Value (mASL)	Exceedance
3-Aug-18	303.91	303.50	NO
10-Aug-18	303.96	303.50	NO
22-Aug-18	304.10	303.50	NO
29-Aug-18	304.10	303.50	NO

Date	BH92-27 (mASL)	DP2 (mASL)	Head Difference (m)	Threshold Value (m)	Exceedance
3-Aug-18	304.47	303.91	0.56	0.32	NO
10-Aug-18	304.52	303.96	0.56	0.32	NO
22-Aug-18	304.56	304.10	0.46	0.32	NO
29-Aug-18	304.52	304.10	0.42	0.32	NO

Date	DP1 (mASL)	Threshold Value (mASL)	Exceedance
3-Aug-18	304.05	303.91	NO
10-Aug-18	304.10	303.91	NO
22-Aug-18	304.18	303.91	NO
29-Aug-18	304.13	303.91	NO

Date	BH92-29 (mASL)	DP1 (mASL)	Head Difference (m)	Threshold Value (m)	Exceedance
3-Aug-18	304.60	304.05	0.55	0.23	NO
10-Aug-18	304.67	304.10	0.57	0.23	NO
22-Aug-18	304.63	304.18	0.45	0.23	NO
29-Aug-18	304.60	304.13	0.47	0.23	NO

Date	DP5CR (mASL)	Threshold Value (mASL)	Exceedance
3-Aug-18	303.03	302.79	NO
10-Aug-18	303.16	302.79	NO
22-Aug-18	303.25	302.79	NO
29-Aug-18	303.22	302.79	NO

Date	OW5-84 (mASL)	DP5CR (mASL)	Head Difference (m)	Threshold Value (m)	Exceedance
3-Aug-18	303.33	303.03	0.30	0.25	NO
10-Aug-18	303.41	303.16	0.25	0.25	NO
22-Aug-18	303.57	303.25	0.32	0.25	NO
29-Aug-18	303.50	303.22	0.28	0.25	NO

No exceedances to report

Monthly Reporting
Mill Creek Aggregates Pit
August 2018

					Max. Allowable as per PTTW- Main Pond				*Max. Allowable as per PTTW- Silt Pond*			
					(Imperial Gallons)		(Litres)		(Imperial Gallons)		(Litres)	
Total Monthly Precipitation (mm):	89.7	Kitchener/Waterloo (August Actual)			2,500	per minute	11,365		2,597	per minute	11,806	
Total Monthly Normal Precipitation (mm):	83.9	Waterloo-Wellington A (30-year Normal)			1,800,000	per day	8,183,000		3,739,477	per day	17,000,000	

Date	Below Water Table Extraction (wet tonnes) Phase 2	Below Water Table Extraction (wet tonnes) Phase 1 Set Back	Water Pumped from Main Pond (gals)	Water Pumped from Active Silt Pond (gals)	Main Pond Level (mASL)	Exceedance Y/N (BELOW 305.5 mASL)	Phase 2 Pond Level (mASL)	Exceedance Y/N (BELOW 305.0 mASL)	Phase 3 Pond Level (mASL)	Exceedance Y/N (BELOW 303.85 mASL)	Phase 4 Pond Level (mASL)	Exceedance Y/N (BELOW 304.5 mASL)
1-Aug-18	0	0	1,563,981	185,666	306.51	N	306.01	N	304.74	N	306.13	N
2-Aug-18	0	0	1,512,069	2,133,912	306.48	N	306.02	N	304.74	N	306.17	N
3-Aug-18	0	0	1,519,768	0	306.49	N	306.01	N	304.74	N	306.14	N
4-Aug-18	0	0	0	0								
5-Aug-18	0	0	0	0								
6-Aug-18	0	0	0	2,382,022								
7-Aug-18	0	0	1,514,708	0	306.46	N	306.02	N	304.73	N	306.19	N
8-Aug-18	0	0	1,510,309	2,493,588	306.48	N	306.02	N	304.74	N	306.16	N
9-Aug-18	0	0	1,474,894	0	306.46	N	306.04	N	304.74	N	306.23	N
10-Aug-18	0	0	1,520,647	0	306.47	N	306.03	N	304.74	N	306.19	N
11-Aug-18	0	0	590,397	0	306.44	N	306.01	N	304.74	N	306.24	N
12-Aug-18	0	0	0	0								
13-Aug-18	0	0	1,339,173	2,209,677	306.44	N	306.00	N	304.73	N	306.24	N
14-Aug-18	0	0	1,507,229	880,041	306.45	N	306.01	N	304.73	N	306.19	N
15-Aug-18	0	0	1,510,749	2,698,403	306.43	N	305.99	N	304.72	N	306.20	N
16-Aug-18	0	0	1,517,348	2,528,556	306.45	N	305.99	N	304.71	N	306.14	N
17-Aug-18	0	0	1,516,908	2,242,980	306.48	N	305.99	N	304.72	N	306.12	N
18-Aug-18	0	0	594,137	0	306.49	N	306.01	N	304.73	N	306.11	N
19-Aug-18	0	0	0	0								
20-Aug-18	0	0	1,519,328	0	306.46	N	306.00	N	304.72	N	306.13	N
21-Aug-18	0	0	1,509,649	2,562,692	306.43	N	305.99	N	304.72	N	306.17	N
22-Aug-18	0	0	1,513,828	0	306.47	N	306.00	N	304.73	N	306.15	N
23-Aug-18	0	0	1,518,448	2,503,579	306.42	N	305.99	N	304.72	N	306.21	N
24-Aug-18	0	0	1,391,525	2,285,442	306.45	N	305.98	N	304.72	N	306.15	N
25-Aug-18	0	0	575,220	0	306.45	N	305.97	N	304.71	N	306.11	N
26-Aug-18	0	0	0	0								
27-Aug-18	0	0	1,669,567	2,274,618	306.46	N	305.99	N	304.73	N	306.16	N
28-Aug-18	0	0	1,518,668	0	306.48	N	305.99	N	304.73	N	306.13	N
29-Aug-18	0	0	1,522,627	0	306.46	N	305.99	N	304.72	N	306.17	N
30-Aug-18	0	4500	1,518,008	2,318,745	306.40	N	305.99	N	304.73	N	306.23	N
31-Aug-18	0	4000	1,517,788	1,398,740	306.45	N	305.99	N	304.73	N	306.17	N
Total	0	8500	34,966,972	31,098,663	--	--	--	--	--	--	--	--
Avg./ day			1,127,966.82	1,003,182.67	--	--	--	--	--	--	--	--

Note: No exceedences to report

Monthly Reporting
Mill Creek Aggregates Pit
September 2018

Date	DP21 (mASL)	Threshold Value (mASL)	Exceedance
7-Sep-18	305.79	305.49	NO
12-Sep-18	305.82	305.49	NO
20-Sep-18	305.75	305.49	NO
27-Sep-18	305.79	305.49	NO

Date	BH13 (mASL)	DP21 (mASL)	Head Difference (m)	Threshold Value (m)	Exceedance
7-Sep-18	306.14	305.79	0.35	0.10	NO
12-Sep-18	306.13	305.82	0.31	0.10	NO
20-Sep-18	306.07	305.75	0.32	0.10	NO
27-Sep-18	306.06	305.79	0.27	0.10	NO

Date	DP17 (mASL)	Threshold Value (mASL)	Exceedance
7-Sep-18	305.24	305.17	NO
12-Sep-18	305.26	305.17	NO
20-Sep-18	305.23	305.17	NO
27-Sep-18	305.25	305.17	NO

Date	BH92-12 (mASL)	DP17 (mASL)	Head Difference (m)	Threshold Value (m)	Exceedance
7-Sep-18	305.41	305.24	0.17	0.06	NO
12-Sep-18	305.44	305.26	0.18	0.06	NO
20-Sep-18	305.36	305.23	0.13	0.06	NO
27-Sep-18	305.37	305.25	0.12	0.06	NO

Date	DP3 (mASL)	Threshold Value (mASL)	Exceedance
7-Sep-18	304.90	304.54	NO
12-Sep-18	304.95	304.54	NO
20-Sep-18	304.89	304.54	NO
27-Sep-18	304.95	304.54	NO

Date	DP6 (mASL)	DP3 (mASL)	Head Difference (m)	Threshold Value (m)	Exceedance
7-Sep-18	305.75	304.90	0.85	0.58	NO
12-Sep-18	305.76	304.95	0.81	0.58	NO
20-Sep-18	305.68	304.89	0.79	0.58	NO
27-Sep-18	305.69	304.95	0.74	0.58	NO

Date	DP2 (mASL)	Threshold Value (mASL)	Exceedance
7-Sep-18	304.00	303.50	NO
12-Sep-18	304.02	303.50	NO
20-Sep-18	303.97	303.50	NO
27-Sep-18	303.98	303.50	NO

Date	BH92-27 (mASL)	DP2 (mASL)	Head Difference (m)	Threshold Value (m)	Exceedance
7-Sep-18	304.47	304.00	0.47	0.32	NO
12-Sep-18	304.48	304.02	0.46	0.32	NO
20-Sep-18	304.41	303.97	0.44	0.32	NO
27-Sep-18	304.45	303.98	0.47	0.32	NO

Date	DP1 (mASL)	Threshold Value (mASL)	Exceedance
7-Sep-18	304.10	303.91	NO
12-Sep-18	304.12	303.91	NO
20-Sep-18	304.07	303.91	NO
27-Sep-18	304.10	303.91	NO

Date	BH92-29 (mASL)	DP1 (mASL)	Head Difference (m)	Threshold Value (m)	Exceedance
7-Sep-18	304.55	304.10	0.45	0.23	NO
12-Sep-18	304.56	304.12	0.44	0.23	NO
20-Sep-18	304.51	304.07	0.44	0.23	NO
27-Sep-18	304.51	304.10	0.41	0.23	NO

Date	DP5CR (mASL)	Threshold Value (mASL)	Exceedance
7-Sep-18	303.19	302.79	NO
12-Sep-18	303.22	302.79	NO
20-Sep-18	303.16	302.79	NO
27-Sep-18	303.16	302.79	NO

Date	OW5-84 (mASL)	DP5CR (mASL)	Head Difference (m)	Threshold Value (m)	Exceedance
7-Sep-18	303.44	303.19	0.25	0.25	NO
12-Sep-18	303.48	303.22	0.26	0.25	NO
20-Sep-18	303.41	303.16	0.25	0.25	NO
27-Sep-18	303.44	303.16	0.28	0.25	NO

No exceedances to report

Monthly Reporting
Mill Creek Aggregates Pit
September 2018

					Max. Allowable as per PTTW- Main Pond				*Max. Allowable as per PTTW- Silt Pond*			
					(Imperial Gallons)		(Litres)		(Imperial Gallons)		(Litres)	
Total Monthly Precipitation (mm):	51.5	Kitchener/Waterloo (September Actual)			2,500	per minute	11,365		2,597	per minute	11,806	
Total Monthly Normal Precipitation (mm):	87.8	Waterloo-Wellington A (30-year Normal)			1,800,000	per day	8,183,000		3,739,477	per day	17,000,000	

Date	Below Water Table Extraction (wet tonnes) Phase 2	Below Water Table Extraction (wet tonnes) Phase 1 Set Back	Water Pumped from Main Pond (gals)	Water Pumped from Active Silt Pond (gals)	Main Pond Level (mASL)	Exceedance Y/N (BELOW 305.5 mASL)	Phase 2 Pond Level (mASL)	Exceedance Y/N (BELOW 305.0 mASL)	Phase 3 Pond Level (mASL)	Exceedance Y/N (BELOW 303.85 mASL)	Phase 4 Pond Level (mASL)	Exceedance Y/N (BELOW 304.5 mASL)
1-Sep-18	0	0	0	0								
2-Sep-18	0	0	0	0								
3-Sep-18	0	0	0	0								
4-Sep-18	0	5700	1,518,228	2,388,682	306.46	N	305.97	N	304.70	N	306.17	N
5-Sep-18	0	5463	1,513,608	2,856,594	306.45	N	305.97	N	304.72	N	306.14	N
6-Sep-18	0	4513	721,499	2,362,040	306.41	N	305.97	N	304.71	N	306.08	N
7-Sep-18	0	5700	0	1,419,555	306.46	N	305.96	N	304.73	N	306.02	N
8-Sep-18	0	2850	622,733	0	306.46	N	305.95	N	304.69	N	305.96	N
9-Sep-18	0	0	0	0								
10-Sep-18	0	5700	1,522,187	0	306.41	N	305.97	N	304.68	N	305.97	N
11-Sep-18	0	4750	1,521,307	2,018,183	306.36	N	305.96	N	304.67	N	306.06	N
12-Sep-18	0	3800	1,502,830	2,792,485	306.36	N	305.94	N	304.67	N	306.03	N
13-Sep-18	0	5700	1,523,727	2,539,380	306.37	N	305.93	N	304.66	N	305.98	N
14-Sep-18	0	2850	1,521,087	1,973,223	306.38	N	305.92	N	304.65	N	305.95	N
15-Sep-18	0	0	625,813	0	306.36	N	305.90	N	304.65	N	305.95	N
16-Sep-18	0	0	0	0								
17-Sep-18	0	5700	1,509,649	1,707,629	306.34	N	305.93	N	304.66	N	305.97	N
18-Sep-18	0	5700	1,509,869	1,959,069	306.32	N	305.92	N	304.65	N	305.99	N
19-Sep-18	0	5700	1,516,688	2,443,633	306.34	N	305.90	N	304.64	N	305.96	N
20-Sep-18	0	5700	604,256	2,586,005	306.34	N	305.91	N	304.62	N	305.92	N
21-Sep-18	0	5700	878,557	2,239,650	306.36	N	305.90	N	304.63	N	305.85	N
22-Sep-18	0	2850	380,547	0	306.37	N	305.89	N	304.62	N	305.81	N
23-Sep-18	0	0	0	0								
24-Sep-18	0	5700	897,035	800,945	306.34	N	305.88	N	304.62	N	305.83	N
25-Sep-18	0	4750	908,473	54,951	306.31	N	305.88	N	304.62	N	305.86	N
26-Sep-18	0	0	873,278	0	306.29	N	305.88	N	304.62	N	305.90	N
27-Sep-18	0	0	1,527,466	1,177,273	306.27	N	305.88	N	304.61	N	305.93	N
28-Sep-18	0	4038	1,517,788	247,277	306.26	N	305.87	N	304.61	N	305.95	N
29-Sep-18	0	2850	628,672	0	306.23	N	305.86	N	304.62	N	305.99	N
30-Sep-18	0	0	0	0								
Total	0	95713	25,345,297	31,566,575	--	--	--	--	--	--	--	--
Avg./ day			844,843.22	1,052,219.16	--	--	--	--	--	--	--	--

Note: No exceedences to report

Monthly Reporting
Mill Creek Aggregates Pit
October 2018

Date	DP21 (mASL)	Threshold Value (mASL)	Exceedance
4-Oct-18	305.86	305.58	NO
12-Oct-18	305.85	305.58	NO
18-Oct-18	305.82	305.58	NO
30-Oct-18	305.86	305.58	NO

Date	BH13 (mASL)	DP21 (mASL)	Head Difference (m)	Threshold Value (m)	Exceedance
4-Oct-18	306.14	305.86	0.28	0.09	NO
12-Oct-18	306.09	305.85	0.24	0.09	NO
18-Oct-18	306.05	305.82	0.23	0.09	NO
30-Oct-18	306.03	305.86	0.17	0.09	NO

Date	DP17 (mASL)	Threshold Value (mASL)	Exceedance
4-Oct-18	305.28	305.17	NO
12-Oct-18	305.25	305.17	NO
18-Oct-18	305.25	305.17	NO
30-Oct-18	305.27	305.17	NO

Date	BH92-12 (mASL)	DP17 (mASL)	Head Difference (m)	Threshold Value (m)	Exceedance
4-Oct-18	305.44	305.28	0.16	0.04	NO
12-Oct-18	305.40	305.25	0.15	0.04	NO
18-Oct-18	305.40	305.25	0.15	0.04	NO
30-Oct-18	305.38	305.27	0.11	0.04	NO

Date	DP3 (mASL)	Threshold Value (mASL)	Exceedance
4-Oct-18	305.00	304.54	NO
12-Oct-18	304.98	304.54	NO
18-Oct-18	304.98	304.54	NO
30-Oct-18	305.01	304.54	NO

Date	DP6 (mASL)	DP3 (mASL)	Head Difference (m)	Threshold Value (m)	Exceedance
4-Oct-18	305.78	305.00	0.78	0.55	NO
12-Oct-18	305.73	304.98	0.75	0.55	NO
18-Oct-18	305.70	304.98	0.72	0.55	NO
30-Oct-18	305.75	305.01	0.74	0.55	NO

Date	DP2 (mASL)	Threshold Value (mASL)	Exceedance
4-Oct-18	304.08	303.55	NO
12-Oct-18	304.04	303.55	NO
18-Oct-18	304.01	303.55	NO
30-Oct-18	304.02	303.55	NO

Date	BH92-27 (mASL)	DP2 (mASL)	Head Difference (m)	Threshold Value (m)	Exceedance
4-Oct-18	304.52	304.08	0.44	0.34	NO
12-Oct-18	304.48	304.04	0.44	0.34	NO
18-Oct-18	304.47	304.01	0.46	0.34	NO
30-Oct-18	304.48	304.02	0.46	0.34	NO

Date	DP1 (mASL)	Threshold Value (mASL)	Exceedance
4-Oct-18	304.17	303.96	NO
12-Oct-18	304.14	303.96	NO
18-Oct-18	304.11	303.96	NO
30-Oct-18	304.13	303.96	NO

Date	BH92-29 (mASL)	DP1 (mASL)	Head Difference (m)	Threshold Value (m)	Exceedance
4-Oct-18	304.57	304.17	0.40	0.19	NO
12-Oct-18	304.52	304.14	0.38	0.19	NO
18-Oct-18	304.51	304.11	0.40	0.19	NO
30-Oct-18	304.52	304.13	0.39	0.19	NO

Date	DP5CR (mASL)	Threshold Value (mASL)	Exceedance
4-Oct-18	303.29	302.84	NO
12-Oct-18	303.23	302.84	NO
18-Oct-18	303.22	302.84	NO
30-Oct-18	303.25	302.84	NO

Date	OW5-84 (mASL)	DP5CR (mASL)	Head Difference (m)	Threshold Value (m)	Exceedance
4-Oct-18	303.59	303.29	0.30	0.25	NO
12-Oct-18	303.52	303.23	0.29	0.25	NO
18-Oct-18	303.51	303.22	0.29	0.25	NO
30-Oct-18	303.54	303.25	0.29	0.25	NO

No exceedances to report

Monthly Reporting
Mill Creek Aggregates Pit
October 2018

					Max. Allowable as per PTTW- Main Pond				*Max. Allowable as per PTTW- Silt Pond*			
					(Imperial Gallons)		(Litres)		(Imperial Gallons)		(Litres)	
Total Monthly Precipitation (mm):			Kitchener/Waterloo (October Actual)		2,500	per minute	11,365		2,597	per minute	11,806	
Total Monthly Normal Precipitation (mm):		67.4	Waterloo-Wellington A (30-year Normal)		1,800,000	per day	8,183,000		3,739,477	per day	17,000,000	
Date	Below Water Table Extraction (wet tonnes) Phase 2	Below Water Table Extraction (wet tonnes) Phase 1 Set Back	Water Pumped from Main Pond (gals)	Water Pumped from Active Silt Pond (gals)	Main Pond Level (mASL)	Exceedance Y/N (BELOW 305.5 mASL)	Phase 2 Pond Level (mASL)	Exceedance Y/N (BELOW 305.0 mASL)	Phase 3 Pond Level (mASL)	Exceedance Y/N (BELOW 303.85 mASL)	Phase 4 Pond Level (mASL)	Exceedance Y/N (BELOW 304.5 mASL)
1-Oct-18	0	5,313	1,472,914	2,332,899	306.22	NO	305.88	NO	304.62	NO	306.03	NO
2-Oct-18	0	1,488	1,518,008	2,507,742	306.24	NO	305.88	NO	304.64	NO	306.02	NO
3-Oct-18	0	-	1,403,184	2,613,480	306.28	NO	305.89	NO	304.63	NO	306.01	NO
4-Oct-18	0	3,825	1,491,831	2,283,777	306.31	NO	305.89	NO	304.65	NO	305.96	NO
5-Oct-18	0	4,463	1,533,186	1,710,127	306.30	NO	305.89	NO	304.62	NO	305.93	NO
6-Oct-18	0	-	618,993	0	306.30	NO	305.89	NO	304.65	NO	305.93	NO
7-Oct-18	0	-	0	0	--	--	--	--	--	--	--	--
8-Oct-18	0	-	0	0	--	--	--	--	--	--	--	--
9-Oct-18	0	5,313	1,510,089	2,471,108	306.29	NO	305.89	NO	304.65	NO	305.96	NO
10-Oct-18	0	4,888	1,507,889	0	306.32	NO	305.88	NO	304.65	NO	305.93	NO
11-Oct-18	0	4,888	1,496,231	2,416,990	306.27	NO	305.88	NO	304.65	NO	305.98	NO
12-Oct-18	0	5,100	1,492,051	0	306.28	NO	305.88	NO	304.64	NO	305.95	NO
13-Oct-18	0	-	620,093	0	306.23	NO	305.88	NO	304.64	NO	305.97	NO
14-Oct-18	0	-	0	0	--	--	--	--	--	--	--	--
15-Oct-18	0	5,100	1,490,512	2,545,208	306.23	NO	305.87	NO	304.63	NO	305.97	NO
16-Oct-18	0	5,100	1,502,610	2,578,511	306.23	NO	305.86	NO	304.63	NO	305.97	NO
17-Oct-18	0	4,888	1,496,011	1,608,552	306.23	NO	305.85	NO	304.63	NO	305.94	NO
18-Oct-18	0	5,100	1,494,251	1,813,367	306.21	NO	305.84	NO	304.62	NO	305.93	NO
19-Oct-18	0	3,400	1,501,290	2,230,491	306.21	NO	305.83	NO	304.62	NO	305.90	NO
20-Oct-18	0	-	617,014	0	306.22	NO	305.83	NO	304.61	NO	305.89	NO
21-Oct-18	0	-	0	0	--	--	--	--	--	--	--	--
22-Oct-18	0	5,100	1,506,349	0	306.22	NO	305.80	NO	304.61	NO	305.90	NO
23-Oct-18	0	5,313	1,494,471	0	306.17	NO	305.80	NO	304.60	NO	305.96	NO
24-Oct-18	0	4,675	1,507,889	0	306.13	NO	305.79	NO	304.61	NO	305.99	NO
25-Oct-18	0	-	1,504,370	3,326,171	306.15	NO	305.79	NO	304.60	NO	305.97	NO
26-Oct-18	0	-	1,501,510	0	306.14	NO	305.79	NO	304.60	NO	305.98	NO
27-Oct-18	0	-	585,778	0	306.11	NO	305.80	NO	304.61	NO	306.03	NO
28-Oct-18	0	-	0	0	--	--	--	--	--	--	--	--
29-Oct-18	0	-	1,487,212	49,122	306.21	NO	305.79	NO	304.61	NO	306.05	NO
30-Oct-18	0	-	1,411,103	2,219,668	306.09	NO	305.79	NO	304.60	NO	306.08	NO
31-Oct-18	0	-	1,391,965	2,219,668	306.13	NO	305.77	NO	304.62	NO	306.06	NO
Total	0	73,950	35,156,805	34,926,882	--	--	--	--	--	--	--	--
Avg./ day			1,134,090.48	1,126,673.62	--	--	--	--	--	--	--	--

Note: No exceedences to report

Monthly Reporting
Mill Creek Aggregates Pit
November 2018'

Date	DP21 (mASL)	Threshold Value (mASL)	Exceedance
7-Nov-18	305.99	305.58	NO
15-Nov-18	305.91	305.58	NO
21-Nov-18	305.82	305.58	NO
29-Nov-18	305.97	305.58	NO

Date	BH13 (mASL)	DP21 (mASL)	Head Difference (m)	Threshold Value (m)	Exceedance
7-Nov-18	306.18	305.99	0.19	0.09	NO
15-Nov-18	306.10	305.91	0.19	0.09	NO
21-Nov-18	306.12	305.82	0.30	0.09	NO
29-Nov-18	306.19	305.97	0.22	0.09	NO

Date	DP17 (mASL)	Threshold Value (mASL)	Exceedance
7-Nov-18	305.33	305.17	NO
15-Nov-18	305.27	305.17	NO
21-Nov-18	305.27	305.17	NO
29-Nov-18	305.33	305.17	NO

Date	BH92-12 (mASL)	DP17 (mASL)	Head Difference (m)	Threshold Value (m)	Exceedance
7-Nov-18	305.51	305.33	0.18	0.04	NO
15-Nov-18	305.41	305.27	0.14	0.04	NO
21-Nov-18	305.41	305.27	0.14	0.04	NO
29-Nov-18	305.50	305.33	0.17	0.04	NO

Date	DP3 (mASL)	Threshold Value (mASL)	Exceedance
7-Nov-18	305.05	304.54	NO
15-Nov-18	304.88	304.54	NO
21-Nov-18	304.88	304.54	NO
29-Nov-18	305.00	304.54	NO

Date	DP6 (mASL)	DP3 (mASL)	Head Difference (m)	Threshold Value (m)	Exceedance
7-Nov-18	305.90	305.05	0.85	0.55	NO
15-Nov-18	305.81	304.88	0.93	0.55	NO
21-Nov-18	305.77	304.88	0.89	0.55	NO
29-Nov-18	305.88	305.00	0.88	0.55	NO

Date	DP2 (mASL)	Threshold Value (mASL)	Exceedance
7-Nov-18	304.14	303.55	NO
15-Nov-18	FROZEN	303.55	
21-Nov-18	FROZEN	303.55	
29-Nov-18	304.16	303.55	NO

Date	BH92-27 (mASL)	DP2 (mASL)	Head Difference (m)	Threshold Value (m)	Exceedance
7-Nov-18	304.61	304.14	0.47	0.34	NO
15-Nov-18	304.56	FROZEN		0.34	
21-Nov-18	304.57	FROZEN		0.34	
29-Nov-18	304.59	304.16	0.43	0.34	NO

Date	DP1 (mASL)	Threshold Value (mASL)	Exceedance
7-Nov-18	304.24	303.96	NO
15-Nov-18	FROZEN	303.96	
21-Nov-18	FROZEN	303.96	
29-Nov-18	FROZEN	303.96	

Date	BH92-29 (mASL)	DP1 (mASL)	Head Difference (m)	Threshold Value (m)	Exceedance
7-Nov-18	304.64	304.24	0.40	0.19	NO
15-Nov-18	304.51	FROZEN		0.19	
21-Nov-18	304.63	FROZEN		0.19	
29-Nov-18	304.60	FROZEN		0.19	

Date	DP5CR (mASL)	Threshold Value (mASL)	Exceedance
7-Nov-18	303.34	302.84	NO
15-Nov-18	FROZEN	302.84	
21-Nov-18	FROZEN	302.84	
29-Nov-18	FROZEN	302.84	

Date	OW5-84 (mASL)	DP5CR (mASL)	Head Difference (m)	Threshold Value (m)	Exceedance
7-Nov-18	303.62	303.34	0.28	0.25	NO
15-Nov-18	303.59	FROZEN		0.25	
21-Nov-18	303.61	FROZEN		0.25	
29-Nov-18	303.69	FROZEN		0.25	

Note:No exceedances to report for November for those wells that could be measured. All other wells were frozen as indicated above.

Monthly Reporting
Mill Creek Aggregates Pit
November 2018'

					Max. Allowable as per PTTW- Main Pond				*Max. Allowable as per PTTW- Silt Pond*			
					(Imperial Gallons)		(Litres)		(Imperial Gallons)		(Litres)	
Total Monthly Precipitation (mm):	71.7	Kitchener/Waterloo (November Actual)			2,500	per minute	11,365		2,597	per minute	11,806	
Total Monthly Normal Precipitation (mm):	87.1	Waterloo-Wellington A (30-year Normal)			1,800,000	per day	8,183,000		3,739,477	per day	17,000,000	

Date	Below Water Table Extraction (wet tonnes) Phase 2	Below Water Table Extraction (wet tonnes) Phase 1 Set Back	Water Pumped from Main Pond (gals)	Water Pumped from Active Silt Pond (gals)	Main Pond Level (mASL)	Exceedance Y/N (BELOW 305.5 mASL)	Phase 2 Pond Level (mASL)	Exceedance Y/N (BELOW 305.0 mASL)	Phase 3 Pond Level (mASL)	Exceedance Y/N (BELOW 303.85 mASL)	Phase 4 Pond Level (mASL)	Exceedance Y/N (BELOW 304.5 mASL)
1-Nov-18	0	0	1,501,070	3,216,270	306.16	NO	305.77	NO	304.63	NO	306.05	NO
2-Nov-18	0	0	1,505,690	2,706,729	306.24	NO	305.82	NO	304.67	NO	306.02	NO
3-Nov-18	0	0	608,655	0	306.26	NO	305.85	NO	304.67	NO	305.99	NO
4-Nov-18	0	0	0	0								
5-Nov-18	0	0	1,511,849	0	306.25	NO	305.85	NO	304.68	NO	306.02	NO
6-Nov-18	0	3400	1,457,736	1,294,668	306.23	NO	305.84	NO	304.67	NO	306.07	NO
7-Nov-18	0	4675	1,501,730	0	306.21	NO	305.86	NO	304.68	NO	306.09	NO
8-Nov-18	0	4675	1,517,348	2,372,863	306.21	NO	305.86	NO	304.69	NO	306.14	NO
9-Nov-18	0	0	1,521,307	0	306.22	NO	305.85	NO	304.69	NO	306.09	NO
10-Nov-18	0	0	0	0	306.23	NO	306.37	NO	306.26	NO	306.10	NO
11-Nov-18	0	0	0	0		-						-
12-Nov-18	0	4888	1,455,317	1,983,214	306.24	NO	305.85	NO	304.67	NO	306.08	NO
13-Nov-18	0	4675	817,846	0	306.26	NO	305.85	NO	304.69	NO	306.05	NO
14-Nov-18	0	4463	1,061,792	463,749	306.21	NO	305.84	NO	304.69	NO	306.06	NO
15-Nov-18	0	3613	1,238,427	0	306.21	NO	305.85	NO	304.69	NO	306.08	NO
16-Nov-18	0	4038	837,643	920,837	306.19	NO	305.84	NO	304.69	NO	306.09	NO
17-Nov-18	0	0	0	0	306.19	NO	305.84	NO	304.69	NO	306.09	NO
18-Nov-18	0	0	0	0								
19-Nov-18	0	4675	887,136	1,503,646	306.20	NO	305.85	NO	304.70	NO	306.12	NO
20-Nov-18	0	4888	1,187,394	489	306.21	NO	305.84	NO	304.70	NO	306.07	NO
21-Nov-18	0	4888	0	597,795	306.21	NO	305.82	NO	304.70	NO	306.06	NO
22-Nov-18	0	4888	0	1,268,025	306.20	NO	305.81	NO	304.71	NO	306.05	NO
23-Nov-18	0	0	891,975	0	306.21	NO	305.82	NO	304.70	NO	306.02	NO
24-Nov-18	0	0	604,256	0	306.21	NO	305.81	NO	304.70	NO	305.99	NO
25-Nov-18	0	0	0	0								
26-Nov-18	0	0	1,445,858	2,261,297	306.23	NO	305.80	NO	304.72	NO	306.02	NO
27-Nov-18	0	0	1,450,037	0	306.26	NO	305.85	NO	304.74	NO	306.04	NO
28-Nov-18	0	0	1,403,404	1,182,269	306.24	NO	305.86	NO	304.76	NO	306.07	NO
29-Nov-18	0	0	1,400,324	1,223,065	306.24	NO	305.85	NO	304.76	NO	306.08	NO
30-Nov-18	0	0	1,489,852	1,825,023	306.22	NO	305.84	NO	304.76	NO	306.07	NO
Total	0	53,763	27,296,644	22,819,940	--	--	--	--	--	--	--	--
Avg./ day			909,888.13	760,664.66	--	--	--	--	--	--	--	--

Note: No exceedences to report

Monthly Reporting
Mill Creek Aggregates Pit
December 2018

Date	DP21 (mASL)	Threshold Value (mASL)	Exceedance
5-Dec-18	305.93	305.58	NO
14-Dec-18	305.87	305.58	NO
20-Dec-18	305.86	305.58	NO

Date	BH13 (mASL)	DP21 (mASL)	Head Difference (m)	Threshold Value (m)	Exceedance
5-Dec-18	306.16	305.93	0.23	0.09	NO
14-Dec-18	306.10	305.87	0.23	0.09	NO
20-Dec-18	306.11	305.86	0.25	0.09	NO

Date	DP17 (mASL)	Threshold Value (mASL)	Exceedance
5-Dec-18	305.30	305.17	NO
14-Dec-18	305.27	305.17	NO
20-Dec-18	305.27	305.17	NO

Date	BH92-12 (mASL)	DP17 (mASL)	Head Difference (m)	Threshold Value (m)	Exceedance
5-Dec-18	305.48	305.30	0.18	0.04	NO
14-Dec-18	305.40	305.27	0.13	0.04	NO
20-Dec-18	305.40	305.27	0.13	0.04	NO

Date	DP3 (mASL)	Threshold Value (mASL)	Exceedance
5-Dec-18	Frozen	304.54	
14-Dec-18	304.86	304.54	NO
20-Dec-18	304.84	304.54	NO

Date	DP6 (mASL)	DP3 (mASL)	Head Difference (m)	Threshold Value (m)	Exceedance
5-Dec-18	305.85	Frozen	--	0.55	
14-Dec-18	305.74	304.86	0.88	0.55	NO
20-Dec-18	305.72	304.84	0.88	0.55	NO

Date	DP2 (mASL)	Threshold Value (mASL)	Exceedance
5-Dec-18	Frozen	303.55	
14-Dec-18	304.11	303.55	NO
20-Dec-18	Frozen	303.55	

Date	BH92-27 (mASL)	DP2 (mASL)	Head Difference (m)	Threshold Value (m)	Exceedance
5-Dec-18	304.56	Frozen	--	0.34	
14-Dec-18	304.53	304.11	0.42	0.34	NO
20-Dec-18	304.57	Frozen	--	0.34	

Date	DP1 (mASL)	Threshold Value (mASL)	Exceedance
5-Dec-18	Frozen	303.96	
14-Dec-18	304.19	303.96	NO
20-Dec-18	Frozen	303.96	

Date	BH92-29 (mASL)	DP1 (mASL)	Head Difference (m)	Threshold Value (m)	Exceedance
5-Dec-18	304.59	Frozen	--	0.19	
14-Dec-18	304.57	304.19	0.38	0.19	NO
20-Dec-18	304.67	Frozen	--	0.19	

Date	DP5CR (mASL)	Threshold Value (mASL)	Exceedance
5-Dec-18	Frozen	302.84	
14-Dec-18	303.34	302.84	NO
20-Dec-18	303.31	302.84	NO

Date	OW5-84 (mASL)	DP5CR (mASL)	Head Difference (m)	Threshold Value (m)	Exceedance
5-Dec-18	303.63	Frozen	--	0.25	
14-Dec-18	303.61	303.34	0.27	0.25	NO
20-Dec-18	303.58	303.31	0.27	0.25	NO

Note:No exceedances to report for December for those wells that could be measured. All other wells were frozen as indicated above.

Monthly Reporting
Mill Creek Aggregates Pit
December 2018

					Max. Allowable as per PTTW- Main Pond				*Max. Allowable as per PTTW- Silt Pond*			
					(Imperial Gallons)		(Litres)		(Imperial Gallons)		(Litres)	
Total Monthly Precipitation (mm):	59.2	Kitchener/Waterloo (November Actual)			2,500	per minute	11,365		2,597	per minute	11,806	
Total Monthly Normal Precipitation (mm):	71.2	Waterloo-Wellington A (30-year Normal)			1,800,000	per day	8,183,000		3,739,477	per day	17,000,000	

Date	Below Water Table Extraction (wet tonnes) Phase 2	Below Water Table Extraction (wet tonnes) Phase 1 Set Back	Water Pumped from Main Pond (gals)	Water Pumped from Active Silt Pond (gals)	Main Pond Level (mASL)	Exceedance Y/N (BELOW 305.5 mASL)	Phase 2 Pond Level (mASL)	Exceedance Y/N (BELOW 305.0 mASL)	Phase 3 Pond Level (mASL)	Exceedance Y/N (BELOW 303.85 mASL)	Phase 4 Pond Level (mASL)	Exceedance Y/N (BELOW 304.5 mASL)
1-Dec-18	0	0	0	0	306.25	N	305.84	N	304.74	N	306.07	N
2-Dec-18	0	0	0	0								
3-Dec-18	0	0	1,313,436	1,150,631	306.26	N	305.86	N	304.76	N	306.09	N
4-Dec-18	0	0	988,982	837,579	306.26	N	305.85	N	304.76	N	306.11	N
5-Dec-18	0	0	966,105	671,895	306.26	N	305.85	N	304.75	N	306.12	N
6-Dec-18	0	0	944,768	950,810	306.27	N	305.85	N	Frozen	N	306.08	N
7-Dec-18	0	0	0	1,060,712	306.28	N	305.84	N	Frozen	N	306.06	N
8-Dec-18	0	0	0	0								
9-Dec-18	0	0	0	0								
10-Dec-18	0	0	0	0	306.29	N	305.84	N	Frozen	N	Frozen	N
11-Dec-18	0	0	0	0	306.29	N	305.84	N	Frozen	N	Frozen	N
12-Dec-18	0	0	1,395,705	1,811,702	306.29	N	305.84	N	Frozen	N	Frozen	N
13-Dec-18	0	0	1,218,630	0	306.29	N	305.85	N	Frozen	N	Frozen	N
14-Dec-18	0	0	1,390,206	0	306.29	N	305.84	N	Frozen	N	Frozen	N
15-Dec-18	0	0	588,858	0	306.27	N	305.84	N	Frozen	N	Frozen	N
16-Dec-18	0	0	0	0	-	-	-	-	-	-	-	-
17-Dec-18	0	0	0	0	-	-	-	-	-	-	-	-
18-Dec-18	0	0	0	0	-	-	-	-	-	-	-	-
19-Dec-18	0	0	0	0	-	-	-	-	-	-	-	-
20-Dec-18	0	0	0	0	-	-	-	-	-	-	-	-
21-Dec-18	0	0	0	0	-	-	-	-	-	-	-	-
22-Dec-18	0	0	0	0	-	-	-	-	-	-	-	-
23-Dec-18	0	0	0	0	-	-	-	-	-	-	-	-
24-Dec-18	0	0	0	0	-	-	-	-	-	-	-	-
25-Dec-18	0	0	0	0	-	-	-	-	-	-	-	-
26-Dec-18	0	0	0	0	-	-	-	-	-	-	-	-
27-Dec-18	0	0	0	0	-	-	-	-	-	-	-	-
28-Dec-18	0	0	0	0	-	-	-	-	-	-	-	-
29-Dec-18	0	0	0	0	-	-	-	-	-	-	-	-
30-Dec-18	0	0	0	0	-	-	-	-	-	-	-	-
31-Dec-18	0	0	0	0	-	-	-	-	-	-	-	-
Total	0	-	8,806,689	6,483,329	--	--	--	--	--	--	--	--
Avg./ day			284,086.74	209,139.63	--	--	--	--	--	--	--	--

Note: No exceedences to report. All staff guages were removed as of December 15th.

APPENDIX

G

THRESHOLD COMPLIANCE RESULTS

Table G-1
Threshold Summary - BH13 to DP21
Mill Creek Aggregates Pit

			BH13 to DP21					DP21	
Date	Water Elevation BH 13 (m ASL)	Water Elevation DP21 (m ASL)	Head Difference (m)	Early Warning Value (Min) (m)	Exceedance of Early Warning Value	Threshold Value (Min) (m)	Exceedance of Threshold Value	Threshold Value (Min) (m ASL)	Exceedance of Threshold Value
21-Aug-02	305.78	305.56	0.22	0.12	no	0.10	no	305.49	no
23-Aug-02	305.78	305.57	0.21	0.12	no	0.10	no	305.49	no
28-Aug-02	305.77	305.56	0.21	0.12	no	0.10	no	305.49	no
30-Aug-02	305.78	305.56	0.22	0.12	no	0.10	no	305.49	no
4-Sep-02	305.78	305.55	0.23	0.12	no	0.10	no	305.49	no
10-Sep-02	305.72	305.54	0.18	0.12	no	0.10	no	305.49	no
12-Sep-02	305.72	305.54	0.18	0.12	no	0.10	no	305.49	no
17-Sep-02	305.79	305.56	0.23	0.12	no	0.10	no	305.49	no
20-Sep-02	305.78	305.57	0.21	0.12	no	0.10	no	305.49	no
25-Sep-02	305.75	305.57	0.18	0.12	no	0.10	no	305.49	no
27-Sep-02	305.79	305.59	0.20	0.12	no	0.10	no	305.49	no
8-Oct-02	305.78	305.59	0.19	0.11	no	0.09	no	305.58	no
11-Oct-02	305.76	305.59	0.17	0.11	no	0.09	no	305.58	no
15-Oct-02	305.76	305.60	0.16	0.11	no	0.09	no	305.58	no
23-Oct-02	305.79	305.61	0.18	0.11	no	0.09	no	305.58	no
29-Oct-02	305.79	305.59	0.20	0.11	no	0.09	no	305.58	no
31-Oct-02	305.78	305.60	0.18	0.11	no	0.09	no	305.58	no
5-Nov-02	305.78	305.64	0.14	0.11	no	0.09	no	305.58	no
12-Nov-02	305.96	305.72	0.24	0.11	no	0.09	no	305.58	no
15-Nov-02	305.84	305.69	0.15	0.11	no	0.09	no	305.58	no
22-Nov-02	305.80	305.64	0.16	0.11	no	0.09	no	305.58	no
26-Nov-02	305.78	305.63	0.15	0.11	no	0.09	no	305.58	no
29-Nov-02	305.81	305.68	0.13	0.11	no	0.09	no	305.58	no
4-Dec-02	305.77	305.68	0.09	0.11	yes	0.09	no	305.58	no
6-Dec-02	305.79	305.68	0.11	0.11	no	0.09	no	305.58	no
10-Dec-02	305.79	305.68	0.11	0.11	no	0.09	no	305.58	no
13-Dec-02	305.79	305.66	0.13	0.11	no	0.09	no	305.58	no
18-Dec-02	305.78	305.66	0.12	0.11	no	0.09	no	305.58	no
7-Jan-03	305.81	305.66	0.15	0.13	no	0.11	no	305.66	no
9-Jan-03	305.83	305.67	0.16	0.13	no	0.11	no	305.66	no
14-Jan-03	305.82	305.67	0.15	0.13	no	0.11	no	305.66	no
21-Jan-03	305.82	305.67	0.15	0.13	no	0.11	no	305.66	no
24-Jan-03	305.81	305.67	0.14	0.13	no	0.11	no	305.66	no
28-Jan-03	305.82	305.67	0.15	0.13	no	0.11	no	305.66	no
31-Jan-03	305.83	305.67	0.16	0.13	no	0.11	no	305.66	no
5-Feb-03	305.85	305.67	0.18	0.13	no	0.11	no	305.66	no
10-Feb-03	305.89	305.67	0.22	0.13	no	0.11	no	305.66	no
14-Feb-03	305.90	305.67	0.23	0.13	no	0.11	no	305.66	no
17-Feb-03	305.90	305.67	0.23	0.13	no	0.11	no	305.66	no
21-Feb-03	305.89	305.67	0.22	0.13	no	0.11	no	305.66	no
24-Feb-03	305.89	305.67	0.22	0.13	no	0.11	no	305.66	no
27-Mar-03	306.06	305.80	0.26	0.13	no	0.11	no	305.66	no
11-Apr-03	306.14	305.80	0.34	0.13	no	0.11	no	305.60	no
21-Apr-03	306.06	305.78	0.28	0.13	no	0.11	no	305.60	no
24-Apr-03	306.01	305.77	0.24	0.13	no	0.11	no	305.60	no
28-Apr-03	306.03	305.77	0.26	0.13	no	0.11	no	305.60	no
5-May-03	306.04	305.77	0.27	0.13	no	0.11	no	305.60	no
8-May-03	306.09	305.76	0.33	0.13	no	0.11	no	305.60	no
12-May-03	306.08	305.79	0.29	0.13	no	0.11	no	305.60	no
16-May-03	306.08	305.76	0.32	0.13	no	0.11	no	305.60	no
23-May-03	306.07	305.78	0.29	0.13	no	0.11	no	305.60	no
26-May-03	306.04	305.78	0.26	0.13	no	0.11	no	305.60	no
29-May-03	306.05	305.80	0.25	0.13	no	0.11	no	305.60	no
2-Jun-03	306.05	305.80	0.25	0.13	no	0.11	no	305.60	no
5-Jun-03	306.05	305.80	0.25	0.13	no	0.11	no	305.60	no
9-Jun-03	306.05	305.78	0.27	0.13	no	0.11	no	305.60	no
13-Jun-03	306.05	305.78	0.27	0.13	no	0.11	no	305.60	no
17-Jun-03	306.05	305.78	0.27	0.13	no	0.11	no	305.60	no
19-Jun-03	306.05	305.78	0.27	0.13	no	0.11	no	305.60	no
23-Jun-03	306.05	305.77	0.28	0.13	no	0.11	no	305.60	no
26-Jun-03	306.05	305.80	0.25	0.13	no	0.11	no	305.60	no
3-Jul-03	306.05	305.80	0.25	0.12	no	0.10	no	305.49	no
7-Jul-03	306.05	305.79	0.26	0.12	no	0.10	no	305.49	no
10-Jul-03	306.05	305.77	0.28	0.12	no	0.10	no	305.49	no
22-Jul-03	305.94	305.76	0.18	0.12	no	0.10	no	305.49	no
25-Jul-03	305.94	305.75	0.19	0.12	no	0.10	no	305.49	no
28-Jul-03	305.94	305.73	0.21	0.12	no	0.10	no	305.49	no
31-Jul-03	305.94	305.72	0.22	0.12	no	0.10	no	305.49	no
7-Aug-03	305.94	305.72	0.22	0.12	no	0.10	no	305.49	no
11-Aug-03	305.94	305.72	0.22	0.12	no	0.10	no	305.49	no
18-Aug-03	305.89	305.67	0.22	0.12	no	0.10	no	305.49	no
21-Aug-03	305.85	305.63	0.22	0.12	no	0.10	no	305.49	no
25-Aug-03	305.94	305.72	0.22	0.12	no	0.10	no	305.49	no
29-Aug-03	305.85	305.63	0.22	0.12	no	0.10	no	305.49	no
2-Sep-03	305.82	305.60	0.22	0.12	no	0.10	no	305.49	no
4-Sep-03	305.88	305.59	0.29	0.12	no	0.10	no	305.49	no
8-Sep-03	305.88	305.59	0.29	0.12	no	0.10	no	305.49	no
11-Sep-03	305.78	305.58	0.20	0.12	no	0.10	no	305.49	no
15-Sep-03	305.79	305.62	0.17	0.12	no	0.10	no	305.49	no
18-Sep-03	305.78	305.62	0.16	0.12	no	0.10	no	305.49	no
22-Sep-03	305.81	305.63	0.18	0.12	no	0.10	no	305.49	no
26-Sep-03	305.86	305.68	0.18	0.12	no	0.10	no	305.49	no
29-Sep-03	305.95	305.77	0.18	0.12	no	0.10	no	305.49	no
2-Oct-03	305.91	305.71	0.20	0.11	no	0.09	no	305.58	no
6-Oct-03	305.91	305.71	0.20	0.11	no	0.09	no	305.58	no
9-Oct-03	305.87	305.67	0.20	0.11	no	0.09	no	305.58	no
13-Oct-03	305.90	305.66	0.24	0.11	no	0.09	no	305.58	no
16-Oct-03	305.96	305.79	0.17	0.11	no	0.09	no	305.58	no
20-Oct-03	305.91	305.78	0.13	0.11	no	0.09	no	305.58	no
23-Oct-03	305.93	305.79	0.14	0.11	no	0.09	no	305.58	no
27-Oct-03	305.94	305.79	0.15	0.11	no	0.09	no	305.58	no
30-Oct-03	305.93	305.76	0.17	0.11	no	0.09	no	305.58	no
3-Nov-03	306.03	305.85	0.18	0.11	no	0.09	no	305.58	no
6-Nov-03	306.01	305.84	0.17	0.11	no	0.09	no	305.58	no
10-Nov-03	305.93	305.75	0.18	0.11	no	0.09	no	305.58	no
13-Nov-03	305.96	305.78	0.18	0.11	no	0.09	no	305.58	no
17-Nov-03	306.00	305.83	0.17	0.11	no	0.09	no	305.58	no
20-Nov-03	306.03	305.86	0.17	0.11	no	0.09	no	305.58	no
24-Nov-03	306.06	305.88	0.18	0.11	no	0.09	no	305.58	no
1-Dec-03	306.13	305.94	0.19	0.11	no	0.09	no	305.58	no
8-Dec-03	306.00	305.77	0.23	0.11	no	0.09	no	305.58	no
11-Dec-03	306.08	305.87	0.21	0.11	no	0.09	no	305.58	no
15-Dec-03	306.02	305.81	0.21	0.11	no	0.09	no	305.58	no
22-Dec-03	306.01	305.80	0.21	0.11	no	0.09	no	305.58	no
6-Jan-04	306.11	305.90	0.21	0.13	no	0.11	no	305.66	no
8-Jan-04	306.08	305.88	0.20	0.13	no	0.11	no	305.66	no
12-Jan-04	306.06	305.82	0.24	0.13	no	0.11	no	305.66	no
15-Jan-04	306.04	305.92	0.12	0.13	yes	0.11	no	305.66	no
19-Jan-04	306.02	305.86	0.16	0.13	no	0.11	no	305.66	no
26-Jan-04	305.99	305.84	0.15	0.13	no	0.11	no	305.66	no
5-Feb-04	306.10	305.89	0.21	0.13	no	0.11	no	305.66	no
9-Feb-04	306.09	305.89	0.20	0.13	no	0.11	no	305.66	no

Table G-1
Threshold Summary - BH13 to DP21
Mill Creek Aggregates Pit

			BH13 to DP21					DP21	
Date	Water Elevation BH 13 (m ASL)	Water Elevation DP21 (m ASL)	Head Difference (m)	Early Warning Value (m)	Exceedance of Early Warning Value	Threshold Value (m)	Exceedance of Threshold Value	Threshold Value (m ASL)	Exceedance of Threshold Value
16-Feb-04	306.08	305.89	0.19	0.13	no	0.11	no	305.66	no
19-Feb-04	306.09	305.89	0.20	0.13	no	0.11	no	305.66	no
5-Mar-04	306.40	306.08	0.32	0.13	no	0.11	no	305.66	no
8-Mar-04	306.35	305.90	0.45	0.13	no	0.11	no	305.66	no
11-Mar-04	306.28	305.89	0.39	0.13	no	0.11	no	305.66	no
15-Mar-04	306.22	305.90	0.32	0.13	no	0.11	no	305.66	no
18-Mar-04	306.21	305.90	0.31	0.13	no	0.11	no	305.66	no
22-Mar-04	306.23	305.91	0.32	0.13	no	0.11	no	305.66	no
25-Mar-04	306.26	305.91	0.35	0.13	no	0.11	no	305.66	no
1-Apr-04	306.44	306.00	0.44	0.13	no	0.11	no	305.60	no
5-Apr-04	306.36	306.02	0.34	0.13	no	0.11	no	305.60	no
8-Apr-04	306.33	306.01	0.32	0.13	no	0.11	no	305.60	no
12-Apr-04	306.29	305.97	0.32	0.13	no	0.11	no	305.60	no
15-Apr-04	306.30	306.00	0.30	0.13	no	0.11	no	305.60	no
22-Apr-04	306.42	306.05	0.37	0.13	no	0.11	no	305.60	no
26-Apr-04	306.39	306.04	0.35	0.13	no	0.11	no	305.60	no
3-May-04	306.44	306.08	0.36	0.13	no	0.11	no	305.60	no
10-May-04	306.47	306.12	0.35	0.13	no	0.11	no	305.60	no
13-May-04	306.42	306.07	0.35	0.13	no	0.11	no	305.60	no
17-May-04	306.36	306.02	0.34	0.13	no	0.11	no	305.60	no
20-May-04	306.35	305.92	0.43	0.13	no	0.11	no	305.60	no
25-May-04	306.49	306.05	0.44	0.13	no	0.11	no	305.60	no
27-May-04	306.37	306.06	0.31	0.13	no	0.11	no	305.60	no
31-May-04	306.36	306.03	0.33	0.13	no	0.11	no	305.60	no
3-Jun-04	306.22	305.96	0.26	0.13	no	0.11	no	305.60	no
7-Jun-04	305.99	305.85	0.14	0.13	no	0.11	no	305.60	no
10-Jun-04	306.00	305.80	0.20	0.13	no	0.11	no	305.60	no
14-Jun-04	306.21	305.92	0.29	0.13	no	0.11	no	305.60	no
17-Jun-04	306.19	305.91	0.28	0.13	no	0.11	no	305.60	no
21-Jun-04	306.28	305.90	0.38	0.13	no	0.11	no	305.60	no
24-Jun-04	306.30	305.82	0.48	0.13	no	0.11	no	305.60	no
28-Jun-04	306.27	305.85	0.42	0.13	no	0.11	no	305.60	no
5-Jul-04	306.04	305.81	0.23	0.12	no	0.10	no	305.49	no
8-Jul-04	306.07	305.86	0.21	0.12	no	0.10	no	305.49	no
12-Jul-04	306.03	305.82	0.21	0.12	no	0.10	no	305.49	no
15-Jul-04	306.08	305.88	0.20	0.12	no	0.10	no	305.49	no
19-Jul-04	306.03	305.82	0.21	0.12	no	0.10	no	305.49	no
22-Jul-04	306.00	305.80	0.20	0.12	no	0.10	no	305.49	no
26-Jul-04	305.97	305.77	0.20	0.12	no	0.10	no	305.49	no
29-Jul-04	306.02	305.84	0.18	0.12	no	0.10	no	305.49	no
2-Aug-04	306.17	305.88	0.29	0.12	no	0.10	no	305.49	no
5-Aug-04	306.12	305.83	0.29	0.12	no	0.10	no	305.49	no
9-Aug-04	306.07	305.78	0.29	0.12	no	0.10	no	305.49	no
12-Aug-04	306.06	305.78	0.27	0.12	no	0.10	no	305.49	no
16-Aug-04	306.03	305.76	0.27	0.12	no	0.10	no	305.49	no
19-Aug-04	306.03	305.77	0.26	0.12	no	0.10	no	305.49	no
23-Aug-04	305.98	305.72	0.26	0.12	no	0.10	no	305.49	no
26-Aug-04	306.16	305.79	0.37	0.12	no	0.10	no	305.49	no
30-Aug-04	306.11	305.85	0.25	0.12	no	0.10	no	305.49	no
2-Sep-04	306.08	305.83	0.25	0.12	no	0.10	no	305.49	no
6-Sep-04	306.07	305.76	0.30	0.12	no	0.10	no	305.49	no
9-Sep-04	306.13	305.79	0.34	0.12	no	0.10	no	305.49	no
13-Sep-04	306.13	305.79	0.34	0.12	no	0.10	no	305.49	no
16-Sep-04	306.11	305.77	0.34	0.12	no	0.10	no	305.49	no
20-Sep-04	306.15	305.82	0.33	0.12	no	0.10	no	305.49	no
23-Sep-04	306.09	305.75	0.34	0.12	no	0.10	no	305.49	no
27-Sep-04	306.10	305.76	0.34	0.12	no	0.10	no	305.49	no
30-Sep-04	306.10	305.79	0.31	0.12	no	0.10	no	305.49	no
4-Oct-04	306.05	305.68	0.37	0.12	no	0.10	no	305.58	no
7-Oct-04	306.01	305.65	0.36	0.12	no	0.10	no	305.58	no
11-Oct-04	306.01	305.66	0.35	0.12	no	0.10	no	305.58	no
14-Oct-04	305.99	305.66	0.33	0.12	no	0.10	no	305.58	no
18-Oct-04	306.09	305.80	0.29	0.12	no	0.10	no	305.58	no
21-Oct-04	306.03	305.74	0.29	0.12	no	0.10	no	305.58	no
25-Oct-04	306.02	305.72	0.30	0.12	no	0.10	no	305.58	no
28-Oct-04	306.01	305.71	0.30	0.12	no	0.10	no	305.58	no
1-Nov-04	306.03	305.75	0.28	0.12	no	0.10	no	305.58	no
4-Nov-04	306.10	305.82	0.28	0.12	no	0.10	no	305.58	no
8-Nov-04	306.08	305.80	0.27	0.12	no	0.10	no	305.58	no
11-Nov-04	306.02	305.74	0.29	0.12	no	0.10	no	305.58	no
15-Nov-04	306.06	305.78	0.28	0.12	no	0.10	no	305.58	no
18-Nov-04	305.99	305.71	0.28	0.12	no	0.10	no	305.58	no
22-Nov-04	305.99	305.72	0.27	0.12	no	0.10	no	305.58	no
25-Nov-04	306.01	305.75	0.26	0.12	no	0.10	no	305.58	no
29-Nov-04	306.07	305.82	0.25	0.12	no	0.10	no	305.58	no
2-Dec-04	306.12	305.85	0.27	0.12	no	0.10	no	305.58	no
6-Dec-04	306.07	305.78	0.29	0.12	no	0.10	no	305.58	no
9-Dec-04	306.08	305.80	0.28	0.12	no	0.10	no	305.58	no
13-Dec-04	306.09	305.81	0.28	0.12	no	0.10	no	305.58	no
16-Dec-04	306.11	305.82	0.29	0.12	no	0.10	no	305.58	no
20-Dec-04	306.04	305.73	0.31	0.12	no	0.10	no	305.58	no
23-Dec-04	306.02	305.71	0.31	0.12	no	0.10	no	305.58	no
3-Jan-05	306.04	305.83	0.20	0.13	no	0.11	no	305.66	no
6-Jan-05	306.33	306.12	0.20	0.13	no	0.11	no	305.66	no
10-Jan-05	306.20	306.09	0.11	0.13	yes	0.11	no	305.66	no
13-Jan-05	306.20	306.09	0.11	0.13	yes	0.11	no	305.66	no
17-Jan-05	306.22	306.08	0.14	0.13	no	0.11	no	305.66	no
20-Jan-05	306.19	306.06	0.13	0.13	no	0.11	no	305.66	no
24-Jan-05	306.16	306.00	0.16	0.13	no	0.11	no	305.66	no
27-Jan-05	306.14	305.98	0.16	0.13	no	0.11	no	305.66	no
31-Jan-05	306.13	305.97	0.17	0.13	no	0.11	no	305.66	no
3-Feb-05	306.13	305.96	0.17	0.13	no	0.11	no	305.66	no
7-Feb-05	306.14	305.97	0.16	0.13	no	0.11	no	305.66	no
10-Feb-05	306.19	306.04	0.15	0.13	no	0.11	no	305.66	no
14-Feb-05	306.22	306.05	0.17	0.13	no	0.11	no	305.66	no
17-Feb-05	306.26	306.12	0.13	0.13	no	0.11	no	305.66	no
21-Feb-05	306.08	305.92	0.17	0.13	no	0.11	no	305.66	no
24-Feb-05	306.25	305.91	0.34	0.13	no	0.11	no	305.66	no
28-Feb-05	306.02	305.82	0.19	0.13	no	0.11	no	305.66	no
3-Mar-05	306.01	305.82	0.20	0.13	no	0.11	no	305.66	no
7-Mar-05	306.05	305.84	0.21	0.13	no	0.11	no	305.66	no
10-Mar-05	306.04	305.85	0.20	0.13	no	0.11	no	305.66	no
14-Mar-05	306.04	305.84	0.20	0.13	no	0.11	no	305.66	no
17-Mar-05	306.03	305.83	0.20	0.13	no	0.11	no	305.66	no
21-Mar-05	306.04	305.84	0.20	0.13	no	0.11	no	305.66	no
24-Mar-05	306.07	305.88	0.19	0.13	no	0.11	no	305.66	no
28-Mar-05	306.18	305.98	0.20	0.13	no	0.11	no	305.66	no
31-Mar-05	306.27	306.11	0.15	0.13	no	0.11	no	305.66	no
4-Apr-05	306.33	306.21	0.12	0.13	yes	0.11	no	305.60	no
7-Apr-05	306.20	306.04	0.17	0.13	no	0.11	no	305.60	no
11-Apr-05	306.27	306.04	0.23	0.13	no	0.11	no	305.60	no
14-Apr-05	306.20	305.95	0.26	0.13	no	0.11	no	305.60	no
18-Apr-05	306.16	305.91	0.25	0.13	no	0.11	no	305.60	no

Table G-1
Threshold Summary - BH13 to DP21
Mill Creek Aggregates Pit

			BH13 to DP21					DP21	
Date	Water Elevation BH 13 (m ASL)	Water Elevation DP21 (m ASL)	Head Difference (m)	Early Warning Value (m)	Exceedance of Early Warning Value	Threshold Value (m)	Exceedance of Threshold Value	Threshold Value (m ASL)	Exceedance of Threshold Value
21-Apr-05	306.13	305.89	0.24	0.13	no	0.11	no	305.60	no
25-Apr-05	306.19	306.02	0.17	0.13	no	0.11	no	305.60	no
28-Apr-05	306.24	306.01	0.23	0.13	no	0.11	no	305.60	no
2-May-05	306.42	306.01	0.41	0.13	no	0.11	no	305.60	no
5-May-05	306.40	305.97	0.43	0.13	no	0.11	no	305.60	no
9-May-05	306.37	305.93	0.44	0.13	no	0.11	no	305.60	no
12-May-05	306.35	305.90	0.45	0.13	no	0.11	no	305.60	no
16-May-05	306.36	305.92	0.44	0.13	no	0.11	no	305.60	no
19-May-05	306.34	305.90	0.44	0.13	no	0.11	no	305.60	no
23-May-05	306.31	305.85	0.46	0.13	no	0.11	no	305.60	no
26-May-05	306.31	305.86	0.45	0.13	no	0.11	no	305.60	no
30-May-05	306.30	305.85	0.45	0.13	no	0.11	no	305.60	no
2-Jun-05	306.25	305.72	0.53	0.13	no	0.11	no	305.60	no
6-Jun-05	306.25	305.68	0.57	0.13	no	0.11	no	305.60	no
9-Jun-05	306.08	305.67	0.41	0.13	no	0.11	no	305.60	no
13-Jun-05	306.30	305.70	0.60	0.13	no	0.11	no	305.60	no
16-Jun-05	306.33	305.85	0.48	0.13	no	0.11	no	305.60	no
20-Jun-05	306.25	305.81	0.44	0.13	no	0.11	no	305.60	no
23-Jun-05	306.25	305.82	0.43	0.13	no	0.11	no	305.60	no
27-Jun-05	306.20	305.83	0.37	0.13	no	0.11	no	305.60	no
30-Jun-05	306.17	305.75	0.42	0.13	no	0.11	no	305.60	no
4-Jul-05	306.12	305.70	0.42	0.12	no	0.10	no	305.49	no
7-Jul-05	306.11	305.67	0.44	0.12	no	0.10	no	305.49	no
11-Jul-05	306.08	305.65	0.43	0.12	no	0.10	no	305.49	no
14-Jul-05	306.09	305.69	0.40	0.12	no	0.10	no	305.49	no
18-Jul-05	306.10	305.72	0.38	0.12	no	0.10	no	305.49	no
21-Jul-05	306.14	305.70	0.44	0.12	no	0.10	no	305.49	no
25-Jul-05	306.14	305.68	0.46	0.12	no	0.10	no	305.49	no
28-Jul-05	306.16	305.67	0.49	0.12	no	0.10	no	305.49	no
1-Aug-05	306.19	305.73	0.46	0.12	no	0.10	no	305.49	no
4-Aug-05	306.19	305.73	0.46	0.12	no	0.10	no	305.49	no
8-Aug-05	306.18	305.72	0.46	0.12	no	0.10	no	305.49	no
11-Aug-05	306.16	305.71	0.45	0.12	no	0.10	no	305.49	no
15-Aug-05	306.15	305.71	0.44	0.12	no	0.10	no	305.49	no
18-Aug-05	306.12	305.69	0.43	0.12	no	0.10	no	305.49	no
22-Aug-05	306.16	305.72	0.44	0.12	no	0.10	no	305.49	no
25-Aug-05	306.16	305.79	0.37	0.12	no	0.10	no	305.49	no
29-Aug-05	306.17	305.78	0.39	0.12	no	0.10	no	305.49	no
1-Sep-05	306.17	305.78	0.39	0.12	no	0.10	no	305.49	no
6-Sep-05	306.15	305.78	0.37	0.12	no	0.10	no	305.49	no
8-Sep-05	306.14	305.77	0.37	0.12	no	0.10	no	305.49	no
12-Sep-05	306.14	305.77	0.37	0.12	no	0.10	no	305.49	no
15-Sep-05	306.15	305.78	0.37	0.12	no	0.10	no	305.49	no
19-Sep-05	306.17	305.79	0.38	0.12	no	0.10	no	305.49	no
22-Sep-05	306.16	305.80	0.36	0.12	no	0.10	no	305.49	no
26-Sep-05	306.14	305.81	0.33	0.12	no	0.10	no	305.49	no
30-Sep-05	306.11	305.84	0.27	0.12	no	0.10	no	305.49	no
3-Oct-05	306.12	305.80	0.32	0.11	no	0.09	no	305.58	no
6-Oct-05	306.14	305.80	0.34	0.11	no	0.09	no	305.58	no
10-Oct-05	306.02	305.72	0.31	0.11	no	0.09	no	305.58	no
13-Oct-05	306.03	305.75	0.28	0.11	no	0.09	no	305.58	no
17-Oct-05	306.01	305.81	0.20	0.11	no	0.09	no	305.58	no
20-Oct-05	305.99	305.77	0.22	0.11	no	0.09	no	305.58	no
24-Oct-05	306.02	305.79	0.23	0.11	no	0.09	no	305.58	no
27-Oct-05	306.06	305.82	0.24	0.11	no	0.09	no	305.58	no
31-Oct-05	306.02	305.80	0.22	0.11	no	0.09	no	305.58	no
3-Nov-05	306.01	305.81	0.20	0.11	no	0.09	no	305.58	no
7-Nov-05	306.00	305.80	0.20	0.11	no	0.09	no	305.58	no
10-Nov-05	306.02	305.81	0.21	0.11	no	0.09	no	305.58	no
14-Nov-05	306.02	305.81	0.21	0.11	no	0.09	no	305.58	no
17-Nov-05	306.03	305.81	0.22	0.11	no	0.09	no	305.58	no
21-Nov-05	306.04	305.82	0.22	0.11	no	0.09	no	305.58	no
24-Nov-05	306.04	305.82	0.22	0.11	no	0.09	no	305.58	no
28-Nov-05	306.04	305.82	0.22	0.11	no	0.09	no	305.58	no
1-Dec-05	306.04	305.82	0.22	0.11	no	0.09	no	305.58	no
5-Dec-05	306.05	305.83	0.22	0.11	no	0.09	no	305.58	no
8-Dec-05	306.03	305.82	0.21	0.11	no	0.09	no	305.58	no
12-Dec-05	306.03	305.81	0.22	0.11	no	0.09	no	305.58	no
15-Dec-05	306.02	305.81	0.21	0.11	no	0.09	no	305.58	no
19-Dec-05	306.00	305.80	0.20	0.11	no	0.09	no	305.58	no
22-Dec-05	306.00	305.80	0.20	0.11	no	0.09	no	305.58	no
26-Dec-05	306.01	305.80	0.21	0.11	no	0.09	no	305.58	no
29-Dec-05	306.00	305.80	0.20	0.11	no	0.09	no	305.58	no
12-Jan-06	306.05	305.80	0.25	0.13	no	0.11	no	305.66	no
26-Jan-06	306.03	305.82	0.21	0.13	no	0.11	no	305.66	no
16-Feb-06	306.12	305.68	0.44	0.13	no	0.11	no	305.66	no
23-Feb-06	305.97	305.81	0.16	0.13	no	0.11	no	305.66	no
28-Feb-06	306.06	305.93	0.13	0.13	no	0.11	no	305.66	no
13-Mar-06	306.65	306.35	0.30	0.13	no	0.11	no	305.66	no
20-Mar-06	306.36	305.92	0.44	0.13	no	0.11	no	305.66	no
30-Mar-06	306.36	305.91	0.45	0.13	no	0.11	no	305.66	no
3-Apr-06	306.46	305.77	0.69	0.13	no	0.11	no	305.60	no
7-Apr-06	306.40	305.74	0.66	0.13	no	0.11	no	305.60	no
14-Apr-06	306.39	305.72	0.67	0.13	no	0.11	no	305.60	no
21-Apr-06	306.39	305.68	0.71	0.13	no	0.11	no	305.60	no
28-Apr-06	306.50	305.77	0.73	0.13	no	0.11	no	305.60	no
3-May-06	306.37	305.91	0.46	0.13	no	0.11	no	305.60	no
9-May-06	306.34	305.88	0.46	0.13	no	0.11	no	305.60	no
19-May-06	306.57	305.88	0.69	0.13	no	0.11	no	305.60	no
31-May-06	306.37	305.90	0.47	0.13	no	0.11	no	305.60	no
2-Jun-06	306.08	305.90	0.18	0.13	no	0.11	no	305.60	no
10-Jun-06	306.04	305.86	0.18	0.13	no	0.11	no	305.60	no
26-Jun-06	305.97	305.81	0.16	0.13	no	0.11	no	305.60	no
29-Jun-06	306.00	305.85	0.15	0.13	no	0.11	no	305.60	no
30-Jun-06	306.00	305.85	0.15	0.13	no	0.11	no	305.60	no
6-Jul-06	306.22	305.82	0.40	0.12	no	0.10	no	305.49	no
13-Jul-06	306.46	305.99	0.47	0.12	no	0.10	no	305.49	no
21-Jul-06	306.26	305.85	0.41	0.12	no	0.10	no	305.49	no
27-Jul-06	306.29	305.83	0.46	0.12	no	0.10	no	305.49	no
10-Aug-06	306.21	305.78	0.43	0.12	no	0.10	no	305.49	no
15-Aug-06	306.15	305.77	0.38	0.12	no	0.10	no	305.49	no
18-Aug-06	306.16	305.77	0.39	0.12	no	0.10	no	305.49	no
21-Aug-06	306.13	305.76	0.38	0.12	no	0.10	no	305.49	no
28-Aug-06	306.16	305.78	0.38	0.12	no	0.10	no	305.49	no
8-Sep-06	306.17	305.80	0.37	0.12	no	0.10	no	305.49	no
14-Sep-06	306.39	305.98	0.41	0.12	no	0.10	no	305.49	no
22-Sep-06	306.23	305.84	0.39	0.12	no	0.10	no	305.49	no
29-Sep-06	306.25	305.78	0.47	0.12	no	0.10	no	305.49	no
5-Oct-06	306.40	306.00	0.40	0.11	no	0.09	no	305.58	no
12-Oct-06	306.44	306.03	0.41	0.11	no	0.09	no	305.58	no
19-Oct-06	306.46	306.07	0.39	0.11	no	0.09	no	305.58	no
26-Oct-06	306.44	306.05	0.39	0.11	no	0.09	no	305.58	no

Table G-1
Threshold Summary - BH13 to DP21
Mill Creek Aggregates Pit

			BH13 to DP21					DP21	
Date	Water Elevation BH 13 (m ASL)	Water Elevation DP21 (m ASL)	Head Difference (m)	Early Warning Value (m)	Exceedance of Early Warning Value	Threshold Value (m)	Exceedance of Threshold Value	Threshold Value (m ASL)	Exceedance of Threshold Value
8-Nov-06	306.32	305.89	0.43	0.11	no	0.09	no	305.58	no
15-Nov-06	306.36	305.89	0.47	0.11	no	0.09	no	305.58	no
22-Nov-06	306.51	305.89	0.62	0.11	no	0.09	no	305.58	no
29-Nov-06	306.33	305.77	0.56	0.11	no	0.09	no	305.58	no
1-Dec-06	306.33	305.77	0.56	0.11	no	0.09	no	305.58	no
7-Dec-06	306.40	305.71	0.69	0.11	no	0.09	no	305.58	no
13-Dec-06	306.39	305.74	0.65	0.11	no	0.09	no	305.58	no
20-Dec-06	306.36	305.66	0.70	0.11	no	0.09	no	305.58	no
9-Jan-07	306.49	306.00	0.49	0.13	no	0.11	no	305.66	no
16-Jan-07	306.44	306.00	0.44	0.13	no	0.11	no	305.66	no
23-Jan-07	306.39	306.00	0.39	0.13	no	0.11	no	305.66	no
30-Jan-07	306.39	305.97	0.42	0.13	no	0.11	no	305.66	no
5-Feb-07	306.38	305.97	0.41	0.13	no	0.11	no	305.66	no
15-Feb-07	306.39	305.94	0.45	0.13	no	0.11	no	305.66	no
22-Feb-07	306.38	305.87	0.51	0.13	no	0.11	no	305.66	no
14-Mar-07	306.69	306.15	0.54	0.13	no	0.11	no	305.66	no
21-Mar-07	306.56	306.00	0.56	0.13	no	0.11	no	305.66	no
28-Mar-07	306.58	306.01	0.57	0.13	no	0.11	no	305.66	no
4-Apr-07	306.55	306.01	0.54	0.13	no	0.11	no	305.60	no
18-Apr-07	306.58	306.01	0.57	0.13	no	0.11	no	305.60	no
24-Apr-07	306.56	306.00	0.56	0.13	no	0.11	no	305.60	no
3-May-07	306.55	305.98	0.57	0.13	no	0.11	no	305.60	no
8-May-07	306.52	305.94	0.58	0.13	no	0.11	no	305.60	no
16-May-07	306.66	306.08	0.58	0.13	no	0.11	no	305.60	no
25-May-07	306.51	305.97	0.54	0.13	no	0.11	no	305.60	no
7-Jun-07	306.48	305.91	0.57	0.13	no	0.11	no	305.60	no
13-Jun-07	306.43	305.87	0.56	0.13	no	0.11	no	305.60	no
18-Jun-07	306.40	305.84	0.56	0.13	no	0.11	no	305.60	no
26-Jun-07	306.37	305.84	0.53	0.13	no	0.11	no	305.60	no
6-Jul-07	306.34	305.83	0.51	0.12	no	0.10	no	305.49	no
12-Jul-07	306.30	305.80	0.50	0.12	no	0.10	no	305.49	no
17-Jul-07	306.29	305.80	0.49	0.12	no	0.10	no	305.49	no
25-Jul-07	306.27	305.78	0.49	0.12	no	0.10	no	305.49	no
3-Aug-07	306.21	305.75	0.46	0.12	no	0.10	no	305.49	no
9-Aug-07	306.25	305.80	0.45	0.12	no	0.10	no	305.49	no
14-Aug-07	306.20	305.76	0.44	0.12	no	0.10	no	305.49	no
21-Aug-07	306.17	305.75	0.42	0.12	no	0.10	no	305.49	no
29-Aug-07	306.18	305.77	0.41	0.12	no	0.10	no	305.49	no
6-Sep-07	306.13	305.72	0.41	0.12	no	0.10	no	305.49	no
12-Sep-07	306.14	305.76	0.38	0.12	no	0.10	no	305.49	no
21-Sep-07	306.09	305.70	0.38	0.12	no	0.10	no	305.49	no
28-Sep-07	306.07	305.72	0.35	0.12	no	0.10	no	305.49	no
3-Oct-07	306.06	305.71	0.35	0.11	no	0.09	no	305.58	no
10-Oct-07	306.21	305.83	0.38	0.11	no	0.09	no	305.58	no
17-Oct-07	306.13	305.76	0.37	0.11	no	0.09	no	305.58	no
22-Oct-07	306.10	305.75	0.35	0.11	no	0.09	no	305.58	no
31-Oct-07	306.11	305.77	0.34	0.11	no	0.09	no	305.58	no
9-Nov-07	306.13	305.80	0.33	0.11	no	0.09	no	305.58	no
16-Nov-07	306.10	305.78	0.32	0.11	no	0.09	no	305.58	no
23-Nov-07	306.26	305.90	0.36	0.11	no	0.09	no	305.58	no
29-Nov-07	306.18	305.83	0.34	0.11	no	0.09	no	305.58	no
5-Dec-07	306.22	305.88	0.34	0.11	no	0.09	no	305.58	no
10-Dec-07	306.14	305.79	0.35	0.11	no	0.09	no	305.58	no
19-Dec-07	306.15	305.82	0.33	0.11	no	0.09	no	305.58	no
10-Jan-08	306.50	306.14	0.36	0.13	no	0.11	no	305.66	no
17-Jan-08	306.30	305.90	0.40	0.13	no	0.11	no	305.66	no
22-Jan-08	306.25	305.91	0.33	0.13	no	0.11	no	305.66	no
31-Jan-08	306.27	305.98	0.29	0.13	no	0.11	no	305.66	no
7-Feb-08	306.35	305.92	0.44	0.13	no	0.11	no	305.66	no
15-Feb-08	306.30	305.90	0.40	0.13	no	0.11	no	305.66	no
21-Feb-08	306.38	305.94	0.44	0.13	no	0.11	no	305.66	no
29-Feb-08	306.31	305.89	0.43	0.13	no	0.11	no	305.66	no
10-Mar-08	306.30	305.93	0.37	0.13	no	0.11	no	305.66	no
14-Mar-08	306.36	305.90	0.46	0.13	no	0.11	no	305.66	no
20-Mar-08	306.49	306.01	0.48	0.13	no	0.11	no	305.66	no
26-Mar-08	306.42	305.95	0.47	0.13	no	0.11	no	305.66	no
31-Mar-08	306.71	306.02	0.69	0.13	no	0.11	no	305.66	no
8-Apr-08	306.64	306.20	0.44	0.13	no	0.11	no	305.60	no
17-Apr-08	306.54	306.01	0.53	0.13	no	0.11	no	305.60	no
23-Apr-08	306.49	305.95	0.54	0.13	no	0.11	no	305.60	no
28-Apr-08	306.48	305.95	0.53	0.13	no	0.11	no	305.60	no
5-May-08	306.60	306.04	0.56	0.13	no	0.11	no	305.60	no
15-May-08	306.53	305.96	0.56	0.13	no	0.11	no	305.60	no
20-May-08	306.48	305.92	0.56	0.13	no	0.11	no	305.60	no
28-May-08	306.46	305.89	0.57	0.13	no	0.11	no	305.60	no
9-Jun-08	306.44	305.79	0.65	0.13	no	0.11	no	305.60	no
16-Jun-08	306.56	305.98	0.58	0.13	no	0.11	no	305.60	no
20-Jun-08	306.51	305.94	0.57	0.13	no	0.11	no	305.60	no
25-Jun-08	306.49	305.92	0.57	0.13	no	0.11	no	305.60	no
30-Jun-08	306.52	305.96	0.56	0.13	no	0.11	no	305.60	no
4-Jul-08	306.47	305.90	0.57	0.12	no	0.10	no	305.49	no
11-Jul-08	306.55	305.94	0.61	0.12	no	0.10	no	305.49	no
16-Jul-08	306.47	305.91	0.56	0.12	no	0.10	no	305.49	no
25-Jul-08	306.68	306.04	0.64	0.12	no	0.10	no	305.49	no
30-Jul-08	306.57	305.95	0.62	0.12	no	0.10	no	305.49	no
5-Aug-08	306.52	305.93	0.59	0.12	no	0.10	no	305.49	no
12-Aug-08	306.60	306.00	0.60	0.12	no	0.10	no	305.49	no
20-Aug-08	306.54	305.94	0.60	0.12	no	0.10	no	305.49	no
27-Aug-08	306.47	305.91	0.56	0.12	no	0.10	no	305.49	no
3-Sep-08	306.43	305.88	0.55	0.12	no	0.10	no	305.49	no
12-Sep-08	306.54	305.97	0.57	0.12	no	0.10	no	305.49	no
19-Sep-08	306.72	306.12	0.60	0.12	no	0.10	no	305.49	no
24-Sep-08	306.53	305.93	0.60	0.12	no	0.10	no	305.49	no
30-Sep-08	306.51	305.92	0.59	0.12	no	0.10	no	305.49	no
3-Oct-08	306.06	305.71	0.35	0.11	no	0.09	no	305.58	no
10-Oct-08	306.21	305.83	0.38	0.11	no	0.09	no	305.58	no
17-Oct-08	306.13	305.76	0.37	0.11	no	0.09	no	305.58	no
22-Oct-08	306.10	305.75	0.35	0.11	no	0.09	no	305.58	no
31-Oct-08	306.11	305.77	0.34	0.11	no	0.09	no	305.58	no
5-Nov-08	306.45	305.94	0.51	0.11	no	0.09	no	305.58	no
12-Nov-08	306.42	305.94	0.48	0.11	no	0.09	no	305.58	no
19-Nov-08	306.43	305.97	0.46	0.11	no	0.09	no	305.58	no
26-Nov-08	306.48	305.95	0.53	0.11	no	0.09	no	305.58	no
3-Dec-08	306.49	305.94	0.55	0.11	no	0.09	no	305.58	no
10-Dec-08	306.47	305.96	0.51	0.11	no	0.09	no	305.58	no
17-Dec-08	306.53	306.14	0.39	0.11	no	0.09	no	305.58	no

Table G-1
Threshold Summary - BH13 to DP21
Mill Creek Aggregates Pit

			BH13 to DP21					DP21	
Date	Water Elevation BH 13 (m ASL)	Water Elevation DP21 (m ASL)	Head Difference (m)	Early Warning Value (m)	Exceedance of Early Warning Value	Threshold Value (m)	Exceedance of Threshold Value	Threshold Value (m ASL)	Exceedance of Threshold Value
6-Jan-09	306.55	306.24	0.31	0.13	no	0.11	no	305.66	no
15-Jan-09	306.51	306.26	0.25	0.13	no	0.11	no	305.66	no
23-Jan-09	306.52	306.26	0.26	0.13	no	0.11	no	305.66	no
2-Feb-09	306.51	305.94	0.57	0.13	no	0.11	no	305.66	no
10-Feb-09	306.57	305.80	0.77	0.13	no	0.11	no	305.66	no
23-Feb-09	306.59	306.13	0.46	0.13	no	0.11	no	305.66	no
27-Feb-09	306.57	305.83	0.74	0.13	no	0.11	no	305.66	no
6-Mar-09	306.61	305.88	0.73	0.13	no	0.11	no	305.66	no
11-Mar-09	306.77	306.27	0.50	0.13	no	0.11	no	305.66	no
19-Mar-09	306.71	306.10	0.61	0.13	no	0.11	no	305.66	no
27-Mar-09	306.67	306.05	0.62	0.13	no	0.11	no	305.66	no
2-Apr-09	306.70	306.07	0.63	0.13	no	0.11	no	305.60	no
9-Apr-09	306.75	306.11	0.64	0.13	no	0.11	no	305.60	no
17-Apr-09	306.69	306.04	0.65	0.13	no	0.11	no	305.60	no
24-Apr-09	306.72	306.10	0.62	0.13	no	0.11	no	305.60	no
27-Apr-09	306.74	306.16	0.58	0.13	no	0.11	no	305.60	no
5-May-09	306.74	306.10	0.64	0.13	no	0.11	no	305.60	no
13-May-09	306.71	306.04	0.67	0.13	no	0.11	no	305.60	no
21-May-09	306.68	305.99	0.69	0.13	no	0.11	no	305.60	no
29-May-09	306.76	306.08	0.68	0.13	no	0.11	no	305.60	no
5-Jun-09	306.67	305.99	0.68	0.13	no	0.11	no	305.60	no
10-Jun-09	306.67	306.00	0.67	0.13	no	0.11	no	305.60	no
16-Jun-09	306.63	305.93	0.70	0.13	no	0.11	no	305.60	no
23-Jun-09	306.64	305.97	0.67	0.13	no	0.11	no	305.60	no
3-Jul-09	306.65	306.01	0.64	0.12	no	0.10	no	305.49	no
10-Jul-09	306.60	305.95	0.65	0.12	no	0.10	no	305.49	no
15-Jul-09	306.59	305.95	0.64	0.12	no	0.10	no	305.49	no
22-Jul-09	306.59	305.96	0.63	0.12	no	0.10	no	305.49	no
31-Jul-09	306.62	306.03	0.59	0.12	no	0.10	no	305.49	no
7-Aug-09	306.58	305.95	0.63	0.12	no	0.10	no	305.49	no
13-Aug-09	306.70	306.09	0.61	0.12	no	0.10	no	305.49	no
20-Aug-09	306.59	305.96	0.63	0.12	no	0.10	no	305.49	no
28-Aug-09	306.62	306.01	0.61	0.12	no	0.10	no	305.49	no
4-Sep-09	306.59	305.98	0.62	0.12	no	0.10	no	305.49	no
11-Sep-09	306.54	305.93	0.61	0.12	no	0.10	no	305.49	no
18-Sep-09	306.49	305.81	0.68	0.12	no	0.10	no	305.49	no
24-Sep-09	306.49	305.92	0.56	0.12	no	0.10	no	305.49	no
28-Sep-09	306.53	305.95	0.58	0.12	no	0.10	no	305.49	no
9-Oct-09	306.53	305.99	0.54	0.11	no	0.09	no	305.58	no
14-Oct-09	306.51	305.97	0.54	0.11	no	0.09	no	305.58	no
22-Oct-09	306.46	305.96	0.50	0.11	no	0.09	no	305.58	no
30-Oct-09	306.47	305.97	0.51	0.11	no	0.09	no	305.58	no
6-Nov-09	306.46	305.96	0.50	0.11	no	0.09	no	305.58	no
11-Nov-09	306.44	305.98	0.46	0.11	no	0.09	no	305.58	no
20-Nov-09	306.47	305.97	0.50	0.11	no	0.09	no	305.58	no
26-Nov-09	306.45	305.96	0.49	0.11	no	0.09	no	305.58	no
4-Dec-09	306.51	306.04	0.47	0.11	no	0.09	no	305.58	no
11-Dec-09	306.44	306.03	0.41	0.11	no	0.09	no	305.58	no
17-Dec-09	306.45	306.04	0.40	0.11	no	0.09	no	305.58	no
8-Jan-10	306.39	306.06	0.32	0.13	no	0.11	no	305.66	no
13-Jan-10	306.36	306.06	0.30	0.13	no	0.11	no	305.66	no
22-Jan-10	306.35	305.71	0.64	0.13	no	0.11	no	305.66	no
29-Jan-10	306.39	306.03	0.36	0.13	no	0.11	no	305.66	no
4-Feb-10	306.34	305.82	0.52	0.13	no	0.11	no	305.66	no
11-Feb-10	306.32	305.74	0.58	0.13	no	0.11	no	305.66	no
22-Feb-10	306.30	305.94	0.36	0.13	no	0.11	no	305.66	no
26-Feb-10	306.31	305.96	0.35	0.13	no	0.11	no	305.66	no
5-Mar-10	306.33	305.92	0.41	0.13	no	0.11	no	305.66	no
11-Mar-10	306.41	305.79	0.62	0.13	no	0.11	no	305.66	no
18-Mar-10	306.59	306.14	0.45	0.13	no	0.11	no	305.66	no
24-Mar-10	306.47	306.01	0.46	0.13	no	0.11	no	305.66	no
1-Apr-10	306.43	305.96	0.47	0.13	no	0.11	no	305.60	no
9-Apr-10	306.60	306.17	0.43	0.13	no	0.11	no	305.60	no
16-Apr-10	306.43	305.94	0.49	0.13	no	0.11	no	305.60	no
23-Apr-10	306.39	305.92	0.47	0.13	no	0.11	no	305.60	no
30-Apr-10	306.36	305.89	0.47	0.13	no	0.11	no	305.60	no
6-May-10	306.38	305.92	0.46	0.13	no	0.11	no	305.60	no
14-May-10	306.38	305.95	0.43	0.13	no	0.11	no	305.60	no
21-May-10	306.36	305.89	0.47	0.13	no	0.11	no	305.60	no
28-May-10	306.30	305.84	0.46	0.13	no	0.11	no	305.60	no
4-Jun-10	306.33	305.90	0.43	0.13	no	0.11	no	305.60	no
11-Jun-10	306.37	305.95	0.42	0.13	no	0.11	no	305.60	no
17-Jun-10	306.44	305.95	0.49	0.13	no	0.11	no	305.60	no
24-Jun-10	306.31	305.88	0.43	0.13	no	0.11	no	305.60	no
28-Jun-10	306.35	305.89	0.46	0.13	no	0.11	no	305.60	no
9-Jul-10	306.29	305.84	0.45	0.12	no	0.10	no	305.49	no
15-Jul-10	306.23	305.95	0.28	0.12	no	0.10	no	305.49	no
22-Jul-10	306.19	305.78	0.41	0.12	no	0.10	no	305.49	no
5-Aug-10	306.27	305.83	0.44	0.12	no	0.10	no	305.49	no
18-Aug-10	306.19	305.78	0.41	0.12	no	0.10	no	305.49	no
27-Aug-10	306.17	305.77	0.40	0.12	no	0.10	no	305.49	no
3-Sep-10	306.14	305.72	0.42	0.12	no	0.10	no	305.49	no
8-Sep-10	306.14	305.77	0.37	0.12	no	0.10	no	305.49	no
17-Sep-10	306.19	305.84	0.35	0.12	no	0.10	no	305.49	no
22-Sep-10	306.11	305.77	0.34	0.12	no	0.10	no	305.49	no
28-Sep-10	306.24	305.89	0.35	0.12	no	0.10	no	305.49	no
8-Oct-10	306.14	305.81	0.33	0.11	no	0.09	no	305.58	no
15-Oct-10	306.19	305.87	0.32	0.11	no	0.09	no	305.58	no
20-Oct-10	306.12	305.81	0.31	0.11	no	0.09	no	305.58	no
28-Oct-10	306.15	305.85	0.30	0.11	no	0.09	no	305.58	no
5-Nov-10	306.12	305.81	0.31	0.11	no	0.09	no	305.58	no
12-Nov-10	306.08	305.79	0.29	0.11	no	0.09	no	305.58	no
18-Nov-10	306.18	305.99	0.19	0.11	no	0.09	no	305.58	no
26-Nov-10	306.21	305.89	0.32	0.11	no	0.09	no	305.58	no
3-Dec-10	306.23	305.93	0.30	0.11	no	0.09	no	305.58	no
8-Dec-10	306.12	305.89	0.23	0.11	no	0.09	no	305.58	no
15-Dec-10	306.11	305.89	0.22	0.11	no	0.09	no	305.58	no
22-Dec-10	306.07	305.89	0.18	0.11	no	0.09	no	305.58	no
10-Jan-11	306.05	305.89	0.16	0.13	no	0.11	no	305.66	no
19-Jan-11	306.05			0.13		0.11		305.66	
27-Jan-11	306.05	305.89	0.16	0.13	no	0.11	no	305.66	no
31-Jan-11	306.06	305.89	0.17	0.13	no	0.11	no	305.66	no
4-Feb-11	306.06	305.89	0.17	0.13	no	0.11	no	305.66	no
11-Feb-11	306.07	305.89	0.18	0.13	no	0.11	no	305.66	no
17-Feb-11	306.25			0.13		0.11		305.66	
28-Feb-11	306.18	305.68	0.50	0.13	no	0.11	no	305.66	no
4-Mar-11	306.09	305.70	0.39	0.13	no	0.11	no	305.66	no
11-Mar-11	306.35	305.79	0.56	0.13	no	0.11	no	305.66	no
16-Mar-11	306.36	306.02	0.34	0.13	no	0.11	no	305.66	no
29-Mar-11	306.28	305.74	0.54	0.13	no	0.11	no	305.66	no
6-Apr-11	306.31	305.87	0.44	0.13	no	0.11	no	305.60	no
14-Apr-11	306.27			0.13		0.11		305.60	
21-Apr-11	306.46	305.80	0.66	0.13	no	0.11	no	305.60	no
29-Apr-11	306.42	305.98	0.44	0.13	no	0.11	no	305.60	no

Table G-1
Threshold Summary - BH13 to DP21
Mill Creek Aggregates Pit

			BH13 to DP21					DP21	
Date	Water Elevation BH 13 (m ASL)	Water Elevation DP21 (m ASL)	Head Difference (m)	Early Warning Value (m)	Exceedance of Early Warning Value	Threshold Value (m)	Exceedance of Threshold Value	Threshold Value (m ASL)	Exceedance of Threshold Value
6-May-11	306.38	305.97	0.41	0.13	no	0.11	no	305.60	no
12-May-11	306.47	306.05	0.42	0.13	no	0.11	no	305.60	no
20-May-11	306.66	306.27	0.39	0.13	no	0.11	no	305.60	no
26-May-11	306.54	306.08	0.46	0.13	no	0.11	no	305.60	no
2-Jun-11	306.46	305.99	0.47	0.13	no	0.11	no	305.60	no
10-Jun-11	306.53	306.05	0.48	0.13	no	0.11	no	305.60	no
16-Jun-11	306.42	305.94	0.48	0.13	no	0.11	no	305.60	no
23-Jun-11	306.43	305.94	0.49	0.13	no	0.11	no	305.60	no
30-Jun-11	306.39	306.00	0.39	0.13	no	0.11	no	305.60	no
8-Jul-11	306.34	305.85	0.49	0.12	no	0.10	no	305.49	no
14-Jul-11	306.29	305.81	0.48	0.12	no	0.10	no	305.49	no
26-Jul-11	306.22	305.77	0.45	0.12	no	0.10	no	305.49	no
3-Aug-11	306.21	305.77	0.44	0.12	no	0.10	no	305.49	no
11-Aug-11	306.21	305.78	0.43	0.12	no	0.10	no	305.49	no
19-Aug-11	306.15	305.81	0.34	0.12	no	0.10	no	305.49	no
30-Aug-11	306.13	305.75	0.38	0.12	no	0.10	no	305.49	no
9-Sep-11	306.14	305.76	0.38	0.12	no	0.10	no	305.49	no
14-Sep-11	306.10	305.74	0.36	0.12	no	0.10	no	305.49	no
23-Sep-11	306.10	305.78	0.32	0.12	no	0.10	no	305.49	no
30-Sep-11	306.10	305.76	0.34	0.12	no	0.10	no	305.49	no
6-Oct-11	306.14	305.80	0.34	0.11	no	0.09	no	305.58	no
14-Oct-11	306.17	305.85	0.32	0.11	no	0.09	no	305.58	no
20-Oct-11	306.35	306.03	0.32	0.11	no	0.09	no	305.58	no
27-Oct-11	306.24	305.94	0.30	0.11	no	0.09	no	305.58	no
4-Nov-11	306.16	305.93	0.23	0.11	no	0.09	no	305.58	no
10-Nov-11	306.18	305.86	0.32	0.11	no	0.09	no	305.58	no
14-Nov-11	306.18	305.84	0.34	0.11	no	0.09	no	305.58	no
25-Nov-11	306.20	305.83	0.37	0.11	no	0.09	no	305.58	no
8-Dec-11	306.34	305.98	0.36	0.11	no	0.09	no	305.58	no
14-Dec-11	306.27	306.01	0.26	0.11	no	0.09	no	305.58	no
22-Dec-11	306.32	305.86	0.46	0.11	no	0.09	no	305.58	no
6-Jan-12	306.29	306.01	0.28	0.13	no	0.11	no	305.66	no
12-Jan-12	306.30	305.98	0.32	0.13	no	0.11	no	305.66	no
16-Jan-12	306.28	305.94	0.34	0.13	no	0.11	no	305.66	no
26-Jan-12	306.30	305.78	0.52	0.13	no	0.11	no	305.66	no
3-Feb-12	306.35	305.83	0.52	0.13	no	0.11	no	305.66	no
9-Feb-12	306.27	305.88	0.39	0.13	no	0.11	no	305.66	no
16-Feb-12	306.26	305.70	0.56	0.13	no	0.11	no	305.66	no
23-Feb-12	306.35	305.78	0.57	0.13	no	0.11	no	305.66	no
2-Mar-12	306.38	305.85	0.53	0.13	no	0.11	no	305.66	no
9-Mar-12	306.37	305.91	0.46	0.13	no	0.11	no	305.66	no
21-Mar-12	306.32	305.96	0.36	0.13	no	0.11	no	305.66	no
29-Mar-12	306.32	305.97	0.35	0.13	no	0.11	no	305.66	no
4-Apr-12	306.31	305.76	0.55	0.13	no	0.11	no	305.60	no
13-Apr-12	306.22	305.79	0.43	0.13	no	0.11	no	305.60	no
17-Apr-12	306.23	305.79	0.44	0.13	no	0.11	no	305.60	no
30-Apr-12	306.24	305.85	0.39	0.13	no	0.11	no	305.60	no
7-May-12	306.29	305.87	0.42	0.13	no	0.11	no	305.60	no
17-May-12	306.25	305.80	0.45	0.13	no	0.11	no	305.60	no
24-May-12	306.21	305.79	0.42	0.13	no	0.11	no	305.60	no
29-May-12	306.18	305.76	0.42	0.13	no	0.11	no	305.60	no
6-Jun-12	306.21	305.81	0.40	0.13	no	0.11	no	305.60	no
15-Jun-12	306.18	305.80	0.38	0.13	no	0.11	no	305.60	no
20-Jun-12	306.15	305.76	0.39	0.13	no	0.11	no	305.60	no
29-Jun-12	306.12	305.74	0.38	0.13	no	0.11	no	305.60	no
4-Jul-12	306.10	305.72	0.38	0.12	no	0.10	no	305.49	no
12-Jul-12	305.99	305.75	0.24	0.12	no	0.10	no	305.49	no
24-Jul-12	306.01	305.67	0.34	0.12	no	0.10	no	305.49	no
30-Jul-12	305.98	305.66	0.32	0.12	no	0.10	no	305.49	no
10-Aug-12	305.97	305.72	0.25	0.12	no	0.10	no	305.49	no
15-Aug-12	306.02	305.76	0.26	0.12	no	0.10	no	305.49	no
21-Aug-12	305.98	305.66	0.32	0.12	no	0.10	no	305.49	no
27-Aug-12	305.94	305.66	0.28	0.12	no	0.10	no	305.49	no
7-Sep-12	305.96	305.68	0.28	0.12	no	0.10	no	305.49	no
13-Sep-12	306.02	305.73	0.29	0.12	no	0.10	no	305.49	no
18-Sep-12	306.05	305.75	0.30	0.12	no	0.10	no	305.49	no
24-Sep-12	305.99	305.73	0.26	0.12	no	0.10	no	305.49	no
9-Oct-12	305.91	305.78	0.13	0.11	no	0.09	no	305.58	no
18-Oct-12	306.04	305.77	0.27	0.11	no	0.09	no	305.58	no
23-Oct-12	306.14	305.75	0.39	0.11	no	0.09	no	305.58	no
31-Oct-12	306.23	305.98	0.25	0.11	no	0.09	no	305.58	no
12-Nov-12	306.17	305.92	0.25	0.11	no	0.09	no	305.58	no
16-Nov-12	306.06	305.80	0.26	0.11	no	0.09	no	305.58	no
22-Nov-12	306.03	305.76	0.27	0.11	no	0.09	no	305.58	no
28-Nov-12	306.01	305.74	0.27	0.11	no	0.09	no	305.58	no
7-Dec-12	306.01	305.77	0.24	0.11	no	0.09	no	305.58	no
13-Dec-12	306.00	305.77	0.23	0.11	no	0.09	no	305.58	no
19-Dec-12	305.99	305.76	0.23	0.11	no	0.09	no	305.58	no
3-Jan-13	305.93	305.78	0.15	0.13	no	0.11	no	305.66	no
16-Jan-13	306.16	305.86	0.30	0.13	no	0.11	no	305.66	no
24-Jan-13	306.03	305.85	0.18	0.13	no	0.11	no	305.66	no
31-Jan-13	306.30	306.06	0.24	0.13	no	0.11	no	305.66	no
8-Feb-13	306.25	306.05	0.20	0.13	no	0.11	no	305.66	no
13-Feb-13	306.17	306.00	0.17	0.13	no	0.11	no	305.66	no
20-Feb-13	306.17	305.86	0.31	0.13	no	0.11	no	305.66	no
28-Feb-13	306.13	305.75	0.38	0.13	no	0.11	no	305.66	no
6-Mar-13	306.12	305.70	0.42	0.13	no	0.11	no	305.66	no
15-Mar-13	306.28	305.87	0.41	0.13	no	0.11	no	305.66	no
21-Mar-13	306.18	305.87	0.31	0.13	no	0.11	no	305.66	no
25-Mar-13	306.16	305.85	0.31	0.13	no	0.11	no	305.66	no
4-Apr-13	306.20	305.91	0.29	0.13	no	0.11	no	305.60	no
10-Apr-13	306.54	306.20	0.34	0.13	no	0.11	no	305.60	no
18-Apr-13	306.37	306.00	0.37	0.13	no	0.11	no	305.60	no
25-Apr-13	306.34	305.94	0.40	0.13	no	0.11	no	305.60	no
2-May-13	306.33	305.91	0.42	0.13	no	0.11	no	305.60	no
9-May-13	306.31	305.89	0.42	0.13	no	0.11	no	305.60	no
15-May-13	306.27	305.86	0.41	0.13	no	0.11	no	305.60	no
23-May-13	306.21	305.82	0.39	0.13	no	0.11	no	305.60	no
7-Jun-13	306.25	305.90	0.35	0.13	no	0.11	no	305.60	no
13-Jun-13	306.33	305.94	0.39	0.13	no	0.11	no	305.60	no
21-Jun-13	306.24	305.82	0.42	0.13	no	0.11	no	305.60	no
26-Jun-13	306.24	305.81	0.43	0.13	no	0.11	no	305.60	no
5-Jul-13	306.45	305.94	0.51	0.12	no	0.10	no	305.49	no
12-Jul-13	306.33	305.88	0.45	0.12	no	0.10	no	305.49	no
17-Jul-13	306.26	305.81	0.45	0.12	no	0.10	no	305.49	no
31-Jul-13	306.40	305.83	0.57	0.12	no	0.10	no	305.49	no
9-Aug-13	306.33	305.85	0.48	0.12	no	0.10	no	305.49	no
14-Aug-13	306.26	305.83	0.43	0.12	no	0.10	no	305.49	no
26-Aug-13	306.15	305.75	0.40	0.12	no	0.10	no	305.49	no
6-Sep-13	306.18	305.76	0.42	0.12	no	0.10	no	305.49	no
12-Sep-13	306.21	305.81	0.40	0.12	no	0.10	no	305.49	no
19-Sep-13	306.16	305.77	0.39	0.12	no	0.10	no	305.49	no
25-Sep-13	306.22	305.80	0.42	0.12	no	0.10	no	305.49	no

Table G-1
Threshold Summary - BH13 to DP21
Mill Creek Aggregates Pit

			BH13 to DP21					DP21	
Date	Water Elevation BH 13 (m ASL)	Water Elevation DP21 (m ASL)	Head Difference (m)	Early Warning Value (m)	Exceedance of Early Warning Value	Threshold Value (m)	Exceedance of Threshold Value	Threshold Value (m ASL)	Exceedance of Threshold Value
3-Oct-13	306.20	305.82	0.38	0.11	no	0.09	no	305.58	no
11-Oct-13	306.26	305.85	0.41	0.11	no	0.09	no	305.58	no
16-Oct-13	306.30	305.88	0.42	0.11	no	0.09	no	305.58	no
22-Oct-13	306.34	305.95	0.39	0.11	no	0.09	no	305.58	no
7-Nov-13	306.28	305.89	0.39	0.11	no	0.09	no	305.58	no
14-Nov-13	306.25	305.89	0.36	0.11	no	0.09	no	305.58	no
22-Nov-13	306.21	305.90	0.31	0.11	no	0.09	no	305.58	no
28-Nov-13	306.18	305.92	0.26	0.11	no	0.09	no	305.58	no
6-Dec-13	306.19	305.90	0.29	0.11	no	0.09	no	305.58	no
10-Dec-13	306.22	305.84	0.38	0.11	no	0.09	no	305.58	no
20-Dec-13	306.16	305.79	0.37	0.11	no	0.09	no	305.58	no
10-Jan-14	306.19			0.13		0.11		305.66	
15-Jan-14	306.31			0.13		0.11		305.66	
24-Jan-14	306.27			0.13		0.11		305.66	
31-Jan-14	306.23			0.13		0.11		305.66	
6-Feb-14	306.18			0.13		0.11		305.66	
12-Feb-14	306.22			0.13		0.11		305.66	
20-Feb-14	306.23			0.13		0.11		305.66	
26-Feb-14	306.25			0.13		0.11		305.66	
6-Mar-14	306.29			0.13		0.11		305.66	
13-Mar-14	306.29			0.13		0.11		305.66	
21-Mar-14	306.31	305.91	0.40	0.13	no	0.11	no	305.66	no
26-Mar-14	306.23			0.13		0.11		305.66	
4-Apr-14	306.35	305.99	0.36	0.13	no	0.11	no	305.60	no
10-Apr-14	306.53	306.15	0.38	0.13	no	0.11	no	305.60	no
24-Apr-14	306.47	305.96	0.51	0.13	no	0.11	no	305.60	no
9-May-14	306.53	305.97	0.56	0.13	no	0.11	no	305.60	no
15-May-14	306.53	306.02	0.51	0.13	no	0.11	no	305.60	no
22-May-14	306.50	305.98	0.52	0.13	no	0.11	no	305.60	no
29-May-14	306.43	305.92	0.51	0.13	no	0.11	no	305.60	no
6-Jun-14	306.34	305.86	0.48	0.13	no	0.11	no	305.60	no
13-Jun-14	306.36	305.87	0.49	0.13	no	0.11	no	305.60	no
18-Jun-14	306.37	305.87	0.50	0.13	no	0.11	no	305.60	no
26-Jun-14	306.31	305.84	0.47	0.13	no	0.11	no	305.60	no
9-Jul-14	306.41	305.89	0.52	0.12	no	0.10	no	305.49	no
18-Jul-14	306.39	305.83	0.56	0.12	no	0.10	no	305.49	no
23-Jul-14	306.43	305.94	0.49	0.12	no	0.10	no	305.49	no
29-Jul-14	306.48	306.00	0.48	0.12	no	0.10	no	305.49	no
7-Aug-14	306.42	305.94	0.48	0.12	no	0.10	no	305.49	no
14-Aug-14	306.38	305.88	0.50	0.12	no	0.10	no	305.49	no
22-Aug-14	306.43	305.94	0.49	0.12	no	0.10	no	305.49	no
28-Aug-14	306.32	305.90	0.42	0.12	no	0.10	no	305.49	no
11-Sep-14	306.38	305.88	0.50	0.12	no	0.10	no	305.49	no
18-Sep-14	306.43	305.85	0.58	0.12	no	0.10	no	305.49	no
25-Sep-14	306.28	305.86	0.42	0.12	no	0.10	no	305.49	no
29-Sep-14	306.36	305.87	0.49	0.12	no	0.10	no	305.49	no
9-Oct-14	306.42	305.96	0.46	0.11	no	0.09	no	305.58	no
17-Oct-14	306.41	305.88	0.53	0.11	no	0.09	no	305.58	no
23-Oct-14	306.39	305.93	0.46	0.11	no	0.09	no	305.58	no
31-Oct-14	306.39	305.97	0.42	0.11	no	0.09	no	305.58	no
7-Nov-14	306.38	305.96	0.42	0.11	no	0.09	no	305.58	no
13-Nov-14	306.36	305.94	0.42	0.11	no	0.09	no	305.58	no
21-Nov-14	306.36	305.95	0.41	0.11	no	0.09	no	305.58	no
27-Nov-14	306.39			0.11		0.09		305.58	
4-Dec-14	305.96			0.11		0.09		305.58	
12-Dec-14	305.94	305.85	0.59	0.11	no	0.09	no	305.58	no
18-Dec-14	305.95	305.88	0.59	0.11	no	0.09	no	305.58	no
9-Jan-15	306.24			0.13		0.11		305.66	
14-Jan-15	306.24			0.13		0.11		305.66	
21-Jan-15	306.23			0.13		0.11		305.66	
29-Jan-15	306.21			0.13		0.11		305.66	
6-Feb-15	306.21			0.13		0.11		305.66	
12-Feb-15	306.19			0.13		0.11		305.66	
18-Feb-15	306.21			0.13		0.11		305.66	
27-Feb-15	306.20			0.13		0.11		305.66	
6-Mar-15	306.21			0.13		0.11		305.66	
12-Mar-15	306.24			0.13		0.11		305.66	
18-Mar-15	306.30	305.98	0.32	0.13	no	0.11	no	305.66	no
25-Mar-15	306.25	305.83	0.42	0.13	no	0.11	no	305.66	no
1-Apr-15	306.24	305.80	0.44	0.13	no	0.11	no	305.60	no
9-Apr-15	306.42	306.08	0.34	0.13	no	0.11	no	305.60	no
14-Apr-15	306.44	306.07	0.37	0.13	no	0.11	no	305.60	no
21-Apr-15	306.29	306.11	0.18	0.13	no	0.11	no	305.60	no
1-May-15	306.38	305.88	0.50	0.13	no	0.11	no	305.60	no
8-May-15	306.38	305.86	0.52	0.13	no	0.11	no	305.60	no
14-May-15	306.36	305.85	0.51	0.13	no	0.11	no	305.60	no
20-May-15	306.27	305.84	0.43	0.13	no	0.11	no	305.60	no
5-Jun-15	306.25	305.80	0.45	0.13	no	0.11	no	305.60	no
10-Jun-15	306.23	305.78	0.45	0.13	no	0.11	no	305.60	no
18-Jun-15	306.37	305.92	0.45	0.13	no	0.11	no	305.60	no
23-Jun-15	306.44	305.86	0.58	0.13	no	0.11	no	305.60	no
8-Jul-15	306.39	305.96	0.43	0.12	no	0.10	no	305.49	no
16-Jul-15	306.32	305.86	0.46	0.12	no	0.10	no	305.49	no
22-Jul-15	306.44	305.86	0.58	0.12	no	0.10	no	305.49	no
31-Jul-15	306.20	305.76	0.44	0.12	no	0.10	no	305.49	no
7-Aug-15	306.21	305.77	0.44	0.12	no	0.10	no	305.49	no
20-Aug-15	306.26	305.79	0.47	0.12	no	0.10	no	305.49	no

Note: Water elevations are left blank when frozen conditions were observed at DP21. Frozen conditions prevented accurate groundwater measurem

Table G-1
Threshold Summary - BH13 to DP21
Mill Creek Aggregates Pit

			BH13 to DP21					DP21	
Date	Water Elevation BH 13 (m ASL)	Water Elevation DP21 (m ASL)	Head Difference (m)	Early Warning Value (m)	Exceedance of Early Warning Value	Threshold Value (m)	Exceedance of Threshold Value	Threshold Value (m ASL)	Exceedance of Threshold Value
25-Aug-15	306.28	305.83	0.45	0.12	no	0.10	no	305.49	no
4-Sep-15	306.25	305.79	0.46	0.12	no	0.10	no	305.49	no
11-Sep-15	306.22	305.78	0.44	0.12	no	0.10	no	305.49	no
18-Sep-15	306.19	305.75	0.44	0.12	no	0.10	no	305.49	no
24-Sep-15	306.17	305.72	0.45	0.12	no	0.10	no	305.49	no
6-Oct-15	306.16	305.78	0.38	0.11	no	0.09	no	305.58	no
15-Oct-15	306.18	305.80	0.38	0.11	no	0.09	no	305.58	no
22-Oct-15	306.19	305.82	0.37	0.11	no	0.09	no	305.58	no
29-Oct-15	306.41	306.05	0.36	0.11	no	0.09	no	305.58	no
5-Nov-15	306.26	305.89	0.37	0.11	no	0.09	no	305.58	no
12-Nov-15	306.26	305.87	0.39	0.11	no	0.09	no	305.58	no
19-Nov-15	306.27	305.86	0.41	0.11	no	0.09	no	305.58	no
25-Nov-15	306.28	305.85	0.43	0.11	no	0.09	no	305.58	no
4-Dec-15	306.22	305.82	0.40	0.11	no	0.09	no	305.58	no
10-Dec-15	306.13	305.81	0.32	0.11	no	0.09	no	305.58	no
17-Dec-15	306.25	305.85	0.40	0.11	no	0.09	no	305.58	no
21-Dec-15	306.14	305.82	0.32	0.11	no	0.09	no	305.58	no
6-Jan-16	306.13			0.13		0.11		305.66	
14-Jan-16	306.15			0.13		0.11		305.66	
20-Jan-16	306.15			0.13		0.11		305.66	
26-Jan-16	306.17			0.13		0.11		305.66	
2-Feb-16	306.22	305.92	0.30	0.13	no	0.11	no	305.66	no
10-Feb-16	306.22			0.13		0.11		305.66	
17-Feb-16	306.16			0.13		0.11		305.66	
29-Feb-16	306.33			0.13		0.11		305.66	
4-Mar-16	306.38			0.13		0.11		305.66	
10-Mar-16	306.42			0.13		0.11		305.66	
17-Mar-16	306.43	305.85	0.58	0.13	no	0.11	no	305.66	no
1-Apr-16	306.61	306.23	0.38	0.13		0.11		305.60	
4-Apr-16	306.65			0.13		0.11		305.60	
14-Apr-16	306.40	305.97	0.43	0.13	no	0.11	no	305.60	no
21-Apr-16	306.36	305.83	0.53	0.13	no	0.11	no	305.60	no
27-Apr-16	306.15	305.92	0.23	0.13	no	0.11	no	305.60	no
6-May-16	306.23	305.92	0.31	0.13	no	0.11	no	305.60	no
12-May-16	306.35	305.91	0.44	0.13	no	0.11	no	305.60	no
19-May-16	306.33	305.89	0.44	0.13	no	0.11	no	305.60	no
30-May-16	306.27	305.87	0.40	0.13	no	0.11	no	305.60	no
9-Jun-16	306.28	305.83	0.45	0.13	no	0.11	no	305.60	no
16-Jun-16	306.26	305.82	0.44	0.13	no	0.11	no	305.60	no
22-Jun-16	306.21	305.76	0.45	0.13	no	0.11	no	305.60	no
27-Jun-16	306.35	305.74	0.61	0.13	no	0.11	no	305.60	no
7-Jul-16	306.11	305.72	0.39	0.12	no	0.10	no	305.49	no
15-Jul-16	306.22	305.81	0.41	0.12	no	0.10	no	305.49	no
28-Jul-16	306.17	305.77	0.40	0.12	no	0.10	no	305.49	no
9-Aug-16	306.06	305.66	0.40	0.12	no	0.10	no	305.49	no
11-Aug-16	306.07	305.69	0.38	0.12	no	0.10	no	305.49	no
22-Aug-16	306.11	305.80	0.31	0.12	no	0.10	no	305.49	no
31-Aug-16	306.14	305.76	0.38	0.12	no	0.10	no	305.49	no
8-Sep-16	306.22	305.84	0.38	0.12	no	0.10	no	305.49	no
15-Sep-16	306.17	305.80	0.37	0.12	no	0.10	no	305.49	no
21-Sep-16	306.12	305.75	0.37	0.12	no	0.10	no	305.49	no
26-Sep-16	306.11	305.77	0.34	0.12	no	0.10	no	305.49	no
6-Oct-16	306.09	305.77	0.32	0.11	no	0.09	no	305.58	no
13-Oct-16	306.08	305.76	0.32	0.11	no	0.09	no	305.58	no
18-Oct-16	306.12	305.77	0.35	0.11	no	0.09	no	305.58	no
27-Oct-16	306.14	305.78	0.36	0.11	no	0.09	no	305.58	no
4-Nov-16	306.16	305.81	0.35	0.11	no	0.09	no	305.58	no
9-Nov-16	306.18	305.84	0.34	0.11	no	0.09	no	305.58	no
14-Nov-16	306.11	305.81	0.30	0.11	no	0.09	no	305.58	no
30-Nov-16	306.13	305.86	0.27	0.11	no	0.09	no	305.58	no
8-Dec-16	306.05			0.11		0.09		305.58	
14-Dec-16	306.10			0.11		0.09		305.58	
22-Dec-16	306.17			0.11		0.09		305.58	
6-Jan-17	306.21			0.13		0.11		305.66	
14-Jan-17	306.45			0.13		0.11		305.66	
20-Jan-17	306.30			0.13		0.11		305.66	
26-Jan-17	306.27			0.13		0.11		305.66	
2-Feb-17	306.23			0.13		0.11		305.66	
9-Feb-17	306.24	305.79	0.45	0.13	no	0.11	no	305.66	no
15-Feb-17	306.27	305.83	0.44	0.13	no	0.11	no	305.66	no
23-Feb-17	306.30	305.88	0.42	0.13	no	0.11	no	305.66	no
2-Mar-17	306.48	306.06	0.42	0.13	no	0.11	no	305.66	no
9-Mar-17	306.38	305.94	0.44	0.13	no	0.11	no	305.66	no
17-Mar-17	306.31	305.86	0.45	0.13	no	0.11	no	305.66	no
22-Mar-17	306.32	305.85	0.47	0.13	no	0.11	no	305.66	no
5-Apr-17	306.49	306.07	0.42	0.13	no	0.11	no	305.60	no
11-Apr-17	306.48	305.99	0.49	0.13	no	0.11	no	305.60	no
19-Apr-17	306.40	305.93	0.47	0.13	no	0.11	no	305.60	no
3-May-17	306.57	306.07	0.50	0.13	no	0.11	no	305.60	no
11-May-17	306.60	306.01	0.59	0.13	no	0.11	no	305.60	no
18-May-17	306.48	305.93	0.55	0.13	no	0.11	no	305.60	no
2-Jun-17	306.50	305.94	0.56	0.13	no	0.11	no	305.60	no
8-Jun-17	306.48	305.92	0.56	0.13	no	0.11	no	305.60	no
14-Jun-17	306.43	305.87	0.56	0.13	no	0.11	no	305.60	no
21-Jun-17	306.46	305.89	0.57	0.13	no	0.11	no	305.60	no

Note: Water elevations are left blank when frozen conditions are encountere

Table G-1
Threshold Summary - BH13 to DP21
Mill Creek Aggregates Pit

			BH13 to DP21					DP21	
Date	Water Elevation BH 13 (m ASL)	Water Elevation DP21 (m ASL)	Head Difference (m)	Early Warning Value (m)	Exceedance of Early Warning Value	Threshold Value (m)	Exceedance of Threshold Value	Threshold Value (m ASL)	Exceedance of Threshold Value
7-Jul-17	306.46	305.90	0.56	0.12	no	0.10	no	305.49	no
12-Jul-17	306.43	305.86	0.57	0.12	no	0.10	no	305.49	no
20-Jul-17	306.52	305.93	0.59	0.12	no	0.10	no	305.49	no
26-Jul-17	306.47	305.90	0.57	0.12	no	0.10	no	305.49	no
4-Aug-17	306.49	305.90	0.59	0.12	no	0.10	no	305.49	no
9-Aug-17	306.40	305.86	0.54	0.12	no	0.10	no	305.49	no
17-Aug-17	306.40	305.87	0.53	0.12	no	0.10	no	305.49	no
24-Aug-17	306.37	305.87	0.50	0.12	no	0.10	no	305.49	no
1-Sep-17	306.33	305.86	0.48	0.12	no	0.10	no	305.49	no
7-Sep-17	306.33	305.88	0.45	0.12	no	0.10	no	305.49	no
12-Sep-17	306.31	305.85	0.46	0.12	no	0.10	no	305.49	no
21-Sep-17	306.29	305.84	0.45	0.12	no	0.10	no	305.49	no
29-Sep-17	306.27	305.83	0.44	0.12	no	0.10	no	305.49	no
4-Oct-17	306.29	305.84	0.45	0.11	no	0.09	no	305.58	no
10-Oct-17	306.26	305.86	0.40	0.11	no	0.09	no	305.58	no
18-Oct-17	306.26	305.88	0.38	0.11	no	0.09	no	305.58	no
27-Oct-17	306.24	305.88	0.36	0.11	no	0.09	no	305.58	no
1-Nov-17	306.22	305.86	0.36	0.11	no	0.09	no	305.58	no
9-Nov-17	306.27	305.90	0.37	0.11	no	0.09	no	305.58	no
14-Nov-17	306.23	305.86	0.37	0.11	no	0.09	no	305.58	no
21-Nov-17	306.29	305.93	0.36	0.11	no	0.09	no	305.58	no
1-Dec-17	306.22	305.86	0.36	0.11	no	0.09	no	305.58	no
7-Dec-17	306.24			0.11		0.09		305.58	
15-Dec-17	306.18			0.11		0.09		305.58	
19-Dec-17	306.19	305.83	0.36	0.11	no	0.09	no	305.58	no
2-Jan-18				0.13		0.11		305.66	
11-Jan-18				0.13		0.11		305.66	
16-Jan-18	306.26			0.13		0.11		305.66	
26-Jan-18	306.26			0.13		0.11		305.66	
1-Feb-18	306.22			0.13		0.11		305.66	
9-Feb-18	306.18			0.13		0.11		305.66	
16-Feb-18	306.27	305.89	0.38	0.13	no	0.11	no	305.66	no
26-Feb-18	306.37	305.98	0.39	0.13	no	0.11	no	305.66	no
5-Mar-18	306.27	305.90	0.37	0.13	no	0.11	no	305.66	no
16-Mar-18	306.23			0.13		0.11		305.66	
23-Mar-18	306.21			0.13		0.11		305.66	
26-Mar-18	306.21	305.82	0.39	0.13	no	0.11	no	305.66	no
6-Apr-18	306.33			0.13		0.11		305.60	
13-Apr-18	306.27	305.74	0.53	0.13	no	0.11	no	305.60	no
19-Apr-18	306.45	305.82	0.63	0.13	no	0.11	no	305.60	no
24-Apr-18	306.37	306.06	0.31	0.13	no	0.11	no	305.60	no
7-May-18	306.40	305.98	0.42	0.13	no	0.11	no	305.60	no
18-May-18	306.36	305.93	0.43	0.13	no	0.11	no	305.60	no
25-May-18	306.33	305.90	0.43	0.13	no	0.11	no	305.60	no
31-May-18	306.27	305.86	0.41	0.13	no	0.11	no	305.60	no
8-Jun-18	306.29	305.86	0.43	0.13	no	0.11	no	305.60	no
12-Jun-18	306.26	305.82	0.44	0.13	no	0.11	no	305.60	no
26-Jun-18	306.31	305.85	0.46	0.13	no	0.11	no	305.60	no
5-Jul-18	306.25	305.84	0.41	0.12	no	0.10	no	305.49	no
12-Jul-18	306.18	305.80	0.38	0.12	no	0.10	no	305.49	no
27-Jul-18	306.17	305.79	0.38	0.12	no	0.10	no	305.49	no
3-Aug-18	306.13	305.75	0.38	0.12	no	0.10	no	305.49	no
10-Aug-18	306.20	305.84	0.36	0.12	no	0.10	no	305.49	no
22-Aug-18	306.24	305.89	0.35	0.12	no	0.10	no	305.49	no
29-Aug-18	306.17	305.82	0.35	0.12	no	0.10	no	305.49	no
7-Sep-18	306.14	305.79	0.35	0.12	no	0.10	no	305.49	no
12-Sep-18	306.13	305.82	0.31	0.12	no	0.10	no	305.49	no
20-Sep-18	306.07	305.75	0.32	0.12	no	0.10	no	305.49	no
27-Sep-18	306.06	305.79	0.27	0.12	no	0.10	no	305.49	no
4-Oct-18	306.14	305.86	0.28	0.11	no	0.09	no	305.58	no
12-Oct-18	306.09	305.85	0.24	0.11	no	0.09	no	305.58	no
18-Oct-18	306.05	305.82	0.23	0.11	no	0.09	no	305.58	no
30-Oct-18	306.03	305.86	0.17	0.11	no	0.09	no	305.58	no
7-Nov-18	306.18	305.99	0.19	0.11	no	0.09	no	305.58	no
15-Nov-18	306.10	305.91	0.19	0.11	no	0.09	no	305.58	no
21-Nov-18	306.12	305.82	0.30	0.11	no	0.09	no	305.58	no
29-Nov-18	306.19	305.97	0.22	0.11	no	0.09	no	305.58	no
5-Dec-18	306.16	305.93	0.23	0.11	no	0.09	no	305.58	no
14-Dec-18	306.10	305.87	0.23	0.11	no	0.09	no	305.58	no
20-Dec-18	306.11	305.86	0.25	0.11	no	0.09	no	305.58	no

Note: Water elevations are left blank when frozen conditions are encountere

Table G-2
Threshold Summary - BH92-12A to DP17
Mill Creek Aggregates Pit

			BH92-12A to DP17					DP17	
Date	Water Elevation BH92-12 (m ASL)	Water Elevation DP17 (m ASL)	Head Difference (m)	Early Warning Value (Min) (m)	Exceedance of Early Warning Value	Threshold Value (Min) (m)	Exceedance of Threshold Value	Threshold Value (Min) (m ASL)	Exceedance of Threshold Value
30-Aug-89	305.55	305.43	0.12	0.12	no	0.06	no	305.17	no
17-Oct-89	305.60	305.45	0.15	0.09	no	0.04	no	305.17	no
30-Nov-89	305.58	305.49	0.09	0.09	no	0.04	no	305.17	no
13-Dec-89	305.55	305.45	0.10	0.09	no	0.04	no	305.17	no
17-Jan-90	305.57	305.44	0.13	0.13	no	0.07	no	305.17	no
06-Mar-90	305.68	305.47	0.21	0.13	no	0.07	no	305.17	no
02-Apr-90	305.74	305.48	0.26	0.19	no	0.14	no	305.17	no
25-Jun-90	305.63	305.43	0.20	0.19	no	0.14	no	305.17	no
26-Jul-90	305.60	305.42	0.18	0.12	no	0.06	no	305.17	no
22-Aug-90	305.57	305.42	0.15	0.12	no	0.06	no	305.17	no
26-Sep-90	305.55	305.41	0.14	0.12	no	0.06	no	305.17	no
24-Oct-90	305.63	305.45	0.18	0.09	no	0.04	no	305.17	no
25-Nov-90	305.66	305.47	0.19	0.09	no	0.04	no	305.17	no
14-Dec-90	305.74	305.49	0.25	0.09	no	0.04	no	305.17	no
23-Jan-91	305.75	305.48	0.27	0.13	no	0.07	no	305.17	no
20-Feb-91	305.82	305.53	0.29	0.13	no	0.07	no	305.17	no
28-Mar-91	306.16	305.80	0.36	0.13	no	0.07	no	305.17	no
26-Apr-91	305.97	305.57	0.40	0.19	no	0.14	no	305.17	no
24-May-91	305.82	305.46	0.36	0.19	no	0.14	no	305.17	no
20-Jun-91	305.81	305.47	0.34	0.19	no	0.14	no	305.17	no
30-Jul-91	305.87	305.58	0.29	0.12	no	0.06	no	305.17	no
22-Aug-91	305.70	305.44	0.26	0.12	no	0.06	no	305.17	no
25-Sep-91	305.65	305.44	0.21	0.12	no	0.06	no	305.17	no
29-Oct-91	305.65	305.45	0.20	0.09	no	0.04	no	305.17	no
26-Nov-91	305.64	305.44	0.20	0.09	no	0.04	no	305.17	no
16-Dec-91	305.70	305.48	0.22	0.09	no	0.04	no	305.17	no
13-Mar-92	305.73	305.47	0.26	0.13	no	0.07	no	305.17	no
15-Apr-92	305.69	305.46	0.23	0.19	no	0.14	no	305.17	no
22-May-92	305.67	305.42	0.25	0.19	no	0.14	no	305.17	no
29-Jun-92	305.59	305.40	0.19	0.19	no	0.14	no	305.17	no
20-Jul-92	305.81	305.55	0.26	0.12	no	0.06	no	305.17	no
26-Aug-92	305.65	305.44	0.21	0.12	no	0.06	no	305.17	no
14-Sep-92	305.70	305.48	0.22	0.12	no	0.06	no	305.17	no
28-Oct-92	305.72	305.48	0.24	0.09	no	0.04	no	305.17	no
26-Nov-92	305.96	305.61	0.35	0.09	no	0.04	no	305.17	no
14-Dec-92	305.80	305.50	0.30	0.09	no	0.04	no	305.17	no
19-Jan-93	305.86	305.50	0.36	0.13	no	0.07	no	305.17	no
19-Apr-93	305.92	305.52	0.40	0.19	no	0.14	no	305.17	no
27-May-93	305.82	305.46	0.36	0.19	no	0.14	no	305.17	no
22-Jun-93	305.85	305.51	0.34	0.19	no	0.14	no	305.17	no
15-Jul-93	305.74	305.44	0.30	0.12	no	0.06	no	305.17	no
18-Aug-93	305.69	305.42	0.27	0.12	no	0.06	no	305.17	no
20-Sep-93	305.65	305.41	0.24	0.12	no	0.06	no	305.17	no
19-Oct-93	305.76	305.49	0.27	0.09	no	0.04	no	305.17	no
17-Nov-93	305.64	305.44	0.20	0.09	no	0.04	no	305.17	no
07-Dec-93	305.75	305.49	0.26	0.09	no	0.04	no	305.17	no
23-Feb-94	305.74	305.45	0.29	0.13	no	0.07	no	305.17	no
24-Mar-94	305.90	305.53	0.37	0.13	no	0.07	no	305.17	no
19-Apr-94	305.79	305.47	0.32	0.19	no	0.14	no	305.17	no
24-May-94	305.75	305.43	0.32	0.19	no	0.14	no	305.17	no
23-Jun-94	305.60	305.35	0.25	0.19	no	0.14	no	305.17	no
19-Jul-94	305.58	305.35	0.23	0.12	no	0.06	no	305.17	no
25-Aug-94	305.58	305.36	0.22	0.12	no	0.06	no	305.17	no
21-Sep-94	305.52	305.34	0.18	0.12	no	0.06	no	305.17	no
19-Oct-94	305.53	305.36	0.17	0.09	no	0.04	no	305.17	no
23-Nov-94	305.60	305.41	0.19	0.09	no	0.04	no	305.17	no
21-Dec-94	305.65	305.42	0.23	0.09	no	0.04	no	305.17	no
25-Jan-95	305.92	305.57	0.35	0.13	no	0.07	no	305.17	no
16-Feb-95	305.67	305.42	0.25	0.13	no	0.07	no	305.17	no
23-Mar-95	305.80	305.48	0.32	0.13	no	0.07	no	305.17	no
13-Jun-95	305.67	305.39	0.28	0.19	no	0.14	no	305.17	no
20-Jul-95	305.58	305.36	0.22	0.12	no	0.06	no	305.17	no
15-Aug-95	305.67	305.45	0.22	0.12	no	0.06	no	305.17	no
18-Oct-95	305.56	305.38	0.18	0.09	no	0.04	no	305.17	no
22-Nov-95	305.69	305.43	0.26	0.09	no	0.04	no	305.17	no
26-Mar-96	305.84	305.47	0.37	0.09	no	0.07	no	305.17	no
31-May-96	305.70	305.40	0.30	0.19	no	0.14	no	305.17	no
29-Jul-96	305.76	305.42	0.34	0.12	no	0.06	no	305.17	no
27-Sep-96	305.77	305.41	0.36	0.12	no	0.06	no	305.17	no
07-Nov-96	305.74	305.40	0.34	0.09	no	0.04	no	305.17	no
26-Mar-97	306.05	305.64	0.41	0.13	no	0.07	no	305.17	no
26-May-97	305.85	305.42	0.43	0.19	no	0.14	no	305.17	no
30-Jul-97	305.67	305.35	0.32	0.12	no	0.06	no	305.17	no
06-Nov-97	305.73	305.42	0.31	0.09	no	0.04	no	305.17	no
12-Dec-97	305.62	305.36	0.26	0.09	no	0.04	no	305.17	no
27-Mar-98	305.86	305.48	0.38	0.13	no	0.07	no	305.17	no
31-May-98	305.60	305.34	0.26	0.19	no	0.14	no	305.17	no
31-Jul-98	305.52	305.31	0.21	0.12	no	0.06	no	305.17	no
30-Sep-98	305.48	305.34	0.14	0.12	no	0.06	no	305.17	no
30-Dec-98	305.45	305.33	0.12	0.09	no	0.04	no	305.17	no
31-Mar-99	305.62	305.41	0.21	0.13	no	0.07	no	305.17	no
20-May-99	305.44	305.31	0.13	0.19	yes	0.14	yes	305.17	no
16-Jul-99	305.27	305.17	0.10	0.12	yes	0.06	no	305.17	no
10-Sep-99	305.44	305.35	0.09	0.12	yes	0.06	no	305.17	no
10-Nov-99	305.39	305.34	0.05	0.09	yes	0.04	no	305.17	no
01-Mar-00	305.51	305.35	0.16	0.13	no	0.07	no	305.17	no
19-May-00	305.64	305.42	0.22	0.19	no	0.14	no	305.17	no
06-Jul-00	305.46	305.29	0.17	0.12	no	0.06	no	305.17	no
14-Sep-00	305.38	305.26	0.12	0.12	no	0.06	no	305.17	no
10-Oct-00	305.36	305.26	0.10	0.09	no	0.04	no	305.17	no
07-Nov-00	305.31	305.24	0.07	0.09	yes	0.04	no	305.17	no
12-Dec-00	305.43	305.33	0.10	0.09	no	0.04	no	305.17	no
11-Jan-01	305.48	305.43	0.05	0.13	yes	0.07	yes	305.17	no
09-Feb-01	305.50	305.44	0.06	0.13	yes	0.07	yes	305.17	no
13-Mar-01	305.51	305.34	0.17	0.13	no	0.07	no	305.17	no
10-Apr-01	305.65	305.45	0.20	0.19	no	0.14	no	305.17	no
03-May-01	305.49	305.30	0.19	0.19	no	0.14	no	305.17	no
07-Jun-01	305.51	305.32	0.19	0.19	no	0.14	no	305.17	no
25-Jun-01	305.46	305.29	0.17	0.19	yes	0.14	no	305.17	no
28-Jun-01	305.45	305.28	0.17	0.19	yes	0.14	no	305.17	no
03-Jul-01	305.41	305.26	0.15	0.12	no	0.06	no	305.17	no
05-Jul-01	305.41	305.26	0.15	0.12	no	0.06	no	305.17	no
09-Jul-01	305.40	305.26	0.14	0.12	no	0.06	no	305.17	no
12-Jul-01	305.40	305.26	0.14	0.12	no	0.06	no	305.17	no
16-Jul-01	305.49	305.25	0.24	0.12	no	0.06	no	305.17	no
19-Jul-01	305.50	305.25	0.25	0.12	no	0.06	no	305.17	no
23-Jul-01	305.49	305.25	0.24	0.12	no	0.06	no	305.17	no
26-Jul-01	305.48	305.25	0.23	0.12	no	0.06	no	305.17	no
30-Jul-01	305.46	305.24	0.22	0.12	no	0.06	no	305.17	no
02-Aug-01	305.45	305.24	0.21	0.12	no	0.06	no	305.17	no
07-Aug-01	305.43	305.23	0.20	0.12	no	0.06	no	305.17	no
09-Aug-01	305.42	305.23	0.19	0.12	no	0.06	no	305.17	no

Table G-2
Threshold Summary - BH92-12A to DP17
Mill Creek Aggregates Pit

			BH92-12A to DP17					DP17	
Date	Water Elevation BH92-12 (m ASL)	Water Elevation DP17 (m ASL)	Head Difference (m)	Early Warning Value (m)	Exceedance of Early Warning Value	Threshold Value (m)	Exceedance of Threshold Value	Threshold Value (m ASL)	Exceedance of Threshold Value
13-Aug-01	305.39	305.24	0.15	0.12	no	0.06	no	305.17	no
16-Aug-01	305.40	305.23	0.17	0.12	no	0.06	no	305.17	no
20-Aug-01	305.49	305.29	0.20	0.12	no	0.06	no	305.17	no
23-Aug-01	305.46	305.25	0.21	0.12	no	0.06	no	305.17	no
27-Aug-01	305.41	305.25	0.16	0.12	no	0.06	no	305.17	no
30-Aug-01	305.42	305.25	0.17	0.12	no	0.06	no	305.17	no
04-Sep-01	305.40	305.25	0.15	0.12	no	0.06	no	305.17	no
06-Sep-01	305.38	305.24	0.14	0.12	no	0.06	no	305.17	no
10-Sep-01	305.36	305.23	0.13	0.12	no	0.06	no	305.17	no
13-Sep-01	305.36	305.23	0.13	0.12	no	0.06	no	305.17	no
17-Sep-01	305.34	305.23	0.11	0.12	yes	0.06	no	305.17	no
20-Sep-01	305.37	305.26	0.11	0.12	yes	0.06	no	305.17	no
24-Sep-01	305.41	305.28	0.13	0.12	no	0.06	no	305.17	no
27-Sep-01	305.42	305.29	0.13	0.12	no	0.06	no	305.17	no
01-Oct-01	305.39	305.26	0.13	0.09	no	0.04	no	305.17	no
04-Oct-01	305.38	305.24	0.14	0.09	no	0.04	no	305.17	no
09-Oct-01	305.49	305.30	0.19	0.09	no	0.04	no	305.17	no
11-Oct-01	305.46	305.28	0.18	0.09	no	0.04	no	305.17	no
15-Oct-01	305.56	305.34	0.22	0.09	no	0.04	no	305.17	no
19-Oct-01	305.56	305.33	0.23	0.09	no	0.04	no	305.17	no
22-Oct-01	305.51	305.30	0.21	0.09	no	0.04	no	305.17	no
26-Oct-01	305.51	305.31	0.20	0.09	no	0.04	no	305.17	no
29-Oct-01	305.49	305.30	0.19	0.09	no	0.04	no	305.17	no
01-Nov-01	305.47	305.29	0.18	0.09	no	0.04	no	305.17	no
05-Nov-01	305.52	305.32	0.20	0.09	no	0.04	no	305.17	no
08-Nov-01	305.49	305.30	0.19	0.09	no	0.04	no	305.17	no
12-Nov-01	305.47	305.29	0.18	0.09	no	0.04	no	305.17	no
15-Nov-01	305.48	305.31	0.17	0.09	no	0.04	no	305.17	no
19-Nov-01	305.45	305.29	0.16	0.09	no	0.04	no	305.17	no
22-Nov-01	305.45	305.29	0.16	0.09	no	0.04	no	305.17	no
26-Nov-01	305.54	305.34	0.20	0.09	no	0.04	no	305.17	no
29-Nov-01	305.54	305.35	0.19	0.09	no	0.04	no	305.17	no
03-Dec-01	305.66	305.38	0.28	0.09	no	0.04	no	305.17	no
06-Dec-01	305.59	305.34	0.25	0.09	no	0.04	no	305.17	no
10-Dec-01	305.54	305.31	0.23	0.09	no	0.04	no	305.17	no
13-Dec-01	305.53	305.32	0.21	0.09	no	0.04	no	305.17	no
17-Dec-01	305.56	305.34	0.22	0.09	no	0.04	no	305.17	no
20-Dec-01	305.60	305.37	0.23	0.09	no	0.04	no	305.17	no
10-Jan-02	305.52	305.28	0.24	0.13	no	0.07	no	305.17	no
17-Jan-02	305.52	305.29	0.23	0.13	no	0.07	no	305.17	no
21-Jan-02	305.51	305.35	0.16	0.13	no	0.07	no	305.17	no
24-Jan-02	305.56	305.20	0.36	0.13	no	0.07	no	305.17	no
28-Jan-02	305.61	305.34	0.27	0.13	no	0.07	no	305.17	no
01-Feb-02	305.59	305.40	0.19	0.13	no	0.07	no	305.17	no
04-Feb-02	305.56	305.34	0.22	0.13	no	0.07	no	305.17	no
07-Feb-02	305.55	305.32	0.23	0.13	no	0.07	no	305.17	no
11-Feb-02	305.56	305.33	0.23	0.13	no	0.07	no	305.17	no
15-Feb-02	305.55	305.21	0.34	0.13	no	0.07	no	305.17	no
18-Feb-02	305.56	305.36	0.20	0.13	no	0.07	no	305.17	no
21-Feb-02	305.71	305.39	0.32	0.13	no	0.07	no	305.17	no
25-Feb-02	305.66	305.37	0.29	0.13	no	0.07	no	305.17	no
05-Mar-02	305.69	305.42	0.27	0.13	no	0.07	no	305.17	no
07-Mar-02	305.63	305.21	0.42	0.13	no	0.07	no	305.17	no
11-Mar-02	305.72	305.31	0.41	0.13	no	0.07	no	305.17	no
15-Mar-02	305.67	305.24	0.43	0.13	no	0.07	no	305.17	no
19-Mar-02	305.64	305.33	0.31	0.13	no	0.07	no	305.17	no
21-Mar-02	305.67	305.35	0.32	0.13	no	0.07	no	305.17	no
26-Mar-02	305.63	305.40	0.23	0.13	no	0.07	no	305.17	no
28-Mar-02	305.62	305.33	0.29	0.13	no	0.07	no	305.17	no
01-Apr-02	305.71	305.37	0.34	0.19	no	0.14	no	305.17	no
05-Apr-02	305.75	305.40	0.35	0.19	no	0.14	no	305.17	no
07-Apr-02	305.70	305.45	0.25	0.19	no	0.14	no	305.17	no
11-Apr-02	305.81	305.43	0.38	0.19	no	0.14	no	305.17	no
17-Apr-02	305.79	305.42	0.37	0.19	no	0.14	no	305.17	no
19-Apr-02	305.82	305.49	0.33	0.19	no	0.14	no	305.17	no
23-Apr-02	305.66	305.36	0.30	0.19	no	0.14	no	305.17	no
29-Apr-02	305.71	305.43	0.28	0.19	no	0.14	no	305.17	no
06-May-02	305.66	305.37	0.29	0.19	no	0.14	no	305.17	no
10-May-02	305.66	305.37	0.29	0.19	no	0.14	no	305.17	no
14-May-02	305.72	305.41	0.31	0.19	no	0.14	no	305.17	no
17-May-02	305.84	305.49	0.35	0.19	no	0.14	no	305.17	no
21-May-02	305.72	305.38	0.34	0.19	no	0.14	no	305.17	no
24-May-02	305.70	305.35	0.35	0.19	no	0.14	no	305.17	no
27-May-02	305.65	305.30	0.35	0.19	no	0.14	no	305.17	no
31-May-02	305.63	305.31	0.32	0.19	no	0.14	no	305.17	no
04-Jun-02	305.62	305.29	0.33	0.19	no	0.14	no	305.17	no
07-Jun-02	305.63	305.32	0.31	0.19	no	0.14	no	305.17	no
11-Jun-02	305.60	305.30	0.30	0.19	no	0.14	no	305.17	no
14-Jun-02	305.59	305.29	0.30	0.19	no	0.14	no	305.17	no
18-Jun-02	305.59	305.26	0.33	0.19	no	0.14	no	305.17	no
21-Jun-02	305.57	305.29	0.28	0.19	no	0.14	no	305.17	no
25-Jun-02	305.62	305.30	0.32	0.19	no	0.14	no	305.17	no
02-Jul-02	305.61	305.29	0.32	0.12	no	0.06	no	305.17	no
05-Jul-02	305.60	305.28	0.32	0.12	no	0.06	no	305.17	no
08-Jul-02	305.59	305.27	0.32	0.12	no	0.06	no	305.17	no
11-Jul-02	305.57	305.27	0.30	0.12	no	0.06	no	305.17	no
15-Jul-02	305.51	305.26	0.25	0.12	no	0.06	no	305.17	no
18-Jul-02	305.53	305.26	0.27	0.12	no	0.06	no	305.17	no
24-Jul-02	305.61	305.27	0.34	0.12	no	0.06	no	305.17	no
26-Jul-02	305.55	305.27	0.28	0.12	no	0.06	no	305.17	no
30-Jul-02	305.56	305.29	0.27	0.12	no	0.06	no	305.17	no
05-Aug-02	305.46	305.25	0.21	0.12	no	0.06	no	305.17	no
09-Aug-02	305.46	305.25	0.21	0.12	no	0.06	no	305.17	no
16-Aug-02	305.42	305.25	0.17	0.12	no	0.06	no	305.17	no
21-Aug-02	305.41	305.23	0.18	0.12	no	0.06	no	305.17	no
23-Aug-02	305.40	305.25	0.15	0.12	no	0.06	no	305.17	no
28-Aug-02	305.39	305.24	0.15	0.12	no	0.06	no	305.17	no
30-Aug-02	305.40	305.24	0.16	0.12	no	0.06	no	305.17	no
04-Sep-02	305.39	305.24	0.15	0.12	no	0.06	no	305.17	no
10-Sep-02	305.37	305.23	0.14	0.12	no	0.06	no	305.17	no
12-Sep-02	305.38	305.23	0.15	0.12	no	0.06	no	305.17	no
17-Sep-02	305.42	305.24	0.18	0.12	no	0.06	no	305.17	no
20-Sep-02	305.41	305.24	0.17	0.12	no	0.06	no	305.17	no
25-Sep-02	305.40	305.25	0.15	0.12	no	0.06	no	305.17	no
27-Sep-02	305.43	305.29	0.14	0.12	no	0.06	no	305.17	no
02-Oct-02	305.42	305.25	0.17	0.09	no	0.04	no	305.17	no
04-Oct-02	305.41	305.25	0.16	0.09	no	0.04	no	305.17	no
08-Oct-02	305.40	305.26	0.14	0.09	no	0.04	no	305.17	no
11-Oct-02	305.41	305.26	0.15	0.09	no	0.04	no	305.17	no
15-Oct-02	305.41	305.26	0.15	0.09	no	0.04	no	305.17	no
23-Oct-02	305.43	305.27	0.16	0.09	no	0.04	no	305.17	no
29-Oct-02	305.41	305.25	0.16	0.09	no	0.04	no	305.17	no
31-Oct-02	305.43	305.26	0.17	0.09	no	0.04	no	305.17	no

Table G-2
Threshold Summary - BH92-12A to DP17
Mill Creek Aggregates Pit

			BH92-12A to DP17					DP17	
Date	Water Elevation BH92-12 (m ASL)	Water Elevation DP17 (m ASL)	Head Difference (m)	Early Warning Value (m)	Exceedance of Early Warning Value	Threshold Value (m)	Exceedance of Threshold Value	Threshold Value (m ASL)	Exceedance of Threshold Value
05-Nov-02	305.41	305.28	0.13	0.09	no	0.04	no	305.17	no
08-Nov-02	305.42	305.26	0.16	0.09	no	0.04	no	305.17	no
12-Nov-02	305.54	305.35	0.19	0.09	no	0.04	no	305.17	no
15-Nov-02	305.50	305.31	0.19	0.09	no	0.04	no	305.17	no
19-Nov-02	305.51	305.27	0.24	0.09	no	0.04	no	305.17	no
22-Nov-02	305.46	305.28	0.18	0.09	no	0.04	no	305.17	no
26-Nov-02	305.44	305.27	0.17	0.09	no	0.04	no	305.17	no
29-Nov-02	305.46	305.28	0.18	0.09	no	0.04	no	305.17	no
04-Dec-02	305.41	305.29	0.12	0.09	no	0.04	no	305.17	no
06-Dec-02	305.43	305.29	0.14	0.09	no	0.04	no	305.17	no
10-Dec-02	305.43	305.29	0.14	0.09	no	0.04	no	305.17	no
13-Dec-02	305.43	305.32	0.11	0.09	no	0.04	no	305.17	no
18-Dec-02	305.43	305.32	0.11	0.09	no	0.04	no	305.17	no
07-Jan-03	305.46	305.32	0.14	0.13	no	0.07	no	305.17	no
09-Jan-03	305.45	305.37	0.08	0.13	yes	0.07	no	305.17	no
14-Jan-03	305.44	305.37	0.07	0.13	yes	0.07	no	305.17	no
21-Jan-03	305.43	305.35	0.08	0.13	yes	0.07	no	305.17	no
24-Jan-03	305.41	305.31	0.10	0.13	yes	0.07	no	305.17	no
28-Jan-03	305.43	305.31	0.12	0.13	yes	0.07	no	305.17	no
31-Jan-03	305.47	305.31	0.16	0.13	no	0.07	no	305.17	no
05-Feb-03	305.53	305.31	0.22	0.13	no	0.07	no	305.17	no
10-Feb-03	305.50	305.31	0.19	0.13	no	0.07	no	305.17	no
14-Feb-03	305.53	305.31	0.22	0.13	no	0.07	no	305.17	no
17-Feb-03	305.43	305.31	0.12	0.13	yes	0.07	no	305.17	no
21-Feb-03	305.50	305.31	0.19	0.13	no	0.07	no	305.17	no
24-Feb-03	305.49	305.31	0.18	0.13	no	0.07	no	305.17	no
28-Apr-03	305.70	305.27	0.43	0.19	no	0.14	no	305.17	no
5-May-03	305.70	305.27	0.43	0.19	no	0.14	no	305.17	no
8-May-03	305.70	305.29	0.41	0.19	no	0.14	no	305.17	no
12-May-03	305.63	305.26	0.37	0.19	no	0.14	no	305.17	no
16-May-03	305.63	305.24	0.39	0.19	no	0.14	no	305.17	no
23-May-03	305.63	305.29	0.34	0.19	no	0.14	no	305.17	no
26-May-03	305.63	305.30	0.33	0.19	no	0.14	no	305.17	no
29-May-03	305.63	305.29	0.34	0.19	no	0.14	no	305.17	no
02-Jun-03	305.62	305.29	0.33	0.19	no	0.14	no	305.17	no
05-Jun-03	305.61	305.30	0.31	0.19	no	0.14	no	305.17	no
09-Jun-03	305.58	305.29	0.29	0.19	no	0.14	no	305.17	no
13-Jun-03	305.54	305.28	0.26	0.19	no	0.14	no	305.17	no
17-Jun-03	305.51	305.27	0.24	0.19	no	0.14	no	305.17	no
19-Jun-03	305.50	305.24	0.26	0.19	no	0.14	no	305.17	no
23-Jun-03	305.45	305.19	0.26	0.19	no	0.14	no	305.17	no
26-Jun-03	305.44	305.24	0.20	0.19	no	0.14	no	305.17	no
03-Jul-03	305.40	305.24	0.16	0.12	no	0.06	no	305.17	no
07-Jul-03	305.43	305.25	0.18	0.12	no	0.06	no	305.17	no
10-Jul-03	305.41	305.21	0.20	0.12	no	0.06	no	305.17	no
22-Jul-03	305.40	305.26	0.14	0.12	no	0.06	no	305.17	no
25-Jul-03	305.41	305.27	0.14	0.12	no	0.06	no	305.17	no
28-Jul-03	305.39	305.26	0.13	0.12	no	0.06	no	305.17	no
31-Jul-03	305.42	305.27	0.15	0.12	no	0.06	no	305.17	no
07-Aug-03	305.41	305.27	0.14	0.12	no	0.06	no	305.17	no
11-Aug-03	305.41	305.29	0.12	0.12	no	0.06	no	305.17	no
18-Aug-03	305.42	305.25	0.17	0.12	no	0.06	no	305.17	no
21-Aug-03	305.38	305.23	0.15	0.12	no	0.06	no	305.17	no
25-Aug-03	305.43	305.29	0.14	0.12	no	0.06	no	305.17	no
29-Aug-03	305.37	305.25	0.12	0.12	no	0.06	no	305.17	no
02-Sep-03	305.34	305.24	0.10	0.12	yes	0.06	no	305.17	no
04-Sep-03	305.33	305.23	0.10	0.12	yes	0.06	no	305.17	no
08-Sep-03	305.34	305.23	0.11	0.12	yes	0.06	no	305.17	no
11-Sep-03	305.33	305.22	0.11	0.12	yes	0.06	no	305.17	no
15-Sep-03	305.35	305.24	0.11	0.12	yes	0.06	no	305.17	no
18-Sep-03	305.34	305.24	0.10	0.12	yes	0.06	no	305.17	no
22-Sep-03	305.38	305.24	0.14	0.12	no	0.06	no	305.17	no
26-Sep-03	305.41	305.24	0.17	0.12	no	0.06	no	305.17	no
29-Sep-03	305.51	305.24	0.27	0.12	no	0.06	no	305.17	no
2-Oct-03	305.45	305.24	0.21	0.09	no	0.04	no	305.17	no
6-Oct-03	305.43	305.24	0.19	0.09	no	0.04	no	305.17	no
9-Oct-03	305.41	305.27	0.14	0.09	no	0.04	no	305.17	no
13-Oct-03	305.38	305.27	0.11	0.09	no	0.04	no	305.17	no
16-Oct-03	305.52	305.33	0.19	0.09	no	0.04	no	305.17	no
20-Oct-03	305.45	305.33	0.12	0.09	no	0.04	no	305.17	no
3-Nov-03	305.52	305.36	0.16	0.09	no	0.04	no	305.17	no
6-Nov-03	305.51	305.35	0.16	0.09	no	0.04	no	305.17	no
10-Nov-03	305.48	305.31	0.17	0.09	no	0.04	no	305.17	no
13-Nov-03	305.50	305.32	0.18	0.09	no	0.04	no	305.17	no
17-Nov-03	305.52	305.34	0.18	0.09	no	0.04	no	305.17	no
20-Nov-03	305.53	305.36	0.17	0.09	no	0.04	no	305.17	no
24-Nov-03	305.55	305.37	0.18	0.09	no	0.04	no	305.17	no
1-Dec-03	305.58	305.39	0.19	0.09	no	0.04	no	305.17	no
8-Dec-03	305.50	305.31	0.19	0.09	no	0.04	no	305.17	no
11-Dec-03	305.55	305.36	0.19	0.09	no	0.04	no	305.17	no
15-Dec-03	305.51	305.32	0.19	0.09	no	0.04	no	305.17	no
8-Jan-04	305.56	305.37	0.19	0.13	no	0.07	no	305.17	no
12-Jan-04	305.44	305.34	0.10	0.13	yes	0.07	no	305.17	no
15-Jan-04	305.53	305.44	0.09	0.13	yes	0.07	no	305.17	no
19-Jan-04	305.53	305.37	0.16	0.13	no	0.07	no	305.17	no
26-Jan-04	305.52	305.36	0.16	0.13	no	0.07	no	305.17	no
5-Feb-04	305.54	305.39	0.15	0.13	no	0.07	no	305.17	no
9-Feb-04	305.53	305.39	0.14	0.13	no	0.07	no	305.17	no
16-Feb-04	305.50	305.39	0.11	0.13	yes	0.07	no	305.17	no
19-Feb-04	305.54	305.39	0.15	0.13	no	0.07	no	305.17	no
5-Mar-04	305.81	305.45	0.36	0.13	no	0.07	no	305.17	no
8-Mar-04	305.84	305.50	0.34	0.13	no	0.07	no	305.17	no
11-Mar-04	305.77	305.44	0.33	0.13	no	0.07	no	305.17	no
15-Mar-04	305.67	305.36	0.31	0.13	no	0.07	no	305.17	no
18-Mar-04	305.66	305.36	0.30	0.13	no	0.07	no	305.17	no
22-Mar-04	305.68	305.36	0.32	0.13	no	0.07	no	305.17	no
25-Mar-04	305.69	305.36	0.33	0.13	no	0.07	no	305.17	no
1-Apr-04	305.91	305.49	0.42	0.19	no	0.14	no	305.17	no
5-Apr-04	305.81	305.39	0.42	0.19	no	0.14	no	305.17	no
8-Apr-04	305.76	305.36	0.40	0.19	no	0.14	no	305.17	no
15-Apr-04	305.72	305.38	0.34	0.19	no	0.14	no	305.17	no
22-Apr-04	305.85	305.44	0.41	0.19	no	0.14	no	305.17	no
26-Apr-04	305.80	305.46	0.34	0.19	no	0.14	no	305.17	no
3-May-04	305.85	305.50	0.35	0.19	no	0.14	no	305.17	no
10-May-04	305.89	305.52	0.37	0.19	no	0.14	no	305.17	no
13-May-04	305.83	305.43	0.40	0.19	no	0.14	no	305.17	no
17-May-04	305.75	305.39	0.36	0.19	no	0.14	no	305.17	no
20-May-04	305.73	305.35	0.38	0.19	no	0.14	no	305.17	no
25-May-04	305.85	305.40	0.45	0.19	no	0.14	no	305.17	no
27-May-04	305.80	305.45	0.35	0.19	no	0.14	no	305.17	no
31-May-04	305.75	305.46	0.29	0.19	no	0.14	no	305.17	no
3-Jun-04	305.76	305.42	0.34	0.19	no	0.14	no	305.17	no

Table G-2
Threshold Summary - BH92-12A to DP17
Mill Creek Aggregates Pit

			BH92-12A to DP17					DP17	
Date	Water Elevation BH92-12 (m ASL)	Water Elevation DP17 (m ASL)	Head Difference (m)	Early Warning Value (m)	Exceedance of Early Warning Value	Threshold Value (m)	Exceedance of Threshold Value	Threshold Value (m ASL)	Exceedance of Threshold Value
7-Jun-04	305.75	305.42	0.33	0.19	no	0.14	no	305.17	no
10-Jun-04	305.73	305.38	0.35	0.19	no	0.14	no	305.17	no
14-Jun-04	305.71	305.34	0.37	0.19	no	0.14	no	305.17	no
17-Jun-04	305.71	305.33	0.38	0.19	no	0.14	no	305.17	no
21-Jun-04	305.80	305.33	0.47	0.19	no	0.14	no	305.17	no
24-Jun-04	305.73	305.32	0.41	0.19	no	0.14	no	305.17	no
28-Jun-04	305.66	305.30	0.36	0.19	no	0.14	no	305.17	no
5-Jul-04	305.62	305.28	0.34	0.12	no	0.06	no	305.17	no
8-Jul-04	305.78	305.50	0.28	0.12	no	0.06	no	305.17	no
12-Jul-04	305.73	305.48	0.25	0.12	no	0.06	no	305.17	no
15-Jul-04	305.77	305.51	0.26	0.12	no	0.06	no	305.17	no
19-Jul-04	305.72	305.48	0.24	0.12	no	0.06	no	305.17	no
22-Jul-04	305.71	305.46	0.25	0.12	no	0.06	no	305.17	no
26-Jul-04	305.67	305.45	0.22	0.12	no	0.06	no	305.17	no
29-Jul-04	305.70	305.46	0.24	0.12	no	0.06	no	305.17	no
2-Aug-04	305.74	305.49	0.25	0.12	no	0.06	no	305.17	no
5-Aug-04	305.70	305.48	0.22	0.12	no	0.06	no	305.17	no
9-Aug-04	305.66	305.44	0.22	0.12	no	0.06	no	305.17	no
12-Aug-04	305.65	305.46	0.19	0.12	no	0.06	no	305.17	no
16-Aug-04	305.63	305.45	0.18	0.12	no	0.06	no	305.17	no
19-Aug-04	305.62	305.45	0.17	0.12	no	0.06	no	305.17	no
23-Aug-04	305.58	305.33	0.25	0.12	no	0.06	no	305.17	no
26-Aug-04	305.58	305.30	0.28	0.12	no	0.06	no	305.17	no
30-Aug-04	305.58	305.34	0.24	0.12	no	0.06	no	305.17	no
2-Sep-04	305.66	305.47	0.19	0.12	no	0.06	no	305.17	no
6-Sep-04	305.61	305.45	0.16	0.12	no	0.06	no	305.17	no
9-Sep-04	305.69	305.53	0.16	0.12	no	0.06	no	305.17	no
13-Sep-04	305.63	305.46	0.17	0.12	no	0.06	no	305.17	no
16-Sep-04	305.62	305.43	0.19	0.12	no	0.06	no	305.17	no
20-Sep-04	305.57	305.43	0.14	0.12	no	0.06	no	305.17	no
23-Sep-04	305.55	305.32	0.23	0.12	no	0.06	no	305.17	no
27-Sep-04	305.54	305.28	0.26	0.12	no	0.06	no	305.17	no
30-Sep-04	305.57	305.41	0.16	0.12	no	0.06	no	305.17	no
4-Oct-04	305.51	305.30	0.21	0.09	no	0.04	no	305.17	no
7-Oct-04	305.48	305.30	0.18	0.09	no	0.04	no	305.17	no
11-Oct-04	305.46	305.30	0.16	0.09	no	0.04	no	305.17	no
14-Oct-04	305.45	305.30	0.15	0.09	no	0.04	no	305.17	no
18-Oct-04	305.54	305.30	0.24	0.09	no	0.04	no	305.17	no
21-Oct-04	305.51	305.32	0.19	0.09	no	0.04	no	305.17	no
25-Oct-04	305.51	305.32	0.19	0.09	no	0.04	no	305.17	no
28-Oct-04	305.50	305.31	0.19	0.09	no	0.04	no	305.17	no
1-Nov-04	305.49	305.33	0.16	0.09	no	0.04	no	305.17	no
4-Nov-04	305.62	305.31	0.31	0.09	no	0.04	no	305.17	no
8-Nov-04	305.59	305.32	0.27	0.09	no	0.04	no	305.17	no
11-Nov-04	305.56	305.28	0.28	0.09	no	0.04	no	305.17	no
15-Nov-04	305.52	305.30	0.22	0.09	no	0.04	no	305.17	no
18-Nov-04	305.50	305.31	0.19	0.09	no	0.04	no	305.17	no
22-Nov-04	305.45	305.30	0.15	0.09	no	0.04	no	305.17	no
25-Nov-04	305.45	305.35	0.10	0.09	no	0.04	no	305.17	no
29-Nov-04	305.55	305.40	0.15	0.09	no	0.04	no	305.17	no
2-Dec-04	305.56	305.47	0.09	0.09	no	0.04	no	305.17	no
6-Dec-04	305.51	305.44	0.07	0.09	yes	0.04	no	305.17	no
13-Dec-04	305.52	305.40	0.12	0.09	no	0.04	no	305.17	no
16-Dec-04	305.58	305.32	0.26	0.09	no	0.04	no	305.17	no
20-Dec-04	305.51	305.32	0.19	0.09	no	0.04	no	305.17	no
23-Dec-04	305.47	305.31	0.16	0.09	no	0.04	no	305.17	no
3-Jan-05	305.47	305.34	0.13	0.13	no	0.07	no	305.17	no
6-Jan-05	305.80	305.50	0.30	0.13	no	0.07	no	305.17	no
10-Jan-05	305.67	305.43	0.24	0.13	no	0.07	no	305.17	no
13-Jan-05	305.67	305.43	0.24	0.13	no	0.07	no	305.17	no
17-Jan-05	305.67	305.44	0.24	0.13	no	0.07	no	305.17	no
20-Jan-05	305.61	305.47	0.14	0.13	no	0.07	no	305.17	no
24-Jan-05	305.56	305.40	0.16	0.13	no	0.07	no	305.17	no
27-Jan-05	305.54	305.40	0.14	0.13	no	0.07	no	305.17	no
31-Jan-05	305.52	305.38	0.15	0.13	no	0.07	no	305.17	no
3-Feb-05	305.46	305.17	0.29	0.13	no	0.07	no	305.17	no
7-Feb-05	305.46	305.26	0.20	0.13	no	0.07	no	305.17	no
10-Feb-05	305.53	305.30	0.22	0.13	no	0.07	no	305.17	no
14-Feb-05	305.53	305.31	0.22	0.13	no	0.07	no	305.17	no
17-Feb-05	305.53	305.32	0.21	0.13	no	0.07	no	305.17	no
21-Feb-05	305.65	305.33	0.31	0.13	no	0.07	no	305.17	no
24-Feb-05	305.67	305.36	0.31	0.13	no	0.07	no	305.17	no
28-Feb-05	305.56	305.33	0.23	0.13	no	0.07	no	305.17	no
3-Mar-05	305.54	305.34	0.20	0.13	no	0.07	no	305.17	no
7-Mar-05	305.55	305.35	0.20	0.13	no	0.07	no	305.17	no
10-Mar-05	305.57	305.35	0.21	0.13	no	0.07	no	305.17	no
14-Mar-05	305.54	305.36	0.19	0.13	no	0.07	no	305.17	no
17-Mar-05	305.52	305.36	0.16	0.13	no	0.07	no	305.17	no
21-Mar-05	305.53	305.33	0.20	0.13	no	0.07	no	305.17	no
24-Mar-05	305.66	305.32	0.34	0.13	no	0.07	no	305.17	no
28-Mar-05	305.71	305.32	0.38	0.13	no	0.07	no	305.17	no
31-Mar-05	305.74	305.34	0.40	0.13	no	0.07	no	305.17	no
4-Apr-05	305.79	305.36	0.43	0.19	no	0.14	no	305.17	no
7-Apr-05	305.78	305.37	0.41	0.19	no	0.14	no	305.17	no
11-Apr-05	305.80	305.35	0.45	0.19	no	0.14	no	305.17	no
14-Apr-05	305.72	305.36	0.37	0.19	no	0.14	no	305.17	no
18-Apr-05	305.53	305.28	0.25	0.19	no	0.14	no	305.17	no
21-Apr-05	305.57	305.30	0.27	0.19	no	0.14	no	305.17	no
25-Apr-05	305.64	305.29	0.35	0.19	no	0.14	no	305.17	no
28-Apr-05	305.70	305.41	0.29	0.19	no	0.14	no	305.17	no
2-May-05	305.76	305.28	0.48	0.19	no	0.14	no	305.17	no
5-May-05	305.75	305.28	0.47	0.19	no	0.14	no	305.17	no
9-May-05	305.70	305.26	0.43	0.19	no	0.14	no	305.17	no
12-May-05	305.70	305.27	0.43	0.19	no	0.14	no	305.17	no
16-May-05	305.70	305.30	0.39	0.19	no	0.14	no	305.17	no
19-May-05	305.70	305.28	0.42	0.19	no	0.14	no	305.17	no
23-May-05	305.65	305.30	0.35	0.19	no	0.14	no	305.17	no
26-May-05	305.71	305.30	0.41	0.19	no	0.14	no	305.17	no
30-May-05	305.70	305.30	0.40	0.19	no	0.14	no	305.17	no
2-Jun-05	305.62	305.27	0.35	0.19	no	0.14	no	305.17	no
6-Jun-05	305.59	305.22	0.37	0.19	no	0.14	no	305.17	no
9-Jun-05	305.55	305.32	0.23	0.19	no	0.14	no	305.17	no
13-Jun-05	305.61	305.30	0.31	0.19	no	0.14	no	305.17	no
16-Jun-05	305.69	305.27	0.42	0.19	no	0.14	no	305.17	no
20-Jun-05	305.59	305.24	0.35	0.19	no	0.14	no	305.17	no
23-Jun-05	305.65	305.28	0.37	0.19	no	0.14	no	305.17	no
27-Jun-05	305.56	305.26	0.30	0.19	no	0.14	no	305.17	no
30-Jun-05	305.55	305.21	0.33	0.19	no	0.14	no	305.17	no

Table G-2
Threshold Summary - BH92-12A to DP17
Mill Creek Aggregates Pit

			BH92-12A to DP17					DP17	
Date	Water Elevation BH92-12 (m ASL)	Water Elevation DP17 (m ASL)	Head Difference (m)	Early Warning Value (m)	Exceedance of Early Warning Value	Threshold Value (m)	Exceedance of Threshold Value	Threshold Value (m ASL)	Exceedance of Threshold Value
4-Jul-05	305.48	305.22	0.27	0.12	no	0.06	no	305.17	no
7-Jul-05	305.50	305.21	0.29	0.12	no	0.06	no	305.17	no
11-Jul-05	305.47	305.25	0.22	0.12	no	0.06	no	305.17	no
14-Jul-05	305.50	305.29	0.21	0.12	no	0.06	no	305.17	no
18-Jul-05	305.54	305.28	0.26	0.12	no	0.06	no	305.17	no
21-Jul-05	305.57	305.31	0.26	0.12	no	0.06	no	305.17	no
25-Jul-05	305.58	305.33	0.25	0.12	no	0.06	no	305.17	no
28-Jul-05	305.60	305.34	0.26	0.12	no	0.06	no	305.17	no
1-Aug-05	305.61	305.35	0.26	0.12	no	0.06	no	305.17	no
4-Aug-05	305.52	305.29	0.23	0.12	no	0.06	no	305.17	no
8-Aug-05	305.50	305.28	0.22	0.12	no	0.06	no	305.17	no
11-Aug-05	305.50	305.27	0.23	0.12	no	0.06	no	305.17	no
15-Aug-05	305.48	305.27	0.21	0.12	no	0.06	no	305.17	no
18-Aug-05	305.46	305.25	0.21	0.12	no	0.06	no	305.17	no
22-Aug-05	305.49	305.28	0.21	0.12	no	0.06	no	305.17	no
25-Aug-05	305.57	305.26	0.31	0.12	no	0.06	no	305.17	no
29-Aug-05	305.58	305.26	0.32	0.12	no	0.06	no	305.17	no
1-Sep-05	305.56	305.26	0.30	0.12	no	0.06	no	305.17	no
6-Sep-05	305.55	305.25	0.30	0.12	no	0.06	no	305.17	no
8-Sep-05	305.54	305.25	0.29	0.12	no	0.06	no	305.17	no
12-Sep-05	305.53	305.25	0.28	0.12	no	0.06	no	305.17	no
15-Sep-05	305.52	305.25	0.27	0.12	no	0.06	no	305.17	no
19-Sep-05	305.57	305.27	0.30	0.12	no	0.06	no	305.17	no
22-Sep-05	305.55	305.28	0.27	0.12	no	0.06	no	305.17	no
26-Sep-05	305.61	305.35	0.26	0.12	no	0.06	no	305.17	no
30-Sep-05	305.62	305.31	0.31	0.12	no	0.06	no	305.17	no
3-Oct-05	305.57	305.29	0.28	0.09	no	0.04	no	305.17	no
6-Oct-05	305.56	305.29	0.26	0.09	no	0.04	no	305.17	no
10-Oct-05	305.51	305.27	0.24	0.09	no	0.04	no	305.17	no
13-Oct-05	305.53	305.29	0.24	0.09	no	0.04	no	305.17	no
17-Oct-05	305.50	305.28	0.22	0.09	no	0.04	no	305.17	no
20-Oct-05	305.52	305.33	0.19	0.09	no	0.04	no	305.17	no
24-Oct-05	305.53	305.29	0.24	0.09	no	0.04	no	305.17	no
27-Oct-05	305.51	305.27	0.24	0.09	no	0.04	no	305.17	no
31-Oct-05	305.48	305.25	0.23	0.09	no	0.04	no	305.17	no
3-Nov-05	305.47	305.28	0.19	0.09	no	0.04	no	305.17	no
7-Nov-05	305.48	305.23	0.25	0.09	no	0.04	no	305.17	no
10-Nov-05	305.49	305.25	0.24	0.09	no	0.04	no	305.17	no
14-Nov-05	305.50	305.25	0.25	0.09	no	0.04	no	305.17	no
17-Nov-05	305.51	305.27	0.24	0.09	no	0.04	no	305.17	no
21-Nov-05	305.53	305.29	0.24	0.09	no	0.04	no	305.17	no
24-Nov-05	305.55	305.30	0.25	0.09	no	0.04	no	305.17	no
28-Nov-05	305.56	305.31	0.25	0.09	no	0.04	no	305.17	no
1-Dec-05	305.56	305.31	0.25	0.09	no	0.04	no	305.17	no
5-Dec-05	305.56	305.30	0.26	0.09	no	0.04	no	305.17	no
8-Dec-05	305.55	305.30	0.25	0.09	no	0.04	no	305.17	no
12-Dec-05	305.54	305.29	0.25	0.09	no	0.04	no	305.17	no
15-Dec-05	305.54	305.28	0.26	0.09	no	0.04	no	305.17	no
19-Dec-05	305.53	305.28	0.25	0.09	no	0.04	no	305.17	no
22-Dec-05	305.53	305.28	0.25	0.09	no	0.04	no	305.17	no
26-Dec-05	305.53	305.27	0.26	0.09	no	0.04	no	305.17	no
29-Dec-05	305.53	305.27	0.26	0.09	no	0.04	no	305.17	no
12-Jan-06	305.53	305.25	0.28	0.13	no	0.07	no	305.17	no
26-Jan-06	305.64	305.31	0.33	0.13	no	0.07	no	305.17	no
16-Feb-06	305.62	305.31	0.31	0.13	no	0.07	no	305.17	no
23-Feb-06	305.54	305.28	0.26	0.13	no	0.07	no	305.17	no
28-Feb-06	305.52	305.27	0.25	0.13	no	0.07	no	305.17	no
13-Mar-06	306.06	305.56	0.50	0.13	no	0.07	no	305.17	no
20-Mar-06	305.75	305.32	0.43	0.13	no	0.07	no	305.17	no
30-Mar-06	305.71	305.31	0.40	0.13	no	0.07	no	305.17	no
3-Apr-06	305.72	305.24	0.48	0.19	no	0.14	no	305.17	no
7-Apr-06	305.71	305.25	0.46	0.19	no	0.14	no	305.17	no
14-Apr-06	305.87	305.38	0.49	0.19	no	0.14	no	305.17	no
21-Apr-06	305.71	305.24	0.47	0.19	no	0.14	no	305.17	no
28-Apr-06	305.77	305.30	0.47	0.19	no	0.14	no	305.17	no
3-May-06	305.72	305.30	0.42	0.19	no	0.14	no	305.17	no
9-May-06	305.70	305.28	0.42	0.19	no	0.14	no	305.17	no
19-May-06	305.94	305.30	0.64	0.19	no	0.14	no	305.17	no
31-May-06	305.73	305.29	0.44	0.19	no	0.14	no	305.17	no
2-Jun-06	305.73	305.29	0.44	0.19	no	0.14	no	305.17	no
10-Jun-06	305.70	305.27	0.43	0.19	no	0.14	no	305.17	no
26-Jun-06	305.58	305.24	0.34	0.19	no	0.14	no	305.17	no
29-Jun-06	305.58	305.25	0.33	0.19	no	0.14	no	305.17	no
30-Jun-06	305.59	305.26	0.33	0.19	no	0.14	no	305.17	no
6-Jul-06	305.57	305.25	0.32	0.12	no	0.06	no	305.17	no
13-Jul-06	305.73	305.36	0.37	0.12	no	0.06	no	305.17	no
21-Jul-06	305.66	305.26	0.40	0.12	no	0.06	no	305.17	no
27-Jul-06	305.64	305.25	0.39	0.12	no	0.06	no	305.17	no
10-Aug-06	305.59	305.24	0.35	0.12	no	0.06	no	305.17	no
15-Aug-06	305.50	305.23	0.27	0.12	no	0.06	no	305.17	no
18-Aug-06	305.56	305.23	0.33	0.12	no	0.06	no	305.17	no
21-Aug-06	305.47	305.20	0.27	0.12	no	0.06	no	305.17	no
28-Aug-06	305.54	305.24	0.30	0.12	no	0.06	no	305.17	no
8-Sep-06	305.57	305.21	0.36	0.12	no	0.06	no	305.17	no
14-Sep-06	305.63	305.27	0.36	0.12	no	0.06	no	305.17	no
22-Sep-06	305.64	305.26	0.38	0.12	no	0.06	no	305.17	no
29-Sep-06	305.62	305.24	0.38	0.12	no	0.06	no	305.17	no
5-Oct-06	305.78	305.38	0.40	0.09	no	0.04	no	305.17	no
12-Oct-06	305.83	305.41	0.42	0.09	no	0.04	no	305.17	no
19-Oct-06	305.72	305.33	0.39	0.09	no	0.04	no	305.17	no
26-Oct-06	305.62	305.24	0.38	0.09	no	0.04	no	305.17	no
8-Nov-06	305.67	305.30	0.38	0.09	no	0.04	no	305.17	no
15-Nov-06	305.70	305.31	0.39	0.09	no	0.04	no	305.17	no
22-Nov-06	306.08	305.47	0.62	0.09	no	0.04	no	305.17	no
29-Nov-06	305.82	305.37	0.44	0.09	no	0.04	no	305.17	no
1-Dec-06	305.82	305.37	0.45	0.09	no	0.04	no	305.17	no
7-Dec-06	305.75	305.36	0.39	0.09	no	0.04	no	305.17	no
13-Dec-06	305.73	305.32	0.41	0.09	no	0.04	no	305.17	no
20-Dec-06	305.71	305.31	0.40	0.09	no	0.04	no	305.17	no

Table G-2
Threshold Summary - BH92-12A to DP17
Mill Creek Aggregates Pit

			BH92-12A to DP17					DP17	
Date	Water Elevation BH92-12 (m ASL)	Water Elevation DP17 (m ASL)	Head Difference (m)	Early Warning Value (m)	Exceedance of Early Warning Value	Threshold Value (m)	Exceedance of Threshold Value	Threshold Value (m ASL)	Exceedance of Threshold Value
9-Jan-07	305.83	305.54	0.29	0.13	no	0.07	no	305.17	no
16-Jan-07	305.76	305.49	0.27	0.13	no	0.07	no	305.17	no
23-Jan-07	305.74	305.48	0.26	0.13	no	0.07	no	305.17	no
30-Jan-07	305.69	305.28	0.41	0.13	no	0.07	no	305.17	no
5-Feb-07	305.68	305.27	0.41	0.13	no	0.07	no	305.17	no
15-Feb-07	305.69	305.28	0.41	0.13	no	0.07	no	305.17	no
22-Feb-07	305.74	305.24	0.50	0.13	no	0.07	no	305.17	no
14-Mar-07	306.00	305.41	0.59	0.13	no	0.07	no	305.17	no
21-Mar-07	305.84	305.35	0.49	0.13	no	0.07	no	305.17	no
28-Mar-07	305.84	305.36	0.48	0.13	no	0.07	no	305.17	no
4-Apr-07	305.86	305.35	0.51	0.19	no	0.14	no	305.17	no
18-Apr-07	305.84	305.36	0.48	0.19	no	0.14	no	305.17	no
24-Apr-07	305.89	305.35	0.54	0.19	no	0.14	no	305.17	no
3-May-07	305.86	305.35	0.51	0.19	no	0.14	no	305.17	no
8-May-07	305.82	305.31	0.51	0.19	no	0.14	no	305.17	no
16-May-07	305.91	305.42	0.49	0.19	no	0.14	no	305.17	no
25-May-07	305.80	305.28	0.52	0.19	no	0.14	no	305.17	no
7-Jun-07	305.78	305.28	0.50	0.19	no	0.14	no	305.17	no
13-Jun-07	305.73	305.26	0.47	0.19	no	0.14	no	305.17	no
18-Jun-07	305.70	305.21	0.49	0.19	no	0.14	no	305.17	no
26-Jun-07	305.72	305.25	0.47	0.19	no	0.14	no	305.17	no
6-Jul-07	305.67	305.24	0.43	0.12	no	0.06	no	305.17	no
12-Jul-07	305.65	305.23	0.42	0.12	no	0.06	no	305.17	no
17-Jul-07	305.64	305.23	0.41	0.12	no	0.06	no	305.17	no
25-Jul-07	305.60	305.23	0.37	0.12	no	0.06	no	305.17	no
3-Aug-07	305.57	305.22	0.35	0.12	no	0.06	no	305.17	no
9-Aug-07	305.61	305.24	0.37	0.12	no	0.06	no	305.17	no
14-Aug-07	305.56	305.23	0.34	0.12	no	0.06	no	305.17	no
21-Aug-07	305.54	305.23	0.31	0.12	no	0.06	no	305.17	no
29-Aug-07	305.56	305.24	0.32	0.12	no	0.06	no	305.17	no
6-Sep-07	305.50	305.22	0.28	0.12	no	0.06	no	305.17	no
12-Sep-07	305.50	305.24	0.26	0.12	no	0.06	no	305.17	no
21-Sep-07	305.46	305.22	0.25	0.12	no	0.06	no	305.17	no
28-Sep-07	305.47	305.23	0.24	0.12	no	0.06	no	305.17	no
3-Oct-07	305.45	305.23	0.21	0.09	no	0.04	no	305.17	no
10-Oct-07	305.59	305.26	0.33	0.09	no	0.04	no	305.17	no
17-Oct-07	305.51	305.24	0.27	0.09	no	0.04	no	305.17	no
22-Oct-07	305.49	305.23	0.27	0.09	no	0.04	no	305.17	no
31-Oct-07	305.49	305.24	0.25	0.09	no	0.04	no	305.17	no
9-Nov-07	305.51	305.25	0.26	0.09	no	0.04	no	305.17	no
16-Nov-07	305.48	305.25	0.24	0.09	no	0.04	no	305.17	no
23-Nov-07	305.64	305.31	0.33	0.09	no	0.04	no	305.17	no
29-Nov-07	305.56	305.28	0.28	0.09	no	0.04	no	305.17	no
5-Dec-07	305.59	305.30	0.29	0.09	no	0.04	no	305.17	no
10-Dec-07	305.51	305.26	0.25	0.09	no	0.04	no	305.17	no
19-Dec-07	305.50	305.31	0.19	0.09	no	0.04	no	305.17	no
10-Jan-08	305.90	305.51	0.39	0.13	no	0.07	no	305.17	no
17-Jan-08	305.67	305.32	0.36	0.13	no	0.07	no	305.17	no
22-Jan-08	305.59	305.27	0.32	0.13	no	0.07	no	305.17	no
31-Jan-08	305.61	305.30	0.31	0.13	no	0.07	no	305.17	no
7-Feb-08	305.67	305.34	0.33	0.13	no	0.07	no	305.17	no
15-Feb-08	305.62	305.29	0.33	0.13	no	0.07	no	305.17	no
21-Feb-08	305.70	305.35	0.35	0.13	no	0.07	no	305.17	no
29-Feb-08	305.62	305.30	0.32	0.13	no	0.07	no	305.17	no
10-Mar-08	305.68	305.33	0.35	0.13	no	0.07	no	305.17	no
14-Mar-08	305.66	305.30	0.36	0.13	no	0.07	no	305.17	no
20-Mar-08	305.80	305.37	0.43	0.13	no	0.07	no	305.17	no
26-Mar-08	305.73	305.34	0.39	0.13	no	0.07	no	305.17	no
31-Mar-08	305.82	305.37	0.45	0.13	no	0.07	no	305.17	no
8-Apr-08	305.97	305.54	0.43	0.19	no	0.14	no	305.17	no
17-Apr-08	305.85	305.38	0.46	0.19	no	0.14	no	305.17	no
23-Apr-08	305.77	305.32	0.44	0.19	no	0.14	no	305.17	no
28-Apr-08	305.76	305.33	0.43	0.19	no	0.14	no	305.17	no
5-May-08	305.87	305.39	0.48	0.19	no	0.14	no	305.17	no
15-May-08	305.80	305.33	0.48	0.19	no	0.14	no	305.17	no
20-May-08	305.76	305.30	0.46	0.19	no	0.14	no	305.17	no
28-May-08	305.73	305.28	0.45	0.19	no	0.14	no	305.17	no
9-Jun-08	305.72	305.27	0.45	0.19	no	0.14	no	305.17	no
16-Jun-08	305.83	305.40	0.43	0.19	no	0.14	no	305.17	no
20-Jun-08	305.79	305.30	0.49	0.19	no	0.14	no	305.17	no
25-Jun-08	305.79	305.30	0.49	0.19	no	0.14	no	305.17	no
30-Jun-08	305.80	305.33	0.47	0.19	no	0.14	no	305.17	no
4-Jul-08	305.76	305.29	0.47	0.12	no	0.06	no	305.17	no
11-Jul-08	305.81	305.33	0.48	0.12	no	0.06	no	305.17	no
16-Jul-08	305.77	305.28	0.49	0.12	no	0.06	no	305.17	no
25-Jul-08	305.93	305.40	0.53	0.12	no	0.06	no	305.17	no
30-Jul-08	305.82	305.31	0.51	0.12	no	0.06	no	305.17	no
5-Aug-08	305.77	305.30	0.47	0.12	no	0.06	no	305.17	no
12-Aug-08	305.84	305.35	0.49	0.12	no	0.06	no	305.17	no
20-Aug-08	305.74	305.32	0.42	0.12	no	0.06	no	305.17	no
27-Aug-08	305.75	305.30	0.45	0.12	no	0.06	no	305.17	no
3-Sep-08	305.71	305.27	0.44	0.12	no	0.06	no	305.17	no
12-Sep-08	305.80	305.31	0.49	0.12	no	0.06	no	305.17	no
19-Sep-08	305.97	305.46	0.51	0.12	no	0.06	no	305.17	no
24-Sep-08	305.74	305.33	0.42	0.12	no	0.06	no	305.17	no
30-Sep-08	305.75	305.29	0.46	0.12	no	0.06	no	305.17	no
3-Oct-08	305.45	305.23	0.21	0.09	no	0.04	no	305.17	no
10-Oct-08	305.59	305.26	0.33	0.09	no	0.04	no	305.17	no
17-Oct-08	305.51	305.24	0.27	0.09	no	0.04	no	305.17	no
22-Oct-08	305.49	305.23	0.27	0.09	no	0.04	no	305.17	no
31-Oct-08	305.49	305.24	0.25	0.09	no	0.04	no	305.17	no
5-Nov-08	305.73	305.33	0.40	0.09	no	0.04	no	305.17	no
12-Nov-08	305.71	305.31	0.40	0.09	no	0.04	no	305.17	no
19-Nov-08	305.78	305.34	0.44	0.09	no	0.04	no	305.17	no
26-Nov-08	305.75	305.32	0.43	0.09	no	0.04	no	305.17	no
3-Dec-08	305.79	305.33	0.47	0.09	no	0.04	no	305.17	no
10-Dec-08	305.78	305.36	0.42	0.09	no	0.04	no	305.17	no
17-Dec-08	305.79	305.38	0.41	0.09	no	0.04	no	305.17	no

Table G-2
Threshold Summary - BH92-12A to DP17
Mill Creek Aggregates Pit

			BH92-12A to DP17					DP17	
Date	Water Elevation BH92-12 (m ASL)	Water Elevation DP17 (m ASL)	Head Difference (m)	Early Warning Value (m)	Exceedance of Early Warning Value	Threshold Value (m)	Exceedance of Threshold Value	Threshold Value (m ASL)	Exceedance of Threshold Value
6-Jan-09	305.78	305.38	0.40	0.13	no	0.07	no	305.17	no
15-Jan-09	305.69	305.39	0.30	0.13	no	0.07	no	305.17	no
23-Jan-09	305.74	305.32	0.42	0.13	no	0.07	no	305.17	no
2-Feb-09	305.72	305.31	0.41	0.13	no	0.07	no	305.17	no
10-Feb-09	305.78	305.34	0.44	0.13	no	0.07	no	305.17	no
23-Feb-09	305.78	305.31	0.47	0.13	no	0.07	no	305.17	no
27-Feb-09	305.77	305.30	0.47	0.13	no	0.07	no	305.17	no
6-Mar-09	305.81	305.36	0.45	0.13	no	0.07	no	305.17	no
11-Mar-09	306.09	305.59	0.50	0.13	no	0.07	no	305.17	no
19-Mar-09	305.89	305.43	0.46	0.13	no	0.07	no	305.17	no
27-Mar-09	305.83	305.38	0.45	0.13	no	0.07	no	305.17	no
2-Apr-09	305.87	305.41	0.46	0.19	no	0.14	no	305.17	no
9-Apr-09	305.96	305.46	0.50	0.19	no	0.14	no	305.17	no
17-Apr-09	305.86	305.37	0.49	0.19	no	0.14	no	305.17	no
24-Apr-09	305.91	305.42	0.49	0.19	no	0.14	no	305.17	no
27-Apr-09	305.95	305.46	0.49	0.19	no	0.14	no	305.17	no
5-May-09	305.92	305.42	0.50	0.19	no	0.14	no	305.17	no
13-May-09	305.87	305.38	0.49	0.19	no	0.14	no	305.17	no
21-May-09	305.82	305.33	0.49	0.19	no	0.14	no	305.17	no
29-May-09	305.88	305.43	0.45	0.19	no	0.14	no	305.17	no
5-Jun-09	305.82	305.34	0.48	0.19	no	0.14	no	305.17	no
10-Jun-09	305.82	305.36	0.46	0.19	no	0.14	no	305.17	no
16-Jun-09	305.79	305.32	0.47	0.19	no	0.14	no	305.17	no
23-Jun-09	305.79	305.33	0.46	0.19	no	0.14	no	305.17	no
3-Jul-09	305.82	305.34	0.48	0.12	no	0.06	no	305.17	no
10-Jul-09	305.79	305.31	0.49	0.12	no	0.06	no	305.17	no
15-Jul-09	305.78	305.30	0.48	0.12	no	0.06	no	305.17	no
22-Jul-09	305.78	305.31	0.47	0.12	no	0.06	no	305.17	no
31-Jul-09	305.89	305.37	0.51	0.12	no	0.06	no	305.17	no
7-Aug-09	305.78	305.31	0.47	0.12	no	0.06	no	305.17	no
13-Aug-09	305.90	305.42	0.48	0.12	no	0.06	no	305.17	no
20-Aug-09	305.77	305.31	0.46	0.12	no	0.06	no	305.17	no
28-Aug-09	305.84	305.34	0.50	0.12	no	0.06	no	305.17	no
4-Sep-09	305.80	305.32	0.48	0.12	no	0.06	no	305.17	no
11-Sep-09	305.76	305.29	0.46	0.12	no	0.06	no	305.17	no
18-Sep-09	305.72	305.28	0.44	0.12	no	0.06	no	305.17	no
24-Sep-09	305.73	305.29	0.44	0.12	no	0.06	no	305.17	no
28-Sep-09	305.75	305.29	0.46	0.12	no	0.06	no	305.17	no
9-Oct-09	305.76	305.33	0.44	0.09	no	0.04	no	305.17	no
14-Oct-09	305.76	305.32	0.44	0.09	no	0.04	no	305.17	no
22-Oct-09	305.72	305.31	0.41	0.09	no	0.04	no	305.17	no
30-Oct-09	305.72	305.32	0.41	0.09	no	0.04	no	305.17	no
6-Nov-09	305.71	305.31	0.39	0.09	no	0.04	no	305.17	no
11-Nov-09	305.70	305.34	0.36	0.09	no	0.04	no	305.17	no
20-Nov-09	305.69	305.34	0.36	0.09	no	0.04	no	305.17	no
26-Nov-09	305.69	305.33	0.37	0.09	no	0.04	no	305.17	no
4-Dec-09	305.79	305.38	0.41	0.09	no	0.04	no	305.17	no
11-Dec-09	305.70	305.32	0.38	0.09	no	0.04	no	305.17	no
17-Dec-09	305.71	305.33	0.38	0.09	no	0.04	no	305.17	no
8-Jan-10	305.60	305.32	0.27	0.13	no	0.07	no	305.17	no
13-Jan-10	305.59	305.30	0.28	0.13	no	0.07	no	305.17	no
22-Jan-10	305.58	305.28	0.30	0.13	no	0.07	no	305.17	no
29-Jan-10	305.63	305.36	0.27	0.13	no	0.07	no	305.17	no
4-Feb-10	305.57	305.24	0.33	0.13	no	0.07	no	305.17	no
11-Feb-10	305.53	305.24	0.29	0.13	no	0.07	no	305.17	no
22-Feb-10	305.53	305.34	0.19	0.13	no	0.07	no	305.17	no
26-Feb-10	305.53	305.27	0.26	0.13	no	0.07	no	305.17	no
5-Mar-10	305.55	305.28	0.27	0.13	no	0.07	no	305.17	no
11-Mar-10	305.63	305.33	0.30	0.13	no	0.07	no	305.17	no
18-Mar-10	305.86	305.45	0.41	0.13	no	0.07	no	305.17	no
24-Mar-10	305.72	305.36	0.35	0.13	no	0.07	no	305.17	no
1-Apr-10	305.67	305.33	0.34	0.19	no	0.14	no	305.17	no
9-Apr-10	305.97	305.47	0.50	0.19	no	0.14	no	305.17	no
16-Apr-10	305.80	305.31	0.49	0.19	no	0.14	no	305.17	no
23-Apr-10	305.64	305.29	0.35	0.19	no	0.14	no	305.17	no
30-Apr-10	305.62	305.28	0.34	0.19	no	0.14	no	305.17	no
6-May-10	305.63	305.29	0.34	0.19	no	0.14	no	305.17	no
14-May-10	305.66	305.30	0.36	0.19	no	0.14	no	305.17	no
21-May-10	305.63	305.28	0.35	0.19	no	0.14	no	305.17	no
28-May-10	305.55	305.25	0.30	0.19	no	0.14	no	305.17	no
4-Jun-10	305.57	305.28	0.29	0.19	no	0.14	no	305.17	no
11-Jun-10	305.62	305.31	0.31	0.19	no	0.14	no	305.17	no
17-Jun-10	305.66	305.33	0.33	0.19	no	0.14	no	305.17	no
24-Jun-10	305.60	305.29	0.31	0.19	no	0.14	no	305.17	no
28-Jun-10	305.61	305.32	0.29	0.19	no	0.14	no	305.17	no
9-Jul-10	305.49	305.26	0.23	0.12	no	0.06	no	305.17	no
15-Jul-10	305.46	305.33	0.13	0.12	no	0.06	no	305.17	no
22-Jul-10	305.40	305.24	0.16	0.12	no	0.06	no	305.17	no
5-Aug-10	305.52	305.26	0.26	0.12	no	0.06	no	305.17	no
18-Aug-10	305.44	305.24	0.20	0.12	no	0.06	no	305.17	no
27-Aug-10	305.42	305.24	0.18	0.12	no	0.06	no	305.17	no
3-Sep-10	305.38	305.23	0.15	0.12	no	0.06	no	305.17	no
8-Sep-10	305.38	305.24	0.14	0.12	no	0.06	no	305.17	no
17-Sep-10	305.43	305.29	0.14	0.12	no	0.06	no	305.17	no
22-Sep-10	305.42	305.25	0.17	0.12	no	0.06	no	305.17	no
28-Sep-10	305.41	305.32	0.09	0.12	Yes	0.06	no	305.17	no

Table G-2
Threshold Summary - BH92-12A to DP17
Mill Creek Aggregates Pit

			BH92-12A to DP17					DP17	
Date	Water Elevation BH92-12 (m ASL)	Water Elevation DP17 (m ASL)	Head Difference (m)	Early Warning Value (m)	Exceedance of Early Warning Value	Threshold Value (m)	Exceedance of Threshold Value	Threshold Value (m ASL)	Exceedance of Threshold Value
8-Oct-10	305.40	305.27	0.13	0.09	no	0.04	no	305.17	no
15-Oct-10	305.44	305.30	0.14	0.09	no	0.04	no	305.17	no
20-Oct-10	305.39	305.26	0.13	0.09	no	0.04	no	305.17	no
28-Oct-10	305.47	305.29	0.18	0.09	no	0.04	no	305.17	no
5-Nov-10	305.41	305.26	0.15	0.09	no	0.04	no	305.17	no
12-Nov-10	305.45	305.26	0.19	0.09	no	0.04	no	305.17	no
18-Nov-10	305.47	305.36	0.11	0.09	no	0.04	no	305.17	no
26-Nov-10	305.52	305.33	0.19	0.09	no	0.04	no	305.17	no
3-Dec-10	305.56	305.34	0.22	0.09	no	0.04	no	305.17	no
8-Dec-10	305.45	305.28	0.17	0.09	no	0.04	no	305.17	no
15-Dec-10	305.43	305.24	0.19	0.09	no	0.04	no	305.17	no
22-Dec-10	305.40	305.24	0.16	0.09	no	0.04	no	305.17	no
10-Jan-11	305.38	305.24	0.14	0.13	no	0.07	no	305.17	no
19-Jan-11	305.38	305.24	0.14	0.13	no	0.07	no	305.17	no
27-Jan-11	305.36	305.24	0.12	0.13	Yes	0.07	no	305.17	no
31-Jan-11	305.35	305.24	0.11	0.13	Yes	0.07	no	305.17	no
4-Feb-11	305.35	305.24	0.11	0.13	Yes	0.07	no	305.17	no
11-Feb-11	305.36	305.24	0.12	0.13	Yes	0.07	no	305.17	no
22-Feb-11	305.45	305.31	0.14	0.13	no	0.07	no	305.17	no
26-Feb-11	305.42	305.27	0.15	0.13	no	0.07	no	305.17	no
4-Mar-11	305.40	305.21	0.19	0.13	no	0.07	no	305.17	no
11-Mar-11	305.66	305.28	0.38	0.13	no	0.07	no	305.17	no
16-Mar-11	305.64	305.41	0.23	0.13	no	0.07	no	305.17	no
29-Mar-11	305.67	305.34	0.33	0.13	no	0.07	no	305.17	no
6-Apr-11	305.62	305.38	0.24	0.19	no	0.14	no	305.17	no
14-Apr-11	305.59	305.32	0.27	0.19	no	0.14	no	305.17	no
21-Apr-11	305.71	305.47	0.24	0.19	no	0.14	no	305.17	no
29-Apr-11	305.73	305.41	0.32	0.19	no	0.14	no	305.17	no
6-May-11	305.67	305.34	0.33	0.19	no	0.14	no	305.17	no
12-May-11	305.75	305.40	0.35	0.19	no	0.14	no	305.17	no
20-May-11	305.94	305.41	0.53	0.19	no	0.14	no	305.17	no
26-May-11	305.78	305.41	0.37	0.19	no	0.14	no	305.17	no
2-Jun-11	305.74	305.35	0.39	0.19	no	0.14	no	305.17	no
10-Jun-11	305.79	305.38	0.41	0.19	no	0.14	no	305.17	no
16-Jun-11	305.69	305.30	0.39	0.19	no	0.14	no	305.17	no
23-Jun-11	305.68	305.32	0.36	0.19	no	0.14	no	305.17	no
30-Jun-11	305.65	305.29	0.36	0.19	no	0.14	no	305.17	no
8-Jul-11	305.59	305.27	0.32	0.12	no	0.06	no	305.17	no
14-Jul-11	305.55	305.26	0.29	0.12	no	0.06	no	305.17	no
26-Jul-11	305.49	305.24	0.25	0.12	no	0.06	no	305.17	no
3-Aug-11	305.46	305.24	0.22	0.12	no	0.06	no	305.17	no
11-Aug-11	305.48	305.24	0.24	0.12	no	0.06	no	305.17	no
19-Aug-11	305.43	305.23	0.20	0.12	no	0.06	no	305.17	no
30-Aug-11	305.43	305.24	0.19	0.12	no	0.06	no	305.17	no
9-Sep-11	305.43	305.24	0.19	0.12	no	0.06	no	305.17	no
14-Sep-11	305.41	305.22	0.19	0.12	no	0.06	no	305.17	no
23-Sep-11	305.42	305.25	0.17	0.12	no	0.06	no	305.17	no
30-Sep-11	305.41	305.24	0.17	0.12	no	0.06	no	305.17	no
6-Oct-11	305.45	305.27	0.18	0.09	no	0.04	no	305.17	no
14-Oct-11	305.48	305.29	0.19	0.09	no	0.04	no	305.17	no
20-Oct-11	305.65	305.37	0.28	0.09	no	0.04	no	305.17	no
27-Oct-11	305.54	305.34	0.20	0.09	no	0.04	no	305.17	no
4-Nov-11	305.46	305.27	0.19	0.09	no	0.04	no	305.17	no
10-Nov-11	305.47	305.29	0.18	0.09	no	0.04	no	305.17	no
14-Nov-11	305.47	305.31	0.16	0.09	no	0.04	no	305.17	no
25-Nov-11	305.49	305.31	0.18	0.09	no	0.04	no	305.17	no
8-Dec-11	305.65	305.38	0.27	0.09	no	0.04	no	305.17	no
14-Dec-11	305.54	305.33	0.21	0.09	no	0.04	no	305.17	no
22-Dec-11	305.60	305.36	0.24	0.09	no	0.04	no	305.17	no
6-Jan-12	305.58	305.32	0.26	0.13	no	0.07	no	305.17	no
12-Jan-12	305.58	305.30	0.28	0.13	no	0.07	no	305.17	no
16-Jan-12	305.56	305.29	0.27	0.13	no	0.07	no	305.17	no
26-Jan-12	305.57	305.31	0.26	0.13	no	0.07	no	305.17	no
3-Feb-12	305.63	305.30	0.33	0.13	no	0.07	no	305.17	no
9-Feb-12	305.55	305.27	0.28	0.13	no	0.07	no	305.17	no
16-Feb-12	305.52	305.21	0.31	0.13	no	0.07	no	305.17	no
23-Feb-12	305.56	305.33	0.23	0.13	no	0.07	no	305.17	no
2-Mar-12	305.66	305.36	0.30	0.13	no	0.07	no	305.17	no
9-Mar-12	305.66	305.38	0.28	0.13	no	0.07	no	305.17	no
21-Mar-12	305.60	305.32	0.28	0.13	no	0.07	no	305.17	no
29-Mar-12	305.57	305.26	0.31	0.13	no	0.07	no	305.17	no
4-Apr-12	305.56	305.31	0.25	0.19	no	0.14	no	305.17	no
13-Apr-12	305.50	305.26	0.24	0.19	no	0.14	no	305.17	no
17-Apr-12	305.49	305.27	0.22	0.19	no	0.14	no	305.17	no
30-Apr-12	305.54	305.28	0.26	0.19	no	0.14	no	305.17	no
7-May-12	305.53	305.29	0.24	0.19	no	0.14	no	305.17	no
17-May-12	305.47	305.26	0.21	0.19	no	0.14	no	305.17	no
24-May-12	305.44	305.25	0.19	0.19	no	0.14	no	305.17	no
29-May-12	305.47	305.29	0.18	0.19	Yes	0.14	no	305.17	no
6-Jun-12	305.44	305.26	0.18	0.19	Yes	0.14	no	305.17	no
15-Jun-12	305.42	305.24	0.18	0.19	Yes	0.14	no	305.17	no
20-Jun-12	305.40	305.23	0.17	0.19	Yes	0.14	no	305.17	no
29-Jun-12	305.38	305.23	0.15	0.19	Yes	0.14	no	305.17	no
4-Jul-12	305.34	305.22	0.12	0.12	no	0.06	no	305.17	no
12-Jul-12	305.29	305.20	0.09	0.12	Yes	0.06	no	305.17	no
24-Jul-12	305.31	305.20	0.11	0.12	Yes	0.06	no	305.17	no
30-Jul-12	305.29	305.21	0.08	0.12	Yes	0.06	no	305.17	no

Table G-2
Threshold Summary - BH92-12A to DP17
Mill Creek Aggregates Pit

			BH92-12A to DP17					DP17	
Date	Water Elevation BH92-12 (m ASL)	Water Elevation DP17 (m ASL)	Head Difference (m)	Early Warning Value (m)	Exceedance of Early Warning Value	Threshold Value (m)	Exceedance of Threshold Value	Threshold Value (m ASL)	Exceedance of Threshold Value
10-Aug-12	305.34	305.23	0.11	0.12	Yes	0.06	no	305.17	no
15-Aug-12	305.36	305.24	0.12	0.12	no	0.06	no	305.17	no
21-Aug-12	305.35	305.21	0.14	0.12	no	0.06	no	305.17	no
27-Aug-12	305.37	305.21	0.16	0.12	no	0.06	no	305.17	no
7-Sep-12	305.37	305.21	0.16	0.12	no	0.06	no	305.17	no
13-Sep-12	305.33	305.26	0.07	0.12	Yes	0.06	no	305.17	no
18-Sep-12	305.33	305.26	0.07	0.12	Yes	0.06	no	305.17	no
24-Sep-12	305.36	305.24	0.12	0.12	no	0.06	no	305.17	no
9-Oct-12	305.31	305.22	0.09	0.09	no	0.04	no	305.17	no
18-Oct-12	305.36	305.25	0.11	0.09	no	0.04	no	305.17	no
23-Oct-12	305.33	305.29	0.04	0.09	Yes	0.04	no	305.17	no
31-Oct-12	305.49	305.38	0.11	0.09	no	0.04	no	305.17	no
12-Nov-12	305.44	305.33	0.11	0.09	no	0.04	no	305.17	no
16-Nov-12	305.40	305.26	0.14	0.09	no	0.04	no	305.17	no
22-Nov-12	305.36	305.25	0.11	0.09	no	0.04	no	305.17	no
28-Nov-12	305.34	305.24	0.10	0.09	no	0.04	no	305.17	no
7-Dec-12	305.33	305.25	0.08	0.09	Yes	0.04	no	305.17	no
13-Dec-12	305.32	305.26	0.06	0.09	Yes	0.04	no	305.17	no
19-Dec-12	305.31	305.27	0.04	0.09	Yes	0.04	no	305.17	no
3-Jan-13	305.41	305.28	0.13	0.13	no	0.07	no	305.17	no
16-Jan-13	305.48	305.28	0.20	0.13	no	0.07	no	305.17	no
24-Jan-13	305.35	305.28	0.07	0.13	Yes	0.07	no	305.17	no
31-Jan-13	305.59	305.45	0.14	0.13	no	0.07	no	305.17	no
8-Feb-13	305.52	305.43	0.09	0.13	Yes	0.07	no	305.17	no
13-Feb-13	305.43	305.28	0.15	0.13	no	0.07	no	305.17	no
20-Feb-13	305.47	305.28	0.19	0.13	no	0.07	no	305.17	no
28-Feb-13	305.36	305.25	0.11	0.13	Yes	0.07	no	305.17	no
6-Mar-13	305.36	305.26	0.10	0.13	Yes	0.07	no	305.17	no
15-Mar-13	305.55	305.39	0.16	0.13	no	0.07	no	305.17	no
21-Mar-13	305.44	305.31	0.13	0.13	no	0.07	no	305.17	no
25-Mar-13	305.41	305.29	0.12	0.13	Yes	0.07	no	305.17	no
4-Apr-13	305.74	305.34	0.40	0.19	no	0.14	no	305.17	no
10-Apr-13	305.78	305.55	0.23	0.19	no	0.14	no	305.17	no
18-Apr-13	305.62	305.39	0.23	0.19	no	0.14	no	305.17	no
25-Apr-13	305.56	305.33	0.23	0.19	no	0.14	no	305.17	no
2-May-13	305.55	305.33	0.22	0.19	no	0.14	no	305.17	no
9-May-13	305.55	305.31	0.24	0.19	no	0.14	no	305.17	no
15-May-13	305.54	305.29	0.25	0.19	no	0.14	no	305.17	no
23-May-13	305.48	305.27	0.21	0.19	no	0.14	no	305.17	no
7-Jun-13	305.50	305.30	0.20	0.19	no	0.14	no	305.17	no
13-Jun-13	305.56	305.35	0.21	0.19	no	0.14	no	305.17	no
21-Jun-13	305.48	305.27	0.21	0.19	no	0.14	no	305.17	no
26-Jun-13	305.45	305.26	0.19	0.19	no	0.14	no	305.17	no
5-Jul-13	305.60	305.31	0.29	0.12	no	0.06	no	305.17	no
12-Jul-13	305.50	305.29	0.21	0.12	no	0.06	no	305.17	no
17-Jul-13	305.46	305.25	0.21	0.12	no	0.06	no	305.17	no
31-Jul-13	305.57	305.26	0.31	0.12	no	0.06	no	305.17	no
9-Aug-13	305.50	305.27	0.23	0.12	no	0.06	no	305.17	no
14-Aug-13	305.44	305.25	0.19	0.12	no	0.06	no	305.17	no
26-Aug-13	305.37	305.22	0.15	0.12	no	0.06	no	305.17	no
6-Sep-13	305.39	305.23	0.16	0.12	no	0.06	no	305.17	no
12-Sep-13	305.42	305.25	0.17	0.12	no	0.06	no	305.17	no
19-Sep-13	305.45	305.25	0.20	0.12	no	0.06	no	305.17	no
25-Sep-13	305.44	305.27	0.17	0.12	no	0.06	no	305.17	no
3-Oct-13	305.38	305.27	0.11	0.09	no	0.04	no	305.17	no
11-Oct-13	305.41	305.29	0.12	0.09	no	0.04	no	305.17	no
16-Oct-13	305.45	305.29	0.16	0.09	no	0.04	no	305.17	no
22-Oct-13	305.53	305.34	0.19	0.09	no	0.04	no	305.17	no
7-Nov-13	305.48	305.32	0.16	0.09	no	0.04	no	305.17	no
14-Nov-13	305.44	305.33	0.11	0.09	no	0.04	no	305.17	no
22-Nov-13	305.42	305.35	0.07	0.09	Yes	0.04	no	305.17	no
28-Nov-13	305.40	305.33	0.07	0.09	Yes	0.04	no	305.17	no
6-Dec-13	305.40	305.32	0.08	0.09	Yes	0.04	no	305.17	no
10-Dec-13	305.38	305.29	0.09	0.09	no	0.04	no	305.17	no
20-Dec-13	305.36	305.25	0.11	0.09	no	0.04	no	305.17	no
10-Jan-14	305.40			0.13		0.07		305.17	
15-Jan-14	305.52			0.13		0.07		305.17	
24-Jan-14	305.47			0.13		0.07		305.17	
31-Jan-14	305.44			0.13		0.07		305.17	
6-Feb-14	305.35			0.13		0.07		305.17	
12-Feb-14	305.41			0.13		0.07		305.17	
20-Feb-14	305.43			0.13		0.07		305.17	
26-Feb-14	305.43			0.13		0.07		305.17	
6-Mar-14	306.29			0.13		0.07		305.17	
13-Mar-14	306.29			0.13		0.07		305.17	
21-Mar-14	306.31	305.91	0.40	0.13	no	0.07	no	305.17	no
26-Mar-14	306.23			0.13		0.07		305.17	
4-Apr-14	305.64	305.45	0.19	0.19	no	0.14	no	305.17	no
10-Apr-14	305.73	305.54	0.19	0.19	no	0.14	no	305.17	no
24-Apr-14	305.60	305.44	0.16	0.19	yes	0.14	no	305.17	no

Note: Water elevations are left blank when frozen conditions were observed at DP17. Frozen conditions prevented accurate groundwater measurem

Table G-2
Threshold Summary - BH92-12A to DP17
Mill Creek Aggregates Pit

			BH92-12A to DP17					DP17	
Date	Water Elevation BH92-12 (m ASL)	Water Elevation DP17 (m ASL)	Head Difference (m)	Early Warning Value (m)	Exceedance of Early Warning Value	Threshold Value (m)	Exceedance of Threshold Value	Threshold Value (m ASL)	Exceedance of Threshold Value
9-May-14	305.62	305.34	0.28	0.19	no	0.14	no	305.17	no
15-May-14	305.64	305.39	0.25	0.19	no	0.14	no	305.17	no
22-May-14	305.62	305.36	0.26	0.19	no	0.14	no	305.17	no
29-May-14	305.58	305.32	0.26	0.19	no	0.14	no	305.17	no
6-Jun-14	305.53	305.29	0.24	0.19	no	0.14	no	305.17	no
13-Jun-14	305.52	305.28	0.24	0.19	no	0.14	no	305.17	no
18-Jun-14	305.52	305.26	0.26	0.19	no	0.14	no	305.17	no
26-Jun-14	305.46	305.27	0.19	0.19	no	0.14	no	305.17	no
9-Jul-14	305.52	305.30	0.22	0.12	no	0.06	no	305.17	no
18-Jul-14	305.47	305.25	0.22	0.12	no	0.06	no	305.17	no
23-Jul-14	305.56	305.32	0.24	0.12	no	0.06	no	305.17	no
29-Jul-14	305.61	305.37	0.24	0.12	no	0.06	no	305.17	no
7-Aug-14	305.55	305.41	0.14	0.12	no	0.06	no	305.17	no
14-Aug-14	305.54	305.27	0.27	0.12	no	0.06	no	305.17	no
22-Aug-14	305.58	305.35	0.23	0.12	no	0.06	no	305.17	no
28-Aug-14	305.47	305.28	0.19	0.12	no	0.06	no	305.17	no
11-Sep-14	305.52	305.28	0.24	0.12	no	0.06	no	305.17	no
18-Sep-14	305.59	305.27	0.32	0.12	no	0.06	no	305.17	no
25-Sep-14	305.51	305.34	0.17	0.12	no	0.06	no	305.17	no
29-Sep-14	305.52	305.28	0.24	0.12	no	0.06	no	305.17	no
9-Oct-14	305.57	305.32	0.25	0.09	no	0.04	no	305.17	no
17-Oct-14	305.52	305.28	0.24	0.09	no	0.04	no	305.17	no
23-Oct-14	305.53	305.29	0.24	0.09	no	0.04	no	305.17	no
31-Oct-14	305.56	305.32	0.24	0.09	no	0.04	no	305.17	no
7-Nov-14	305.53	305.30	0.23	0.09	no	0.04	no	305.17	no
13-Nov-14	305.51	305.30	0.21	0.09	no	0.04	no	305.17	no
21-Nov-14	305.52	305.31	0.21	0.09	no	0.04	no	305.17	no
27-Nov-14	305.58			0.09		0.04		305.17	
4-Dec-14	305.56			0.09		0.04		305.17	
12-Dec-14	305.52	305.31	0.21	0.09	no	0.04	no	305.17	no
18-Dec-14	305.45	305.30	0.15	0.09	no	0.04	no	305.17	no
9-Jan-15	305.44			0.13		0.07		305.17	
14-Jan-15	305.42			0.13		0.07		305.17	
21-Jan-15	305.42			0.13		0.07		305.17	
29-Jan-15	305.43			0.13		0.07		305.17	
6-Feb-15	305.44			0.13		0.07		305.17	
12-Feb-15	305.39			0.13		0.07		305.17	
18-Feb-15	305.39			0.13		0.07		305.17	
27-Feb-15	305.38			0.13		0.07		305.17	
6-Mar-15	305.41			0.13		0.07		305.17	
12-Mar-15	305.44			0.13		0.07		305.17	
18-Mar-15	305.53	305.32	0.21	0.13	no	0.07	no	305.17	no
25-Mar-15	305.46	305.28	0.18	0.13	no	0.07	no	305.17	no
1-Apr-15	305.47	305.27	0.20	0.19	no	0.14	no	305.17	no
9-Apr-15	305.65	305.40	0.25	0.19	no	0.14	no	305.17	no
14-Apr-15	305.67	305.39	0.28	0.19	no	0.14	no	305.17	no
21-Apr-15	305.72	305.43	0.29	0.19	no	0.14	no	305.17	no
1-May-15	305.54	305.28	0.26	0.19	no	0.14	no	305.17	no
8-May-15	305.56	305.29	0.27	0.19	no	0.14	no	305.17	no
14-May-15	305.56	305.28	0.28	0.19	no	0.14	no	305.17	no
20-May-15	305.49	305.26	0.23	0.19	no	0.14	no	305.17	no
5-Jun-15	305.47	305.27	0.20	0.19	no	0.14	no	305.17	no
10-Jun-15	305.51	305.26	0.25	0.19	no	0.14	no	305.17	no
18-Jun-15	305.57	305.32	0.25	0.19	no	0.14	no	305.17	no
23-Jun-15	305.64	305.27	0.37	0.19	no	0.14	no	305.17	no
8-Jul-15	305.55	305.34	0.21	0.12	no	0.06	no	305.17	no
16-Jul-15	305.48	305.27	0.21	0.12	no	0.06	no	305.17	no
22-Jul-15	305.64	305.27	0.37	0.12	no	0.06	no	305.17	no
31-Jul-15	305.38	305.22	0.16	0.12	no	0.06	no	305.17	no
7-Aug-15	305.38	305.23	0.15	0.12	no	0.06	no	305.17	no
20-Aug-15	305.39	305.25	0.14	0.12	no	0.06	no	305.17	no
25-Aug-15	305.44	305.26	0.18	0.12	no	0.06	no	305.17	no
4-Sep-15	305.39	305.23	0.16	0.12	no	0.06	no	305.17	no
11-Sep-15	305.38	305.23	0.15	0.12	no	0.06	no	305.17	no
18-Sep-15	305.39	305.22	0.17	0.12	no	0.06	no	305.17	no
24-Sep-15	305.38	305.21	0.17	0.12	no	0.06	no	305.17	no
6-Oct-15	305.37	305.24	0.13	0.09	no	0.04	no	305.17	no
15-Oct-15	305.41	305.23	0.18	0.09	no	0.04	no	305.17	no
22-Oct-15	305.43	305.22	0.21	0.09	no	0.04	no	305.17	no
29-Oct-15	305.57	305.38	0.19	0.09	no	0.04	no	305.17	no
5-Nov-15	305.45	305.29	0.16	0.09	no	0.04	no	305.17	no
12-Nov-15	305.42	305.29	0.13	0.09	no	0.04	no	305.17	no
19-Nov-15	305.41	305.26	0.15	0.09	no	0.04	no	305.17	no
25-Nov-15	305.38	305.24	0.14	0.09	no	0.04	no	305.17	no
4-Dec-15	305.35	305.25	0.10	0.09	no	0.04	no	305.17	no
10-Dec-15	305.33	305.24	0.09	0.09	no	0.04	no	305.17	no
17-Dec-15	305.41	305.29	0.12	0.09	no	0.04	no	305.17	no
21-Dec-15	305.36	305.24	0.12	0.09	no	0.04	no	305.17	no

Note: Water elevations are left blank when frozen conditions were observed at DP17. Frozen conditions prevented accurate groundwater measurem

Table G-2
Threshold Summary - BH92-12A to DP17
Mill Creek Aggregates Pit

			BH92-12A to DP17					DP17	
Date	Water Elevation BH92-12 (m ASL)	Water Elevation DP17 (m ASL)	Head Difference (m)	Early Warning Value (m)	Exceedance of Early Warning Value	Threshold Value (m)	Exceedance of Threshold Value	Threshold Value (m ASL)	Exceedance of Threshold Value
6-Jan-16	305.36			0.13		0.07		305.17	
14-Jan-16	305.38			0.13		0.07		305.17	
20-Jan-16	305.38			0.13		0.07		305.17	
26-Jan-16	305.39			0.13		0.07		305.17	
2-Feb-16	305.44	305.30	0.14	0.13	no	0.07	no	305.17	no
10-Feb-16	305.40			0.13		0.07		305.17	
17-Feb-16	305.32			0.13		0.07		305.17	
29-Feb-16	305.48			0.13		0.07		305.17	
4-Mar-16	305.51			0.13		0.07		305.17	
10-Mar-16	305.52			0.13		0.07		305.17	
17-Mar-16	305.66	305.37	0.29	0.13	no	0.07	no	305.17	no
1-Apr-16	305.78	305.55	0.23	0.19	no	0.14	no	305.17	no
4-Apr-16	305.63	305.40	0.23	0.19	no	0.14	no	305.17	no
14-Apr-16	305.56	305.35	0.21	0.19	no	0.14	no	305.17	no
21-Apr-16	305.51	305.27	0.24	0.19	no	0.14	no	305.17	no
27-Apr-16	305.60	305.31	0.29	0.19	no	0.14	no	305.17	no
6-May-16	305.60	305.31	0.29	0.19	no	0.14	no	305.17	no
12-May-16	305.48	305.29	0.19	0.19	no	0.14	no	305.17	no
19-May-16	305.50	305.30	0.20	0.19	no	0.14	no	305.17	no
30-May-16	305.50	305.29	0.21	0.19	no	0.14	no	305.17	no
9-Jun-16	305.45	305.23	0.22	0.19	no	0.14	no	305.17	no
16-Jun-16	305.44	305.23	0.21	0.19	no	0.14	no	305.17	no
22-Jun-16	305.40	305.20	0.20	0.19	no	0.14	no	305.17	no
27-Jun-16	305.54	305.22	0.32	0.19	no	0.14	no	305.17	no
7-Jul-16	305.31	305.20	0.11	0.12	Yes	0.06	no	305.17	no
12-Jul-16	305.32	305.20	0.12	0.12	no	0.06	no	305.17	no
15-Jul-16	305.38	305.25	0.13	0.12	no	0.06	no	305.17	no
28-Jul-16	305.36	305.22	0.14	0.12	no	0.06	no	305.17	no
9-Aug-16	305.30	305.18	0.12	0.12	no	0.06	no	305.17	no
11-Aug-16	305.31	305.19	0.12	0.12	no	0.06	no	305.17	no
22-Aug-16	305.37	305.23	0.14	0.12	no	0.06	no	305.17	no
31-Aug-16	305.38	305.22	0.16	0.12	no	0.06	no	305.17	no
8-Sep-16	305.42	305.29	0.13	0.12	no	0.06	no	305.17	no
15-Sep-16	305.38	305.26	0.12	0.12	no	0.06	no	305.17	no
21-Sep-16	305.35	305.21	0.14	0.12	no	0.06	no	305.17	no
26-Sep-16	305.34	305.21	0.13	0.12	no	0.06	no	305.17	no
6-Oct-16	305.34	305.22	0.12	0.09	no	0.04	no	305.17	no
13-Oct-16	305.31	305.22	0.09	0.09	no	0.04	no	305.17	no
18-Oct-16	305.31	305.18	0.13	0.09	no	0.04	no	305.17	no
27-Oct-16	305.32	305.19	0.13	0.09	no	0.04	no	305.17	no
4-Nov-16	305.33	305.20	0.13	0.09	no	0.04	no	305.17	no
9-Nov-16	305.35	305.24	0.11	0.09	no	0.04	no	305.17	no
14-Nov-16	305.35	305.24	0.11	0.09	no	0.04	no	305.17	no
30-Nov-16	305.38	305.28	0.10	0.09	no	0.04	no	305.17	no
8-Dec-16	305.32			0.09		0.04		305.17	
14-Dec-16	305.36			0.09		0.04		305.17	
22-Dec-16	305.40			0.09		0.04		305.17	
6-Jan-17	305.45			0.13		0.07		305.17	
14-Jan-17	305.64			0.13		0.07		305.17	
20-Jan-17	305.32			0.13		0.07		305.17	
26-Jan-17	305.34			0.13		0.07		305.17	
2-Feb-17	305.40			0.13		0.07		305.17	
9-Feb-17	305.41	305.27	0.14	0.13	no	0.07	no	305.17	no
15-Feb-17	305.40	305.25	0.15	0.13	no	0.07	no	305.17	no
23-Feb-17	305.44	305.30	0.14	0.13	no	0.07	no	305.17	no
2-Mar-17	305.63	305.43	0.20	0.13	no	0.07	no	305.17	no
9-Mar-17	305.53	305.32	0.21	0.13	no	0.07	no	305.17	no
17-Mar-17	305.44	305.28	0.16	0.13	no	0.07	no	305.17	no
22-Mar-17	305.45	305.29	0.16	0.13	no	0.07	no	305.17	no
5-Apr-17	305.67	305.45	0.22	0.19	no	0.14	no	305.17	no
11-Apr-17	305.62	305.36	0.26	0.19	no	0.14	no	305.17	no
19-Apr-17	305.55	305.32	0.23	0.19	no	0.14	no	305.17	no
3-May-17	305.71	305.42	0.29	0.19	no	0.14	no	305.17	no
11-May-17	305.68	305.36	0.32	0.19	no	0.14	no	305.17	no
18-May-17	305.61	305.30	0.31	0.19	no	0.14	no	305.17	no
2-Jun-17	305.60	305.31	0.29	0.19	no	0.14	no	305.17	no
8-Jun-17	305.57	305.29	0.28	0.19	no	0.14	no	305.17	no
14-Jun-17	305.55	305.26	0.29	0.19	no	0.14	no	305.17	no
21-Jun-17	305.53	305.26	0.27	0.19	no	0.14	no	305.17	no
7-Jul-17	305.57	305.28	0.29	0.12	no	0.06	no	305.17	no
12-Jul-17	305.52	305.26	0.26	0.12	no	0.06	no	305.17	no
20-Jul-17	305.57	305.28	0.29	0.12	no	0.06	no	305.17	no
26-Jul-17	305.55	305.27	0.28	0.12	no	0.06	no	305.17	no
4-Aug-17	305.55	305.27	0.28	0.12	no	0.06	no	305.17	no
9-Aug-17	305.53	305.27	0.26	0.12	no	0.06	no	305.17	no
17-Aug-17	305.54	305.27	0.27	0.12	no	0.06	no	305.17	no

Note: Water elevations are left blank when frozen conditions are encountere

Table G-2
Threshold Summary - BH92-12A to DP17
Mill Creek Aggregates Pit

			BH92-12A to DP17					DP17	
Date	Water Elevation BH92-12 (m ASL)	Water Elevation DP17 (m ASL)	Head Difference (m)	Early Warning Value (m)	Exceedance of Early Warning Value	Threshold Value (m)	Exceedance of Threshold Value	Threshold Value (m ASL)	Exceedance of Threshold Value
24-Aug-17	305.54	305.27	0.27	0.12	no	0.06	no	305.17	no
1-Sep-17	305.53	305.21	0.32	0.12	no	0.06	no	305.17	no
7-Sep-17	305.55	305.28	0.27	0.12	no	0.06	no	305.17	no
12-Sep-17	305.54	305.27	0.27	0.12	no	0.06	no	305.17	no
21-Sep-17	305.52	305.26	0.26	0.12	no	0.06	no	305.17	no
29-Sep-17	305.49	305.25	0.24	0.12	no	0.06	no	305.17	no
4-Oct-17	305.49	305.26	0.23	0.09	no	0.04	no	305.17	no
10-Oct-17	305.50	305.27	0.23	0.09	no	0.04	no	305.17	no
18-Oct-17	305.52	305.28	0.24	0.09	no	0.04	no	305.17	no
27-Oct-17	305.48	305.27	0.21	0.09	no	0.04	no	305.17	no
1-Nov-17	305.48	305.27	0.21	0.09	no	0.04	no	305.17	no
9-Nov-17	305.51	305.29	0.22	0.09	no	0.04	no	305.17	no
14-Nov-17	305.46	305.28	0.18	0.09	no	0.04	no	305.17	no
21-Nov-17	305.54	305.32	0.22	0.09	no	0.04	no	305.17	no
1-Dec-17	305.45	305.27	0.18	0.09	no	0.04	no	305.17	no
7-Dec-17	305.48	305.30	0.18	0.09	no	0.04	no	305.17	no
15-Dec-17	305.40			0.09		0.04		305.17	
19-Dec-17	305.41	305.26	0.15	0.09	no	0.04	no	305.17	no
2-Jan-18				0.13		0.07		305.17	
11-Jan-18				0.13		0.07		305.17	
16-Jan-18	305.51			0.13		0.07		305.17	
26-Jan-18	305.52			0.13		0.07		305.17	
1-Feb-18	305.46			0.13		0.07		305.17	
9-Feb-18	305.41			0.13		0.07		305.17	
16-Feb-18	305.47	305.30	0.17	0.13	no	0.07	no	305.17	no
26-Feb-18	305.62	305.39	0.23	0.13	no	0.07	no	305.17	no
5-Mar-18	305.52	305.31	0.21	0.13	no	0.07	no	305.17	no
16-Mar-18	305.46			0.13		0.07		305.17	
23-Mar-18	305.43			0.13		0.07		305.17	
26-Mar-18	305.43	305.26	0.17	0.13	no	0.07	no	305.17	no
6-Apr-18	305.62			0.19		0.14		305.17	
13-Apr-18	305.54	305.31	0.23	0.19	no	0.14	no	305.17	no
19-Apr-18	305.71			0.19		0.14		305.17	
24-Apr-18	305.73	305.43	0.30	0.19	no	0.14	no	305.17	no
7-May-18	305.64	305.35	0.29	0.19	no	0.14	no	305.17	no
18-May-18	305.60	305.31	0.29	0.19	no	0.14	no	305.17	no
25-May-18	305.57	305.29	0.28	0.19	no	0.14	no	305.17	no
31-May-18	305.53	305.26	0.27	0.19	no	0.14	no	305.17	no
8-Jun-18	305.53	305.27	0.26	0.19	no	0.14	no	305.17	no
12-Jun-18	305.49	305.25	0.24	0.19	no	0.14	no	305.17	no
26-Jun-18	305.52	305.27	0.25	0.19	no	0.14	no	305.17	no
5-Jul-18	305.50	305.25	0.25	0.12	no	0.06	no	305.17	no
12-Jul-18	305.45	305.22	0.23	0.12	no	0.06	no	305.17	no
27-Jul-18	305.44	305.24	0.20	0.12	no	0.06	no	305.17	no
3-Aug-18	305.41	305.17	0.24	0.12	no	0.06	no	305.17	no
10-Aug-18	305.45	305.24	0.21	0.12	no	0.06	no	305.17	no
22-Aug-18	305.50	305.29	0.21	0.12	no	0.06	no	305.17	no
29-Aug-18	305.46	305.26	0.20	0.12	no	0.06	no	305.17	no
7-Sep-18	305.41	305.24	0.17	0.12	no	0.06	no	305.17	no
12-Sep-18	305.44	305.26	0.18	0.12	no	0.06	no	305.17	no
20-Sep-18	305.36	305.23	0.13	0.12	no	0.06	no	305.17	no
27-Sep-18	305.37	305.25	0.12	0.12	no	0.06	no	305.17	no
4-Oct-18	305.44	305.28	0.16	0.09	no	0.04	no	305.17	no
12-Oct-18	305.40	305.25	0.15	0.09	no	0.04	no	305.17	no
18-Oct-18	305.40	305.25	0.15	0.09	no	0.04	no	305.17	no
30-Oct-18	305.38	305.27	0.11	0.09	no	0.04	no	305.17	no
7-Nov-18	305.51	305.33	0.18	0.09	no	0.04	no	305.17	no
15-Nov-18	305.41	305.27	0.14	0.09	no	0.04	no	305.17	no
21-Nov-18	305.41	305.27	0.14	0.09	no	0.04	no	305.17	no
29-Nov-18	305.50	305.33	0.17	0.09	no	0.04	no	305.17	no
5-Dec-18	305.48	305.30	0.18	0.09	no	0.04	no	305.17	no
14-Dec-18	305.40	305.27	0.13	0.09	no	0.04	no	305.17	no
20-Dec-18	305.40	305.27	0.13	0.09	no	0.04	no	305.17	no

Note: Water elevations are left blank when frozen conditions are encountered.

Table G-3
Threshold Summary - DP6 to DP3
Mill Creek Aggregates Pit

			DP6 to DP3					DP3	
Date	Water Elevation DP6 (m ASL)	Water Elevation DP3 (m ASL)	Head Difference (m)	Early Warning Value (Min) (m)	Exceedance of Early Warning Value	Threshold Value (Min) (m)	Exceedance of Threshold Value	Threshold Value (Min) (m ASL)	Exceedance of Threshold Value
19-Jul-89	305.46	304.60	0.86	0.76	no	0.58	no	304.54	no
27-Jul-89	305.43	304.60	0.83	0.76	no	0.58	no	304.54	no
15-Aug-89	305.38	304.59	0.79	0.76	no	0.58	no	304.54	no
30-Aug-89	305.34	304.58	0.76	0.76	no	0.58	no	304.54	no
17-Oct-89	305.31	304.62	0.69	0.73	yes	0.55	no	304.54	no
30-Nov-89	305.46	304.68	0.78	0.73	no	0.55	no	304.54	no
13-Dec-89	305.35	304.62	0.73	0.73	no	0.55	no	304.54	no
17-Jan-90	305.40	304.67	0.73	0.69	no	0.57	no	304.54	no
06-Mar-90	305.63	304.71	0.92	0.69	no	0.57	no	304.54	no
02-Apr-90	305.79	304.74	1.05	0.84	no	0.73	no	304.54	no
25-Jun-90	305.56	304.67	0.89	0.84	no	0.73	no	304.54	no
26-Jul-90	305.50	304.66	0.84	0.76	no	0.58	no	304.54	no
22-Aug-90	305.44	304.66	0.78	0.76	no	0.58	no	304.54	no
26-Sep-90	305.38	304.64	0.74	0.76	yes	0.58	no	304.54	no
24-Oct-90	305.55	304.72	0.83	0.73	no	0.55	no	304.54	no
25-Nov-90	305.60	304.75	0.85	0.73	no	0.55	no	304.54	no
14-Dec-90	305.71	304.78	0.93	0.73	no	0.55	no	304.54	no
23-Jan-91	305.81	304.73	1.08	0.69	no	0.57	no	304.54	no
20-Feb-91	305.87	304.81	1.06	0.69	no	0.57	no	304.54	no
28-Mar-91	306.30	305.27	1.03	0.69	no	0.57	no	304.54	no
26-Apr-91	306.23	304.93	1.30	0.84	no	0.73	no	304.54	no
24-May-91	305.99	304.74	1.25	0.84	no	0.73	no	304.54	no
20-Jun-91	305.94	304.77	1.17	0.84	no	0.73	no	304.54	no
30-Jul-91	305.92	305.02	0.90	0.76	no	0.58	no	304.54	no
22-Aug-91	305.72	304.71	1.01	0.76	no	0.58	no	304.54	no
25-Sep-91	305.59	304.71	0.88	0.76	no	0.58	no	304.54	no
29-Oct-91	305.59	304.75	0.84	0.73	no	0.55	no	304.54	no
26-Nov-91	305.57	304.73	0.84	0.73	no	0.55	no	304.54	no
16-Dec-91	305.69	304.79	0.90	0.73	no	0.55	no	304.54	no
13-Mar-92	305.79	304.79	1.00	0.69	no	0.57	no	304.54	no
15-Apr-92	305.71	304.77	0.94	0.84	no	0.73	no	304.54	no
22-May-92	305.72	304.72	1.00	0.84	no	0.73	no	304.54	no
29-Jun-92	305.52	304.68	0.84	0.84	no	0.73	no	304.54	no
20-Jul-92	305.84	304.94	0.90	0.76	no	0.58	no	304.54	no
26-Aug-92	305.60	304.83	0.77	0.76	no	0.58	no	304.54	no
14-Sep-92	305.68	304.78	0.90	0.76	no	0.58	no	304.54	no
29-Oct-92	305.76	304.80	0.96	0.73	no	0.55	no	304.54	no
26-Nov-92	306.14	305.01	1.13	0.73	no	0.55	no	304.54	no
14-Dec-92	305.92	304.82	1.10	0.73	no	0.55	no	304.54	no
19-Jan-93	306.05	304.88	1.17	0.69	no	0.57	no	304.54	no
19-Apr-93	306.17	304.85	1.32	0.84	no	0.73	no	304.54	no
27-May-93	306.01	304.74	1.27	0.84	no	0.73	no	304.54	no
22-Jun-93	306.00	304.82	1.18	0.84	no	0.73	no	304.54	no
15-Jul-93	305.82	304.74	1.08	0.76	no	0.58	no	304.54	no
18-Aug-93	305.72	304.71	1.01	0.76	no	0.58	no	304.54	no
20-Sep-93	305.64	304.69	0.95	0.76	no	0.58	no	304.54	no
19-Oct-93	305.80	304.81	0.99	0.73	no	0.55	no	304.54	no
17-Nov-93	305.63	304.73	0.90	0.73	no	0.55	no	304.54	no
07-Dec-93	305.84	304.79	1.05	0.73	no	0.55	no	304.54	no
18-Jan-94	305.55	304.66	0.89	0.69	no	0.57	no	304.54	no
23-Feb-94	305.80	304.74	1.06	0.69	no	0.57	no	304.54	no
24-Mar-94	306.06	304.94	1.12	0.69	no	0.57	no	304.54	no
19-Apr-94	305.96	304.80	1.16	0.84	no	0.73	no	304.54	no
24-May-94	305.89	304.73	1.16	0.84	no	0.73	no	304.54	no
23-Jun-94	305.62	304.62	1.00	0.84	no	0.73	no	304.54	no
19-Jul-94	305.55	304.62	0.93	0.76	no	0.58	no	304.54	no
25-Aug-94	305.53	304.65	0.88	0.76	no	0.58	no	304.54	no
21-Sep-94	305.44	304.63	0.81	0.76	no	0.58	no	304.54	no
18-Oct-94	305.43	304.65	0.78	0.73	no	0.55	no	304.54	no
21-Dec-94	305.62	304.71	0.91	0.73	no	0.55	no	304.54	no
24-Jan-95	306.10	304.93	1.17	0.69	no	0.57	no	304.54	no
15-Feb-95	305.70	304.69	1.01	0.69	no	0.57	no	304.54	no
23-Mar-95	305.94	304.82	1.12	0.69	no	0.57	no	304.54	no
17-May-95	305.84	304.74	1.10	0.84	no	0.73	no	304.54	no
13-Jun-95	305.74	304.67	1.07	0.84	no	0.73	no	304.54	no
20-Jul-95	305.55	304.67	0.88	0.76	no	0.58	no	304.54	no
15-Aug-95	305.67	304.87	0.80	0.76	no	0.58	no	304.54	no
18-Oct-95	305.48	304.68	0.80	0.73	no	0.55	no	304.54	no
22-Nov-95	305.75	304.77	0.98	0.73	no	0.55	no	304.54	no
26-Mar-96	306.00	304.90	1.10	0.69	no	0.57	no	304.54	no
31-May-96	306.05	304.78	1.27	0.84	no	0.73	no	304.54	no
29-Jul-96	305.91	304.90	1.01	0.76	no	0.58	no	304.54	no
27-Sep-96	305.96	304.88	1.08	0.76	no	0.58	no	304.54	no
07-Nov-96	305.95	304.83	1.12	0.73	no	0.55	no	304.54	no
26-Mar-97	306.31	305.20	1.11	0.69	no	0.57	no	304.54	no
26-May-97	306.15	304.79	1.36	0.84	no	0.73	no	304.54	no
31-Jul-97	306.16	304.73	1.03	0.76	no	0.58	no	304.54	no
06-Nov-97	305.88	304.82	1.06	0.73	no	0.55	no	304.54	no
27-Mar-98	306.12	304.81	1.31	0.69	no	0.57	no	304.54	no
31-May-98	305.64	304.68	0.96	0.84	no	0.73	no	304.54	no
31-Jul-98	305.54	304.69	0.85	0.76	no	0.58	no	304.54	no
30-Sep-98	305.40	304.70	0.70	0.76	yes	0.58	no	304.54	no
30-Dec-98	305.37	304.67	0.70	0.73	yes	0.55	no	304.54	no
31-Mar-99	305.70	304.81	0.89	0.69	no	0.57	no	304.54	no
20-May-99	305.50	304.64	0.86	0.84	no	0.73	no	304.54	no
16-Jul-99	305.27	304.54	0.73	0.76	yes	0.58	no	304.54	no
10-Sep-99	305.40	304.77	0.63	0.76	yes	0.58	no	304.54	no
10-Nov-99	305.31	304.72	0.59	0.73	yes	0.55	no	304.54	no
01-Mar-00	305.54	304.76	0.78	0.69	no	0.57	no	304.54	no
19-May-00	305.77	304.93	0.84	0.84	no	0.73	no	304.54	no
06-Jul-00	305.58	304.70	0.88	0.76	no	0.58	no	304.54	no
14-Sep-00	305.40	304.71	0.69	0.76	yes	0.58	no	304.54	no
12-Oct-00	305.38	304.69	0.69	0.73	yes	0.55	no	304.54	no
07-Nov-00	305.29	304.65	0.64	0.73	yes	0.55	no	304.54	no
13-Dec-00	305.34	304.64	0.70	0.73	yes	0.55	no	304.54	no
11-Jan-01	305.41	304.67	0.74	0.69	no	0.57	no	304.54	no
09-Feb-01	305.43	304.69	0.74	0.69	no	0.57	no	304.54	no
13-Mar-01	305.60	304.74	0.86	0.69	no	0.57	no	304.54	no
09-Apr-01	305.84	304.94	0.90	0.84	no	0.73	no	304.54	no
03-May-01	305.62	304.67	0.95	0.84	no	0.73	no	304.54	no
07-Jun-01	305.66	304.69	0.97	0.84	no	0.73	no	304.54	no
25-Jun-01	305.53	304.65	0.88	0.84	no	0.73	no	304.54	no
28-Jun-01	305.53	304.63	0.90	0.84	no	0.73	no	304.54	no
03-Jul-01	305.47	304.62	0.85	0.76	no	0.58	no	304.54	no
05-Jul-01	305.46	304.62	0.84	0.76	no	0.58	no	304.54	no
09-Jul-01	305.42	304.62	0.80	0.76	no	0.58	no	304.54	no
12-Jul-01	305.42	304.62	0.80	0.76	no	0.58	no	304.54	no
16-Jul-01	305.39	304.61	0.78	0.76	no	0.58	no	304.54	no
19-Jul-01	305.38	304.61	0.77	0.76	no	0.58	no	304.54	no
23-Jul-01	305.36	304.61	0.75	0.76	yes	0.58	no	304.54	no
26-Jul-01	305.35	304.61	0.74	0.76	yes	0.58	no	304.54	no
30-Jul-01	305.33	304.60	0.73	0.76	yes	0.58	no	304.54	no

Table G-3
Threshold Summary - DP6 to DP3
Mill Creek Aggregates Pit

			DP6 to DP3					DP3	
Date	Water Elevation DP6 (m ASL)	Water Elevation DP3 (m ASL)	Head Difference (m)	Early Warning Value (m)	Exceedance of Early Warning Value	Threshold Value (m)	Exceedance of Threshold Value	Threshold Value (m ASL)	Exceedance of Threshold Value
02-Aug-01	305.32	304.60	0.72	0.76	yes	0.58	no	304.54	no
07-Aug-01	305.28	304.60	0.68	0.76	yes	0.58	no	304.54	no
09-Aug-01	305.28	304.59	0.69	0.76	yes	0.58	no	304.54	no
13-Aug-01	305.25	304.59	0.66	0.76	yes	0.58	no	304.54	no
16-Aug-01	305.24	304.59	0.65	0.76	yes	0.58	no	304.54	no
20-Aug-01	305.32	304.70	0.62	0.76	yes	0.58	no	304.54	no
23-Aug-01	305.30	304.64	0.66	0.76	yes	0.58	no	304.54	no
27-Aug-01	305.26	304.63	0.63	0.76	yes	0.58	no	304.54	no
30-Aug-01	305.27	304.63	0.64	0.76	yes	0.58	no	304.54	no
04-Sep-01	305.23	304.62	0.61	0.76	yes	0.58	no	304.54	no
06-Sep-01	305.22	304.62	0.60	0.76	yes	0.58	no	304.54	no
10-Sep-01	305.19	304.60	0.59	0.76	yes	0.58	no	304.54	no
13-Sep-01	305.18	304.60	0.58	0.76	yes	0.58	no	304.54	no
17-Sep-01	305.16	304.59	0.57	0.76	yes	0.58	yes	304.54	no
18-Sep-01	305.15	304.59	0.56	0.76	yes	0.58	yes	304.54	no
20-Sep-01	305.19	304.62	0.57	0.76	yes	0.58	yes	304.54	no
24-Sep-01	305.25	304.67	0.58	0.76	yes	0.58	no	304.54	no
27-Sep-01	305.25	304.68	0.57	0.76	yes	0.58	yes	304.54	no
01-Oct-01	305.22	304.64	0.58	0.73	yes	0.55	no	304.54	no
04-Oct-01	305.21	304.63	0.58	0.73	yes	0.55	no	304.54	no
09-Oct-01	305.31	304.70	0.61	0.73	yes	0.55	no	304.54	no
11-Oct-01	305.30	304.69	0.61	0.73	yes	0.55	no	304.54	no
15-Oct-01	305.42	304.75	0.67	0.73	yes	0.55	no	304.54	no
19-Oct-01	305.44	304.75	0.69	0.73	yes	0.55	no	304.54	no
22-Oct-01	305.38	304.71	0.67	0.73	yes	0.55	no	304.54	no
26-Oct-01	305.39	304.73	0.66	0.73	yes	0.55	no	304.54	no
29-Oct-01	305.35	304.70	0.65	0.73	yes	0.55	no	304.54	no
01-Nov-01	305.32	304.69	0.63	0.73	yes	0.55	no	304.54	no
05-Nov-01	305.37	304.74	0.63	0.73	yes	0.55	no	304.54	no
08-Nov-01	305.34	304.71	0.63	0.73	yes	0.55	no	304.54	no
12-Nov-01	305.32	304.70	0.62	0.73	yes	0.55	no	304.54	no
15-Nov-01	305.34	304.71	0.63	0.73	yes	0.55	no	304.54	no
19-Nov-01	305.29	304.70	0.59	0.73	yes	0.55	no	304.54	no
22-Nov-01	305.30	304.71	0.59	0.73	yes	0.55	no	304.54	no
26-Nov-01	305.39	304.75	0.64	0.73	yes	0.55	no	304.54	no
29-Nov-01	305.44	304.80	0.64	0.73	yes	0.55	no	304.54	no
03-Dec-01	305.55	304.93	0.62	0.73	yes	0.55	no	304.54	no
06-Dec-01	305.47	304.88	0.59	0.73	yes	0.55	no	304.54	no
10-Dec-01	305.42	304.84	0.58	0.73	yes	0.55	no	304.54	no
13-Dec-01	305.40	304.86	0.54	0.73	yes	0.55	yes	304.54	no
17-Dec-01	305.46	304.90	0.56	0.73	yes	0.55	no	304.54	no
20-Dec-01	305.54	304.93	0.61	0.73	yes	0.55	no	304.54	no
10-Jan-02	305.40	Frozen		0.69		0.57		304.54	no
21-Jan-02	305.42	304.81	0.61	0.69	yes	0.57	no	304.54	no
24-Jan-02	305.48	304.71	0.77	0.69	no	0.57	no	304.54	no
28-Jan-02	305.54	304.85	0.69	0.69	no	0.57	no	304.54	no
01-Feb-02	305.61	304.84	0.77	0.69	no	0.57	no	304.54	no
04-Feb-02	305.50	304.89	0.61	0.69	yes	0.57	no	304.54	no
07-Feb-02	305.48	304.83	0.65	0.69	yes	0.57	no	304.54	no
11-Feb-02	305.50	304.86	0.64	0.69	yes	0.57	no	304.54	no
15-Feb-02	305.48	304.71	0.77	0.69	no	0.57	no	304.54	no
18-Feb-02	305.48	304.84	0.64	0.69	yes	0.57	no	304.54	no
21-Feb-02	305.64	304.89	0.75	0.69	no	0.57	no	304.54	no
25-Feb-02	305.65	304.71	0.94	0.69	no	0.57	no	304.54	no
05-Mar-02	305.73	304.76	0.97	0.69	no	0.57	no	304.54	no
07-Mar-02	305.61	304.68	0.93	0.69	no	0.57	no	304.54	no
11-Mar-02	305.72	304.72	1.00	0.69	no	0.57	no	304.54	no
15-Mar-02	305.66	304.69	0.97	0.69	no	0.57	no	304.54	no
19-Mar-02	305.63	304.79	0.84	0.69	no	0.57	no	304.54	no
21-Mar-02	305.65	304.82	0.83	0.69	no	0.57	no	304.54	no
26-Mar-02	305.60	304.85	0.75	0.69	no	0.57	no	304.54	no
28-Mar-02	305.56	304.78	0.78	0.69	no	0.57	no	304.54	no
01-Apr-02	305.69	304.84	0.85	0.84	no	0.73	no	304.54	no
05-Apr-02	305.73	304.86	0.87	0.84	no	0.73	no	304.54	no
07-Apr-02	305.81	304.99	0.82	0.84	yes	0.73	no	304.54	no
11-Apr-02	305.81	304.94	0.87	0.84	no	0.73	no	304.54	no
17-Apr-02	305.78	304.92	0.86	0.84	no	0.73	no	304.54	no
19-Apr-02	305.79	304.96	0.83	0.84	yes	0.73	no	304.54	no
23-Apr-02	305.63	304.86	0.77	0.84	yes	0.73	no	304.54	no
29-Apr-02	305.64	304.90	0.74	0.84	yes	0.73	no	304.54	no
06-May-02	305.67	304.81	0.86	0.84	no	0.73	no	304.54	no
10-May-02	305.61	304.81	0.80	0.84	yes	0.73	no	304.54	no
14-May-02	305.68	304.89	0.79	0.84	yes	0.73	no	304.54	no
17-May-02	305.77	304.94	0.83	0.84	yes	0.73	no	304.54	no
21-May-02	305.69	304.85	0.84	0.84	no	0.73	no	304.54	no
24-May-02	305.65	304.79	0.86	0.84	no	0.73	no	304.54	no
27-May-02	305.65	304.71	0.94	0.84	no	0.73	no	304.54	no
31-May-02	305.60	304.73	0.87	0.84	no	0.73	no	304.54	no
04-Jun-02	305.59	304.72	0.87	0.84	no	0.73	no	304.54	no
07-Jun-02	305.58	304.74	0.84	0.84	no	0.73	no	304.54	no
11-Jun-02	305.53	304.72	0.81	0.84	yes	0.73	no	304.54	no
14-Jun-02	305.74	304.74	1.00	0.84	no	0.73	no	304.54	no
18-Jun-02	305.71	304.73	0.98	0.84	no	0.73	no	304.54	no
21-Jun-02	305.58	304.71	0.87	0.84	no	0.73	no	304.54	no
25-Jun-02	305.54	304.75	0.79	0.84	yes	0.73	no	304.54	no
02-Jul-02	305.52	304.74	0.78	0.76	no	0.58	no	304.54	no
05-Jul-02	305.51	304.71	0.80	0.76	no	0.58	no	304.54	no
08-Jul-02	305.47	304.70	0.77	0.76	no	0.58	no	304.54	no
11-Jul-02	305.48	304.69	0.79	0.76	no	0.58	no	304.54	no
15-Jul-02	305.40	304.68	0.72	0.76	yes	0.58	no	304.54	no
18-Jul-02	305.44	304.67	0.77	0.76	no	0.58	no	304.54	no
24-Jul-02	305.46	304.69	0.77	0.76	no	0.58	no	304.54	no
26-Jul-02	305.45	304.69	0.76	0.76	no	0.58	no	304.54	no
30-Jul-02	305.42	304.70	0.72	0.76	yes	0.58	no	304.54	no
05-Aug-02	305.36	304.66	0.70	0.76	yes	0.58	no	304.54	no
09-Aug-02	305.36	304.66	0.70	0.76	yes	0.58	no	304.54	no
16-Aug-02	305.30	304.65	0.65	0.76	yes	0.58	no	304.54	no
21-Aug-02	305.30	304.65	0.65	0.76	yes	0.58	no	304.54	no
23-Aug-02	305.28	304.65	0.63	0.76	yes	0.58	no	304.54	no
28-Aug-02	305.26	304.62	0.64	0.76	yes	0.58	no	304.54	no
30-Aug-02	305.24	304.62	0.62	0.76	yes	0.58	no	304.54	no
04-Sep-02	305.24	304.61	0.63	0.76	yes	0.58	no	304.54	no
10-Sep-02	305.21	304.60	0.61	0.76	yes	0.58	no	304.54	no
12-Sep-02	305.22	304.60	0.62	0.76	yes	0.58	no	304.54	no
17-Sep-02	305.25	304.62	0.63	0.76	yes	0.58	no	304.54	no
20-Sep-02	305.25	304.62	0.63	0.76	yes	0.58	no	304.54	no
25-Sep-02	305.25	304.63	0.62	0.76	yes	0.58	no	304.54	no
27-Sep-02	305.36	304.67	0.69	0.76	yes	0.58	no	304.54	no
02-Oct-02	305.28	304.68	0.60	0.73	yes	0.55	no	304.54	no
04-Oct-02	305.29	304.69	0.60	0.73	yes	0.55	no	304.54	no
08-Oct-02	305.27	304.65	0.62	0.73	yes	0.55	no	304.54	no
11-Oct-02	305.26	304.65	0.61	0.73	yes	0.55	no	304.54	no
15-Oct-02	305.26	304.65	0.61	0.73	yes	0.55	no	304.54	no

Table G-3
Threshold Summary - DP6 to DP3
Mill Creek Aggregates Pit

			DP6 to DP3					DP3	
Date	Water Elevation DP6 (m ASL)	Water Elevation DP3 (m ASL)	Head Difference (m)	Early Warning Value (m)	Exceedance of Early Warning Value	Threshold Value (m)	Exceedance of Threshold Value	Threshold Value (m ASL)	Exceedance of Threshold Value
23-Oct-02	305.27	304.66	0.61	0.73	yes	0.55	no	304.54	no
29-Oct-02	305.24	304.65	0.59	0.73	yes	0.55	no	304.54	no
31-Oct-02	305.26	304.66	0.60	0.73	yes	0.55	no	304.54	no
05-Nov-02	305.26	304.66	0.60	0.73	yes	0.55	no	304.54	no
08-Nov-02	305.30	304.67	0.63	0.73	yes	0.55	no	304.54	no
12-Nov-02	305.39	304.73	0.66	0.73	yes	0.55	no	304.54	no
15-Nov-02	305.33	304.70	0.63	0.73	yes	0.55	no	304.54	no
19-Nov-02	305.31	304.67	0.64	0.73	yes	0.55	no	304.54	no
22-Nov-02	305.31	304.67	0.64	0.73	yes	0.55	no	304.54	no
26-Nov-02	305.29	304.66	0.63	0.73	yes	0.55	no	304.54	no
29-Nov-02	305.28	304.71	0.57	0.73	yes	0.55	no	304.54	no
04-Dec-02	305.25	304.69	0.56	0.73	yes	0.55	no	304.54	no
06-Dec-02	305.27	304.69	0.58	0.73	yes	0.55	no	304.54	no
10-Dec-02	305.25	304.69	0.56	0.73	yes	0.55	no	304.54	no
13-Dec-02	305.26	304.63	0.63	0.73	yes	0.55	no	304.54	no
18-Dec-02	305.25	304.63	0.62	0.73	yes	0.55	no	304.54	no
7-Jan-03	305.29	304.63	0.66	0.69	yes	0.57	no	304.54	no
9-Jan-03	305.28	304.64	0.64	0.69	yes	0.57	no	304.54	no
14-Jan-03	305.28	304.64	0.64	0.69	yes	0.57	no	304.54	no
21-Jan-03	305.26	304.64	0.62	0.69	yes	0.57	no	304.54	no
24-Jan-03	305.23	304.65	0.58	0.69	yes	0.57	no	304.54	no
28-Jan-03	305.25	304.65	0.60	0.69	yes	0.57	no	304.54	no
31-Jan-03	305.27	304.65	0.62	0.69	yes	0.57	no	304.54	no
5-Feb-03	305.31	304.65	0.66	0.69	yes	0.57	no	304.54	no
10-Feb-03	305.29	304.59	0.70	0.69	no	0.57	no	304.54	no
14-Feb-03	305.23	304.59	0.64	0.69	yes	0.57	no	304.54	no
17-Feb-03	305.25	304.59	0.66	0.69	yes	0.57	no	304.54	no
21-Feb-03	305.24	304.59	0.65	0.69	yes	0.57	no	304.54	no
24-Feb-03	305.23	304.59	0.64	0.69	yes	0.57	no	304.54	no
24-Mar-03	305.60	304.72	0.88	0.69	no	0.57	no	304.54	no
27-Mar-03	305.59	304.78	0.81	0.69	no	0.57	no	304.54	no
11-Apr-03	305.61	304.76	0.85	0.84	no	0.73	no	304.54	no
21-Apr-03	305.58	304.79	0.79	0.84	yes	0.73	no	304.54	no
24-Apr-03	305.54	304.72	0.82	0.84	yes	0.73	no	304.54	no
28-Apr-03	305.55	304.74	0.81	0.84	yes	0.73	no	304.54	no
5-May-03	305.54	304.71	0.83	0.84	yes	0.73	no	304.54	no
8-May-03	305.52	304.75	0.77	0.84	yes	0.73	no	304.54	no
12-May-03	305.59	304.70	0.89	0.84	no	0.73	no	304.54	no
16-May-03	305.62	304.70	0.92	0.84	no	0.73	no	304.54	no
23-May-03	305.63	304.69	0.94	0.84	no	0.73	no	304.54	no
26-May-03	305.66	304.71	0.95	0.84	no	0.73	no	304.54	no
29-May-03	305.65	304.70	0.95	0.84	no	0.73	no	304.54	no
2-Jun-03	305.65	304.71	0.94	0.84	no	0.73	no	304.54	no
5-Jun-03	305.64	304.70	0.94	0.84	no	0.73	no	304.54	no
9-Jun-03	305.62	304.69	0.93	0.84	no	0.73	no	304.54	no
13-Jun-03	305.60	304.67	0.93	0.84	no	0.73	no	304.54	no
17-Jun-03	305.55	304.67	0.88	0.84	no	0.73	no	304.54	no
19-Jun-03	305.54	304.66	0.88	0.84	no	0.73	no	304.54	no
23-Jun-03	305.52	304.62	0.90	0.84	no	0.73	no	304.54	no
26-Jun-03	305.50	304.64	0.86	0.84	no	0.73	no	304.54	no
3-Jul-03	305.49	304.69	0.80	0.76	no	0.58	no	304.54	no
7-Jul-03	305.51	304.68	0.83	0.76	no	0.58	no	304.54	no
10-Jul-03	305.51	304.69	0.82	0.76	no	0.58	no	304.54	no
22-Jul-03	305.38	304.67	0.71	0.76	yes	0.58	no	304.54	no
25-Jul-03	305.38	304.66	0.72	0.76	yes	0.58	no	304.54	no
28-Jul-03	305.39	304.69	0.70	0.76	yes	0.58	no	304.54	no
31-Jul-03	305.38	304.67	0.71	0.76	yes	0.58	no	304.54	no
7-Aug-03	305.38	304.66	0.72	0.76	yes	0.58	no	304.54	no
11-Aug-03	305.39	304.67	0.72	0.76	yes	0.58	no	304.54	no
18-Aug-03	305.36	304.65	0.71	0.76	yes	0.58	no	304.54	no
25-Aug-03	305.38	304.67	0.71	0.76	yes	0.58	no	304.54	no
29-Aug-03	305.30	304.65	0.65	0.76	yes	0.58	no	304.54	no
2-Sep-03	305.28	304.63	0.65	0.76	yes	0.58	no	304.54	no
4-Sep-03	305.30	304.61	0.69	0.76	yes	0.58	no	304.54	no
8-Sep-03	305.30	304.61	0.69	0.76	yes	0.58	no	304.54	no
11-Sep-03	305.26	304.60	0.66	0.76	yes	0.58	no	304.54	no
15-Sep-03	305.26	304.63	0.63	0.76	yes	0.58	no	304.54	no
18-Sep-03	305.27	304.63	0.64	0.76	yes	0.58	no	304.54	no
22-Sep-03	305.30	304.64	0.66	0.76	yes	0.58	no	304.54	no
26-Sep-03	305.30	304.67	0.63	0.76	yes	0.58	no	304.54	no
29-Sep-03	305.42	304.77	0.66	0.76	yes	0.58	no	304.54	no
2-Oct-03	305.38	304.70	0.68	0.73	yes	0.55	no	304.54	no
6-Oct-03	305.36	304.70	0.66	0.73	yes	0.55	no	304.54	no
9-Oct-03	305.31	304.68	0.63	0.73	yes	0.55	no	304.54	no
13-Oct-03	305.31	304.70	0.61	0.73	yes	0.55	no	304.54	no
16-Oct-03	305.42	304.71	0.71	0.73	yes	0.55	no	304.54	no
20-Oct-03	305.41	304.70	0.71	0.73	yes	0.55	no	304.54	no
23-Oct-03	305.40	304.70	0.70	0.73	yes	0.55	no	304.54	no
27-Oct-03	305.38	304.70	0.68	0.73	yes	0.55	no	304.54	no
10-Nov-03	305.41	304.70	0.71	0.73	yes	0.55	no	304.54	no
13-Nov-03	305.43	304.73	0.70	0.73	yes	0.55	no	304.54	no
17-Nov-03	305.46	304.79	0.67	0.73	yes	0.55	no	304.54	no
20-Nov-03	305.53	304.83	0.70	0.73	yes	0.55	no	304.54	no
24-Nov-03	305.57	304.86	0.71	0.73	yes	0.55	no	304.54	no
1-Dec-03	305.63	304.90	0.73	0.73	no	0.55	no	304.54	no
8-Dec-03	305.45	304.71	0.74	0.73	no	0.55	no	304.54	no
11-Dec-03	305.51	304.83	0.68	0.73	yes	0.55	no	304.54	no
15-Dec-03	305.46	304.84	0.62	0.73	yes	0.55	no	304.54	no
22-Dec-03	305.45	304.83	0.62	0.73	yes	0.55	no	304.54	no
6-Jan-04	305.67	304.93	0.74	0.69	no	0.57	no	304.54	no
8-Jan-04	305.66	304.83	0.83	0.69	no	0.57	no	304.54	no
12-Jan-04	305.61	304.84	0.77	0.69	no	0.57	no	304.54	no
15-Jan-04	305.59	304.88	0.71	0.69	no	0.57	no	304.54	no
19-Jan-04	305.50	304.80	0.70	0.69	no	0.57	no	304.54	no
26-Jan-04	305.64	304.87	0.77	0.69	no	0.57	no	304.54	no
5-Feb-04	305.67	304.70	0.97	0.69	no	0.57	no	304.54	no
9-Feb-04	305.66	304.70	0.96	0.69	no	0.57	no	304.54	no
16-Feb-04	305.64	304.70	0.94	0.69	no	0.57	no	304.54	no
19-Feb-04	305.65	304.70	0.95	0.69	no	0.57	no	304.54	no
5-Mar-04	305.98	304.98	1.00	0.69	no	0.57	no	304.54	no
8-Mar-04	305.97	304.96	1.01	0.69	no	0.57	no	304.54	no
11-Mar-04	305.91	304.87	1.04	0.69	no	0.57	no	304.54	no
15-Mar-04	305.88	304.81	1.07	0.69	no	0.57	no	304.54	no
18-Mar-04	305.87	304.81	1.06	0.69	no	0.57	no	304.54	no
22-Mar-04	305.88	304.81	1.07	0.69	no	0.57	no	304.54	no
25-Mar-04	305.91	304.82	1.09	0.69	no	0.57	no	304.54	no
1-Apr-04	306.10	305.01	1.09	0.84	no	0.73	no	304.54	no
5-Apr-04	306.03	304.99	1.04	0.84	no	0.73	no	304.54	no
8-Apr-04	306.00	304.98	1.02	0.84	no	0.73	no	304.54	no
15-Apr-04	305.95	304.91	1.04	0.84	no	0.73	no	304.54	no
22-Apr-04	306.04	304.95	1.09	0.84	no	0.73	no	304.54	no
26-Apr-04	306.03	304.96	1.07	0.84	no	0.73	no	304.54	no

Table G-3
Threshold Summary - DP6 to DP3
Mill Creek Aggregates Pit

			DP6 to DP3					DP3	
Date	Water Elevation DP6 (m ASL)	Water Elevation DP3 (m ASL)	Head Difference (m)	Early Warning Value (m)	Exceedance of Early Warning Value	Threshold Value (m)	Exceedance of Threshold Value	Threshold Value (m ASL)	Exceedance of Threshold Value
3-May-04	306.14	304.99	1.15	0.84	no	0.73	no	304.54	no
10-May-04	306.12	305.01	1.11	0.84	no	0.73	no	304.54	no
13-May-04	306.06	304.91	1.15	0.84	no	0.73	no	304.54	no
17-May-04	305.98	304.86	1.12	0.84	no	0.73	no	304.54	no
20-May-04	305.95	304.75	1.20	0.84	no	0.73	no	304.54	no
25-May-04	306.06	304.84	1.22	0.84	no	0.73	no	304.54	no
27-May-04	305.94	304.81	1.13	0.84	no	0.73	no	304.54	no
31-May-04	305.96	304.78	1.18	0.84	no	0.73	no	304.54	no
3-Jun-04	305.96	304.79	1.17	0.84	no	0.73	no	304.54	no
7-Jun-04	305.91	304.70	1.21	0.84	no	0.73	no	304.54	no
10-Jun-04	305.89	304.65	1.24	0.84	no	0.73	no	304.54	no
14-Jun-04	305.92	304.73	1.19	0.84	no	0.73	no	304.54	no
17-Jun-04	305.91	304.71	1.20	0.84	no	0.73	no	304.54	no
21-Jun-04	305.95	304.75	1.20	0.84	no	0.73	no	304.54	no
24-Jun-04	305.95	304.70	1.25	0.84	no	0.73	no	304.54	no
28-Jun-04	305.84	304.67	1.17	0.84	no	0.73	no	304.54	no
5-Jul-04	305.79	304.67	1.12	0.76	no	0.58	no	304.54	no
8-Jul-04	305.87	304.73	1.14	0.76	no	0.58	no	304.54	no
12-Jul-04	305.81	304.68	1.13	0.76	no	0.58	no	304.54	no
15-Jul-04	305.88	304.74	1.14	0.76	no	0.58	no	304.54	no
19-Jul-04	305.81	304.71	1.10	0.76	no	0.58	no	304.54	no
22-Jul-04	305.80	304.69	1.11	0.76	no	0.58	no	304.54	no
26-Jul-04	305.74	304.67	1.07	0.76	no	0.58	no	304.54	no
29-Jul-04	305.78	304.71	1.07	0.76	no	0.58	no	304.54	no
2-Aug-04	305.83	304.78	1.05	0.76	no	0.58	no	304.54	no
5-Aug-04	305.78	304.76	1.02	0.76	no	0.58	no	304.54	no
9-Aug-04	305.71	304.75	0.96	0.76	no	0.58	no	304.54	no
12-Aug-04	305.71	304.75	0.96	0.76	no	0.58	no	304.54	no
16-Aug-04	305.69	304.72	0.97	0.76	no	0.58	no	304.54	no
19-Aug-04	305.67	304.75	0.92	0.76	no	0.58	no	304.54	no
23-Aug-04	305.72	304.74	0.98	0.76	no	0.58	no	304.54	no
26-Aug-04	305.76	304.70	1.06	0.76	no	0.58	no	304.54	no
30-Aug-04	305.74	304.78	0.96	0.76	no	0.58	no	304.54	no
2-Sep-04	305.71	304.77	0.94	0.76	no	0.58	no	304.54	no
6-Sep-04	305.65	304.71	0.94	0.76	no	0.58	no	304.54	no
9-Sep-04	305.76	304.80	0.96	0.76	no	0.58	no	304.54	no
13-Sep-04	305.68	304.73	0.95	0.76	no	0.58	no	304.54	no
16-Sep-04	305.75	304.71	1.04	0.76	no	0.58	no	304.54	no
20-Sep-04	305.71	304.68	1.03	0.76	no	0.58	no	304.54	no
23-Sep-04	305.62	304.63	0.99	0.76	no	0.58	no	304.54	no
27-Sep-04	305.65	304.68	0.97	0.76	no	0.58	no	304.54	no
30-Sep-04	305.64	304.65	0.99	0.76	no	0.58	no	304.54	no
4-Oct-04	305.63	304.65	0.98	0.73	no	0.55	no	304.54	no
7-Oct-04	305.61	304.64	0.97	0.73	no	0.55	no	304.54	no
11-Oct-04	305.59	304.64	0.95	0.73	no	0.55	no	304.54	no
14-Oct-04	305.58	304.64	0.94	0.73	no	0.55	no	304.54	no
18-Oct-04	305.65	304.71	0.94	0.73	no	0.55	no	304.54	no
21-Oct-04	305.68	304.70	0.98	0.73	no	0.55	no	304.54	no
25-Oct-04	305.68	304.69	0.99	0.73	no	0.55	no	304.54	no
28-Oct-04	305.68	304.67	1.01	0.73	no	0.55	no	304.54	no
1-Nov-04	305.67	304.71	0.96	0.73	no	0.55	no	304.54	no
4-Nov-04	305.77	304.77	1.00	0.73	no	0.55	no	304.54	no
8-Nov-04	305.73	304.78	0.95	0.73	no	0.55	no	304.54	no
11-Nov-04	305.70	304.70	1.00	0.73	no	0.55	no	304.54	no
15-Nov-04	305.65	304.69	0.96	0.73	no	0.55	no	304.54	no
18-Nov-04	305.62	304.67	0.95	0.73	no	0.55	no	304.54	no
22-Nov-04	305.61	304.69	0.92	0.73	no	0.55	no	304.54	no
25-Nov-04	305.62	304.72	0.90	0.73	no	0.55	no	304.54	no
29-Nov-04	305.62	304.77	0.85	0.73	no	0.55	no	304.54	no
2-Dec-04	305.68	304.83	0.85	0.73	no	0.55	no	304.54	no
6-Dec-04	305.61	304.75	0.86	0.73	no	0.55	no	304.54	no
9-Dec-04	305.64	304.77	0.87	0.73	no	0.55	no	304.54	no
13-Dec-04	305.67	304.78	0.89	0.73	no	0.55	no	304.54	no
16-Dec-04	305.70	304.77	0.93	0.73	no	0.55	no	304.54	no
20-Dec-04	305.57	304.67	0.90	0.73	no	0.55	no	304.54	no
23-Dec-04	305.55	304.66	0.89	0.73	no	0.55	no	304.54	no
3-Jan-05	305.40	304.67	0.73	0.69	no	0.57	no	304.54	no
6-Jan-05	305.77	305.04	0.73	0.69	no	0.57	no	304.54	no
10-Jan-05	305.68	304.87	0.81	0.69	no	0.57	no	304.54	no
13-Jan-05	305.68	304.87	0.81	0.69	no	0.57	no	304.54	no
17-Jan-05	305.69	304.83	0.86	0.69	no	0.57	no	304.54	no
20-Jan-05	305.73	305.03	0.70	0.69	no	0.57	no	304.54	no
24-Jan-05	305.51	304.72	0.79	0.69	no	0.57	no	304.54	no
27-Jan-05	305.48	304.71	0.77	0.69	no	0.57	no	304.54	no
31-Jan-05	305.46	304.69	0.77	0.69	no	0.57	no	304.54	no
3-Feb-05	305.44	304.68	0.76	0.69	no	0.57	no	304.54	no
7-Feb-05	305.44	304.69	0.75	0.69	no	0.57	no	304.54	no
10-Feb-05	305.52	304.75	0.76	0.69	no	0.57	no	304.54	no
14-Feb-05	305.53	304.77	0.76	0.69	no	0.57	no	304.54	no
17-Feb-05	305.82	305.14	0.68	0.69	yes	0.57	no	304.54	no
21-Feb-05	305.67	304.86	0.81	0.69	no	0.57	no	304.54	no
24-Feb-05	305.65	305.06	0.59	0.69	yes	0.57	no	304.54	no
28-Feb-05	305.59	304.85	0.74	0.69	no	0.57	no	304.54	no
3-Mar-05	305.57	304.73	0.83	0.69	no	0.57	no	304.54	no
7-Mar-05	305.57	304.75	0.83	0.69	no	0.57	no	304.54	no
10-Mar-05	305.59	304.77	0.83	0.69	no	0.57	no	304.54	no
14-Mar-05	305.57	304.74	0.83	0.69	no	0.57	no	304.54	no
17-Mar-05	305.55	304.72	0.83	0.69	no	0.57	no	304.54	no
21-Mar-05	305.59	304.72	0.87	0.69	no	0.57	no	304.54	no
24-Mar-05	305.68	304.74	0.94	0.69	no	0.57	no	304.54	no
28-Mar-05	305.78	304.92	0.86	0.69	no	0.57	no	304.54	no
31-Mar-05	305.91	305.15	0.76	0.69	no	0.57	no	304.54	no
4-Apr-05	306.09	305.29	0.80	0.84	yes	0.73	no	304.54	no
7-Apr-05	306.02	305.19	0.83	0.84	yes	0.73	no	304.54	no
11-Apr-05	305.88	305.02	0.86	0.84	no	0.73	no	304.54	no
14-Apr-05	305.81	304.88	0.93	0.84	no	0.73	no	304.54	no
18-Apr-05	305.84	304.83	1.01	0.84	no	0.73	no	304.54	no
21-Apr-05	305.95	304.89	1.06	0.84	no	0.73	no	304.54	no
25-Apr-05	306.19	305.13	1.05	0.84	no	0.73	no	304.54	no
28-Apr-05	305.93	304.90	1.03	0.84	no	0.73	no	304.54	no
2-May-05	305.95	304.87	1.08	0.84	no	0.73	no	304.54	no
5-May-05	305.95	304.80	1.15	0.84	no	0.73	no	304.54	no
9-May-05	305.89	304.76	1.14	0.84	no	0.73	no	304.54	no
12-May-05	305.89	304.73	1.15	0.84	no	0.73	no	304.54	no
16-May-05	305.89	304.76	1.13	0.84	no	0.73	no	304.54	no
19-May-05	305.87	304.72	1.15	0.84	no	0.73	no	304.54	no
23-May-05	305.82	304.69	1.13	0.84	no	0.73	no	304.54	no
26-May-05	305.80	304.70	1.10	0.84	no	0.73	no	304.54	no
30-May-05	305.78	304.68	1.10	0.84	no	0.73	no	304.54	no
2-Jun-05	305.88	304.66	1.23	0.84	no	0.73	no	304.54	no
6-Jun-05	305.85	304.65	1.20	0.84	no	0.73	no	304.54	no
9-Jun-05	305.82	304.54	1.28	0.84	no	0.73	no	304.54	no

Table G-3
Threshold Summary - DP6 to DP3
Mill Creek Aggregates Pit

			DP6 to DP3					DP3	
Date	Water Elevation DP6 (m ASL)	Water Elevation DP3 (m ASL)	Head Difference (m)	Early Warning Value (m)	Exceedance of Early Warning Value	Threshold Value (m)	Exceedance of Threshold Value	Threshold Value (m ASL)	Exceedance of Threshold Value
13-Jun-05	305.86	304.71	1.15	0.84	no	0.73	no	304.54	no
16-Jun-05	305.92	304.74	1.18	0.84	no	0.73	no	304.54	no
20-Jun-05	305.84	304.67	1.16	0.84	no	0.73	no	304.54	no
23-Jun-05	305.70	304.67	1.03	0.84	no	0.73	no	304.54	no
27-Jun-05	305.74	304.62	1.12	0.84	no	0.73	no	304.54	no
30-Jun-05	305.72	304.61	1.11	0.84	no	0.73	no	304.54	no
4-Jul-05	305.66	304.60	1.06	0.76	no	0.58	no	304.54	no
7-Jul-05	305.66	304.60	1.06	0.76	no	0.58	no	304.54	no
11-Jul-05	305.62	304.59	1.03	0.76	no	0.58	no	304.54	no
14-Jul-05	305.63	304.59	1.04	0.76	no	0.58	no	304.54	no
18-Jul-05	305.66	304.59	1.07	0.76	no	0.58	no	304.54	no
21-Jul-05	305.69	304.66	1.03	0.76	no	0.58	no	304.54	no
25-Jul-05	305.65	304.71	0.94	0.76	no	0.58	no	304.54	no
28-Jul-05	305.70	304.75	0.95	0.76	no	0.58	no	304.54	no
1-Aug-05	305.72	304.79	0.93	0.76	no	0.58	no	304.54	no
4-Aug-05	305.69	304.79	0.90	0.76	no	0.58	no	304.54	no
8-Aug-05	305.67	304.77	0.90	0.76	no	0.58	no	304.54	no
11-Aug-05	305.65	304.76	0.89	0.76	no	0.58	no	304.54	no
15-Aug-05	305.65	304.76	0.89	0.76	no	0.58	no	304.54	no
18-Aug-05	305.62	304.74	0.88	0.76	no	0.58	no	304.54	no
22-Aug-05	305.64	304.75	0.89	0.76	no	0.58	no	304.54	no
25-Aug-05	305.62	304.71	0.91	0.76	no	0.58	no	304.54	no
29-Aug-05	305.63	304.71	0.92	0.76	no	0.58	no	304.54	no
1-Sep-05	305.63	304.71	0.92	0.76	no	0.58	no	304.54	no
6-Sep-05	305.62	304.70	0.92	0.76	no	0.58	no	304.54	no
8-Sep-05	305.61	304.70	0.91	0.76	no	0.58	no	304.54	no
12-Sep-05	305.61	304.70	0.91	0.76	no	0.58	no	304.54	no
15-Sep-05	305.61	304.69	0.92	0.76	no	0.58	no	304.54	no
19-Sep-05	305.66	304.73	0.93	0.76	no	0.58	no	304.54	no
22-Sep-05	305.64	304.71	0.93	0.76	no	0.58	no	304.54	no
26-Sep-05	305.65	304.76	0.89	0.76	no	0.58	no	304.54	no
30-Sep-05	305.67	304.78	0.89	0.76	no	0.58	no	304.54	no
3-Oct-05	305.69	304.71	0.98	0.73	no	0.55	no	304.54	no
6-Oct-05	305.66	304.68	0.98	0.73	no	0.55	no	304.54	no
10-Oct-05	305.62	304.76	0.86	0.73	no	0.55	no	304.54	no
13-Oct-05	305.60	304.84	0.76	0.73	no	0.55	no	304.54	no
17-Oct-05	305.67	304.86	0.81	0.73	no	0.55	no	304.54	no
20-Oct-05	305.77	304.99	0.78	0.73	no	0.55	no	304.54	no
24-Oct-05	305.75	304.99	0.76	0.73	no	0.55	no	304.54	no
27-Oct-05	305.77	304.95	0.82	0.73	no	0.55	no	304.54	no
31-Oct-05	305.76	304.97	0.79	0.73	no	0.55	no	304.54	no
3-Nov-05	305.77	305.00	0.77	0.73	no	0.55	no	304.54	no
7-Nov-05	305.76	304.98	0.78	0.73	no	0.55	no	304.54	no
10-Nov-05	305.75	304.95	0.80	0.73	no	0.55	no	304.54	no
14-Nov-05	305.73	304.92	0.81	0.73	no	0.55	no	304.54	no
17-Nov-05	305.72	304.90	0.82	0.73	no	0.55	no	304.54	no
21-Nov-05	305.70	304.85	0.85	0.73	no	0.55	no	304.54	no
24-Nov-05	305.69	304.80	0.89	0.73	no	0.55	no	304.54	no
28-Nov-05	305.67	304.75	0.92	0.73	no	0.55	no	304.54	no
1-Dec-05	305.67	304.77	0.90	0.73	no	0.55	no	304.54	no
5-Dec-05	305.66	304.80	0.86	0.73	no	0.55	no	304.54	no
8-Dec-05	305.66	304.80	0.86	0.73	no	0.55	no	304.54	no
12-Dec-05	305.65	304.83	0.82	0.73	no	0.55	no	304.54	no
15-Dec-05	305.64	304.84	0.80	0.73	no	0.55	no	304.54	no
19-Dec-05	305.62	304.86	0.76	0.73	no	0.55	no	304.54	no
22-Dec-05	305.62	304.86	0.76	0.73	no	0.55	no	304.54	no
26-Dec-05	305.62	304.85	0.77	0.73	no	0.55	no	304.54	no
29-Dec-05	305.61	304.85	0.76	0.73	no	0.55	no	304.54	no
12-Jan-06	305.74	304.85	0.89	0.69	no	0.57	no	304.54	no
26-Jan-06	305.73	304.85	0.88	0.69	no	0.57	no	304.54	no
16-Feb-06	305.97	304.77	1.20	0.69	no	0.57	no	304.54	no
23-Feb-06	305.88	304.79	1.09	0.69	no	0.57	no	304.54	no
28-Feb-06	305.94	304.79	1.15	0.69	no	0.57	no	304.54	no
13-Mar-06	306.28	305.24	1.03	0.69	no	0.57	no	304.54	no
20-Mar-06	306.06	304.84	1.22	0.69	no	0.57	no	304.54	no
30-Mar-06	306.02	304.70	1.32	0.69	no	0.57	no	304.54	no
3-Apr-06	305.71	304.94	0.77	0.84	yes	0.73	no	304.54	no
7-Apr-06	305.63	304.78	0.85	0.84	no	0.73	no	304.54	no
14-Apr-06	305.71	304.88	0.83	0.84	yes	0.73	no	304.54	no
21-Apr-06	305.81	304.77	1.04	0.84	no	0.73	no	304.54	no
28-Apr-06	305.88	304.89	0.99	0.84	no	0.73	no	304.54	no
3-May-06	306.04	304.73	1.31	0.84	no	0.73	no	304.54	no
9-May-06	306.00	304.72	1.28	0.84	no	0.73	no	304.54	no
19-May-06	306.25	304.72	1.53	0.84	no	0.73	no	304.54	no
31-May-06	306.04	304.70	1.34	0.84	no	0.73	no	304.54	no
2-Jun-06	306.04	304.70	1.34	0.84	no	0.73	no	304.54	no
10-Jun-06	305.94	304.70	1.24	0.84	no	0.73	no	304.54	no
26-Jun-06	305.88	304.66	1.22	0.84	no	0.73	no	304.54	no
29-Jun-06	305.92	304.69	1.23	0.84	no	0.73	no	304.54	no
30-Jun-06	305.92	304.69	1.23	0.84	no	0.73	no	304.54	no
6-Jul-06	306.02	304.68	1.34	0.76	no	0.58	no	304.54	no
13-Jul-06	305.96	304.90	1.06	0.76	no	0.58	no	304.54	no
21-Jul-06	305.95	304.72	1.23	0.76	no	0.58	no	304.54	no
27-Jul-06	305.92	304.71	1.21	0.76	no	0.58	no	304.54	no
10-Aug-06	305.86	304.70	1.16	0.76	no	0.58	no	304.54	no
15-Aug-06	305.84	304.69	1.15	0.76	no	0.58	no	304.54	no
18-Aug-06	305.82	304.68	1.14	0.76	no	0.58	no	304.54	no
21-Aug-06	305.81	304.73	1.08	0.76	no	0.58	no	304.54	no
28-Aug-06	305.81	304.70	1.11	0.76	no	0.58	no	304.54	no
8-Sep-06	305.81	304.72	1.09	0.76	no	0.58	no	304.54	no
14-Sep-06	305.95	304.94	1.01	0.76	no	0.58	no	304.54	no
22-Sep-06	305.84	304.75	1.09	0.76	no	0.58	no	304.54	no
29-Sep-06	305.83	304.76	1.07	0.76	no	0.58	no	304.54	no
5-Oct-06	306.00	304.97	1.03	0.73	no	0.55	no	304.54	no
12-Oct-06	306.12	305.00	1.12	0.73	no	0.55	no	304.54	no
19-Oct-06	306.17	305.03	1.14	0.73	no	0.55	no	304.54	no
26-Oct-06	306.10	304.99	1.11	0.73	no	0.55	no	304.54	no
8-Nov-06	305.90	304.79	1.11	0.73	no	0.55	no	304.54	no
15-Nov-06	305.92	304.82	1.10	0.73	no	0.55	no	304.54	no
22-Nov-06	305.90	304.78	1.12	0.73	no	0.55	no	304.54	no
29-Nov-06	306.05	304.67	1.38	0.73	no	0.55	no	304.54	no
1-Dec-06	306.05	304.67	1.38	0.73	no	0.55	no	304.54	no
7-Dec-06	305.98	304.89	1.09	0.73	no	0.55	no	304.54	no
13-Dec-06	305.99	304.67	1.32	0.73	no	0.55	no	304.54	no
20-Dec-06	305.94	304.78	1.16	0.73	no	0.55	no	304.54	no

Table G-3
Threshold Summary - DP6 to DP3
Mill Creek Aggregates Pit

			DP6 to DP3					DP3	
Date	Water Elevation DP6 (m ASL)	Water Elevation DP3 (m ASL)	Head Difference (m)	Early Warning Value (m)	Exceedance of Early Warning Value	Threshold Value (m)	Exceedance of Threshold Value	Threshold Value (m ASL)	Exceedance of Threshold Value
9-Jan-07	306.05	304.80	1.26	0.69	no	0.57	no	304.54	no
16-Jan-07	305.99	304.85	1.14	0.69	no	0.57	no	304.54	no
23-Jan-07	305.98	304.85	1.13	0.69	no	0.57	no	304.54	no
30-Jan-07	305.95	304.83	1.12	0.69	no	0.57	no	304.54	no
5-Feb-07	305.94	304.73	1.21	0.69	no	0.57	no	304.54	no
15-Feb-07	305.93	304.74	1.19	0.69	no	0.57	no	304.54	no
22-Feb-07	305.95	304.67	1.28	0.69	no	0.57	no	304.54	no
14-Mar-07	305.96	304.93	1.03	0.69	no	0.57	no	304.54	no
21-Mar-07	305.98	304.85	1.13	0.69	no	0.57	no	304.54	no
28-Mar-07	306.10	304.86	1.24	0.69	no	0.57	no	304.54	no
4-Apr-07	306.21	304.86	1.35	0.84	no	0.73	no	304.54	no
18-Apr-07	306.10	304.86	1.24	0.84	no	0.73	no	304.54	no
24-Apr-07	306.22	304.85	1.37	0.84	no	0.73	no	304.54	no
3-May-07	306.19	304.83	1.36	0.84	no	0.73	no	304.54	no
8-May-07	306.15	304.75	1.40	0.84	no	0.73	no	304.54	no
16-May-07	306.25	304.97	1.28	0.84	no	0.73	no	304.54	no
25-May-07	306.24	304.70	1.54	0.84	no	0.73	no	304.54	no
7-Jun-07	306.09	304.71	1.38	0.84	no	0.73	no	304.54	no
13-Jun-07	306.03	304.67	1.36	0.84	no	0.73	no	304.54	no
18-Jun-07	305.99	304.65	1.34	0.84	no	0.73	no	304.54	no
26-Jun-07	306.01	304.66	1.35	0.84	no	0.73	no	304.54	no
6-Jul-07	305.95	304.65	1.30	0.76	no	0.58	no	304.54	no
12-Jul-07	305.91	304.64	1.27	0.76	no	0.58	no	304.54	no
17-Jul-07	305.90	304.64	1.26	0.76	no	0.58	no	304.54	no
25-Jul-07	305.86	304.64	1.22	0.76	no	0.58	no	304.54	no
3-Aug-07	305.82	304.64	1.19	0.76	no	0.58	no	304.54	no
9-Aug-07	305.86	304.67	1.19	0.76	no	0.58	no	304.54	no
14-Aug-07	305.82	304.65	1.18	0.76	no	0.58	no	304.54	no
21-Aug-07	305.79	304.65	1.14	0.76	no	0.58	no	304.54	no
29-Aug-07	305.80	304.66	1.14	0.76	no	0.58	no	304.54	no
6-Sep-07	305.73	304.64	1.09	0.76	no	0.58	no	304.54	no
12-Sep-07	305.75	304.67	1.08	0.76	no	0.58	no	304.54	no
21-Sep-07	305.66	304.64	1.02	0.76	no	0.58	no	304.54	no
28-Sep-07	305.68	304.66	1.02	0.76	no	0.58	no	304.54	no
3-Oct-07	305.67	304.66	1.01	0.73	no	0.55	no	304.54	no
10-Oct-07	305.86	304.71	1.15	0.73	no	0.55	no	304.54	no
17-Oct-07	305.77	304.67	1.10	0.73	no	0.55	no	304.54	no
22-Oct-07	305.77	304.65	1.11	0.73	no	0.55	no	304.54	no
31-Oct-07	305.75	304.66	1.08	0.73	no	0.55	no	304.54	no
9-Nov-07	305.86	304.70	1.16	0.73	no	0.55	no	304.54	no
16-Nov-07	305.77	304.69	1.08	0.73	no	0.55	no	304.54	no
23-Nov-07	305.88	304.78	1.10	0.73	no	0.55	no	304.54	no
29-Nov-07	305.79	304.73	1.05	0.73	no	0.55	no	304.54	no
5-Dec-07	305.86	304.76	1.10	0.73	no	0.55	no	304.54	no
10-Dec-07	305.76	304.69	1.07	0.73	no	0.55	no	304.54	no
19-Dec-07	305.76	304.69	1.07	0.73	no	0.55	no	304.54	no
10-Jan-08	306.16	304.80	1.36	0.69	no	0.57	no	304.54	no
17-Jan-08	305.98	304.80	1.17	0.69	no	0.57	no	304.54	no
22-Jan-08	305.90	304.81	1.09	0.69	no	0.57	no	304.54	no
31-Jan-08	306.02	304.88	1.14	0.69	no	0.57	no	304.54	no
7-Feb-08	306.00	304.82	1.19	0.69	no	0.57	no	304.54	no
15-Feb-08	305.90	304.76	1.14	0.69	no	0.57	no	304.54	no
21-Feb-08	306.01	304.89	1.13	0.69	no	0.57	no	304.54	no
29-Feb-08	305.89	304.76	1.13	0.69	no	0.57	no	304.54	no
10-Mar-08	305.97	304.81	1.16	0.69	no	0.57	no	304.54	no
14-Mar-08	305.91	304.77	1.14	0.69	no	0.57	no	304.54	no
20-Mar-08	306.06	304.85	1.21	0.69	no	0.57	no	304.54	no
26-Mar-08	306.02	304.72	1.30	0.69	no	0.57	no	304.54	no
31-Mar-08	306.24	304.89	1.35	0.69	no	0.57	no	304.54	no
8-Apr-08	306.22	305.22	0.99	0.84	no	0.73	no	304.54	no
17-Apr-08	306.18	304.86	1.32	0.84	no	0.73	no	304.54	no
23-Apr-08	306.13	304.81	1.32	0.84	no	0.73	no	304.54	no
28-Apr-08	306.11	304.80	1.31	0.84	no	0.73	no	304.54	no
5-May-08	306.22	304.92	1.30	0.84	no	0.73	no	304.54	no
15-May-08	306.16	304.81	1.35	0.84	no	0.73	no	304.54	no
20-May-08	306.13	304.75	1.38	0.84	no	0.73	no	304.54	no
28-May-08	306.09	304.72	1.37	0.84	no	0.73	no	304.54	no
9-Jun-08	306.06	304.70	1.36	0.84	no	0.73	no	304.54	no
16-Jun-08	306.21	304.80	1.41	0.84	no	0.73	no	304.54	no
20-Jun-08	306.14	304.75	1.39	0.84	no	0.73	no	304.54	no
25-Jun-08	306.18	304.75	1.43	0.84	no	0.73	no	304.54	no
30-Jun-08	306.17	304.81	1.36	0.84	no	0.73	no	304.54	no
4-Jul-08	306.11	304.75	1.36	0.76	no	0.58	no	304.54	no
11-Jul-08	306.16	304.81	1.35	0.76	no	0.58	no	304.54	no
16-Jul-08	306.14	304.74	1.40	0.76	no	0.58	no	304.54	no
25-Jul-08	306.27	304.97	1.30	0.76	no	0.58	no	304.54	no
30-Jul-08	306.23	304.81	1.42	0.76	no	0.58	no	304.54	no
5-Aug-08	306.17	304.76	1.41	0.76	no	0.58	no	304.54	no
12-Aug-08	306.22	304.89	1.33	0.76	no	0.58	no	304.54	no
20-Aug-08	306.19	304.82	1.38	0.76	no	0.58	no	304.54	no
27-Aug-08	306.12	304.76	1.36	0.76	no	0.58	no	304.54	no
3-Sep-08	306.06	304.75	1.31	0.76	no	0.58	no	304.54	no
12-Sep-08	306.19	304.82	1.37	0.76	no	0.58	no	304.54	no
19-Sep-08	306.29	305.12	1.17	0.76	no	0.58	no	304.54	no
24-Sep-08	306.11	304.82	1.30	0.76	no	0.58	no	304.54	no
30-Sep-08	306.13	304.79	1.34	0.76	no	0.58	no	304.54	no
3-Oct-08	305.67	304.66	1.01	0.73	no	0.55	no	304.54	no
10-Oct-08	305.86	304.71	1.15	0.73	no	0.55	no	304.54	no
17-Oct-08	305.77	304.67	1.10	0.73	no	0.55	no	304.54	no
22-Oct-08	305.77	304.65	1.11	0.73	no	0.55	no	304.54	no
31-Oct-08	305.75	304.66	1.08	0.73	no	0.55	no	304.54	no
5-Nov-08	306.02	304.83	1.19	0.73	no	0.55	no	304.54	no
12-Nov-08	306.04	304.78	1.26	0.73	no	0.55	no	304.54	no
19-Nov-08	306.14	304.80	1.34	0.73	no	0.55	no	304.54	no
26-Nov-08	306.11	304.83	1.28	0.73	no	0.55	no	304.54	no
3-Dec-08	306.12	304.82	1.30	0.73	no	0.55	no	304.54	no
10-Dec-08	306.13	304.90	1.23	0.73	no	0.55	no	304.54	no
17-Dec-08	306.25	305.07	1.18	0.73	no	0.55	no	304.54	no

Table G-3
Threshold Summary - DP6 to DP3
Mill Creek Aggregates Pit

			DP6 to DP3					DP3	
Date	Water Elevation DP6 (m ASL)	Water Elevation DP3 (m ASL)	Head Difference (m)	Early Warning Value (m)	Exceedance of Early Warning Value	Threshold Value (m)	Exceedance of Threshold Value	Threshold Value (m ASL)	Exceedance of Threshold Value
6-Jan-09	306.32	305.26	1.06	0.69	no	0.57	no	304.54	no
15-Jan-09	306.32	305.26	1.06	0.69	no	0.57	no	304.54	no
23-Jan-09	306.32	305.27	1.05	0.69	no	0.57	no	304.54	no
2-Feb-09	306.09	304.77	1.32	0.69	no	0.57	no	304.54	no
10-Feb-09	306.16	304.70	1.46	0.69	no	0.57	no	304.54	no
23-Feb-09	306.30	304.97	1.33	0.69	no	0.57	no	304.54	no
27-Feb-09	306.35	304.83	1.52	0.69	no	0.57	no	304.54	no
6-Mar-09	306.29	304.87	1.42	0.69	no	0.57	no	304.54	no
11-Mar-09	306.39	305.31	1.08	0.69	no	0.57	no	304.54	no
19-Mar-09	306.28	305.02	1.26	0.69	no	0.57	no	304.54	no
27-Mar-09	306.24	304.87	1.37	0.69	no	0.57	no	304.54	no
2-Apr-09	306.26	304.96	1.30	0.84	no	0.73	no	304.54	no
9-Apr-09	306.31	304.99	1.32	0.84	no	0.73	no	304.54	no
17-Apr-09	306.25	304.87	1.38	0.84	no	0.73	no	304.54	no
24-Apr-09	306.29	304.97	1.32	0.84	no	0.73	no	304.54	no
27-Apr-09	306.32	305.06	1.26	0.84	no	0.73	no	304.54	no
5-May-09	306.30	304.98	1.32	0.84	no	0.73	no	304.54	no
13-May-09	306.28	304.88	1.40	0.84	no	0.73	no	304.54	no
21-May-09	306.26	304.78	1.48	0.84	no	0.73	no	304.54	no
29-May-09	306.28	304.96	1.32	0.84	no	0.73	no	304.54	no
5-Jun-09	306.24	304.79	1.45	0.84	no	0.73	no	304.54	no
10-Jun-09	306.23	304.80	1.43	0.84	no	0.73	no	304.54	no
16-Jun-09	306.20	304.76	1.44	0.84	no	0.73	no	304.54	no
23-Jun-09	306.21	304.76	1.45	0.84	no	0.73	no	304.54	no
3-Jul-09	306.23	304.79	1.44	0.76	no	0.58	no	304.54	no
10-Jul-09	306.18	304.75	1.43	0.76	no	0.58	no	304.54	no
15-Jul-09	306.17	304.74	1.43	0.76	no	0.58	no	304.54	no
22-Jul-09	306.18	304.75	1.43	0.76	no	0.58	no	304.54	no
31-Jul-09	306.23	304.88	1.35	0.76	no	0.58	no	304.54	no
7-Aug-09	306.19	304.78	1.41	0.76	no	0.58	no	304.54	no
13-Aug-09	306.26	305.03	1.23	0.76	no	0.58	no	304.54	no
20-Aug-09	306.16	304.80	1.37	0.76	no	0.58	no	304.54	no
28-Aug-09	306.24	304.89	1.36	0.76	no	0.58	no	304.54	no
4-Sep-09	306.22	304.83	1.39	0.76	no	0.58	no	304.54	no
11-Sep-09	306.17	304.78	1.39	0.76	no	0.58	no	304.54	no
18-Sep-09	306.12	304.76	1.36	0.76	no	0.58	no	304.54	no
24-Sep-09	306.14	304.77	1.37	0.76	no	0.58	no	304.54	no
28-Sep-09	306.19	304.82	1.38	0.76	no	0.58	no	304.54	no
9-Oct-09	306.20	304.76	1.44	0.73	no	0.55	no	304.54	no
14-Oct-09	306.18	304.84	1.34	0.73	no	0.55	no	304.54	no
22-Oct-09	306.10	304.81	1.29	0.73	no	0.55	no	304.54	no
30-Oct-09	306.11	304.83	1.28	0.73	no	0.55	no	304.54	no
6-Nov-09	306.09	304.82	1.27	0.73	no	0.55	no	304.54	no
11-Nov-09	306.08	304.87	1.21	0.73	no	0.55	no	304.54	no
20-Nov-09	306.07	304.83	1.24	0.73	no	0.55	no	304.54	no
26-Nov-09	306.07	304.81	1.26	0.73	no	0.55	no	304.54	no
4-Dec-09	306.16	304.92	1.23	0.73	no	0.55	no	304.54	no
11-Dec-09	306.08	304.79	1.28	0.73	no	0.55	no	304.54	no
17-Dec-09	306.06	304.87	1.19	0.73	no	0.55	no	304.54	no
8-Jan-10	305.98	304.79	1.18	0.69	no	0.57	no	304.54	no
13-Jan-10	305.95	304.75	1.19	0.69	no	0.57	no	304.54	no
22-Jan-10	305.93	304.71	1.22	0.69	no	0.57	no	304.54	no
29-Jan-10	305.98	304.85	1.13	0.69	no	0.57	no	304.54	no
4-Feb-10	305.93	304.72	1.21	0.69	no	0.57	no	304.54	no
11-Feb-10	305.89	304.73	1.16	0.69	no	0.57	no	304.54	no
22-Feb-10	305.88	304.78	1.10	0.69	no	0.57	no	304.54	no
26-Feb-10	305.88	304.8	1.08	0.69	no	0.57	no	304.54	no
5-Mar-10	305.91	304.70	1.21	0.69	no	0.57	no	304.54	no
11-Mar-10	306.07	304.83	1.24	0.69	no	0.57	no	304.54	no
18-Mar-10	306.24	305.08	1.16	0.69	no	0.57	no	304.54	no
24-Mar-10	306.15	304.89	1.26	0.69	no	0.57	no	304.54	no
1-Apr-10	306.09	304.83	1.26	0.84	no	0.73	no	304.54	no
9-Apr-10	306.27	305.10	1.17	0.84	no	0.73	no	304.54	no
16-Apr-10	306.12	304.77	1.35	0.84	no	0.73	no	304.54	no
23-Apr-10	306.04	304.73	1.31	0.84	no	0.73	no	304.54	no
30-Apr-10	306.00	304.71	1.29	0.84	no	0.73	no	304.54	no
6-May-10	306.00	304.72	1.28	0.84	no	0.73	no	304.54	no
14-May-10	306.02	304.73	1.29	0.84	no	0.73	no	304.54	no
21-May-10	305.96	304.70	1.26	0.84	no	0.73	no	304.54	no
28-May-10	305.87	304.66	1.21	0.84	no	0.73	no	304.54	no
4-Jun-10	305.91	304.71	1.20	0.84	no	0.73	no	304.54	no
11-Jun-10	305.96	304.77	1.19	0.84	no	0.73	no	304.54	no
17-Jun-10	306.00	304.80	1.20	0.84	no	0.73	no	304.54	no
24-Jun-10	305.83	304.73	1.10	0.84	no	0.73	no	304.54	no
28-Jun-10	305.88	304.79	1.09	0.84	no	0.73	no	304.54	no
9-Jul-10	305.80	304.71	1.09	0.76	no	0.58	no	304.54	no
15-Jul-10	305.74	304.80	0.94	0.76	no	0.58	no	304.54	no
22-Jul-10	305.70	304.67	1.03	0.76	no	0.58	no	304.54	no
5-Aug-10	305.79	304.70	1.09	0.76	no	0.58	no	304.54	no
18-Aug-10	305.70	304.68	1.02	0.76	no	0.58	no	304.54	no
27-Aug-10	305.67	304.68	0.99	0.76	no	0.58	no	304.54	no
3-Sep-10	305.61	304.66	0.95	0.76	no	0.58	no	304.54	no
8-Sep-10	305.62	304.70	0.92	0.76	no	0.58	no	304.54	no
17-Sep-10	305.62	304.78	0.84	0.76	no	0.58	no	304.54	no
22-Sep-10	305.55	304.66	0.89	0.76	no	0.58	no	304.54	no
28-Sep-10	305.70	304.84	0.86	0.76	no	0.58	no	304.54	no

Table G-3
Threshold Summary - DP6 to DP3
Mill Creek Aggregates Pit

			DP6 to DP3					DP3	
Date	Water Elevation DP6 (m ASL)	Water Elevation DP3 (m ASL)	Head Difference (m)	Early Warning Value (m)	Exceedance of Early Warning Value	Threshold Value (m)	Exceedance of Threshold Value	Threshold Value (m ASL)	Exceedance of Threshold Value
8-Oct-10	305.61	304.73	0.88	0.73	no	0.55	no	304.54	no
15-Oct-10	305.67	304.80	0.87	0.73	no	0.55	no	304.54	no
20-Oct-10	305.62	304.72	0.90	0.73	no	0.55	no	304.54	no
28-Oct-10	305.67	304.76	0.91	0.73	no	0.55	no	304.54	no
5-Nov-10	305.65	304.71	0.94	0.73	no	0.55	no	304.54	no
12-Nov-10	305.60	304.69	0.91	0.73	no	0.55	no	304.54	no
18-Nov-10	305.73	304.75	0.98	0.73	no	0.55	no	304.54	no
26-Nov-10	305.73	304.81	0.92	0.73	no	0.55	no	304.54	no
3-Dec-10	305.76	304.82	0.94	0.73	no	0.55	no	304.54	no
8-Dec-10	305.65	304.80	0.85	0.73	no	0.55	no	304.54	no
15-Dec-10	305.62	304.72	0.90	0.73	no	0.55	no	304.54	no
22-Dec-10	305.58	304.72	0.86	0.73	no	0.55	no	304.54	no
10-Jan-11	305.56	304.72	0.84	0.69	no	0.57	no	304.54	no
19-Jan-11	305.56	304.72	0.84	0.69	no	0.57	no	304.54	no
27-Jan-11	305.54	304.72	0.82	0.69	no	0.57	no	304.54	no
31-Jan-11	305.53	304.72	0.81	0.69	no	0.57	no	304.54	no
4-Feb-11	305.53	304.72	0.81	0.69	no	0.57	no	304.54	no
11-Feb-11	305.53	304.72	0.81	0.69	no	0.57	no	304.54	no
17-Feb-11	305.64	304.67	0.97	0.69	no	0.57	no	304.54	no
28-Feb-11	305.64	304.76	0.88	0.69	no	0.57	no	304.54	no
4-Mar-11	305.60	304.62	0.98	0.69	no	0.57	no	304.54	no
11-Mar-11	305.88	304.73	1.15	0.69	no	0.57	no	304.54	no
16-Mar-11	305.90	304.97	0.93	0.69	no	0.57	no	304.54	no
29-Mar-11	305.85	304.82	1.03	0.69	no	0.57	no	304.54	no
6-Apr-11	305.90	304.88	1.02	0.84	no	0.73	no	304.54	no
14-Apr-11	305.86	304.81	1.05	0.84	no	0.73	no	304.54	no
21-Apr-11	305.98	305.00	0.98	0.84	no	0.73	no	304.54	no
29-Apr-11	306.01	304.96	1.05	0.84	no	0.73	no	304.54	no
6-May-11	305.97	304.84	1.13	0.84	no	0.73	no	304.54	no
12-May-11	306.02	304.94	1.08	0.84	no	0.73	no	304.54	no
20-May-11	306.16	305.28	0.88	0.84	no	0.73	no	304.54	no
26-May-11	306.07	304.96	1.11	0.84	no	0.73	no	304.54	no
2-Jun-11	306.01	304.84	1.17	0.84	no	0.73	no	304.54	no
10-Jun-11	306.08	304.91	1.17	0.84	no	0.73	no	304.54	no
16-Jun-11	305.96	304.72	1.24	0.84	no	0.73	no	304.54	no
23-Jun-11	305.94	304.77	1.17	0.84	no	0.73	no	304.54	no
30-Jun-11	305.91	304.73	1.18	0.84	no	0.73	no	304.54	no
8-Jul-11	305.84	304.70	1.14	0.76	no	0.58	no	304.54	no
14-Jul-11	305.81	304.67	1.14	0.76	no	0.58	no	304.54	no
26-Jul-11	305.74	304.66	1.08	0.76	no	0.58	no	304.54	no
3-Aug-11	305.70	304.66	1.04	0.76	no	0.58	no	304.54	no
11-Aug-11	305.71	304.68	1.03	0.76	no	0.58	no	304.54	no
19-Aug-11	305.66	304.66	1.00	0.76	no	0.58	no	304.54	no
30-Aug-11	305.65	304.68	0.97	0.76	no	0.58	no	304.54	no
9-Sep-11	305.64	304.68	0.96	0.76	no	0.58	no	304.54	no
14-Sep-11	305.62	304.66	0.96	0.76	no	0.58	no	304.54	no
23-Sep-11	305.63	304.71	0.92	0.76	no	0.58	no	304.54	no
30-Sep-11	305.65	304.69	0.96	0.76	no	0.58	no	304.54	no
6-Oct-11	305.66	304.72	0.94	0.73	no	0.55	no	304.54	no
14-Oct-11	305.69	304.76	0.93	0.73	no	0.55	no	304.54	no
20-Oct-11	305.73	305.00	0.73	0.73	no	0.55	no	304.54	no
27-Oct-11	305.79	304.85	0.94	0.73	no	0.55	no	304.54	no
4-Nov-11	305.71	304.72	0.99	0.73	no	0.55	no	304.54	no
10-Nov-11	305.72	304.75	0.97	0.73	no	0.55	no	304.54	no
14-Nov-11	305.64	304.76	0.88	0.73	no	0.55	no	304.54	no
25-Nov-11	305.74	304.78	0.96	0.73	no	0.55	no	304.54	no
8-Dec-11	305.93	304.92	1.01	0.73	no	0.55	no	304.54	no
14-Dec-11	305.83	304.94	0.89	0.73	no	0.55	no	304.54	no
22-Dec-11	305.90	304.88	1.02	0.73	no	0.55	no	304.54	no
6-Jan-12	305.86	304.80	1.06	0.69	no	0.57	no	304.54	no
12-Jan-12	305.83	304.83	1.00	0.69	no	0.57	no	304.54	no
16-Jan-12	305.83	304.89	0.94	0.69	no	0.57	no	304.54	no
26-Jan-12	305.84	304.79	1.05	0.69	no	0.57	no	304.54	no
3-Feb-12	305.90	304.74	1.16	0.69	no	0.57	no	304.54	no
9-Feb-12	305.83	304.72	1.11	0.69	no	0.57	no	304.54	no
16-Feb-12	305.79	304.73	1.06	0.69	no	0.57	no	304.54	no
23-Feb-12	305.88	304.78	1.10	0.69	no	0.57	no	304.54	no
2-Mar-12	305.92	304.85	1.07	0.69	no	0.57	no	304.54	no
9-Mar-12	305.95	304.94	1.01	0.69	no	0.57	no	304.54	no
21-Mar-12	305.90	304.78	1.12	0.69	no	0.57	no	304.54	no
29-Mar-12	305.84	304.77	1.07	0.69	no	0.57	no	304.54	no
4-Apr-12	305.82	304.73	1.09	0.84	no	0.73	no	304.54	no
13-Apr-12	305.75	304.67	1.08	0.84	no	0.73	no	304.54	no
17-Apr-12	305.74	304.69	1.05	0.84	no	0.73	no	304.54	no
30-Apr-12	305.77	304.72	1.05	0.84	no	0.73	no	304.54	no
7-May-12	305.77	304.71	1.06	0.84	no	0.73	no	304.54	no
17-May-12	305.69	304.67	1.02	0.84	no	0.73	no	304.54	no
24-May-12	305.61	304.65	0.96	0.84	no	0.73	no	304.54	no
29-May-12	305.57	304.69	0.88	0.84	no	0.73	no	304.54	no
6-Jun-12	305.62	304.67	0.95	0.84	no	0.73	no	304.54	no
15-Jun-12	305.61	304.66	0.95	0.84	no	0.73	no	304.54	no
20-Jun-12	305.56	304.63	0.93	0.84	no	0.73	no	304.54	no
29-Jun-12	305.52	304.64	0.88	0.84	no	0.73	no	304.54	no
4-Jul-12	305.50	304.65	0.85	0.76	no	0.58	no	304.54	no
12-Jul-12	305.45	304.62	0.83	0.76	no	0.58	no	304.54	no
24-Jul-12	305.47	304.64	0.83	0.76	no	0.58	no	304.54	no
30-Jul-12	305.42	304.64	0.78	0.76	no	0.58	no	304.54	no

Table G-3
Threshold Summary - DP6 to DP3
Mill Creek Aggregates Pit

			DP6 to DP3					DP3	
Date	Water Elevation DP6 (m ASL)	Water Elevation DP3 (m ASL)	Head Difference (m)	Early Warning Value (m)	Exceedance of Early Warning Value	Threshold Value (m)	Exceedance of Threshold Value	Threshold Value (m ASL)	Exceedance of Threshold Value
10-Aug-12	305.44	304.66	0.78	0.76	no	0.58	no	304.54	no
15-Aug-12	305.50	304.71	0.79	0.76	no	0.58	no	304.54	no
21-Aug-12	305.34	304.66	0.68	0.76	yes	0.58	no	304.54	no
27-Aug-12	305.30	304.64	0.66	0.76	yes	0.58	no	304.54	no
7-Sep-12	305.32	304.67	0.65	0.76	yes	0.58	no	304.54	no
13-Sep-12	305.38	304.71	0.67	0.76	yes	0.58	no	304.54	no
18-Sep-12	305.42	304.74	0.68	0.76	yes	0.58	no	304.54	no
24-Sep-12	305.34	304.71	0.63	0.76	yes	0.58	no	304.54	no
9-Oct-12	305.43	304.66	0.77	0.73	no	0.55	no	304.54	no
18-Oct-12	305.46	304.71	0.75	0.73	no	0.55	no	304.54	no
23-Oct-12	305.48	304.84	0.64	0.73	yes	0.55	no	304.54	no
31-Oct-12	305.55	304.91	0.64	0.73	yes	0.55	no	304.54	no
12-Nov-12	305.46	304.84	0.62	0.73	yes	0.55	no	304.54	no
16-Nov-12	305.41	304.70	0.71	0.73	yes	0.55	no	304.54	no
22-Nov-12	305.37	304.68	0.69	0.73	yes	0.55	no	304.54	no
28-Nov-12	305.33	304.66	0.67	0.73	yes	0.55	no	304.54	no
7-Dec-12	305.35	304.67	0.68	0.73	yes	0.55	no	304.54	no
13-Dec-12	305.37	304.66	0.71	0.73	yes	0.55	no	304.54	no
19-Dec-12	305.39	304.67	0.72	0.73	yes	0.55	no	304.54	no
3-Jan-13	305.38	304.73	0.65	0.69	yes	0.57	no	304.54	no
16-Jan-13	305.48	304.73	0.75	0.69	no	0.57	no	304.54	no
24-Jan-13	305.44	304.73	0.71	0.69	no	0.57	no	304.54	no
31-Jan-13	305.75	304.73	1.02	0.69	no	0.57	no	304.54	no
8-Feb-13	305.58	304.73	0.85	0.69	no	0.57	no	304.54	no
13-Feb-13	305.51	304.76	0.75	0.69	no	0.57	no	304.54	no
20-Feb-13	305.48	304.77	0.71	0.69	no	0.57	no	304.54	no
28-Feb-13	305.54	304.77	0.77	0.69	no	0.57	no	304.54	no
6-Mar-13	305.53	304.62	0.91	0.69	no	0.57	no	304.54	no
15-Mar-13	305.72	304.73	0.99	0.69	no	0.57	no	304.54	no
21-Mar-13	305.62	304.73	0.89	0.69	no	0.57	no	304.54	no
25-Mar-13	305.60	304.73	0.87	0.69	no	0.57	no	304.54	no
4-Apr-13	305.66	304.83	0.83	0.84	yes	0.73	no	304.54	no
10-Apr-13	305.95	305.04	0.91	0.84	no	0.73	no	304.54	no
18-Apr-13	305.82	304.94	0.88	0.84	no	0.73	no	304.54	no
25-Apr-13	305.76	304.85	0.91	0.84	no	0.73	no	304.54	no
2-May-13	305.81	304.80	1.01	0.84	no	0.73	no	304.54	no
9-May-13	305.73	304.75	0.98	0.84	no	0.73	no	304.54	no
15-May-13	305.66	304.72	0.94	0.84	no	0.73	no	304.54	no
23-May-13	305.62	304.71	0.91	0.84	no	0.73	no	304.54	no
7-Jun-13	305.71	304.78	0.93	0.84	no	0.73	no	304.54	no
13-Jun-13	305.75	304.86	0.89	0.84	no	0.73	no	304.54	no
21-Jun-13	305.62	304.71	0.91	0.84	no	0.73	no	304.54	no
26-Jun-13	305.62	304.70	0.92	0.84	no	0.73	no	304.54	no
5-Jul-13	305.80	304.80	1.00	0.76	no	0.58	no	304.54	no
12-Jul-13	305.66	304.74	0.92	0.76	no	0.58	no	304.54	no
17-Jul-13	305.59	304.70	0.89	0.76	no	0.58	no	304.54	no
31-Jul-13	305.72	304.75	0.97	0.76	no	0.58	no	304.54	no
9-Aug-13	305.60	304.74	0.86	0.76	no	0.58	no	304.54	no
14-Aug-13	305.57	304.71	0.86	0.76	no	0.58	no	304.54	no
26-Aug-13	305.56	304.68	0.88	0.76	no	0.58	no	304.54	no
6-Sep-13	305.52	304.72	0.80	0.76	no	0.58	no	304.54	no
12-Sep-13	305.50	304.74	0.76	0.76	no	0.58	no	304.54	no
19-Sep-13	305.47	304.70	0.77	0.76	no	0.58	no	304.54	no
25-Sep-13	305.55	304.73	0.82	0.76	no	0.58	no	304.54	no
3-Oct-13	305.48	304.76	0.72	0.73	yes	0.55	no	304.54	no
11-Oct-13	305.51	304.79	0.72	0.73	yes	0.55	no	304.54	no
16-Oct-13	305.60	304.82	0.78	0.73	no	0.55	no	304.54	no
22-Oct-13	305.66	304.87	0.79	0.73	no	0.55	no	304.54	no
7-Nov-13	305.61	304.82	0.79	0.73	no	0.55	no	304.54	no
14-Nov-13	305.59	304.82	0.77	0.73	no	0.55	no	304.54	no
22-Nov-13	305.57	304.76	0.81	0.73	no	0.55	no	304.54	no
28-Nov-13	305.53	304.76	0.77	0.73	no	0.55	no	304.54	no
6-Dec-13	305.61			0.73		0.55		304.54	
10-Dec-13	305.59			0.73		0.55		304.54	
20-Dec-13	305.57			0.73		0.55		304.54	
10-Jan-14	305.38			0.69		0.57		304.54	
15-Jan-14	305.48			0.69		0.57		304.54	
24-Jan-14	305.44			0.69		0.57		304.54	
31-Jan-14	305.75			0.69		0.57		304.54	
6-Feb-14	305.61			0.69		0.57		304.54	
12-Feb-14	305.62			0.69		0.57		304.54	
20-Feb-14	305.62			0.69		0.57		304.54	
26-Feb-14	305.62			0.69		0.57		304.54	
6-Mar-14	305.64			0.69		0.57		304.54	
13-Mar-14	305.68			0.69		0.57		304.54	
21-Mar-14	305.73	304.83	0.90	0.69	no	0.57	no	304.54	no
26-Mar-14	305.66			0.69		0.57		304.54	
4-Apr-14	305.86	305.02	0.84	0.84	no	0.73	no	304.54	no
10-Apr-14	305.97	305.24	0.73	0.84	yes	0.73	no	304.54	no
24-Apr-14	305.78	304.89	0.89	0.84	no	0.73	no	304.54	no

Note: Water elevations are left blank when frozen conditions were observed at DPs. Frozen conditions prevented accurate groundwater measurem

Table G-3
Threshold Summary - DP6 to DP3
Mill Creek Aggregates Pit

			DP6 to DP3					DP3	
Date	Water Elevation DP6 (m ASL)	Water Elevation DP3 (m ASL)	Head Difference (m)	Early Warning Value (m)	Exceedance of Early Warning Value	Threshold Value (m)	Exceedance of Threshold Value	Threshold Value (m ASL)	Exceedance of Threshold Value
9-May-14	305.78	304.85	0.93	0.84	no	0.73	no	304.54	no
15-May-14	305.84	304.95	0.89	0.84	no	0.73	no	304.54	no
22-May-14	305.80	304.88	0.92	0.84	no	0.73	no	304.54	no
29-May-14	305.76	304.87	0.89	0.84	no	0.73	no	304.54	no
6-Jun-14	305.70	304.85	0.85	0.84	no	0.73	no	304.54	no
13-Jun-14	305.69	304.78	0.91	0.84	no	0.73	no	304.54	no
18-Jun-14	305.69	304.73	0.96	0.84	no	0.73	no	304.54	no
26-Jun-14	305.66	304.71	0.95	0.84	no	0.73	no	304.54	no
9-Jul-14	305.68	304.78	0.90	0.76	no	0.58	no	304.54	no
18-Jul-14	305.57	304.68	0.89	0.76	no	0.58	no	304.54	no
23-Jul-14	305.68	304.81	0.87	0.76	no	0.58	no	304.54	no
29-Jul-14	305.80	304.94	0.86	0.76	no	0.58	no	304.54	no
7-Aug-14	305.74	304.83	0.91	0.76	no	0.58	no	304.54	no
14-Aug-14	305.72	304.76	0.96	0.76	no	0.58	no	304.54	no
22-Aug-14	305.77	304.89	0.88	0.76	no	0.58	no	304.54	no
28-Aug-14	305.65	304.73	0.92	0.76	no	0.58	no	304.54	no
11-Sep-14	305.76	304.73	1.03	0.76	no	0.58	no	304.54	no
18-Sep-14	305.82	304.71	1.11	0.76	no	0.58	no	304.54	no
25-Sep-14	305.57	304.70	0.87	0.76	no	0.58	no	304.54	no
29-Sep-14	305.53	304.79	0.74	0.76	yes	0.58	no	304.54	no
9-Oct-14	305.73	304.86	0.87	0.73	no	0.55	no	304.54	no
17-Oct-14	305.71	304.90	0.81	0.73	no	0.55	no	304.54	no
23-Oct-14	305.71	304.90	0.81	0.73	no	0.55	no	304.54	no
31-Oct-14	305.72	304.92	0.80	0.73	no	0.55	no	304.54	no
7-Nov-14	305.69	304.88	0.81	0.73	no	0.55	no	304.54	no
13-Nov-14	305.67	304.82	0.85	0.73	no	0.55	no	304.54	no
21-Nov-14	305.68	304.81	0.87	0.73	no	0.55	no	304.54	no
27-Nov-14				0.73		0.55		304.54	
4-Dec-14	305.76			0.73		0.55		304.54	
12-Dec-14	305.74	304.88	0.85	0.73	no	0.55	no	304.54	no
18-Dec-14	305.71	304.89	0.87	0.73	no	0.55	no	304.54	no
9-Jan-15	305.74			0.69		0.57		304.54	
14-Jan-15	305.72			0.69		0.57		304.54	
21-Jan-15	305.70			0.69		0.57		304.54	
29-Jan-15	305.70			0.69		0.57		304.54	
6-Feb-15	305.71			0.69		0.57		304.54	
12-Feb-15	305.70			0.69		0.57		304.54	
18-Feb-15	305.69			0.69		0.57		304.54	
27-Feb-15	305.69			0.69		0.57		304.54	
6-Mar-15	305.70			0.69		0.57		304.54	
12-Mar-15	305.70			0.69		0.57		304.54	
18-Mar-15	305.83			0.69		0.57		304.54	
25-Mar-15	305.79	304.76	1.03	0.69	no	0.57	no	304.54	no
1-Apr-15	305.81	304.96	0.85	0.84	no	0.73	no	304.54	no
9-Apr-15	306.07	305.04	1.03	0.84	no	0.73	no	304.54	no
14-Apr-15	305.96	305.03	0.93	0.84	no	0.73	no	304.54	no
21-Apr-15	305.97	305.04	0.93	0.84	no	0.73	no	304.54	no
1-May-15	305.90	305.02	0.88	0.84	no	0.73	no	304.54	no
8-May-15	305.84	304.94	0.90	0.84	no	0.73	no	304.54	no
14-May-15	305.81	304.82	0.99	0.84	no	0.73	no	304.54	no
20-May-15	305.72	304.83	0.89	0.84	no	0.73	no	304.54	no
5-Jun-15	305.70	304.96	0.74	0.84	yes	0.73	no	304.54	no
10-Jun-15	305.68	304.91	0.77	0.84	yes	0.73	no	304.54	no
18-Jun-15	305.78	305.01	0.77	0.84	yes	0.73	no	304.54	no
23-Jun-15	305.81	304.98	0.83	0.84	yes	0.73	no	304.54	no
8-Jul-15	305.80	305.03	0.77	0.76	no	0.58	no	304.54	no
16-Jul-15	305.67	304.84	0.83	0.76	no	0.58	no	304.54	no
22-Jul-15	305.81	304.98	0.83	0.76	no	0.58	no	304.54	no
31-Jul-15	305.57	304.70	0.87	0.76	no	0.58	no	304.54	no
7-Aug-15	305.59	304.69	0.90	0.76	no	0.58	no	304.54	no
20-Aug-15	305.63	304.74	0.89	0.76	no	0.58	no	304.54	no
25-Aug-15	305.64	304.77	0.87	0.76	no	0.58	no	304.54	no
4-Sep-15	305.60	304.72	0.88	0.76	no	0.58	no	304.54	no
11-Sep-15	305.50	304.73	0.77	0.76	no	0.58	no	304.54	no
18-Sep-15	305.49	304.72	0.77	0.76	no	0.58	no	304.54	no
24-Sep-15	305.49	304.72	0.77	0.76	no	0.58	no	304.54	no
6-Oct-15	305.52	304.75	0.77	0.73	no	0.55	no	304.54	no
15-Oct-15	305.54	304.74	0.80	0.73	no	0.55	no	304.54	no
22-Oct-15	305.54	304.74	0.80	0.73	no	0.55	no	304.54	no
29-Oct-15	305.76	305.02	0.74	0.73	no	0.55	no	304.54	no
5-Nov-15	305.65	304.78	0.87	0.73	no	0.55	no	304.54	no
12-Nov-15	305.64	304.79	0.85	0.73	no	0.55	no	304.54	no
19-Nov-15	305.63	304.78	0.85	0.73	no	0.55	no	304.54	no
25-Nov-15	305.61	304.78	0.83	0.73	no	0.55	no	304.54	no
4-Dec-15	305.63	304.74	0.89	0.73	no	0.55	no	304.54	no
10-Dec-15	305.63	304.73	0.90	0.73	no	0.55	no	304.54	no
17-Dec-15	305.62	304.78	0.84	0.73	no	0.55	no	304.54	no
21-Dec-15	305.69	304.77	0.92	0.73	no	0.55	no	304.54	no

Note: Water elevations are left blank when frozen conditions were observed at DPs. Frozen conditions prevented accurate groundwater measurem

Table G-3
Threshold Summary - DP6 to DP3
Mill Creek Aggregates Pit

			DP6 to DP3					DP3	
Date	Water Elevation DP6 (m ASL)	Water Elevation DP3 (m ASL)	Head Difference (m)	Early Warning Value (m)	Exceedance of Early Warning Value	Threshold Value (m)	Exceedance of Threshold Value	Threshold Value (m ASL)	Exceedance of Threshold Value
6-Jan-16	305.65			0.69		0.57		304.54	
14-Jan-16	305.66			0.69		0.57		304.54	
20-Jan-16	305.65			0.69		0.57		304.54	
26-Jan-16	305.69			0.69		0.57		304.54	
2-Feb-16	305.72	304.95	0.77	0.69	no	0.57	no	304.54	no
10-Feb-16	305.69			0.69		0.57		304.54	
17-Feb-16	305.56			0.69		0.57		304.54	
29-Feb-16	305.77			0.69		0.57		304.54	
4-Mar-16	305.72			0.69		0.57		304.54	
10-Mar-16	305.75			0.69		0.57		304.54	
17-Mar-16	305.81	304.97	0.84	0.69	no	0.57	no	304.54	no
1-Apr-16	306.00	305.29	0.71	0.84	yes	0.73	yes	304.54	no
4-Apr-16	305.87			0.84		0.73		304.54	
7-Apr-16	305.98	305.13	0.85	0.84	no	0.73	no	304.54	no
14-Apr-16	305.81	304.92	0.89	0.84	no	0.73	no	304.54	no
21-Apr-16	305.68	304.74	0.94	0.84	no	0.73	no	304.54	no
27-Apr-16	305.75	304.83	0.92	0.84	no	0.73	no	304.54	no
6-May-16	305.75	304.83	0.92	0.84	no	0.73	no	304.54	no
12-May-16	305.70	304.77	0.93	0.84	no	0.73	no	304.54	no
19-May-16	305.69	304.79	0.90	0.84	no	0.73	no	304.54	no
30-May-16	305.66	304.78	0.88	0.84	no	0.73	no	304.54	no
9-Jun-16	305.68	304.72	0.96	0.84	no	0.73	no	304.54	no
16-Jun-16	305.65	304.70	0.95	0.84	no	0.73	no	304.54	no
22-Jun-16	305.58	304.67	0.91	0.84	no	0.73	no	304.54	no
27-Jun-16	305.67	304.66	1.01	0.84	no	0.73	no	304.54	no
7-Jul-16	305.56	304.65	0.91	0.76	no	0.58	no	304.54	no
15-Jul-16	305.70	304.71	0.99	0.76	no	0.58	no	304.54	no
28-Jul-16	305.62	304.68	0.94	0.76	no	0.58	no	304.54	no
9-Aug-16	305.56	304.62	0.94	0.76	no	0.58	no	304.54	no
11-Aug-16	305.54	304.64	0.90	0.76	no	0.58	no	304.54	no
22-Aug-16	305.56	304.67	0.89	0.76	no	0.58	no	304.54	no
31-Aug-16	305.62	304.66	0.96	0.76	no	0.58	no	304.54	no
8-Sep-16	305.72	304.84	0.88	0.76	no	0.58	no	304.54	no
15-Sep-16	305.65	304.81	0.84	0.76	no	0.58	no	304.54	no
21-Sep-16	305.58	304.70	0.88	0.76	no	0.58	no	304.54	no
26-Sep-16	305.70	304.69	1.01	0.76	no	0.58	no	304.54	no
6-Oct-16	305.71	304.71	1.00	0.73	no	0.55	no	304.54	no
13-Oct-16	305.70	304.71	0.99	0.73	no	0.55	no	304.54	no
18-Oct-16	305.63	304.72	0.91	0.73	no	0.55	no	304.54	no
27-Oct-16	305.66	304.72	0.94	0.73	no	0.55	no	304.54	no
4-Nov-16	305.66	304.76	0.90	0.73	no	0.55	no	304.54	no
9-Nov-16	305.68	304.76	0.92	0.73	no	0.55	no	304.54	no
14-Nov-16	305.61	304.72	0.89	0.73	no	0.55	no	304.54	no
30-Nov-16	305.64	304.83	0.81	0.73	no	0.55	no	304.54	no
8-Dec-16	305.63			0.73		0.55		304.54	
14-Dec-16	305.65			0.73		0.55		304.54	
22-Dec-16	305.70			0.73		0.55		304.54	
6-Jan-17	305.72			0.69		0.57		304.54	
14-Jan-17	305.87			0.69		0.57		304.54	
20-Jan-17	305.63			0.69		0.57		304.54	
26-Jan-17	305.59			0.69		0.57		304.54	
2-Feb-17	305.67			0.69		0.57		304.54	
9-Feb-17	305.67			0.69		0.57		304.54	
15-Feb-17	305.64	304.75	0.89	0.69	no	0.57	no	304.54	no
23-Feb-17	305.71	304.78	0.93	0.69	no	0.57	no	304.54	no
2-Mar-17	305.89	304.81	1.08	0.69	no	0.57	no	304.54	no
9-Mar-17	305.78	304.91	0.87	0.69	no	0.57	no	304.54	no
17-Mar-17	305.67	304.76	0.91	0.69	no	0.57	no	304.54	no
22-Mar-17	305.65			0.69		0.57		304.54	
5-Apr-17	305.92	305.08	0.84	0.84	no	0.73	no	304.54	no
11-Apr-17	305.92	304.92	1.00	0.84	no	0.73	no	304.54	no
19-Apr-17	305.85	304.83	1.02	0.84	no	0.73	no	304.54	no
3-May-17	305.99	305.02	0.97	0.84	no	0.73	no	304.54	no
11-May-17	305.93	304.92	1.01	0.84	no	0.73	no	304.54	no
18-May-17	305.87	304.80	1.07	0.84	no	0.73	no	304.54	no
2-Jun-17	305.87	304.81	1.06	0.84	no	0.73	no	304.54	no
8-Jun-17	305.83	304.78	1.05	0.84	no	0.73	no	304.54	no
14-Jun-17	305.77	304.72	1.05	0.84	no	0.73	no	304.54	no
21-Jun-17	305.77	304.74	1.03	0.84	no	0.73	no	304.54	no
7-Jul-17	305.79	304.72	1.07	0.76	no	0.58	no	304.54	no
12-Jul-17	305.79	304.73	1.06	0.76	no	0.58	no	304.54	no
20-Jul-17	305.82	304.70	1.12	0.76	no	0.58	no	304.54	no
26-Jul-17	305.79	304.78	1.01	0.76	no	0.58	no	304.54	no
4-Aug-17	305.82	304.79	1.03	0.76	no	0.58	no	304.54	no
9-Aug-17	305.81	304.79	1.02	0.76	no	0.58	no	304.54	no
17-Aug-17	305.85	304.85	1.00	0.76	no	0.58	no	304.54	no

Note: Water elevations are left blank when frozen conditions are encountere

Table G-3
Threshold Summary - DP6 to DP3
Mill Creek Aggregates Pit

			DP6 to DP3					DP3	
Date	Water Elevation DP6 (m ASL)	Water Elevation DP3 (m ASL)	Head Difference (m)	Early Warning Value (m)	Exceedance of Early Warning Value	Threshold Value (m)	Exceedance of Threshold Value	Threshold Value (m ASL)	Exceedance of Threshold Value
24-Aug-17	305.88	304.91	0.97	0.76	no	0.58	no	304.54	no
1-Sep-17	305.87	304.95	0.92	0.76	no	0.58	no	304.54	no
7-Sep-17	305.89	305.02	0.87	0.76	no	0.58	no	304.54	no
12-Sep-17	305.88	305.03	0.85	0.76	no	0.58	no	304.54	no
21-Sep-17	305.83	305.02	0.81	0.76	no	0.58	no	304.54	no
29-Sep-17	305.82	305.04	0.78	0.76	no	0.58	no	304.54	no
4-Oct-17	305.75	305.05	0.70	0.73	yes	0.55	no	304.54	no
10-Oct-17	305.84	305.09	0.75	0.73	no	0.55	no	304.54	no
18-Oct-17	305.86	305.09	0.77	0.73	no	0.55	no	304.54	no
27-Oct-17	305.82	304.78	1.04	0.73	no	0.55	no	304.54	no
1-Nov-17	305.80	304.84	0.96	0.73	no	0.55	no	304.54	no
9-Nov-17	305.86	304.85	1.01	0.73	no	0.55	no	304.54	no
14-Nov-17	305.82	304.84	0.98	0.73	no	0.55	no	304.54	no
21-Nov-17	305.90	304.92	0.98	0.73	no	0.55	no	304.54	no
1-Dec-17	305.78	304.85	0.93	0.73	no	0.55	no	304.54	no
7-Dec-17	305.82			0.73		0.55		304.54	
15-Dec-17	305.72			0.73		0.55		304.54	
19-Dec-17	305.74	304.71	1.03	0.73	no	0.55	no	304.54	no
2-Jan-18				0.69		0.57		304.54	
11-Jan-18				0.69		0.57		304.54	
16-Jan-18				0.69		0.57		304.54	
26-Jan-18	305.87			0.69		0.57		304.54	
1-Feb-18	305.82			0.69		0.57		304.54	
9-Feb-18	305.77			0.69		0.57		304.54	
16-Feb-18	305.85	304.81	1.04	0.69	no	0.57	no	304.54	no
26-Feb-18	306.02	305.02	1.00	0.69	no	0.57	no	304.54	no
5-Mar-18	305.92	304.84	1.08	0.69	no	0.57	no	304.54	no
16-Mar-18	305.83			0.69		0.57		304.54	
23-Mar-18	305.81			0.69		0.57		304.54	
26-Mar-18	305.82	304.73	1.09	0.69	no	0.57	no	304.54	no
6-Apr-18	306.00			0.84		0.73		304.54	
13-Apr-18	305.99	304.88	1.11	0.84	no	0.73	no	304.54	no
19-Apr-18	306.12			0.84		0.73		304.54	
24-Apr-18	306.11	305.13	0.98	0.84	no	0.73	no	304.54	no
7-May-18	306.02	304.99	1.03	0.84	no	0.73	no	304.54	no
18-May-18	305.95	304.90	1.05	0.84	no	0.73	no	304.54	no
25-May-18	305.96	304.87	1.09	0.84	no	0.73	no	304.54	no
31-May-18	305.92	304.83	1.09	0.84	no	0.73	no	304.54	no
8-Jun-18	305.90	304.82	1.08	0.84	no	0.73	no	304.54	no
12-Jun-18	305.85	304.85	1.00	0.84	no	0.73	no	304.54	no
26-Jun-18	305.88	304.95	0.93	0.84	no	0.73	no	304.54	no
5-Jul-18	305.89	304.92	0.97	0.76	no	0.58	no	304.54	no
12-Jul-18	305.81	304.86	0.95	0.76	no	0.58	no	304.54	no
27-Jul-18	305.80	304.84	0.96	0.76	no	0.58	no	304.54	no
3-Aug-18	305.74	304.82	0.92	0.76	no	0.58	no	304.54	no
10-Aug-18	305.77	304.91	0.86	0.76	no	0.58	no	304.54	no
22-Aug-18	305.87	304.97	0.90	0.76	no	0.58	no	304.54	no
29-Aug-18	305.83	304.91	0.92	0.76	no	0.58	no	304.54	no
7-Sep-18	305.75	304.90	0.85	0.76	no	0.58	no	304.54	no
12-Sep-18	305.76	304.95	0.81	0.76	no	0.58	no	304.54	no
20-Sep-18	305.68	304.89	0.79	0.76	no	0.58	no	304.54	no
27-Sep-18	305.69	304.95	0.74	0.76	yes	0.58	no	304.54	no
4-Oct-18	305.78	305.00	0.78	0.73	no	0.55	no	304.54	no
12-Oct-18	305.73	304.98	0.75	0.73	no	0.55	no	304.54	no
18-Oct-18	305.70	304.98	0.72	0.73	yes	0.55	no	304.54	no
30-Oct-18	305.75	305.01	0.74	0.73	no	0.55	no	304.54	no
7-Nov-18	305.90	305.05	0.85	0.73	no	0.55	no	304.54	no
15-Nov-18	305.81	304.88	0.93	0.73	no	0.55	no	304.54	no
21-Nov-18	305.77	304.88	0.89	0.73	no	0.55	no	304.54	no
29-Nov-18	305.88	305.00	0.88	0.73	no	0.55	no	304.54	no
5-Dec-18	305.85			0.73		0.55		304.54	
14-Dec-18	305.74	304.86	0.88	0.73	no	0.55	no	304.54	no
20-Dec-18	305.72	304.84	0.88	0.73	no	0.55	no	304.54	no

Note: Water elevations are left blank when frozen conditions are encountered.

Table G-4
Threshold Summary - BH92-29 to DP1
Mill Creek Aggregates Pit

			BH92-29 to DP1					DP1	
Date	Water Elevation BH92-29 (m ASL)	Water Elevation DP1 (m ASL)	Head Difference (m)	Early Warning Value (Min) (m)	Exceedance of Early Warning Value	Threshold Value (Min) (m)	Exceedance of Threshold Value	Threshold Value (Min) (m ASL)	Exceedance of Threshold Value
7-May-12	304.76	304.26	0.50	0.22	no	0.17	no	303.97	no
17-May-12	304.65	304.22	0.43	0.22	no	0.17	no	303.97	no
24-May-12	304.60	304.19	0.41	0.22	no	0.17	no	303.97	no
29-May-12	304.61	304.19	0.42	0.22	no	0.17	no	303.97	no
6-Jun-12	304.66	304.36	0.30	0.22	no	0.17	no	303.97	no
15-Jun-12	304.67	304.23	0.44	0.22	no	0.17	no	303.97	no
20-Jun-12	304.66	304.21	0.45	0.22	no	0.17	no	303.97	no
29-Jun-12	304.65	304.22	0.43	0.22	no	0.17	no	303.97	no
4-Jul-12	304.65	304.24	0.41	0.28	no	0.23	no	303.91	no
12-Jul-12	304.80	304.22	0.58	0.28	no	0.23	no	303.91	no
24-Jul-12	304.77	304.23	0.54	0.28	no	0.23	no	303.91	no
30-Jul-12	304.80	304.23	0.57	0.28	no	0.23	no	303.91	no
10-Aug-12	304.80	304.26	0.54	0.28	no	0.23	no	303.91	no
15-Aug-12	304.83	304.30	0.53	0.28	no	0.23	no	303.91	no
21-Aug-12	304.80	304.24	0.56	0.28	no	0.23	no	303.91	no
27-Aug-12	304.83	304.26	0.57	0.28	no	0.23	no	303.91	no
7-Sep-12	304.83	304.27	0.56	0.28	no	0.23	no	303.91	no
13-Sep-12	304.82	304.28	0.54	0.28	no	0.23	no	303.91	no
18-Sep-12	304.81	304.30	0.51	0.28	no	0.23	no	303.91	no
24-Sep-12	304.83	304.28	0.55	0.28	no	0.23	no	303.91	no
9-Oct-12	304.80	304.25	0.55	0.24	no	0.19	no	303.96	no
18-Oct-12	304.81	304.29	0.52	0.24	no	0.19	no	303.96	no
23-Oct-12	304.83	304.34	0.49	0.24	no	0.19	no	303.96	no
31-Oct-12	304.87	304.35	0.52	0.24	no	0.19	no	303.96	no
12-Nov-12	304.83	304.23	0.60	0.24	no	0.19	no	303.96	no
16-Nov-12	304.80	304.08	0.72	0.24	no	0.19	no	303.96	no
22-Nov-12	304.81	304.23	0.58	0.24	no	0.19	no	303.96	no
28-Nov-12	304.80	304.08	0.72	0.24	no	0.19	no	303.96	no
7-Dec-12	304.89	304.06	0.83	0.24	no	0.19	no	303.96	no
13-Dec-12	304.96	303.98	0.98	0.24	no	0.19	no	303.96	no
19-Dec-12	304.98	304.14	0.84	0.24	no	0.19	no	303.96	no
3-Jan-13	305.04	304.23	0.81	0.34	no	0.29	no	303.88	no
16-Jan-13	305.11	304.23	0.88	0.34	no	0.29	no	303.88	no
24-Jan-13	305.10	304.23	0.87	0.34	no	0.29	no	303.88	no
31-Jan-13	305.20	304.23	0.97	0.34	no	0.29	no	303.88	no
8-Feb-13	305.21	304.34	0.87	0.34	no	0.29	no	303.88	no
13-Feb-13	305.20	304.34	0.86	0.34	no	0.29	no	303.88	no
20-Feb-13	305.11	304.34	0.77	0.34	no	0.29	no	303.88	no
28-Feb-13	305.18	304.34	0.84	0.34	no	0.29	no	303.88	no
6-Mar-13	305.24	304.63	0.61	0.34	no	0.29	no	303.88	no
15-Mar-13	305.37	304.62	0.75	0.34	no	0.29	no	303.88	no
21-Mar-13	305.29	304.62	0.67	0.34	no	0.29	no	303.88	no
25-Mar-13	305.29	304.38	0.91	0.34	no	0.29	no	303.88	no
4-Apr-13	305.30	304.55	0.75	0.22	no	0.17	no	303.97	no
10-Apr-13	305.35	304.67	0.68	0.22	no	0.17	no	303.97	no
18-Apr-13	305.38	304.49	0.89	0.22	no	0.17	no	303.97	no
25-Apr-13	305.33	304.46	0.87	0.22	no	0.17	no	303.97	no
2-May-13	305.39	304.44	0.95	0.22	no	0.17	no	303.97	no
9-May-13	305.32	304.42	0.90	0.22	no	0.17	no	303.97	no
15-May-13	305.26	304.40	0.86	0.22	no	0.17	no	303.97	no
23-May-13	305.30	304.40	0.90	0.22	no	0.17	no	303.97	no
7-Jun-13	305.29	304.42	0.87	0.22	no	0.17	no	303.97	no
13-Jun-13	305.27	304.43	0.84	0.22	no	0.17	no	303.97	no
21-Jun-13	305.30	304.40	0.90	0.22	no	0.17	no	303.97	no
26-Jun-13	305.22	304.37	0.85	0.22	no	0.17	no	303.97	no
5-Jul-13	305.19	304.43	0.76	0.28	no	0.23	no	303.91	no
12-Jul-13	305.18	304.34	0.84	0.28	no	0.23	no	303.91	no
17-Jul-13	305.16	304.30	0.86	0.28	no	0.23	no	303.91	no
31-Jul-13	305.13	304.33	0.80	0.28	no	0.23	no	303.91	no
9-Aug-13	305.02	304.28	0.74	0.28	no	0.23	no	303.91	no
14-Aug-13	305.05	304.26	0.79	0.28	no	0.23	no	303.91	no
26-Aug-13	305.05	304.24	0.81	0.28	no	0.23	no	303.91	no
6-Sep-13	305.05	304.27	0.78	0.28	no	0.23	no	303.91	no
12-Sep-13	305.04	304.29	0.75	0.28	no	0.23	no	303.91	no
19-Sep-13	304.97	304.26	0.71	0.28	no	0.23	no	303.91	no
25-Sep-13	305.08	304.32	0.76	0.28	no	0.23	no	303.91	no
3-Oct-13	305.04	304.32	0.72	0.24	no	0.19	no	303.96	no
11-Oct-13	305.06	304.33	0.73	0.24	no	0.19	no	303.96	no
16-Oct-13	305.09	304.31	0.78	0.24	no	0.19	no	303.96	no
22-Oct-13	305.10	304.34	0.76	0.24	no	0.19	no	303.96	no
7-Nov-13	305.17	304.33	0.72	0.24	no	0.19	no	303.96	no
14-Nov-13	305.17	304.36	0.73	0.24	no	0.19	no	303.96	no
22-Nov-13	305.18	304.40	0.78	0.24	no	0.19	no	303.96	no
28-Nov-13	305.19	304.42	0.76	0.24	no	0.19	no	303.96	no
6-Dec-13	305.21	304.42	0.79	0.24	no	0.19	no	303.96	no
10-Dec-13	305.23	304.42	0.81	0.24	no	0.19	no	303.96	no
20-Dec-13	305.27	304.42	0.85	0.24	no	0.19	no	303.96	no
10-Jan-14	305.48			0.34		0.29		303.88	
15-Jan-14	305.43			0.34		0.29		303.88	
24-Jan-14	305.27			0.34		0.29		303.88	
31-Jan-14	305.24			0.34		0.29		303.88	
6-Feb-14	305.44			0.34		0.29		303.88	
12-Feb-14	305.46			0.34		0.29		303.88	
20-Feb-14	305.46			0.34		0.29		303.88	
26-Feb-14	305.47			0.34		0.29		303.88	
6-Mar-14	305.47			0.34		0.29		303.88	
13-Mar-14	305.50			0.34		0.29		303.88	
21-Mar-14	305.51			0.34		0.29		303.88	
26-Mar-14	305.49			0.34		0.29		303.88	
4-Apr-14	305.37	304.55	0.82	0.22	no	0.17	no	303.97	no
10-Apr-14	305.25	304.58	0.67	0.22	no	0.17	no	303.97	no
24-Apr-14	305.29	304.39	0.90	0.22	no	0.17	no	303.97	no
9-May-14	305.35	304.38	0.97	0.22	no	0.17	no	303.97	no
15-May-14	305.31	304.45	0.86	0.22	no	0.17	no	303.97	no
22-May-14	305.37	304.45	0.92	0.22	no	0.17	no	303.97	no
29-May-14	305.38	304.45	0.93	0.22	no	0.17	no	303.97	no
6-Jun-14	305.37	304.43	0.94	0.22	no	0.17	no	303.97	no
13-Jun-14	305.33	304.38	0.95	0.22	no	0.17	no	303.97	no
18-Jun-14	305.24	304.34	0.90	0.22	no	0.17	no	303.97	no
26-Jun-14	305.34	304.42	0.92	0.22	no	0.17	no	303.97	no
9-Jul-14	305.25	304.39	0.86	0.28	no	0.23	no	303.91	no
18-Jul-14	305.10	304.26	0.84	0.28	no	0.23	no	303.91	no
23-Jul-14	305.23	304.40	0.83	0.28	no	0.23	no	303.91	no
29-Jul-14	305.31	304.48	0.83	0.28	no	0.23	no	303.91	no
7-Aug-14	305.28	304.44	0.84	0.28	no	0.23	no	303.91	no
14-Aug-14	305.24	304.39	0.85	0.28	no	0.23	no	303.91	no
22-Aug-14	305.31	304.46	0.85	0.28	no	0.23	no	303.91	no
28-Aug-14	305.27	304.42	0.85	0.28	no	0.23	no	303.91	no
11-Sep-14	305.30	304.40	0.90	0.28	no	0.23	no	303.91	no
18-Sep-14	305.36	304.42	0.94	0.28	no	0.23	no	303.91	no
25-Sep-14	305.47	304.41	1.06	0.28	no	0.23	no	303.91	no

Note: Water elevations are left blank when frozen conditions were observed at DP1. Frozen conditions prevented accurate groundwater measurem

Table G-4
Threshold Summary - BH92-29 to DP1
Mill Creek Aggregates Pit

			BH92-29 to DP1					DP1	
Date	Water Elevation BH92-29 (m ASL)	Water Elevation DP1 (m ASL)	Head Difference (m)	Early Warning Value (Min) (m)	Exceedance of Early Warning Value	Threshold Value (Min) (m)	Exceedance of Threshold Value	Threshold Value (Min) (m ASL)	Exceedance of Threshold Value
29-Sep-14	305.40	304.39	1.01	0.28	no	0.23	no	303.91	no
9-Oct-14	305.40	304.39	1.01	0.24	no	0.19	no	303.96	no
17-Oct-14	305.37	304.38	0.99	0.24	no	0.19	no	303.96	no
23-Oct-14	305.37	304.37	1.00	0.24	no	0.19	no	303.96	no
31-Oct-14	305.39	304.37	1.02	0.24	no	0.19	no	303.96	no
7-Nov-14	305.35	304.36	0.99	0.24	no	0.19	no	303.96	no
13-Nov-14	305.30	304.34	0.96	0.24	no	0.19	no	303.96	no
21-Nov-14	305.38	304.34	1.04	0.24	no	0.19	no	303.96	no
27-Nov-14	305.45			0.24		0.19		303.96	
4-Dec-14	305.48			0.24		0.19		303.96	
12-Dec-14	305.55	304.41	1.14	0.24	no	0.19	no	303.96	no
18-Dec-14	305.56	304.39	1.17	0.24	no	0.19	no	303.96	no
9-Jan-15				0.34		0.29		303.88	
14-Jan-15				0.34		0.29		303.88	
21-Jan-15				0.34		0.29		303.88	
29-Jan-15				0.34		0.29		303.88	
6-Feb-15				0.34		0.29		303.88	
12-Feb-15				0.34		0.29		303.88	
18-Feb-15				0.34		0.29		303.88	
27-Feb-15				0.34		0.29		303.88	
6-Mar-15				0.34		0.29		303.88	
12-Mar-15				0.34		0.29		303.88	
18-Mar-15				0.34		0.29		303.88	
25-Mar-15		304.44		0.34		0.29		303.88	
1-Apr-15		304.44		0.22		0.17		303.97	
9-Apr-15	305.52	304.62	0.90	0.22	no	0.17	no	303.97	no
14-Apr-15	305.49	304.52	0.97	0.22	no	0.17	no	303.97	no
21-Apr-15	305.39	304.24	1.15	0.22	no	0.17	no	303.97	no
1-May-15	305.44	304.35	1.09	0.22	no	0.17	no	303.97	no
8-May-15	305.40	304.18	1.22	0.22	no	0.17	no	303.97	no
14-May-15	305.42	304.09	1.33	0.22	no	0.17	no	303.97	no
20-May-15	305.39	304.30	1.09	0.22	no	0.17	no	303.97	no
5-Jun-15	305.38	304.36	1.02	0.22	no	0.17	no	303.97	no
10-Jun-15	305.35	304.39	0.96	0.22	no	0.17	no	303.97	no
18-Jun-15	305.42	304.42	1.00	0.22	no	0.17	no	303.97	no
23-Jun-15	305.39	304.34	1.05	0.22	no	0.17	no	303.97	no
8-Jul-15	305.30	304.38	0.92	0.28	no	0.23	no	303.91	no
16-Jul-15	305.33	304.32	1.01	0.28	no	0.23	no	303.91	no
22-Jul-15	305.39	304.34	1.05	0.28	no	0.23	no	303.91	no
31-Jul-15	305.36	304.31	1.05	0.28	no	0.23	no	303.91	no
7-Aug-15	305.34	304.31	1.03	0.28	no	0.23	no	303.91	no
20-Aug-15	305.23	304.31	0.92	0.28	no	0.23	no	303.91	no
25-Aug-15	305.18	304.29	0.89	0.28	no	0.23	no	303.91	no
4-Sep-15	305.17	304.20	0.97	0.28	no	0.23	no	303.91	no
11-Sep-15	305.09	304.23	0.86	0.28	no	0.23	no	303.91	no
18-Sep-15	305.10	304.25	0.85	0.28	no	0.23	no	303.91	no
24-Sep-15	305.12	304.23	0.89	0.28	no	0.23	no	303.91	no
6-Oct-15	305.08	304.25	0.83	0.24	no	0.19	no	303.96	no
15-Oct-15	305.00	304.23	0.77	0.24	no	0.19	no	303.96	no
22-Oct-15	304.98	304.21	0.77	0.24	no	0.19	no	303.96	no
29-Oct-15	305.07	304.37	0.70	0.24	no	0.19	no	303.96	no
5-Nov-15	304.99	304.24	0.75	0.24	no	0.19	no	303.96	no
12-Nov-15	304.97	304.25	0.72	0.24	no	0.19	no	303.96	no
19-Nov-15	304.94	304.26	0.68	0.24	no	0.19	no	303.96	no
25-Nov-15	304.92	304.26	0.66	0.24	no	0.19	no	303.96	no
4-Dec-15	304.90	304.19	0.71	0.24	no	0.19	no	303.96	no
10-Dec-15	304.87	304.18	0.69	0.24	no	0.19	no	303.96	no
17-Dec-15	304.96	304.23	0.73	0.24	no	0.19	no	303.96	no
21-Dec-15	304.98	304.25	0.73	0.24	no	0.19	no	303.96	no
6-Jan-16	305.05			0.34		0.29		303.88	
14-Jan-16	305.11			0.34		0.29		303.88	
20-Jan-16	305.17			0.34		0.29		303.88	
26-Jan-16	305.21			0.34		0.29		303.88	
2-Feb-16	305.30	304.39	0.91	0.34	no	0.29	no	303.88	no
10-Feb-16				0.34		0.29		303.88	
17-Feb-16				0.34		0.29		303.88	
29-Feb-16	305.26			0.34		0.29		303.88	
4-Mar-16				0.34		0.29		303.88	
10-Mar-16				0.34		0.29		303.88	
17-Mar-16	305.23			0.34		0.29		303.88	
1-Apr-16	305.38	304.60	0.78	0.22	no	0.17	no	303.97	no
4-Apr-16				0.22		0.17		303.97	
14-Apr-16		304.43		0.22		0.17		303.97	no
21-Apr-16		304.30		0.22		0.17		303.97	no
27-Apr-16	305.58	304.41	1.17	0.22	no	0.17	no	303.97	no
6-May-16	305.58	304.41	1.17	0.22	no	0.17	no	303.97	no
12-May-16	305.56	304.39	1.17	0.22	no	0.17	no	303.97	no
19-May-16	305.56	304.40	1.16	0.22	no	0.17	no	303.97	no
30-May-16	305.54	304.37	1.17	0.22	no	0.17	no	303.97	no
9-Jun-16	305.55	304.35	1.20	0.22	no	0.17	no	303.97	no
16-Jun-16	305.38	304.33	1.05	0.22	no	0.17	no	303.97	no
22-Jun-16	305.22	304.29	0.93	0.22	no	0.17	no	303.97	no
27-Jun-16	305.48	304.30	1.18	0.22	no	0.17	no	303.97	no
7-Jul-16	305.41	304.29	1.12	0.28	no	0.23	no	303.91	no
15-Jul-16	305.37	304.33	1.04	0.28	no	0.23	no	303.91	no
28-Jul-16	305.28	304.26	1.02	0.28	no	0.23	no	303.91	no
9-Aug-16	305.27	304.40	0.87	0.28	no	0.23	no	303.91	no
11-Aug-16	305.35	304.25	1.10	0.28	no	0.23	no	303.91	no
22-Aug-16	305.56	304.64	0.92	0.28	no	0.23	no	303.91	no
31-Aug-16	305.52	304.32	1.20	0.28	no	0.23	no	303.91	no
8-Sep-16	305.50	304.38	1.12	0.28	no	0.23	no	303.91	no
15-Sep-16	305.44	304.33	1.11	0.28	no	0.23	no	303.91	no
21-Sep-16	305.32	304.28	1.04	0.28	no	0.23	no	303.91	no
26-Sep-16	305.31	304.27	1.04	0.28	no	0.23	no	303.91	no
6-Oct-16	305.28	304.27	1.01	0.24	no	0.19	no	303.96	no
13-Oct-16	305.18	304.23	0.95	0.24	no	0.19	no	303.96	no
18-Oct-16	305.16	304.24	0.92	0.24	no	0.19	no	303.96	no
27-Oct-16	305.16	304.26	0.90	0.24	no	0.19	no	303.96	no
4-Nov-16	305.13	304.25	0.88	0.24	no	0.19	no	303.96	no
9-Nov-16	305.07	304.22	0.85	0.24	no	0.19	no	303.96	no
14-Nov-16	305.06	304.22	0.84	0.24	no	0.19	no	303.96	no
30-Nov-16	305.02	304.23	0.79	0.24	no	0.19	no	303.96	no
8-Dec-16	304.97			0.24		0.19		303.96	
14-Dec-16	305.03			0.24		0.19		303.96	
22-Dec-16	305.05			0.24		0.19		303.96	
6-Jan-17	305.07			0.34		0.29		303.88	
14-Jan-17	305.17			0.34		0.29		303.88	
20-Jan-17	305.15			0.34		0.29		303.88	
26-Jan-17	305.21			0.34		0.29		303.88	
2-Feb-17	305.08			0.34		0.29		303.88	
9-Feb-17	305.07			0.34		0.29		303.88	
15-Feb-17	305.06			0.34		0.29		303.88	

Note: Water elevations are left blank when frozen conditions are encountere

Table G-4
Threshold Summary - BH92-29 to DP1
Mill Creek Aggregates Pit

			BH92-29 to DP1					DP1	
Date	Water Elevation BH92-29 (m ASL)	Water Elevation DP1 (m ASL)	Head Difference (m)	Early Warning Value (Min) (m)	Exceedance of Early Warning Value	Threshold Value (Min) (m)	Exceedance of Threshold Value	Threshold Value (Min) (m ASL)	Exceedance of Threshold Value
23-Feb-17	305.14			0.34		0.29		303.88	
2-Mar-17	305.20			0.34		0.29		303.88	
9-Mar-17	305.14	304.32	0.82	0.34	no	0.29	no	303.88	no
17-Mar-17	305.11			0.34		0.29		303.88	
22-Mar-17	305.07			0.34		0.29		303.88	
5-Apr-17	305.13	304.39	0.74	0.22	no	0.17	no	303.97	no
11-Apr-17	305.17	304.32	0.85	0.22	no	0.17	no	303.97	no
19-Apr-17	305.13	304.28	0.85	0.22	no	0.17	no	303.97	no
3-May-17	305.17	304.41	0.76	0.22	no	0.17	no	303.97	no
11-May-17	305.17	304.34	0.83	0.22	no	0.17	no	303.97	no
18-May-17	305.02	304.27	0.75	0.22	no	0.17	no	303.97	no
2-Jun-17	305.09	304.27	0.82	0.22	no	0.17	no	303.97	no
8-Jun-17	305.06	304.25	0.81	0.22	no	0.17	no	303.97	no
14-Jun-17	305.03	304.21	0.82	0.22	no	0.17	no	303.97	no
21-Jun-17	305.01	304.22	0.78	0.22	no	0.17	no	303.97	no
7-Jul-17	304.99	304.22	0.78	0.28	no	0.23	no	303.91	no
12-Jul-17	304.95	304.19	0.76	0.28	no	0.23	no	303.91	no
20-Jul-17	304.96	304.24	0.72	0.28	no	0.23	no	303.91	no
26-Jul-17	304.92	304.21	0.71	0.28	no	0.23	no	303.91	no
4-Aug-17	304.88	304.21	0.67	0.28	no	0.23	no	303.91	no
9-Aug-17	304.86	304.20	0.66	0.28	no	0.23	no	303.91	no
17-Aug-17	304.85	304.20	0.65	0.28	no	0.23	no	303.91	no
24-Aug-17	304.88	304.19	0.69	0.28	no	0.23	no	303.91	no
1-Sep-17	304.78	304.15	0.63	0.28	no	0.23	no	303.91	no
7-Sep-17	304.77	304.18	0.59	0.28	no	0.23	no	303.91	no
12-Sep-17	304.74	304.15	0.59	0.28	no	0.23	no	303.91	no
21-Sep-17	304.71	304.14	0.57	0.28	no	0.23	no	303.91	no
29-Sep-17	304.68	304.12	0.56	0.28	no	0.23	no	303.91	no
4-Oct-17	304.66	304.12	0.54	0.24	no	0.19	no	303.96	no
10-Oct-17	304.68	304.15	0.53	0.24	no	0.19	no	303.96	no
18-Oct-17	304.65	304.16	0.49	0.24	no	0.19	no	303.96	no
27-Oct-17	304.64	304.16	0.48	0.24	no	0.19	no	303.96	no
1-Nov-17	304.62	304.14	0.48	0.24	no	0.19	no	303.96	no
9-Nov-17	304.67	304.19	0.48	0.24	no	0.19	no	303.96	no
14-Nov-17	304.64	304.16	0.48	0.24	no	0.19	no	303.96	no
21-Nov-17	304.59	304.11	0.48	0.24	no	0.19	no	303.96	no
1-Dec-17	304.62	304.14	0.48	0.24	no	0.19	no	303.96	no
7-Dec-17	304.64			0.24		0.19		303.96	
15-Dec-17	304.67			0.24		0.19		303.96	
19-Dec-17	304.66	304.13	0.53	0.24	no	0.19	no	303.96	no
2-Jan-18				0.34		0.29		303.88	
11-Jan-18				0.34		0.29		303.88	
16-Jan-18	304.80			0.34		0.29		303.88	
26-Jan-18				0.34		0.29		303.88	
1-Feb-18	304.78			0.34		0.29		303.88	
9-Feb-18	304.75			0.34		0.29		303.88	
16-Feb-18	304.82			0.34		0.29		303.88	
26-Feb-18	304.92	304.33	0.59	0.34	no	0.29	no	303.88	no
5-Mar-18	304.89	304.23	0.66	0.34	no	0.29	no	303.88	no
16-Mar-18	304.86			0.34		0.29		303.88	
23-Mar-18	304.85			0.34		0.29		303.88	
26-Mar-18	304.85	304.21	0.64	0.34	no	0.29	no	303.88	no
6-Apr-18	304.89			0.22		0.17		303.97	
13-Apr-18	304.86	304.01	0.85	0.22	no	0.17	no	303.97	no
19-Apr-18	305.01			0.22		0.17		303.97	
24-Apr-18	304.98	304.36	0.62	0.22	no	0.17	no	303.97	no
7-May-18	304.99	304.27	0.72	0.22	no	0.17	no	303.97	no
18-May-18	304.97	304.26	0.71	0.22	no	0.17	no	303.97	no
25-May-18	304.95	304.24	0.71	0.22	no	0.17	no	303.97	no
31-May-18	304.92	304.21	0.71	0.22	no	0.17	no	303.97	no
8-Jun-18	304.90	304.21	0.69	0.22	no	0.17	no	303.97	no
12-Jun-18	304.82	304.17	0.65	0.22	no	0.17	no	303.97	no
26-Jun-18	304.83	304.15	0.68	0.22	no	0.17	no	303.97	no
5-Jul-18	304.81	304.09	0.72	0.28	no	0.23	no	303.91	no
12-Jul-18	304.73	304.08	0.65	0.28	no	0.23	no	303.91	no
27-Jul-18	304.65	304.11	0.54	0.28	no	0.23	no	303.91	no
3-Aug-18	304.60	304.05	0.55	0.28	no	0.23	no	303.91	no
10-Aug-18	304.67	304.10	0.57	0.28	no	0.23	no	303.91	no
22-Aug-18	304.63	304.18	0.45	0.28	no	0.23	no	303.91	no
29-Aug-18	304.60	304.13	0.47	0.28	no	0.23	no	303.91	no
7-Sep-18	304.55	304.10	0.45	0.28	no	0.23	no	303.91	no
12-Sep-18	304.56	304.12	0.44	0.28	no	0.23	no	303.91	no
20-Sep-18	304.51	304.07	0.44	0.28	no	0.23	no	303.91	no
27-Sep-18	304.51	304.10	0.41	0.28	no	0.23	no	303.91	no
4-Oct-18	304.57	304.17	0.40	0.24	no	0.19	no	303.96	no
12-Oct-18	304.52	304.14	0.38	0.24	no	0.19	no	303.96	no
18-Oct-18	304.51	304.11	0.40	0.24	no	0.19	no	303.96	no
30-Oct-18	304.52	304.13	0.39	0.24	no	0.19	no	303.96	no
7-Nov-18	304.64	304.24	0.40	0.24	no	0.19	no	303.96	no
15-Nov-18	304.51			0.24		0.19		303.96	
21-Nov-18	304.63			0.24		0.19		303.96	
29-Nov-18	304.60			0.24		0.19		303.96	
5-Dec-18	304.59			0.24		0.19		303.96	
14-Dec-18	304.57	304.19	0.38	0.24	no	0.19	no	303.96	no
20-Dec-18	304.67			0.24		0.19		303.96	

Note: Water elevations are left blank when frozen conditions are encountered.

Table G-5
Threshold Summary - BH92-27 to DP2
Mill Creek Aggregates Pit

			BH92-27 to DP2					DP2	
Date	Water Elevation BH92-27 (m ASL)	Water Elevation DP2 (m ASL)	Head Difference (m)	Early Warning Value (Min) (m)	Exceedance of Early Warning Value	Threshold Value (Min) (m)	Exceedance of Threshold Value	Threshold Value (Min) (m ASL)	Exceedance of Threshold Value
14-Dec-11	304.88	304.39	0.49	0.39	no	0.34	no	303.55	no
6-Jan-12	304.85	303.67	1.18	0.48	no	0.43	no	303.65	no
12-Jan-12	304.83	303.68	1.15	0.48	no	0.43	no	303.65	no
16-Jan-12	304.82	303.66	1.16	0.48	no	0.43	no	303.65	no
26-Jan-12	304.83	303.67	1.16	0.48	no	0.43	no	303.65	no
3-Feb-12	304.85	303.68	1.17	0.48	no	0.43	no	303.65	no
9-Feb-12	304.83	303.67	1.16	0.48	no	0.43	no	303.65	no
16-Feb-12	304.80	303.76	1.04	0.48	no	0.43	no	303.65	no
23-Feb-12	304.85	303.74	1.11	0.48	no	0.43	no	303.65	no
2-Mar-12	304.89	304.28	0.61	0.48	no	0.43	no	303.65	no
9-Mar-12	304.86	304.28	0.58	0.48	no	0.43	no	303.65	no
21-Mar-12	304.83	304.27	0.56	0.48	no	0.43	no	303.65	no
29-Mar-12	304.65	304.16	0.49	0.48	no	0.43	no	303.65	no
4-Apr-12	304.64	304.16	0.48	0.39	no	0.34	no	303.69	no
13-Apr-12	304.67	304.19	0.48	0.39	no	0.34	no	303.69	no
17-Apr-12	304.65	304.19	0.46	0.39	no	0.34	no	303.69	no
30-Apr-12	304.62	304.14	0.48	0.39	no	0.34	no	303.69	no
7-May-12	304.73	304.18	0.55	0.39	no	0.34	no	303.69	no
17-May-12	304.67	304.13	0.54	0.39	no	0.34	no	303.69	no
24-May-12	304.62	304.12	0.50	0.39	no	0.34	no	303.69	no
29-May-12	304.62	304.10	0.52	0.39	no	0.34	no	303.69	no
6-Jun-12	304.68	304.17	0.51	0.39	no	0.34	no	303.69	no
15-Jun-12	304.69	304.15	0.54	0.39	no	0.34	no	303.69	no
20-Jun-12	304.65	304.12	0.53	0.39	no	0.34	no	303.69	no
29-Jun-12	304.64	304.11	0.53	0.39	no	0.34	no	303.69	no
4-Jul-12	304.60	304.11	0.49	0.37	no	0.32	no	303.50	no
12-Jul-12	304.69	304.11	0.58	0.37	no	0.32	no	303.50	no
24-Jul-12	304.68	304.12	0.56	0.37	no	0.32	no	303.50	no
30-Jul-12	304.69	304.13	0.56	0.37	no	0.32	no	303.50	no
10-Aug-12	304.60	304.11	0.49	0.37	no	0.32	no	303.50	no
15-Aug-12	304.69	304.11	0.58	0.37	no	0.32	no	303.50	no
21-Aug-12	304.68	304.12	0.56	0.37	no	0.32	no	303.50	no
27-Aug-12	304.69	304.13	0.56	0.37	no	0.32	no	303.50	no
7-Sep-12	304.70	304.20	0.50	0.37	no	0.32	no	303.50	no
13-Sep-12	304.67	304.24	0.43	0.37	no	0.32	no	303.50	no
18-Sep-12	304.63	304.23	0.40	0.37	no	0.32	no	303.50	no
24-Sep-12	304.64	304.22	0.42	0.37	no	0.32	no	303.50	no
9-Oct-12	304.70	304.17	0.53	0.39	no	0.34	no	303.55	no
18-Oct-12	304.74	304.21	0.53	0.39	no	0.34	no	303.55	no
23-Oct-12	304.77	304.27	0.50	0.39	no	0.34	no	303.55	no
31-Oct-12	304.82	304.26	0.56	0.39	no	0.34	no	303.55	no
12-Nov-12	304.74	304.23	0.51	0.39	no	0.34	no	303.55	no
16-Nov-12	304.70	304.20	0.50	0.39	no	0.34	no	303.55	no
22-Nov-12	304.69	304.16	0.53	0.39	no	0.34	no	303.55	no
28-Nov-12	304.68	304.16	0.52	0.39	no	0.34	no	303.55	no
7-Dec-12	304.73	304.14	0.59	0.39	no	0.34	no	303.55	no
13-Dec-12	304.80	304.12	0.68	0.39	no	0.34	no	303.55	no
19-Dec-12	304.82	304.00	0.82	0.39	no	0.34	no	303.55	no
3-Jan-13	304.83	304.16	0.67	0.48	no	0.43	no	303.65	no
16-Jan-13	304.94	304.16	0.78	0.48	no	0.43	no	303.65	no
24-Jan-13	304.88	304.16	0.72	0.48	no	0.43	no	303.65	no
31-Jan-13	305.04	304.16	0.88	0.48	no	0.43	no	303.65	no
8-Feb-13	305.01	304.16	0.85	0.48	no	0.43	no	303.65	no
13-Feb-13	304.99	304.16	0.83	0.48	no	0.43	no	303.65	no
20-Feb-13	304.94	304.16	0.78	0.48	no	0.43	no	303.65	no
28-Feb-13	304.96	304.16	0.80	0.48	no	0.43	no	303.65	no
6-Mar-13	304.93	304.16	0.77	0.48	no	0.43	no	303.65	no
15-Mar-13	305.04	304.16	0.88	0.48	no	0.43	no	303.65	no
21-Mar-13	305.08	304.30	0.78	0.48	no	0.43	no	303.65	no
25-Mar-13	305.08	304.32	0.76	0.48	no	0.43	no	303.65	no
4-Apr-13	305.09	304.30	0.79	0.39	no	0.34	no	303.69	no
10-Apr-13	305.09	304.32	0.77	0.39	no	0.34	no	303.69	no
18-Apr-13	305.19	304.36	0.83	0.39	no	0.34	no	303.69	no
25-Apr-13	305.15	304.34	0.81	0.39	no	0.34	no	303.69	no
2-May-13	305.11	304.33	0.78	0.39	no	0.34	no	303.69	no
9-May-13	305.10	304.31	0.79	0.39	no	0.34	no	303.69	no
15-May-13	305.07	304.29	0.78	0.39	no	0.34	no	303.69	no
23-May-13	305.09	304.30	0.79	0.39	no	0.34	no	303.69	no
7-Jun-13	305.08	304.32	0.76	0.39	no	0.34	no	303.69	no
13-Jun-13	305.06	304.33	0.73	0.39	no	0.34	no	303.69	no
21-Jun-13	305.09	304.30	0.79	0.39	no	0.34	no	303.69	no
26-Jun-13	305.00	304.28	0.72	0.39	no	0.34	no	303.69	no
5-Jul-13	305.02	304.36	0.66	0.37	no	0.32	no	303.50	no
12-Jul-13	304.96	304.28	0.68	0.37	no	0.32	no	303.50	no
17-Jul-13	304.92	304.21	0.71	0.37	no	0.32	no	303.50	no
31-Jul-13	304.90	304.26	0.64	0.37	no	0.32	no	303.50	no
9-Aug-13	304.81	304.20	0.61	0.37	no	0.32	no	303.50	no
14-Aug-13	304.81	304.19	0.62	0.37	no	0.32	no	303.50	no
26-Aug-13	304.81	304.20	0.61	0.37	no	0.32	no	303.50	no
6-Sep-13	304.80	304.19	0.61	0.37	no	0.32	no	303.50	no
12-Sep-13	304.81	304.19	0.62	0.37	no	0.32	no	303.50	no
19-Sep-13	304.77	304.20	0.57	0.37	no	0.32	no	303.50	no
25-Sep-13	304.84	304.22	0.62	0.37	no	0.32	no	303.50	no
3-Oct-13	304.85	304.23	0.62	0.39	no	0.34	no	303.55	no
11-Oct-13	304.87	304.23	0.64	0.39	no	0.34	no	303.55	no
16-Oct-13	304.87	304.25	0.62	0.39	no	0.34	no	303.55	no
22-Oct-13	304.89	304.26	0.63	0.39	no	0.34	no	303.55	no
7-Nov-13	304.95	304.26	0.69	0.39	no	0.34	no	303.55	no
14-Nov-13	304.97	304.28	0.69	0.39	no	0.34	no	303.55	no
22-Nov-13	304.95	304.30	0.65	0.39	no	0.34	no	303.55	no
28-Nov-13	304.95	304.32	0.63	0.39	no	0.34	no	303.55	no
6-Dec-13	304.96	304.30	0.66	0.39	no	0.34	no	303.55	no
10-Dec-13	304.99	304.29	0.70	0.39	no	0.34	no	303.55	no
20-Dec-13	305.03	304.30	0.73	0.39	no	0.34	no	303.55	no
10-Jan-14	304.97			0.48		0.43		303.65	
21-Mar-14		304.36		0.48		0.43		303.65	
4-Apr-14	305.16	304.41	0.75	0.39	no	0.34	no	303.69	no
10-Apr-14	305.23	304.45	0.78	0.39	no	0.34	no	303.69	no
24-Apr-14	305.06	304.29	0.77	0.39	no	0.34	no	303.69	no
9-May-14	305.02	304.27	0.75	0.39	no	0.34	no	303.69	no
15-May-14	305.10	304.34	0.76	0.39	no	0.34	no	303.69	no
22-May-14	305.16	304.33	0.83	0.39	no	0.34	no	303.69	no
29-May-14	305.15	304.32	0.83	0.39	no	0.34	no	303.69	no
6-Jun-14	305.13	304.31	0.82	0.39	no	0.34	no	303.69	no
13-Jun-14	305.02	304.27	0.75	0.39	no	0.34	no	303.69	no
18-Jun-14	304.98	304.25	0.73	0.39	no	0.34	no	303.69	no
26-Jun-14	305.07	304.30	0.77	0.39	no	0.34	no	303.69	no
9-Jul-14	305.01	304.30	0.71	0.37	no	0.32	no	303.50	no
18-Jul-14	304.83	304.19	0.64	0.37	no	0.32	no	303.50	no
23-Jul-14	305.04	304.31	0.73	0.37	no	0.32	no	303.50	no
29-Jul-14	305.12	304.37	0.75	0.37	no	0.32	no	303.50	no

Note: Water elevations are left blank when frozen conditions were observed at BH92-27 and DP2. Frozen conditions prevented accurate groundwater measurem

Table G-5
Threshold Summary - BH92-27 to DP2
Mill Creek Aggregates Pit

			BH92-27 to DP2					DP2	
Date	Water Elevation BH92-27 (m ASL)	Water Elevation DP2 (m ASL)	Head Difference (m)	Early Warning Value (Min) (m)	Exceedance of Early Warning Value	Threshold Value (Min) (m)	Exceedance of Threshold Value	Threshold Value (Min) (m ASL)	Exceedance of Threshold Value
7-Aug-14	305.08	304.33	0.75	0.37	no	0.32	no	303.50	no
14-Aug-14	305.06	304.30	0.76	0.37	no	0.32	no	303.50	no
22-Aug-14	305.11	304.35	0.76	0.37	no	0.32	no	303.50	no
28-Aug-14	305.09	304.33	0.76	0.37	no	0.32	no	303.50	no
11-Sep-14	305.11	304.31	0.80	0.37	no	0.32	no	303.50	no
18-Sep-14	305.11	304.33	0.78	0.37	no	0.32	no	303.50	no
25-Sep-14	305.15	304.32	0.83	0.37	no	0.32	no	303.50	no
29-Sep-14	305.11	304.32	0.79	0.37	no	0.32	no	303.50	no
9-Oct-14	305.12	304.32	0.80	0.39	no	0.34	no	303.55	no
17-Oct-14	305.10	304.33	0.77	0.39	no	0.34	no	303.55	no
23-Oct-14	305.09	304.32	0.77	0.39	no	0.34	no	303.55	no
31-Oct-14	305.06	304.29	0.77	0.39	no	0.34	no	303.55	no
7-Nov-14	305.04	304.30	0.74	0.39	no	0.34	no	303.55	no
13-Nov-14	305.01	304.27	0.74	0.39	no	0.34	no	303.55	no
21-Nov-14	305.06	304.28	0.78	0.39	no	0.34	no	303.55	no
27-Nov-14	305.09			0.39		0.34		303.55	
4-Dec-14	305.07			0.39		0.34		303.55	
12-Dec-14	305.13	304.14	0.99	0.39	no	0.34	no	303.55	no
18-Dec-14	305.15	304.22	0.93	0.39	no	0.34	no	303.55	no
9-Jan-15				0.48		0.43		303.65	
14-Jan-15				0.48		0.43		303.65	
21-Jan-15				0.48		0.43		303.65	
29-Jan-15				0.48		0.43		303.65	
6-Feb-15				0.48		0.43		303.65	
12-Feb-15				0.48		0.43		303.65	
18-Feb-15				0.48		0.43		303.65	
27-Feb-15				0.48		0.43		303.65	
6-Mar-15				0.48		0.43		303.65	
12-Mar-15				0.48		0.43		303.65	
18-Mar-15				0.48		0.43		303.65	
25-Mar-15		304.35		0.48		0.43		303.65	
1-Apr-15		304.37		0.39		0.34		303.69	
9-Apr-15		304.45		0.39		0.34		303.69	
14-Apr-15		304.42		0.39		0.34		303.69	
21-Apr-15	305.24	304.45	0.79	0.39	no	0.34	no	303.69	no
1-May-15	305.06	304.26	0.80	0.39	no	0.34	no	303.69	no
8-May-15	304.97	304.24	0.73	0.39	no	0.34	no	303.69	no
14-May-15	304.95	304.20	0.75	0.39	no	0.34	no	303.69	no
20-May-15	305.01	304.23	0.78	0.39	no	0.34	no	303.69	no
5-Jun-15	305.04	304.27	0.77	0.39	no	0.34	no	303.69	no
10-Jun-15	305.02	304.26	0.76	0.39	no	0.34	no	303.69	no
18-Jun-15	305.07	304.29	0.78	0.39	no	0.34	no	303.69	no
23-Jun-15	305.03	304.26	0.77	0.39	no	0.34	no	303.69	no
8-Jul-15	305.02	304.30	0.72	0.37	no	0.32	no	303.50	no
16-Jul-15	304.97	304.24	0.73	0.37	no	0.32	no	303.50	no
22-Jul-15	305.03	304.26	0.77	0.37	no	0.32	no	303.50	no
31-Jul-15	304.96	304.21	0.75	0.37	no	0.32	no	303.50	no
7-Aug-15	304.97	304.21	0.76	0.37	no	0.32	no	303.50	no
20-Aug-15	304.93	304.20	0.73	0.37	no	0.32	no	303.50	no
25-Aug-15	304.87	304.21	0.66	0.37	no	0.32	no	303.50	no
4-Sep-15	304.84	304.19	0.65	0.37	no	0.32	no	303.50	no
11-Sep-15	304.80	304.15	0.65	0.37	no	0.32	no	303.50	no
18-Sep-15	304.81	304.15	0.66	0.37	no	0.32	no	303.50	no
24-Sep-15	304.80	304.16	0.64	0.37	no	0.32	no	303.50	no
6-Oct-15	304.79	304.17	0.62	0.39	no	0.34	no	303.55	no
15-Oct-15	304.78	304.15	0.63	0.39	no	0.34	no	303.55	no
22-Oct-15	304.77	304.14	0.63	0.39	no	0.34	no	303.55	no
29-Oct-15	304.88	304.28	0.60	0.39	no	0.34	no	303.55	no
5-Nov-15	304.78	304.16	0.62	0.39	no	0.34	no	303.55	no
12-Nov-15	304.76	304.17	0.59	0.39	no	0.34	no	303.55	no
19-Nov-15	304.74	304.18	0.56	0.39	no	0.34	no	303.55	no
25-Nov-15	304.73	304.18	0.55	0.39	no	0.34	no	303.55	no
4-Dec-15	304.70	304.15	0.55	0.39	no	0.34	no	303.55	no
10-Dec-15	304.68	304.11	0.57	0.39	no	0.34	no	303.55	no
17-Dec-15	304.76	304.15	0.61	0.39	no	0.34	no	303.55	no
21-Dec-15	304.77	304.16	0.61	0.39	no	0.34	no	303.55	no
6-Jan-16	304.80			0.48		0.43		303.65	
14-Jan-16	304.87			0.48		0.43		303.65	
20-Jan-16	304.96			0.48		0.43		303.65	
26-Jan-16	305.00			0.48		0.43		303.65	
2-Feb-16	305.17			0.48		0.43		303.65	
10-Feb-16	305.06			0.48		0.43		303.65	
17-Feb-16	305.01			0.48		0.43		303.65	
29-Feb-16	305.00			0.48		0.43		303.65	
4-Mar-16				0.48		0.43		303.65	
10-Mar-16				0.48		0.43		303.65	
17-Mar-16		304.34		0.48		0.43		303.65	no
1-Apr-16	305.18	304.43	0.75	0.39	no	0.34	no	303.69	no
4-Apr-16	305.12			0.39		0.34		303.69	
14-Apr-16	305.16	304.30	0.86	0.39	no	0.34	no	303.69	no
21-Apr-16	305.14	304.24	0.90	0.39	no	0.34	no	303.69	no
27-Apr-16	305.28	304.31	0.97	0.39	no	0.34	no	303.69	no
6-May-16	305.28	304.31	0.97	0.39	no	0.34	no	303.69	no
12-May-16	305.14	304.31	0.83	0.39	no	0.34	no	303.69	no
19-May-16	305.13	304.29	0.84	0.39	no	0.34	no	303.69	no
30-May-16	305.10	304.28	0.82	0.39	no	0.34	no	303.69	no
9-Jun-16	305.09	304.26	0.83	0.39	no	0.34	no	303.69	no
16-Jun-16	305.05	304.25	0.80	0.39	no	0.34	no	303.69	no
22-Jun-16	304.98	304.21	0.77	0.39	no	0.34	no	303.69	no
27-Jun-16	304.97	304.20	0.77	0.39	no	0.34	no	303.69	no
7-Jul-16	304.92	304.16	0.76	0.37	no	0.32	no	303.50	no
15-Jul-16	304.94	304.25	0.69	0.37	no	0.32	no	303.50	no
28-Jul-16	304.87	304.18	0.69	0.37	no	0.32	no	303.50	no
9-Aug-16	304.80	303.87	0.93	0.37	no	0.32	no	303.50	no
11-Aug-16	304.85	304.14	0.71	0.37	no	0.32	no	303.50	no
22-Aug-16	305.10	304.06	1.04	0.37	no	0.32	no	303.50	no
31-Aug-16	305.40	304.25	1.15	0.37	no	0.32	no	303.50	no
8-Sep-16	305.04	304.32	0.72	0.37	no	0.32	no	303.50	no
15-Sep-16	304.97	304.25	0.72	0.37	no	0.32	no	303.50	no
21-Sep-16	304.93	304.20	0.73	0.37	no	0.32	no	303.50	no
26-Sep-16	304.89	304.21	0.68	0.37	no	0.32	no	303.50	no
6-Oct-16	304.85	304.18	0.67	0.39	no	0.34	no	303.55	no
13-Oct-16	304.83	304.15	0.68	0.39	no	0.34	no	303.55	no
18-Oct-16	304.81	303.92	0.89	0.39	no	0.34	no	303.55	no
27-Oct-16	304.81	304.14	0.67	0.39	no	0.34	no	303.55	no
4-Nov-16	304.81	304.16	0.65	0.39	no	0.34	no	303.55	no
9-Nov-16	304.78	304.16	0.62	0.39	no	0.34	no	303.55	no
14-Nov-16	304.76	304.13	0.63	0.39	no	0.34	no	303.55	no
30-Nov-16	304.75	304.15	0.60	0.39	no	0.34	no	303.55	no
8-Dec-16	304.70			0.39		0.34		303.55	
14-Dec-16	304.74			0.39		0.34		303.55	
22-Dec-16	304.79			0.39		0.34		303.55	

Note: Water elevations are left blank when frozen conditions are encountere

Table G-5
Threshold Summary - BH92-27 to DP2
Mill Creek Aggregates Pit

			BH92-27 to DP2					DP2	
Date	Water Elevation BH92-27 (m ASL)	Water Elevation DP2 (m ASL)	Head Difference (m)	Early Warning Value (Min) (m)	Exceedance of Early Warning Value	Threshold Value (Min) (m)	Exceedance of Threshold Value	Threshold Value (Min) (m ASL)	Exceedance of Threshold Value
6-Jan-17	304.80			0.48		0.43		303.65	
14-Jan-17	304.94			0.48		0.43		303.65	
20-Jan-17	304.70			0.48		0.43		303.65	
26-Jan-17	304.63			0.48		0.43		303.65	
2-Feb-17	304.80			0.48		0.43		303.65	
9-Feb-17	304.80			0.48		0.43		303.65	
15-Feb-17	304.78			0.48		0.43		303.65	
23-Feb-17	304.84			0.48		0.43		303.65	
2-Mar-17	304.95			0.48		0.43		303.65	
9-Mar-17	304.85	304.21	0.64	0.48	no	0.43	no	303.65	no
17-Mar-17	304.81	304.11	0.70	0.48	no	0.43	no	303.65	no
22-Mar-17	304.81			0.48		0.43		303.65	
5-Apr-17	304.91	304.29	0.62	0.39	no	0.34	no	303.69	no
11-Apr-17	304.91	304.23	0.68	0.39	no	0.34	no	303.69	no
19-Apr-17	304.88	304.19	0.69	0.39	no	0.34	no	303.69	no
3-May-17	305.31	304.27	1.04	0.39	no	0.34	no	303.69	no
11-May-17	305.33	304.24	1.09	0.39	no	0.34	no	303.69	no
18-May-17	304.88	304.18	0.70	0.39	no	0.34	no	303.69	no
2-Jun-17	305.19	304.14	1.05	0.39	no	0.34	no	303.69	no
8-Jun-17	305.13	304.16	0.97	0.39	no	0.34	no	303.69	no
14-Jun-17	304.76	304.11	0.65	0.39	no	0.34	no	303.69	no
21-Jun-17	304.75	304.14	0.62	0.39	no	0.34	no	303.69	no
7-Jul-17	304.64	304.12	0.52	0.37	no	0.32	no	303.50	no
12-Jul-17	304.69	304.10	0.59	0.37	no	0.32	no	303.50	no
20-Jul-17	304.75	304.16	0.59	0.37	no	0.32	no	303.50	no
26-Jul-17	304.73	304.12	0.61	0.37	no	0.32	no	303.50	no
4-Aug-17	304.68	304.13	0.55	0.37	no	0.32	no	303.50	no
9-Aug-17	304.67	304.11	0.56	0.37	no	0.32	no	303.50	no
17-Aug-17	304.68	304.12	0.56	0.37	no	0.32	no	303.50	no
24-Aug-17	304.67	304.08	0.59	0.37	no	0.32	no	303.50	no
1-Sep-17	304.60	304.06	0.54	0.37	no	0.32	no	303.50	no
7-Sep-17	304.64	304.09	0.55	0.37	no	0.32	no	303.50	no
12-Sep-17	304.60	304.07	0.53	0.37	no	0.32	no	303.50	no
21-Sep-17	304.55	304.04	0.51	0.37	no	0.32	no	303.50	no
29-Sep-17	304.55	304.02	0.53	0.37	no	0.32	no	303.50	no
4-Oct-17	304.53	304.01	0.52	0.39	no	0.34	no	303.55	no
10-Oct-17	304.55	304.06	0.49	0.39	no	0.34	no	303.55	no
18-Oct-17	304.56	304.05	0.51	0.39	no	0.34	no	303.55	no
27-Oct-17	304.56	304.07	0.49	0.39	no	0.34	no	303.55	no
1-Nov-17	304.55	304.04	0.51	0.39	no	0.34	no	303.55	no
9-Nov-17	304.61	304.09	0.52	0.39	no	0.34	no	303.55	no
14-Nov-17	304.58	304.07	0.51	0.39	no	0.34	no	303.55	no
21-Nov-17	304.63	303.85	0.78	0.39	no	0.34	no	303.55	no
1-Dec-17	304.58	303.82	0.76	0.39	no	0.34	no	303.55	no
7-Dec-17	304.59			0.39	no	0.34	no	303.55	no
15-Dec-17	304.51			0.39	no	0.34	no	303.55	no
19-Dec-17	304.57	304.10	0.47	0.39	no	0.34	no	303.55	no
2-Jan-18				0.48		0.43		303.65	
11-Jan-18				0.48		0.43		303.65	
16-Jan-18	304.68			0.48		0.43		303.65	
26-Jan-18	304.69			0.48		0.43		303.65	
1-Feb-18	304.67			0.48		0.43		303.65	
9-Feb-18	304.63			0.48		0.43		303.65	
16-Feb-18	304.68			0.48		0.43		303.65	
26-Feb-18	304.80	304.24	0.56	0.48	no	0.43	no	303.65	no
5-Mar-18	304.75	304.14	0.61	0.48	no	0.43	no	303.65	no
16-Mar-18	304.70			0.48		0.43		303.65	
23-Mar-18	304.68			0.48		0.43		303.65	
26-Mar-18	304.67			0.48		0.43		303.65	
6-Apr-18	304.77			0.39		0.34		303.69	no
13-Apr-18	304.73	303.81	0.92	0.39	no	0.34	no	303.69	no
19-Apr-18	304.83			0.39		0.34		303.69	
24-Apr-18	304.83	304.26	0.57	0.39	no	0.34	no	303.69	no
7-May-18	304.81	304.17	0.64	0.39	no	0.34	no	303.69	no
18-May-18	304.77	304.17	0.60	0.39	no	0.34	no	303.69	no
25-May-18	304.74	304.16	0.58	0.39	no	0.34	no	303.69	no
31-May-18	304.69	304.10	0.59	0.39	no	0.34	no	303.69	no
8-Jun-18	304.68	304.13	0.55	0.39	no	0.34	no	303.69	no
12-Jun-18	304.63	304.08	0.55	0.39	no	0.34	no	303.69	no
26-Jun-18	304.60	304.07	0.53	0.39	no	0.34	no	303.69	no
5-Jul-18	304.61	304.05	0.56	0.37	no	0.32	no	303.50	no
12-Jul-18	304.53	303.97	0.56	0.37	no	0.32	no	303.50	no
27-Jul-18	304.49	303.99	0.50	0.37	no	0.32	no	303.50	no
3-Aug-18	304.47	303.91	0.56	0.37	no	0.32	no	303.50	no
10-Aug-18	304.52	303.96	0.56	0.37	no	0.32	no	303.50	no
22-Aug-18	304.56	304.10	0.46	0.37	no	0.32	no	303.50	no
29-Aug-18	304.52	304.10	0.42	0.37	no	0.32	no	303.50	no
7-Sep-18	304.47	304.00	0.47	0.37	no	0.32	no	303.50	no
12-Sep-18	304.48	304.02	0.46	0.37	no	0.32	no	303.50	no
20-Sep-18	304.41	303.97	0.44	0.37	no	0.32	no	303.50	no
27-Sep-18	304.45	303.98	0.47	0.37	no	0.32	no	303.50	no
4-Oct-18	304.52	304.08	0.44	0.39	no	0.34	no	303.55	no
12-Oct-18	304.48	304.04	0.44	0.39	no	0.34	no	303.55	no
18-Oct-18	304.47	304.01	0.46	0.39	no	0.34	no	303.55	no
30-Oct-18	304.48	304.02	0.46	0.39	no	0.34	no	303.55	no
7-Nov-18	304.61	304.14	0.47	0.39	no	0.34	no	303.55	no
15-Nov-18	304.56			0.39		0.34		303.55	
21-Nov-18	304.57			0.39		0.34		303.55	
29-Nov-18	304.59	304.16	0.43	0.39	no	0.34	no	303.55	no
5-Dec-18	304.56			0.39		0.34		303.55	
14-Dec-18	304.53	304.11	0.42	0.39	no	0.34	no	303.55	no
20-Dec-18	304.57			0.39		0.34		303.55	

Note: Water elevations are left blank when frozen conditions are encountered.

Table G-6
Threshold Summary - OW5-84 to DP5C
Mill Creek Aggregates Pit

			OW5-84 to DP5C					DP5C	
Date	Water Elevation OW5-84 (m ASL)	Water Elevation DP5C (m ASL)	Head Difference (m)	Early Warning Value (Min) (m)	Exceedance of Early Warning Value	Threshold Value (Min) (m)	Exceedance of Threshold Value	Threshold Value (Min) (m ASL)	Exceedance of Threshold Value
7-Sep-12	303.56	303.11	0.45	0.28	no	0.25	no	302.79	no
13-Sep-12	303.54	303.10	0.44	0.28	no	0.25	no	302.79	no
18-Sep-12	303.53	303.08	0.45	0.28	no	0.25	no	302.79	no
24-Sep-12	303.50	303.06	0.44	0.28	no	0.25	no	302.79	no
9-Oct-12	303.47	303.20	0.27	0.28	yes	0.25	no	302.84	no
18-Oct-12	303.54	303.24	0.30	0.28	no	0.25	no	302.84	no
23-Oct-12	303.66	303.27	0.39	0.28	no	0.25	no	302.84	no
31-Oct-12	303.72	303.36	0.36	0.28	no	0.25	no	302.84	no
12-Nov-12	303.61	303.29	0.32	0.28	no	0.25	no	302.84	no
16-Nov-12	303.54	303.21	0.33	0.28	no	0.25	no	302.84	no
22-Nov-12	303.56	303.22	0.34	0.28	no	0.25	no	302.84	no
28-Nov-12	303.53	303.23	0.30	0.28	no	0.25	no	302.84	no
7-Dec-12	303.56	303.21	0.35	0.28	no	0.25	no	302.84	no
13-Dec-12	303.59	303.17	0.42	0.28	no	0.25	no	302.84	no
19-Dec-12	303.60	303.26	0.34	0.28	no	0.25	no	302.84	no
3-Jan-13	303.56	303.26	0.30	0.34	yes	0.30	no	302.88	no
16-Jan-13	303.68	303.26	0.42	0.34	no	0.30	no	302.88	no
24-Jan-13	303.58	303.26	0.32	0.34	yes	0.30	no	302.88	no
31-Jan-13	303.78	303.26	0.52	0.34	no	0.30	no	302.88	no
8-Feb-13	303.78	303.32	0.46	0.34	no	0.30	no	302.88	no
13-Feb-13	303.78	303.32	0.46	0.34	no	0.30	no	302.88	no
20-Feb-13	303.78	303.32	0.46	0.34	no	0.30	no	302.88	no
28-Feb-13	303.78	303.21	0.57	0.34	no	0.30	no	302.88	no
6-Mar-13	303.78	303.20	0.58	0.34	no	0.30	no	302.88	no
15-Mar-13	303.78	303.38	0.40	0.34	no	0.30	no	302.88	no
21-Mar-13	303.78	303.38	0.40	0.34	no	0.30	no	302.88	no
25-Mar-13	303.78	303.20	0.58	0.34	no	0.30	no	302.88	no
4-Apr-13	303.69	303.37	0.32	0.34	yes	0.30	no	302.86	no
10-Apr-13	303.90	303.50	0.40	0.34	no	0.30	no	302.86	no
18-Apr-13	303.76	303.33	0.43	0.34	no	0.30	no	302.86	no
25-Apr-13	303.71	303.27	0.44	0.34	no	0.30	no	302.86	no
2-May-13	303.66	303.22	0.44	0.34	no	0.30	no	302.86	no
9-May-13	303.64	303.21	0.43	0.34	no	0.30	no	302.86	no
15-May-13	303.62	303.18	0.44	0.34	no	0.30	no	302.86	no
23-May-13	303.60	303.17	0.43	0.34	no	0.30	no	302.86	no
7-Jun-13	303.64	303.27	0.37	0.34	no	0.30	no	302.86	no
13-Jun-13	303.69	303.33	0.36	0.34	no	0.30	no	302.86	no
21-Jun-13	303.60	303.17	0.43	0.34	no	0.30	no	302.86	no
26-Jun-13	303.62	303.14	0.48	0.34	no	0.30	no	302.86	no
5-Jul-13	303.75	303.29	0.46	0.28	no	0.25	no	302.79	no
12-Jul-13	303.57	303.26	0.31	0.28	no	0.25	no	302.79	no
17-Jul-13	303.51	303.25	0.26	0.28	yes	0.25	no	302.79	no
31-Jul-13	303.56	303.29	0.27	0.28	yes	0.25	no	302.79	no
9-Aug-13	303.57	303.13	0.44	0.28	no	0.25	no	302.79	no
14-Aug-13	303.55	303.13	0.42	0.28	no	0.25	no	302.79	no
26-Aug-13	303.48	303.17	0.31	0.28	no	0.25	no	302.79	no
6-Sep-13	303.55	303.25	0.30	0.28	no	0.25	no	302.79	no
12-Sep-13	303.60	303.33	0.27	0.28	yes	0.25	no	302.79	no
19-Sep-13	303.59	303.32	0.27	0.28	yes	0.25	no	302.79	no
25-Sep-13	303.58	303.32	0.26	0.28	yes	0.25	no	302.79	no
3-Oct-13	303.60	303.30	0.30	0.28	no	0.25	no	302.84	no
11-Oct-13	303.66	303.22	0.44	0.28	no	0.25	no	302.84	no
16-Oct-13	303.70	303.37	0.33	0.28	no	0.25	no	302.84	no
22-Oct-13	303.73	303.27	0.46	0.28	no	0.25	no	302.84	no
7-Nov-13	303.70	303.26	0.44	0.28	no	0.25	no	302.84	no
14-Nov-13	303.66	303.28	0.38	0.28	no	0.25	no	302.84	no
22-Nov-13	303.67	303.34	0.33	0.28	no	0.25	no	302.84	no
28-Nov-13	303.65	303.36	0.29	0.28	no	0.25	no	302.84	no
6-Dec-13	303.71	303.36	0.35	0.28	no	0.25	no	302.84	no
10-Dec-13	303.75	303.34	0.41	0.28	no	0.25	no	302.84	no
20-Dec-13	303.75	303.36	0.39	0.28	no	0.25	no	302.84	no
10-Jan-14	303.64			0.34		0.30		302.88	
15-Jan-14	303.79			0.34		0.30		302.88	
24-Jan-14	303.77			0.34		0.30		302.88	
31-Jan-14	303.75			0.34		0.30		302.88	
6-Feb-14	303.72			0.34		0.30		302.88	
12-Feb-14	303.72			0.34		0.30		302.88	
20-Feb-14	303.70			0.34		0.30		302.88	
26-Feb-14	303.67			0.34		0.30		302.88	
6-Mar-14	303.67			0.34		0.30		302.88	
13-Mar-14	303.72			0.34		0.30		302.88	
21-Mar-14	303.76	303.36	0.40	0.34	no	0.30	no	302.88	no
26-Mar-14	303.81	303.42	0.39	0.34	no	0.30	no	302.88	no
4-Apr-14	303.78	303.46	0.32	0.34	yes	0.30	no	302.86	no
10-Apr-14	303.81	303.53	0.28	0.34	yes	0.30	yes	302.86	no
24-Apr-14	303.68	303.36	0.32	0.34	yes	0.30	no	302.86	no
9-May-14	303.68	303.31	0.37	0.34	no	0.30	no	302.86	no
15-May-14	303.74	303.37	0.37	0.34	no	0.30	no	302.86	no
22-May-14	303.70	303.32	0.38	0.34	no	0.30	no	302.86	no
29-May-14	303.65	303.29	0.36	0.34	no	0.30	no	302.86	no
6-Jun-14	303.62	303.20	0.42	0.34	no	0.30	no	302.86	no
13-Jun-14	303.59	303.18	0.41	0.34	no	0.30	no	302.86	no
18-Jun-14	303.57	303.16	0.41	0.34	no	0.30	no	302.86	no
26-Jun-14	303.60	303.17	0.43	0.34	no	0.30	no	302.86	no
9-Jul-14	303.62	303.25	0.37	0.28	no	0.25	no	302.79	no
18-Jul-14	303.51	303.10	0.41	0.28	no	0.25	no	302.79	no
23-Jul-14	303.61	303.24	0.37	0.28	no	0.25	no	302.79	no
29-Jul-14	303.75	303.39	0.36	0.28	no	0.25	no	302.79	no
7-Aug-14	303.69	303.30	0.39	0.28	no	0.25	no	302.79	no
14-Aug-14	303.64	303.21	0.43	0.28	no	0.25	no	302.79	no
22-Aug-14	303.63	303.19	0.44	0.28	no	0.25	no	302.79	no
28-Aug-14	303.57	303.16	0.41	0.28	no	0.25	no	302.79	no
11-Sep-14	303.64	303.21	0.43	0.28	no	0.25	no	302.79	no
18-Sep-14	303.69	303.30	0.39	0.28	no	0.25	no	302.79	no
25-Sep-14	303.66	303.20	0.46	0.28	no	0.25	no	302.79	no
29-Sep-14	303.64	303.19	0.45	0.28	no	0.25	no	302.79	no
9-Oct-14	303.69	303.27	0.42	0.28	no	0.25	no	302.84	no
17-Oct-14	303.70	303.25	0.45	0.28	no	0.25	no	302.84	no
23-Oct-14	303.68	303.25	0.43	0.28	no	0.25	no	302.84	no
31-Oct-14	303.67	303.26	0.41	0.28	no	0.25	no	302.84	no
7-Nov-14	303.66	303.25	0.41	0.28	no	0.25	no	302.84	no
13-Nov-14	303.66	303.20	0.46	0.28	no	0.25	no	302.84	no
21-Nov-14	303.68	303.22	0.46	0.28	no	0.25	no	302.84	no
27-Nov-14	303.70			0.28		0.25		302.84	
4-Dec-14	303.71			0.28		0.25		302.84	
12-Dec-14	303.66	303.24	0.42	0.28	no	0.25	no	302.84	no
18-Dec-14	303.68	303.26	0.42	0.28	no	0.25	no	302.84	no

Note: Water elevations are left blank when frozen conditions were observed at DP5C. Frozen conditions prevented accurate groundwater measurem

Table G-6
Threshold Summary - OW5-84 to DP5C
Mill Creek Aggregates Pit

			OW5-84 to DP5C					DP5C	
Date	Water Elevation OW5-84 (m ASL)	Water Elevation DP5C (m ASL)	Head Difference (m)	Early Warning Value (Min) (m)	Exceedance of Early Warning Value	Threshold Value (Min) (m)	Exceedance of Threshold Value	Threshold Value (Min) (m ASL)	Exceedance of Threshold Value
9-Jan-15				0.34		0.30		302.88	
14-Jan-15	303.61			0.34		0.30		302.88	
21-Jan-15	303.60			0.34		0.30		302.88	
29-Jan-15	303.58			0.34		0.30		302.88	
6-Feb-15				0.34		0.30		302.88	
12-Feb-15				0.34		0.30		302.88	
18-Feb-15				0.34		0.30		302.88	
27-Feb-15				0.34		0.30		302.88	
6-Mar-15				0.34		0.30		302.88	
12-Mar-15				0.34		0.30		302.88	
18-Mar-15				0.34		0.30		302.88	
25-Mar-15				0.34		0.30		302.88	
1-Apr-15	303.71	303.27	0.44	0.34	no	0.30	no	302.86	no
9-Apr-15	303.82	303.26	0.56	0.34	no	0.30	no	302.86	no
14-Apr-15	303.80	303.34	0.46	0.34	no	0.30	no	302.86	no
21-Apr-15	303.81	303.45	0.36	0.34	no	0.30	no	302.86	no
1-May-15	303.63	303.18	0.45	0.34	no	0.30	no	302.86	no
8-May-15	303.59	303.13	0.46	0.34	no	0.30	no	302.86	no
14-May-15	303.56	303.11	0.45	0.34	no	0.30	no	302.86	no
20-May-15	303.55	303.05	0.50	0.34	no	0.30	no	302.86	no
5-Jun-15	303.64	303.11	0.53	0.34	no	0.30	no	302.86	no
10-Jun-15	303.60	303.13	0.47	0.34	no	0.30	no	302.86	no
18-Jun-15	303.65	303.15	0.50	0.34	no	0.30	no	302.86	no
23-Jun-15	303.61	303.08	0.53	0.34	no	0.30	no	302.86	no
8-Jul-15	303.67	303.19	0.48	0.28	no	0.25	no	302.79	no
16-Jul-15	303.60	303.07	0.53	0.28	no	0.25	no	302.79	no
22-Jul-15	303.61	303.08	0.53	0.28	no	0.25	no	302.79	no
31-Jul-15	303.46	303.05	0.41	0.28	no	0.25	no	302.79	no
7-Aug-15	303.49	303.05	0.44	0.28	no	0.25	no	302.79	no
20-Aug-15	303.52	303.07	0.45	0.28	no	0.25	no	302.79	no
25-Aug-15	303.58	303.07	0.51	0.28	no	0.25	no	302.79	no
4-Sep-15	303.55	303.05	0.50	0.28	no	0.25	no	302.79	no
11-Sep-15	303.47	303.02	0.45	0.28	no	0.25	no	302.79	no
18-Sep-15	303.49	303.01	0.48	0.28	no	0.25	no	302.79	no
24-Sep-15	303.49	303.01	0.48	0.28	no	0.25	no	302.79	no
6-Oct-15	303.57	303.07	0.50	0.28	no	0.25	no	302.84	no
15-Oct-15	303.58	303.06	0.52	0.28	no	0.25	no	302.84	no
22-Oct-15	303.58	303.05	0.53	0.28	no	0.25	no	302.84	no
29-Oct-15	303.76	303.31	0.45	0.28	no	0.25	no	302.84	no
5-Nov-15	303.64	303.12	0.52	0.28	no	0.25	no	302.84	no
12-Nov-15	303.63	303.12	0.51	0.28	no	0.25	no	302.84	no
19-Nov-15	303.61	303.11	0.50	0.28	no	0.25	no	302.84	no
25-Nov-15	303.60	303.08	0.52	0.28	no	0.25	no	302.84	no
4-Dec-15	303.58	303.06	0.52	0.28	no	0.25	no	302.84	no
10-Dec-15	303.58	303.04	0.54	0.28	no	0.25	no	302.84	no
17-Dec-15	303.61	303.11	0.50	0.28	no	0.25	no	302.84	no
21-Dec-15	303.64	303.04	0.60	0.28	no	0.25	no	302.84	no
6-Jan-16	303.60			0.34		0.30		302.88	
14-Jan-16	303.66			0.34		0.30		302.88	
20-Jan-16	303.63			0.34		0.30		302.88	
26-Jan-16	303.66			0.34		0.30		302.88	
2-Feb-16	303.72	303.16	0.56	0.34	no	0.30	no	302.88	no
10-Feb-16	303.66			0.34		0.30		302.88	
17-Feb-16	303.61			0.34		0.30		302.88	
29-Feb-16				0.34		0.30		302.88	
4-Mar-16				0.34		0.30		302.88	
10-Mar-16	303.52			0.34		0.30		302.88	
17-Mar-16	303.54	303.18	0.36	0.34	no	0.30	no	302.88	no
1-Apr-16	303.86	303.46	0.40	0.34	no	0.30	no	302.86	no
4-Apr-16	303.77			0.34		0.30		302.86	
14-Apr-16	303.73	303.24	0.49	0.34	no	0.30	no	302.86	no
21-Apr-16	303.69	303.14	0.55	0.34	no	0.30	no	302.86	no
27-Apr-16	303.72	303.05	0.67	0.34	no	0.30	no	302.86	no
6-May-16	303.72	303.05	0.67	0.34	no	0.30	no	302.86	no
12-May-16	303.62	303.10	0.52	0.34	no	0.30	no	302.86	no
19-May-16	303.63	303.07	0.56	0.34	no	0.30	no	302.86	no
30-May-16	303.66	303.03	0.63	0.34	no	0.30	no	302.86	no
9-Jun-16	303.40	303.02	0.38	0.34	no	0.30	no	302.86	no
16-Jun-16	303.41	303.00	0.41	0.34	no	0.30	no	302.86	no
22-Jun-16	303.49	302.96	0.53	0.34	no	0.30	no	302.86	no
27-Jun-16	303.35	302.94	0.41	0.34	no	0.30	no	302.86	no
7-Jul-16	303.27	302.92	0.35	0.28	no	0.25	no	302.79	no
15-Jul-16	303.57	303.02	0.55	0.28	no	0.25	no	302.79	no
28-Jul-16	303.27	302.92	0.35	0.28	no	0.25	no	302.79	no
9-Aug-16	303.36	302.89	0.47	0.28	no	0.25	no	302.79	no
11-Aug-16	303.37	302.91	0.46	0.28	no	0.25	no	302.79	no
22-Aug-16	303.31	302.94	0.37	0.28	no	0.25	no	302.79	no
31-Aug-16	303.53	303.00	0.53	0.28	no	0.25	no	302.79	no
8-Sep-16	303.60	303.11	0.49	0.28	no	0.25	no	302.79	no
15-Sep-16	303.54	303.06	0.48	0.28	no	0.25	no	302.79	no
21-Sep-16	303.50	302.97	0.53	0.28	no	0.25	no	302.79	no
26-Sep-16	303.52	303.01	0.51	0.28	no	0.25	no	302.79	no
6-Oct-16	303.51	303.00	0.51	0.28	no	0.25	no	302.84	no
13-Oct-16	303.51	302.98	0.53	0.28	no	0.25	no	302.84	no
18-Oct-16	303.53	302.98	0.55	0.28	no	0.25	no	302.84	no
27-Oct-16	303.51	303.00	0.51	0.28	no	0.25	no	302.84	no
4-Nov-16	303.54	303.00	0.54	0.28	no	0.25	no	302.84	no
9-Nov-16	303.58	303.01	0.57	0.28	no	0.25	no	302.84	no
14-Nov-16	303.55	302.98	0.57	0.28	no	0.25	no	302.84	no
30-Nov-16	303.63	303.10	0.53	0.28	no	0.25	no	302.84	no
8-Dec-16	303.57	303.05	0.52	0.28	no	0.25	no	302.84	no
14-Dec-16	303.59			0.28		0.25		302.84	
22-Dec-16	303.65			0.28		0.25		302.84	
6-Jan-17	303.68			0.34		0.30		302.88	
14-Jan-17	303.78			0.34		0.30		302.88	
20-Jan-17	303.71	303.15	0.56	0.34	no	0.30	no	302.88	no
26-Jan-17				0.34		0.30		302.88	
2-Feb-17	303.63			0.34		0.30		302.88	
9-Feb-17	303.64			0.34		0.30		302.88	
15-Feb-17	303.64	303.04	0.60	0.34	no	0.30	no	302.88	no
23-Feb-17	303.69			0.34		0.30		302.88	
2-Mar-17	303.78			0.34		0.30		302.88	
9-Mar-17	303.71	303.10	0.61	0.34	no	0.30	no	302.88	no
17-Mar-17	303.62			0.34		0.30		302.88	
22-Mar-17	303.67			0.34		0.30		302.88	
5-Apr-17				0.34		0.30		302.86	
11-Apr-17	303.71	303.14	0.57	0.34	no	0.30	no	302.86	no
19-Apr-17	303.66	303.11	0.55	0.34	no	0.30	no	302.86	no
3-May-17	303.91	303.26	0.65	0.34	no	0.30	no	302.86	no
11-May-17	303.71			0.34		0.30		302.86	

Note: Water elevations are left blank when frozen conditions are encountered.

Table G-6
Threshold Summary - OW5-84 to DP5CR
Mill Creek Aggregates Pit

			OW5-84 to DP5CR					DP5CR	
Date	Water Elevation OW5-84 (m ASL)	Water Elevation DP5CR (m ASL)	Head Difference (m)	Early Warning Value (Min) (m)	Exceedance of Early Warning Value	Threshold Value (Min) (m)	Exceedance of Threshold Value	Threshold Value (Min) (m ASL)	Exceedance of Threshold Value
18-May-17	303.62	303.36	0.26	0.34	yes	0.30	no	302.86	no
2-Jun-17	303.63	303.33	0.31	0.34	yes	0.30	no	302.86	no
8-Jun-17	303.61	303.30	0.31	0.34	yes	0.30	no	302.86	no
14-Jun-17	303.53	303.30	0.24	0.34	yes	0.30	yes	302.86	no
21-Jun-17	303.55	303.28	0.27	0.34	yes	0.30	no	302.86	no
7-Jul-17	303.55	303.27	0.28	0.28	no	0.25	no	302.79	no
12-Jul-17	303.53	303.24	0.29	0.28	no	0.25	no	302.79	no
20-Jul-17	303.59	303.30	0.29	0.28	no	0.25	no	302.79	no
26-Jul-17	303.53	303.27	0.26	0.28	yes	0.25	no	302.79	no
4-Aug-17	303.57	303.28	0.29	0.28	no	0.25	no	302.79	no
9-Aug-17	303.54	303.25	0.29	0.28	no	0.25	no	302.79	no
17-Aug-17	303.59	303.29	0.31	0.28	no	0.25	no	302.79	no
24-Aug-17	303.57	303.27	0.30	0.28	no	0.25	no	302.79	no
1-Sep-17	303.50	303.22	0.28	0.28	no	0.25	no	302.79	no
7-Sep-17	303.55	303.26	0.29	0.28	no	0.25	no	302.79	no
12-Sep-17	303.50	303.21	0.29	0.28	no	0.25	no	302.79	no
21-Sep-17	303.46	303.20	0.26	0.28	yes	0.25	no	302.79	no
29-Sep-17	303.45	303.18	0.27	0.28	yes	0.25	no	302.79	no
4-Oct-17	303.44	303.19	0.25	0.28	yes	0.25	no	302.79	no
10-Oct-17	303.52	303.25	0.27	0.28	yes	0.25	no	302.79	no
18-Oct-17	303.55	303.27	0.28	0.28	no	0.25	no	302.79	no
27-Oct-17	303.57	303.28	0.29	0.28	no	0.25	no	302.79	no
1-Nov-17	303.55	303.26	0.29	0.28	no	0.25	no	302.79	no
9-Nov-17	303.63	303.32	0.31	0.28	no	0.25	no	302.79	no
14-Nov-17	303.61	303.20	0.41	0.28	no	0.25	no	302.79	no
21-Nov-17	303.67	303.35	0.32	0.28	no	0.25	no	302.79	no
1-Dec-17	303.60	303.29	0.31	0.28	no	0.25	no	302.79	no
7-Dec-17	303.61			0.28		0.25		302.79	
15-Dec-17	303.56			0.28		0.25		302.79	
19-Dec-17	303.63	303.11	0.52	0.28	no	0.25	no	302.79	no
2-Jan-18				0.34		0.30		302.88	
11-Jan-18				0.34		0.30		302.88	
16-Jan-18				0.34		0.30		302.88	
26-Jan-18	303.69			0.34		0.30		302.88	
1-Feb-18	303.64			0.34		0.30		302.88	
9-Feb-18				0.34		0.30		302.88	
16-Feb-18	303.72			0.34		0.30		302.88	
26-Feb-18	303.76	303.42	0.35	0.34	no	0.30	no	302.88	no
5-Mar-18	303.68	303.29	0.39	0.34	no	0.30	no	302.88	no
16-Mar-18	303.63			0.34		0.30		302.88	
23-Mar-18	303.60			0.34		0.30		302.88	
26-Mar-18	303.59	303.21	0.38	0.34	no	0.30	no	302.88	no
6-Apr-18				0.34		0.30		302.86	
13-Apr-18	303.69	303.11	0.58	0.34	no	0.30	no	302.86	no
19-Apr-18	303.79			0.34		0.30		302.86	
24-Apr-18	303.76	303.38	0.38	0.34	no	0.30	no	302.86	no
7-May-18	303.71	303.35	0.36	0.34	no	0.30	no	302.86	no
18-May-18	303.65	303.35	0.30	0.34	yes	0.30	no	302.86	no
25-May-18	303.63	303.31	0.32	0.34	yes	0.30	no	302.86	no
31-May-18	303.57	303.27	0.30	0.34	yes	0.30	no	302.86	no
8-Jun-18	303.55	303.27	0.28	0.34	yes	0.30	yes	302.86	no
12-Jun-18	303.52	303.22	0.30	0.34	yes	0.30	no	302.86	no
26-Jun-18	303.54	303.25	0.29	0.34	yes	0.30	yes	302.86	no
5-Jul-18	303.49	303.16	0.33	0.28	no	0.25	no	302.79	no
12-Jul-18	303.40	303.09	0.31	0.28	no	0.25	no	302.79	no
27-Jul-18	303.42	303.11	0.31	0.28	no	0.25	no	302.79	no
3-Aug-18	303.33	303.03	0.30	0.28	no	0.25	no	302.79	no
10-Aug-18	303.41	303.16	0.25	0.28	yes	0.25	no	302.79	no
22-Aug-18	303.57	303.25	0.32	0.28	no	0.25	no	302.79	no
29-Aug-18	303.50	303.22	0.28	0.28	no	0.25	no	302.79	no
7-Sep-18	303.44	303.19	0.25	0.28	yes	0.25	no	302.79	no
12-Sep-18	303.48	303.22	0.26	0.28	yes	0.25	no	302.79	no
20-Sep-18	303.41	303.16	0.25	0.28	yes	0.25	no	302.79	no
27-Sep-18	303.44	303.16	0.28	0.28	no	0.25	no	302.79	no
4-Oct-18	303.59	303.29	0.30	0.28	no	0.25	no	302.79	no
12-Oct-18	303.52	303.23	0.29	0.28	no	0.25	no	302.79	no
18-Oct-18	303.51	303.22	0.29	0.28	no	0.25	no	302.79	no
30-Oct-18	303.54	303.25	0.29	0.28	no	0.25	no	302.79	no
7-Nov-18	303.62	303.34	0.28	0.28	no	0.25	no	302.79	no
15-Nov-18	303.59			0.28		0.25		302.79	
21-Nov-18	303.61			0.28		0.25		302.79	
29-Nov-18	303.69			0.28		0.25		302.79	
5-Dec-18	303.63			0.28		0.25		302.79	
14-Dec-18	303.61	303.34	0.27	0.28	yes	0.25	no	302.79	no
20-Dec-18	303.58	303.31	0.27	0.28	yes	0.25	no	302.79	no

Note: Water elevations are left blank when frozen conditions are encountered.

Table G-7
Threshold Summary - Phase 1 Pond
Mill Creek Aggregates Pit

Date	Gauge Reading Phase 1 Pond (m)	Water Elevation Phase 1 Pond (m ASL)	Early Warning Value (Min) (m ASL)	Exceedance of Early Warning Value	Threshold Value (Min) (m ASL)	Exceedance of Threshold Value
08-Mar-00	0.36	305.90	305.75	no	305.5	no
24-Mar-00	0.34	305.88	305.75	no	305.5	no
30-May-00	0.46	306.00	305.75	no	305.5	no
05-Jun-00	0.44	305.98	305.75	no	305.5	no
15-Jun-00	0.47	306.01	305.75	no	305.5	no
06-Jul-00	0.58	306.12	305.75	no	305.5	no
19-Jul-00	0.88	306.03	305.75	no	305.5	no
31-Jul-00	0.92	306.07	305.75	no	305.5	no
08-Aug-00	0.98	306.13	305.75	no	305.5	no
10-Aug-00	0.90	306.05	305.75	no	305.5	no
14-Aug-00	0.89	306.04	305.75	no	305.5	no
21-Aug-00	0.91	306.06	305.75	no	305.5	no
30-Aug-00	0.84	305.99	305.75	no	305.5	no
11-Sep-00	0.83	305.98	305.75	no	305.5	no
13-Sep-00	0.78	305.93	305.75	no	305.5	no
18-Sep-00	0.80	305.95	305.75	no	305.5	no
25-Sep-00	0.79	305.94	305.75	no	305.5	no
25-Sep-00	0.80	305.95	305.75	no	305.5	no
26-Sep-00	0.73	305.88	305.75	no	305.5	no
03-Oct-00	0.80	305.95	305.75	no	305.5	no
10-Oct-00	0.80	305.95	305.75	no	305.5	no
11-Oct-00	0.76	305.91	305.75	no	305.5	no
13-Oct-00	0.73	305.88	305.75	no	305.5	no
14-Oct-00	0.69	305.84	305.75	no	305.5	no
21-Oct-00	0.63	305.78	305.75	no	305.5	no
28-Oct-00	0.58	305.73	305.75	yes	305.5	no
04-Nov-00	0.55	305.70	305.75	yes	305.5	no
08-Nov-00	0.55	305.70	305.75	yes	305.5	no
10-Nov-00	0.59	305.74	305.75	yes	305.5	no
14-Nov-00	0.63	305.78	305.75	no	305.5	no
17-Nov-00	0.59	305.74	305.75	yes	305.5	no
23-Nov-00	0.69	305.84	305.75	no	305.5	no
01-Dec-00	0.64	305.79	305.75	no	305.5	no
11-Dec-00	0.75	305.90	305.75	no	305.5	no
11-Jan-01	0.98	306.13	305.75	no	305.5	no
09-Feb-01	0.94	306.09	305.75	no	305.5	no
02-Apr-01	1.22	306.37	305.75	no	305.5	no
10-Apr-01	1.19	306.34	305.75	no	305.5	no
11-Apr-01	1.18	306.33	305.75	no	305.5	no
16-Apr-01	1.21	306.36	305.75	no	305.5	no
23-Apr-01	1.18	306.33	305.75	no	305.5	no
27-Apr-01	1.15	306.30	305.75	no	305.5	no
04-May-01	1.07	306.22	305.75	no	305.5	no
07-May-01	1.12	306.27	305.75	no	305.5	no
14-May-01	1.10	306.25	305.75	no	305.5	no
22-May-01	0.68	306.21	305.75	no	305.5	no
28-May-01	0.72	306.25	305.75	no	305.5	no
04-Jun-01	0.70	306.23	305.75	no	305.5	no
07-Jun-01	0.62	306.15	305.75	no	305.5	no
11-Jun-01	0.68	306.21	305.75	no	305.5	no
18-Jun-01	0.66	306.19	305.75	no	305.5	no
25-Jun-01	0.59	306.12	305.75	no	305.5	no
28-Jun-01	0.52	306.05	305.75	no	305.5	no
03-Jul-01	0.52	306.05	305.75	no	305.5	no
05-Jul-01	0.48	306.01	305.75	no	305.5	no
09-Jul-01	0.50	306.03	305.75	no	305.5	no
12-Jul-01	0.44	305.97	305.75	no	305.5	no
16-Jul-01	0.45	305.98	305.75	no	305.5	no
19-Jul-01	0.37	305.90	305.75	no	305.5	no
23-Jul-01	0.38	305.91	305.75	no	305.5	no
26-Jul-01	0.30	305.83	305.75	no	305.5	no
30-Jul-01	0.35	305.88	305.75	no	305.5	no
01-Aug-01	0.30	305.83	305.75	no	305.5	no
02-Aug-01	0.27	305.80	305.75	no	305.5	no
07-Aug-01	0.26	305.79	305.75	no	305.5	no
09-Aug-01	0.20	305.73	305.75	yes	305.5	no
13-Aug-01	0.21	305.74	305.75	yes	305.5	no
14-Aug-01	0.18	305.71	305.75	yes	305.5	no
15-Aug-01	0.18	305.71	305.75	yes	305.5	no
16-Aug-01	0.11	305.64	305.75	yes	305.5	no
17-Aug-01	0.12	305.65	305.75	yes	305.5	no
20-Aug-01	0.18	305.71	305.75	yes	305.5	no
21-Aug-01	0.19	305.72	305.75	yes	305.5	no
23-Aug-01	0.14	305.67	305.75	yes	305.5	no
27-Aug-01	0.18	305.71	305.75	yes	305.5	no
30-Aug-01	0.14	305.67	305.75	yes	305.5	no
31-Aug-01	0.12	305.65	305.75	yes	305.5	no
04-Sep-01	0.16	305.69	305.75	yes	305.5	no
06-Sep-01	0.12	305.65	305.75	yes	305.5	no
10-Sep-01	0.10	305.63	305.75	yes	305.5	no
13-Sep-01	0.06	305.59	305.75	yes	305.5	no
17-Sep-01	0.06	305.59	305.75	yes	305.5	no
20-Sep-01	0.02	305.55	305.75	yes	305.5	no
24-Sep-01	0.10	305.63	305.75	yes	305.5	no
27-Sep-01	0.04	305.57	305.75	yes	305.5	no
01-Oct-01	0.10	305.63	305.75	yes	305.5	no
04-Oct-01	0.06	305.59	305.75	yes	305.5	no
09-Oct-01	0.12	305.65	305.75	yes	305.5	no
11-Oct-01	0.11	305.64	305.75	yes	305.5	no
15-Oct-01	0.20	305.73	305.75	yes	305.5	no
19-Oct-01	0.14	305.67	305.75	yes	305.5	no
22-Oct-01	0.16	305.69	305.75	yes	305.5	no
26-Oct-01	0.16	305.69	305.75	yes	305.5	no
29-Oct-01	0.18	305.71	305.75	yes	305.5	no
01-Nov-01	0.14	305.67	305.75	yes	305.5	no
05-Nov-01	0.16	305.69	305.75	yes	305.5	no
08-Nov-01	0.10	305.63	305.75	yes	305.5	no
12-Nov-01	0.11	305.64	305.75	yes	305.5	no
15-Nov-01	0.08	305.61	305.75	yes	305.5	no
19-Nov-01	0.13	305.66	305.75	yes	305.5	no
22-Nov-01	0.16	305.69	305.75	yes	305.5	no
26-Nov-01	0.18	305.71	305.75	yes	305.5	no
29-Nov-01	0.20	305.73	305.75	yes	305.5	no
03-Dec-01	0.26	305.79	305.75	no	305.5	no
06-Dec-01	0.26	305.79	305.75	no	305.5	no
10-Dec-01	0.27	305.80	305.75	no	305.5	no
13-Dec-01	0.27	305.80	305.75	no	305.5	no
17-Dec-01	0.30	305.83	305.75	no	305.5	no
20-Dec-01	0.32	305.85	305.75	no	305.5	no
02-Jan-02	0.38	305.91	305.75	no	305.5	no
07-Jan-02	0.38	305.91	305.75	no	305.5	no
10-Jan-02	0.34	305.87	305.75	no	305.5	no

Table G-7
Threshold Summary - Phase 1 Pond
Mill Creek Aggregates Pit

Date	Gauge Reading Phase 1 Pond (m)	Water Elevation Phase 1 Pond (m ASL)	Early Warning Value (m ASL)	Exceedance of Early Warning Value	Threshold Value (Min) (m ASL)	Exceedance of Threshold Value
14-Jan-02	0.34	305.87	305.75	no	305.5	no
17-Jan-02	0.38	305.91	305.75	no	305.5	no
21-Jan-02	0.38	305.91	305.75	no	305.5	no
24-Jan-02	0.34	305.87	305.75	no	305.5	no
28-Jan-02	0.34	305.87	305.75	no	305.5	no
01-Feb-02	0.34	305.87	305.75	no	305.5	no
04-Feb-02	0.34	305.87	305.75	no	305.5	no
07-Feb-02	0.34	305.87	305.75	no	305.5	no
11-Feb-02	0.40	305.93	305.75	no	305.5	no
15-Feb-02	0.40	305.93	305.75	no	305.5	no
18-Feb-02	0.40	305.93	305.75	no	305.5	no
21-Feb-02	0.42	305.95	305.75	no	305.5	no
25-Feb-02	0.46	305.99	305.75	no	305.5	no
05-Mar-02	0.48	306.01	305.75	no	305.5	no
07-Mar-02	0.42	305.95	305.75	no	305.5	no
23-Apr-02	0.50	306.06	305.75	no	305.5	no
29-Apr-02	0.50	306.06	305.75	no	305.5	no
03-May-02	0.42	305.98	305.75	no	305.5	no
06-May-02	0.47	306.03	305.75	no	305.5	no
10-May-02	0.43	305.99	305.75	no	305.5	no
14-May-02	0.45	306.01	305.75	no	305.5	no
17-May-02	0.50	306.06	305.75	no	305.5	no
21-May-02	0.56	306.12	305.75	no	305.5	no
24-May-02	0.54	306.10	305.75	no	305.5	no
27-May-02	0.56	306.12	305.75	no	305.5	no
31-May-02	0.56	306.12	305.75	no	305.5	no
04-Jun-02	0.54	306.10	305.75	no	305.5	no
07-Jun-02	0.50	306.06	305.75	no	305.5	no
11-Jun-02	0.51	306.07	305.75	no	305.5	no
14-Jun-02	0.50	306.06	305.75	no	305.5	no
17-Jun-02	0.50	306.06	305.75	no	305.5	no
21-Jun-02	0.50	306.06	305.75	no	305.5	no
25-Jun-02	0.50	306.06	305.75	no	305.5	no
02-Jul-02	0.54	306.10	305.75	no	305.5	no
05-Jul-02	0.50	306.06	305.75	no	305.5	no
08-Jul-02	0.50	306.06	305.75	no	305.5	no
11-Jul-02	0.48	306.04	305.75	no	305.5	no
15-Jul-02	0.44	306.00	305.75	no	305.5	no
18-Jul-02	0.42	305.98	305.75	no	305.5	no
24-Jul-02	0.40	305.96	305.75	no	305.5	no
26-Jul-02	0.40	305.96	305.75	no	305.5	no
30-Jul-02	0.42	305.98	305.75	no	305.5	no
05-Aug-02	0.36	305.92	305.75	no	305.5	no
09-Aug-02	0.34	305.90	305.75	no	305.5	no
16-Aug-02	0.28	305.84	305.75	no	305.5	no
21-Aug-02	0.26	305.82	305.75	no	305.5	no
23-Aug-02	0.22	305.78	305.75	no	305.5	no
28-Aug-02	0.20	305.76	305.75	no	305.5	no
30-Aug-02	0.18	305.74	305.75	Yes	305.5	no
04-Sep-02	0.18	305.74	305.75	Yes	305.5	no
10-Sep-02	0.14	305.70	305.75	Yes	305.5	no
12-Sep-02	0.12	305.68	305.75	Yes	305.5	no
17-Sep-02	0.18	305.74	305.75	Yes	305.5	no
20-Sep-02	0.18	305.74	305.75	Yes	305.5	no
25-Sep-02	0.16	305.72	305.75	Yes	305.5	no
27-Sep-02	0.16	305.72	305.75	Yes	305.5	no
02-Oct-02	0.18	305.74	305.75	Yes	305.5	no
04-Oct-02	0.18	305.74	305.75	Yes	305.5	no
08-Oct-02	0.16	305.72	305.75	Yes	305.5	no
11-Oct-02	0.15	305.71	305.75	Yes	305.5	no
15-Oct-02	0.14	305.70	305.75	Yes	305.5	no
18-Oct-02	0.10	305.66	305.75	Yes	305.5	no
23-Oct-02	0.14	305.70	305.75	Yes	305.5	no
29-Oct-02	0.14	305.70	305.75	Yes	305.5	no
31-Oct-02	0.14	305.70	305.75	Yes	305.5	no
05-Nov-02	0.11	305.67	305.75	Yes	305.5	no
08-Nov-02	0.16	305.72	305.75	Yes	305.5	no
12-Nov-02	0.17	305.73	305.75	Yes	305.5	no
15-Nov-02	0.16	305.72	305.75	Yes	305.5	no
19-Nov-02	0.13	305.69	305.75	Yes	305.5	no
22-Nov-02	0.12	305.68	305.75	Yes	305.5	no
26-Nov-02	0.15	305.71	305.75	Yes	305.5	no
29-Nov-02	0.15	305.71	305.75	Yes	305.5	no
04-Dec-02	0.12	305.68	305.75	Yes	305.5	no
06-Dec-02	0.15	305.71	305.75	Yes	305.5	no
10-Dec-02	0.18	305.74	305.75	Yes	305.5	no
13-Dec-02	0.15	305.71	305.75	Yes	305.5	no
18-Dec-02	0.15	305.71	305.75	Yes	305.5	no
7-Jan-03	0.30	305.86	305.75	no	305.5	no
9-Jan-03	0.35	305.91	305.75	no	305.5	no
14-Jan-03	0.35	305.91	305.75	no	305.5	no
21-Jan-03	0.35	305.91	305.75	no	305.5	no
24-Jan-03	0.35	305.91	305.75	no	305.5	no
28-Jan-03	0.35	305.91	305.75	no	305.5	no
31-Jan-03	0.35	305.91	305.75	no	305.5	no
5-Feb-03	0.35	305.91	305.75	no	305.5	no
10-Feb-03	0.35	305.91	305.75	no	305.5	no
14-Feb-03	0.35	305.91	305.75	no	305.5	no
17-Feb-03	0.35	305.91	305.75	no	305.5	no
21-Feb-03	0.35	305.91	305.75	no	305.5	no
24-Feb-03	0.35	305.91	305.75	no	305.5	no
6-Mar-03	0.35	305.91	305.75	no	305.5	no
10-Mar-03	0.35	305.91	305.75	no	305.5	no
13-Mar-03	0.35	305.91	305.75	no	305.5	no
18-Mar-03	0.35	305.91	305.75	no	305.5	no
20-Mar-03	0.35	305.91	305.75	no	305.5	no
24-Mar-03	0.35	305.91	305.75	no	305.5	no
27-Mar-03	0.35	305.91	305.75	no	305.5	no
28-Mar-03	0.35	305.91	305.75	no	305.5	no
29-Mar-03	0.35	305.91	305.75	no	305.5	no
30-Mar-03	0.35	305.91	305.75	no	305.5	no
31-Mar-03	0.35	305.91	305.75	no	305.5	no
1-Apr-03	0.35	305.91	305.75	no	305.5	no
2-Apr-03	0.35	305.91	305.75	no	305.5	no
3-Apr-03	0.35	305.91	305.75	no	305.5	no
21-Apr-03	0.46	306.02	305.75	no	305.5	no
24-Apr-03	0.50	306.06	305.75	no	305.5	no
28-Apr-03	0.45	306.01	305.75	no	305.5	no
5-May-03	0.48	306.04	305.75	no	305.5	no
8-May-03	0.49	306.05	305.75	no	305.5	no
12-May-03	0.50	306.06	305.75	no	305.5	no
16-May-03	0.38	305.94	305.75	no	305.5	no
23-May-03	0.40	305.96	305.75	no	305.5	no

Table G-7
Threshold Summary - Phase 1 Pond
Mill Creek Aggregates Pit

Date	Gauge Reading Phase 1 Pond (m)	Water Elevation Phase 1 Pond (m ASL)	Early Warning Value (m ASL)	Exceedance of Early Warning Value	Threshold Value (Min) (m ASL)	Exceedance of Threshold Value
26-May-03	0.41	305.97	305.75	no	305.5	no
29-May-03	0.45	306.01	305.75	no	305.5	no
13-Jun-03	0.42	305.98	305.75	no	305.5	no
17-Jun-03	0.48	306.04	305.75	no	305.5	no
19-Jun-03	0.45	306.01	305.75	no	305.5	no
23-Jun-03	0.44	306.00	305.75	no	305.5	no
26-Jun-03	0.39	305.95	305.75	no	305.5	no
3-Jul-03	0.41	305.97	305.75	no	305.5	no
7-Jul-03	0.40	305.96	305.75	no	305.5	no
10-Jul-03	0.39	305.95	305.75	no	305.5	no
22-Jul-03	0.30	305.86	305.75	no	305.5	no
25-Jul-03	0.32	305.88	305.75	no	305.5	no
28-Jul-03	0.30	305.86	305.75	no	305.5	no
31-Jul-03	0.28	305.84	305.75	no	305.5	no
7-Aug-03	0.28	305.84	305.75	no	305.5	no
11-Aug-03	0.30	305.86	305.75	no	305.5	no
14-Aug-03	0.28	305.84	305.75	no	305.5	no
18-Aug-03	0.28	305.84	305.75	no	305.5	no
21-Aug-03	0.28	305.84	305.75	no	305.5	no
25-Aug-03	0.29	305.85	305.75	no	305.5	no
29-Aug-03	0.23	305.79	305.75	no	305.5	no
2-Sep-03	0.20	305.76	305.75	no	305.5	no
11-Sep-03	0.02	305.77	305.75	no	305.5	no
15-Sep-03	0.04	305.79	305.75	no	305.5	no
18-Sep-03	0.03	305.78	305.75	no	305.5	no
22-Sep-03	0.04	305.79	305.75	no	305.5	no
26-Sep-03	0.06	305.81	305.75	no	305.5	no
29-Sep-03	0.12	305.87	305.75	no	305.5	no
2-Oct-03	0.10	305.85	305.75	no	305.5	no
6-Oct-03	0.10	305.85	305.75	no	305.5	no
9-Oct-03	0.10	305.85	305.75	no	305.5	no
13-Oct-03	0.10	305.85	305.75	no	305.5	no
16-Oct-03	0.10	305.85	305.75	no	305.5	no
20-Oct-03	0.10	305.85	305.75	no	305.5	no
23-Oct-03	0.10	305.85	305.75	no	305.5	no
27-Oct-03	0.09	305.84	305.75	no	305.5	no
30-Oct-03	0.10	305.85	305.75	no	305.5	no
3-Nov-03	0.12	305.87	305.75	no	305.5	no
6-Nov-03	0.10	305.85	305.75	no	305.5	no
10-Nov-03	0.11	305.86	305.75	no	305.5	no
13-Nov-03	0.12	305.87	305.75	no	305.5	no
17-Nov-03	0.15	305.90	305.75	no	305.5	no
20-Nov-03	0.17	305.92	305.75	no	305.5	no
24-Nov-03	0.20	305.95	305.75	no	305.5	no
1-Dec-03	0.30	306.05	305.75	no	305.5	no
8-Dec-03	0.24	305.99	305.75	no	305.5	no
11-Dec-03	0.28	306.03	305.75	no	305.5	no
15-Dec-03	0.30	306.05	305.75	no	305.5	no
22-Dec-03	0.30	306.05	305.75	no	305.5	no
6-Jan-04	0.30	306.05	305.75	no	305.5	no
8-Jan-04	0.30	306.05	305.75	no	305.5	no
12-Jan-04	0.30	306.05	305.75	no	305.5	no
15-Jan-04	0.40	306.15	305.75	no	305.5	no
19-Jan-04	0.40	306.15	305.75	no	305.5	no
26-Jan-04	0.40	306.15	305.75	no	305.5	no
5-Feb-04	0.40	306.15	305.75	no	305.5	no
9-Feb-04	0.40	306.15	305.75	no	305.5	no
12-Feb-04	0.40	306.15	305.75	no	305.5	no
16-Feb-04	0.40	306.15	305.75	no	305.5	no
19-Feb-04	0.40	306.15	305.75	no	305.5	no
23-Feb-04	0.40	306.15	305.75	no	305.5	no
26-Feb-04	0.40	306.15	305.75	no	305.5	no
1-Mar-04	0.40	306.15	305.75	no	305.5	no
5-Mar-04	0.40	306.15	305.75	no	305.5	no
8-Mar-04	0.40	306.15	305.75	no	305.5	no
11-Mar-04	0.40	306.15	305.75	no	305.5	no
15-Mar-04	0.40	306.15	305.75	no	305.5	no
18-Mar-04	0.40	306.15	305.75	no	305.5	no
22-Mar-04	0.40	306.15	305.75	no	305.5	no
25-Mar-04	0.40	306.15	305.75	no	305.5	no
29-Mar-04	0.40	306.15	305.75	no	305.5	no
15-Apr-04	0.70	306.27	305.75	no	305.5	no
19-Apr-04	0.70	306.27	305.75	no	305.5	no
22-Apr-04	0.76	306.33	305.75	no	305.5	no
26-Apr-04	0.77	306.34	305.75	no	305.5	no
29-Apr-04	0.76	306.33	305.75	no	305.5	no
3-May-04	0.81	306.38	305.75	no	305.5	no
4-May-04	0.79	306.36	305.75	no	305.5	no
5-May-04	0.80	306.37	305.75	no	305.5	no
6-May-04	0.82	306.39	305.75	no	305.5	no
7-May-04	0.82	306.39	305.75	no	305.5	no
10-May-04	0.84	306.41	305.75	no	305.5	no
11-May-04	0.85	306.42	305.75	no	305.5	no
12-May-04	0.88	306.45	305.75	no	305.5	no
13-May-04	0.88	306.45	305.75	no	305.5	no
14-May-04	0.88	306.45	305.75	no	305.5	no
17-May-04	0.86	306.43	305.75	no	305.5	no
18-May-04	0.88	306.45	305.75	no	305.5	no
19-May-04	0.88	306.45	305.75	no	305.5	no
20-May-04	0.86	306.43	305.75	no	305.5	no
21-May-04	0.87	306.44	305.75	no	305.5	no
25-May-04	0.88	306.45	305.75	no	305.5	no
26-May-04	0.88	306.45	305.75	no	305.5	no
27-May-04	0.89	306.46	305.75	no	305.5	no
28-May-04	0.88	306.45	305.75	no	305.5	no
31-May-04	0.86	306.43	305.75	no	305.5	no
2-Jun-04	0.88	306.45	305.75	no	305.5	no
4-Jun-04	0.88	306.45	305.75	no	305.5	no
7-Jun-04	0.88	306.45	305.75	no	305.5	no
9-Jun-04	0.88	306.45	305.75	no	305.5	no
11-Jun-04	0.84	306.41	305.75	no	305.5	no
14-Jun-04	0.86	306.43	305.75	no	305.5	no
16-Jun-04	0.82	306.39	305.75	no	305.5	no
18-Jun-04	0.87	306.44	305.75	no	305.5	no
21-Jun-04	0.85	306.42	305.75	no	305.5	no
23-Jun-04	0.84	306.41	305.75	no	305.5	no
25-Jun-04	0.81	306.38	305.75	no	305.5	no
28-Jun-04	0.80	306.37	305.75	no	305.5	no
30-Jun-04	0.80	306.37	305.75	no	305.5	no
2-Jul-04	0.79	306.36	305.75	no	305.5	no
5-Jul-04	0.79	306.36	305.75	no	305.5	no
7-Jul-04	0.80	306.37	305.75	no	305.5	no

Table G-7
Threshold Summary - Phase 1 Pond
Mill Creek Aggregates Pit

Date	Gauge Reading Phase 1 Pond (m)	Water Elevation Phase 1 Pond (m ASL)	Early Warning Value (m ASL)	Exceedance of Early Warning Value	Threshold Value (Min) (m ASL)	Exceedance of Threshold Value
9-Jul-04	0.79	306.36	305.75	no	305.5	no
12-Jul-04	0.79	306.36	305.75	no	305.5	no
14-Jul-04	0.77	306.34	305.75	no	305.5	no
16-Jul-04	0.77	306.34	305.75	no	305.5	no
19-Jul-04	0.74	306.31	305.75	no	305.5	no
21-Jul-04	0.76	306.33	305.75	no	305.5	no
23-Jul-04	0.75	306.32	305.75	no	305.5	no
26-Jul-04	0.69	306.26	305.75	no	305.5	no
28-Jul-04	0.73	306.30	305.75	no	305.5	no
30-Jul-04	0.68	306.25	305.75	no	305.5	no
2-Aug-04	0.70	306.27	305.75	no	305.5	no
4-Aug-04	0.72	306.29	305.75	no	305.5	no
6-Aug-04	0.69	306.26	305.75	no	305.5	no
9-Aug-04	0.66	306.23	305.75	no	305.5	no
11-Aug-04	0.65	306.22	305.75	no	305.5	no
13-Aug-04	0.62	306.19	305.75	no	305.5	no
16-Aug-04	0.62	306.19	305.75	no	305.5	no
18-Aug-04	0.62	306.19	305.75	no	305.5	no
20-Aug-04	0.60	306.17	305.75	no	305.5	no
23-Aug-04	0.57	306.14	305.75	no	305.5	no
25-Aug-04	0.57	306.14	305.75	no	305.5	no
27-Aug-04	0.56	306.13	305.75	no	305.5	no
30-Aug-04	0.60	306.17	305.75	no	305.5	no
1-Sep-04	0.58	306.15	305.75	no	305.5	no
3-Sep-04	0.57	306.14	305.75	no	305.5	no
7-Sep-04	0.55	306.12	305.75	no	305.5	no
9-Sep-04	0.56	306.13	305.75	no	305.5	no
11-Sep-04	0.56	306.13	305.75	no	305.5	no
13-Sep-04	0.56	306.13	305.75	no	305.5	no
15-Sep-04	0.56	306.13	305.75	no	305.5	no
17-Sep-04	0.57	306.14	305.75	no	305.5	no
20-Sep-04	0.52	306.09	305.75	no	305.5	no
22-Sep-04	0.49	306.06	305.75	no	305.5	no
24-Sep-04	0.50	306.07	305.75	no	305.5	no
27-Sep-04	0.49	306.06	305.75	no	305.5	no
29-Sep-04	0.50	306.07	305.75	no	305.5	no
1-Oct-04	0.48	306.05	305.75	no	305.5	no
4-Oct-04	0.46	306.03	305.75	no	305.5	no
6-Oct-04	0.42	305.99	305.75	no	305.5	no
8-Oct-04	0.41	305.98	305.75	no	305.5	no
11-Oct-04	0.40	305.97	305.75	no	305.5	no
13-Oct-04	0.40	305.97	305.75	no	305.5	no
15-Oct-04	0.39	305.96	305.75	no	305.5	no
18-Oct-04	0.37	305.94	305.75	no	305.5	no
20-Oct-04	0.47	306.04	305.75	no	305.5	no
22-Oct-04	0.41	305.98	305.75	no	305.5	no
25-Oct-04	0.38	305.95	305.75	no	305.5	no
27-Oct-04	0.39	305.96	305.75	no	305.5	no
29-Oct-04	0.39	305.96	305.75	no	305.5	no
1-Nov-04	0.35	305.92	305.75	no	305.5	no
3-Nov-04	0.37	305.94	305.75	no	305.5	no
5-Nov-04	0.37	305.94	305.75	no	305.5	no
8-Nov-04	0.38	305.95	305.75	no	305.5	no
10-Nov-04	0.38	305.95	305.75	no	305.5	no
12-Nov-04	0.36	305.93	305.75	no	305.5	no
15-Nov-04	0.30	305.87	305.75	no	305.5	no
17-Nov-04	0.34	305.91	305.75	no	305.5	no
19-Nov-04	0.34	305.91	305.75	no	305.5	no
22-Nov-04	0.34	305.91	305.75	no	305.5	no
24-Nov-04	0.31	305.88	305.75	no	305.5	no
26-Nov-04	0.34	305.91	305.75	no	305.5	no
29-Nov-04	0.30	305.87	305.75	no	305.5	no
1-Dec-04	0.36	305.93	305.75	no	305.5	no
3-Dec-04	0.38	305.95	305.75	no	305.5	no
6-Dec-04	0.38	305.95	305.75	no	305.5	no
8-Dec-04	0.39	305.96	305.75	no	305.5	no
10-Dec-04	0.38	305.95	305.75	no	305.5	no
13-Dec-04	0.39	305.96	305.75	no	305.5	no
15-Dec-04	0.40	305.97	305.75	no	305.5	no
17-Dec-04	0.40	305.97	305.75	no	305.5	no
20-Dec-04	0.40	305.97	305.75	no	305.5	no
22-Dec-04	0.40	305.97	305.75	no	305.5	no
3-Jan-05	0.40	306.24	305.75	no	305.5	no
5-Jan-05	0.40	306.24	305.75	no	305.5	no
7-Jan-05	0.40	306.24	305.75	no	305.5	no
10-Jan-05	0.40	306.24	305.75	no	305.5	no
12-Jan-05	0.40	306.24	305.75	no	305.5	no
14-Jan-05	0.40	306.24	305.75	no	305.5	no
17-Jan-05	0.40	306.24	305.75	no	305.5	no
19-Jan-05	0.40	306.24	305.75	no	305.5	no
21-Jan-05	0.40	306.24	305.75	no	305.5	no
24-Jan-05	0.40	306.24	305.75	no	305.5	no
26-Jan-05	0.40	306.24	305.75	no	305.5	no
28-Jan-05	0.40	306.24	305.75	no	305.5	no
31-Jan-05	0.40	306.24	305.75	no	305.5	no
2-Feb-05	0.40	306.24	305.75	no	305.5	no
4-Feb-05	0.40	306.24	305.75	no	305.5	no
7-Feb-05	0.40	306.24	305.75	no	305.5	no
9-Feb-05	0.40	306.24	305.75	no	305.5	no
11-Feb-05	0.40	306.24	305.75	no	305.5	no
14-Feb-05	0.40	306.24	305.75	no	305.5	no
16-Feb-05	0.40	306.24	305.75	no	305.5	no
18-Feb-05	0.40	306.24	305.75	no	305.5	no
21-Feb-05	0.40	306.24	305.75	no	305.5	no
23-Feb-05	0.40	306.24	305.75	no	305.5	no
25-Feb-05	0.40	306.24	305.75	no	305.5	no
28-Feb-05	0.40	306.24	305.75	no	305.5	no
2-Mar-05	0.40	306.24	305.75	no	305.5	no
4-Mar-05	0.40	306.24	305.75	no	305.5	no
7-Mar-05	0.40	306.24	305.75	no	305.5	no
9-Mar-05	0.40	306.24	305.75	no	305.5	no
11-Mar-05	0.40	306.24	305.75	no	305.5	no
14-Mar-05	0.40	306.24	305.75	no	305.5	no
16-Mar-05	0.40	306.24	305.75	no	305.5	no
18-Mar-05	0.40	306.24	305.75	no	305.5	no
21-Mar-05	0.40	306.24	305.75	no	305.5	no
23-Mar-05	0.40	306.24	305.75	no	305.5	no
25-Mar-05	0.40	306.24	305.75	no	305.5	no
28-Mar-05	0.40	306.24	305.75	no	305.5	no
30-Mar-05	0.40	306.24	305.75	no	305.5	no
1-Apr-05	0.46	306.30	305.75	no	305.5	no

Table G-7
Threshold Summary - Phase 1 Pond
Mill Creek Aggregates Pit

Date	Gauge Reading Phase 1 Pond (m)	Water Elevation Phase 1 Pond (m ASL)	Early Warning Value (m ASL)	Exceedance of Early Warning Value	Threshold Value (Min) (m ASL)	Exceedance of Threshold Value
4-Apr-05	0.48	306.32	305.75	no	305.5	no
6-Apr-05	0.50	306.34	305.75	no	305.5	no
8-Apr-05	0.50	306.34	305.75	no	305.5	no
11-Apr-05	0.45	306.40	305.75	no	305.5	no
13-Apr-05	0.55	306.50	305.75	no	305.5	no
15-Apr-05	0.60	306.55	305.75	no	305.5	no
18-Apr-05	0.63	306.58	305.75	no	305.5	no
20-Apr-05	0.65	306.60	305.75	no	305.5	no
22-Apr-05	0.70	306.65	305.75	no	305.5	no
25-Apr-05	0.72	306.67	305.75	no	305.5	no
27-Apr-05	0.74	306.69	305.75	no	305.5	no
29-Apr-05	0.74	306.69	305.75	no	305.5	no
2-May-05	0.74	306.69	305.75	no	305.5	no
4-May-05	0.76	306.71	305.75	no	305.5	no
6-May-05	0.78	306.72	305.75	no	305.5	no
9-May-05	0.76	306.71	305.75	no	305.5	no
11-May-05	0.78	306.73	305.75	no	305.5	no
13-May-05	0.76	306.71	305.75	no	305.5	no
16-May-05	0.75	306.70	305.75	no	305.5	no
18-May-05	0.78	306.73	305.75	no	305.5	no
20-May-05	0.75	306.70	305.75	no	305.5	no
23-May-05	0.71	306.66	305.75	no	305.5	no
25-May-05	0.72	306.67	305.75	no	305.5	no
27-May-05	0.74	306.69	305.75	no	305.5	no
30-May-05	0.73	306.68	305.75	no	305.5	no
1-Jun-05	0.70	306.65	305.75	no	305.5	no
3-Jun-05	0.69	306.64	305.75	no	305.5	no
6-Jun-05	0.68	306.63	305.75	no	305.5	no
8-Jun-05	0.68	306.63	305.75	no	305.5	no
10-Jun-05	0.69	306.64	305.75	no	305.5	no
13-Jun-05	0.67	306.62	305.75	no	305.5	no
15-Jun-05	0.68	306.63	305.75	no	305.5	no
17-Jun-05	0.67	306.62	305.75	no	305.5	no
20-Jun-05	0.65	306.60	305.75	no	305.5	no
22-Jun-05	0.68	306.63	305.75	no	305.5	no
24-Jun-05	0.66	306.61	305.75	no	305.5	no
27-Jun-05	0.64	306.59	305.75	no	305.5	no
29-Jun-05	0.63	306.58	305.75	no	305.5	no
1-Jul-05	0.60	306.55	305.75	no	305.5	no
4-Jul-05	0.65	306.60	305.75	no	305.5	no
6-Jul-05	0.55	306.50	305.75	no	305.5	no
8-Jul-05	0.54	306.48	305.75	no	305.5	no
11-Jul-05	0.49	306.44	305.75	no	305.5	no
13-Jul-05	0.48	306.43	305.75	no	305.5	no
15-Jul-05	0.55	306.50	305.75	no	305.5	no
18-Jul-05	0.60	306.55	305.75	no	305.5	no
20-Jul-05	0.65	306.60	305.75	no	305.5	no
22-Jul-05	0.60	306.55	305.75	no	305.5	no
25-Jul-05	0.57	306.52	305.75	no	305.5	no
27-Jul-05	0.60	306.55	305.75	no	305.5	no
29-Jul-05	0.58	306.52	305.75	no	305.5	no
1-Aug-05	0.60	306.55	305.75	no	305.5	no
3-Aug-05	0.55	306.50	305.75	no	305.5	no
5-Aug-05	0.56	306.51	305.75	no	305.5	no
8-Aug-05	0.52	306.47	305.75	no	305.5	no
10-Aug-05	0.50	306.45	305.75	no	305.5	no
12-Aug-05	0.51	306.46	305.75	no	305.5	no
15-Aug-05	0.52	306.47	305.75	no	305.5	no
17-Aug-05	0.50	306.45	305.75	no	305.5	no
19-Aug-05	0.50	306.45	305.75	no	305.5	no
22-Aug-05	0.48	306.43	305.75	no	305.5	no
24-Aug-05	0.49	306.44	305.75	no	305.5	no
26-Aug-05	0.47	306.42	305.75	no	305.5	no
29-Aug-05	0.45	306.40	305.75	no	305.5	no
31-Aug-05	0.48	306.43	305.75	no	305.5	no
2-Sep-05	0.48	306.43	305.75	no	305.5	no
5-Sep-05	0.47	306.42	305.75	no	305.5	no
7-Sep-05	0.46	306.40	305.75	no	305.5	no
9-Sep-05	0.45	306.40	305.75	no	305.5	no
12-Sep-05	0.41	306.36	305.75	no	305.5	no
14-Sep-05	0.40	306.35	305.75	no	305.5	no
16-Sep-05	0.40	306.35	305.75	no	305.5	no
19-Sep-05	0.40	306.35	305.75	no	305.5	no
21-Sep-05	0.39	306.34	305.75	no	305.5	no
23-Sep-05	0.40	306.35	305.75	no	305.5	no
26-Sep-05	0.39	306.34	305.75	no	305.5	no
28-Sep-05	0.40	306.35	305.75	no	305.5	no
30-Sep-05	0.40	306.35	305.75	no	305.5	no
3-Oct-05	0.40	306.35	305.75	no	305.5	no
5-Oct-05	0.39	306.34	305.75	no	305.5	no
7-Oct-05	0.37	306.32	305.75	no	305.5	no
10-Oct-05	0.35	306.30	305.75	no	305.5	no
12-Oct-05	0.32	306.27	305.75	no	305.5	no
14-Oct-05	0.33	306.28	305.75	no	305.5	no
17-Oct-05	0.32	306.27	305.75	no	305.5	no
19-Oct-05	0.28	306.23	305.75	no	305.5	no
21-Oct-05	0.31	306.26	305.75	no	305.5	no
24-Oct-05	0.30	306.25	305.75	no	305.5	no
26-Oct-05	0.29	306.24	305.75	no	305.5	no
28-Oct-05	0.28	306.23	305.75	no	305.5	no
31-Oct-05	0.28	306.23	305.75	no	305.5	no
2-Nov-05	0.26	306.21	305.75	no	305.5	no
4-Nov-05	0.25	306.20	305.75	no	305.5	no
7-Nov-05	0.25	306.20	305.75	no	305.5	no
9-Nov-05	0.24	306.19	305.75	no	305.5	no
11-Nov-05	0.28	306.23	305.75	no	305.5	no
14-Nov-05	0.29	306.24	305.75	no	305.5	no
16-Nov-05	0.29	306.24	305.75	no	305.5	no
18-Nov-05	0.30	306.25	305.75	no	305.5	no
21-Nov-05	0.30	306.25	305.75	no	305.5	no
23-Nov-05	0.30	306.25	305.75	no	305.5	no
25-Nov-05	0.30	306.25	305.75	no	305.5	no
28-Nov-05	0.30	306.25	305.75	no	305.5	no
30-Nov-05	0.30	306.25	305.75	no	305.5	no
2-Dec-05	0.30	306.25	305.75	no	305.5	no
5-Dec-05	0.30	306.25	305.75	no	305.5	no
7-Dec-05	0.30	306.25	305.75	no	305.5	no
9-Dec-05	0.30	306.25	305.75	no	305.5	no
12-Dec-05	0.30	306.25	305.75	no	305.5	no
14-Dec-05	0.30	306.25	305.75	no	305.5	no
16-Dec-05	0.30	306.25	305.75	no	305.5	no
19-Dec-05	0.30	306.25	305.75	no	305.5	no
21-Dec-05	0.30	306.25	305.75	no	305.5	no
23-Dec-05	0.30	306.25	305.75	no	305.5	no
26-Dec-05	0.30	306.25	305.75	no	305.5	no
28-Dec-05	0.30	306.25	305.75	no	305.5	no
30-Dec-05	0.30	306.25	305.75	no	305.5	no

Table G-7
Threshold Summary - Phase 1 Pond
Mill Creek Aggregates Pit

Date	Gauge Reading Phase 1 Pond (m)	Water Elevation Phase 1 Pond (m ASL)	Early Warning Value (m ASL)	Exceedance of Early Warning Value	Threshold Value (Min) (m ASL)	Exceedance of Threshold Value
01-Jan-06	0.43	306.24	305.75	no	305.5	no
15-Jan-06	0.43	306.24	305.75	no	305.5	no
31-Jan-06	0.43	306.24	305.75	no	305.5	no
02-Feb-06	0.44	306.25	305.75	no	305.5	no
28-Feb-06	0.44	306.25	305.75	no	305.5	no
01-Mar-06	0.44	306.25	305.75	no	305.5	no
20-Mar-06	0.44	306.25	305.75	no	305.5	no
31-Mar-06	0.86	306.67	305.75	no	305.5	no
01-Apr-06	0.86	306.67	305.75	no	305.5	no
03-Apr-06	0.86	306.67	305.75	no	305.5	no
04-Apr-06	0.86	306.67	305.75	no	305.5	no
05-Apr-06	0.86	306.67	305.75	no	305.5	no
06-Apr-06	0.86	306.67	305.75	no	305.5	no
07-Apr-06	0.86	306.67	305.75	no	305.5	no
08-Apr-06	0.86	306.67	305.75	no	305.5	no
10-Apr-06	0.86	306.67	305.75	no	305.5	no
11-Apr-06	0.84	306.65	305.75	no	305.5	no
12-Apr-06	0.87	306.68	305.75	no	305.5	no
13-Apr-06	0.87	306.68	305.75	no	305.5	no
14-Apr-06	0.87	306.68	305.75	no	305.5	no
15-Apr-06	0.87	306.68	305.75	no	305.5	no
17-Apr-06	0.84	306.65	305.75	no	305.5	no
18-Apr-06	0.84	306.65	305.75	no	305.5	no
19-Apr-06	0.84	306.65	305.75	no	305.5	no
20-Apr-06	0.82	306.63	305.75	no	305.5	no
21-Apr-06	0.82	306.63	305.75	no	305.5	no
22-Apr-06	0.82	306.63	305.75	no	305.5	no
24-Apr-06	0.82	306.63	305.75	no	305.5	no
25-Apr-06	0.89	306.70	305.75	no	305.5	no
26-Apr-06	0.87	306.68	305.75	no	305.5	no
27-Apr-06	0.88	306.69	305.75	no	305.5	no
28-Apr-06	0.88	306.69	305.75	no	305.5	no
29-Apr-06	0.88	306.69	305.75	no	305.5	no
01-May-06	0.83	306.64	305.75	no	305.5	no
02-May-06	0.85	306.66	305.75	no	305.5	no
03-May-06	0.85	306.66	305.75	no	305.5	no
04-May-06	0.85	306.66	305.75	no	305.5	no
05-May-06	0.84	306.65	305.75	no	305.5	no
06-May-06	0.85	306.66	305.75	no	305.5	no
08-May-06	0.84	306.65	305.75	no	305.5	no
09-May-06	0.86	306.67	305.75	no	305.5	no
10-May-06	0.74	306.55	305.75	no	305.5	no
11-May-06	0.81	306.62	305.75	no	305.5	no
12-May-06	0.84	306.65	305.75	no	305.5	no
13-May-06	0.87	306.68	305.75	no	305.5	no
15-May-06	0.84	306.65	305.75	no	305.5	no
16-May-06	0.88	306.69	305.75	no	305.5	no
17-May-06	0.89	306.70	305.75	no	305.5	no
18-May-06	0.93	306.74	305.75	no	305.5	no
19-May-06	0.95	306.76	305.75	no	305.5	no
20-May-06	0.95	306.76	305.75	no	305.5	no
23-May-06	0.94	306.75	305.75	no	305.5	no
24-May-06	0.93	306.74	305.75	no	305.5	no
25-May-06	0.94	306.75	305.75	no	305.5	no
26-May-06	0.94	306.75	305.75	no	305.5	no
27-May-06	0.94	306.75	305.75	no	305.5	no
29-May-06	0.92	306.73	305.75	no	305.5	no
30-May-06	0.94	306.75	305.75	no	305.5	no
31-May-06	0.92	306.73	305.75	no	305.5	no
01-Jun-06	0.91	306.72	305.75	no	305.5	no
02-Jun-06	0.92	306.73	305.75	no	305.5	no
05-Jun-06	0.94	306.75	305.75	no	305.5	no
06-Jun-06	0.92	306.73	305.75	no	305.5	no
07-Jun-06	0.91	306.72	305.75	no	305.5	no
08-Jun-06	0.92	306.73	305.75	no	305.5	no
09-Jun-06	0.91	306.72	305.75	no	305.5	no
12-Jun-06	0.86	306.67	305.75	no	305.5	no
13-Jun-06	0.87	306.68	305.75	no	305.5	no
14-Jun-06	0.86	306.67	305.75	no	305.5	no
15-Jun-06	0.86	306.67	305.75	no	305.5	no
16-Jun-06	0.82	306.63	305.75	no	305.5	no
19-Jun-06	0.87	306.68	305.75	no	305.5	no
20-Jun-06	0.87	306.68	305.75	no	305.5	no
21-Jun-06	0.84	306.65	305.75	no	305.5	no
22-Jun-06	0.86	306.67	305.75	no	305.5	no
23-Jun-06	0.83	306.64	305.75	no	305.5	no
26-Jun-06	0.82	306.63	305.75	no	305.5	no
27-Jun-06	0.81	306.62	305.75	no	305.5	no
28-Jun-06	0.82	306.63	305.75	no	305.5	no
29-Jun-06	0.82	306.63	305.75	no	305.5	no
30-Jun-06	0.81	306.62	305.75	no	305.5	no
04-Jul-06	0.80	306.61	305.75	no	305.5	no
05-Jul-06	0.76	306.57	305.75	no	305.5	no
06-Jul-06	0.77	306.58	305.75	no	305.5	no
07-Jul-06	0.76	306.57	305.75	no	305.5	no
10-Jul-06	0.75	306.56	305.75	no	305.5	no
11-Jul-06	0.75	306.56	305.75	no	305.5	no
12-Jul-06	0.78	306.59	305.75	no	305.5	no
13-Jul-06	0.80	306.61	305.75	no	305.5	no
14-Jul-06	0.80	306.61	305.75	no	305.5	no
17-Jul-06	0.80	306.61	305.75	no	305.5	no
18-Jul-06	0.79	306.60	305.75	no	305.5	no
19-Jul-06	0.77	306.58	305.75	no	305.5	no
20-Jul-06	0.78	306.59	305.75	no	305.5	no
21-Jul-06	0.77	306.58	305.75	no	305.5	no
24-Jul-06	0.75	306.56	305.75	no	305.5	no
25-Jul-06	0.76	306.57	305.75	no	305.5	no
26-Jul-06	0.78	306.59	305.75	no	305.5	no
27-Jul-06	0.79	306.60	305.75	no	305.5	no
28-Jul-06	0.80	306.61	305.75	no	305.5	no
31-Jul-06	0.76	306.57	305.75	no	305.5	no
01-Aug-06	0.77	306.58	305.75	no	305.5	no
02-Aug-06	0.78	306.59	305.75	no	305.5	no
03-Aug-06	0.76	306.57	305.75	no	305.5	no
04-Aug-06	0.77	306.58	305.75	no	305.5	no
08-Aug-06	0.74	306.55	305.75	no	305.5	no
09-Aug-06	0.70	306.51	305.75	no	305.5	no
10-Aug-06	0.69	306.50	305.75	no	305.5	no
11-Aug-06	0.66	306.47	305.75	no	305.5	no
14-Aug-06	0.64	306.45	305.75	no	305.5	no
15-Aug-06	0.62	306.43	305.75	no	305.5	no
16-Aug-06	0.63	306.44	305.75	no	305.5	no
19-Aug-06	0.62	306.43	305.75	no	305.5	no
21-Aug-06	0.61	306.42	305.75	no	305.5	no
22-Aug-06	0.60	306.41	305.75	no	305.5	no

Table G-7
Threshold Summary - Phase 1 Pond
Mill Creek Aggregates Pit

Date	Gauge Reading Phase 1 Pond (m)	Water Elevation Phase 1 Pond (m ASL)	Early Warning Value (m ASL)	Exceedance of Early Warning Value	Threshold Value (Min) (m ASL)	Exceedance of Threshold Value
23-Aug-06	0.59	306.40	305.75	no	305.5	no
24-Aug-06	0.59	306.40	305.75	no	305.5	no
25-Aug-06	0.61	306.42	305.75	no	305.5	no
28-Aug-06	0.56	306.37	305.75	no	305.5	no
29-Aug-06	0.57	306.38	305.75	no	305.5	no
30-Aug-06	0.57	306.38	305.75	no	305.5	no
31-Aug-06	0.56	306.37	305.75	no	305.5	no
01-Sep-06	0.56	306.37	305.75	no	305.5	no
05-Sep-06	0.55	306.36	305.75	no	305.5	no
06-Sep-06	0.55	306.36	305.75	no	305.5	no
07-Sep-06	0.55	306.36	305.75	no	305.5	no
08-Sep-06	0.54	306.35	305.75	no	305.5	no
11-Sep-06	0.54	306.35	305.75	no	305.5	no
12-Sep-06	0.52	306.33	305.75	no	305.5	no
13-Sep-06	0.54	306.35	305.75	no	305.5	no
14-Sep-06	0.57	306.38	305.75	no	305.5	no
15-Sep-06	0.58	306.39	305.75	no	305.5	no
18-Sep-06	0.58	306.39	305.75	no	305.5	no
19-Sep-06	0.60	306.41	305.75	no	305.5	no
20-Sep-06	0.61	306.42	305.75	no	305.5	no
21-Sep-06	0.62	306.43	305.75	no	305.5	no
22-Sep-06	0.58	306.39	305.75	no	305.5	no
25-Sep-06	0.61	306.42	305.75	no	305.5	no
26-Sep-06	0.61	306.42	305.75	no	305.5	no
27-Sep-06	0.60	306.41	305.75	no	305.5	no
28-Sep-06	0.60	306.41	305.75	no	305.5	no
29-Sep-06	0.60	306.41	305.75	no	305.5	no
02-Oct-06	0.60	306.41	305.75	no	305.5	no
03-Oct-06	0.59	306.40	305.75	no	305.5	no
04-Oct-06	0.61	306.42	305.75	no	305.5	no
05-Oct-06	0.63	306.44	305.75	no	305.5	no
06-Oct-06	0.63	306.44	305.75	no	305.5	no
10-Oct-06	0.63	306.44	305.75	no	305.5	no
11-Oct-06	0.66	306.47	305.75	no	305.5	no
12-Oct-06	0.66	306.47	305.75	no	305.5	no
13-Oct-06	0.66	306.47	305.75	no	305.5	no
16-Oct-06	0.65	306.46	305.75	no	305.5	no
17-Oct-06	0.66	306.47	305.75	no	305.5	no
18-Oct-06	0.70	306.51	305.75	no	305.5	no
19-Oct-06	0.70	306.51	305.75	no	305.5	no
20-Oct-06	0.71	306.52	305.75	no	305.5	no
23-Oct-06	0.70	306.51	305.75	no	305.5	no
24-Oct-06	0.70	306.51	305.75	no	305.5	no
25-Oct-06	0.70	306.51	305.75	no	305.5	no
26-Oct-06	1.02	306.83	305.75	no	305.5	no
27-Oct-06	1.02	306.83	305.75	no	305.5	no
30-Oct-06	1.02	306.83	305.75	no	305.5	no
31-Oct-06	1.02	306.83	305.75	no	305.5	no
1-Nov-06	1.02	306.83	305.75	no	305.5	no
2-Nov-06	1.02	306.83	305.75	no	305.5	no
3-Nov-06	1.02	306.83	305.75	no	305.5	no
6-Nov-06	1.02	306.83	305.75	no	305.5	no
7-Nov-06	1.03	306.84	305.75	no	305.5	no
8-Nov-06	1.03	306.84	305.75	no	305.5	no
9-Nov-06	1.05	306.86	305.75	no	305.5	no
10-Nov-06	1.05	306.86	305.75	no	305.5	no
13-Nov-06	1.04	306.85	305.75	no	305.5	no
14-Nov-06	1.06	306.87	305.75	no	305.5	no
15-Nov-06	1.06	306.87	305.75	no	305.5	no
16-Nov-06	1.07	306.88	305.75	no	305.5	no
17-Nov-06	1.07	306.88	305.75	no	305.5	no
20-Nov-06	1.10	306.91	305.75	no	305.5	no
21-Nov-06	1.10	306.91	305.75	no	305.5	no
22-Nov-06	1.09	306.90	305.75	no	305.5	no
23-Nov-06	1.09	306.90	305.75	no	305.5	no
24-Nov-06	1.09	306.90	305.75	no	305.5	no
27-Nov-06	1.08	306.89	305.75	no	305.5	no
28-Nov-06	1.08	306.89	305.75	no	305.5	no
29-Nov-06	1.10	306.91	305.75	no	305.5	no
30-Nov-06	1.10	306.91	305.75	no	305.5	no
1-Dec-06	0.85	306.66	305.75	no	305.5	no
4-Dec-06	0.85	306.66	305.75	no	305.5	no
5-Dec-06	0.85	306.66	305.75	no	305.5	no
6-Dec-06	0.85	306.66	305.75	no	305.5	no
7-Dec-06	0.85	306.66	305.75	no	305.5	no
8-Dec-06	0.85	306.66	305.75	no	305.5	no
11-Dec-06	0.85	306.66	305.75	no	305.5	no
12-Dec-06	0.85	306.66	305.75	no	305.5	no
13-Dec-06	0.85	306.66	305.75	no	305.5	no
14-Dec-06	0.85	306.66	305.75	no	305.5	no
15-Dec-06	0.85	306.66	305.75	no	305.5	no
18-Dec-06	0.85	306.66	305.75	no	305.5	no
19-Dec-06	0.85	306.66	305.75	no	305.5	no
20-Dec-06	0.85	306.66	305.75	no	305.5	no
21-Dec-06	0.85	306.66	305.75	no	305.5	no
22-Dec-06	0.84	306.65	305.75	no	305.5	no
28-Dec-06	0.84	306.65	305.75	no	305.5	no

Table G-7
Threshold Summary - Phase 1 Pond
Mill Creek Aggregates Pit

Date	Gauge Reading Phase 1 Pond (m)	Water Elevation Phase 1 Pond (m ASL)	Early Warning Value (m ASL)	Exceedance of Early Warning Value	Threshold Value (Min) (m ASL)	Exceedance of Threshold Value
09-Jan-07	0.84	306.65	305.75	no	305.5	no
16-Jan-07	0.84	306.65	305.75	no	305.5	no
23-Jan-07	0.84	306.65	305.75	no	305.5	no
30-Jan-07	0.84	306.65	305.75	no	305.5	no
5-Feb-07	0.84	306.65	305.75	no	305.5	no
15-Feb-07	0.84	306.65	305.75	no	305.5	no
22-Feb-07	0.84	306.65	305.75	no	305.5	no
14-Mar-07	0.84	306.65	305.75	no	305.5	no
21-Mar-07	0.84	306.65	305.75	no	305.5	no
28-Mar-07	0.84	306.65	305.75	no	305.5	no
01-Apr-07	1.08	306.91	305.75	no	305.5	no
02-Apr-07	1.08	306.91	305.75	no	305.5	no
03-Apr-07	1.08	306.91	305.75	no	305.5	no
04-Apr-07	1.08	306.91	305.75	no	305.5	no
05-Apr-07	1.08	306.91	305.75	no	305.5	no
06-Apr-07	1.08	306.91	305.75	no	305.5	no
07-Apr-07	1.08	306.91	305.75	no	305.5	no
08-Apr-07	1.08	306.91	305.75	no	305.5	no
09-Apr-07	1.08	306.91	305.75	no	305.5	no
10-Apr-07	1.08	306.91	305.75	no	305.5	no
11-Apr-07	1.08	306.91	305.75	no	305.5	no
12-Apr-07	1.08	306.91	305.75	no	305.5	no
13-Apr-07	1.08	306.91	305.75	no	305.5	no
16-Apr-07	1.09	306.92	305.75	no	305.5	no
17-Apr-07	1.11	306.94	305.75	no	305.5	no
18-Apr-07	1.11	306.94	305.75	no	305.5	no
19-Apr-07	1.11	306.94	305.75	no	305.5	no
20-Apr-07	1.11	306.94	305.75	no	305.5	no
23-Apr-07	1.14	306.97	305.75	no	305.5	no
24-Apr-07	1.15	306.98	305.75	no	305.5	no
25-Apr-07	1.14	306.97	305.75	no	305.5	no
26-Apr-07	1.13	306.96	305.75	no	305.5	no
27-Apr-07	1.13	306.96	305.75	no	305.5	no
30-Apr-07	1.13	306.96	305.75	no	305.5	no
01-May-07	1.21	307.04	305.75	no	305.5	no
02-May-07	1.21	307.04	305.75	no	305.5	no
03-May-07	1.12	306.95	305.75	no	305.5	no
04-May-07	1.21	307.04	305.75	no	305.5	no
07-May-07	1.19	307.02	305.75	no	305.5	no
08-May-07	1.19	307.02	305.75	no	305.5	no
09-May-07	1.14	306.97	305.75	no	305.5	no
10-May-07	1.18	307.01	305.75	no	305.5	no
11-May-07	1.18	307.01	305.75	no	305.5	no
14-May-07	1.16	306.99	305.75	no	305.5	no
15-May-07	1.15	306.98	305.75	no	305.5	no
16-May-07	1.18	307.01	305.75	no	305.5	no
17-May-07	1.18	307.01	305.75	no	305.5	no
18-May-07	1.19	307.02	305.75	no	305.5	no
22-May-07	1.13	306.96	305.75	no	305.5	no
23-May-07	1.14	306.97	305.75	no	305.5	no
24-May-07	1.16	306.99	305.75	no	305.5	no
25-May-07	1.16	306.99	305.75	no	305.5	no
28-May-07	1.16	306.99	305.75	no	305.5	no
29-May-07	1.18	307.01	305.75	no	305.5	no
30-May-07	1.16	306.99	305.75	no	305.5	no
31-May-07	1.16	306.99	305.75	no	305.5	no
01-Jun-07	1.15	306.98	305.75	no	305.5	no
04-Jun-07	1.13	306.96	305.75	no	305.5	no
05-Jun-07	1.10	306.93	305.75	no	305.5	no
06-Jun-07	1.09	306.92	305.75	no	305.5	no
07-Jun-07	1.09	306.92	305.75	no	305.5	no
08-Jun-07	1.08	306.91	305.75	no	305.5	no
11-Jun-07	1.06	306.89	305.75	no	305.5	no
12-Jun-07	1.06	306.89	305.75	no	305.5	no
13-Jun-07	1.05	306.88	305.75	no	305.5	no
14-Jun-07	1.04	306.87	305.75	no	305.5	no
15-Jun-07	1.03	306.86	305.75	no	305.5	no
18-Jun-07	1.00	306.83	305.75	no	305.5	no
19-Jun-07	0.99	306.82	305.75	no	305.5	no
20-Jun-07	0.99	306.82	305.75	no	305.5	no
21-Jun-07	0.98	306.81	305.75	no	305.5	no
22-Jun-07	0.97	306.80	305.75	no	305.5	no
25-Jun-07	0.95	306.78	305.75	no	305.5	no
26-Jun-07	0.94	306.77	305.75	no	305.5	no
27-Jun-07	0.94	306.77	305.75	no	305.5	no
28-Jun-07	0.93	306.76	305.75	no	305.5	no
29-Jun-07	0.90	306.73	305.75	no	305.5	no

Table G-7
Threshold Summary - Phase 1 Pond
Mill Creek Aggregates Pit

Date	Gauge Reading Phase 1 Pond (m)	Water Elevation Phase 1 Pond (m ASL)	Early Warning Value (m ASL)	Exceedance of Early Warning Value	Threshold Value (Min) (m ASL)	Exceedance of Threshold Value
04-Jul-07	0.82	306.65	305.75	no	305.5	no
05-Jul-07	0.78	306.61	305.75	no	305.5	no
06-Jul-07	0.76	306.59	305.75	no	305.5	no
09-Jul-07	0.70	306.53	305.75	no	305.5	no
10-Jul-07	0.66	306.49	305.75	no	305.5	no
11-Jul-07	0.67	306.50	305.75	no	305.5	no
12-Jul-07	0.64	306.47	305.75	no	305.5	no
13-Jul-07	0.65	306.48	305.75	no	305.5	no
16-Jul-07	0.60	306.43	305.75	no	305.5	no
17-Jul-07	0.60	306.43	305.75	no	305.5	no
18-Jul-07	0.60	306.43	305.75	no	305.5	no
19-Jul-07	0.62	306.45	305.75	no	305.5	no
20-Jul-07	0.60	306.43	305.75	no	305.5	no
23-Jul-07	0.59	306.42	305.75	no	305.5	no
24-Jul-07	0.59	306.42	305.75	no	305.5	no
25-Jul-07	0.55	306.38	305.75	no	305.5	no
26-Jul-07	0.57	306.40	305.75	no	305.5	no
27-Jul-07	0.57	306.40	305.75	no	305.5	no
30-Jul-07	0.55	306.38	305.75	no	305.5	no
31-Jul-07	0.55	306.38	305.75	no	305.5	no
01-Aug-07	0.55	306.38	305.75	no	305.5	no
02-Aug-07	0.50	306.33	305.75	no	305.5	no
03-Aug-07	0.50	306.33	305.75	no	305.5	no
04-Aug-07	0.50	306.33	305.75	no	305.5	no
05-Aug-07	0.50	306.33	305.75	no	305.5	no
06-Aug-07	0.50	306.33	305.75	no	305.5	no
07-Aug-07	0.47	306.30	305.75	no	305.5	no
08-Aug-07	0.46	306.29	305.75	no	305.5	no
09-Aug-07	0.45	306.28	305.75	no	305.5	no
10-Aug-07	0.45	306.28	305.75	no	305.5	no
11-Aug-07	0.45	306.28	305.75	no	305.5	no
12-Aug-07	0.45	306.28	305.75	no	305.5	no
13-Aug-07	0.40	306.23	305.75	no	305.5	no
14-Aug-07	0.40	306.23	305.75	no	305.5	no
15-Aug-07	0.39	306.22	305.75	no	305.5	no
16-Aug-07	0.39	306.22	305.75	no	305.5	no
17-Aug-07	0.39	306.22	305.75	no	305.5	no
18-Aug-07	0.39	306.22	305.75	no	305.5	no
19-Aug-07	0.39	306.22	305.75	no	305.5	no
20-Aug-07	0.39	306.22	305.75	no	305.5	no
21-Aug-07	0.37	306.20	305.75	no	305.5	no
22-Aug-07	0.34	306.17	305.75	no	305.5	no
23-Aug-07	0.34	306.17	305.75	no	305.5	no
24-Aug-07	0.33	306.16	305.75	no	305.5	no
25-Aug-07	0.33	306.16	305.75	no	305.5	no
26-Aug-07	0.33	306.16	305.75	no	305.5	no
27-Aug-07	0.29	306.12	305.75	no	305.5	no
28-Aug-07	0.39	306.22	305.75	no	305.5	no
29-Aug-07	0.39	306.22	305.75	no	305.5	no
30-Aug-07	0.35	306.18	305.75	no	305.5	no
31-Aug-07	0.36	306.19	305.75	no	305.5	no
01-Sep-07	0.36	306.19	305.75	no	305.5	no
02-Sep-07	0.36	306.19	305.75	no	305.5	no
03-Sep-07	0.36	306.19	305.75	no	305.5	no
04-Sep-07	0.36	306.19	305.75	no	305.5	no
05-Sep-07	0.30	306.13	305.75	no	305.5	no
06-Sep-07	0.30	306.13	305.75	no	305.5	no
07-Sep-07	0.30	306.13	305.75	no	305.5	no
08-Sep-07	0.30	306.13	305.75	no	305.5	no
09-Sep-07	0.30	306.13	305.75	no	305.5	no
10-Sep-07	0.28	306.11	305.75	no	305.5	no
11-Sep-07	0.28	306.11	305.75	no	305.5	no
12-Sep-07	0.28	306.11	305.75	no	305.5	no
13-Sep-07	0.27	306.10	305.75	no	305.5	no
14-Sep-07	0.26	306.09	305.75	no	305.5	no
15-Sep-07	0.26	306.09	305.75	no	305.5	no
16-Sep-07	0.26	306.09	305.75	no	305.5	no
17-Sep-07	0.26	306.09	305.75	no	305.5	no
18-Sep-07	0.26	306.09	305.75	no	305.5	no
19-Sep-07	0.20	306.03	305.75	no	305.5	no
20-Sep-07	0.20	306.03	305.75	no	305.5	no
21-Sep-07	0.20	306.03	305.75	no	305.5	no
22-Sep-07	0.20	306.03	305.75	no	305.5	no
23-Sep-07	0.20	306.03	305.75	no	305.5	no
24-Sep-07	0.20	306.03	305.75	no	305.5	no
25-Sep-07	0.20	306.03	305.75	no	305.5	no
26-Sep-07	0.18	306.01	305.75	no	305.5	no
27-Sep-07	0.19	306.02	305.75	no	305.5	no
28-Sep-07	0.19	306.02	305.75	no	305.5	no
29-Sep-07	0.19	306.02	305.75	no	305.5	no
30-Sep-07	0.19	306.02	305.75	no	305.5	no

Table G-7
Threshold Summary - Phase 1 Pond
Mill Creek Aggregates Pit

Date	Gauge Reading Phase 1 Pond (m)	Water Elevation Phase 1 Pond (m ASL)	Early Warning Value (m ASL)	Exceedance of Early Warning Value	Threshold Value (Min) (m ASL)	Exceedance of Threshold Value
01-Oct-07	0.18	306.01	305.75	no	305.5	no
02-Oct-07	0.16	305.99	305.75	no	305.5	no
03-Oct-07	0.15	305.98	305.75	no	305.5	no
04-Oct-07	0.13	305.96	305.75	no	305.5	no
05-Oct-07	0.14	305.97	305.75	no	305.5	no
09-Oct-07	0.26	306.09	305.75	no	305.5	no
10-Oct-07	0.26	306.09	305.75	no	305.5	no
11-Oct-07	0.23	306.06	305.75	no	305.5	no
12-Oct-07	0.21	306.04	305.75	no	305.5	no
15-Oct-07	0.20	306.03	305.75	no	305.5	no
16-Oct-07	0.21	306.04	305.75	no	305.5	no
17-Oct-07	0.21	306.04	305.75	no	305.5	no
18-Oct-07	0.19	306.02	305.75	no	305.5	no
19-Oct-07	0.19	306.02	305.75	no	305.5	no
20-Oct-07	0.19	306.02	305.75	no	305.5	no
21-Oct-07	0.19	306.02	305.75	no	305.5	no
22-Oct-07	0.20	306.03	305.75	no	305.5	no
23-Oct-07	0.19	306.02	305.75	no	305.5	no
24-Oct-07	0.20	306.03	305.75	no	305.5	no
25-Oct-07	0.19	306.02	305.75	no	305.5	no
26-Oct-07	0.18	306.01	305.75	no	305.5	no
27-Oct-07	0.18	306.01	305.75	no	305.5	no
28-Oct-07	0.18	306.01	305.75	no	305.5	no
29-Oct-07	0.18	306.01	305.75	no	305.5	no
30-Oct-07	0.18	306.01	305.75	no	305.5	no
31-Oct-07	0.18	306.01	305.75	no	305.5	no
01-Nov-07	0.15	305.98	305.75	no	305.5	no
02-Nov-07	0.15	305.98	305.75	no	305.5	no
03-Nov-07	0.15	305.98	305.75	no	305.5	no
04-Nov-07	0.15	305.98	305.75	no	305.5	no
05-Nov-07	0.14	305.97	305.75	no	305.5	no
06-Nov-07	0.15	305.98	305.75	no	305.5	no
07-Nov-07	0.14	305.97	305.75	no	305.5	no
08-Nov-07	0.15	305.98	305.75	no	305.5	no
09-Nov-07	0.13	305.96	305.75	no	305.5	no
10-Nov-07	0.13	305.96	305.75	no	305.5	no
11-Nov-07	0.13	305.96	305.75	no	305.5	no
12-Nov-07	0.11	305.94	305.75	no	305.5	no
13-Nov-07	0.11	305.94	305.75	no	305.5	no
14-Nov-07	0.11	305.94	305.75	no	305.5	no
15-Nov-07	0.10	305.93	305.75	no	305.5	no
16-Nov-07	0.10	305.93	305.75	no	305.5	no
17-Nov-07	0.10	305.93	305.75	no	305.5	no
18-Nov-07	0.10	305.93	305.75	no	305.5	no
19-Nov-07	0.11	305.94	305.75	no	305.5	no
20-Nov-07	0.10	305.93	305.75	no	305.5	no
21-Nov-07	0.10	305.93	305.75	no	305.5	no
22-Nov-07	0.10	305.93	305.75	no	305.5	no
23-Nov-07	0.12	305.95	305.75	no	305.5	no
24-Nov-07	0.12	305.95	305.75	no	305.5	no
25-Nov-07	0.12	305.95	305.75	no	305.5	no
26-Nov-07	0.13	305.96	305.75	no	305.5	no
27-Nov-07	0.14	305.97	305.75	no	305.5	no
28-Nov-07	0.15	305.98	305.75	no	305.5	no
29-Nov-07	0.17	306.00	305.75	no	305.5	no
30-Nov-07	0.18	306.01	305.75	no	305.5	no
01-Dec-07	0.18	306.01	305.75	no	305.5	no
02-Dec-07	0.18	306.01	305.75	no	305.5	no
03-Dec-07	0.18	306.01	305.75	no	305.5	no
04-Dec-07	0.18	306.01	305.75	no	305.5	no
05-Dec-07	0.18	306.01	305.75	no	305.5	no
06-Dec-07	0.18	306.01	305.75	no	305.5	no
07-Dec-07	0.18	306.01	305.75	no	305.5	no
08-Dec-07	0.18	306.01	305.75	no	305.5	no
09-Dec-07	0.18	306.01	305.75	no	305.5	no
10-Dec-07	0.18	306.01	305.75	no	305.5	no
11-Dec-07	0.18	306.01	305.75	no	305.5	no
18-Dec-07	0.18	306.01	305.75	no	305.5	no
19-Dec-07	0.18	306.01	305.75	no	305.5	no
20-Dec-07	0.18	306.01	305.75	no	305.5	no
21-Dec-07	0.18	306.01	305.75	no	305.5	no
27-Dec-07	0.18	306.01	305.75	no	305.5	no
28-Dec-07	0.18	306.01	305.75	no	305.5	no
29-Dec-07	0.18	306.01	305.75	no	305.5	no
30-Dec-07	0.18	306.01	305.75	no	305.5	no
31-Dec-07	0.18	306.01	305.75	no	305.5	no

Table G-7
Threshold Summary - Phase 1 Pond
Mill Creek Aggregates Pit

Date	Gauge Reading Phase 1 Pond (m)	Water Elevation Phase 1 Pond (m ASL)	Early Warning Value (m ASL)	Exceedance of Early Warning Value	Threshold Value (Min) (m ASL)	Exceedance of Threshold Value
10-Jan-08	0.18	306.01	305.75	no	305.5	no
17-Jan-08	0.18	306.01	305.75	no	305.5	no
22-Jan-08	0.18	306.01	305.75	no	305.5	no
31-Jan-08	0.18	306.01	305.75	no	305.5	no
7-Feb-08	0.18	306.01	305.75	no	305.5	no
15-Feb-08	0.18	306.01	305.75	no	305.5	no
21-Feb-08	0.18	306.01	305.75	no	305.5	no
29-Feb-08	0.18	306.01	305.75	no	305.5	no
10-Mar-08	0.18	306.01	305.75	no	305.5	no
14-Mar-08	0.18	306.01	305.75	no	305.5	no
20-Mar-08	0.18	306.01	305.75	no	305.5	no
26-Mar-08	0.18	306.01	305.75	no	305.5	no
31-Mar-08	0.18	306.01	305.75	no	305.5	no
8-Apr-08	0.18	306.01	305.75	no	305.5	no
14-Apr-08	0.70	306.99	305.75	no	305.5	no
15-Apr-08	0.71	307.00	305.75	no	305.5	no
16-Apr-08	0.70	306.99	305.75	no	305.5	no
17-Apr-08	0.68	306.97	305.75	no	305.5	no
18-Apr-08	0.68	306.97	305.75	no	305.5	no
19-Apr-08	0.68	306.97	305.75	no	305.5	no
20-Apr-08	0.68	306.97	305.75	no	305.5	no
21-Apr-08	0.66	306.95	305.75	no	305.5	no
22-Apr-08	0.66	306.95	305.75	no	305.5	no
23-Apr-08	0.67	306.96	305.75	no	305.5	no
24-Apr-08	0.66	306.95	305.75	no	305.5	no
25-Apr-08	0.64	306.93	305.75	no	305.5	no
26-Apr-08	0.65	306.94	305.75	no	305.5	no
27-Apr-08	0.66	306.95	305.75	no	305.5	no
28-Apr-08	0.65	306.94	305.75	no	305.5	no
29-Apr-08	0.66	306.95	305.75	no	305.5	no
30-Apr-08	0.67	306.96	305.75	no	305.5	no
01-May-08	0.68	306.97	305.75	no	305.5	no
02-May-08	0.69	306.98	305.75	no	305.5	no
03-May-08	0.69	306.98	305.75	no	305.5	no
04-May-08	0.69	306.98	305.75	no	305.5	no
05-May-08	0.67	306.96	305.75	no	305.5	no
06-May-08	0.68	306.97	305.75	no	305.5	no
07-May-08	0.68	306.97	305.75	no	305.5	no
08-May-08	0.65	306.94	305.75	no	305.5	no
09-May-08	0.66	306.95	305.75	no	305.5	no
10-May-08	0.66	306.95	305.75	no	305.5	no
11-May-08	0.66	306.95	305.75	no	305.5	no
12-May-08	0.68	306.97	305.75	no	305.5	no
13-May-08	0.69	306.98	305.75	no	305.5	no
14-May-08	0.69	306.98	305.75	no	305.5	no
15-May-08	0.69	306.98	305.75	no	305.5	no
16-May-08	0.68	306.97	305.75	no	305.5	no
17-May-08	0.68	306.97	305.75	no	305.5	no
18-May-08	0.68	306.97	305.75	no	305.5	no
19-May-08	0.67	306.96	305.75	no	305.5	no
20-May-08	0.68	306.97	305.75	no	305.5	no
21-May-08	0.68	306.97	305.75	no	305.5	no
22-May-08	0.67	306.96	305.75	no	305.5	no
23-May-08	0.68	306.97	305.75	no	305.5	no
24-May-08	0.68	306.97	305.75	no	305.5	no
25-May-08	0.68	306.97	305.75	no	305.5	no
26-May-08	0.72	307.01	305.75	no	305.5	no
27-May-08	0.70	306.99	305.75	no	305.5	no
28-May-08	0.70	306.99	305.75	no	305.5	no
29-May-08	0.69	306.98	305.75	no	305.5	no
30-May-08	0.69	306.98	305.75	no	305.5	no
31-May-08	0.69	306.98	305.75	no	305.5	no
01-Jun-08	0.69	306.98	305.75	no	305.5	no
02-Jun-08	0.69	306.98	305.75	no	305.5	no
03-Jun-08	0.69	306.98	305.75	no	305.5	no
04-Jun-08	0.69	306.98	305.75	no	305.5	no
05-Jun-08	0.69	306.98	305.75	no	305.5	no
06-Jun-08	0.69	306.98	305.75	no	305.5	no
07-Jun-08	0.69	306.98	305.75	no	305.5	no
08-Jun-08	0.69	306.98	305.75	no	305.5	no
09-Jun-08	0.70	306.99	305.75	no	305.5	no
10-Jun-08	0.71	307.00	305.75	no	305.5	no
11-Jun-08	0.72	307.01	305.75	no	305.5	no
12-Jun-08	0.71	307.00	305.75	no	305.5	no
13-Jun-08	0.70	306.99	305.75	no	305.5	no
14-Jun-08	0.70	306.99	305.75	no	305.5	no

Table G-7
Threshold Summary - Phase 1 Pond
Mill Creek Aggregates Pit

Date	Gauge Reading Phase 1 Pond (m)	Water Elevation Phase 1 Pond (m ASL)	Early Warning Value (m ASL)	Exceedance of Early Warning Value	Threshold Value (Min) (m ASL)	Exceedance of Threshold Value
15-Jun-08	0.70	306.99	305.75	no	305.5	no
16-Jun-08	0.74	307.03	305.75	no	305.5	no
17-Jun-08	0.73	307.02	305.75	no	305.5	no
18-Jun-08	0.73	307.02	305.75	no	305.5	no
19-Jun-08	0.73	307.02	305.75	no	305.5	no
20-Jun-08	0.74	307.03	305.75	no	305.5	no
21-Jun-08	0.74	307.03	305.75	no	305.5	no
22-Jun-08	0.74	307.03	305.75	no	305.5	no
23-Jun-08	0.70	306.99	305.75	no	305.5	no
24-Jun-08	0.70	306.99	305.75	no	305.5	no
25-Jun-08	0.70	306.99	305.75	no	305.5	no
26-Jun-08	0.70	306.99	305.75	no	305.5	no
27-Jun-08	0.70	306.99	305.75	no	305.5	no
28-Jun-08	0.70	306.99	305.75	no	305.5	no
29-Jun-08	0.70	306.99	305.75	no	305.5	no
30-Jun-08	0.70	306.99	305.75	no	305.5	no
1-Jul-08	0.70	306.99	305.75	no	305.5	no
2-Jul-08	0.70	306.99	305.75	no	305.5	no
3-Jul-08	0.69	306.98	305.75	no	305.5	no
4-Jul-08	0.69	306.98	305.75	no	305.5	no
5-Jul-08	0.69	306.98	305.75	no	305.5	no
6-Jul-08	0.69	306.98	305.75	no	305.5	no
7-Jul-08	0.68	306.97	305.75	no	305.5	no
8-Jul-08	0.67	306.96	305.75	no	305.5	no
9-Jul-08	0.68	306.97	305.75	no	305.5	no
10-Jul-08	0.67	306.96	305.75	no	305.5	no
11-Jul-08	0.71	307.00	305.75	no	305.5	no
12-Jul-08	0.71	307.00	305.75	no	305.5	no
13-Jul-08	0.71	307.00	305.75	no	305.5	no
14-Jul-08	0.71	307.00	305.75	no	305.5	no
15-Jul-08	0.70	306.99	305.75	no	305.5	no
16-Jul-08	0.70	306.99	305.75	no	305.5	no
17-Jul-08	0.70	306.99	305.75	no	305.5	no
18-Jul-08	0.71	307.00	305.75	no	305.5	no
19-Jul-08	0.71	307.00	305.75	no	305.5	no
20-Jul-08	0.71	307.00	305.75	no	305.5	no
21-Jul-08	0.72	307.01	305.75	no	305.5	no
22-Jul-08	0.72	307.01	305.75	no	305.5	no
23-Jul-08	0.81	307.10	305.75	no	305.5	no
24-Jul-08	0.81	307.10	305.75	no	305.5	no
25-Jul-08	0.80	307.09	305.75	no	305.5	no
26-Jul-08	0.80	307.09	305.75	no	305.5	no
27-Jul-08	0.80	307.09	305.75	no	305.5	no
28-Jul-08	0.79	307.08	305.75	no	305.5	no
29-Jul-08	0.79	307.08	305.75	no	305.5	no
30-Jul-08	0.80	307.09	305.75	no	305.5	no
31-Jul-08	0.81	307.10	305.75	no	305.5	no
1-Aug-08	0.80	307.09	305.75	no	305.5	no
2-Aug-08	0.80	307.09	305.75	no	305.5	no
3-Aug-08	0.80	307.09	305.75	no	305.5	no
4-Aug-08	0.80	307.09	305.75	no	305.5	no
5-Aug-08	0.79	307.08	305.75	no	305.5	no
6-Aug-08	0.79	307.08	305.75	no	305.5	no
7-Aug-08	0.79	307.08	305.75	no	305.5	no
8-Aug-08	0.79	307.08	305.75	no	305.5	no
9-Aug-08	0.79	307.08	305.75	no	305.5	no
10-Aug-08	0.79	307.08	305.75	no	305.5	no
11-Aug-08	0.80	307.09	305.75	no	305.5	no
12-Aug-08	0.78	307.07	305.75	no	305.5	no
13-Aug-08	0.78	307.07	305.75	no	305.5	no
14-Aug-08	0.78	307.07	305.75	no	305.5	no
15-Aug-08	0.78	307.07	305.75	no	305.5	no
16-Aug-08	0.78	307.07	305.75	no	305.5	no
17-Aug-08	0.78	307.07	305.75	no	305.5	no
18-Aug-08	0.78	307.07	305.75	no	305.5	no
19-Aug-08	0.78	307.07	305.75	no	305.5	no
20-Aug-08	0.78	307.07	305.75	no	305.5	no
21-Aug-08	0.77	307.06	305.75	no	305.5	no
22-Aug-08	0.76	307.05	305.75	no	305.5	no
23-Aug-08	0.76	307.05	305.75	no	305.5	no
24-Aug-08	0.76	307.05	305.75	no	305.5	no
25-Aug-08	0.74	307.03	305.75	no	305.5	no
26-Aug-08	0.73	307.02	305.75	no	305.5	no
27-Aug-08	0.71	307.00	305.75	no	305.5	no
28-Aug-08	0.69	306.98	305.75	no	305.5	no
29-Aug-08	0.70	306.99	305.75	no	305.5	no

Table G-7
Threshold Summary - Phase 1 Pond
Mill Creek Aggregates Pit

Date	Gauge Reading Phase 1 Pond (m)	Water Elevation Phase 1 Pond (m ASL)	Early Warning Value (m ASL)	Exceedance of Early Warning Value	Threshold Value (Min) (m ASL)	Exceedance of Threshold Value
30-Aug-08	0.70	306.99	305.75	no	305.5	no
31-Aug-08	0.70	306.99	305.75	no	305.5	no
01-Sep-08	0.67	306.96	305.75	no	305.5	no
02-Sep-08	0.67	306.96	305.75	no	305.5	no
03-Sep-08	0.67	306.96	305.75	no	305.5	no
04-Sep-08	0.66	306.95	305.75	no	305.5	no
05-Sep-08	0.66	306.95	305.75	no	305.5	no
06-Sep-08	0.66	306.95	305.75	no	305.5	no
07-Sep-08	0.66	306.95	305.75	no	305.5	no
08-Sep-08	0.67	306.96	305.75	no	305.5	no
09-Sep-08	0.72	307.01	305.75	no	305.5	no
10-Sep-08	0.70	306.99	305.75	no	305.5	no
11-Sep-08	0.66	306.95	305.75	no	305.5	no
12-Sep-08	0.70	306.99	305.75	no	305.5	no
13-Sep-08	0.67	306.96	305.75	no	305.5	no
14-Sep-08	0.67	306.96	305.75	no	305.5	no
15-Sep-08	0.68	306.97	305.75	no	305.5	no
16-Sep-08	0.70	306.99	305.75	no	305.5	no
17-Sep-08	0.75	307.04	305.75	no	305.5	no
18-Sep-08	0.74	307.03	305.75	no	305.5	no
19-Sep-08	0.76	307.05	305.75	no	305.5	no
20-Sep-08	0.76	307.05	305.75	no	305.5	no
21-Sep-08	0.76	307.05	305.75	no	305.5	no
22-Sep-08	0.74	307.03	305.75	no	305.5	no
23-Sep-08	0.72	307.01	305.75	no	305.5	no
24-Sep-08	0.72	307.01	305.75	no	305.5	no
25-Sep-08	0.72	307.01	305.75	no	305.5	no
26-Sep-08	0.71	307.00	305.75	no	305.5	no
27-Sep-08	0.71	307.00	305.75	no	305.5	no
28-Sep-08	0.71	307.00	305.75	no	305.5	no
29-Sep-08	0.72	307.01	305.75	no	305.5	no
30-Sep-08	0.73	307.02	305.75	no	305.5	no
01-Oct-08	0.70	306.99	305.75	no	305.5	no
02-Oct-08	0.70	306.99	305.75	no	305.5	no
03-Oct-08	0.70	306.99	305.75	no	305.5	no
04-Oct-08	0.70	306.99	305.75	no	305.5	no
05-Oct-08	0.70	306.99	305.75	no	305.5	no
06-Oct-08	0.68	306.97	305.75	no	305.5	no
07-Oct-08	0.66	306.95	305.75	no	305.5	no
08-Oct-08	0.67	306.96	305.75	no	305.5	no
09-Oct-08	0.69	306.98	305.75	no	305.5	no
10-Oct-08	0.70	306.99	305.75	no	305.5	no
11-Oct-08	0.70	306.99	305.75	no	305.5	no
12-Oct-08	0.70	306.99	305.75	no	305.5	no
13-Oct-08	0.70	306.99	305.75	no	305.5	no
14-Oct-08	0.68	306.97	305.75	no	305.5	no
15-Oct-08	0.67	306.96	305.75	no	305.5	no
16-Oct-08	0.68	306.97	305.75	no	305.5	no
17-Oct-08	0.64	306.93	305.75	no	305.5	no
18-Oct-08	0.64	306.93	305.75	no	305.5	no
19-Oct-08	0.64	306.93	305.75	no	305.5	no
20-Oct-08	0.62	306.91	305.75	no	305.5	no
21-Oct-08	0.63	306.92	305.75	no	305.5	no
22-Oct-08	0.62	306.91	305.75	no	305.5	no
23-Oct-08	0.61	306.90	305.75	no	305.5	no
24-Oct-08	0.59	306.88	305.75	no	305.5	no
25-Oct-08	0.59	306.88	305.75	no	305.5	no
26-Oct-08	0.59	306.88	305.75	no	305.5	no
27-Oct-08	0.61	306.90	305.75	no	305.5	no
28-Oct-08	0.58	306.87	305.75	no	305.5	no
29-Oct-08	0.58	306.87	305.75	no	305.5	no
30-Oct-08	0.59	306.88	305.75	no	305.5	no
31-Oct-08	0.58	306.87	305.75	no	305.5	no
01-Nov-08	0.58	306.87	305.75	no	305.5	no
02-Nov-08	0.58	306.87	305.75	no	305.5	no
03-Nov-08	0.57	306.86	305.75	no	305.5	no
04-Nov-08	0.56	306.85	305.75	no	305.5	no
05-Nov-08	0.57	306.86	305.75	no	305.5	no
06-Nov-08	0.58	306.87	305.75	no	305.5	no
07-Nov-08	0.58	306.87	305.75	no	305.5	no
08-Nov-08	0.58	306.87	305.75	no	305.5	no
09-Nov-08	0.58	306.87	305.75	no	305.5	no
10-Nov-08	0.57	306.86	305.75	no	305.5	no
11-Nov-08	0.57	306.86	305.75	no	305.5	no
12-Nov-08	0.57	306.86	305.75	no	305.5	no
13-Nov-08	0.59	306.88	305.75	no	305.5	no

Table G-7
Threshold Summary - Phase 1 Pond
Mill Creek Aggregates Pit

Date	Gauge Reading Phase 1 Pond (m)	Water Elevation Phase 1 Pond (m ASL)	Early Warning Value (m ASL)	Exceedance of Early Warning Value	Threshold Value (Min) (m ASL)	Exceedance of Threshold Value
14-Nov-08	0.61	306.90	305.75	no	305.5	no
15-Nov-08	0.61	306.90	305.75	no	305.5	no
16-Nov-08	0.61	306.90	305.75	no	305.5	no
17-Nov-08	0.61	306.90	305.75	no	305.5	no
18-Nov-08	0.61	306.90	305.75	no	305.5	no
19-Nov-08	0.62	306.91	305.75	no	305.5	no
26-Nov-08	0.62	306.91	305.75	no	305.5	no
3-Dec-08	0.63	306.92	305.75	no	305.5	no
10-Dec-08	0.63	306.92	305.75	no	305.5	no
17-Dec-08	0.63	306.92	305.75	no	305.5	no
26-Dec-08	0.63	306.92	305.75	no	305.5	no
01-Jan-09	0.63	306.92	305.75	no	305.5	no
02-Jan-09	0.63	306.92	305.75	no	305.5	no
03-Jan-09	0.63	306.92	305.75	no	305.5	no
04-Jan-09	0.63	306.92	305.75	no	305.5	no
05-Jan-09	0.63	306.92	305.75	no	305.5	no
06-Jan-09	0.63	306.92	305.75	no	305.5	no
07-Jan-09	0.63	306.92	305.75	no	305.5	no
08-Jan-09	0.63	306.92	305.75	no	305.5	no
09-Jan-09	0.63	306.92	305.75	no	305.5	no
10-Jan-09	0.63	306.92	305.75	no	305.5	no
11-Jan-09	0.63	306.92	305.75	no	305.5	no
12-Jan-09	0.63	306.92	305.75	no	305.5	no
13-Jan-09	0.63	306.92	305.75	no	305.5	no
14-Jan-09	0.63	306.92	305.75	no	305.5	no
15-Jan-09	0.63	306.92	305.75	no	305.5	no
16-Jan-09	0.63	306.92	305.75	no	305.5	no
17-Jan-09	0.63	306.92	305.75	no	305.5	no
18-Jan-09	0.63	306.92	305.75	no	305.5	no
19-Jan-09	0.63	306.92	305.75	no	305.5	no
20-Jan-09	0.63	306.92	305.75	no	305.5	no
21-Jan-09	0.63	306.92	305.75	no	305.5	no
22-Jan-09	0.63	306.92	305.75	no	305.5	no
23-Jan-09	0.63	306.92	305.75	no	305.5	no
24-Jan-09	0.63	306.92	305.75	no	305.5	no
25-Jan-09	0.63	306.92	305.75	no	305.5	no
26-Jan-09	0.63	306.92	305.75	no	305.5	no
27-Jan-09	0.63	306.92	305.75	no	305.5	no
28-Jan-09	0.63	306.92	305.75	no	305.5	no
29-Jan-09	0.63	306.92	305.75	no	305.5	no
30-Jan-09	0.63	306.92	305.75	no	305.5	no
31-Jan-09	0.63	306.92	305.75	no	305.5	no
01-Feb-09	0.63	306.92	305.75	no	305.5	no
02-Feb-09	0.63	306.92	305.75	no	305.5	no
03-Feb-09	0.63	306.92	305.75	no	305.5	no
04-Feb-09	0.63	306.92	305.75	no	305.5	no
05-Feb-09	0.63	306.92	305.75	no	305.5	no
06-Feb-09	0.63	306.92	305.75	no	305.5	no
07-Feb-09	0.63	306.92	305.75	no	305.5	no
08-Feb-09	0.63	306.92	305.75	no	305.5	no
09-Feb-09	0.63	306.92	305.75	no	305.5	no
10-Feb-09	0.63	306.92	305.75	no	305.5	no
11-Feb-09	0.63	306.92	305.75	no	305.5	no
12-Feb-09	0.63	306.92	305.75	no	305.5	no
13-Feb-09	0.63	306.92	305.75	no	305.5	no
14-Feb-09	0.63	306.92	305.75	no	305.5	no
15-Feb-09	0.63	306.92	305.75	no	305.5	no
16-Feb-09	0.63	306.92	305.75	no	305.5	no
17-Feb-09	0.63	306.92	305.75	no	305.5	no
18-Feb-09	0.63	306.92	305.75	no	305.5	no
19-Feb-09	0.63	306.92	305.75	no	305.5	no
20-Feb-09	0.63	306.92	305.75	no	305.5	no
21-Feb-09	0.63	306.92	305.75	no	305.5	no
22-Feb-09	0.63	306.92	305.75	no	305.5	no
23-Feb-09	0.63	306.92	305.75	no	305.5	no
24-Feb-09	0.63	306.92	305.75	no	305.5	no
25-Feb-09	0.63	306.92	305.75	no	305.5	no
26-Feb-09	0.63	306.92	305.75	no	305.5	no
27-Feb-09	0.63	306.92	305.75	no	305.5	no
28-Feb-09	0.63	306.92	305.75	no	305.5	no
01-Mar-09	0.63	306.92	305.75	no	305.5	no
02-Mar-09	0.63	306.92	305.75	no	305.5	no
03-Mar-09	0.63	306.92	305.75	no	305.5	no
04-Mar-09	0.63	306.92	305.75	no	305.5	no
05-Mar-09	0.63	306.92	305.75	no	305.5	no
06-Mar-09	0.63	306.92	305.75	no	305.5	no
07-Mar-09	0.63	306.92	305.75	no	305.5	no
08-Mar-09	0.63	306.92	305.75	no	305.5	no
09-Mar-09	0.63	306.92	305.75	no	305.5	no
10-Mar-09	0.63	306.92	305.75	no	305.5	no
11-Mar-09	0.63	306.92	305.75	no	305.5	no
12-Mar-09	0.63	306.92	305.75	no	305.5	no
13-Mar-09	0.63	306.92	305.75	no	305.5	no
14-Mar-09	0.63	306.92	305.75	no	305.5	no
15-Mar-09	0.63	306.92	305.75	no	305.5	no
02-Apr-09	0.80	307.09	305.75	no	305.5	no
03-Apr-09	0.81	307.10	305.75	no	305.5	no
04-Apr-09	0.81	307.10	305.75	no	305.5	no
05-Apr-09	0.81	307.10	305.75	no	305.5	no
06-Apr-09	0.86	307.15	305.75	no	305.5	no
07-Apr-09	0.86	307.15	305.75	no	305.5	no
08-Apr-09	0.85	307.14	305.75	no	305.5	no
09-Apr-09	0.85	307.14	305.75	no	305.5	no
10-Apr-09	0.83	307.12	305.75	no	305.5	no
11-Apr-09	0.83	307.12	305.75	no	305.5	no
12-Apr-09	0.83	307.12	305.75	no	305.5	no
13-Apr-09	0.81	307.10	305.75	no	305.5	no
14-Apr-09	0.80	307.09	305.75	no	305.5	no
15-Apr-09	0.81	307.10	305.75	no	305.5	no
16-Apr-09	0.81	307.10	305.75	no	305.5	no
17-Apr-09	0.80	307.09	305.75	no	305.5	no
18-Apr-09	0.80	307.09	305.75	no	305.5	no
19-Apr-09	0.80	307.09	305.75	no	305.5	no
20-Apr-09	0.80	307.09	305.75	no	305.5	no
21-Apr-09	0.83	307.12	305.75	no	305.5	no
22-Apr-09	0.80	307.09	305.75	no	305.5	no
23-Apr-09	0.80	307.09	305.75	no	305.5	no
24-Apr-09	0.80	307.09	305.75	no	305.5	no
25-Apr-09	0.80	307.09	305.75	no	305.5	no
26-Apr-09	0.80	307.09	305.75	no	305.5	no
27-Apr-09	0.83	307.12	305.75	no	305.5	no
28-Apr-09	0.86	307.15	305.75	no	305.5	no
29-Apr-09	0.88	307.17	305.75	no	305.5	no

Table G-7
Threshold Summary - Phase 1 Pond
Mill Creek Aggregates Pit

Date	Gauge Reading Phase 1 Pond (m)	Water Elevation Phase 1 Pond (m ASL)	Early Warning Value (m ASL)	Exceedance of Early Warning Value	Threshold Value (Min) (m ASL)	Exceedance of Threshold Value
30-Apr-09	0.90	307.19	305.75	no	305.5	no
01-May-09	0.90	307.19	305.75	no	305.5	no
02-May-09	0.90	307.19	305.75	no	305.5	no
03-May-09	0.90	307.19	305.75	no	305.5	no
04-May-09	0.89	307.18	305.75	no	305.5	no
05-May-09	0.89	307.18	305.75	no	305.5	no
06-May-09	0.88	307.17	305.75	no	305.5	no
07-May-09	0.88	307.17	305.75	no	305.5	no
08-May-09	0.88	307.17	305.75	no	305.5	no
09-May-09	0.88	307.17	305.75	no	305.5	no
10-May-09	0.88	307.17	305.75	no	305.5	no
11-May-09	0.86	307.15	305.75	no	305.5	no
12-May-09	0.85	307.14	305.75	no	305.5	no
13-May-09	0.85	307.14	305.75	no	305.5	no
14-May-09	0.87	307.16	305.75	no	305.5	no
15-May-09	0.88	307.17	305.75	no	305.5	no
16-May-09	0.88	307.17	305.75	no	305.5	no
17-May-09	0.88	307.17	305.75	no	305.5	no
18-May-09	0.86	307.15	305.75	no	305.5	no
19-May-09	0.86	307.15	305.75	no	305.5	no
20-May-09	0.86	307.15	305.75	no	305.5	no
21-May-09	0.85	307.14	305.75	no	305.5	no
22-May-09	0.85	307.14	305.75	no	305.5	no
23-May-09	0.85	307.14	305.75	no	305.5	no
24-May-09	0.85	307.14	305.75	no	305.5	no
25-May-09	0.85	307.14	305.75	no	305.5	no
26-May-09	0.86	307.15	305.75	no	305.5	no
27-May-09	0.87	307.16	305.75	no	305.5	no
28-May-09	0.87	307.16	305.75	no	305.5	no
29-May-09	0.85	307.14	305.75	no	305.5	no
30-May-09	0.85	307.14	305.75	no	305.5	no
31-May-09	0.85	307.14	305.75	no	305.5	no
01-Jun-09	0.83	307.12	305.75	no	305.5	no
02-Jun-09	0.83	307.12	305.75	no	305.5	no
03-Jun-09	0.82	307.11	305.75	no	305.5	no
04-Jun-09	0.83	307.12	305.75	no	305.5	no
05-Jun-09	0.83	307.12	305.75	no	305.5	no
06-Jun-09	0.83	307.12	305.75	no	305.5	no
07-Jun-09	0.83	307.12	305.75	no	305.5	no
08-Jun-09	0.84	307.13	305.75	no	305.5	no
09-Jun-09	0.82	307.11	305.75	no	305.5	no
10-Jun-09	0.80	307.09	305.75	no	305.5	no
11-Jun-09	0.80	307.09	305.75	no	305.5	no
12-Jun-09	0.81	307.10	305.75	no	305.5	no
13-Jun-09	0.81	307.10	305.75	no	305.5	no
14-Jun-09	0.81	307.10	305.75	no	305.5	no
15-Jun-09	0.80	307.09	305.75	no	305.5	no
16-Jun-09	0.80	307.09	305.75	no	305.5	no
17-Jun-09	0.79	307.08	305.75	no	305.5	no
18-Jun-09	0.79	307.08	305.75	no	305.5	no
19-Jun-09	0.80	307.09	305.75	no	305.5	no
20-Jun-09	0.80	307.09	305.75	no	305.5	no
21-Jun-09	0.80	307.09	305.75	no	305.5	no
22-Jun-09	0.80	307.09	305.75	no	305.5	no
23-Jun-09	0.81	307.10	305.75	no	305.5	no
24-Jun-09	0.80	307.09	305.75	no	305.5	no
25-Jun-09	0.80	307.09	305.75	no	305.5	no
26-Jun-09	0.81	307.10	305.75	no	305.5	no
27-Jun-09	0.81	307.10	305.75	no	305.5	no
28-Jun-09	0.81	307.10	305.75	no	305.5	no
29-Jun-09	0.80	307.09	305.75	no	305.5	no
30-Jun-09	0.80	307.09	305.75	no	305.5	no
1-Jul-09	0.80	307.09	305.75	no	305.5	no
2-Jul-09	0.79	307.08	305.75	no	305.5	no
3-Jul-09	0.79	307.08	305.75	no	305.5	no
4-Jul-09	0.79	307.08	305.75	no	305.5	no
5-Jul-09	0.79	307.08	305.75	no	305.5	no
6-Jul-09	0.79	307.08	305.75	no	305.5	no
7-Jul-09	0.78	307.07	305.75	no	305.5	no
8-Jul-09	0.77	307.06	305.75	no	305.5	no
9-Jul-09	0.77	307.06	305.75	no	305.5	no
10-Jul-09	0.77	307.06	305.75	no	305.5	no
11-Jul-09	0.77	307.06	305.75	no	305.5	no
12-Jul-09	0.77	307.06	305.75	no	305.5	no
13-Jul-09	0.76	307.05	305.75	no	305.5	no
14-Jul-09	0.76	307.05	305.75	no	305.5	no
15-Jul-09	0.75	307.04	305.75	no	305.5	no
16-Jul-09	0.74	307.03	305.75	no	305.5	no
17-Jul-09	0.74	307.03	305.75	no	305.5	no
18-Jul-09	0.74	307.03	305.75	no	305.5	no
19-Jul-09	0.74	307.03	305.75	no	305.5	no
20-Jul-09	0.73	307.02	305.75	no	305.5	no
21-Jul-09	0.72	307.01	305.75	no	305.5	no
22-Jul-09	0.72	307.01	305.75	no	305.5	no
23-Jul-09	0.72	307.01	305.75	no	305.5	no
24-Jul-09	0.72	307.01	305.75	no	305.5	no
25-Jul-09	0.72	307.01	305.75	no	305.5	no
26-Jul-09	0.72	307.01	305.75	no	305.5	no
27-Jul-09	0.72	307.01	305.75	no	305.5	no
28-Jul-09	0.73	307.02	305.75	no	305.5	no
29-Jul-09	0.74	307.03	305.75	no	305.5	no
30-Jul-09	0.74	307.03	305.75	no	305.5	no
31-Jul-09	0.74	307.03	305.75	no	305.5	no
1-Aug-09	0.74	307.03	305.75	no	305.5	no
2-Aug-09	0.74	307.03	305.75	no	305.5	no
3-Aug-09	0.74	307.03	305.75	no	305.5	no
4-Aug-09	0.75	307.04	305.75	no	305.5	no
5-Aug-09	0.76	307.05	305.75	no	305.5	no
6-Aug-09	0.76	307.05	305.75	no	305.5	no
7-Aug-09	0.76	307.05	305.75	no	305.5	no
8-Aug-09	0.76	307.05	305.75	no	305.5	no
9-Aug-09	0.76	307.05	305.75	no	305.5	no
10-Aug-09	0.76	307.05	305.75	no	305.5	no
11-Aug-09	0.76	307.05	305.75	no	305.5	no
12-Aug-09	0.76	307.05	305.75	no	305.5	no
13-Aug-09	0.75	307.04	305.75	no	305.5	no
14-Aug-09	0.75	307.04	305.75	no	305.5	no
15-Aug-09	0.75	307.04	305.75	no	305.5	no
16-Aug-09	0.75	307.04	305.75	no	305.5	no
17-Aug-09	0.75	307.04	305.75	no	305.5	no
18-Aug-09	0.75	307.04	305.75	no	305.5	no
19-Aug-09	0.74	307.03	305.75	no	305.5	no
20-Aug-09	0.73	307.02	305.75	no	305.5	no
21-Aug-09	0.73	307.02	305.75	no	305.5	no
22-Aug-09	0.73	307.02	305.75	no	305.5	no
23-Aug-09	0.73	307.02	305.75	no	305.5	no
24-Aug-09	0.72	307.01	305.75	no	305.5	no
25-Aug-09	0.73	307.02	305.75	no	305.5	no
26-Aug-09	0.74	307.03	305.75	no	305.5	no
27-Aug-09	0.74	307.03	305.75	no	305.5	no
28-Aug-09	0.74	307.03	305.75	no	305.5	no
29-Aug-09	0.74	307.03	305.75	no	305.5	no
30-Aug-09	0.74	307.03	305.75	no	305.5	no
31-Aug-09	0.75	307.04	305.75	no	305.5	no

Table G-7
Threshold Summary - Phase 1 Pond
Mill Creek Aggregates Pit

Date	Gauge Reading Phase 1 Pond (m)	Water Elevation Phase 1 Pond (m ASL)	Early Warning Value (m ASL)	Exceedance of Early Warning Value	Threshold Value (Min) (m ASL)	Exceedance of Threshold Value
1-Sep-09	0.75	307.04	305.75	no	305.5	no
2-Sep-09	0.75	307.04	305.75	no	305.5	no
3-Sep-09	0.75	307.04	305.75	no	305.5	no
4-Sep-09	0.76	307.05	305.75	no	305.5	no
5-Sep-09	0.76	307.05	305.75	no	305.5	no
6-Sep-09	0.76	307.05	305.75	no	305.5	no
7-Sep-09	0.76	307.05	305.75	no	305.5	no
8-Sep-09	0.72	307.01	305.75	no	305.5	no
9-Sep-09	0.70	306.99	305.75	no	305.5	no
10-Sep-09	0.70	306.99	305.75	no	305.5	no
11-Sep-09	0.70	306.99	305.75	no	305.5	no
12-Sep-09	0.70	306.99	305.75	no	305.5	no
13-Sep-09	0.70	306.99	305.75	no	305.5	no
14-Sep-09	0.67	306.96	305.75	no	305.5	no
15-Sep-09	0.67	306.96	305.75	no	305.5	no
16-Sep-09	0.67	306.96	305.75	no	305.5	no
17-Sep-09	0.65	306.94	305.75	no	305.5	no
18-Sep-09	0.60	306.89	305.75	no	305.5	no
19-Sep-09	0.60	306.89	305.75	no	305.5	no
20-Sep-09	0.60	306.89	305.75	no	305.5	no
21-Sep-09	0.60	306.89	305.75	no	305.5	no
22-Sep-09	0.60	306.89	305.75	no	305.5	no
23-Sep-09	0.60	306.89	305.75	no	305.5	no
24-Sep-09	0.60	306.89	305.75	no	305.5	no
25-Sep-09	0.59	306.88	305.75	no	305.5	no
26-Sep-09	0.59	306.88	305.75	no	305.5	no
27-Sep-09	0.59	306.88	305.75	no	305.5	no
28-Sep-09	0.59	306.88	305.75	no	305.5	no
29-Sep-09	0.57	306.86	305.75	no	305.5	no
30-Sep-09	0.57	306.86	305.75	no	305.5	no
1-Oct-09	0.55	306.84	305.75	no	305.5	no
2-Oct-09	0.55	306.84	305.75	no	305.5	no
3-Oct-09	0.55	306.84	305.75	no	305.5	no
4-Oct-09	0.55	306.84	305.75	no	305.5	no
5-Oct-09	0.55	306.84	305.75	no	305.5	no
6-Oct-09	0.55	306.84	305.75	no	305.5	no
7-Oct-09	0.55	306.84	305.75	no	305.5	no
8-Oct-09	0.55	306.84	305.75	no	305.5	no
9-Oct-09	0.55	306.84	305.75	no	305.5	no
10-Oct-09	0.55	306.84	305.75	no	305.5	no
11-Oct-09	0.55	306.84	305.75	no	305.5	no
12-Oct-09	0.55	306.84	305.75	no	305.5	no
13-Oct-09	0.55	306.84	305.75	no	305.5	no
14-Oct-09	0.54	306.83	305.75	no	305.5	no
15-Oct-09	0.54	306.83	305.75	no	305.5	no
16-Oct-09	0.54	306.83	305.75	no	305.5	no
17-Oct-09	0.54	306.83	305.75	no	305.5	no
18-Oct-09	0.54	306.83	305.75	no	305.5	no
19-Oct-09	0.51	306.80	305.75	no	305.5	no
20-Oct-09	0.50	306.79	305.75	no	305.5	no
21-Oct-09	0.49	306.78	305.75	no	305.5	no
22-Oct-09	0.50	306.79	305.75	no	305.5	no
23-Oct-09	0.50	306.79	305.75	no	305.5	no
24-Oct-09	0.50	306.79	305.75	no	305.5	no
25-Oct-09	0.50	306.79	305.75	no	305.5	no
26-Oct-09	0.50	306.79	305.75	no	305.5	no
27-Oct-09	0.50	306.79	305.75	no	305.5	no
28-Oct-09	0.49	306.78	305.75	no	305.5	no
29-Oct-09	0.49	306.78	305.75	no	305.5	no
30-Oct-09	0.49	306.78	305.75	no	305.5	no
31-Oct-09	0.49	306.78	305.75	no	305.5	no
1-Nov-09	0.49	306.78	305.75	no	305.5	no
2-Nov-09	0.49	306.78	305.75	no	305.5	no
3-Nov-09	0.49	306.78	305.75	no	305.5	no
4-Nov-09	0.49	306.78	305.75	no	305.5	no
5-Nov-09	0.49	306.78	305.75	no	305.5	no
6-Nov-09	0.49	306.78	305.75	no	305.5	no
7-Nov-09	0.49	306.78	305.75	no	305.5	no
8-Nov-09	0.49	306.78	305.75	no	305.5	no
9-Nov-09	0.49	306.78	305.75	no	305.5	no
10-Nov-09	0.49	306.78	305.75	no	305.5	no
11-Nov-09	0.49	306.78	305.75	no	305.5	no
12-Nov-09	0.49	306.78	305.75	no	305.5	no
13-Nov-09	0.48	306.77	305.75	no	305.5	no
14-Nov-09	0.48	306.77	305.75	no	305.5	no
15-Nov-09	0.48	306.77	305.75	no	305.5	no
16-Nov-09	0.48	306.77	305.75	no	305.5	no
17-Nov-09	0.48	306.77	305.75	no	305.5	no
18-Nov-09	0.48	306.77	305.75	no	305.5	no
19-Nov-09	0.48	306.77	305.75	no	305.5	no
20-Nov-09	0.47	306.76	305.75	no	305.5	no
21-Nov-09	0.47	306.76	305.75	no	305.5	no
22-Nov-09	0.47	306.76	305.75	no	305.5	no
23-Nov-09	0.47	306.76	305.75	no	305.5	no
24-Nov-09	0.46	306.75	305.75	no	305.5	no
25-Nov-09	0.46	306.75	305.75	no	305.5	no
26-Nov-09	0.45	306.74	305.75	no	305.5	no
27-Nov-09	0.44	306.73	305.75	no	305.5	no
28-Nov-09	0.44	306.73	305.75	no	305.5	no
29-Nov-09	0.44	306.73	305.75	no	305.5	no
30-Nov-09	0.45	306.74	305.75	no	305.5	no
1-Dec-09	0.45	306.74	305.75	no	305.5	no
2-Dec-09	0.46	306.75	305.75	no	305.5	no
3-Dec-09	0.46	306.75	305.75	no	305.5	no
4-Dec-09	0.46	306.75	305.75	no	305.5	no
5-Dec-09	0.46	306.75	305.75	no	305.5	no
6-Dec-09	0.46	306.75	305.75	no	305.5	no
7-Dec-09	0.45	306.74	305.75	no	305.5	no
8-Dec-09	0.45	306.74	305.75	no	305.5	no
9-Dec-09	0.45	306.74	305.75	no	305.5	no
10-Dec-09	0.45	306.74	305.75	no	305.5	no
11-Dec-09	0.45	306.74	305.75	no	305.5	no
12-Dec-09	0.45	306.74	305.75	no	305.5	no
13-Dec-09	0.45	306.74	305.75	no	305.5	no
14-Dec-09	0.45	306.74	305.75	no	305.5	no
15-Dec-09	0.45	306.74	305.75	no	305.5	no
16-Dec-09	0.45	306.74	305.75	no	305.5	no
17-Dec-09	0.45	306.74	305.75	no	305.5	no
18-Dec-09	0.45	306.74	305.75	no	305.5	no
19-Dec-09	0.45	306.74	305.75	no	305.5	no
20-Dec-09	0.45	306.74	305.75	no	305.5	no
21-Dec-09	0.45	306.74	305.75	no	305.5	no
22-Dec-09	0.45	306.74	305.75	no	305.5	no
23-Dec-09	0.45	306.74	305.75	no	305.5	no
24-Dec-09	0.45	306.74	305.75	no	305.5	no
25-Dec-09	0.45	306.74	305.75	no	305.5	no
26-Dec-09	0.45	306.74	305.75	no	305.5	no
27-Dec-09	0.45	306.74	305.75	no	305.5	no
28-Dec-09	0.45	306.74	305.75	no	305.5	no
29-Dec-09	0.45	306.74	305.75	no	305.5	no
30-Dec-09	0.45	306.74	305.75	no	305.5	no
31-Dec-09	0.45	306.74	305.75	no	305.5	no

Table G-7
Threshold Summary - Phase 1 Pond
Mill Creek Aggregates Pit

Date	Gauge Reading Phase 1 Pond (m)	Water Elevation Phase 1 Pond (m ASL)	Early Warning Value (m ASL)	Exceedance of Early Warning Value	Threshold Value (Min) (m ASL)	Exceedance of Threshold Value
1-Jan-10	0.45	306.74	305.75	no	305.5	no
2-Jan-10	0.45	306.74	305.75	no	305.5	no
3-Jan-10	0.45	306.74	305.75	no	305.5	no
4-Jan-10	0.45	306.74	305.75	no	305.5	no
5-Jan-10	0.45	306.74	305.75	no	305.5	no
6-Jan-10	0.45	306.74	305.75	no	305.5	no
7-Jan-10	0.45	306.74	305.75	no	305.5	no
8-Jan-10	0.45	306.74	305.75	no	305.5	no
9-Jan-10	0.45	306.74	305.75	no	305.5	no
10-Jan-10	0.45	306.74	305.75	no	305.5	no
11-Jan-10	0.45	306.74	305.75	no	305.5	no
12-Jan-10	0.45	306.74	305.75	no	305.5	no
13-Jan-10	0.45	306.74	305.75	no	305.5	no
14-Jan-10	0.45	306.74	305.75	no	305.5	no
15-Jan-10	0.45	306.74	305.75	no	305.5	no
16-Jan-10	0.45	306.74	305.75	no	305.5	no
17-Jan-10	0.45	306.74	305.75	no	305.5	no
18-Jan-10	0.45	306.74	305.75	no	305.5	no
19-Jan-10	0.45	306.74	305.75	no	305.5	no
20-Jan-10	0.45	306.74	305.75	no	305.5	no
21-Jan-10	0.45	306.74	305.75	no	305.5	no
22-Jan-10	0.45	306.74	305.75	no	305.5	no
23-Jan-10	0.45	306.74	305.75	no	305.5	no
24-Jan-10	0.45	306.74	305.75	no	305.5	no
25-Jan-10	0.45	306.74	305.75	no	305.5	no
26-Jan-10	0.45	306.74	305.75	no	305.5	no
27-Jan-10	0.45	306.74	305.75	no	305.5	no
28-Jan-10	0.45	306.74	305.75	no	305.5	no
29-Jan-10	0.45	306.74	305.75	no	305.5	no
30-Jan-10	0.45	306.74	305.75	no	305.5	no
31-Jan-10	0.45	306.74	305.75	no	305.5	no
1-Feb-10	0.45	306.74	305.75	no	305.5	no
2-Feb-10	0.45	306.74	305.75	no	305.5	no
3-Feb-10	0.45	306.74	305.75	no	305.5	no
4-Feb-10	0.45	306.74	305.75	no	305.5	no
5-Feb-10	0.45	306.74	305.75	no	305.5	no
6-Feb-10	0.45	306.74	305.75	no	305.5	no
7-Feb-10	0.45	306.74	305.75	no	305.5	no
8-Feb-10	0.45	306.74	305.75	no	305.5	no
9-Feb-10	0.45	306.74	305.75	no	305.5	no
10-Feb-10	0.45	306.74	305.75	no	305.5	no
11-Feb-10	0.45	306.74	305.75	no	305.5	no
12-Feb-10	0.45	306.74	305.75	no	305.5	no
13-Feb-10	0.45	306.74	305.75	no	305.5	no
14-Feb-10	0.45	306.74	305.75	no	305.5	no
15-Feb-10	0.45	306.74	305.75	no	305.5	no
16-Feb-10	0.45	306.74	305.75	no	305.5	no
17-Feb-10	0.45	306.74	305.75	no	305.5	no
18-Feb-10	0.45	306.74	305.75	no	305.5	no
19-Feb-10	0.45	306.74	305.75	no	305.5	no
20-Feb-10	0.45	306.74	305.75	no	305.5	no
21-Feb-10	0.45	306.74	305.75	no	305.5	no
22-Feb-10	0.45	306.74	305.75	no	305.5	no
23-Feb-10	0.45	306.74	305.75	no	305.5	no
24-Feb-10	0.45	306.74	305.75	no	305.5	no
25-Feb-10	0.45	306.74	305.75	no	305.5	no
26-Feb-10	0.45	306.74	305.75	no	305.5	no
27-Feb-10	0.45	306.74	305.75	no	305.5	no
28-Feb-10	0.45	306.74	305.75	no	305.5	no
1-Mar-10	0.45	306.74	305.75	no	305.5	no
2-Mar-10	0.45	306.74	305.75	no	305.5	no
3-Mar-10	0.45	306.74	305.75	no	305.5	no
4-Mar-10	0.45	306.74	305.75	no	305.5	no
5-Mar-10	0.45	306.74	305.75	no	305.5	no
6-Mar-10	0.45	306.74	305.75	no	305.5	no
7-Mar-10	0.45	306.74	305.75	no	305.5	no
8-Mar-10	0.45	306.74	305.75	no	305.5	no
9-Mar-10	0.45	306.74	305.75	no	305.5	no
10-Mar-10	0.45	306.74	305.75	no	305.5	no
11-Mar-10	0.45	306.74	305.75	no	305.5	no
12-Mar-10	0.45	306.74	305.75	no	305.5	no
13-Mar-10	0.45	306.74	305.75	no	305.5	no
14-Mar-10	0.45	306.74	305.75	no	305.5	no
15-Mar-10	0.45	306.74	305.75	no	305.5	no
16-Mar-10	0.45	306.74	305.75	no	305.5	no
17-Mar-10	0.45	306.74	305.75	no	305.5	no
18-Mar-10	0.45	306.74	305.75	no	305.5	no
19-Mar-10	0.45	306.74	305.75	no	305.5	no
20-Mar-10	0.45	306.74	305.75	no	305.5	no
21-Mar-10	0.45	306.74	305.75	no	305.5	no
22-Mar-10	0.45	306.74	305.75	no	305.5	no
23-Mar-10	0.45	306.74	305.75	no	305.5	no
24-Mar-10	0.45	306.74	305.75	no	305.5	no
25-Mar-10	0.45	306.74	305.75	no	305.5	no
26-Mar-10	0.45	306.74	305.75	no	305.5	no
27-Mar-10	0.45	306.74	305.75	no	305.5	no
28-Mar-10	0.45	306.74	305.75	no	305.5	no
29-Mar-10	0.45	306.74	305.75	no	305.5	no
30-Mar-10	0.45	306.74	305.75	no	305.5	no
31-Mar-10	0.45	306.74	305.75	no	305.5	no
1-Apr-10	0.29	306.91	305.75	no	305.5	no
2-Apr-10	0.29	306.91	305.75	no	305.5	no
3-Apr-10	0.29	306.91	305.75	no	305.5	no
4-Apr-10	0.29	306.91	305.75	no	305.5	no
5-Apr-10	0.31	306.93	305.75	no	305.5	no
6-Apr-10	0.31	306.93	305.75	no	305.5	no
7-Apr-10	0.29	306.91	305.75	no	305.5	no
8-Apr-10	0.29	306.91	305.75	no	305.5	no
9-Apr-10	0.29	306.91	305.75	no	305.5	no
10-Apr-10	0.29	306.91	305.75	no	305.5	no
11-Apr-10	0.29	306.91	305.75	no	305.5	no
12-Apr-10	0.29	306.91	305.75	no	305.5	no
13-Apr-10	0.31	306.92	305.75	no	305.5	no
14-Apr-10	0.29	306.91	305.75	no	305.5	no
15-Apr-10	0.31	306.92	305.75	no	305.5	no
16-Apr-10	0.31	306.92	305.75	no	305.5	no
17-Apr-10	0.31	306.92	305.75	no	305.5	no
18-Apr-10	0.31	306.92	305.75	no	305.5	no
19-Apr-10	0.29	306.91	305.75	no	305.5	no
20-Apr-10	0.28	306.90	305.75	no	305.5	no
21-Apr-10	0.27	306.89	305.75	no	305.5	no
22-Apr-10	0.26	306.88	305.75	no	305.5	no
23-Apr-10	0.26	306.88	305.75	no	305.5	no
24-Apr-10	0.26	306.88	305.75	no	305.5	no
25-Apr-10	0.26	306.88	305.75	no	305.5	no
26-Apr-10	0.25	306.86	305.75	no	305.5	no
27-Apr-10	0.24	306.85	305.75	no	305.5	no
28-Apr-10	0.24	306.85	305.75	no	305.5	no
29-Apr-10	0.22	306.84	305.75	no	305.5	no
30-Apr-10	0.22	306.84	305.75	no	305.5	no

Table G-7
Threshold Summary - Phase 1 Pond
Mill Creek Aggregates Pit

Date	Gauge Reading Phase 1 Pond (m)	Water Elevation Phase 1 Pond (m ASL)	Early Warning Value (m ASL)	Exceedance of Early Warning Value	Threshold Value (Min) (m ASL)	Exceedance of Threshold Value
1-May-10	0.22	306.84	305.75	no	305.5	no
2-May-10	0.22	306.84	305.75	no	305.5	no
3-May-10	0.25	306.86	305.75	no	305.5	no
4-May-10	0.25	306.86	305.75	no	305.5	no
5-May-10	0.25	306.86	305.75	no	305.5	no
6-May-10	0.25	306.86	305.75	no	305.5	no
7-May-10	0.25	306.86	305.75	no	305.5	no
8-May-10	0.25	306.86	305.75	no	305.5	no
9-May-10	0.25	306.86	305.75	no	305.5	no
10-May-10	0.25	306.86	305.75	no	305.5	no
11-May-10	0.26	306.88	305.75	no	305.5	no
12-May-10	0.25	306.87	305.75	no	305.5	no
13-May-10	0.25	306.86	305.75	no	305.5	no
14-May-10	0.25	306.87	305.75	no	305.5	no
15-May-10	0.25	306.87	305.75	no	305.5	no
16-May-10	0.25	306.87	305.75	no	305.5	no
17-May-10	0.25	306.86	305.75	no	305.5	no
18-May-10	0.24	306.85	305.75	no	305.5	no
19-May-10	0.24	306.85	305.75	no	305.5	no
20-May-10	0.21	306.83	305.75	no	305.5	no
21-May-10	0.21	306.83	305.75	no	305.5	no
22-May-10	0.21	306.83	305.75	no	305.5	no
23-May-10	0.21	306.83	305.75	no	305.5	no
24-May-10	0.21	306.83	305.75	no	305.5	no
25-May-10	0.19	306.81	305.75	no	305.5	no
26-May-10	0.19	306.80	305.75	no	305.5	no
27-May-10	0.14	306.76	305.75	no	305.5	no
28-May-10	0.14	306.76	305.75	no	305.5	no
29-May-10	0.14	306.76	305.75	no	305.5	no
30-May-10	0.14	306.76	305.75	no	305.5	no
31-May-10	0.14	306.76	305.75	no	305.5	no
1-Jun-10	0.13	306.74	305.75	no	305.5	no
2-Jun-10	0.13	306.74	305.75	no	305.5	no
3-Jun-10	0.10	306.72	305.75	no	305.5	no
4-Jun-10	0.12	306.73	305.75	no	305.5	no
5-Jun-10	0.12	306.73	305.75	no	305.5	no
6-Jun-10	0.12	306.73	305.75	no	305.5	no
7-Jun-10	0.12	306.73	305.75	no	305.5	no
8-Jun-10	0.15	306.77	305.75	no	305.5	no
9-Jun-10	0.25	306.86	305.75	no	305.5	no
10-Jun-10	0.25	306.86	305.75	no	305.5	no
11-Jun-10	0.25	306.86	305.75	no	305.5	no
12-Jun-10	0.25	306.86	305.75	no	305.5	no
13-Jun-10	0.25	306.86	305.75	no	305.5	no
14-Jun-10	0.15	306.77	305.75	no	305.5	no
15-Jun-10	0.14	306.76	305.75	no	305.5	no
16-Jun-10	0.26	306.88	305.75	no	305.5	no
17-Jun-10	0.16	306.78	305.75	no	305.5	no
18-Jun-10	0.18	306.79	305.75	no	305.5	no
19-Jun-10	0.18	306.79	305.75	no	305.5	no
20-Jun-10	0.18	306.79	305.75	no	305.5	no
21-Jun-10	0.18	306.79	305.75	no	305.5	no
22-Jun-10	0.14	306.76	305.75	no	305.5	no
23-Jun-10	0.13	306.75	305.75	no	305.5	no
24-Jun-10	0.13	306.75	305.75	no	305.5	no
25-Jun-10	0.13	306.74	305.75	no	305.5	no
26-Jun-10	0.13	306.74	305.75	no	305.5	no
27-Jun-10	0.13	306.74	305.75	no	305.5	no
28-Jun-10	0.25	306.86	305.75	no	305.5	no
29-Jun-10	0.14	306.76	305.75	no	305.5	no
30-Jun-10	0.12	306.73	305.75	no	305.5	no
1-Jul-10	0.12	306.73	305.75	no	305.5	no
2-Jul-10	0.13	306.74	305.75	no	305.5	no
3-Jul-10	0.13	306.74	305.75	no	305.5	no
4-Jul-10	0.13	306.74	305.75	no	305.5	no
5-Jul-10	0.13	306.74	305.75	no	305.5	no
6-Jul-10	0.13	306.74	305.75	no	305.5	no
7-Jul-10	0.13	306.74	305.75	no	305.5	no
8-Jul-10	0.07	306.69	305.75	no	305.5	no
9-Jul-10	0.07	306.69	305.75	no	305.5	no
10-Jul-10	0.08	306.69	305.75	no	305.5	no
11-Jul-10	0.08	306.69	305.75	no	305.5	no
12-Jul-10	0.06	306.68	305.75	no	305.5	no
13-Jul-10	0.06	306.68	305.75	no	305.5	no
14-Jul-10	0.14	306.76	305.75	no	305.5	no
15-Jul-10	0.04	306.66	305.75	no	305.5	no
16-Jul-10	0.04	306.66	305.75	no	305.5	no
17-Jul-10	0.05	306.66	305.75	no	305.5	no
18-Jul-10	0.05	306.66	305.75	no	305.5	no
19-Jul-10	0.03	306.65	305.75	no	305.5	no
20-Jul-10	0.02	306.64	305.75	no	305.5	no
21-Jul-10	0.02	306.64	305.75	no	305.5	no
22-Jul-10	0.00	306.62	305.75	no	305.5	no
23-Jul-10	0.08	306.70	305.75	no	305.5	no
24-Jul-10	0.09	306.70	305.75	no	305.5	no
25-Jul-10	0.09	306.70	305.75	no	305.5	no
26-Jul-10	0.12	306.73	305.75	no	305.5	no
27-Jul-10	0.13	306.74	305.75	no	305.5	no
28-Jul-10	0.13	306.74	305.75	no	305.5	no
29-Jul-10	0.10	306.72	305.75	no	305.5	no
30-Jul-10	0.10	306.72	305.75	no	305.5	no
31-Jul-10	0.11	306.72	305.75	no	305.5	no
1-Aug-10	0.11	306.72	305.75	no	305.5	no
2-Aug-10	0.11	306.72	305.75	no	305.5	no
3-Aug-10	0.08	306.70	305.75	no	305.5	no
4-Aug-10	0.07	306.69	305.75	no	305.5	no
5-Aug-10	0.07	306.69	305.75	no	305.5	no
6-Aug-10	0.06	306.68	305.75	no	305.5	no
7-Aug-10	0.07	306.68	305.75	no	305.5	no
8-Aug-10	0.07	306.68	305.75	no	305.5	no
9-Aug-10	0.04	306.66	305.75	no	305.5	no
10-Aug-10	0.04	306.66	305.75	no	305.5	no
11-Aug-10	0.04	306.66	305.75	no	305.5	no
12-Aug-10	0.04	306.66	305.75	no	305.5	no
13-Aug-10	0.02	306.64	305.75	no	305.5	no
14-Aug-10	0.03	306.64	305.75	no	305.5	no
15-Aug-10	0.03	306.64	305.75	no	305.5	no
16-Aug-10	0.01	306.63	305.75	no	305.5	no
17-Aug-10	0.01	306.63	305.75	no	305.5	no
18-Aug-10	0.00	306.61	305.75	no	305.5	no
19-Aug-10	-0.01	306.60	305.75	no	305.5	no
20-Aug-10	-0.06	306.56	305.75	no	305.5	no
21-Aug-10	-0.05	306.56	305.75	no	305.5	no
22-Aug-10	-0.05	306.56	305.75	no	305.5	no
23-Aug-10	0.00	306.61	305.75	no	305.5	no
24-Aug-10	-0.07	306.54	305.75	no	305.5	no
25-Aug-10	-0.06	306.56	305.75	no	305.5	no
26-Aug-10	-0.01	306.60	305.75	no	305.5	no
27-Aug-10	-0.01	306.60	305.75	no	305.5	no
28-Aug-10	0.00	306.61	305.75	no	305.5	no
29-Aug-10	-0.01	306.60	305.75	no	305.5	no
30-Aug-10	-0.01	306.60	305.75	no	305.5	no
31-Aug-10	-0.01	306.60	305.75	no	305.5	no

Table G-7
Threshold Summary - Phase 1 Pond
Mill Creek Aggregates Pit

Date	Gauge Reading Phase 1 Pond (m)	Water Elevation Phase 1 Pond (m ASL)	Early Warning Value (m ASL)	Exceedance of Early Warning Value	Threshold Value (Min) (m ASL)	Exceedance of Threshold Value
1-Sep-10	-0.10	306.52	305.75	no	305.5	no
2-Sep-10	-0.10	306.52	305.75	no	305.5	no
3-Sep-10	-0.13	306.49	305.75	no	305.5	no
4-Sep-10	-0.12	306.49	305.75	no	305.5	no
5-Sep-10	-0.12	306.49	305.75	no	305.5	no
6-Sep-10	-0.12	306.49	305.75	no	305.5	no
7-Sep-10	-0.25	306.36	305.75	no	305.5	no
8-Sep-10	-0.23	306.39	305.75	no	305.5	no
9-Sep-10	-0.21	306.41	305.75	no	305.5	no
10-Sep-10	-0.21	306.41	305.75	no	305.5	no
11-Sep-10	-0.20	306.41	305.75	no	305.5	no
12-Sep-10	-0.20	306.41	305.75	no	305.5	no
13-Sep-10	-0.21	306.41	305.75	no	305.5	no
14-Sep-10	-0.21	306.41	305.75	no	305.5	no
15-Sep-10	-0.19	306.43	305.75	no	305.5	no
16-Sep-10	-0.21	306.41	305.75	no	305.5	no
17-Sep-10	-0.21	306.41	305.75	no	305.5	no
18-Sep-10	-0.20	306.41	305.75	no	305.5	no
19-Sep-10	-0.20	306.41	305.75	no	305.5	no
20-Sep-10	-0.21	306.41	305.75	no	305.5	no
21-Sep-10	-0.21	306.41	305.75	no	305.5	no
22-Sep-10	-0.21	306.41	305.75	no	305.5	no
23-Sep-10	-0.31	306.31	305.75	no	305.5	no
24-Sep-10	-0.31	306.31	305.75	no	305.5	no
25-Sep-10	-0.30	306.31	305.75	no	305.5	no
26-Sep-10	-0.30	306.31	305.75	no	305.5	no
27-Sep-10	-0.31	306.31	305.75	no	305.5	no
28-Sep-10	-0.11	306.51	305.75	no	305.5	no
29-Sep-10	-0.31	306.31	305.75	no	305.5	no
30-Sep-10	-0.23	306.39	305.75	no	305.5	no
1-Oct-10	-0.22	306.40	305.75	no	305.5	no
2-Oct-10	-0.22	306.40	305.75	no	305.5	no
3-Oct-10	-0.22	306.40	305.75	no	305.5	no
4-Oct-10	-0.31	306.31	305.75	no	305.5	no
5-Oct-10	-0.31	306.31	305.75	no	305.5	no
6-Oct-10	-0.31	306.31	305.75	no	305.5	no
7-Oct-10	-0.23	306.39	305.75	no	305.5	no
8-Oct-10	-0.31	306.31	305.75	no	305.5	no
9-Oct-10	-0.31	306.31	305.75	no	305.5	no
10-Oct-10	-0.31	306.31	305.75	no	305.5	no
11-Oct-10	-0.31	306.31	305.75	no	305.5	no
12-Oct-10	-0.23	306.39	305.75	no	305.5	no
13-Oct-10	-0.25	306.37	305.75	no	305.5	no
14-Oct-10	-0.25	306.37	305.75	no	305.5	no
15-Oct-10	-0.25	306.36	305.75	no	305.5	no
16-Oct-10	-0.25	306.36	305.75	no	305.5	no
17-Oct-10	-0.25	306.36	305.75	no	305.5	no
18-Oct-10	-0.31	306.31	305.75	no	305.5	no
19-Oct-10	-0.31	306.31	305.75	no	305.5	no
20-Oct-10	-0.31	306.31	305.75	no	305.5	no
21-Oct-10	-0.31	306.31	305.75	no	305.5	no
22-Oct-10	-0.31	306.31	305.75	no	305.5	no
23-Oct-10	-0.31	306.31	305.75	no	305.5	no
24-Oct-10	-0.31	306.31	305.75	no	305.5	no
25-Oct-10	-0.28	306.34	305.75	no	305.5	no
26-Oct-10	-0.29	306.33	305.75	no	305.5	no
27-Oct-10	-0.31	306.31	305.75	no	305.5	no
28-Oct-10	-0.28	306.34	305.75	no	305.5	no
29-Oct-10	-0.26	306.35	305.75	no	305.5	no
30-Oct-10	-0.26	306.35	305.75	no	305.5	no
31-Oct-10	-0.26	306.35	305.75	no	305.5	no
1-Nov-10	-0.31	306.31	305.75	no	305.5	no
2-Nov-10	-0.29	306.33	305.75	no	305.5	no
3-Nov-10	-0.31	306.31	305.75	no	305.5	no
4-Nov-10	-0.31	306.31	305.75	no	305.5	no
5-Nov-10	-0.31	306.31	305.75	no	305.5	no
6-Nov-10	-0.31	306.31	305.75	no	305.5	no
7-Nov-10	-0.31	306.31	305.75	no	305.5	no
8-Nov-10	-0.32	306.29	305.75	no	305.5	no
9-Nov-10	-0.31	306.31	305.75	no	305.5	no
10-Nov-10	-0.31	306.31	305.75	no	305.5	no
11-Nov-10	-0.32	306.29	305.75	no	305.5	no
12-Nov-10	-0.32	306.29	305.75	no	305.5	no
13-Nov-10	-0.32	306.29	305.75	no	305.5	no
14-Nov-10	-0.32	306.29	305.75	no	305.5	no
15-Nov-10	-0.31	306.31	305.75	no	305.5	no
16-Nov-10	-0.31	306.31	305.75	no	305.5	no
17-Nov-10	-0.31	306.31	305.75	no	305.5	no
18-Nov-10	-0.31	306.31	305.75	no	305.5	no
19-Nov-10	-0.31	306.31	305.75	no	305.5	no
20-Nov-10	-0.31	306.31	305.75	no	305.5	no
21-Nov-10	-0.31	306.31	305.75	no	305.5	no
22-Nov-10	-0.30	306.32	305.75	no	305.5	no
23-Nov-10	-0.30	306.32	305.75	no	305.5	no
24-Nov-10	-0.25	306.36	305.75	no	305.5	no
25-Nov-10	-0.25	306.36	305.75	no	305.5	no
26-Nov-10	-0.26	306.35	305.75	no	305.5	no
27-Nov-10	-0.26	306.35	305.75	no	305.5	no
28-Nov-10	-0.26	306.35	305.75	no	305.5	no
29-Nov-10	-0.28	306.34	305.75	no	305.5	no
30-Nov-10	-0.28	306.34	305.75	no	305.5	no
1-Dec-10	-0.27	306.34	305.75	no	305.5	no
2-Dec-10	-0.27	306.34	305.75	no	305.5	no
3-Dec-10	-0.27	306.34	305.75	no	305.5	no
4-Dec-10	-0.27	306.34	305.75	no	305.5	no
5-Dec-10	-0.27	306.34	305.75	no	305.5	no
6-Dec-10	-0.27	306.34	305.75	no	305.5	no
7-Dec-10	-0.27	306.34	305.75	no	305.5	no
8-Dec-10	-0.27	306.34	305.75	no	305.5	no
9-Dec-10	-0.27	306.34	305.75	no	305.5	no
10-Dec-10	-0.27	306.34	305.75	no	305.5	no
11-Dec-10	-0.27	306.34	305.75	no	305.5	no
12-Dec-10	-0.27	306.34	305.75	no	305.5	no
13-Dec-10	-0.27	306.34	305.75	no	305.5	no
14-Dec-10	-0.27	306.34	305.75	no	305.5	no
15-Dec-10	-0.27	306.34	305.75	no	305.5	no
16-Dec-10	-0.27	306.34	305.75	no	305.5	no
17-Dec-10	-0.27	306.34	305.75	no	305.5	no
18-Dec-10	-0.27	306.34	305.75	no	305.5	no
19-Dec-10	-0.27	306.34	305.75	no	305.5	no
20-Dec-10	-0.27	306.34	305.75	no	305.5	no
21-Dec-10	-0.27	306.34	305.75	no	305.5	no
22-Dec-10	-0.27	306.34	305.75	no	305.5	no
23-Dec-10	-0.27	306.34	305.75	no	305.5	no
24-Dec-10	-0.27	306.34	305.75	no	305.5	no
25-Dec-10	-0.27	306.34	305.75	no	305.5	no
26-Dec-10	-0.27	306.34	305.75	no	305.5	no
27-Dec-10	-0.27	306.34	305.75	no	305.5	no
28-Dec-10	-0.27	306.34	305.75	no	305.5	no
29-Dec-10	-0.27	306.34	305.75	no	305.5	no
30-Dec-10	-0.27	306.34	305.75	no	305.5	no
31-Dec-10	-0.27	306.34	305.75	no	305.5	no

Table G-7
Threshold Summary - Phase 1 Pond
Mill Creek Aggregates Pit

Date	Gauge Reading Phase 1 Pond (m)	Water Elevation Phase 1 Pond (m ASL)	Early Warning Value (m ASL)	Exceedance of Early Warning Value	Threshold Value (Min) (m ASL)	Exceedance of Threshold Value
1-Jan-11	-0.28	306.34	305.75	no	305.5	no
2-Jan-11	-0.28	306.34	305.75	no	305.5	no
3-Jan-11	-0.28	306.34	305.75	no	305.5	no
4-Jan-11	-0.28	306.34	305.75	no	305.5	no
5-Jan-11	-0.28	306.34	305.75	no	305.5	no
6-Jan-11	-0.28	306.34	305.75	no	305.5	no
7-Jan-11	-0.28	306.34	305.75	no	305.5	no
8-Jan-11	-0.28	306.34	305.75	no	305.5	no
9-Jan-11	-0.28	306.34	305.75	no	305.5	no
10-Jan-11	-0.28	306.34	305.75	no	305.5	no
11-Jan-11	-0.28	306.34	305.75	no	305.5	no
12-Jan-11	-0.28	306.34	305.75	no	305.5	no
13-Jan-11	-0.28	306.34	305.75	no	305.5	no
14-Jan-11	-0.28	306.34	305.75	no	305.5	no
15-Jan-11	-0.28	306.34	305.75	no	305.5	no
16-Jan-11	-0.28	306.34	305.75	no	305.5	no
17-Jan-11	-0.28	306.34	305.75	no	305.5	no
18-Jan-11	-0.28	306.34	305.75	no	305.5	no
19-Jan-11	-0.28	306.34	305.75	no	305.5	no
20-Jan-11	-0.28	306.34	305.75	no	305.5	no
21-Jan-11	-0.28	306.34	305.75	no	305.5	no
22-Jan-11	-0.28	306.34	305.75	no	305.5	no
23-Jan-11	-0.28	306.34	305.75	no	305.5	no
24-Jan-11	-0.28	306.34	305.75	no	305.5	no
25-Jan-11	-0.28	306.34	305.75	no	305.5	no
26-Jan-11	-0.28	306.34	305.75	no	305.5	no
27-Jan-11	-0.28	306.34	305.75	no	305.5	no
28-Jan-11	-0.28	306.34	305.75	no	305.5	no
29-Jan-11	-0.28	306.34	305.75	no	305.5	no
30-Jan-11	-0.28	306.34	305.75	no	305.5	no
31-Jan-11	-0.28	306.34	305.75	no	305.5	no
1-Feb-11	-0.28	306.34	305.75	no	305.5	no
2-Feb-11	-0.28	306.34	305.75	no	305.5	no
3-Feb-11	-0.28	306.34	305.75	no	305.5	no
4-Feb-11	-0.28	306.34	305.75	no	305.5	no
5-Feb-11	-0.28	306.34	305.75	no	305.5	no
6-Feb-11	-0.28	306.34	305.75	no	305.5	no
7-Feb-11	-0.28	306.34	305.75	no	305.5	no
8-Feb-11	-0.28	306.34	305.75	no	305.5	no
9-Feb-11	-0.28	306.34	305.75	no	305.5	no
10-Feb-11	-0.28	306.34	305.75	no	305.5	no
11-Feb-11	-0.28	306.34	305.75	no	305.5	no
12-Feb-11	-0.28	306.34	305.75	no	305.5	no
13-Feb-11	-0.28	306.34	305.75	no	305.5	no
14-Feb-11	-0.28	306.34	305.75	no	305.5	no
15-Feb-11	-0.28	306.34	305.75	no	305.5	no
16-Feb-11	-0.28	306.34	305.75	no	305.5	no
17-Feb-11	-0.28	306.34	305.75	no	305.5	no
18-Feb-11	-0.28	306.34	305.75	no	305.5	no
19-Feb-11	-0.28	306.34	305.75	no	305.5	no
20-Feb-11	-0.28	306.34	305.75	no	305.5	no
21-Feb-11	-0.28	306.34	305.75	no	305.5	no
22-Feb-11	-0.28	306.34	305.75	no	305.5	no
23-Feb-11	-0.28	306.34	305.75	no	305.5	no
24-Feb-11	-0.28	306.34	305.75	no	305.5	no
25-Feb-11	-0.28	306.34	305.75	no	305.5	no
26-Feb-11	-0.28	306.34	305.75	no	305.5	no
27-Feb-11	-0.28	306.34	305.75	no	305.5	no
28-Feb-11	-0.28	306.34	305.75	no	305.5	no
1-Mar-11	-0.28	306.34	305.75	no	305.5	no
2-Mar-11	-0.28	306.34	305.75	no	305.5	no
3-Mar-11	-0.28	306.34	305.75	no	305.5	no
4-Mar-11	-0.28	306.34	305.75	no	305.5	no
5-Mar-11	-0.28	306.34	305.75	no	305.5	no
6-Mar-11	-0.28	306.34	305.75	no	305.5	no
7-Mar-11	-0.28	306.34	305.75	no	305.5	no
8-Mar-11	-0.28	306.34	305.75	no	305.5	no
9-Mar-11	-0.28	306.34	305.75	no	305.5	no
10-Mar-11	-0.28	306.34	305.75	no	305.5	no
11-Mar-11	-0.28	306.34	305.75	no	305.5	no
12-Mar-11	-0.28	306.34	305.75	no	305.5	no
13-Mar-11	-0.28	306.34	305.75	no	305.5	no
14-Mar-11	-0.28	306.34	305.75	no	305.5	no
15-Mar-11	-0.28	306.34	305.75	no	305.5	no
16-Mar-11	-0.28	306.34	305.75	no	305.5	no
17-Mar-11	-0.28	306.34	305.75	no	305.5	no
18-Mar-11	-0.28	306.34	305.75	no	305.5	no
19-Mar-11	-0.28	306.34	305.75	no	305.5	no
20-Mar-11	-0.28	306.34	305.75	no	305.5	no
21-Mar-11	-0.28	306.34	305.75	no	305.5	no
22-Mar-11	-0.28	306.34	305.75	no	305.5	no
23-Mar-11	-0.28	306.34	305.75	no	305.5	no
24-Mar-11	-0.28	306.34	305.75	no	305.5	no
25-Mar-11	-0.28	306.34	305.75	no	305.5	no
26-Mar-11	-0.28	306.34	305.75	no	305.5	no
27-Mar-11	-0.28	306.34	305.75	no	305.5	no
28-Mar-11	-0.28	306.34	305.75	no	305.5	no
29-Mar-11	-0.28	306.34	305.75	no	305.5	no
30-Mar-11	-0.28	306.34	305.75	no	305.5	no
31-Mar-11	-0.28	306.34	305.75	no	305.5	no
11-Apr-11	0.86	306.53	305.75	no	305.5	no
12-Apr-11	0.86	306.53	305.75	no	305.5	no
13-Apr-11	0.86	306.53	305.75	no	305.5	no
14-Apr-11	0.86	306.53	305.75	no	305.5	no
15-Apr-11	0.85	306.52	305.75	no	305.5	no
16-Apr-11	0.85	306.52	305.75	no	305.5	no
17-Apr-11	0.85	306.52	305.75	no	305.5	no
18-Apr-11	0.88	306.55	305.75	no	305.5	no
19-Apr-11	0.88	306.55	305.75	no	305.5	no
20-Apr-11	0.90	306.57	305.75	no	305.5	no
21-Apr-11	0.90	306.57	305.75	no	305.5	no
22-Apr-11	0.90	306.57	305.75	no	305.5	no
23-Apr-11	0.90	306.57	305.75	no	305.5	no
24-Apr-11	0.90	306.57	305.75	no	305.5	no
25-Apr-11	0.93	306.60	305.75	no	305.5	no
26-Apr-11	0.95	306.62	305.75	no	305.5	no
27-Apr-11	0.94	306.61	305.75	no	305.5	no
28-Apr-11	0.94	306.61	305.75	no	305.5	no
29-Apr-11	0.98	306.65	305.75	no	305.5	no
30-Apr-11	0.98	306.65	305.75	no	305.5	no
1-May-11	0.98	306.65	305.75	no	305.5	no
2-May-11	0.97	306.64	305.75	no	305.5	no
3-May-11	0.98	306.65	305.75	no	305.5	no
4-May-11	0.98	306.65	305.75	no	305.5	no
5-May-11	0.97	306.64	305.75	no	305.5	no
6-May-11	0.97	306.64	305.75	no	305.5	no
7-May-11	0.97	306.64	305.75	no	305.5	no
8-May-11	0.97	306.64	305.75	no	305.5	no
9-May-11	0.98	306.65	305.75	no	305.5	no
10-May-11	0.98	306.65	305.75	no	305.5	no
11-May-11	1.05	306.72	305.75	no	305.5	no
12-May-11	1.05	306.72	305.75	no	305.5	no
13-May-11	1.07	306.74	305.75	no	305.5	no
14-May-11	1.07	306.74	305.75	no	305.5	no
15-May-11	1.07	306.74	305.75	no	305.5	no
16-May-11	1.07	306.74	305.75	no	305.5	no
17-May-11	1.05	306.72	305.75	no	305.5	no
18-May-11	1.05	306.72	305.75	no	305.5	no
19-May-11	1.04	306.71	305.75	no	305.5	no
20-May-11	1.04	306.71	305.75	no	305.5	no

Table G-7
Threshold Summary - Phase 1 Pond
Mill Creek Aggregates Pit

Date	Gauge Reading Phase 1 Pond (m)	Water Elevation Phase 1 Pond (m ASL)	Early Warning Value (m ASL)	Exceedance of Early Warning Value	Threshold Value (Min) (m ASL)	Exceedance of Threshold Value
21-May-11	1.04	306.71	305.75	no	305.5	no
22-May-11	1.04	306.71	305.75	no	305.5	no
23-May-11	1.04	306.71	305.75	no	305.5	no
24-May-11	1.03	306.70	305.75	no	305.5	no
25-May-11	1.04	306.71	305.75	no	305.5	no
26-May-11	1.02	306.69	305.75	no	305.5	no
27-May-11	1.02	306.69	305.75	no	305.5	no
28-May-11	1.03	306.70	305.75	no	305.5	no
29-May-11	1.04	306.71	305.75	no	305.5	no
30-May-11	1.02	306.69	305.75	no	305.5	no
31-May-11	1.02	306.69	305.75	no	305.5	no
1-Jun-11	1.02	306.69	305.75	no	305.5	no
2-Jun-11	1.02	306.69	305.75	no	305.5	no
3-Jun-11	1.02	306.69	305.75	no	305.5	no
4-Jun-11	1.02	306.69	305.75	no	305.5	no
5-Jun-11	1.02	306.69	305.75	no	305.5	no
6-Jun-11	1.02	306.69	305.75	no	305.5	no
7-Jun-11	1.02	306.69	305.75	no	305.5	no
8-Jun-11	1.02	306.69	305.75	no	305.5	no
9-Jun-11	1.02	306.69	305.75	no	305.5	no
10-Jun-11	1.02	306.69	305.75	no	305.5	no
11-Jun-11	1.02	306.69	305.75	no	305.5	no
12-Jun-11	1.02	306.69	305.75	no	305.5	no
13-Jun-11	1.02	306.69	305.75	no	305.5	no
14-Jun-11	1.02	306.69	305.75	no	305.5	no
15-Jun-11	1.02	306.69	305.75	no	305.5	no
16-Jun-11	1.02	306.69	305.75	no	305.5	no
17-Jun-11	1.02	306.69	305.75	no	305.5	no
18-Jun-11	1.02	306.69	305.75	no	305.5	no
19-Jun-11	1.02	306.69	305.75	no	305.5	no
20-Jun-11	1.02	306.69	305.75	no	305.5	no
21-Jun-11	1.02	306.69	305.75	no	305.5	no
22-Jun-11	1.02	306.69	305.75	no	305.5	no
23-Jun-11	1.02	306.69	305.75	no	305.5	no
24-Jun-11	1.02	306.69	305.75	no	305.5	no
25-Jun-11	1.02	306.69	305.75	no	305.5	no
26-Jun-11	1.02	306.69	305.75	no	305.5	no
27-Jun-11	1.02	306.69	305.75	no	305.5	no
28-Jun-11	1.02	306.69	305.75	no	305.5	no
29-Jun-11	1.02	306.69	305.75	no	305.5	no
30-Jun-11	1.02	306.69	305.75	no	305.5	no
1-Jul-11	1.02	306.69	305.75	no	305.5	no
2-Jul-11	1.02	306.69	305.75	no	305.5	no
3-Jul-11	1.02	306.69	305.75	no	305.5	no
4-Jul-11	1.02	306.69	305.75	no	305.5	no
5-Jul-11	1.02	306.69	305.75	no	305.5	no
6-Jul-11	1.02	306.69	305.75	no	305.5	no
7-Jul-11	1.02	306.69	305.75	no	305.5	no
8-Jul-11	1.02	306.69	305.75	no	305.5	no
9-Jul-11	1.02	306.69	305.75	no	305.5	no
10-Jul-11	1.02	306.69	305.75	no	305.5	no
11-Jul-11	1.02	306.69	305.75	no	305.5	no
12-Jul-11	1.02	306.69	305.75	no	305.5	no
13-Jul-11	1.02	306.69	305.75	no	305.5	no
14-Jul-11	1.02	306.69	305.75	no	305.5	no
15-Jul-11	1.02	306.69	305.75	no	305.5	no
16-Jul-11	1.02	306.69	305.75	no	305.5	no
17-Jul-11	1.02	306.69	305.75	no	305.5	no
18-Jul-11	1.02	306.69	305.75	no	305.5	no
19-Jul-11	1.02	306.69	305.75	no	305.5	no
20-Jul-11	1.02	306.69	305.75	no	305.5	no
21-Jul-11	1.02	306.69	305.75	no	305.5	no
22-Jul-11	1.02	306.69	305.75	no	305.5	no
23-Jul-11	1.02	306.69	305.75	no	305.5	no
24-Jul-11	1.02	306.69	305.75	no	305.5	no
25-Jul-11	1.02	306.69	305.75	no	305.5	no
26-Jul-11	1.00	306.67	305.75	no	305.5	no
27-Jul-11	0.97	306.64	305.75	no	305.5	no
28-Jul-11	0.96	306.63	305.75	no	305.5	no
29-Jul-11	0.97	306.64	305.75	no	305.5	no
30-Jul-11	0.97	306.64	305.75	no	305.5	no
31-Jul-11	0.97	306.64	305.75	no	305.5	no
1-Aug-11	0.97	306.64	305.75	no	305.5	no
2-Aug-11	0.94	306.61	305.75	no	305.5	no
3-Aug-11	0.59	306.64	305.75	no	305.5	no
4-Aug-11	0.61	306.66	305.75	no	305.5	no
5-Aug-11	0.58	306.63	305.75	no	305.5	no
6-Aug-11	0.58	306.63	305.75	no	305.5	no
7-Aug-11	0.58	306.63	305.75	no	305.5	no
8-Aug-11	0.61	306.66	305.75	no	305.5	no
9-Aug-11	0.61	306.66	305.75	no	305.5	no
10-Aug-11	0.61	306.66	305.75	no	305.5	no
11-Aug-11	0.61	306.66	305.75	no	305.5	no
12-Aug-11	0.58	306.63	305.75	no	305.5	no
13-Aug-11	0.58	306.63	305.75	no	305.5	no
14-Aug-11	0.58	306.63	305.75	no	305.5	no
15-Aug-11	0.57	306.62	305.75	no	305.5	no
16-Aug-11	0.54	306.59	305.75	no	305.5	no
17-Aug-11	0.54	306.59	305.75	no	305.5	no
18-Aug-11	0.51	306.56	305.75	no	305.5	no
19-Aug-11	0.50	306.55	305.75	no	305.5	no
20-Aug-11	0.50	306.55	305.75	no	305.5	no
21-Aug-11	0.50	306.55	305.75	no	305.5	no
22-Aug-11	0.50	306.55	305.75	no	305.5	no
23-Aug-11	0.49	306.54	305.75	no	305.5	no
24-Aug-11	0.45	306.50	305.75	no	305.5	no
25-Aug-11	0.47	306.52	305.75	no	305.5	no
26-Aug-11	0.49	306.54	305.75	no	305.5	no
27-Aug-11	0.49	306.54	305.75	no	305.5	no
28-Aug-11	0.49	306.54	305.75	no	305.5	no
29-Aug-11	0.48	306.53	305.75	no	305.5	no
30-Aug-11	0.47	306.52	305.75	no	305.5	no
31-Aug-11	0.47	306.52	305.75	no	305.5	no
1-Sep-11	0.48	306.53	305.75	no	305.5	no
2-Sep-11	0.48	306.53	305.75	no	305.5	no
3-Sep-11	0.48	306.53	305.75	no	305.5	no
4-Sep-11	0.48	306.53	305.75	no	305.5	no
5-Sep-11	0.48	306.53	305.75	no	305.5	no
6-Sep-11	0.50	306.55	305.75	no	305.5	no
7-Sep-11	0.46	306.51	305.75	no	305.5	no
8-Sep-11	0.46	306.51	305.75	no	305.5	no
9-Sep-11	0.46	306.51	305.75	no	305.5	no
10-Sep-11	0.46	306.51	305.75	no	305.5	no
11-Sep-11	0.46	306.51	305.75	no	305.5	no
12-Sep-11	0.43	306.48	305.75	no	305.5	no
13-Sep-11	0.43	306.48	305.75	no	305.5	no
14-Sep-11	0.40	306.45	305.75	no	305.5	no
15-Sep-11	0.41	306.46	305.75	no	305.5	no
16-Sep-11	0.38	306.43	305.75	no	305.5	no
17-Sep-11	0.38	306.43	305.75	no	305.5	no
18-Sep-11	0.38	306.43	305.75	no	305.5	no
19-Sep-11	0.32	306.37	305.75	no	305.5	no
20-Sep-11	0.33	306.38	305.75	no	305.5	no
21-Sep-11	0.35	306.40	305.75	no	305.5	no
22-Sep-11	0.35	306.40	305.75	no	305.5	no
23-Sep-11	0.35	306.40	305.75	no	305.5	no
24-Sep-11	0.35	306.40	305.75	no	305.5	no
25-Sep-11	0.35	306.40	305.75	no	305.5	no
26-Sep-11	0.34	306.39	305.75	no	305.5	no
27-Sep-11	0.34	306.39	305.75	no	305.5	no

Table G-7
Threshold Summary - Phase 1 Pond
Mill Creek Aggregates Pit

Date	Gauge Reading Phase 1 Pond (m)	Water Elevation Phase 1 Pond (m ASL)	Early Warning Value (m ASL)	Exceedance of Early Warning Value	Threshold Value (Min) (m ASL)	Exceedance of Threshold Value
28-Sep-11	0.35	306.40	305.75	no	305.5	no
29-Sep-11	0.36	306.41	305.75	no	305.5	no
30-Sep-11	0.23	306.28	305.75	no	305.5	no
1-Oct-11	0.23	306.28	305.75	no	305.5	no
2-Oct-11	0.23	306.28	305.75	no	305.5	no
3-Oct-11	0.32	306.37	305.75	no	305.5	no
4-Oct-11	0.32	306.37	305.75	no	305.5	no
5-Oct-11	0.30	306.35	305.75	no	305.5	no
6-Oct-11	0.20	306.25	305.75	no	305.5	no
7-Oct-11	0.28	306.33	305.75	no	305.5	no
8-Oct-11	0.28	306.33	305.75	no	305.5	no
9-Oct-11	0.28	306.33	305.75	no	305.5	no
10-Oct-11	0.28	306.33	305.75	no	305.5	no
11-Oct-11	0.30	306.35	305.75	no	305.5	no
12-Oct-11	0.30	306.35	305.75	no	305.5	no
13-Oct-11	0.32	306.37	305.75	no	305.5	no
14-Oct-11	0.35	306.40	305.75	no	305.5	no
15-Oct-11	0.35	306.40	305.75	no	305.5	no
16-Oct-11	0.35	306.40	305.75	no	305.5	no
17-Oct-11	0.35	306.40	305.75	no	305.5	no
18-Oct-11	0.36	306.41	305.75	no	305.5	no
19-Oct-11	0.36	306.41	305.75	no	305.5	no
20-Oct-11	0.36	306.41	305.75	no	305.5	no
21-Oct-11	0.39	306.44	305.75	no	305.5	no
22-Oct-11	0.39	306.44	305.75	no	305.5	no
23-Oct-11	0.39	306.44	305.75	no	305.5	no
24-Oct-11	0.40	306.45	305.75	no	305.5	no
25-Oct-11	0.42	306.47	305.75	no	305.5	no
26-Oct-11	0.42	306.47	305.75	no	305.5	no
27-Oct-11	0.44	306.49	305.75	no	305.5	no
28-Oct-11	0.44	306.49	305.75	no	305.5	no
29-Oct-11	0.44	306.49	305.75	no	305.5	no
30-Oct-11	0.44	306.49	305.75	no	305.5	no
31-Oct-11	0.41	306.46	305.75	no	305.5	no
1-Nov-11	0.41	306.46	305.75	no	305.5	no
2-Nov-11	0.41	306.46	305.75	no	305.5	no
3-Nov-11	0.41	306.46	305.75	no	305.5	no
4-Nov-11	0.41	306.46	305.75	no	305.5	no
5-Nov-11	0.41	306.46	305.75	no	305.5	no
6-Nov-11	0.41	306.46	305.75	no	305.5	no
7-Nov-11	0.39	306.44	305.75	no	305.5	no
8-Nov-11	0.38	306.43	305.75	no	305.5	no
9-Nov-11	0.38	306.43	305.75	no	305.5	no
10-Nov-11	0.39	306.44	305.75	no	305.5	no
11-Nov-11	0.39	306.44	305.75	no	305.5	no
12-Nov-11	0.39	306.44	305.75	no	305.5	no
13-Nov-11	0.39	306.44	305.75	no	305.5	no
14-Nov-11	0.40	306.45	305.75	no	305.5	no
15-Nov-11	0.40	306.45	305.75	no	305.5	no
16-Nov-11	0.40	306.45	305.75	no	305.5	no
17-Nov-11	0.40	306.45	305.75	no	305.5	no
18-Nov-11	0.40	306.45	305.75	no	305.5	no
19-Nov-11	0.40	306.45	305.75	no	305.5	no
20-Nov-11	0.40	306.45	305.75	no	305.5	no
21-Nov-11	0.41	306.46	305.75	no	305.5	no
22-Nov-11	0.42	306.47	305.75	no	305.5	no
23-Nov-11	0.42	306.47	305.75	no	305.5	no
24-Nov-11	0.41	306.46	305.75	no	305.5	no
25-Nov-11	0.42	306.47	305.75	no	305.5	no
26-Nov-11	0.42	306.47	305.75	no	305.5	no
27-Nov-11	0.42	306.47	305.75	no	305.5	no
28-Nov-11	0.44	306.49	305.75	no	305.5	no
29-Nov-11	0.45	306.50	305.75	no	305.5	no
30-Nov-11	0.47	306.52	305.75	no	305.5	no
1-Dec-11	0.48	306.53	305.75	no	305.5	no
2-Dec-11	0.50	306.55	305.75	no	305.5	no
1-Jan-12	0.47	306.52	305.75	no	305.5	no
2-Jan-12	0.47	306.52	305.75	no	305.5	no
3-Jan-12	0.47	306.52	305.75	no	305.5	no
4-Jan-12	0.47	306.52	305.75	no	305.5	no
5-Jan-12	0.47	306.52	305.75	no	305.5	no
6-Jan-12	0.47	306.52	305.75	no	305.5	no
7-Jan-12	0.47	306.52	305.75	no	305.5	no
8-Jan-12	0.47	306.52	305.75	no	305.5	no
9-Jan-12	0.47	306.52	305.75	no	305.5	no
10-Jan-12	0.47	306.52	305.75	no	305.5	no
11-Jan-12	0.47	306.52	305.75	no	305.5	no
12-Jan-12	0.47	306.52	305.75	no	305.5	no
13-Jan-12	0.47	306.52	305.75	no	305.5	no
14-Jan-12	0.47	306.52	305.75	no	305.5	no
15-Jan-12	0.47	306.52	305.75	no	305.5	no
16-Jan-12	0.47	306.52	305.75	no	305.5	no
17-Jan-12	0.47	306.52	305.75	no	305.5	no
18-Jan-12	0.47	306.52	305.75	no	305.5	no
19-Jan-12	0.47	306.52	305.75	no	305.5	no
20-Jan-12	0.47	306.52	305.75	no	305.5	no
21-Jan-12	0.47	306.52	305.75	no	305.5	no
22-Jan-12	0.47	306.52	305.75	no	305.5	no
23-Jan-12	0.47	306.52	305.75	no	305.5	no
24-Jan-12	0.47	306.52	305.75	no	305.5	no
25-Jan-12	0.47	306.52	305.75	no	305.5	no
26-Jan-12	0.47	306.52	305.75	no	305.5	no
27-Jan-12	0.47	306.52	305.75	no	305.5	no
28-Jan-12	0.47	306.52	305.75	no	305.5	no
29-Jan-12	0.47	306.52	305.75	no	305.5	no
30-Jan-12	0.47	306.52	305.75	no	305.5	no
31-Jan-12	0.47	306.52	305.75	no	305.5	no
1-Feb-12	0.47	306.52	305.75	no	305.5	no
2-Feb-12	0.47	306.52	305.75	no	305.5	no
3-Feb-12	0.47	306.52	305.75	no	305.5	no
4-Feb-12	0.47	306.52	305.75	no	305.5	no
5-Feb-12	0.47	306.52	305.75	no	305.5	no
6-Feb-12	0.47	306.52	305.75	no	305.5	no
7-Feb-12	0.47	306.52	305.75	no	305.5	no
8-Feb-12	0.47	306.52	305.75	no	305.5	no
9-Feb-12	0.47	306.52	305.75	no	305.5	no
10-Feb-12	0.47	306.52	305.75	no	305.5	no
11-Feb-12	0.47	306.52	305.75	no	305.5	no
12-Feb-12	0.47	306.52	305.75	no	305.5	no
13-Feb-12	0.47	306.52	305.75	no	305.5	no
14-Feb-12	0.47	306.52	305.75	no	305.5	no
15-Feb-12	0.47	306.52	305.75	no	305.5	no
16-Feb-12	0.47	306.52	305.75	no	305.5	no
17-Feb-12	0.47	306.52	305.75	no	305.5	no
18-Feb-12	0.47	306.52	305.75	no	305.5	no
19-Feb-12	0.47	306.52	305.75	no	305.5	no
20-Feb-12	0.47	306.52	305.75	no	305.5	no
21-Feb-12	0.47	306.52	305.75	no	305.5	no
22-Feb-12	0.47	306.52	305.75	no	305.5	no
23-Feb-12	0.47	306.52	305.75	no	305.5	no
24-Feb-12	0.47	306.52	305.75	no	305.5	no
25-Feb-12	0.47	306.52	305.75	no	305.5	no
26-Feb-12	0.47	306.52	305.75	no	305.5	no
27-Feb-12	0.47	306.52	305.75	no	305.5	no
28-Feb-12	0.47	306.52	305.75	no	305.5	no
29-Feb-12	0.47	306.52	305.75	no	305.5	no

Table G-7
Threshold Summary - Phase 1 Pond
Mill Creek Aggregates Pit

Date	Gauge Reading Phase 1 Pond (m)	Water Elevation Phase 1 Pond (m ASL)	Early Warning Value (m ASL)	Exceedance of Early Warning Value	Threshold Value (Min) (m ASL)	Exceedance of Threshold Value
1-Mar-12	0.47	306.52	305.75	no	305.5	no
2-Mar-12	0.47	306.52	305.75	no	305.5	no
3-Mar-12	0.47	306.52	305.75	no	305.5	no
4-Mar-12	0.47	306.52	305.75	no	305.5	no
5-Mar-12	0.47	306.52	305.75	no	305.5	no
6-Mar-12	0.47	306.52	305.75	no	305.5	no
7-Mar-12	0.47	306.52	305.75	no	305.5	no
8-Mar-12	0.47	306.52	305.75	no	305.5	no
9-Mar-12	0.47	306.52	305.75	no	305.5	no
10-Mar-12	0.47	306.52	305.75	no	305.5	no
11-Mar-12	0.47	306.52	305.75	no	305.5	no
12-Mar-12	0.47	306.52	305.75	no	305.5	no
13-Mar-12	0.47	306.52	305.75	no	305.5	no
14-Mar-12	0.47	306.52	305.75	no	305.5	no
15-Mar-12	0.47	306.52	305.75	no	305.5	no
16-Mar-12	0.47	306.52	305.75	no	305.5	no
17-Mar-12	0.47	306.52	305.75	no	305.5	no
18-Mar-12	0.47	306.52	305.75	no	305.5	no
19-Mar-12	0.47	306.52	305.75	no	305.5	no
20-Mar-12	0.47	306.52	305.75	no	305.5	no
21-Mar-12	0.47	306.52	305.75	no	305.5	no
22-Mar-12	0.34	306.75	305.75	no	305.5	no
23-Mar-12	0.39	306.80	305.75	no	305.5	no
24-Mar-12	0.39	306.80	305.75	no	305.5	no
25-Mar-12	0.39	306.80	305.75	no	305.5	no
26-Mar-12	0.38	306.79	305.75	no	305.5	no
27-Mar-12	0.39	306.80	305.75	no	305.5	no
28-Mar-12	0.37	306.78	305.75	no	305.5	no
29-Mar-12	0.38	306.79	305.75	no	305.5	no
30-Mar-12	0.39	306.80	305.75	no	305.5	no
31-Mar-12	0.39	306.80	305.75	no	305.5	no
1-Apr-12	0.39	306.80	305.75	no	305.5	no
2-Apr-12	0.40	306.81	305.75	no	305.5	no
3-Apr-12	0.38	306.79	305.75	no	305.5	no
4-Apr-12	0.30	306.71	305.75	no	305.5	no
5-Apr-12	0.30	306.71	305.75	no	305.5	no
9-Apr-12	0.28	306.69	305.75	no	305.5	no
10-Apr-12	0.20	306.61	305.75	no	305.5	no
11-Apr-12	0.22	306.63	305.75	no	305.5	no
12-Apr-12	0.20	306.61	305.75	no	305.5	no
13-Apr-12	0.20	306.61	305.75	no	305.5	no
14-Apr-12	0.20	306.61	305.75	no	305.5	no
15-Apr-12	0.20	306.61	305.75	no	305.5	no
16-Apr-12	0.21	306.62	305.75	no	305.5	no
17-Apr-12	0.21	306.62	305.75	no	305.5	no
18-Apr-12	0.21	306.62	305.75	no	305.5	no
19-Apr-12	0.21	306.62	305.75	no	305.5	no
20-Apr-12	0.21	306.62	305.75	no	305.5	no
21-Apr-12	0.21	306.62	305.75	no	305.5	no
22-Apr-12	0.21	306.62	305.75	no	305.5	no
23-Apr-12	0.21	306.62	305.75	no	305.5	no
24-Apr-12	0.20	306.61	305.75	no	305.5	no
25-Apr-12	0.20	306.61	305.75	no	305.5	no
26-Apr-12	0.20	306.61	305.75	no	305.5	no
27-Apr-12	0.20	306.61	305.75	no	305.5	no
28-Apr-12	0.20	306.61	305.75	no	305.5	no
29-Apr-12	0.20	306.61	305.75	no	305.5	no
30-Apr-12	0.24	306.65	305.75	no	305.5	no
1-May-12	0.25	306.66	305.75	no	305.5	no
2-May-12	0.24	306.65	305.75	no	305.5	no
3-May-12	0.25	306.66	305.75	no	305.5	no
4-May-12	0.24	306.65	305.75	no	305.5	no
5-May-12	0.24	306.65	305.75	no	305.5	no
6-May-12	0.24	306.65	305.75	no	305.5	no
7-May-12	0.28	306.69	305.75	no	305.5	no
8-May-12	0.28	306.69	305.75	no	305.5	no
9-May-12	0.28	306.69	305.75	no	305.5	no
10-May-12	0.28	306.69	305.75	no	305.5	no
11-May-12	0.28	306.69	305.75	no	305.5	no
12-May-12	0.28	306.69	305.75	no	305.5	no
13-May-12	0.28	306.69	305.75	no	305.5	no
14-May-12	0.27	306.68	305.75	no	305.5	no
15-May-12	0.27	306.68	305.75	no	305.5	no
16-May-12	0.25	306.66	305.75	no	305.5	no
17-May-12	0.22	306.63	305.75	no	305.5	no
18-May-12	0.22	306.63	305.75	no	305.5	no
19-May-12	0.22	306.63	305.75	no	305.5	no
20-May-12	0.22	306.63	305.75	no	305.5	no
21-May-12	0.22	306.63	305.75	no	305.5	no
22-May-12	0.22	306.63	305.75	no	305.5	no
23-May-12	0.22	306.63	305.75	no	305.5	no
24-May-12	0.22	306.63	305.75	no	305.5	no
25-May-12	0.20	306.61	305.75	no	305.5	no
26-May-12	0.20	306.61	305.75	no	305.5	no
27-May-12	0.20	306.61	305.75	no	305.5	no
28-May-12	0.18	306.59	305.75	no	305.5	no
29-May-12	0.17	306.58	305.75	no	305.5	no
30-May-12	0.18	306.59	305.75	no	305.5	no
31-May-12	0.16	306.57	305.75	no	305.5	no
1-Jun-12	0.17	306.58	305.75	no	305.5	no
2-Jun-12	0.17	306.58	305.75	no	305.5	no
3-Jun-12	0.17	306.58	305.75	no	305.5	no
4-Jun-12	0.19	306.60	305.75	no	305.5	no
5-Jun-12	0.19	306.60	305.75	no	305.5	no
6-Jun-12	0.19	306.60	305.75	no	305.5	no
7-Jun-12	0.19	306.60	305.75	no	305.5	no
8-Jun-12	0.19	306.60	305.75	no	305.5	no
9-Jun-12	0.19	306.60	305.75	no	305.5	no
10-Jun-12	0.19	306.60	305.75	no	305.5	no
11-Jun-12	0.19	306.60	305.75	no	305.5	no
12-Jun-12	0.20	306.61	305.75	no	305.5	no
13-Jun-12	0.19	306.60	305.75	no	305.5	no
14-Jun-12	0.19	306.60	305.75	no	305.5	no
15-Jun-12	0.28	306.69	305.75	no	305.5	no
16-Jun-12	0.28	306.69	305.75	no	305.5	no
17-Jun-12	0.28	306.69	305.75	no	305.5	no
18-Jun-12	0.12	306.53	305.75	no	305.5	no
19-Jun-12	0.12	306.53	305.75	no	305.5	no
20-Jun-12	0.12	306.53	305.75	no	305.5	no
21-Jun-12	0.12	306.53	305.75	no	305.5	no
22-Jun-12	0.12	306.53	305.75	no	305.5	no
23-Jun-12	0.12	306.53	305.75	no	305.5	no
24-Jun-12	0.12	306.53	305.75	no	305.5	no
25-Jun-12	0.14	306.55	305.75	no	305.5	no
26-Jun-12	0.14	306.55	305.75	no	305.5	no
27-Jun-12	0.14	306.55	305.75	no	305.5	no
28-Jun-12	0.13	306.54	305.75	no	305.5	no
29-Jun-12	0.13	306.54	305.75	no	305.5	no
30-Jun-12	0.13	306.54	305.75	no	305.5	no

Table G-7
Threshold Summary - Phase 1 Pond
Mill Creek Aggregates Pit

Date	Gauge Reading Phase 1 Pond (m)	Water Elevation Phase 1 Pond (m ASL)	Early Warning Value (m ASL)	Exceedance of Early Warning Value	Threshold Value (Min) (m ASL)	Exceedance of Threshold Value
1-Jul-12	0.13	306.54	305.75	no	305.5	no
2-Jul-12	0.13	306.54	305.75	no	305.5	no
3-Jul-12	0.10	306.51	305.75	no	305.5	no
4-Jul-12	0.10	306.51	305.75	no	305.5	no
5-Jul-12	0.10	306.51	305.75	no	305.5	no
6-Jul-12	0.10	306.51	305.75	no	305.5	no
7-Jul-12	0.10	306.51	305.75	no	305.5	no
8-Jul-12	0.10	306.51	305.75	no	305.5	no
9-Jul-12	0.00	306.41	305.75	no	305.5	no
10-Jul-12	0.00	306.41	305.75	no	305.5	no
11-Jul-12	0.00	306.41	305.75	no	305.5	no
12-Jul-12	-0.10	306.31	305.75	no	305.5	no
13-Jul-12	-0.10	306.31	305.75	no	305.5	no
14-Jul-12	-0.10	306.31	305.75	no	305.5	no
15-Jul-12	-0.10	306.31	305.75	no	305.5	no
16-Jul-12	-0.13	306.28	305.75	no	305.5	no
17-Jul-12	-0.13	306.28	305.75	no	305.5	no
18-Jul-12	-0.15	306.26	305.75	no	305.5	no
19-Jul-12	-0.15	306.26	305.75	no	305.5	no
20-Jul-12	-0.15	306.26	305.75	no	305.5	no
21-Jul-12	-0.15	306.26	305.75	no	305.5	no
22-Jul-12	-0.15	306.26	305.75	no	305.5	no
23-Jul-12	-0.15	306.26	305.75	no	305.5	no
24-Jul-12	-0.15	306.26	305.75	no	305.5	no
25-Jul-12	-0.13	306.28	305.75	no	305.5	no
26-Jul-12	-0.13	306.28	305.75	no	305.5	no
27-Jul-12	-0.14	306.27	305.75	no	305.5	no
28-Jul-12	-0.14	306.27	305.75	no	305.5	no
29-Jul-12	-0.14	306.27	305.75	no	305.5	no
30-Jul-12	-0.15	306.26	305.75	no	305.5	no
31-Jul-12	-0.15	306.26	305.75	no	305.5	no
1-Aug-12	-0.15	306.26	305.75	no	305.5	no
2-Aug-12	-0.14	306.27	305.75	no	305.5	no
3-Aug-12	-0.13	306.28	305.75	no	305.5	no
4-Aug-12	-0.13	306.28	305.75	no	305.5	no
5-Aug-12	-0.13	306.28	305.75	no	305.5	no
6-Aug-12	-0.15	306.26	305.75	no	305.5	no
7-Aug-12	-0.15	306.26	305.75	no	305.5	no
8-Aug-12	-0.13	306.28	305.75	no	305.5	no
9-Aug-12	-0.13	306.28	305.75	no	305.5	no
10-Aug-12	-0.14	306.27	305.75	no	305.5	no
11-Aug-12	-0.14	306.27	305.75	no	305.5	no
12-Aug-12	-0.14	306.27	305.75	no	305.5	no
13-Aug-12	-0.13	306.28	305.75	no	305.5	no
14-Aug-12	-0.13	306.28	305.75	no	305.5	no
15-Aug-12	-0.15	306.26	305.75	no	305.5	no
16-Aug-12	-0.15	306.26	305.75	no	305.5	no
17-Aug-12	-0.15	306.26	305.75	no	305.5	no
18-Aug-12	-0.15	306.26	305.75	no	305.5	no
19-Aug-12	-0.15	306.26	305.75	no	305.5	no
20-Aug-12	-0.15	306.26	305.75	no	305.5	no
21-Aug-12	-0.15	306.26	305.75	no	305.5	no
22-Aug-12	-0.15	306.26	305.75	no	305.5	no
23-Aug-12	-0.14	306.27	305.75	no	305.5	no
24-Aug-12	-0.13	306.28	305.75	no	305.5	no
25-Aug-12	-0.13	306.28	305.75	no	305.5	no
26-Aug-12	-0.13	306.28	305.75	no	305.5	no
27-Aug-12	-0.13	306.28	305.75	no	305.5	no
28-Aug-12	-0.13	306.28	305.75	no	305.5	no
29-Aug-12	-0.15	306.26	305.75	no	305.5	no
30-Aug-12	-0.15	306.26	305.75	no	305.5	no
31-Aug-12	-0.15	306.26	305.75	no	305.5	no
1-Sep-12	-0.15	306.26	305.75	no	305.5	no
2-Sep-12	-0.15	306.26	305.75	no	305.5	no
3-Sep-12	-0.15	306.26	305.75	no	305.5	no
4-Sep-12	-0.13	306.28	305.75	no	305.5	no
5-Sep-12	-0.13	306.28	305.75	no	305.5	no
6-Sep-12	-0.14	306.27	305.75	no	305.5	no
7-Sep-12	-0.14	306.27	305.75	no	305.5	no
8-Sep-12	-0.15	306.26	305.75	no	305.5	no
9-Sep-12	-0.15	306.26	305.75	no	305.5	no
10-Sep-12	-0.15	306.26	305.75	no	305.5	no
11-Sep-12	-0.15	306.26	305.75	no	305.5	no
12-Sep-12	-0.15	306.26	305.75	no	305.5	no
13-Sep-12	-0.13	306.28	305.75	no	305.5	no
14-Sep-12	-0.13	306.28	305.75	no	305.5	no
15-Sep-12	-0.15	306.26	305.75	no	305.5	no
16-Sep-12	-0.15	306.26	305.75	no	305.5	no
17-Sep-12	-0.14	306.27	305.75	no	305.5	no
18-Sep-12	-0.13	306.28	305.75	no	305.5	no
19-Sep-12	-0.13	306.28	305.75	no	305.5	no
20-Sep-12	-0.13	306.28	305.75	no	305.5	no
21-Sep-12	-0.15	306.26	305.75	no	305.5	no
22-Sep-12	-0.15	306.26	305.75	no	305.5	no
23-Sep-12	-0.15	306.26	305.75	no	305.5	no
24-Sep-12	-0.13	306.28	305.75	no	305.5	no
25-Sep-12	-0.13	306.28	305.75	no	305.5	no
26-Sep-12	-0.13	306.28	305.75	no	305.5	no
27-Sep-12	-0.13	306.28	305.75	no	305.5	no
28-Sep-12	-0.13	306.28	305.75	no	305.5	no
29-Sep-12	-0.15	306.26	305.75	no	305.5	no
30-Sep-12	-0.15	306.26	305.75	no	305.5	no
1-Oct-12	-0.14	306.27	305.75	no	305.5	no
2-Oct-12	-0.14	306.27	305.75	no	305.5	no
3-Oct-12	-0.13	306.28	305.75	no	305.5	no
4-Oct-12	-0.13	306.28	305.75	no	305.5	no
5-Oct-12	-0.12	306.29	305.75	no	305.5	no
6-Oct-12	-0.12	306.29	305.75	no	305.5	no
7-Oct-12	-0.12	306.29	305.75	no	305.5	no
8-Oct-12	-0.13	306.28	305.75	no	305.5	no
9-Oct-12	-0.13	306.28	305.75	no	305.5	no
10-Oct-12	-0.12	306.29	305.75	no	305.5	no
11-Oct-12	-0.12	306.29	305.75	no	305.5	no
12-Oct-12	-0.11	306.30	305.75	no	305.5	no
13-Oct-12	-0.11	306.30	305.75	no	305.5	no
14-Oct-12	-0.11	306.30	305.75	no	305.5	no
15-Oct-12	-0.11	306.30	305.75	no	305.5	no
16-Oct-12	-0.10	306.31	305.75	no	305.5	no
17-Oct-12	-0.10	306.31	305.75	no	305.5	no
18-Oct-12	-0.09	306.32	305.75	no	305.5	no
19-Oct-12	-0.09	306.32	305.75	no	305.5	no
20-Oct-12	-0.09	306.32	305.75	no	305.5	no
21-Oct-12	-0.09	306.32	305.75	no	305.5	no
22-Oct-12	-0.10	306.31	305.75	no	305.5	no
23-Oct-12	-0.09	306.32	305.75	no	305.5	no
24-Oct-12	-0.11	306.30	305.75	no	305.5	no
25-Oct-12	-0.08	306.33	305.75	no	305.5	no
26-Oct-12	-0.09	306.32	305.75	no	305.5	no
27-Oct-12	-0.09	306.32	305.75	no	305.5	no
28-Oct-12	-0.09	306.32	305.75	no	305.5	no
29-Oct-12	-0.08	306.33	305.75	no	305.5	no
30-Oct-12	-0.07	306.34	305.75	no	305.5	no
31-Oct-12	-0.07	306.34	305.75	no	305.5	no

Table G-7
Threshold Summary - Phase 1 Pond
Mill Creek Aggregates Pit

Date	Gauge Reading Phase 1 Pond (m)	Water Elevation Phase 1 Pond (m ASL)	Early Warning Value (m ASL)	Exceedance of Early Warning Value	Threshold Value (Min) (m ASL)	Exceedance of Threshold Value
1-Nov-12	-0.06	306.35	305.75	no	305.5	no
2-Nov-12	-0.07	306.34	305.75	no	305.5	no
3-Nov-12	-0.07	306.34	305.75	no	305.5	no
4-Nov-12	-0.07	306.34	305.75	no	305.5	no
5-Nov-12	-0.05	306.36	305.75	no	305.5	no
6-Nov-12	-0.06	306.35	305.75	no	305.5	no
7-Nov-12	-0.04	306.37	305.75	no	305.5	no
8-Nov-12	-0.05	306.36	305.75	no	305.5	no
9-Nov-12	-0.05	306.36	305.75	no	305.5	no
10-Nov-12	-0.05	306.36	305.75	no	305.5	no
11-Nov-12	-0.05	306.36	305.75	no	305.5	no
12-Nov-12	-0.05	306.36	305.75	no	305.5	no
13-Nov-12	-0.06	306.35	305.75	no	305.5	no
14-Nov-12	-0.06	306.35	305.75	no	305.5	no
15-Nov-12	-0.05	306.36	305.75	no	305.5	no
16-Nov-12	-0.04	306.37	305.75	no	305.5	no
17-Nov-12	-0.04	306.37	305.75	no	305.5	no
18-Nov-12	-0.04	306.37	305.75	no	305.5	no
19-Nov-12	-0.04	306.37	305.75	no	305.5	no
20-Nov-12	-0.03	306.38	305.75	no	305.5	no
21-Nov-12	-0.03	306.38	305.75	no	305.5	no
22-Nov-12	-0.03	306.38	305.75	no	305.5	no
23-Nov-12	-0.03	306.38	305.75	no	305.5	no
24-Nov-12	-0.03	306.38	305.75	no	305.5	no
25-Nov-12	-0.03	306.38	305.75	no	305.5	no
26-Nov-12	-0.02	306.39	305.75	no	305.5	no
27-Nov-12	-0.02	306.39	305.75	no	305.5	no
28-Nov-12	-0.02	306.39	305.75	no	305.5	no
29-Nov-12	-0.02	306.39	305.75	no	305.5	no
30-Nov-12	-0.01	306.40	305.75	no	305.5	no
1-Dec-12	-0.01	306.40	305.75	no	305.5	no
2-Dec-12	-0.01	306.40	305.75	no	305.5	no
3-Dec-12	-0.01	306.40	305.75	no	305.5	no
4-Dec-12	-0.01	306.40	305.75	no	305.5	no
5-Dec-12	-0.01	306.40	305.75	no	305.5	no
6-Dec-12	-0.01	306.40	305.75	no	305.5	no
7-Dec-12	-0.01	306.40	305.75	no	305.5	no
8-Dec-12	-0.01	306.40	305.75	no	305.5	no
9-Dec-12	-0.01	306.40	305.75	no	305.5	no
10-Dec-12	-0.01	306.40	305.75	no	305.5	no
11-Dec-12	-0.01	306.40	305.75	no	305.5	no
12-Dec-12	-0.01	306.40	305.75	no	305.5	no
13-Dec-12	-0.01	306.40	305.75	no	305.5	no
14-Dec-12	-0.01	306.40	305.75	no	305.5	no
15-Dec-12	-0.01	306.40	305.75	no	305.5	no
16-Dec-12	-0.01	306.40	305.75	no	305.5	no
17-Dec-12	-0.01	306.40	305.75	no	305.5	no
18-Dec-12	-0.01	306.40	305.75	no	305.5	no
19-Dec-12	-0.01	306.40	305.75	no	305.5	no
20-Dec-12	-0.01	306.40	305.75	no	305.5	no
21-Dec-12	-0.01	306.40	305.75	no	305.5	no
22-Dec-12	-0.01	306.40	305.75	no	305.5	no
23-Dec-12	-0.01	306.40	305.75	no	305.5	no
24-Dec-12	-0.01	306.40	305.75	no	305.5	no
25-Dec-12	-0.01	306.40	305.75	no	305.5	no
26-Dec-12	-0.01	306.40	305.75	no	305.5	no
27-Dec-12	-0.01	306.40	305.75	no	305.5	no
28-Dec-12	-0.01	306.40	305.75	no	305.5	no
29-Dec-12	-0.01	306.40	305.75	no	305.5	no
30-Dec-12	-0.01	306.40	305.75	no	305.5	no
31-Dec-12	-0.01	306.40	305.75	no	305.5	no
1-Jan-13	-0.01	306.40	305.75	no	305.5	no
2-Jan-13	-0.01	306.40	305.75	no	305.5	no
3-Jan-13	-0.01	306.40	305.75	no	305.5	no
4-Jan-13	-0.01	306.40	305.75	no	305.5	no
5-Jan-13	-0.01	306.40	305.75	no	305.5	no
6-Jan-13	-0.01	306.40	305.75	no	305.5	no
7-Jan-13	-0.01	306.40	305.75	no	305.5	no
8-Jan-13	-0.01	306.40	305.75	no	305.5	no
9-Jan-13	-0.01	306.40	305.75	no	305.5	no
10-Jan-13	-0.01	306.40	305.75	no	305.5	no
11-Jan-13	-0.01	306.40	305.75	no	305.5	no
12-Jan-13	-0.01	306.40	305.75	no	305.5	no
13-Jan-13	-0.01	306.40	305.75	no	305.5	no
14-Jan-13	-0.01	306.40	305.75	no	305.5	no
15-Jan-13	-0.01	306.40	305.75	no	305.5	no
16-Jan-13	-0.01	306.40	305.75	no	305.5	no
17-Jan-13	-0.01	306.40	305.75	no	305.5	no
18-Jan-13	-0.01	306.40	305.75	no	305.5	no
19-Jan-13	-0.01	306.40	305.75	no	305.5	no
20-Jan-13	-0.01	306.40	305.75	no	305.5	no
21-Jan-13	-0.01	306.40	305.75	no	305.5	no
22-Jan-13	-0.01	306.40	305.75	no	305.5	no
23-Jan-13	-0.01	306.40	305.75	no	305.5	no
24-Jan-13	-0.01	306.40	305.75	no	305.5	no
25-Jan-13	-0.01	306.40	305.75	no	305.5	no
26-Jan-13	-0.01	306.40	305.75	no	305.5	no
27-Jan-13	-0.01	306.40	305.75	no	305.5	no
28-Jan-13	-0.01	306.40	305.75	no	305.5	no
29-Jan-13	-0.01	306.40	305.75	no	305.5	no
30-Jan-13	-0.01	306.40	305.75	no	305.5	no
31-Jan-13	-0.01	306.40	305.75	no	305.5	no
1-Feb-13	-0.01	306.40	305.75	no	305.5	no
2-Feb-13	-0.01	306.40	305.75	no	305.5	no
3-Feb-13	-0.01	306.40	305.75	no	305.5	no
4-Feb-13	-0.01	306.40	305.75	no	305.5	no
5-Feb-13	-0.01	306.40	305.75	no	305.5	no
6-Feb-13	-0.01	306.40	305.75	no	305.5	no
7-Feb-13	-0.01	306.40	305.75	no	305.5	no
8-Feb-13	-0.01	306.40	305.75	no	305.5	no
9-Feb-13	-0.01	306.40	305.75	no	305.5	no
10-Feb-13	-0.01	306.40	305.75	no	305.5	no
11-Feb-13	-0.01	306.40	305.75	no	305.5	no
12-Feb-13	-0.01	306.40	305.75	no	305.5	no
13-Feb-13	-0.01	306.40	305.75	no	305.5	no
14-Feb-13	-0.01	306.40	305.75	no	305.5	no
15-Feb-13	-0.01	306.40	305.75	no	305.5	no
16-Feb-13	-0.01	306.40	305.75	no	305.5	no
17-Feb-13	-0.01	306.40	305.75	no	305.5	no
18-Feb-13	-0.01	306.40	305.75	no	305.5	no
19-Feb-13	-0.01	306.40	305.75	no	305.5	no
20-Feb-13	-0.01	306.40	305.75	no	305.5	no
21-Feb-13	-0.01	306.40	305.75	no	305.5	no
22-Feb-13	-0.01	306.40	305.75	no	305.5	no
23-Feb-13	-0.01	306.40	305.75	no	305.5	no
24-Feb-13	-0.01	306.40	305.75	no	305.5	no
25-Feb-13	-0.01	306.40	305.75	no	305.5	no
26-Feb-13	-0.01	306.40	305.75	no	305.5	no
27-Feb-13	-0.01	306.40	305.75	no	305.5	no
28-Feb-13	-0.01	306.40	305.75	no	305.5	no
1-Mar-13	-0.01	306.40	305.75	no	305.5	no
2-Mar-13	-0.01	306.40	305.75	no	305.5	no
3-Mar-13	-0.01	306.40	305.75	no	305.5	no
4-Mar-13	-0.01	306.40	305.75	no	305.5	no
5-Mar-13	-0.01	306.40	305.75	no	305.5	no
6-Mar-13	-0.01	306.40	305.75	no	305.5	no
7-Mar-13	-0.01	306.40	305.75	no	305.5	no
8-Mar-13	-0.01	306.40	305.75	no	305.5	no
9-Mar-13	-0.01	306.40	305.75	no	305.5	no
10-Mar-13	-0.01	306.40	305.75	no	305.5	no
11-Mar-13	-0.01	306.40	305.75	no	305.5	no
12-Mar-13	-0.01	306.40	305.75	no	305.5	no
13-Mar-13	-0.01	306.40	305.75	no	305.5	no

Table G-7
Threshold Summary - Phase 1 Pond
Mill Creek Aggregates Pit

Date	Gauge Reading Phase 1 Pond (m)	Water Elevation Phase 1 Pond (m ASL)	Early Warning Value (m ASL)	Exceedance of Early Warning Value	Threshold Value (Min) (m ASL)	Exceedance of Threshold Value
14-Mar-13	-0.01	306.40	305.75	no	305.5	no
15-Mar-13	-0.01	306.40	305.75	no	305.5	no
16-Mar-13	-0.01	306.40	305.75	no	305.5	no
17-Mar-13	-0.01	306.40	305.75	no	305.5	no
18-Mar-13	-0.01	306.40	305.75	no	305.5	no
19-Mar-13	-0.01	306.40	305.75	no	305.5	no
20-Mar-13	-0.01	306.40	305.75	no	305.5	no
21-Mar-13	-0.01	306.40	305.75	no	305.5	no
22-Mar-13	-0.01	306.40	305.75	no	305.5	no
23-Mar-13	-0.01	306.40	305.75	no	305.5	no
24-Mar-13	-0.01	306.40	305.75	no	305.5	no
25-Mar-13	-0.01	306.40	305.75	no	305.5	no
26-Mar-13	-0.01	306.40	305.75	no	305.5	no
27-Mar-13	-0.01	306.40	305.75	no	305.5	no
28-Mar-13	-0.01	306.40	305.75	no	305.5	no
29-Mar-13	-0.01	306.40	305.75	no	305.5	no
30-Mar-13	-0.01	306.40	305.75	no	305.5	no
31-Mar-13	-0.01	306.40	305.75	no	305.5	no
1-Apr-13	-0.01	306.40	305.75	no	305.5	no
2-Apr-13	0.21	306.38	305.75	no	305.5	no
3-Apr-13	0.21	306.38	305.75	no	305.5	no
4-Apr-13	0.21	306.38	305.75	no	305.5	no
5-Apr-13	0.21	306.38	305.75	no	305.5	no
6-Apr-13	0.21	306.38	305.75	no	305.5	no
7-Apr-13	0.21	306.38	305.75	no	305.5	no
8-Apr-13	0.19	306.36	305.75	no	305.5	no
9-Apr-13	0.20	306.37	305.75	no	305.5	no
10-Apr-13	0.26	306.43	305.75	no	305.5	no
11-Apr-13	0.23	306.40	305.75	no	305.5	no
12-Apr-13	0.23	306.40	305.75	no	305.5	no
13-Apr-13	0.23	306.40	305.75	no	305.5	no
14-Apr-13	0.23	306.40	305.75	no	305.5	no
15-Apr-13	0.36	306.53	305.75	no	305.5	no
16-Apr-13	0.39	306.56	305.75	no	305.5	no
17-Apr-13	0.39	306.56	305.75	no	305.5	no
18-Apr-13	0.39	306.56	305.75	no	305.5	no
19-Apr-13	0.43	306.60	305.75	no	305.5	no
20-Apr-13	0.43	306.60	305.75	no	305.5	no
21-Apr-13	0.43	306.60	305.75	no	305.5	no
22-Apr-13	0.43	306.60	305.75	no	305.5	no
23-Apr-13	0.40	306.57	305.75	no	305.5	no
24-Apr-13	0.42	306.59	305.75	no	305.5	no
25-Apr-13	0.44	306.61	305.75	no	305.5	no
26-Apr-13	0.45	306.62	305.75	no	305.5	no
27-Apr-13	0.45	306.62	305.75	no	305.5	no
28-Apr-13	0.45	306.62	305.75	no	305.5	no
29-Apr-13	0.49	306.66	305.75	no	305.5	no
30-Apr-13	0.50	306.67	305.75	no	305.5	no
1-May-13	0.50	306.67	305.75	no	305.5	no
2-May-13	0.50	306.67	305.75	no	305.5	no
3-May-13	0.51	306.68	305.75	no	305.5	no
4-May-13	0.51	306.68	305.75	no	305.5	no
5-May-13	0.51	306.68	305.75	no	305.5	no
6-May-13	0.49	306.66	305.75	no	305.5	no
7-May-13	0.49	306.66	305.75	no	305.5	no
8-May-13	0.49	306.66	305.75	no	305.5	no
9-May-13	0.49	306.66	305.75	no	305.5	no
10-May-13	0.50	306.67	305.75	no	305.5	no
11-May-13	0.50	306.67	305.75	no	305.5	no
12-May-13	0.50	306.67	305.75	no	305.5	no
13-May-13	0.50	306.67	305.75	no	305.5	no
14-May-13	0.47	306.64	305.75	no	305.5	no
15-May-13	0.47	306.64	305.75	no	305.5	no
16-May-13	0.40	306.57	305.75	no	305.5	no
17-May-13	0.40	306.57	305.75	no	305.5	no
18-May-13	0.40	306.57	305.75	no	305.5	no
19-May-13	0.40	306.57	305.75	no	305.5	no
20-May-13	0.40	306.57	305.75	no	305.5	no
21-May-13	0.39	306.56	305.75	no	305.5	no
22-May-13	0.39	306.56	305.75	no	305.5	no
23-May-13	0.39	306.56	305.75	no	305.5	no
24-May-13	0.39	306.56	305.75	no	305.5	no
25-May-13	0.39	306.56	305.75	no	305.5	no
26-May-13	0.39	306.56	305.75	no	305.5	no
27-May-13	0.32	306.49	305.75	no	305.5	no
28-May-13	0.33	306.50	305.75	no	305.5	no
29-May-13	0.39	306.56	305.75	no	305.5	no
30-May-13	0.38	306.55	305.75	no	305.5	no
31-May-13	0.40	306.57	305.75	no	305.5	no
1-Jun-13	0.40	306.57	305.75	no	305.5	no
2-Jun-13	0.40	306.57	305.75	no	305.5	no
3-Jun-13	0.40	306.57	305.75	no	305.5	no
4-Jun-13	0.40	306.57	305.75	no	305.5	no
5-Jun-13	0.40	306.57	305.75	no	305.5	no
6-Jun-13	0.41	306.58	305.75	no	305.5	no
7-Jun-13	0.40	306.57	305.75	no	305.5	no
8-Jun-13	0.40	306.57	305.75	no	305.5	no
9-Jun-13	0.40	306.57	305.75	no	305.5	no
10-Jun-13	0.49	306.66	305.75	no	305.5	no
11-Jun-13	0.54	306.71	305.75	no	305.5	no
12-Jun-13	0.54	306.71	305.75	no	305.5	no
13-Jun-13	0.53	306.70	305.75	no	305.5	no
14-Jun-13	0.55	306.72	305.75	no	305.5	no
15-Jun-13	0.55	306.72	305.75	no	305.5	no
16-Jun-13	0.55	306.72	305.75	no	305.5	no
17-Jun-13	0.55	306.72	305.75	no	305.5	no
18-Jun-13	0.60	306.77	305.75	no	305.5	no
19-Jun-13	0.60	306.77	305.75	no	305.5	no
20-Jun-13	0.50	306.67	305.75	no	305.5	no
21-Jun-13	0.50	306.67	305.75	no	305.5	no
22-Jun-13	0.50	306.67	305.75	no	305.5	no
23-Jun-13	0.50	306.67	305.75	no	305.5	no
24-Jun-13	0.50	306.67	305.75	no	305.5	no
25-Jun-13	0.49	306.66	305.75	no	305.5	no
26-Jun-13	0.50	306.67	305.75	no	305.5	no
27-Jun-13	0.50	306.67	305.75	no	305.5	no
28-Jun-13	0.50	306.67	305.75	no	305.5	no
29-Jun-13	0.50	306.67	305.75	no	305.5	no
30-Jun-13	0.50	306.67	305.75	no	305.5	no
1-Jul-13	0.50	306.67	305.75	no	305.5	no
2-Jul-13	0.62	306.79	305.75	no	305.5	no
3-Jul-13	0.59	306.76	305.75	no	305.5	no
4-Jul-13	0.60	306.77	305.75	no	305.5	no
5-Jul-13	0.61	306.78	305.75	no	305.5	no
6-Jul-13	0.61	306.78	305.75	no	305.5	no
7-Jul-13	0.61	306.78	305.75	no	305.5	no
8-Jul-13	0.63	306.80	305.75	no	305.5	no
9-Jul-13	0.64	306.81	305.75	no	305.5	no
10-Jul-13	0.65	306.82	305.75	no	305.5	no
11-Jul-13	0.65	306.82	305.75	no	305.5	no
12-Jul-13	0.64	306.81	305.75	no	305.5	no
13-Jul-13	0.64	306.81	305.75	no	305.5	no
14-Jul-13	0.64	306.81	305.75	no	305.5	no
15-Jul-13	0.64	306.81	305.75	no	305.5	no
16-Jul-13	0.64	306.81	305.75	no	305.5	no
17-Jul-13	0.64	306.81	305.75	no	305.5	no
18-Jul-13	0.64	306.81	305.75	no	305.5	no
19-Jul-13	0.64	306.81	305.75	no	305.5	no
20-Jul-13	0.64	306.81	305.75	no	305.5	no
21-Jul-13	0.64	306.81	305.75	no	305.5	no
22-Jul-13	0.48	306.65	305.75	no	305.5	no
23-Jul-13	0.46	306.63	305.75	no	305.5	no
24-Jul-13	0.46	306.63	305.75	no	305.5	no
25-Jul-13	0.48	306.65	305.75	no	305.5	no

Table G-7
Threshold Summary - Phase 1 Pond
Mill Creek Aggregates Pit

Date	Gauge Reading Phase 1 Pond (m)	Water Elevation Phase 1 Pond (m ASL)	Early Warning Value (m ASL)	Exceedance of Early Warning Value	Threshold Value (Min) (m ASL)	Exceedance of Threshold Value
26-Jul-13	0.48	306.65	305.75	no	305.5	no
27-Jul-13	0.48	306.65	305.75	no	305.5	no
28-Jul-13	0.48	306.65	305.75	no	305.5	no
29-Jul-13	0.48	306.65	305.75	no	305.5	no
30-Jul-13	0.48	306.65	305.75	no	305.5	no
31-Jul-13	0.59	306.76	305.75	no	305.5	no
1-Aug-13	0.59	306.76	305.75	no	305.5	no
2-Aug-13	0.59	306.76	305.75	no	305.5	no
3-Aug-13	0.59	306.76	305.75	no	305.5	no
4-Aug-13	0.59	306.76	305.75	no	305.5	no
5-Aug-13	0.59	306.76	305.75	no	305.5	no
6-Aug-13	0.59	306.76	305.75	no	305.5	no
7-Aug-13	0.59	306.76	305.75	no	305.5	no
8-Aug-13	0.59	306.76	305.75	no	305.5	no
9-Aug-13	0.64	306.81	305.75	no	305.5	no
10-Aug-13	0.64	306.81	305.75	no	305.5	no
11-Aug-13	0.64	306.81	305.75	no	305.5	no
12-Aug-13	0.60	306.77	305.75	no	305.5	no
13-Aug-13	0.54	306.71	305.75	no	305.5	no
14-Aug-13	0.55	306.72	305.75	no	305.5	no
15-Aug-13	0.54	306.71	305.75	no	305.5	no
16-Aug-13	0.53	306.70	305.75	no	305.5	no
17-Aug-13	0.53	306.70	305.75	no	305.5	no
18-Aug-13	0.53	306.70	305.75	no	305.5	no
19-Aug-13	0.47	306.64	305.75	no	305.5	no
20-Aug-13	0.46	306.63	305.75	no	305.5	no
21-Aug-13	0.42	306.59	305.75	no	305.5	no
22-Aug-13	0.40	306.57	305.75	no	305.5	no
23-Aug-13	0.39	306.56	305.75	no	305.5	no
24-Aug-13	0.39	306.56	305.75	no	305.5	no
25-Aug-13	0.39	306.56	305.75	no	305.5	no
26-Aug-13	0.39	306.56	305.75	no	305.5	no
27-Aug-13	0.39	306.56	305.75	no	305.5	no
28-Aug-13	0.39	306.56	305.75	no	305.5	no
29-Aug-13	0.39	306.56	305.75	no	305.5	no
30-Aug-13	0.39	306.56	305.75	no	305.5	no
31-Aug-13	0.39	306.56	305.75	no	305.5	no
1-Sep-13	0.39	306.56	305.75	no	305.5	no
2-Sep-13	0.39	306.56	305.75	no	305.5	no
3-Sep-13	0.35	306.52	305.75	no	305.5	no
4-Sep-13	0.38	306.55	305.75	no	305.5	no
5-Sep-13	0.34	306.51	305.75	no	305.5	no
6-Sep-13	0.38	306.55	305.75	no	305.5	no
7-Sep-13	0.38	306.55	305.75	no	305.5	no
8-Sep-13	0.38	306.55	305.75	no	305.5	no
9-Sep-13	0.35	306.52	305.75	no	305.5	no
10-Sep-13	0.35	306.52	305.75	no	305.5	no
11-Sep-13	0.35	306.52	305.75	no	305.5	no
12-Sep-13	0.35	306.52	305.75	no	305.5	no
13-Sep-13	0.35	306.52	305.75	no	305.5	no
14-Sep-13	0.35	306.52	305.75	no	305.5	no
15-Sep-13	0.35	306.52	305.75	no	305.5	no
16-Sep-13	0.30	306.47	305.75	no	305.5	no
17-Sep-13	0.33	306.50	305.75	no	305.5	no
18-Sep-13	0.37	306.54	305.75	no	305.5	no
19-Sep-13	0.33	306.50	305.75	no	305.5	no
20-Sep-13	0.34	306.51	305.75	no	305.5	no
21-Sep-13	0.34	306.51	305.75	no	305.5	no
22-Sep-13	0.34	306.51	305.75	no	305.5	no
23-Sep-13	0.34	306.51	305.75	no	305.5	no
24-Sep-13	0.34	306.51	305.75	no	305.5	no
25-Sep-13	0.34	306.51	305.75	no	305.5	no
26-Sep-13	0.34	306.51	305.75	no	305.5	no
27-Sep-13	0.36	306.53	305.75	no	305.5	no
28-Sep-13	0.36	306.53	305.75	no	305.5	no
29-Sep-13	0.36	306.53	305.75	no	305.5	no
30-Sep-13	0.36	306.53	305.75	no	305.5	no
1-Oct-13	0.36	306.53	305.75	no	305.5	no
2-Oct-13	0.35	306.52	305.75	no	305.5	no
3-Oct-13	0.38	306.55	305.75	no	305.5	no
4-Oct-13	0.37	306.54	305.75	no	305.5	no
5-Oct-13	0.37	306.54	305.75	no	305.5	no
6-Oct-13	0.37	306.54	305.75	no	305.5	no
7-Oct-13	0.39	306.56	305.75	no	305.5	no
8-Oct-13	0.39	306.56	305.75	no	305.5	no
9-Oct-13	0.39	306.56	305.75	no	305.5	no
10-Oct-13	0.39	306.56	305.75	no	305.5	no
11-Oct-13	0.39	306.56	305.75	no	305.5	no
12-Oct-13	0.39	306.56	305.75	no	305.5	no
13-Oct-13	0.39	306.56	305.75	no	305.5	no
14-Oct-13	0.39	306.56	305.75	no	305.5	no
15-Oct-13	0.43	306.60	305.75	no	305.5	no
16-Oct-13	0.47	306.64	305.75	no	305.5	no
17-Oct-13	0.43	306.60	305.75	no	305.5	no
18-Oct-13	0.46	306.63	305.75	no	305.5	no
19-Oct-13	0.46	306.63	305.75	no	305.5	no
20-Oct-13	0.46	306.63	305.75	no	305.5	no
21-Oct-13	0.40	306.57	305.75	no	305.5	no
22-Oct-13	0.39	306.56	305.75	no	305.5	no
23-Oct-13	0.41	306.58	305.75	no	305.5	no
24-Oct-13	0.38	306.55	305.75	no	305.5	no
25-Oct-13	0.34	306.51	305.75	no	305.5	no
26-Oct-13	0.34	306.51	305.75	no	305.5	no
27-Oct-13	0.34	306.51	305.75	no	305.5	no
28-Oct-13	0.38	306.55	305.75	no	305.5	no
29-Oct-13	0.42	306.59	305.75	no	305.5	no
30-Oct-13	0.46	306.63	305.75	no	305.5	no
31-Oct-13	0.41	306.58	305.75	no	305.5	no
1-Nov-13	0.49	306.66	305.75	no	305.5	no
2-Nov-13	0.49	306.66	305.75	no	305.5	no
3-Nov-13	0.49	306.66	305.75	no	305.5	no
4-Nov-13	0.46	306.63	305.75	no	305.5	no
5-Nov-13	0.42	306.59	305.75	no	305.5	no
6-Nov-13	0.42	306.59	305.75	no	305.5	no
7-Nov-13	0.42	306.59	305.75	no	305.5	no
8-Nov-13	0.42	306.59	305.75	no	305.5	no
9-Nov-13	0.42	306.59	305.75	no	305.5	no
10-Nov-13	0.42	306.59	305.75	no	305.5	no
11-Nov-13	0.36	306.53	305.75	no	305.5	no
12-Nov-13	0.42	306.59	305.75	no	305.5	no
13-Nov-13	0.47	306.64	305.75	no	305.5	no
14-Nov-13	0.49	306.66	305.75	no	305.5	no
15-Nov-13	0.52	306.69	305.75	no	305.5	no
16-Nov-13	0.52	306.69	305.75	no	305.5	no
17-Nov-13	0.52	306.69	305.75	no	305.5	no
18-Nov-13	0.46	306.63	305.75	no	305.5	no
19-Nov-13	0.48	306.65	305.75	no	305.5	no
20-Nov-13	0.48	306.65	305.75	no	305.5	no
21-Nov-13	0.48	306.65	305.75	no	305.5	no
22-Nov-13	0.48	306.65	305.75	no	305.5	no
23-Nov-13	0.48	306.65	305.75	no	305.5	no
24-Nov-13	0.48	306.65	305.75	no	305.5	no
25-Nov-13	0.35	306.52	305.75	no	305.5	no
26-Nov-13	0.33	306.50	305.75	no	305.5	no
27-Nov-13	0.32	306.49	305.75	no	305.5	no
28-Nov-13	0.32	306.49	305.75	no	305.5	no
29-Nov-13	0.32	306.49	305.75	no	305.5	no
30-Nov-13	0.32	306.49	305.75	no	305.5	no

Table G-7
Threshold Summary - Phase 1 Pond
Mill Creek Aggregates Pit

Date	Gauge Reading Phase 1 Pond (m)	Water Elevation Phase 1 Pond (m ASL)	Early Warning Value (m ASL)	Exceedance of Early Warning Value	Threshold Value (Min) (m ASL)	Exceedance of Threshold Value
1-Dec-13	0.32	306.49	305.75	no	305.5	no
2-Dec-13	0.32	306.49	305.75	no	305.5	no
3-Dec-13	0.32	306.49	305.75	no	305.5	no
4-Dec-13	0.32	306.49	305.75	no	305.5	no
5-Dec-13	0.32	306.49	305.75	no	305.5	no
6-Dec-13	0.32	306.49	305.75	no	305.5	no
7-Dec-13	0.32	306.49	305.75	no	305.5	no
8-Dec-13	0.32	306.49	305.75	no	305.5	no
9-Dec-13	0.32	306.49	305.75	no	305.5	no
10-Dec-13	0.32	306.49	305.75	no	305.5	no
11-Dec-13	0.32	306.49	305.75	no	305.5	no
12-Dec-13	0.32	306.49	305.75	no	305.5	no
13-Dec-13	0.32	306.49	305.75	no	305.5	no
14-Dec-13	0.32	306.49	305.75	no	305.5	no
15-Dec-13	0.32	306.49	305.75	no	305.5	no
16-Dec-13	0.32	306.49	305.75	no	305.5	no
17-Dec-13	0.32	306.49	305.75	no	305.5	no
18-Dec-13	0.32	306.49	305.75	no	305.5	no
19-Dec-13	0.32	306.49	305.75	no	305.5	no
20-Dec-13	0.32	306.49	305.75	no	305.5	no
21-Dec-13	0.32	306.49	305.75	no	305.5	no
22-Dec-13	0.32	306.49	305.75	no	305.5	no
23-Dec-13	0.32	306.49	305.75	no	305.5	no
24-Dec-13	0.32	306.49	305.75	no	305.5	no
25-Dec-13	0.32	306.49	305.75	no	305.5	no
26-Dec-13	0.32	306.49	305.75	no	305.5	no
27-Dec-13	0.32	306.49	305.75	no	305.5	no
28-Dec-13	0.32	306.49	305.75	no	305.5	no
29-Dec-13	0.32	306.49	305.75	no	305.5	no
30-Dec-13	0.32	306.49	305.75	no	305.5	no
31-Dec-13	0.32	306.49	305.75	no	305.5	no
1-Jan-14	0.32	306.49	305.75	no	305.5	no
2-Jan-14	0.32	306.49	305.75	no	305.5	no
3-Jan-14	0.32	306.49	305.75	no	305.5	no
4-Jan-14	0.32	306.49	305.75	no	305.5	no
5-Jan-14	0.32	306.49	305.75	no	305.5	no
6-Jan-14	0.32	306.49	305.75	no	305.5	no
7-Jan-14	0.32	306.49	305.75	no	305.5	no
8-Jan-14	0.32	306.49	305.75	no	305.5	no
9-Jan-14	0.32	306.49	305.75	no	305.5	no
10-Jan-14	0.32	306.49	305.75	no	305.5	no
11-Jan-14	0.32	306.49	305.75	no	305.5	no
12-Jan-14	0.32	306.49	305.75	no	305.5	no
13-Jan-14	0.32	306.49	305.75	no	305.5	no
14-Jan-14	0.32	306.49	305.75	no	305.5	no
15-Jan-14	0.32	306.49	305.75	no	305.5	no
16-Jan-14	0.32	306.49	305.75	no	305.5	no
17-Jan-14	0.32	306.49	305.75	no	305.5	no
18-Jan-14	0.32	306.49	305.75	no	305.5	no
19-Jan-14	0.32	306.49	305.75	no	305.5	no
20-Jan-14	0.32	306.49	305.75	no	305.5	no
21-Jan-14	0.32	306.49	305.75	no	305.5	no
22-Jan-14	0.32	306.49	305.75	no	305.5	no
23-Jan-14	0.32	306.49	305.75	no	305.5	no
24-Jan-14	0.32	306.49	305.75	no	305.5	no
25-Jan-14	0.32	306.49	305.75	no	305.5	no
26-Jan-14	0.32	306.49	305.75	no	305.5	no
27-Jan-14	0.32	306.49	305.75	no	305.5	no
28-Jan-14	0.32	306.49	305.75	no	305.5	no
29-Jan-14	0.32	306.49	305.75	no	305.5	no
30-Jan-14	0.32	306.49	305.75	no	305.5	no
31-Jan-14	0.32	306.49	305.75	no	305.5	no
1-Feb-14	0.32	306.49	305.75	no	305.5	no
2-Feb-14	0.32	306.49	305.75	no	305.5	no
3-Feb-14	0.32	306.49	305.75	no	305.5	no
4-Feb-14	0.32	306.49	305.75	no	305.5	no
5-Feb-14	0.32	306.49	305.75	no	305.5	no
6-Feb-14	0.32	306.49	305.75	no	305.5	no
7-Feb-14	0.32	306.49	305.75	no	305.5	no
8-Feb-14	0.32	306.49	305.75	no	305.5	no
9-Feb-14	0.32	306.49	305.75	no	305.5	no
10-Feb-14	0.32	306.49	305.75	no	305.5	no
11-Feb-14	0.32	306.49	305.75	no	305.5	no
12-Feb-14	0.32	306.49	305.75	no	305.5	no
13-Feb-14	0.32	306.49	305.75	no	305.5	no
14-Feb-14	0.32	306.49	305.75	no	305.5	no
15-Feb-14	0.32	306.49	305.75	no	305.5	no
16-Feb-14	0.32	306.49	305.75	no	305.5	no
17-Feb-14	0.32	306.49	305.75	no	305.5	no
18-Feb-14	0.32	306.49	305.75	no	305.5	no
19-Feb-14	0.32	306.49	305.75	no	305.5	no
20-Feb-14	0.32	306.49	305.75	no	305.5	no
21-Feb-14	0.32	306.49	305.75	no	305.5	no
22-Feb-14	0.32	306.49	305.75	no	305.5	no
23-Feb-14	0.32	306.49	305.75	no	305.5	no
24-Feb-14	0.32	306.49	305.75	no	305.5	no
25-Feb-14	0.32	306.49	305.75	no	305.5	no
26-Feb-14	0.32	306.49	305.75	no	305.5	no
27-Feb-14	0.32	306.49	305.75	no	305.5	no
28-Feb-14	0.32	306.49	305.75	no	305.5	no
1-Mar-14	0.32	306.49	305.75	no	305.5	no
2-Mar-14	0.32	306.49	305.75	no	305.5	no
3-Mar-14	0.32	306.49	305.75	no	305.5	no
4-Mar-14	0.32	306.49	305.75	no	305.5	no
5-Mar-14	0.32	306.49	305.75	no	305.5	no
6-Mar-14	0.32	306.49	305.75	no	305.5	no
7-Mar-14	0.32	306.49	305.75	no	305.5	no
8-Mar-14	0.32	306.49	305.75	no	305.5	no
9-Mar-14	0.32	306.49	305.75	no	305.5	no
10-Mar-14	0.32	306.49	305.75	no	305.5	no
11-Mar-14	0.32	306.49	305.75	no	305.5	no
12-Mar-14	0.32	306.49	305.75	no	305.5	no
13-Mar-14	0.32	306.49	305.75	no	305.5	no
14-Mar-14	0.32	306.49	305.75	no	305.5	no
15-Mar-14	0.32	306.49	305.75	no	305.5	no
16-Mar-14	0.32	306.49	305.75	no	305.5	no
17-Mar-14	0.32	306.49	305.75	no	305.5	no
18-Mar-14	0.32	306.49	305.75	no	305.5	no
19-Mar-14	0.32	306.49	305.75	no	305.5	no
20-Mar-14	0.32	306.49	305.75	no	305.5	no
21-Mar-14	0.32	306.49	305.75	no	305.5	no
22-Mar-14	0.32	306.49	305.75	no	305.5	no
23-Mar-14	0.32	306.49	305.75	no	305.5	no
24-Mar-14	0.32	306.49	305.75	no	305.5	no
25-Mar-14	0.32	306.49	305.75	no	305.5	no
26-Mar-14	0.32	306.49	305.75	no	305.5	no
27-Mar-14	0.32	306.49	305.75	no	305.5	no
28-Mar-14	0.32	306.49	305.75	no	305.5	no
29-Mar-14	0.32	306.49	305.75	no	305.5	no
30-Mar-14	0.32	306.49	305.75	no	305.5	no
31-Mar-14	0.32	306.49	305.75	no	305.5	no
1-Apr-14	0.32	306.49	305.75	no	305.5	no
2-Apr-14	0.32	306.49	305.75	no	305.5	no
3-Apr-14	0.32	306.49	305.75	no	305.5	no
4-Apr-14	0.32	306.49	305.75	no	305.5	no
5-Apr-14	0.32	306.49	305.75	no	305.5	no
6-Apr-14	0.32	306.49	305.75	no	305.5	no
7-Apr-14	0.32	306.49	305.75	no	305.5	no
8-Apr-14	0.20	307.10	305.75	no	305.5	no
9-Apr-14	0.20	307.10	305.75	no	305.5	no
10-Apr-14	0.18	307.08	305.75	no	305.5	no
11-Apr-14	0.18	307.08	305.75	no	305.5	no
12-Apr-14	0.18	307.08	305.75	no	305.5	no
13-Apr-14	0.18	307.08	305.75	no	305.5	no

Table G-7
Threshold Summary - Phase 1 Pond
Mill Creek Aggregates Pit

Date	Gauge Reading Phase 1 Pond (m)	Water Elevation Phase 1 Pond (m ASL)	Early Warning Value (m ASL)	Exceedance of Early Warning Value	Threshold Value (Min) (m ASL)	Exceedance of Threshold Value
14-Apr-14	0.24	307.14	305.75	no	305.5	no
15-Apr-14	0.25	307.15	305.75	no	305.5	no
16-Apr-14	0.22	307.12	305.75	no	305.5	no
17-Apr-14	0.23	307.13	305.75	no	305.5	no
18-Apr-14	0.22	307.12	305.75	no	305.5	no
19-Apr-14	0.22	307.12	305.75	no	305.5	no
20-Apr-14	0.22	307.12	305.75	no	305.5	no
21-Apr-14	0.19	307.09	305.75	no	305.5	no
22-Apr-14	0.15	307.05	305.75	no	305.5	no
23-Apr-14	0.13	307.03	305.75	no	305.5	no
24-Apr-14	0.10	307.00	305.75	no	305.5	no
25-Apr-14	0.15	307.05	305.75	no	305.5	no
26-Apr-14	0.15	307.05	305.75	no	305.5	no
27-Apr-14	0.15	307.05	305.75	no	305.5	no
28-Apr-14	0.23	307.13	305.75	no	305.5	no
29-Apr-14	0.22	307.12	305.75	no	305.5	no
30-Apr-14	0.17	307.07	305.75	no	305.5	no
1-May-14	0.18	307.08	305.75	no	305.5	no
2-May-14	0.20	307.10	305.75	no	305.5	no
3-May-14	0.20	307.10	305.75	no	305.5	no
4-May-14	0.20	307.10	305.75	no	305.5	no
5-May-14	0.32	307.22	305.75	no	305.5	no
6-May-14	0.24	307.14	305.75	no	305.5	no
7-May-14	0.16	307.06	305.75	no	305.5	no
8-May-14	0.10	307.00	305.75	no	305.5	no
9-May-14	0.10	307.00	305.75	no	305.5	no
10-May-14	0.10	307.00	305.75	no	305.5	no
11-May-14	0.10	307.00	305.75	no	305.5	no
12-May-14	0.31	307.21	305.75	no	305.5	no
13-May-14	0.25	307.15	305.75	no	305.5	no
14-May-14	0.30	307.20	305.75	no	305.5	no
15-May-14	0.35	307.25	305.75	no	305.5	no
16-May-14	0.40	307.30	305.75	no	305.5	no
17-May-14	0.40	307.30	305.75	no	305.5	no
18-May-14	0.40	307.30	305.75	no	305.5	no
19-May-14	0.40	307.30	305.75	no	305.5	no
20-May-14	0.35	307.25	305.75	no	305.5	no
21-May-14	0.31	307.21	305.75	no	305.5	no
22-May-14	0.31	307.21	305.75	no	305.5	no
23-May-14	0.25	307.15	305.75	no	305.5	no
24-May-14	0.25	307.15	305.75	no	305.5	no
25-May-14	0.25	307.15	305.75	no	305.5	no
26-May-14	0.28	307.18	305.75	no	305.5	no
27-May-14	0.31	307.21	305.75	no	305.5	no
28-May-14	0.33	307.23	305.75	no	305.5	no
29-May-14	0.35	307.25	305.75	no	305.5	no
30-May-14	0.37	307.27	305.75	no	305.5	no
31-May-14	0.37	307.27	305.75	no	305.5	no
1-Jun-14	-0.25	306.65	305.75	no	305.5	no
2-Jun-14	0.25	307.15	305.75	no	305.5	no
3-Jun-14	0.25	307.15	305.75	no	305.5	no
4-Jun-14	0.22	307.12	305.75	no	305.5	no
5-Jun-14	0.17	307.07	305.75	no	305.5	no
6-Jun-14	0.14	307.04	305.75	no	305.5	no
7-Jun-14	0.14	307.04	305.75	no	305.5	no
8-Jun-14	0.14	307.04	305.75	no	305.5	no
9-Jun-14	0.10	307.00	305.75	no	305.5	no
10-Jun-14	0.07	306.97	305.75	no	305.5	no
11-Jun-14	0.11	307.01	305.75	no	305.5	no
12-Jun-14	0.15	307.05	305.75	no	305.5	no
13-Jun-14	0.20	307.10	305.75	no	305.5	no
14-Jun-14	0.20	307.10	305.75	no	305.5	no
15-Jun-14	0.20	307.10	305.75	no	305.5	no
16-Jun-14	0.35	307.25	305.75	no	305.5	no
17-Jun-14	0.31	307.21	305.75	no	305.5	no
18-Jun-14	0.26	307.16	305.75	no	305.5	no
19-Jun-14	0.22	307.12	305.75	no	305.5	no
20-Jun-14	0.22	307.12	305.75	no	305.5	no
21-Jun-14	0.22	307.12	305.75	no	305.5	no
22-Jun-14	0.22	307.12	305.75	no	305.5	no
23-Jun-14	0.11	307.01	305.75	no	305.5	no
24-Jun-14	0.11	307.01	305.75	no	305.5	no
25-Jun-14	0.05	306.95	305.75	no	305.5	no
26-Jun-14	0.10	307.00	305.75	no	305.5	no
27-Jun-14	0.14	307.04	305.75	no	305.5	no
28-Jun-14	0.14	307.04	305.75	no	305.5	no
29-Jun-14	0.14	307.04	305.75	no	305.5	no
30-Jun-14	0.13	307.03	305.75	no	305.5	no
1-Jul-14	0.51	306.85	305.75	no	305.5	no
2-Jul-14	0.60	306.94	305.75	no	305.5	no
3-Jul-14	0.56	306.90	305.75	no	305.5	no
4-Jul-14	0.48	306.82	305.75	no	305.5	no
5-Jul-14	0.48	306.82	305.75	no	305.5	no
6-Jul-14	0.48	306.82	305.75	no	305.5	no
7-Jul-14	0.41	306.75	305.75	no	305.5	no
8-Jul-14	0.41	306.75	305.75	no	305.5	no
9-Jul-14	0.41	306.75	305.75	no	305.5	no
10-Jul-14	0.42	306.76	305.75	no	305.5	no
11-Jul-14	0.45	306.79	305.75	no	305.5	no
12-Jul-14	0.45	306.79	305.75	no	305.5	no
13-Jul-14	0.45	306.79	305.75	no	305.5	no
14-Jul-14	0.58	306.92	305.75	no	305.5	no
15-Jul-14	0.58	306.92	305.75	no	305.5	no
16-Jul-14	0.59	306.93	305.75	no	305.5	no
17-Jul-14	0.60	306.94	305.75	no	305.5	no
18-Jul-14	0.59	306.93	305.75	no	305.5	no
19-Jul-14	0.59	306.93	305.75	no	305.5	no
20-Jul-14	0.59	306.93	305.75	no	305.5	no
21-Jul-14	0.49	306.83	305.75	no	305.5	no
22-Jul-14	0.50	306.84	305.75	no	305.5	no
23-Jul-14	0.52	306.86	305.75	no	305.5	no
24-Jul-14	0.45	306.79	305.75	no	305.5	no
25-Jul-14	0.40	306.74	305.75	no	305.5	no
26-Jul-14	0.40	306.74	305.75	no	305.5	no
27-Jul-14	0.40	306.74	305.75	no	305.5	no
28-Jul-14	0.42	306.76	305.75	no	305.5	no
29-Jul-14	0.39	306.73	305.75	no	305.5	no
30-Jul-14	0.40	306.74	305.75	no	305.5	no
31-Jul-14	0.45	306.79	305.75	no	305.5	no
1-Aug-14	0.46	306.80	305.75	no	305.5	no
2-Aug-14	0.46	306.80	305.75	no	305.5	no
3-Aug-14	0.46	306.80	305.75	no	305.5	no
4-Aug-14	0.46	306.80	305.75	no	305.5	no
5-Aug-14	0.70	307.04	305.75	no	305.5	no
6-Aug-14	0.63	306.97	305.75	no	305.5	no
7-Aug-14	0.56	306.90	305.75	no	305.5	no
8-Aug-14	0.58	306.92	305.75	no	305.5	no
9-Aug-14	0.58	306.92	305.75	no	305.5	no
10-Aug-14	0.58	306.92	305.75	no	305.5	no
11-Aug-14	0.48	306.82	305.75	no	305.5	no
12-Aug-14	0.50	306.84	305.75	no	305.5	no
13-Aug-14	0.50	306.84	305.75	no	305.5	no
14-Aug-14	0.45	306.79	305.75	no	305.5	no
15-Aug-14	0.38	306.72	305.75	no	305.5	no
16-Aug-14	0.38	306.72	305.75	no	305.5	no
17-Aug-14	0.38	306.72	305.75	no	305.5	no
18-Aug-14	0.35	306.69	305.75	no	305.5	no
19-Aug-14	0.38	306.72	305.75	no	305.5	no
20-Aug-14	0.37	306.71	305.75	no	305.5	no
21-Aug-14	0.40	306.74	305.75	no	305.5	no
22-Aug-14	0.43	306.77	305.75	no	305.5	no
23-Aug-14	0.43	306.77	305.75	no	305.5	no
24-Aug-14	0.43	306.77	305.75	no	305.5	no
25-Aug-14	0.42	306.76	305.75	no	305.5	no

Table G-7
Threshold Summary - Phase 1 Pond
Mill Creek Aggregates Pit

Date	Gauge Reading Phase 1 Pond (m)	Water Elevation Phase 1 Pond (m ASL)	Early Warning Value (m ASL)	Exceedance of Early Warning Value	Threshold Value (Min) (m ASL)	Exceedance of Threshold Value
26-Aug-14	0.44	306.78	305.75	no	305.5	no
27-Aug-14	0.41	306.75	305.75	no	305.5	no
28-Aug-14	0.38	306.72	305.75	no	305.5	no
29-Aug-14	0.39	306.73	305.75	no	305.5	no
30-Aug-14	0.39	306.73	305.75	no	305.5	no
31-Aug-14	0.39	306.73	305.75	no	305.5	no
1-Sep-14	0.35	306.69	305.75	no	305.5	no
2-Sep-14	0.35	306.69	305.75	no	305.5	no
3-Sep-14	0.40	306.74	305.75	no	305.5	no
4-Sep-14	0.38	306.72	305.75	no	305.5	no
5-Sep-14	0.38	306.72	305.75	no	305.5	no
6-Sep-14	0.38	306.72	305.75	no	305.5	no
7-Sep-14	0.38	306.72	305.75	no	305.5	no
8-Sep-14	0.38	306.72	305.75	no	305.5	no
9-Sep-14	0.38	306.72	305.75	no	305.5	no
10-Sep-14	0.37	306.71	305.75	no	305.5	no
11-Sep-14	0.42	306.76	305.75	no	305.5	no
12-Sep-14	0.40	306.74	305.75	no	305.5	no
13-Sep-14	0.40	306.74	305.75	no	305.5	no
14-Sep-14	0.40	306.74	305.75	no	305.5	no
15-Sep-14	0.40	306.74	305.75	no	305.5	no
16-Sep-14	0.43	306.77	305.75	no	305.5	no
17-Sep-14	0.42	306.76	305.75	no	305.5	no
18-Sep-14	0.46	306.80	305.75	no	305.5	no
19-Sep-14	0.43	306.77	305.75	no	305.5	no
20-Sep-14	0.43	306.77	305.75	no	305.5	no
21-Sep-14	0.43	306.77	305.75	no	305.5	no
22-Sep-14	0.44	306.78	305.75	no	305.5	no
23-Sep-14	0.41	306.75	305.75	no	305.5	no
24-Sep-14	0.46	306.80	305.75	no	305.5	no
25-Sep-14	0.44	306.78	305.75	no	305.5	no
26-Sep-14	0.42	306.76	305.75	no	305.5	no
27-Sep-14	0.42	306.76	305.75	no	305.5	no
28-Sep-14	0.42	306.76	305.75	no	305.5	no
29-Sep-14	0.33	306.67	305.75	no	305.5	no
30-Sep-14	0.38	306.72	305.75	no	305.5	no
1-Oct-14	0.42	306.76	305.75	no	305.5	no
2-Oct-14	0.41	306.75	305.75	no	305.5	no
3-Oct-14	0.44	306.78	305.75	no	305.5	no
4-Oct-14	0.44	306.78	305.75	no	305.5	no
5-Oct-14	0.44	306.78	305.75	no	305.5	no
6-Oct-14	0.39	306.73	305.75	no	305.5	no
7-Oct-14	0.40	306.74	305.75	no	305.5	no
8-Oct-14	0.47	306.81	305.75	no	305.5	no
9-Oct-14	0.44	306.78	305.75	no	305.5	no
10-Oct-14	0.47	306.81	305.75	no	305.5	no
11-Oct-14	0.47	306.81	305.75	no	305.5	no
12-Oct-14	0.47	306.81	305.75	no	305.5	no
13-Oct-14	0.47	306.81	305.75	no	305.5	no
14-Oct-14	0.40	306.74	305.75	no	305.5	no
15-Oct-14	0.44	306.78	305.75	no	305.5	no
16-Oct-14	0.46	306.80	305.75	no	305.5	no
17-Oct-14	0.44	306.78	305.75	no	305.5	no
18-Oct-14	0.44	306.78	305.75	no	305.5	no
19-Oct-14	0.44	306.78	305.75	no	305.5	no
20-Oct-14	0.38	306.72	305.75	no	305.5	no
21-Oct-14	0.42	306.76	305.75	no	305.5	no
22-Oct-14	0.45	306.79	305.75	no	305.5	no
23-Oct-14	0.40	306.74	305.75	no	305.5	no
24-Oct-14	0.38	306.72	305.75	no	305.5	no
25-Oct-14	0.38	306.72	305.75	no	305.5	no
26-Oct-14	0.38	306.72	305.75	no	305.5	no
27-Oct-14	0.34	306.68	305.75	no	305.5	no
28-Oct-14	0.38	306.72	305.75	no	305.5	no
29-Oct-14	0.42	306.76	305.75	no	305.5	no
30-Oct-14	0.39	306.73	305.75	no	305.5	no
31-Oct-14	0.37	306.71	305.75	no	305.5	no
1-Nov-14	0.37	306.71	305.75	no	305.5	no
2-Nov-14	0.37	306.71	305.75	no	305.5	no
3-Nov-14	0.34	306.68	305.75	no	305.5	no
4-Nov-14	0.36	306.70	305.75	no	305.5	no
5-Nov-14	0.36	306.70	305.75	no	305.5	no
6-Nov-14	0.36	306.70	305.75	no	305.5	no
7-Nov-14	0.35	306.69	305.75	no	305.5	no
8-Nov-14	0.35	306.69	305.75	no	305.5	no
9-Nov-14	0.35	306.69	305.75	no	305.5	no
10-Nov-14	0.30	306.64	305.75	no	305.5	no
11-Nov-14	0.34	306.68	305.75	no	305.5	no
12-Nov-14	0.37	306.71	305.75	no	305.5	no
13-Nov-14	0.39	306.73	305.75	no	305.5	no
14-Nov-14	0.40	306.74	305.75	no	305.5	no
15-Nov-14	0.40	306.74	305.75	no	305.5	no
16-Nov-14	0.40	306.74	305.75	no	305.5	no
17-Nov-14	0.40	306.74	305.75	no	305.5	no
18-Nov-14	0.40	306.74	305.75	no	305.5	no
19-Nov-14	0.40	306.74	305.75	no	305.5	no
20-Nov-14	0.40	306.74	305.75	no	305.5	no
21-Nov-14	0.40	306.74	305.75	no	305.5	no
22-Nov-14	0.40	306.74	305.75	no	305.5	no
23-Nov-14	0.40	306.74	305.75	no	305.5	no
24-Nov-14	0.40	306.74	305.75	no	305.5	no
25-Nov-14	0.40	306.74	305.75	no	305.5	no
26-Nov-14	0.40	306.74	305.75	no	305.5	no
27-Nov-14	0.40	306.74	305.75	no	305.5	no
28-Nov-14	0.40	306.74	305.75	no	305.5	no
29-Nov-14	0.40	306.74	305.75	no	305.5	no
30-Nov-14	0.40	306.74	305.75	no	305.5	no
1-Dec-14	0.40	306.74	305.75	no	305.5	no
2-Dec-14	0.40	306.74	305.75	no	305.5	no
3-Dec-14	0.40	306.74	305.75	no	305.5	no
4-Dec-14	0.40	306.74	305.75	no	305.5	no
5-Dec-14	0.40	306.74	305.75	no	305.5	no
6-Dec-14	0.40	306.74	305.75	no	305.5	no
7-Dec-14	0.40	306.74	305.75	no	305.5	no
8-Dec-14	0.40	306.74	305.75	no	305.5	no
9-Dec-14	0.40	306.74	305.75	no	305.5	no
10-Dec-14	0.40	306.74	305.75	no	305.5	no
11-Dec-14	0.40	306.74	305.75	no	305.5	no
12-Dec-14	0.40	306.74	305.75	no	305.5	no
13-Dec-14	0.40	306.74	305.75	no	305.5	no
14-Dec-14	0.40	306.74	305.75	no	305.5	no
15-Dec-14	0.40	306.74	305.75	no	305.5	no
16-Dec-14	0.40	306.74	305.75	no	305.5	no
17-Dec-14	0.40	306.74	305.75	no	305.5	no
18-Dec-14	0.20	306.54	305.75	no	305.5	no
19-Dec-14	0.20	306.54	305.75	no	305.5	no
20-Dec-14	0.20	306.54	305.75	no	305.5	no
21-Dec-14	0.20	306.54	305.75	no	305.5	no
22-Dec-14	0.20	306.54	305.75	no	305.5	no
23-Dec-14	0.20	306.54	305.75	no	305.5	no
24-Dec-14	0.20	306.54	305.75	no	305.5	no
25-Dec-14	0.20	306.54	305.75	no	305.5	no
26-Dec-14	0.20	306.54	305.75	no	305.5	no
27-Dec-14	0.20	306.54	305.75	no	305.5	no
28-Dec-14	0.20	306.54	305.75	no	305.5	no
29-Dec-14	0.20	306.54	305.75	no	305.5	no
30-Dec-14	0.20	306.54	305.75	no	305.5	no
31-Dec-14	0.20	306.54	305.75	no	305.5	no

Table G-7
Threshold Summary - Phase 1 Pond
Mill Creek Aggregates Pit

Date	Gauge Reading Phase 1 Pond (m)	Water Elevation Phase 1 Pond (m ASL)	Early Warning Value (Min) (m ASL)	Exceedance of Early Warning Value	Threshold Value (Min) (m ASL)	Exceedance of Threshold Value
1-Jan-15			305.75		305.5	
2-Jan-15			305.75		305.5	
3-Jan-15			305.75		305.5	
4-Jan-15			305.75		305.5	
5-Jan-15			305.75		305.5	
6-Jan-15			305.75		305.5	
7-Jan-15			305.75		305.5	
8-Jan-15			305.75		305.5	
9-Jan-15			305.75		305.5	
10-Jan-15			305.75		305.5	
11-Jan-15			305.75		305.5	
12-Jan-15			305.75		305.5	
13-Jan-15			305.75		305.5	
14-Jan-15			305.75		305.5	
15-Jan-15			305.75		305.5	
16-Jan-15			305.75		305.5	
17-Jan-15			305.75		305.5	
18-Jan-15			305.75		305.5	
19-Jan-15			305.75		305.5	
20-Jan-15			305.75		305.5	
21-Jan-15			305.75		305.5	
22-Jan-15			305.75		305.5	
23-Jan-15			305.75		305.5	
24-Jan-15			305.75		305.5	
25-Jan-15			305.75		305.5	
26-Jan-15			305.75		305.5	
27-Jan-15			305.75		305.5	
28-Jan-15			305.75		305.5	
29-Jan-15			305.75		305.5	
30-Jan-15			305.75		305.5	
31-Jan-15			305.75		305.5	
1-Feb-15			305.75		305.5	
2-Feb-15			305.75		305.5	
3-Feb-15			305.75		305.5	
4-Feb-15			305.75		305.5	
5-Feb-15			305.75		305.5	
6-Feb-15			305.75		305.5	
7-Feb-15			305.75		305.5	
8-Feb-15			305.75		305.5	
9-Feb-15			305.75		305.5	
10-Feb-15			305.75		305.5	
11-Feb-15			305.75		305.5	
12-Feb-15			305.75		305.5	
13-Feb-15			305.75		305.5	
14-Feb-15			305.75		305.5	
15-Feb-15			305.75		305.5	
16-Feb-15			305.75		305.5	
17-Feb-15			305.75		305.5	
18-Feb-15			305.75		305.5	
19-Feb-15			305.75		305.5	
20-Feb-15			305.75		305.5	
21-Feb-15			305.75		305.5	
22-Feb-15			305.75		305.5	
23-Feb-15			305.75		305.5	
24-Feb-15			305.75		305.5	
25-Feb-15			305.75		305.5	
26-Feb-15			305.75		305.5	
27-Feb-15			305.75		305.5	
28-Feb-15			305.75		305.5	
1-Mar-15			305.75		305.5	
2-Mar-15			305.75		305.5	
3-Mar-15			305.75		305.5	
4-Mar-15			305.75		305.5	
5-Mar-15			305.75		305.5	
6-Mar-15			305.75		305.5	
7-Mar-15			305.75		305.5	
8-Mar-15			305.75		305.5	
9-Mar-15			305.75		305.5	
10-Mar-15			305.75		305.5	
11-Mar-15			305.75		305.5	
12-Mar-15			305.75		305.5	
13-Mar-15			305.75		305.5	
14-Mar-15			305.75		305.5	
15-Mar-15			305.75		305.5	
16-Mar-15			305.75		305.5	
17-Mar-15			305.75		305.5	
18-Mar-15			305.75		305.5	
19-Mar-15			305.75		305.5	
20-Mar-15			305.75		305.5	
21-Mar-15			305.75		305.5	
22-Mar-15			305.75		305.5	
23-Mar-15			305.75		305.5	
24-Mar-15			305.75		305.5	
25-Mar-15			305.75		305.5	
26-Mar-15			305.75		305.5	
27-Mar-15			305.75		305.5	
28-Mar-15			305.75		305.5	
29-Mar-15			305.75		305.5	
30-Mar-15			305.75		305.5	
31-Mar-15			305.75		305.5	
1-Apr-15			305.75		305.5	
2-Apr-15			305.75		305.5	
3-Apr-15			305.75		305.5	
4-Apr-15			305.75		305.5	
5-Apr-15			305.75		305.5	
6-Apr-15			305.75		305.5	
7-Apr-15			305.75		305.5	
8-Apr-15			305.75		305.5	
9-Apr-15			305.75		305.5	
10-Apr-15			305.75		305.5	
11-Apr-15			305.75		305.5	
12-Apr-15			305.75		305.5	
13-Apr-15			305.75		305.5	
14-Apr-15			305.75		305.5	
15-Apr-15			305.75		305.5	
16-Apr-15			305.75		305.5	
17-Apr-15	0.55	306.80	305.75	no	305.5	no
18-Apr-15	0.55	306.80	305.75	no	305.5	no
19-Apr-15	0.55	306.80	305.75	no	305.5	no
20-Apr-15	0.72	306.97	305.75	no	305.5	no
21-Apr-15	0.72	306.97	305.75	no	305.5	no
22-Apr-15	0.75	307.00	305.75	no	305.5	no
23-Apr-15	0.74	306.99	305.75	no	305.5	no
24-Apr-15	0.77	307.02	305.75	no	305.5	no
25-Apr-15	0.77	307.02	305.75	no	305.5	no
26-Apr-15	0.77	307.02	305.75	no	305.5	no
27-Apr-15	0.70	306.95	305.75	no	305.5	no
28-Apr-15	0.71	306.96	305.75	no	305.5	no
29-Apr-15	0.74	306.99	305.75	no	305.5	no
30-Apr-15	0.74	306.99	305.75	no	305.5	no
1-May-15	0.71	306.96	305.75	no	305.5	no
2-May-15	0.71	306.96	305.75	no	305.5	no
3-May-15	0.71	306.96	305.75	no	305.5	no
4-May-15	0.80	307.05	305.75	no	305.5	no
5-May-15	0.78	307.03	305.75	no	305.5	no
6-May-15	0.70	306.95	305.75	no	305.5	no
7-May-15	0.70	306.95	305.75	no	305.5	no
8-May-15	0.66	306.91	305.75	no	305.5	no
9-May-15	0.66	306.91	305.75	no	305.5	no
10-May-15	0.66	306.91	305.75	no	305.5	no
11-May-15	0.60	306.85	305.75	no	305.5	no
12-May-15	0.60	306.85	305.75	no	305.5	no

Table G-7
Threshold Summary - Phase 1 Pond
Mill Creek Aggregates Pit

Date	Gauge Reading Phase 1 Pond (m)	Water Elevation Phase 1 Pond (m ASL)	Early Warning Value (Min) (m ASL)	Exceedance of Early Warning Value	Threshold Value (Min) (m ASL)	Exceedance of Threshold Value
13-May-15	0.62	306.87	305.75	no	305.5	no
14-May-15	0.59	306.84	305.75	no	305.5	no
15-May-15	0.57	306.82	305.75	no	305.5	no
16-May-15	0.57	306.82	305.75	no	305.5	no
17-May-15	0.57	306.82	305.75	no	305.5	no
18-May-15	0.57	306.82	305.75	no	305.5	no
19-May-15	0.50	306.75	305.75	no	305.5	no
20-May-15	0.49	306.74	305.75	no	305.5	no
21-May-15	0.49	306.74	305.75	no	305.5	no
22-May-15	0.50	306.75	305.75	no	305.5	no
23-May-15	0.50	306.75	305.75	no	305.5	no
24-May-15	0.50	306.75	305.75	no	305.5	no
25-May-15	0.46	306.71	305.75	no	305.5	no
26-May-15	0.49	306.74	305.75	no	305.5	no
27-May-15	0.49	306.74	305.75	no	305.5	no
28-May-15	0.48	306.73	305.75	no	305.5	no
29-May-15	0.50	306.75	305.75	no	305.5	no
30-May-15	0.50	306.75	305.75	no	305.5	no
31-May-15	0.50	306.75	305.75	no	305.5	no
1-Jun-15	0.52	306.77	305.75	no	305.5	no
2-Jun-15	0.55	306.80	305.75	no	305.5	no
3-Jun-15	0.53	306.78	305.75	no	305.5	no
4-Jun-15	0.52	306.77	305.75	no	305.5	no
5-Jun-15	0.50	306.75	305.75	no	305.5	no
6-Jun-15			305.75		305.5	
7-Jun-15			305.75		305.5	
8-Jun-15	0.56	306.81	305.75	no	305.5	no
9-Jun-15	0.58	306.83	305.75	no	305.5	no
10-Jun-15	0.59	306.84	305.75	no	305.5	no
11-Jun-15	0.60	306.85	305.75	no	305.5	no
12-Jun-15	0.60	306.85	305.75	no	305.5	no
13-Jun-15			305.75		305.5	
14-Jun-15			305.75		305.5	
15-Jun-15	0.60	306.85	305.75	no	305.5	no
16-Jun-15	0.61	306.86	305.75	no	305.5	no
17-Jun-15	0.59	306.84	305.75	no	305.5	no
18-Jun-15	0.60	306.85	305.75	no	305.5	no
19-Jun-15	0.58	306.83	305.75	no	305.5	no
20-Jun-15			305.75		305.5	
21-Jun-15			305.75		305.5	
22-Jun-15	0.55	306.80	305.75	no	305.5	no
23-Jun-15	0.56	306.81	305.75	no	305.5	no
24-Jun-15	0.53	306.78	305.75	no	305.5	no
25-Jun-15	0.56	306.81	305.75	no	305.5	no
26-Jun-15	0.54	306.79	305.75	no	305.5	no
27-Jun-15			305.75		305.5	
28-Jun-15			305.75		305.5	
29-Jun-15	0.55	306.80	305.75	no	305.5	no
30-Jun-15	0.55	306.80	305.75	no	305.5	no
1-Jul-15			305.75		305.5	
2-Jul-15	0.66	306.91	305.75	no	305.5	no
3-Jul-15	0.58	306.83	305.75	no	305.5	no
4-Jul-15			305.75		305.5	
5-Jul-15			305.75		305.5	
6-Jul-15	0.54	306.79	305.75	no	305.5	no
7-Jul-15	0.55	306.80	305.75	no	305.5	no
8-Jul-15	0.59	306.84	305.75	no	305.5	no
9-Jul-15	0.58	306.83	305.75	no	305.5	no
10-Jul-15	0.59	306.84	305.75	no	305.5	no
11-Jul-15			305.75		305.5	
12-Jul-15			305.75		305.5	
13-Jul-15	0.52	306.77	305.75	no	305.5	no
14-Jul-15	0.52	306.77	305.75	no	305.5	no
15-Jul-15	0.65	306.90	305.75	no	305.5	no
16-Jul-15	0.56	306.81	305.75	no	305.5	no
17-Jul-15	0.49	306.74	305.75	no	305.5	no
18-Jul-15			305.75		305.5	
19-Jul-15			305.75		305.5	
20-Jul-15	0.49	306.74	305.75	no	305.5	no
21-Jul-15	0.28	306.53	305.75	no	305.5	no
22-Jul-15	0.47	306.72	305.75	no	305.5	no
23-Jul-15	0.48	306.73	305.75	no	305.5	no
24-Jul-15	0.48	306.73	305.75	no	305.5	no
25-Jul-15			305.75		305.5	
26-Jul-15			305.75		305.5	
27-Jul-15	0.40	306.65	305.75	no	305.5	no
28-Jul-15	0.39	306.64	305.75	no	305.5	no
29-Jul-15	0.40	306.65	305.75	no	305.5	no
30-Jul-15	0.40	306.65	305.75	no	305.5	no
31-Jul-15	0.42	306.67	305.75	no	305.5	no
1-Aug-15			305.75		305.5	
2-Aug-15			305.75		305.5	
3-Aug-15			305.75		305.5	
4-Aug-15	0.39	306.64	305.75	no	305.5	no
5-Aug-15	0.39	306.64	305.75	no	305.5	no
6-Aug-15	0.29	306.54	305.75	no	305.5	no
7-Aug-15	0.40	306.65	305.75	no	305.5	no
8-Aug-15			305.75		305.5	
9-Aug-15			305.75		305.5	
10-Aug-15	0.34	306.59	305.75	no	305.5	no
11-Aug-15	0.41	306.66	305.75	no	305.5	no
12-Aug-15	0.39	306.64	305.75	no	305.5	no
13-Aug-15	0.44	306.69	305.75	no	305.5	no
14-Aug-15	0.42	306.67	305.75	no	305.5	no
15-Aug-15			305.75		305.5	
16-Aug-15			305.75		305.5	
17-Aug-15	0.48	306.73	305.75	no	305.5	no
18-Aug-15	0.51	306.76	305.75	no	305.5	no
19-Aug-15	0.53	306.78	305.75	no	305.5	no
20-Aug-15	0.50	306.75	305.75	no	305.5	no
21-Aug-15	0.57	306.82	305.75	no	305.5	no
22-Aug-15			305.75		305.5	
23-Aug-15			305.75		305.5	
24-Aug-15	0.51	306.76	305.75	no	305.5	no
25-Aug-15	0.48	306.73	305.75	no	305.5	no
26-Aug-15	0.48	306.73	305.75	no	305.5	no
27-Aug-15	0.47	306.72	305.75	no	305.5	no
28-Aug-15	0.46	306.71	305.75	no	305.5	no
29-Aug-15			305.75		305.5	
30-Aug-15			305.75		305.5	
31-Aug-15	0.42	306.67	305.75	no	305.5	no
1-Sep-15	0.45	306.70	305.75	no	305.5	no
2-Sep-15	0.46	306.71	305.75	no	305.5	no
3-Sep-15	0.47	306.72	305.75	no	305.5	no
4-Sep-15	0.45	306.70	305.75	no	305.5	no
5-Sep-15			305.75		305.5	
6-Sep-15			305.75		305.5	
7-Sep-15			305.75		305.5	
8-Sep-15	0.48	306.73	305.75	no	305.5	no
9-Sep-15	0.40	306.65	305.75	no	305.5	no
10-Sep-15	0.41	306.66	305.75	no	305.5	no
11-Sep-15	0.42	306.67	305.75	no	305.5	no
12-Sep-15			305.75		305.5	
13-Sep-15			305.75		305.5	
14-Sep-15	0.39	306.64	305.75	no	305.5	no
15-Sep-15	0.32	306.57	305.75	no	305.5	no
16-Sep-15	0.37	306.62	305.75	no	305.5	no
17-Sep-15	0.35	306.60	305.75	no	305.5	no
18-Sep-15	0.35	306.60	305.75	no	305.5	no
19-Sep-15			305.75		305.5	
20-Sep-15			305.75		305.5	

Table G-7
Threshold Summary - Phase 1 Pond
Mill Creek Aggregates Pit

Date	Gauge Reading Phase 1 Pond (m)	Water Elevation Phase 1 Pond (m ASL)	Early Warning Value (Min) (m ASL)	Exceedance of Early Warning Value	Threshold Value (Min) (m ASL)	Exceedance of Threshold Value
21-Sep-15	0.36	306.61	305.75	no	305.5	no
22-Sep-15	0.36	306.61	305.75	no	305.5	no
23-Sep-15	0.32	306.57	305.75	no	305.5	no
24-Sep-15	0.30	306.55	305.75	no	305.5	no
25-Sep-15	0.30	306.55	305.75	no	305.5	no
26-Sep-15			305.75		305.5	
27-Sep-15			305.75		305.5	
28-Sep-15	0.23	306.48	305.75	no	305.5	no
29-Sep-15	0.23	306.48	305.75	no	305.5	no
30-Sep-15	0.38	306.63	305.75	no	305.5	no
1-Oct-15	0.26	306.51	305.75	no	305.5	no
2-Oct-15	0.23	306.48	305.75	no	305.5	no
3-Oct-15			305.75		305.5	
4-Oct-15			305.75		305.5	
5-Oct-15	0.21	306.46	305.75	no	305.5	no
6-Oct-15	0.23	306.48	305.75	no	305.5	no
7-Oct-15	0.26	306.51	305.75	no	305.5	no
8-Oct-15	0.25	306.50	305.75	no	305.5	no
9-Oct-15	0.22	306.47	305.75	no	305.5	no
10-Oct-15			305.75		305.5	
11-Oct-15			305.75		305.5	
12-Oct-15			305.75		305.5	
13-Oct-15	0.18	306.43	305.75	no	305.5	no
14-Oct-15	0.24	306.49	305.75	no	305.5	no
15-Oct-15	0.26	306.51	305.75	no	305.5	no
16-Oct-15	0.28	306.53	305.75	no	305.5	no
17-Oct-15			305.75		305.5	
18-Oct-15			305.75		305.5	
19-Oct-15	0.30	306.55	305.75	no	305.5	no
20-Oct-15	0.29	306.54	305.75	no	305.5	no
21-Oct-15	0.30	306.55	305.75	no	305.5	no
22-Oct-15	0.29	306.54	305.75	no	305.5	no
23-Oct-15	0.28	306.53	305.75	no	305.5	no
24-Oct-15			305.75		305.5	
25-Oct-15			305.75		305.5	
26-Oct-15	0.32	306.57	305.75	no	305.5	no
27-Oct-15	0.31	306.56	305.75	no	305.5	no
28-Oct-15	0.30	306.55	305.75	no	305.5	no
29-Oct-15	0.34	306.59	305.75	no	305.5	no
30-Oct-15	0.36	306.61	305.75	no	305.5	no
31-Oct-15			305.75		305.5	
1-Nov-15			305.75		305.5	
2-Nov-15	0.37	306.62	305.75	no	305.5	no
3-Nov-15	0.36	306.61	305.75	no	305.5	no
4-Nov-15	0.36	306.61	305.75	no	305.5	no
5-Nov-15	0.35	306.60	305.75	no	305.5	no
6-Nov-15	0.36	306.61	305.75	no	305.5	no
7-Nov-15			305.75		305.5	
8-Nov-15			305.75		305.5	
9-Nov-15	0.38	306.63	305.75	no	305.5	no
10-Nov-15	0.36	306.61	305.75	no	305.5	no
11-Nov-15	0.37	306.62	305.75	no	305.5	no
12-Nov-15	0.37	306.62	305.75	no	305.5	no
13-Nov-15	0.37	306.62	305.75	no	305.5	no
14-Nov-15			305.75		305.5	
15-Nov-15			305.75		305.5	
16-Nov-15	0.31	306.56	305.75	no	305.5	no
17-Nov-15	0.31	306.56	305.75	no	305.5	no
18-Nov-15	0.31	306.56	305.75	no	305.5	no
19-Nov-15	0.32	306.57	305.75	no	305.5	no
20-Nov-15	0.30	306.55	305.75	no	305.5	no
21-Nov-15			305.75		305.5	
22-Nov-15			305.75		305.5	
23-Nov-15	0.28	306.53	305.75	no	305.5	no
24-Nov-15	0.28	306.53	305.75	no	305.5	no
25-Nov-15	0.28	306.53	305.75	no	305.5	no
26-Nov-15	0.27	306.52	305.75	no	305.5	no
27-Nov-15	0.27	306.52	305.75	no	305.5	no
28-Nov-15			305.75		305.5	
29-Nov-15			305.75		305.5	
30-Nov-15	0.25	306.50	305.75	no	305.5	no
1-Dec-15	0.25	306.50	305.75	no	305.5	no
2-Dec-15	0.25	306.50	305.75	no	305.5	no
3-Dec-15	0.24	306.49	305.75	no	305.5	no
4-Dec-15	0.24	306.49	305.75	no	305.5	no
5-Dec-15			305.75		305.5	
6-Dec-15			305.75		305.5	
7-Dec-15	0.21	306.46	305.75	no	305.5	no
8-Dec-15	0.21	306.46	305.75	no	305.5	no
9-Dec-15	0.20	306.45	305.75	no	305.5	no
10-Dec-15	0.20	306.45	305.75	no	305.5	no
11-Dec-15	0.20	306.45	305.75	no	305.5	no
12-Dec-15			305.75		305.5	
13-Dec-15			305.75		305.5	
14-Dec-15	0.20	306.45	305.75	no	305.5	no
15-Dec-15	0.19	306.44	305.75	no	305.5	no
16-Dec-15	0.19	306.44	305.75	no	305.5	no
17-Dec-15	0.18	306.43	305.75	no	305.5	no
18-Dec-15	0.18	306.43	305.75	no	305.5	no
19-Dec-15			305.75		305.5	
20-Dec-15			305.75		305.5	
21-Dec-15	0.18	306.43	305.75	no	305.5	no
22-Dec-15	0.18	306.43	305.75	no	305.5	no
23-Dec-15	0.18	306.43	305.75	no	305.5	no
24-Dec-15			305.75		305.5	
25-Dec-15			305.75		305.5	
26-Dec-15			305.75		305.5	
27-Dec-15			305.75		305.5	
28-Dec-15			305.75		305.5	
29-Dec-15	0.20	306.45	305.75	no	305.5	no
30-Dec-15			305.75		305.5	
31-Dec-15			305.75		305.5	
1-Jan-16			305.75		305.5	
2-Jan-16			305.75		305.5	
3-Jan-16			305.75		305.5	
4-Jan-16			305.75		305.5	
5-Jan-16			305.75		305.5	
6-Jan-16			305.75		305.5	
7-Jan-16			305.75		305.5	
8-Jan-16			305.75		305.5	
9-Jan-16			305.75		305.5	
10-Jan-16			305.75		305.5	
11-Jan-16			305.75		305.5	
12-Jan-16			305.75		305.5	
13-Jan-16			305.75		305.5	
14-Jan-16			305.75		305.5	
15-Jan-16			305.75		305.5	
16-Jan-16			305.75		305.5	
17-Jan-16			305.75		305.5	
18-Jan-16			305.75		305.5	
19-Jan-16			305.75		305.5	
20-Jan-16			305.75		305.5	
21-Jan-16			305.75		305.5	
22-Jan-16			305.75		305.5	
23-Jan-16			305.75		305.5	
24-Jan-16			305.75		305.5	
25-Jan-16			305.75		305.5	
26-Jan-16			305.75		305.5	
27-Jan-16			305.75		305.5	
28-Jan-16			305.75		305.5	
29-Jan-16			305.75		305.5	
30-Jan-16			305.75		305.5	

Table G-7
Threshold Summary - Phase 1 Pond
Mill Creek Aggregates Pit

Date	Gauge Reading Phase 1 Pond (m)	Water Elevation Phase 1 Pond (m ASL)	Early Warning Value (Min) (m ASL)	Exceedance of Early Warning Value	Threshold Value (Min) (m ASL)	Exceedance of Threshold Value
31-Jan-16			305.75		305.5	
1-Feb-16			305.75		305.5	
2-Feb-16			305.75		305.5	
3-Feb-16	0.48	306.37	305.75	no	305.5	no
4-Feb-16	0.49	306.38	305.75	no	305.5	no
5-Feb-16	0.50	306.39	305.75	no	305.5	no
6-Feb-16			305.75		305.5	
7-Feb-16			305.75		305.5	
8-Feb-16	0.51	306.40	305.75	no	305.5	no
9-Feb-16	0.52	306.41	305.75	no	305.5	no
10-Feb-16	0.54	306.43	305.75	no	305.5	no
11-Feb-16	0.58	306.47	305.75	no	305.5	no
12-Feb-16	0.58	306.47	305.75	no	305.5	no
13-Feb-16	0.59	306.48	305.75	no	305.5	no
14-Feb-16	0.60	306.49	305.75	no	305.5	no
15-Feb-16	0.60	306.49	305.75	no	305.5	no
16-Feb-16	0.63	306.52	305.75	no	305.5	no
17-Feb-16	0.64	306.53	305.75	no	305.5	no
18-Feb-16	0.65	306.54	305.75	no	305.5	no
19-Feb-16	0.66	306.55	305.75	no	305.5	no
20-Feb-16			305.75		305.5	
21-Feb-16			305.75		305.5	
22-Feb-16	0.62	306.51	305.75	no	305.5	no
23-Feb-16	0.63	306.52	305.75	no	305.5	no
24-Feb-16	0.63	306.52	305.75	no	305.5	no
25-Feb-16	0.64	306.53	305.75	no	305.5	no
26-Feb-16	0.65	306.54	305.75	no	305.5	no
27-Feb-16			305.75		305.5	
28-Feb-16			305.75		305.5	
29-Feb-16	0.60	306.49	305.75	no	305.5	no
1-Mar-16	0.62	306.51	305.75	no	305.5	no
2-Mar-16	0.63	306.52	305.75	no	305.5	no
3-Mar-16	0.63	306.52	305.75	no	305.5	no
4-Mar-16	0.65	306.54	305.75	no	305.5	no
5-Mar-16			305.75		305.5	
6-Mar-16			305.75		305.5	
7-Mar-16	0.70	306.59	305.75	no	305.5	no
8-Mar-16	0.72	306.61	305.75	no	305.5	no
9-Mar-16	0.73	306.62	305.75	no	305.5	no
10-Mar-16	0.74	306.63	305.75	no	305.5	no
11-Mar-16	0.74	306.63	305.75	no	305.5	no
12-Mar-16			305.75		305.5	
13-Mar-16			305.75		305.5	
14-Mar-16	0.71	306.60	305.75	no	305.5	no
15-Mar-16	0.71	306.60	305.75	no	305.5	no
16-Mar-16	0.73	306.62	305.75	no	305.5	no
17-Mar-16	0.74	306.63	305.75	no	305.5	no
18-Mar-16	0.75	306.64	305.75	no	305.5	no
19-Mar-16			305.75		305.5	
20-Mar-16			305.75		305.5	
21-Mar-16	0.77	306.66	305.75	no	305.5	no
22-Mar-16	0.77	306.66	305.75	no	305.5	no
23-Mar-16	0.76	306.65	305.75	no	305.5	no
24-Mar-16	0.76	306.65	305.75	no	305.5	no
25-Mar-16	0.81	306.70	305.75	no	305.5	no
26-Mar-16			305.75		305.5	
27-Mar-16			305.75		305.5	
28-Mar-16	0.85	306.74	305.75	no	305.5	no
29-Mar-16	0.87	306.76	305.75	no	305.5	no
30-Mar-16	0.87	306.76	305.75	no	305.5	no
31-Mar-16	0.88	306.77	305.75	no	305.5	no
1-Apr-16	0.88	306.77	305.75	no	305.5	no
2-Apr-16			305.75		305.5	
3-Apr-16			305.75		305.5	
4-Apr-16	0.90	306.79	305.75	no	305.5	no
5-Apr-16	0.91	306.80	305.75	no	305.5	no
6-Apr-16	0.90	306.79	305.75	no	305.5	no
7-Apr-16	0.90	306.79	305.75	no	305.5	no
8-Apr-16	0.90	306.79	305.75	no	305.5	no
9-Apr-16			305.75		305.5	
10-Apr-16			305.75		305.5	
11-Apr-16	0.91	306.80	305.75	no	305.5	no
12-Apr-16	0.90	306.79	305.75	no	305.5	no
13-Apr-16	0.91	306.80	305.75	no	305.5	no
14-Apr-16	0.91	306.80	305.75	no	305.5	no
15-Apr-16	0.90	306.79	305.75	no	305.5	no
16-Apr-16			305.75		305.5	
17-Apr-16			305.75		305.5	
18-Apr-16	0.88	306.77	305.75	no	305.5	no
19-Apr-16	0.87	306.76	305.75	no	305.5	no
20-Apr-16	0.85	306.74	305.75	no	305.5	no
21-Apr-16	0.85	306.74	305.75	no	305.5	no
22-Apr-16	0.84	306.73	305.75	no	305.5	no
23-Apr-16			305.75		305.5	
24-Apr-16			305.75		305.5	
25-Apr-16	0.81	306.70	305.75	no	305.5	no
26-Apr-16	0.81	306.70	305.75	no	305.5	no
27-Apr-16	0.32	306.68	305.75	no	305.5	no
28-Apr-16	0.35	306.71	305.75	no	305.5	no
29-Apr-16	0.34	306.70	305.75	no	305.5	no
30-Apr-16			305.75		305.5	
1-May-16			305.75	no	305.5	no
2-May-16	0.31	306.67	305.75	no	305.5	no
3-May-16	0.31	306.67	305.75	no	305.5	no
4-May-16	0.30	306.66	305.75	no	305.5	no
5-May-16	0.31	306.67	305.75	no	305.5	no
6-May-16	0.31	306.67	305.75	no	305.5	no
7-May-16			305.75	no	305.5	no
8-May-16			305.75	no	305.5	no
9-May-16	0.31	306.67	305.75	no	305.5	no
10-May-16	0.31	306.67	305.75	no	305.5	no
11-May-16	0.33	306.69	305.75	no	305.5	no
12-May-16	0.33	306.69	305.75	no	305.5	no
13-May-16	0.35	306.71	305.75	no	305.5	no
14-May-16			305.75		305.5	
15-May-16			305.75		305.5	
16-May-16	0.31	306.67	305.75	no	305.5	no
17-May-16	0.32	306.68	305.75	no	305.5	no
18-May-16	0.34	306.70	305.75	no	305.5	no
19-May-16	0.33	306.69	305.75	no	305.5	no
20-May-16	0.33	306.69	305.75	no	305.5	no
21-May-16			305.75		305.5	
22-May-16			305.75		305.5	
23-May-16			305.75		305.5	
24-May-16	0.30	306.66	305.75	no	305.5	no
25-May-16	0.30	306.66	305.75	no	305.5	no
26-May-16	0.32	306.68	305.75	no	305.5	no
27-May-16	0.33	306.69	305.75	no	305.5	no
28-May-16			305.75		305.5	
29-May-16			305.75		305.5	
30-May-16	0.34	306.70	305.75	no	305.5	no
31-May-16	0.35	306.71	305.75	no	305.5	no
1-Jun-16	0.36	306.72	305.75	no	305.5	no
2-Jun-16	0.36	306.72	305.75	no	305.5	no
3-Jun-16	0.37	306.73	305.75	no	305.5	no
4-Jun-16			305.75		305.5	
5-Jun-16			305.75		305.5	
6-Jun-16	0.34	306.70	305.75	no	305.5	no
7-Jun-16	0.35	306.71	305.75	no	305.5	no
8-Jun-16	0.35	306.71	305.75	no	305.5	no
9-Jun-16	0.35	306.71	305.75	no	305.5	no
10-Jun-16	0.45	306.81	305.75	no	305.5	no

Table G-7
Threshold Summary - Phase 1 Pond
Mill Creek Aggregates Pit

Date	Gauge Reading Phase 1 Pond (m)	Water Elevation Phase 1 Pond (m ASL)	Early Warning Value (Min) (m ASL)	Exceedance of Early Warning Value	Threshold Value (Min) (m ASL)	Exceedance of Threshold Value
11-Jun-16			305.75		305.5	
12-Jun-16			305.75		305.5	
13-Jun-16	0.33	306.69	305.75	no	305.5	no
14-Jun-16	0.33	306.69	305.75	no	305.5	no
15-Jun-16	0.33	306.69	305.75	no	305.5	no
16-Jun-16	0.30	306.66	305.75	no	305.5	no
17-Jun-16	0.30	306.66	305.75	no	305.5	no
18-Jun-16			305.75		305.5	
19-Jun-16			305.75		305.5	
20-Jun-16	0.31	306.67	305.75	no	305.5	no
21-Jun-16	0.31	306.67	305.75	no	305.5	no
22-Jun-16	0.28	306.64	305.75	no	305.5	no
23-Jun-16	0.21	306.57	305.75	no	305.5	no
24-Jun-16	0.16	306.52	305.75	no	305.5	no
25-Jun-16			305.75		305.5	
26-Jun-16			305.75		305.5	
27-Jun-16	0.13	306.49	305.75	no	305.5	no
28-Jun-16	0.10	306.46	305.75	no	305.5	no
29-Jun-16	0.10	306.46	305.75	no	305.5	no
30-Jun-16	0.11	306.47	305.75	no	305.5	no
1-Jul-16			305.75		305.5	
2-Jul-16			305.75		305.5	
3-Jul-16			305.75		305.5	
4-Jul-16	0.10	306.46	305.75	no	305.5	no
5-Jul-16	0.06	306.42	305.75	no	305.5	no
6-Jul-16	0.09	306.45	305.75	no	305.5	no
7-Jul-16	0.10	306.46	305.75	no	305.5	no
8-Jul-16	0.09	306.45	305.75	no	305.5	no
9-Jul-16			305.75		305.5	
10-Jul-16			305.75		305.5	
11-Jul-16	0.08	306.44	305.75	no	305.5	no
12-Jul-16	0.08	306.44	305.75	no	305.5	no
13-Jul-16	0.08	306.44	305.75	no	305.5	no
14-Jul-16	0.08	306.44	305.75	no	305.5	no
15-Jul-16	0.10	306.46	305.75	no	305.5	no
16-Jul-16			305.75		305.5	
17-Jul-16			305.75		305.5	
18-Jul-16	0.12	306.48	305.75	no	305.5	no
19-Jul-16	0.13	306.49	305.75	no	305.5	no
20-Jul-16	0.12	306.48	305.75	no	305.5	no
21-Jul-16	0.13	306.49	305.75	no	305.5	no
22-Jul-16	0.13	306.49	305.75	no	305.5	no
23-Jul-16			305.75		305.5	
24-Jul-16			305.75		305.5	
25-Jul-16	0.13	306.49	305.75	no	305.5	no
26-Jul-16	0.13	306.49	305.75	no	305.5	no
27-Jul-16	0.13	306.49	305.75	no	305.5	no
28-Jul-16	0.13	306.49	305.75	no	305.5	no
29-Jul-16	0.15	306.51	305.75	no	305.5	no
30-Jul-16			305.75		305.5	
31-Jul-16			305.75		305.5	
1-Aug-16			305.75		305.5	
2-Aug-16	0.09	306.45	305.75	no	305.5	no
3-Aug-16	0.08	306.44	305.75	no	305.5	no
4-Aug-16	0.07	306.43	305.75	no	305.5	no
5-Aug-16	0.08	306.44	305.75	no	305.5	no
6-Aug-16			305.75		305.5	
7-Aug-16			305.75		305.5	
8-Aug-16	0.50	306.39	305.75	no	305.5	no
9-Aug-16	0.48	306.37	305.75	no	305.5	no
10-Aug-16	0.49	306.38	305.75	no	305.5	no
11-Aug-16	0.43	306.32	305.75	no	305.5	no
12-Aug-16	0.45	306.34	305.75	no	305.5	no
13-Aug-16			305.75		305.5	
14-Aug-16			305.75		305.5	
15-Aug-16	0.40	306.29	305.75	no	305.5	no
16-Aug-16	0.46	306.35	305.75	no	305.5	no
17-Aug-16	0.39	306.28	305.75	no	305.5	no
18-Aug-16	0.39	306.28	305.75	no	305.5	no
19-Aug-16	0.34	306.23	305.75	no	305.5	no
20-Aug-16			305.75		305.5	
21-Aug-16			305.75		305.5	
22-Aug-16	0.38	306.27	305.75	no	305.5	no
23-Aug-16	0.40	306.29	305.75	no	305.5	no
24-Aug-16	0.40	306.29	305.75	no	305.5	no
25-Aug-16	0.43	306.32	305.75	no	305.5	no
26-Aug-16	0.50	306.39	305.75	no	305.5	no
27-Aug-16			305.75		305.5	
28-Aug-16			305.75		305.5	
29-Aug-16	0.49	306.38	305.75	no	305.5	no
30-Aug-16	0.50	306.39	305.75	no	305.5	no
31-Aug-16	0.50	306.39	305.75	no	305.5	no
1-Sep-16	0.49	306.38	305.75	no	305.5	no
2-Sep-16	0.50	306.39	305.75	no	305.5	no
3-Sep-16			305.75		305.5	
4-Sep-16			305.75		305.5	
5-Sep-16			305.75		305.5	
6-Sep-16	0.48	306.37	305.75	no	305.5	no
7-Sep-16	0.49	306.38	305.75	no	305.5	no
8-Sep-16	0.54	306.43	305.75	no	305.5	no
9-Sep-16	0.55	306.44	305.75	no	305.5	no
10-Sep-16			305.75		305.5	
11-Sep-16			305.75		305.5	
12-Sep-16	0.51	306.40	305.75	no	305.5	no
13-Sep-16	0.53	306.42	305.75	no	305.5	no
14-Sep-16	0.52	306.41	305.75	no	305.5	no
15-Sep-16	0.54	306.43	305.75	no	305.5	no
16-Sep-16			305.75		305.5	
17-Sep-16			305.75		305.5	
18-Sep-16			305.75		305.5	
19-Sep-16	0.52	306.41	305.75	no	305.5	no
20-Sep-16	0.52	306.41	305.75	no	305.5	no
21-Sep-16	0.52	306.41	305.75	no	305.5	no
22-Sep-16	0.53	306.42	305.75	no	305.5	no
23-Sep-16	0.52	306.41	305.75	no	305.5	no
24-Sep-16			305.75		305.5	
25-Sep-16			305.75		305.5	
26-Sep-16	0.49	306.38	305.75	no	305.5	no
27-Sep-16	0.50	306.39	305.75	no	305.5	no
28-Sep-16	0.50	306.39	305.75	no	305.5	no
29-Sep-16	0.49	306.38	305.75	no	305.5	no
30-Sep-16	0.49	306.38	305.75	no	305.5	no
1-Oct-16			305.75		305.5	
2-Oct-16			305.75		305.5	
3-Oct-16	0.47	306.36	305.75	no	305.5	no
4-Oct-16	0.47	306.36	305.75	no	305.5	no
5-Oct-16	0.48	306.37	305.75	no	305.5	no
6-Oct-16	0.49	306.38	305.75	no	305.5	no
7-Oct-16	0.49	306.38	305.75	no	305.5	no
8-Oct-16			305.75		305.5	
9-Oct-16			305.75		305.5	
10-Oct-16			305.75		305.5	
11-Oct-16	0.47	306.36	305.75	no	305.5	no
12-Oct-16	0.46	306.35	305.75	no	305.5	no
13-Oct-16	0.46	306.35	305.75	no	305.5	no
14-Oct-16	0.45	306.34	305.75	no	305.5	no
15-Oct-16			305.75		305.5	
16-Oct-16			305.75		305.5	
17-Oct-16	0.43	306.32	305.75	no	305.5	no
18-Oct-16	0.42	306.31	305.75	no	305.5	no
19-Oct-16	0.38	306.27	305.75	no	305.5	no
20-Oct-16	0.37	306.26	305.75	no	305.5	no

Table G-7
Threshold Summary - Phase 1 Pond
Mill Creek Aggregates Pit

Date	Gauge Reading Phase 1 Pond (m)	Water Elevation Phase 1 Pond (m ASL)	Early Warning Value (Min) (m ASL)	Exceedance of Early Warning Value	Threshold Value (Min) (m ASL)	Exceedance of Threshold Value
21-Oct-16	0.37	306.26	305.75	no	305.5	no
22-Oct-16			305.75		305.5	
23-Oct-16			305.75		305.5	
24-Oct-16	0.35	306.24	305.75	no	305.5	no
25-Oct-16	0.34	306.23	305.75	no	305.5	no
26-Oct-16	0.36	306.25	305.75	no	305.5	no
27-Oct-16	0.37	306.26	305.75	no	305.5	no
28-Oct-16	0.35	306.24	305.75	no	305.5	no
29-Oct-16			305.75		305.5	
30-Oct-16			305.75		305.5	
31-Oct-16	0.29	306.18	305.75	no	305.5	no
1-Nov-16	0.30	306.19	305.75	no	305.5	no
2-Nov-16	0.31	306.20	305.75	no	305.5	no
3-Nov-16	0.33	306.22	305.75	no	305.5	no
4-Nov-16	0.37	306.26	305.75	no	305.5	no
5-Nov-16			305.75		305.5	
6-Nov-16			305.75		305.5	
7-Nov-16	0.36	306.25	305.75	no	305.5	no
8-Nov-16	0.37	306.26	305.75	no	305.5	no
9-Nov-16	0.37	306.26	305.75	no	305.5	no
10-Nov-16	0.37	306.26	305.75	no	305.5	no
11-Nov-16	0.37	306.26	305.75	no	305.5	no
12-Nov-16			305.75		305.5	
13-Nov-16			305.75		305.5	
14-Nov-16	0.38	306.27	305.75	no	305.5	no
15-Nov-16	0.35	306.24	305.75	no	305.5	no
16-Nov-16	0.34	306.23	305.75	no	305.5	no
17-Nov-16	0.35	306.24	305.75	no	305.5	no
18-Nov-16	0.34	306.23	305.75	no	305.5	no
19-Nov-16			305.75		305.5	
20-Nov-16			305.75		305.5	
21-Nov-16	0.35	306.24	305.75	no	305.5	no
22-Nov-16	0.36	306.25	305.75	no	305.5	no
23-Nov-16	0.35	306.24	305.75	no	305.5	no
24-Nov-16	0.36	306.25	305.75	no	305.5	no
25-Nov-16	0.35	306.24	305.75	no	305.5	no
26-Nov-16			305.75		305.5	
27-Nov-16			305.75		305.5	
28-Nov-16	0.30	306.19	305.75	no	305.5	no
29-Nov-16	0.31	306.20	305.75	no	305.5	no
30-Nov-16	0.33	306.22	305.75	no	305.5	no
1-Dec-16	0.33	306.22	305.75	no	305.5	no
2-Dec-16	0.34	306.23	305.75	no	305.5	no
3-Dec-16			305.75		305.5	
4-Dec-16			305.75		305.5	
5-Dec-16	0.32	306.21	305.75	no	305.5	no
6-Dec-16	0.31	306.20	305.75	no	305.5	no
7-Dec-16	0.31	306.20	305.75	no	305.5	no
8-Dec-16	0.31	306.20	305.75	no	305.5	no
9-Dec-16	0.31	306.20	305.75	no	305.5	no
10-Dec-16			305.75		305.5	
11-Dec-16			305.75		305.5	
12-Dec-16	0.31	306.20	305.75	no	305.5	no
13-Dec-16	0.32	306.21	305.75	no	305.5	no
14-Dec-16	0.32	306.21	305.75	no	305.5	no
15-Dec-16	0.32	306.21	305.75	no	305.5	no
16-Dec-16	0.33	306.22	305.75	no	305.5	no
17-Dec-16			305.75		305.5	
18-Dec-16			305.75		305.5	
19-Dec-16	0.36	306.25	305.75	no	305.5	no
20-Dec-16	0.37	306.26	305.75	no	305.5	no
21-Dec-16	0.38	306.27	305.75	no	305.5	no
22-Dec-16	0.38	306.27	305.75	no	305.5	no
23-Dec-16	0.38	306.27	305.75	no	305.5	no
24-Dec-16			305.75		305.5	
25-Dec-16			305.75		305.5	
26-Dec-16			305.75		305.5	
27-Dec-16			305.75		305.5	
28-Dec-16			305.75		305.5	
29-Dec-16			305.75		305.5	
30-Dec-16			305.75		305.5	
31-Dec-16			305.75		305.5	
1-Jan-17			305.75		305.5	
2-Jan-17			305.75		305.5	
3-Jan-17			305.75		305.5	
4-Jan-17			305.75		305.5	
5-Jan-17			305.75		305.5	
6-Jan-17			305.75		305.5	
7-Jan-17			305.75		305.5	
8-Jan-17			305.75		305.5	
9-Jan-17			305.75		305.5	
10-Jan-17			305.75		305.5	
11-Jan-17			305.75		305.5	
12-Jan-17			305.75		305.5	
13-Jan-17			305.75		305.5	
14-Jan-17			305.75		305.5	
15-Jan-17			305.75		305.5	
16-Jan-17			305.75		305.5	
17-Jan-17			305.75		305.5	
18-Jan-17			305.75		305.5	
19-Jan-17			305.75		305.5	
20-Jan-17			305.75		305.5	
21-Jan-17			305.75		305.5	
22-Jan-17			305.75		305.5	
23-Jan-17			305.75		305.5	
24-Jan-17			305.75		305.5	
25-Jan-17			305.75		305.5	
26-Jan-17			305.75		305.5	
27-Jan-17			305.75		305.5	
28-Jan-17			305.75		305.5	
29-Jan-17			305.75		305.5	
30-Jan-17			305.75		305.5	
31-Jan-17			305.75		305.5	
1-Feb-17			305.75		305.5	
2-Feb-17			305.75		305.5	
3-Feb-17			305.75		305.5	
4-Feb-17			305.75		305.5	
5-Feb-17			305.75		305.5	
6-Feb-17			305.75		305.5	
7-Feb-17			305.75		305.5	
8-Feb-17			305.75		305.5	
9-Feb-17			305.75		305.5	
10-Feb-17			305.75		305.5	
11-Feb-17			305.75		305.5	
12-Feb-17			305.75		305.5	
13-Feb-17			305.75		305.5	
14-Feb-17			305.75		305.5	
15-Feb-17			305.75		305.5	
16-Feb-17			305.75		305.5	
17-Feb-17			305.75		305.5	
18-Feb-17			305.75		305.5	
19-Feb-17			305.75		305.5	
20-Feb-17			305.75		305.5	
21-Feb-17			305.75		305.5	
22-Feb-17			305.75		305.5	
23-Feb-17			305.75		305.5	
24-Feb-17			305.75		305.5	
25-Feb-17			305.75		305.5	
26-Feb-17			305.75		305.5	
27-Feb-17			305.75		305.5	
28-Feb-17			305.75		305.5	

Table G-7
Threshold Summary - Phase 1 Pond
Mill Creek Aggregates Pit

Date	Gauge Reading Phase 1 Pond (m)	Water Elevation Phase 1 Pond (m ASL)	Early Warning Value (Min) (m ASL)	Exceedance of Early Warning Value	Threshold Value (Min) (m ASL)	Exceedance of Threshold Value
1-Mar-17			305.75		305.5	
2-Mar-17			305.75		305.5	
3-Mar-17			305.75		305.5	
4-Mar-17			305.75		305.5	
5-Mar-17			305.75		305.5	
6-Mar-17			305.75		305.5	
7-Mar-17			305.75		305.5	
8-Mar-17			305.75		305.5	
9-Mar-17			305.75		305.5	
10-Mar-17			305.75		305.5	
11-Mar-17			305.75		305.5	
12-Mar-17			305.75		305.5	
13-Mar-17			305.75		305.5	
14-Mar-17			305.75		305.5	
15-Mar-17			305.75		305.5	
16-Mar-17			305.75		305.5	
17-Mar-17			305.75		305.5	
18-Mar-17			305.75		305.5	
19-Mar-17			305.75		305.5	
20-Mar-17			305.75		305.5	
21-Mar-17			305.75		305.5	
22-Mar-17			305.75		305.5	
23-Mar-17			305.75		305.5	
24-Mar-17			305.75		305.5	
25-Mar-17			305.75		305.5	
26-Mar-17			305.75		305.5	
27-Mar-17	0.96	306.74	305.75	no	305.5	no
28-Mar-17	0.96	306.74	305.75	no	305.5	no
29-Mar-17	0.96	306.74	305.75	no	305.5	no
30-Mar-17	0.96	306.74	305.75	no	305.5	no
31-Mar-17	0.96	306.74	305.75	no	305.5	no
1-Apr-17			305.75		305.5	
2-Apr-17			305.75		305.5	
3-Apr-17	0.99	306.76	305.75	no	305.5	no
4-Apr-17	0.99	306.76	305.75	no	305.5	no
5-Apr-17	1.00	306.77	305.75	no	305.5	no
6-Apr-17	1.00	306.77	305.75	no	305.5	no
7-Apr-17	0.99	306.76	305.75	no	305.5	no
8-Apr-17			305.75		305.5	
9-Apr-17			305.75		305.5	
10-Apr-17	0.28	306.81	305.75	no	305.5	no
11-Apr-17	0.27	306.80	305.75	no	305.5	no
12-Apr-17	0.25	306.78	305.75	no	305.5	no
13-Apr-17	0.28	306.81	305.75	no	305.5	no
14-Apr-17			305.75		305.5	
15-Apr-17			305.75		305.5	
16-Apr-17			305.75		305.5	
17-Apr-17	0.23	306.76	305.75	no	305.5	no
18-Apr-17	0.23	306.76	305.75	no	305.5	no
19-Apr-17	0.23	306.76	305.75	no	305.5	no
20-Apr-17	0.25	306.78	305.75	no	305.5	no
21-Apr-17	0.30	306.83	305.75	no	305.5	no
22-Apr-17			305.75		305.5	
23-Apr-17			305.75		305.5	
24-Apr-17	0.28	306.81	305.75	no	305.5	no
25-Apr-17	0.30	306.83	305.75	no	305.5	no
26-Apr-17	0.32	306.85	305.75	no	305.5	no
27-Apr-17	0.34	306.87	305.75	no	305.5	no
28-Apr-17	0.35	306.88	305.75	no	305.5	no
29-Apr-17			305.75		305.5	
30-Apr-17			305.75		305.5	
1-May-17	0.39	306.92	305.75	no	305.5	no
2-May-17	0.33	306.86	305.75	no	305.5	no
3-May-17	0.35	306.88	305.75	no	305.5	no
4-May-17	0.38	306.91	305.75	no	305.5	no
5-May-17	0.43	306.96	305.75	no	305.5	no
6-May-17			305.75		305.5	
7-May-17			305.75		305.5	
8-May-17	0.63	307.16	305.75	no	305.5	no
9-May-17	0.63	307.16	305.75	no	305.5	no
10-May-17	0.63	307.16	305.75	no	305.5	no
11-May-17	0.63	307.16	305.75	no	305.5	no
12-May-17	0.69	307.22	305.75	no	305.5	no
13-May-17			305.75		305.5	
14-May-17			305.75		305.5	
15-May-17	0.41	306.89	305.75	no	305.5	no
16-May-17	0.37	306.85	305.75	no	305.5	no
17-May-17	0.40	306.88	305.75	no	305.5	no
18-May-17	0.42	306.90	305.75	no	305.5	no
19-May-17	0.42	306.90	305.75	no	305.5	no
20-May-17			305.75		305.5	
21-May-17			305.75		305.5	
22-May-17			305.75		305.5	
23-May-17	0.41	306.89	305.75	no	305.5	no
24-May-17	0.41	306.89	305.75	no	305.5	no
25-May-17	0.43	306.91	305.75	no	305.5	no
26-May-17	0.47	306.95	305.75	no	305.5	no
27-May-17			305.75		305.5	
28-May-17			305.75		305.5	
29-May-17	0.42	306.90	305.75	no	305.5	no
30-May-17	0.46	306.94	305.75	no	305.5	no
31-May-17	0.48	306.96	305.75	no	305.5	no
1-Jun-17	0.49	306.97	305.75	no	305.5	no
2-Jun-17	0.50	306.98	305.75	no	305.5	no
3-Jun-17			305.75		305.5	
4-Jun-17			305.75		305.5	
5-Jun-17	0.46	306.94	305.75	no	305.5	no
6-Jun-17	0.47	306.95	305.75	no	305.5	no
7-Jun-17	0.49	306.97	305.75	no	305.5	no
8-Jun-17	0.50	306.98	305.75	no	305.5	no
9-Jun-17	0.50	306.98	305.75	no	305.5	no
10-Jun-17			305.75		305.5	
11-Jun-17			305.75		305.5	
12-Jun-17	0.45	306.93	305.75	no	305.5	no
13-Jun-17	0.46	306.94	305.75	no	305.5	no
14-Jun-17	0.47	306.95	305.75	no	305.5	no
15-Jun-17	0.47	306.95	305.75	no	305.5	no
16-Jun-17	0.48	306.96	305.75	no	305.5	no
17-Jun-17	0.50	306.98	305.75	no	305.5	no
18-Jun-17			305.75		305.5	
19-Jun-17	0.46	306.94	305.75	no	305.5	no
20-Jun-17	0.45	306.93	305.75	no	305.5	no
21-Jun-17	0.47	306.95	305.75	no	305.5	no
22-Jun-17	0.47	306.95	305.75	no	305.5	no
23-Jun-17	0.50	306.98	305.75	no	305.5	no
24-Jun-17	0.52	307.00	305.75	no	305.5	no
25-Jun-17			305.75		305.5	
26-Jun-17	0.46	306.94	305.75	no	305.5	no
27-Jun-17	0.46	306.94	305.75	no	305.5	no
28-Jun-17	0.47	306.95	305.75	no	305.5	no
29-Jun-17	0.48	306.96	305.75	no	305.5	no
30-Jun-17	0.51	306.99	305.75	no	305.5	no
1-Jul-17			305.75		305.5	
2-Jul-17			305.75		305.5	
3-Jul-17			305.75		305.5	
4-Jul-17	0.43	306.91	305.75	no	305.5	no
5-Jul-17	0.45	306.93	305.75	no	305.5	no
6-Jul-17	0.45	306.93	305.75	no	305.5	no
7-Jul-17	0.47	306.95	305.75	no	305.5	no
8-Jul-17			305.75		305.5	
9-Jul-17			305.75		305.5	
10-Jul-17	0.40	306.88	305.75	no	305.5	no

Table G-7
Threshold Summary - Phase 1 Pond
Mill Creek Aggregates Pit

Date	Gauge Reading Phase 1 Pond (m)	Water Elevation Phase 1 Pond (m ASL)	Early Warning Value (Min) (m ASL)	Exceedance of Early Warning Value	Threshold Value (Min) (m ASL)	Exceedance of Threshold Value
11-Jul-17	0.41	306.89	305.75	no	305.5	no
12-Jul-17	0.42	306.90	305.75	no	305.5	no
13-Jul-17	0.44	306.92	305.75	no	305.5	no
14-Jul-17	0.48	306.96	305.75	no	305.5	no
15-Jul-17	0.50	306.98	305.75	no	305.5	no
16-Jul-17			305.75		305.5	
17-Jul-17	0.46	306.94	305.75	no	305.5	no
18-Jul-17	0.48	306.96	305.75	no	305.5	no
19-Jul-17	0.49	306.97	305.75	no	305.5	no
20-Jul-17	0.49	306.97	305.75	no	305.5	no
21-Jul-17	0.51	306.99	305.75	no	305.5	no
22-Jul-17	0.52	307.00	305.75	no	305.5	no
23-Jul-17			305.75		305.5	
24-Jul-17	0.44	306.92	305.75	no	305.5	no
25-Jul-17	0.45	306.93	305.75	no	305.5	no
26-Jul-17	0.46	306.94	305.75	no	305.5	no
27-Jul-17	0.48	306.96	305.75	no	305.5	no
28-Jul-17	0.48	306.96	305.75	no	305.5	no
29-Jul-17			305.75		305.5	
30-Jul-17			305.75		305.5	
31-Jul-17	0.48	306.96	305.75	no	305.5	no
1-Aug-17	0.48	306.96	305.75	no	305.5	no
2-Aug-17	0.43	306.91	305.75	no	305.5	no
3-Aug-17	0.41	306.89	305.75	no	305.5	no
4-Aug-17	0.41	306.89	305.75	no	305.5	no
5-Aug-17			305.75		305.5	
6-Aug-17			305.75		305.5	
7-Aug-17			305.75		305.5	
8-Aug-17	0.32	306.80	305.75	no	305.5	no
9-Aug-17	0.31	306.79	305.75	no	305.5	no
10-Aug-17	0.30	306.78	305.75	no	305.5	no
11-Aug-17	0.24	306.72	305.75	no	305.5	no
12-Aug-17	0.24	306.72	305.75	no	305.5	no
13-Aug-17			305.75		305.5	
14-Aug-17	0.28	306.76	305.75	no	305.5	no
15-Aug-17	0.32	306.80	305.75	no	305.5	no
16-Aug-17	0.32	306.80	305.75	no	305.5	no
17-Aug-17	0.32	306.80	305.75	no	305.5	no
18-Aug-17	0.32	306.80	305.75	no	305.5	no
19-Aug-17	0.30	306.78	305.75	no	305.5	no
20-Aug-17			305.75		305.5	
21-Aug-17	0.26	306.74	305.75	no	305.5	no
22-Aug-17	0.25	306.73	305.75	no	305.5	no
23-Aug-17	0.26	306.74	305.75	no	305.5	no
24-Aug-17	0.24	306.72	305.75	no	305.5	no
25-Aug-17	0.25	306.73	305.75	no	305.5	no
26-Aug-17	0.25	306.73	305.75	no	305.5	no
27-Aug-17			305.75		305.5	
28-Aug-17	0.21	306.69	305.75	no	305.5	no
29-Aug-17	0.21	306.69	305.75	no	305.5	no
30-Aug-17	0.20	306.68	305.75	no	305.5	no
31-Aug-17	0.17	306.65	305.75	no	305.5	no
1-Sep-17	0.17	306.65	305.75	no	305.5	no
2-Sep-17	0.18	306.66	305.75	no	305.5	no
3-Sep-17			305.75		305.5	
4-Sep-17			305.75		305.5	
5-Sep-17	0.15	306.63	305.75	no	305.5	no
6-Sep-17	0.18	306.66	305.75	no	305.5	no
7-Sep-17	0.16	306.64	305.75	no	305.5	no
8-Sep-17	0.16	306.64	305.75	no	305.5	no
9-Sep-17			305.75		305.5	
10-Sep-17			305.75		305.5	
11-Sep-17	0.14	306.62	305.75	no	305.5	no
12-Sep-17	0.15	306.63	305.75	no	305.5	no
13-Sep-17	0.16	306.64	305.75	no	305.5	no
14-Sep-17	0.17	306.65	305.75	no	305.5	no
15-Sep-17	0.17	306.65	305.75	no	305.5	no
16-Sep-17	0.17	306.65	305.75	no	305.5	no
17-Sep-17			305.75		305.5	
18-Sep-17	0.17	306.65	305.75	no	305.5	no
19-Sep-17	0.13	306.61	305.75	no	305.5	no
20-Sep-17	0.11	306.59	305.75	no	305.5	no
21-Sep-17	0.14	306.62	305.75	no	305.5	no
22-Sep-17	0.14	306.62	305.75	no	305.5	no
23-Sep-17	0.14	306.62	305.75	no	305.5	no
24-Sep-17			305.75		305.5	
25-Sep-17	0.04	306.62	305.75	no	305.5	no
26-Sep-17	0.15	306.73	305.75	no	305.5	no
27-Sep-17	0.15	306.73	305.75	no	305.5	no
28-Sep-17	0.16	306.74	305.75	no	305.5	no
29-Sep-17	0.16	306.74	305.75	no	305.5	no
30-Sep-17	0.16	306.74	305.75	no	305.5	no
1-Oct-17			305.75		305.5	
2-Oct-17	0.22	306.80	305.75	no	305.5	no
3-Oct-17	0.20	306.78	305.75	no	305.5	no
4-Oct-17	0.18	306.76	305.75	no	305.5	no
5-Oct-17	0.15	306.73	305.75	no	305.5	no
6-Oct-17	0.13	306.71	305.75	no	305.5	no
7-Oct-17			305.75		305.5	
8-Oct-17			305.75		305.5	
9-Oct-17			305.75		305.5	
10-Oct-17	0.05	306.63	305.75	no	305.5	no
11-Oct-17	0.05	306.63	305.75	no	305.5	no
12-Oct-17	0.06	306.64	305.75	no	305.5	no
13-Oct-17	0.04	306.62	305.75	no	305.5	no
14-Oct-17	0.02	306.60	305.75	no	305.5	no
15-Oct-17			305.75		305.5	
16-Oct-17	0.04	306.62	305.75	no	305.5	no
17-Oct-17	0.05	306.63	305.75	no	305.5	no
18-Oct-17	0.03	306.61	305.75	no	305.5	no
19-Oct-17	0.74	306.58	305.75	no	305.5	no
20-Oct-17	0.62	306.46	305.75	no	305.5	no
21-Oct-17	0.66	306.50	305.75	no	305.5	no
22-Oct-17			305.75		305.5	
23-Oct-17	0.65	306.49	305.75	no	305.5	no
24-Oct-17	0.66	306.50	305.75	no	305.5	no
25-Oct-17	0.66	306.50	305.75	no	305.5	no
26-Oct-17	0.65	306.49	305.75	no	305.5	no
27-Oct-17	0.64	306.48	305.75	no	305.5	no
28-Oct-17	0.64	306.48	305.75	no	305.5	no
29-Oct-17			305.75		305.5	
30-Oct-17	0.61	306.45	305.75	no	305.5	no
31-Oct-17	0.61	306.45	305.75	no	305.5	no
1-Nov-17	0.60	306.44	305.75	no	305.5	no
2-Nov-17	0.63	306.47	305.75	no	305.5	no
3-Nov-17	0.66	306.50	305.75	no	305.5	no
4-Nov-17	0.65	306.49	305.75	no	305.5	no
5-Nov-17			305.75		305.5	
6-Nov-17	0.65	306.49	305.75	no	305.5	no
7-Nov-17	0.67	306.51	305.75	no	305.5	no
8-Nov-17	0.68	306.52	305.75	no	305.5	no
9-Nov-17	0.67	306.51	305.75	no	305.5	no
10-Nov-17			305.75		305.5	
11-Nov-17			305.75		305.5	
12-Nov-17			305.75		305.5	
13-Nov-17	0.64	306.48	305.75	no	305.5	no
14-Nov-17	0.64	306.48	305.75	no	305.5	no
15-Nov-17	0.63	306.47	305.75	no	305.5	no
16-Nov-17	0.64	306.48	305.75	no	305.5	no
17-Nov-17	0.65	306.49	305.75	no	305.5	no

Table G-7
Threshold Summary - Phase 1 Pond
Mill Creek Aggregates Pit

Date	Gauge Reading Phase 1 Pond (m)	Water Elevation Phase 1 Pond (m ASL)	Early Warning Value (Min) (m ASL)	Exceedance of Early Warning Value	Threshold Value (Min) (m ASL)	Exceedance of Threshold Value
18-Nov-17	0.65	306.49	305.75	no	305.5	no
19-Nov-17			305.75		305.5	
20-Nov-17	0.63	306.47	305.75	no	305.5	no
21-Nov-17	0.62	306.46	305.75	no	305.5	no
22-Nov-17	0.61	306.45	305.75	no	305.5	no
23-Nov-17	0.63	306.47	305.75	no	305.5	no
24-Nov-17	0.63	306.47	305.75	no	305.5	no
25-Nov-17			305.75		305.5	
26-Nov-17			305.75		305.5	
27-Nov-17	0.62	306.46	305.75	no	305.5	no
28-Nov-17	0.63	306.47	305.75	no	305.5	no
29-Nov-17	0.64	306.48	305.75	no	305.5	no
30-Nov-17	0.65	306.49	305.75	no	305.5	no
1-Dec-17	0.66	306.50	305.75	no	305.5	no
2-Dec-17	0.63	306.47	305.75	no	305.5	no
3-Dec-17			305.75		305.5	
4-Dec-17	0.61	306.45	305.75	no	305.5	no
5-Dec-17	0.62	306.46	305.75	no	305.5	no
6-Dec-17	0.65	306.49	305.75	no	305.5	no
7-Dec-17	0.65	306.49	305.75	no	305.5	no
8-Dec-17	0.65	306.49	305.75	no	305.5	no
9-Dec-17	0.65	306.49	305.75	no	305.5	no
10-Dec-17	0.65	306.49	305.75	no	305.5	no
11-Dec-17	0.65	306.49	305.75	no	305.5	no
12-Dec-17	0.65	306.49	305.75	no	305.5	no
13-Dec-17	0.65	306.49	305.75	no	305.5	no
14-Dec-17	0.65	306.49	305.75	no	305.5	no
15-Dec-17	0.65	306.49	305.75	no	305.5	no
16-Dec-17			305.75		305.5	
17-Dec-17			305.75		305.5	
18-Dec-17			305.75		305.5	
19-Dec-17			305.75		305.5	
20-Dec-17			305.75		305.5	
21-Dec-17			305.75		305.5	
22-Dec-17			305.75		305.5	
23-Dec-17			305.75		305.5	
24-Dec-17			305.75		305.5	
25-Dec-17			305.75		305.5	
26-Dec-17			305.75		305.5	
27-Dec-17			305.75		305.5	
28-Dec-17			305.75		305.5	
29-Dec-17			305.75		305.5	
30-Dec-17			305.75		305.5	
31-Dec-17			305.75		305.5	
1-Jan-18			305.75		305.5	
2-Jan-18			305.75		305.5	
3-Jan-18			305.75		305.5	
4-Jan-18			305.75		305.5	
5-Jan-18			305.75		305.5	
6-Jan-18			305.75		305.5	
7-Jan-18			305.75		305.5	
8-Jan-18			305.75		305.5	
9-Jan-18			305.75		305.5	
10-Jan-18			305.75		305.5	
11-Jan-18			305.75		305.5	
12-Jan-18			305.75		305.5	
13-Jan-18			305.75		305.5	
14-Jan-18			305.75		305.5	
15-Jan-18			305.75		305.5	
16-Jan-18			305.75		305.5	
17-Jan-18			305.75		305.5	
18-Jan-18			305.75		305.5	
19-Jan-18			305.75		305.5	
20-Jan-18			305.75		305.5	
21-Jan-18			305.75		305.5	
22-Jan-18			305.75		305.5	
23-Jan-18			305.75		305.5	
24-Jan-18			305.75		305.5	
25-Jan-18			305.75		305.5	
26-Jan-18			305.75		305.5	
27-Jan-18			305.75		305.5	
28-Jan-18			305.75		305.5	
29-Jan-18			305.75		305.5	
30-Jan-18			305.75		305.5	
31-Jan-18			305.75		305.5	
1-Feb-18			305.75		305.5	
2-Feb-18			305.75		305.5	
3-Feb-18			305.75		305.5	
4-Feb-18			305.75		305.5	
5-Feb-18			305.75		305.5	
6-Feb-18			305.75		305.5	
7-Feb-18			305.75		305.5	
8-Feb-18			305.75		305.5	
9-Feb-18			305.75		305.5	
10-Feb-18			305.75		305.5	
11-Feb-18			305.75		305.5	
12-Feb-18			305.75		305.5	
13-Feb-18			305.75		305.5	
14-Feb-18			305.75		305.5	
15-Feb-18			305.75		305.5	
16-Feb-18			305.75		305.5	
17-Feb-18			305.75		305.5	
18-Feb-18			305.75		305.5	
19-Feb-18			305.75		305.5	
20-Feb-18			305.75		305.5	
21-Feb-18			305.75		305.5	
22-Feb-18			305.75		305.5	
23-Feb-18			305.75		305.5	
24-Feb-18			305.75		305.5	
25-Feb-18			305.75		305.5	
26-Feb-18			305.75		305.5	
27-Feb-18			305.75		305.5	
28-Feb-18			305.75		305.5	
1-Mar-18			305.75		305.5	
2-Mar-18			305.75		305.5	
3-Mar-18			305.75		305.5	
4-Mar-18			305.75		305.5	
5-Mar-18			305.75		305.5	
6-Mar-18			305.75		305.5	
7-Mar-18			305.75		305.5	
8-Mar-18			305.75		305.5	
9-Mar-18			305.75		305.5	
10-Mar-18			305.75		305.5	
11-Mar-18			305.75		305.5	
12-Mar-18			305.75		305.5	
13-Mar-18			305.75		305.5	
14-Mar-18			305.75		305.5	
15-Mar-18			305.75		305.5	
16-Mar-18			305.75		305.5	
17-Mar-18			305.75		305.5	
18-Mar-18			305.75		305.5	
19-Mar-18			305.75		305.5	
20-Mar-18			305.75		305.5	
21-Mar-18			305.75		305.5	
22-Mar-18			305.75		305.5	
23-Mar-18			305.75		305.5	
24-Mar-18			305.75		305.5	
25-Mar-18			305.75		305.5	
26-Mar-18			305.75		305.5	
27-Mar-18			305.75		305.5	
28-Mar-18			305.75		305.5	
29-Mar-18			305.75		305.5	

Table G-7
Threshold Summary - Phase 1 Pond
Mill Creek Aggregates Pit

Date	Gauge Reading Phase 1 Pond (m)	Water Elevation Phase 1 Pond (m ASL)	Early Warning Value (Min) (m ASL)	Exceedance of Early Warning Value	Threshold Value (Min) (m ASL)	Exceedance of Threshold Value
30-Mar-18			305.75		305.5	
31-Mar-18			305.75		305.5	
1-Apr-18			305.75		305.5	
2-Apr-18	0.71	306.52	305.75	no	305.5	no
3-Apr-18	0.69	306.50	305.75	no	305.5	no
4-Apr-18	0.69	306.50	305.75	no	305.5	no
5-Apr-18	0.77	306.58	305.75	no	305.5	no
6-Apr-18	0.66	306.47	305.75	no	305.5	no
7-Apr-18			305.75		305.5	
8-Apr-18			305.75		305.5	
9-Apr-18	0.66	306.47	305.75	no	305.5	no
10-Apr-18	0.65	306.46	305.75	no	305.5	no
11-Apr-18	0.67	306.48	305.75	no	305.5	no
12-Apr-18	0.69	306.50	305.75	no	305.5	no
13-Apr-18	0.72	306.53	305.75	no	305.5	no
14-Apr-18			305.75		305.5	
15-Apr-18			305.75		305.5	
16-Apr-18			305.75		305.5	
17-Apr-18			305.75		305.5	
18-Apr-18	0.80	306.61	305.75	no	305.5	no
19-Apr-18	0.79	306.60	305.75	no	305.5	no
20-Apr-18	0.84	306.65	305.75	no	305.5	no
21-Apr-18	0.86	306.67	305.75	no	305.5	no
22-Apr-18			305.75		305.5	
23-Apr-18	0.85	306.66	305.75	no	305.5	no
24-Apr-18	0.87	306.68	305.75	no	305.5	no
25-Apr-18	0.89	306.70	305.75	no	305.5	no
26-Apr-18	0.91	306.72	305.75	no	305.5	no
27-Apr-18	0.93	306.74	305.75	no	305.5	no
28-Apr-18	0.94	306.75	305.75	no	305.5	no
29-Apr-18			305.75		305.5	
30-Apr-18	0.91	306.72	305.75	no	305.5	no
1-May-18	0.95	306.76	305.75	no	305.5	no
2-May-18	0.94	306.75	305.75	no	305.5	no
3-May-18	0.94	306.75	305.75	no	305.5	no
4-May-18	0.99	306.80	305.75	no	305.5	no
5-May-18	0.92	306.73	305.75	no	305.5	no
6-May-18			305.75		305.5	
7-May-18	0.94	306.75	305.75	no	305.5	no
8-May-18	0.90	306.71	305.75	no	305.5	no
9-May-18	0.87	306.68	305.75	no	305.5	no
10-May-18	0.87	306.68	305.75	no	305.5	no
11-May-18	0.89	306.70	305.75	no	305.5	no
12-May-18	0.90	306.71	305.75	no	305.5	no
13-May-18			305.75		305.5	
14-May-18	0.88	306.69	305.75	no	305.5	no
15-May-18	0.91	306.72	305.75	no	305.5	no
16-May-18	0.91	306.72	305.75	no	305.5	no
17-May-18	0.94	306.75	305.75	no	305.5	no
18-May-18	0.96	306.77	305.75	no	305.5	no
19-May-18	0.90	306.71	305.75	no	305.5	no
20-May-18			305.75		305.5	
21-May-18			305.75		305.5	
22-May-18	0.92	306.73	305.75	no	305.5	no
23-May-18	0.93	306.74	305.75	no	305.5	no
24-May-18	0.93	306.74	305.75	no	305.5	no
25-May-18	0.89	306.70	305.75	no	305.5	no
26-May-18	0.85	306.66	305.75	no	305.5	no
27-May-18			305.75		305.5	
28-May-18	0.87	306.68	305.75	no	305.5	no
29-May-18	0.96	306.77	305.75	no	305.5	no
30-May-18	0.81	306.62	305.75	no	305.5	no
31-May-18	0.84	306.65	305.75	no	305.5	no
1-Jun-18	0.83	306.64	305.75	no	305.5	no
2-Jun-18	0.84	306.65	305.75	no	305.5	no
3-Jun-18			305.75		305.5	
4-Jun-18	0.86	306.67	305.75	no	305.5	no
5-Jun-18	0.87	306.68	305.75	no	305.5	no
6-Jun-18	0.87	306.68	305.75	no	305.5	no
7-Jun-18	0.89	306.70	305.75	no	305.5	no
8-Jun-18	0.90	306.71	305.75	no	305.5	no
9-Jun-18	0.88	306.69	305.75	no	305.5	no
10-Jun-18			305.75		305.5	
11-Jun-18	0.86	306.67	305.75	no	305.5	no
12-Jun-18	0.84	306.65	305.75	no	305.5	no
13-Jun-18	0.81	306.62	305.75	no	305.5	no
14-Jun-18	0.78	306.59	305.75	no	305.5	no
15-Jun-18	0.80	306.61	305.75	no	305.5	no
16-Jun-18	0.81	306.62	305.75	no	305.5	no
17-Jun-18			305.75		305.5	
18-Jun-18	0.81	306.62	305.75	no	305.5	no
19-Jun-18	0.85	306.66	305.75	no	305.5	no
20-Jun-18	0.84	306.65	305.75	no	305.5	no
21-Jun-18	0.83	306.64	305.75	no	305.5	no
22-Jun-18	0.85	306.66	305.75	no	305.5	no
23-Jun-18	0.84	306.65	305.75	no	305.5	no
24-Jun-18			305.75		305.5	
25-Jun-18	0.85	306.66	305.75	no	305.5	no
26-Jun-18	0.82	306.63	305.75	no	305.5	no
27-Jun-18	0.80	306.61	305.75	no	305.5	no
28-Jun-18	0.84	306.65	305.75	no	305.5	no
29-Jun-18	0.84	306.65	305.75	no	305.5	no
30-Jun-18			305.75		305.5	
1-Jul-18			305.75		305.5	
2-Jul-18			305.75		305.5	
3-Jul-18	0.80	306.61	305.75	no	305.5	no
4-Jul-18	0.81	306.62	305.75	no	305.5	no
5-Jul-18	0.82	306.63	305.75	no	305.5	no
6-Jul-18	0.83	306.64	305.75	no	305.5	no
7-Jul-18	0.79	306.60	305.75	no	305.5	no
8-Jul-18			305.75		305.5	
9-Jul-18	0.77	306.58	305.75	no	305.5	no
10-Jul-18	0.73	306.54	305.75	no	305.5	no
11-Jul-18	0.72	306.53	305.75	no	305.5	no
12-Jul-18	0.75	306.56	305.75	no	305.5	no
13-Jul-18	0.75	306.56	305.75	no	305.5	no
14-Jul-18	0.77	306.58	305.75	no	305.5	no
15-Jul-18			305.75		305.5	
16-Jul-18	0.75	306.56	305.75	no	305.5	no
17-Jul-18	0.74	306.55	305.75	no	305.5	no
18-Jul-18	0.74	306.55	305.75	no	305.5	no
19-Jul-18	0.72	306.53	305.75	no	305.5	no
20-Jul-18	0.71	306.52	305.75	no	305.5	no
21-Jul-18	0.72	306.53	305.75	no	305.5	no
22-Jul-18			305.75		305.5	
23-Jul-18	0.70	306.51	305.75	no	305.5	no
24-Jul-18	0.72	306.53	305.75	no	305.5	no
25-Jul-18	0.70	306.51	305.75	no	305.5	no
26-Jul-18	0.71	306.52	305.75	no	305.5	no
27-Jul-18	0.68	306.49	305.75	no	305.5	no
28-Jul-18	0.70	306.51	305.75	no	305.5	no
29-Jul-18			305.75		305.5	
30-Jul-18	0.69	306.50	305.75	no	305.5	no
31-Jul-18	0.70	306.51	305.75	no	305.5	no
1-Aug-18	0.70	306.51	305.75	no	305.5	no
2-Aug-18	0.67	306.48	305.75	no	305.5	no
3-Aug-18	0.68	306.49	305.75	no	305.5	no
4-Aug-18			305.75		305.5	
5-Aug-18			305.75		305.5	
6-Aug-18			305.75		305.5	
7-Aug-18	0.65	306.46	305.75	no	305.5	no
8-Aug-18	0.67	306.48	305.75	no	305.5	no

Table G-7
Threshold Summary - Phase 1 Pond
Mill Creek Aggregates Pit

Date	Gauge Reading Phase 1 Pond (m)	Water Elevation Phase 1 Pond (m ASL)	Early Warning Value (Min) (m ASL)	Exceedance of Early Warning Value	Threshold Value (Min) (m ASL)	Exceedance of Threshold Value
9-Aug-18	0.65	306.46	305.75	no	305.5	no
10-Aug-18	0.66	306.47	305.75	no	305.5	no
11-Aug-18	0.63	306.44	305.75	no	305.5	no
12-Aug-18			305.75		305.5	
13-Aug-18	0.63	306.44	305.75	no	305.5	no
14-Aug-18	0.64	306.45	305.75	no	305.5	no
15-Aug-18	0.62	306.43	305.75	no	305.5	no
16-Aug-18	0.64	306.45	305.75	no	305.5	no
17-Aug-18	0.67	306.48	305.75	no	305.5	no
18-Aug-18	0.68	306.49	305.75	no	305.5	no
19-Aug-18			305.75		305.5	
20-Aug-18	0.65	306.46	305.75	no	305.5	no
21-Aug-18	0.62	306.43	305.75	no	305.5	no
22-Aug-18	0.66	306.47	305.75	no	305.5	no
23-Aug-18	0.61	306.42	305.75	no	305.5	no
24-Aug-18	0.64	306.45	305.75	no	305.5	no
25-Aug-18	0.64	306.45	305.75	no	305.5	no
26-Aug-18			305.75		305.5	
27-Aug-18	0.65	306.46	305.75	no	305.5	no
28-Aug-18	0.67	306.48	305.75	no	305.5	no
29-Aug-18	0.65	306.46	305.75	no	305.5	no
30-Aug-18	0.59	306.40	305.75	no	305.5	no
31-Aug-18	0.64	306.45	305.75	no	305.5	no
1-Sep-18			305.75		305.5	
2-Sep-18			305.75		305.5	
3-Sep-18			305.75		305.5	
4-Sep-18	0.65	306.46	305.75	no	305.5	no
5-Sep-18	0.64	306.45	305.75	no	305.5	no
6-Sep-18	0.60	306.41	305.75	no	305.5	no
7-Sep-18	0.65	306.46	305.75	no	305.5	no
8-Sep-18	0.65	306.46	305.75	no	305.5	no
9-Sep-18			305.75		305.5	
10-Sep-18	0.60	306.41	305.75	no	305.5	no
11-Sep-18	0.55	306.36	305.75	no	305.5	no
12-Sep-18	0.55	306.36	305.75	no	305.5	no
13-Sep-18	0.56	306.37	305.75	no	305.5	no
14-Sep-18	0.57	306.38	305.75	no	305.5	no
15-Sep-18	0.55	306.36	305.75	no	305.5	no
16-Sep-18			305.75		305.5	
17-Sep-18	0.53	306.34	305.75	no	305.5	no
18-Sep-18	0.51	306.32	305.75	no	305.5	no
19-Sep-18	0.53	306.34	305.75	no	305.5	no
20-Sep-18	0.53	306.34	305.75	no	305.5	no
21-Sep-18	0.55	306.36	305.75	no	305.5	no
22-Sep-18	0.56	306.37	305.75	no	305.5	no
23-Sep-18			305.75		305.5	
24-Sep-18	0.53	306.34	305.75	no	305.5	no
25-Sep-18	0.50	306.31	305.75	no	305.5	no
26-Sep-18	0.48	306.29	305.75	no	305.5	no
27-Sep-18	0.46	306.27	305.75	no	305.5	no
28-Sep-18	0.45	306.26	305.75	no	305.5	no
29-Sep-18	0.42	306.23	305.75	no	305.5	no
30-Sep-18			305.75		305.5	
1-Oct-18	0.41	306.22	305.75	no	305.5	no
2-Oct-18	0.43	306.24	305.75	no	305.5	no
3-Oct-18	0.47	306.28	305.75	no	305.5	no
4-Oct-18	0.50	306.31	305.75	no	305.5	no
5-Oct-18	0.49	306.30	305.75	no	305.5	no
6-Oct-18	0.49	306.30	305.75	no	305.5	no
7-Oct-18			305.75		305.5	
8-Oct-18			305.75		305.5	
9-Oct-18	0.48	306.29	305.75	no	305.5	no
10-Oct-18	0.51	306.32	305.75	no	305.5	no
11-Oct-18	0.46	306.27	305.75	no	305.5	no
12-Oct-18	0.47	306.28	305.75	no	305.5	no
13-Oct-18	0.42	306.23	305.75	no	305.5	no
14-Oct-18			305.75		305.5	
15-Oct-18	0.42	306.23	305.75	no	305.5	no
16-Oct-18	0.42	306.23	305.75	no	305.5	no
17-Oct-18	0.42	306.23	305.75	no	305.5	no
18-Oct-18	0.40	306.21	305.75	no	305.5	no
19-Oct-18	0.40	306.21	305.75	no	305.5	no
20-Oct-18	0.41	306.22	305.75	no	305.5	no
21-Oct-18			305.75		305.5	
22-Oct-18	0.41	306.22	305.75	no	305.5	no
23-Oct-18	0.36	306.17	305.75	no	305.5	no
24-Oct-18	0.32	306.13	305.75	no	305.5	no
25-Oct-18	0.34	306.15	305.75	no	305.5	no
26-Oct-18	0.33	306.14	305.75	no	305.5	no
27-Oct-18	0.30	306.11	305.75	no	305.5	no
28-Oct-18			305.75		305.5	
29-Oct-18	0.40	306.21	305.75	no	305.5	no
30-Oct-18	0.28	306.09	305.75	no	305.5	no
31-Oct-18	0.32	306.13	305.75	no	305.5	no
1-Nov-18	0.35	306.16	305.75	no	305.5	no
2-Nov-18	0.43	306.24	305.75	no	305.5	no
3-Nov-18	0.45	306.26	305.75	no	305.5	no
4-Nov-18			305.75		305.5	
5-Nov-18	0.44	306.25	305.75	no	305.5	no
6-Nov-18	0.42	306.23	305.75	no	305.5	no
7-Nov-18	0.40	306.21	305.75	no	305.5	no
8-Nov-18	0.40	306.21	305.75	no	305.5	no
9-Nov-18	0.41	306.22	305.75	no	305.5	no
10-Nov-18	0.42	306.23	305.75	no	305.5	no
11-Nov-18			305.75		305.5	
12-Nov-18	0.43	306.24	305.75	no	305.5	no
13-Nov-18	0.45	306.26	305.75	no	305.5	no
14-Nov-18	0.40	306.21	305.75	no	305.5	no
15-Nov-18	0.40	306.21	305.75	no	305.5	no
16-Nov-18	0.38	306.19	305.75	no	305.5	no
17-Nov-18	0.38	306.19	305.75	no	305.5	no
18-Nov-18			305.75		305.5	
19-Nov-18	0.39	306.20	305.75	no	305.5	no
20-Nov-18	0.40	306.21	305.75	no	305.5	no
21-Nov-18	0.40	306.21	305.75	no	305.5	no
22-Nov-18	0.39	306.20	305.75	no	305.5	no
23-Nov-18	0.40	306.21	305.75	no	305.5	no
24-Nov-18	0.40	306.21	305.75	no	305.5	no
25-Nov-18			305.75		305.5	
26-Nov-18	0.42	306.23	305.75	no	305.5	no
27-Nov-18	0.45	306.26	305.75	no	305.5	no
28-Nov-18	0.43	306.24	305.75	no	305.5	no
29-Nov-18	0.43	306.24	305.75	no	305.5	no
30-Nov-18	0.41	306.22	305.75	no	305.5	no
1-Dec-18	0.44	306.25	305.75	no	305.5	no
2-Dec-18			305.75		305.5	
3-Dec-18	0.45	306.26	305.75	no	305.5	no
4-Dec-18	0.45	306.26	305.75	no	305.5	no
5-Dec-18	0.45	306.26	305.75	no	305.5	no
6-Dec-18	0.46	306.27	305.75	no	305.5	no
7-Dec-18	0.47	306.28	305.75	no	305.5	no
8-Dec-18			305.75		305.5	
9-Dec-18			305.75		305.5	
10-Dec-18	0.48	306.29	305.75	no	305.5	no
11-Dec-18	0.48	306.29	305.75	no	305.5	no
12-Dec-18	0.48	306.29	305.75	no	305.5	no
13-Dec-18	0.48	306.29	305.75	no	305.5	no
14-Dec-18	0.48	306.29	305.75	no	305.5	no
15-Dec-18	0.46	306.27	305.75	no	305.5	no
16-Dec-18			305.75		305.5	
17-Dec-18			305.75		305.5	
18-Dec-18			305.75		305.5	

Table G-7
Threshold Summary - Phase 1 Pond
Mill Creek Aggregates Pit

Date	Gauge Reading Phase 1 Pond (m)	Water Elevation Phase 1 Pond (m ASL)	Early Warning Value (Min) (m ASL)	Exceedance of Early Warning Value	Threshold Value (Min) (m ASL)	Exceedance of Threshold Value
19-Dec-18			305.75		305.5	
20-Dec-18			305.75		305.5	
21-Dec-18			305.75		305.5	
22-Dec-18			305.75		305.5	
23-Dec-18			305.75		305.5	
24-Dec-18			305.75		305.5	
25-Dec-18			305.75		305.5	
26-Dec-18			305.75		305.5	
27-Dec-18			305.75		305.5	
28-Dec-18			305.75		305.5	
29-Dec-18			305.75		305.5	
30-Dec-18			305.75		305.5	
31-Dec-18			305.75		305.5	

Table G-8
Threshold Summary - Phase 2 Pond
Mill Creek Aggregates Pit

Date	Gauge Reading Phase 2 Pond (m)	Water Elevation Phase 2 Pond (m ASL)	Early Warning Value (Min) (m ASL)	Exceedance of Early Warning Value	Threshold Value (Min) (m ASL)	Exceedance of Threshold Value
1-Apr-04		306.22	305.30	no	305.00	no
5-Apr-04		306.22	305.30	no	305.00	no
8-Apr-04		306.22	305.30	no	305.00	no
12-Apr-04		306.22	305.30	no	305.00	no
15-Apr-04		306.22	305.30	no	305.00	no
19-Apr-04		306.22	305.30	no	305.00	no
22-Apr-04		306.22	305.30	no	305.00	no
26-Apr-04		306.22	305.30	no	305.00	no
29-Apr-04		306.22	305.30	no	305.00	no
3-May-04		306.27	305.30	no	305.00	no
6-May-04		306.27	305.30	no	305.00	no
10-May-04		306.27	305.30	no	305.00	no
13-May-04		306.27	305.30	no	305.00	no
17-May-04		306.27	305.30	no	305.00	no
20-May-04		306.27	305.30	no	305.00	no
25-May-04		306.27	305.30	no	305.00	no
27-May-04		306.27	305.30	no	305.00	no
31-May-04		306.27	305.30	no	305.00	no
3-Jun-04		306.25	305.30	no	305.00	no
7-Jun-04		306.20	305.30	no	305.00	no
10-Jun-04		306.10	305.30	no	305.00	no
14-Jun-04	0.29	306.00	305.30	no	305.00	no
17-Jun-04	0.27	305.98	305.30	no	305.00	no
21-Jun-04	0.25	305.96	305.30	no	305.00	no
24-Jun-04	0.24	305.95	305.30	no	305.00	no
28-Jun-04	0.22	305.93	305.30	no	305.00	no
5-Jul-04	0.20	305.91	305.30	no	305.00	no
8-Jul-04	0.19	305.90	305.30	no	305.00	no
12-Jul-04	0.18	305.89	305.30	no	305.00	no
15-Jul-04	0.16	305.87	305.30	no	305.00	no
19-Jul-04	0.14	305.85	305.30	no	305.00	no
22-Jul-04	0.13	305.84	305.30	no	305.00	no
26-Jul-04	0.12	305.83	305.30	no	305.00	no
29-Jul-04	0.12	305.83	305.30	no	305.00	no
2-Aug-04	0.11	305.82	305.30	no	305.00	no
5-Aug-04	0.10	305.81	305.30	no	305.00	no
9-Aug-04	0.09	305.80	305.30	no	305.00	no
12-Aug-04	0.07	305.78	305.30	no	305.00	no
16-Aug-04	0.04	305.75	305.30	no	305.00	no
19-Aug-04	0.02	305.73	305.30	no	305.00	no
23-Aug-04	0.17	305.73	305.30	no	305.00	no
26-Aug-04	0.16	305.72	305.30	no	305.00	no
30-Aug-04	0.16	305.72	305.30	no	305.00	no
1-Sep-04	0.17	305.73	305.30	no	305.00	no
3-Sep-04	0.15	305.71	305.30	no	305.00	no
7-Sep-04	0.13	305.69	305.30	no	305.00	no
9-Sep-04	0.11	305.67	305.30	no	305.00	no
11-Sep-04	0.10	305.66	305.30	no	305.00	no
13-Sep-04	0.10	305.66	305.30	no	305.00	no
15-Sep-04	0.09	305.65	305.30	no	305.00	no
17-Sep-04	0.09	305.65	305.30	no	305.00	no
20-Sep-04	0.08	305.64	305.30	no	305.00	no
22-Sep-04	0.08	305.64	305.30	no	305.00	no
24-Sep-04	0.05	305.61	305.30	no	305.00	no
27-Sep-04	0.02	305.58	305.30	no	305.00	no
29-Sep-04	0.01	305.57	305.30	no	305.00	no
1-Oct-04	0.01	305.57	305.30	no	305.00	no
4-Oct-04	0.31	305.61	305.30	no	305.00	no
6-Oct-04	0.25	305.55	305.30	no	305.00	no
8-Oct-04	0.23	305.53	305.30	no	305.00	no
11-Oct-04	0.24	305.54	305.30	no	305.00	no
13-Oct-04	0.24	305.54	305.30	no	305.00	no
15-Oct-04	0.23	305.53	305.30	no	305.00	no
18-Oct-04	0.23	305.53	305.30	no	305.00	no
20-Oct-04	0.22	305.52	305.30	no	305.00	no
22-Oct-04	0.22	305.52	305.30	no	305.00	no
25-Oct-04	0.21	305.51	305.30	no	305.00	no
27-Oct-04	0.20	305.50	305.30	no	305.00	no
29-Oct-04	0.20	305.50	305.30	no	305.00	no
1-Nov-04	0.19	305.49	305.30	no	305.00	no
3-Nov-04	0.18	305.48	305.30	no	305.00	no
5-Nov-04	0.17	305.47	305.30	no	305.00	no
8-Nov-04	0.15	305.45	305.30	no	305.00	no
10-Nov-04	0.14	305.44	305.30	no	305.00	no
12-Nov-04	0.14	305.44	305.30	no	305.00	no
15-Nov-04	0.13	305.43	305.30	no	305.00	no
17-Nov-04	0.13	305.43	305.30	no	305.00	no
19-Nov-04	0.12	305.42	305.30	no	305.00	no
22-Nov-04	0.12	305.42	305.30	no	305.00	no
24-Nov-04	0.10	305.40	305.30	no	305.00	no
26-Nov-04	0.09	305.39	305.30	no	305.00	no
29-Nov-04	0.12	305.42	305.30	no	305.00	no
1-Dec-04	0.18	305.48	305.30	no	305.00	no
3-Dec-04	0.20	305.50	305.30	no	305.00	no
6-Dec-04	0.22	305.52	305.30	no	305.00	no
8-Dec-04	0.23	305.53	305.30	no	305.00	no
10-Dec-04	0.25	305.55	305.30	no	305.00	no
13-Dec-04	0.25	305.55	305.30	no	305.00	no
15-Dec-04	0.26	305.56	305.30	no	305.00	no
17-Dec-04	0.26	305.56	305.30	no	305.00	no
20-Dec-04	0.26	305.56	305.30	no	305.00	no
22-Dec-04	0.26	305.56	305.30	no	305.00	no
3-Jan-05	0.26	305.56	305.30	no	305.00	no
5-Jan-05	0.26	305.56	305.30	no	305.00	no
7-Jan-05	0.26	305.56	305.30	no	305.00	no
10-Jan-05	0.26	305.56	305.30	no	305.00	no
12-Jan-05	0.26	305.56	305.30	no	305.00	no
14-Jan-05	0.26	305.56	305.30	no	305.00	no
17-Jan-05	0.26	305.56	305.30	no	305.00	no
19-Jan-05	0.26	305.56	305.30	no	305.00	no
21-Jan-05	0.26	305.56	305.30	no	305.00	no
24-Jan-05	0.26	305.56	305.30	no	305.00	no
26-Jan-05	0.26	305.56	305.30	no	305.00	no
28-Jan-05	0.26	305.56	305.30	no	305.00	no
31-Jan-05	0.26	305.56	305.30	no	305.00	no
2-Feb-05	0.26	305.56	305.30	no	305.00	no
4-Feb-05	0.26	305.56	305.30	no	305.00	no
7-Feb-05	0.26	305.56	305.30	no	305.00	no
9-Feb-05	0.26	305.56	305.30	no	305.00	no
11-Feb-05	0.26	305.56	305.30	no	305.00	no
14-Feb-05	0.26	305.56	305.30	no	305.00	no
16-Feb-05	0.26	305.56	305.30	no	305.00	no

Table G-8
Threshold Summary - Phase 2 Pond
Mill Creek Aggregates Pit

Date	Gauge Reading Phase 2 Pond (m)	Water Elevation Phase 2 Pond (m ASL)	Early Warning Value (m ASL)	Exceedance of Early Warning Value	Threshold Value (Min) (m ASL)	Exceedance of Threshold Value
18-Feb-05	0.26	305.56	305.30	no	305.00	no
21-Feb-05	0.26	305.56	305.30	no	305.00	no
23-Feb-05	0.26	305.56	305.30	no	305.00	no
25-Feb-05	0.26	305.56	305.30	no	305.00	no
28-Feb-05	0.26	305.56	305.30	no	305.00	no
2-Mar-05	0.26	305.56	305.30	no	305.00	no
4-Mar-05	0.26	305.56	305.30	no	305.00	no
7-Mar-05	0.26	305.56	305.30	no	305.00	no
9-Mar-05	0.26	305.56	305.30	no	305.00	no
11-Mar-05	0.26	305.56	305.30	no	305.00	no
14-Mar-05	0.26	305.56	305.30	no	305.00	no
16-Mar-05	0.26	305.56	305.30	no	305.00	no
18-Mar-05	0.26	305.56	305.30	no	305.00	no
21-Mar-05	0.26	305.56	305.30	no	305.00	no
23-Mar-05	0.26	305.56	305.30	no	305.00	no
25-Mar-05	0.26	305.56	305.30	no	305.00	no
28-Mar-05	0.26	305.56	305.30	no	305.00	no
30-Mar-05	0.26	305.56	305.30	no	305.00	no
1-Apr-05	0.28	305.58	305.30	no	305.00	no
4-Apr-05	0.32	305.62	305.30	no	305.00	no
6-Apr-05	0.40	305.70	305.30	no	305.00	no
8-Apr-05	0.50	305.80	305.30	no	305.00	no
11-Apr-05	0.24	306.00	305.30	no	305.00	no
13-Apr-05	0.30	306.06	305.30	no	305.00	no
15-Apr-05	0.34	306.10	305.30	no	305.00	no
18-Apr-05	0.36	306.12	305.30	no	305.00	no
20-Apr-05	0.40	306.16	305.30	no	305.00	no
22-Apr-05	0.45	306.21	305.30	no	305.00	no
25-Apr-05	0.50	306.26	305.30	no	305.00	no
27-Apr-05	0.50	306.26	305.30	no	305.00	no
29-Apr-05	0.55	306.31	305.30	no	305.00	no
2-May-05	0.62	306.38	305.3	no	305.00	no
4-May-05	0.55	306.31	305.3	no	305.00	no
6-May-05	0.52	306.28	305.3	no	305.00	no
9-May-05	0.54	306.30	305.3	no	305.00	no
11-May-05	0.53	306.29	305.3	no	305.00	no
13-May-05	0.50	306.26	305.3	no	305.00	no
16-May-05	0.50	306.26	305.3	no	305.00	no
18-May-05	0.48	306.24	305.3	no	305.00	no
20-May-05	0.45	306.21	305.3	no	305.00	no
23-May-05	0.44	306.20	305.3	no	305.00	no
25-May-05	0.40	306.16	305.3	no	305.00	no
27-May-05	0.42	306.18	305.3	no	305.00	no
30-May-05	0.43	306.19	305.3	no	305.00	no
1-Jun-05	0.43	306.19	305.3	no	305.00	no
3-Jun-05	0.38	306.14	305.3	no	305.00	no
6-Jun-05	0.36	306.12	305.3	no	305.00	no
8-Jun-05	0.30	306.06	305.3	no	305.00	no
10-Jun-05	0.28	306.04	305.3	no	305.00	no
13-Jun-05	0.36	306.12	305.3	no	305.00	no
15-Jun-05	0.36	306.12	305.3	no	305.00	no
17-Jun-05	0.37	306.13	305.3	no	305.00	no
20-Jun-05	0.38	306.14	305.3	no	305.00	no
22-Jun-05	0.37	306.13	305.3	no	305.00	no
24-Jun-05	0.30	306.06	305.3	no	305.00	no
27-Jun-05	0.30	306.06	305.3	no	305.00	no
29-Jun-05	0.24	306.00	305.3	no	305.00	no
1-Jul-05	0.23	305.99	305.3	no	305.00	no
4-Jul-05	0.22	305.98	305.3	no	305.00	no
6-Jul-05	0.24	306.00	305.3	no	305.00	no
8-Jul-05	0.19	305.95	305.3	no	305.00	no
11-Jul-05	0.20	305.96	305.3	no	305.00	no
13-Jul-05	0.19	305.95	305.3	no	305.00	no
15-Jul-05	0.16	305.92	305.3	no	305.00	no
18-Jul-05	0.26	306.02	305.3	no	305.00	no
20-Jul-05	0.26	306.02	305.3	no	305.00	no
22-Jul-05	0.24	306.00	305.3	no	305.00	no
25-Jul-05	0.22	305.98	305.3	no	305.00	no
27-Jul-05	0.24	306.00	305.3	no	305.00	no
29-Jul-05	0.23	305.99	305.3	no	305.00	no
1-Aug-05	0.20	305.96	305.3	no	305.00	no
3-Aug-05	0.17	305.93	305.3	no	305.00	no
5-Aug-05	0.14	305.90	305.3	no	305.00	no
8-Aug-05	0.14	305.90	305.3	no	305.00	no
10-Aug-05	0.10	305.86	305.3	no	305.00	no
12-Aug-05	0.08	305.84	305.3	no	305.00	no
15-Aug-05	0.09	305.85	305.3	no	305.00	no
17-Aug-05	0.08	305.84	305.3	no	305.00	no
19-Aug-05	0.07	305.83	305.3	no	305.00	no
22-Aug-05	0.09	305.85	305.3	no	305.00	no
24-Aug-05	0.06	305.82	305.3	no	305.00	no
26-Aug-05	0.07	305.83	305.3	no	305.00	no
29-Aug-05	0.07	305.83	305.3	no	305.00	no
31-Aug-05	0.06	305.82	305.3	no	305.00	no
2-Sep-05	0.05	305.81	305.3	no	305.00	no
5-Sep-05	0.04	305.80	305.3	no	305.00	no
7-Sep-05	0.03	305.79	305.3	no	305.00	no
9-Sep-05	0.00	305.76	305.3	no	305.00	no
12-Sep-05	0.29	305.75	305.3	no	305.00	no
14-Sep-05	0.27	305.73	305.3	no	305.00	no
16-Sep-05	0.26	305.72	305.3	no	305.00	no
19-Sep-05	0.27	305.73	305.3	no	305.00	no
21-Sep-05	0.25	305.71	305.3	no	305.00	no
23-Sep-05	0.23	305.69	305.3	no	305.00	no
26-Sep-05	0.23	305.69	305.3	no	305.00	no
28-Sep-05	0.24	305.70	305.3	no	305.00	no
30-Sep-05	0.22	305.68	305.3	no	305.00	no
3-Oct-05	0.21	305.67	305.3	no	305.00	no
5-Oct-05	0.20	305.66	305.3	no	305.00	no
7-Oct-05	0.20	305.66	305.3	no	305.00	no
10-Oct-05	0.20	305.66	305.3	no	305.00	no
12-Oct-05	0.20	305.66	305.3	no	305.00	no
14-Oct-05	0.23	305.69	305.3	no	305.00	no
17-Oct-05	0.22	305.68	305.3	no	305.00	no
19-Oct-05	0.21	305.67	305.3	no	305.00	no
21-Oct-05	0.21	305.67	305.3	no	305.00	no
24-Oct-05	0.21	305.67	305.3	no	305.00	no
26-Oct-05	0.21	305.67	305.3	no	305.00	no
28-Oct-05	0.21	305.67	305.3	no	305.00	no
31-Oct-05	0.20	305.66	305.3	no	305.00	no
2-Nov-05	0.21	305.67	305.3	no	305.00	no
4-Nov-05	0.20	305.66	305.3	no	305.00	no
7-Nov-05	0.24	305.70	305.3	no	305.00	no

Table G-8
Threshold Summary - Phase 2 Pond
Mill Creek Aggregates Pit

Date	Gauge Reading Phase 2 Pond (m)	Water Elevation Phase 2 Pond (m ASL)	Early Warning Value (m ASL)	Exceedance of Early Warning Value	Threshold Value (Min) (m ASL)	Exceedance of Threshold Value
9-Nov-05	0.26	305.72	305.3	no	305.00	no
11-Nov-05	0.25	305.71	305.3	no	305.00	no
14-Nov-05	0.25	305.71	305.3	no	305.00	no
16-Nov-05	0.23	305.69	305.3	no	305.00	no
18-Nov-05	0.24	305.70	305.3	no	305.00	no
21-Nov-05	0.23	305.69	305.3	no	305.00	no
23-Nov-05	0.23	305.69	305.3	no	305.00	no
25-Nov-05	0.23	305.69	305.3	no	305.00	no
28-Nov-05	0.23	305.69	305.3	no	305.00	no
30-Nov-05	0.23	305.69	305.3	no	305.00	no
2-Dec-05	0.23	305.69	305.3	no	305.00	no
5-Dec-05	0.23	305.69	305.3	no	305.00	no
7-Dec-05	0.23	305.69	305.3	no	305.00	no
9-Dec-05	0.23	305.69	305.3	no	305.00	no
12-Dec-05	0.23	305.69	305.3	no	305.00	no
14-Dec-05	0.23	305.69	305.3	no	305.00	no
16-Dec-05	0.23	305.69	305.3	no	305.00	no
19-Dec-05	0.23	305.69	305.3	no	305.00	no
21-Dec-05	0.23	305.69	305.3	no	305.00	no
23-Dec-05	0.23	305.69	305.3	no	305.00	no
26-Dec-05	0.23	305.69	305.3	no	305.00	no
28-Dec-05	0.23	305.69	305.3	no	305.00	no
30-Dec-05	0.23	305.69	305.3	no	305.00	no
01-Jan-06	0.00	305.56	305.3	no	305.00	no
31-Jan-06	0.00	305.56	305.3	no	305.00	no
02-Feb-06	0.13	305.69	305.3	no	305.00	no
20-Mar-06	0.13	305.69	305.3	no	305.00	no
31-Mar-06	0.77	306.33	305.3	no	305.00	no
01-Apr-06	0.77	306.33	305.3	no	305.00	no
24-Apr-06	0.77	306.33	305.3	no	305.00	no
25-Apr-06	0.75	306.31	305.3	no	305.00	no
26-Apr-06	0.75	306.31	305.3	no	305.00	no
27-Apr-06	0.74	306.30	305.3	no	305.00	no
28-Apr-06	0.74	306.30	305.3	no	305.00	no
29-Apr-06	0.74	306.30	305.3	no	305.00	no
01-May-06	0.72	306.28	305.3	no	305.00	no
02-May-06	0.72	306.28	305.3	no	305.00	no
03-May-06	0.72	306.28	305.3	no	305.00	no
04-May-06	0.71	306.27	305.3	no	305.00	no
05-May-06	0.70	306.26	305.3	no	305.00	no
06-May-06	0.70	306.26	305.3	no	305.00	no
08-May-06	0.71	306.27	305.3	no	305.00	no
09-May-06	0.69	306.25	305.3	no	305.00	no
10-May-06	0.69	306.25	305.3	no	305.00	no
11-May-06	0.67	306.23	305.3	no	305.00	no
12-May-06	0.72	306.28	305.3	no	305.00	no
13-May-06	0.72	306.28	305.3	no	305.00	no
15-May-06	0.72	306.28	305.3	no	305.00	no
16-May-06	0.74	306.30	305.3	no	305.00	no
17-May-06	0.74	306.30	305.3	no	305.00	no
18-May-06	0.81	306.37	305.3	no	305.00	no
19-May-06	0.82	306.38	305.3	no	305.00	no
20-May-06	0.83	306.39	305.3	no	305.00	no
23-May-06	0.86	306.42	305.3	no	305.00	no
24-May-06	0.84	306.40	305.3	no	305.00	no
25-May-06	0.85	306.41	305.3	no	305.00	no
26-May-06	0.85	306.41	305.3	no	305.00	no
27-May-06	0.84	306.40	305.3	no	305.00	no
29-May-06	0.84	306.40	305.3	no	305.00	no
30-May-06	0.83	306.39	305.3	no	305.00	no
31-May-06	0.83	306.39	305.3	no	305.00	no
01-Jun-06	0.84	306.40	305.3	no	305.00	no
02-Jun-06	0.83	306.39	305.3	no	305.00	no
05-Jun-06	0.84	306.40	305.3	no	305.00	no
06-Jun-06	0.83	306.39	305.3	no	305.00	no
07-Jun-06	0.81	306.37	305.3	no	305.00	no
08-Jun-06	0.78	306.34	305.3	no	305.00	no
09-Jun-06	0.77	306.33	305.3	no	305.00	no
12-Jun-06	0.78	306.34	305.3	no	305.00	no
13-Jun-06	0.77	306.33	305.3	no	305.00	no
14-Jun-06	0.77	306.33	305.3	no	305.00	no
15-Jun-06	0.76	306.32	305.3	no	305.00	no
16-Jun-06	0.70	306.26	305.3	no	305.00	no
19-Jun-06	0.70	306.26	305.3	no	305.00	no
20-Jun-06	0.70	306.26	305.3	no	305.00	no
21-Jun-06	0.70	306.26	305.3	no	305.00	no
22-Jun-06	0.70	306.26	305.3	no	305.00	no
23-Jun-06	0.70	306.26	305.3	no	305.00	no
26-Jun-06	0.73	306.29	305.3	no	305.00	no
27-Jun-06	0.70	306.26	305.3	no	305.00	no
28-Jun-06	0.69	306.25	305.3	no	305.00	no
29-Jun-06	0.69	306.25	305.3	no	305.00	no
30-Jun-06	0.66	306.22	305.3	no	305.00	no
04-Jul-06	0.65	306.21	305.3	no	305.00	no
05-Jul-06	0.59	306.15	305.3	no	305.00	no
06-Jul-06	0.59	306.15	305.3	no	305.00	no
07-Jul-06	0.61	306.17	305.3	no	305.00	no
10-Jul-06	0.58	306.14	305.3	no	305.00	no
11-Jul-06	0.56	306.12	305.3	no	305.00	no
12-Jul-06	0.59	306.15	305.3	no	305.00	no
13-Jul-06	0.61	306.17	305.3	no	305.00	no
14-Jul-06	0.74	306.30	305.3	no	305.00	no
17-Jul-06	0.65	306.21	305.3	no	305.00	no
18-Jul-06	0.59	306.15	305.3	no	305.00	no
19-Jul-06	0.58	306.14	305.3	no	305.00	no
20-Jul-06	0.58	306.14	305.3	no	305.00	no
21-Jul-06	0.64	306.20	305.3	no	305.00	no
24-Jul-06	0.60	306.16	305.3	no	305.00	no
25-Jul-06	0.58	306.14	305.3	no	305.00	no
26-Jul-06	0.58	306.14	305.3	no	305.00	no
27-Jul-06	0.56	306.12	305.3	no	305.00	no
28-Jul-06	0.57	306.13	305.3	no	305.00	no
31-Jul-06	0.56	306.12	305.3	no	305.00	no
01-Aug-06	0.54	306.10	305.3	no	305.00	no
02-Aug-06	0.54	306.10	305.3	no	305.00	no
03-Aug-06	0.53	306.09	305.3	no	305.00	no
04-Aug-06	0.51	306.07	305.3	no	305.00	no
08-Aug-06	0.53	306.09	305.3	no	305.00	no
09-Aug-06	0.53	306.09	305.3	no	305.00	no
10-Aug-06	0.53	306.09	305.3	no	305.00	no
11-Aug-06	0.50	306.06	305.3	no	305.00	no
14-Aug-06	0.49	306.05	305.3	no	305.00	no

Table G-8
Threshold Summary - Phase 2 Pond
Mill Creek Aggregates Pit

Date	Gauge Reading Phase 2 Pond (m)	Water Elevation Phase 2 Pond (m ASL)	Early Warning Value (m ASL)	Exceedance of Early Warning Value	Threshold Value (Min) (m ASL)	Exceedance of Threshold Value
15-Aug-06	0.49	306.05	305.3	no	305.00	no
16-Aug-06	0.49	306.05	305.3	no	305.00	no
21-Aug-06	0.29	305.85	305.3	no	305.00	no
22-Aug-06	0.41	305.97	305.3	no	305.00	no
23-Aug-06	0.38	305.94	305.3	no	305.00	no
24-Aug-06	0.39	305.95	305.3	no	305.00	no
25-Aug-06	0.39	305.95	305.3	no	305.00	no
28-Aug-06	0.38	305.94	305.3	no	305.00	no
29-Aug-06	0.34	305.90	305.3	no	305.00	no
30-Aug-06	0.39	305.95	305.3	no	305.00	no
31-Aug-06	0.31	305.87	305.3	no	305.00	no
01-Sep-06	0.31	305.87	305.3	no	305.00	no
05-Sep-06	0.33	305.89	305.3	no	305.00	no
06-Sep-06	0.33	305.89	305.3	no	305.00	no
07-Sep-06	0.32	305.88	305.3	no	305.00	no
08-Sep-06	0.30	305.86	305.3	no	305.00	no
11-Sep-06	0.31	305.87	305.3	no	305.00	no
12-Sep-06	0.28	305.84	305.3	no	305.00	no
13-Sep-06	0.30	305.86	305.3	no	305.00	no
14-Sep-06	0.33	305.89	305.3	no	305.00	no
15-Sep-06	0.33	305.89	305.3	no	305.00	no
18-Sep-06	0.34	305.90	305.3	no	305.00	no
19-Sep-06	0.35	305.91	305.3	no	305.00	no
20-Sep-06	0.33	305.89	305.3	no	305.00	no
21-Sep-06	0.33	305.89	305.3	no	305.00	no
22-Sep-06	0.33	305.89	305.3	no	305.00	no
25-Sep-06	0.35	305.91	305.3	no	305.00	no
26-Sep-06	0.33	305.89	305.3	no	305.00	no
27-Sep-06	0.32	305.88	305.3	no	305.00	no
28-Sep-06	0.32	305.88	305.3	no	305.00	no
29-Sep-06	0.31	305.87	305.3	no	305.00	no
02-Oct-06	0.31	305.87	305.3	no	305.00	no
03-Oct-06	0.32	305.88	305.3	no	305.00	no
04-Oct-06	0.33	305.89	305.3	no	305.00	no
05-Oct-06	0.36	305.92	305.3	no	305.00	no
06-Oct-06	0.37	305.93	305.3	no	305.00	no
10-Oct-06	0.39	305.95	305.3	no	305.00	no
11-Oct-06	0.39	305.95	305.3	no	305.00	no
12-Oct-06	0.39	305.95	305.3	no	305.00	no
13-Oct-06	0.39	305.95	305.3	no	305.00	no
16-Oct-06	0.38	305.94	305.3	no	305.00	no
17-Oct-06	0.40	305.96	305.3	no	305.00	no
18-Oct-06	0.43	305.99	305.3	no	305.00	no
19-Oct-06	0.44	306.00	305.3	no	305.00	no
20-Oct-06	0.44	306.00	305.3	no	305.00	no
23-Oct-06	0.35	305.91	305.3	no	305.00	no
24-Oct-06	0.89	306.45	305.3	no	305.00	no
25-Oct-06	0.48	306.04	305.3	no	305.00	no
26-Oct-06	0.89	306.45	305.3	no	305.00	no
27-Oct-06	0.89	306.45	305.3	no	305.00	no
30-Oct-06	0.89	306.45	305.3	no	305.00	no
31-Oct-06	0.89	306.45	305.3	no	305.00	no
1-Nov-06	0.89	306.45	305.3	no	305.00	no
2-Nov-06	0.89	306.45	305.3	no	305.00	no
3-Nov-06	0.89	306.45	305.3	no	305.00	no
6-Nov-06	0.91	306.47	305.3	no	305.00	no
7-Nov-06	0.91	306.47	305.3	no	305.00	no
8-Nov-06	0.92	306.48	305.3	no	305.00	no
9-Nov-06	0.92	306.48	305.3	no	305.00	no
10-Nov-06	0.94	306.50	305.3	no	305.00	no
13-Nov-06	0.93	306.49	305.3	no	305.00	no
14-Nov-06	0.93	306.49	305.3	no	305.00	no
15-Nov-06	0.95	306.51	305.3	no	305.00	no
16-Nov-06	0.95	306.51	305.3	no	305.00	no
17-Nov-06	0.95	306.51	305.3	no	305.00	no
20-Nov-06	0.98	306.54	305.3	no	305.00	no
21-Nov-06	0.98	306.54	305.3	no	305.00	no
22-Nov-06	1.00	306.56	305.3	no	305.00	no
23-Nov-06	1.00	306.56	305.3	no	305.00	no
24-Nov-06	1.00	306.56	305.3	no	305.00	no
27-Nov-06	1.01	306.57	305.3	no	305.00	no
28-Nov-06	1.01	306.57	305.3	no	305.00	no
29-Nov-06	1.01	306.57	305.3	no	305.00	no
30-Nov-06	1.01	306.57	305.3	no	305.00	no
1-Dec-06	0.76	306.32	305.3	no	305.00	no
4-Dec-06	0.76	306.32	305.3	no	305.00	no
5-Dec-06	0.76	306.32	305.3	no	305.00	no
6-Dec-06	0.76	306.32	305.3	no	305.00	no
7-Dec-06	0.76	306.32	305.3	no	305.00	no
8-Dec-06	0.76	306.32	305.3	no	305.00	no
11-Dec-06	0.75	306.31	305.3	no	305.00	no
12-Dec-06	0.75	306.31	305.3	no	305.00	no
13-Dec-06	0.75	306.31	305.3	no	305.00	no
14-Dec-06	0.75	306.31	305.3	no	305.00	no
15-Dec-06	0.75	306.31	305.3	no	305.00	no
18-Dec-06	0.75	306.31	305.3	no	305.00	no
19-Dec-06	0.75	306.31	305.3	no	305.00	no
20-Dec-06	0.75	306.31	305.3	no	305.00	no
21-Dec-06	0.75	306.31	305.3	no	305.00	no
22-Dec-06	0.74	306.30	305.3	no	305.00	no
28-Dec-06	0.74	306.30	305.3	no	305.00	no
09-Jan-07	0.74	306.30	305.3	no	305.00	no
16-Jan-07	0.74	306.30	305.3	no	305.00	no
23-Jan-07	0.74	306.30	305.3	no	305.00	no
30-Jan-07	0.74	306.30	305.3	no	305.00	no
5-Feb-07	0.74	306.30	305.3	no	305.00	no
15-Feb-07	0.74	306.30	305.3	no	305.00	no
22-Feb-07	0.74	306.30	305.3	no	305.00	no
14-Mar-07	0.74	306.30	305.3	no	305.00	no
21-Mar-07	0.74	306.30	305.3	no	305.00	no
28-Mar-07	0.74	306.30	305.3	no	305.00	no

Table G-8
Threshold Summary - Phase 2 Pond
Mill Creek Aggregates Pit

Date	Gauge Reading Phase 2 Pond (m)	Water Elevation Phase 2 Pond (m ASL)	Early Warning Value (m ASL)	Exceedance of Early Warning Value	Threshold Value (Min) (m ASL)	Exceedance of Threshold Value
01-Apr-07	1.13	306.58	305.3	no	305.00	no
02-Apr-07	1.13	306.58	305.3	no	305.00	no
03-Apr-07	1.13	306.58	305.3	no	305.00	no
04-Apr-07	1.13	306.58	305.3	no	305.00	no
05-Apr-07	1.13	306.58	305.3	no	305.00	no
06-Apr-07	1.13	306.58	305.3	no	305.00	no
07-Apr-07	1.13	306.58	305.3	no	305.00	no
08-Apr-07	1.13	306.58	305.3	no	305.00	no
09-Apr-07	1.13	306.58	305.3	no	305.00	no
10-Apr-07	1.13	306.58	305.3	no	305.00	no
11-Apr-07	1.13	306.58	305.3	no	305.00	no
12-Apr-07	1.13	306.58	305.3	no	305.00	no
13-Apr-07	1.13	306.58	305.3	no	305.00	no
16-Apr-07	1.16	306.61	305.3	no	305.00	no
17-Apr-07	1.16	306.61	305.3	no	305.00	no
18-Apr-07	1.17	306.62	305.3	no	305.00	no
19-Apr-07	1.17	306.62	305.3	no	305.00	no
20-Apr-07	1.17	306.62	305.3	no	305.00	no
23-Apr-07	1.17	306.62	305.3	no	305.00	no
24-Apr-07	1.18	306.63	305.3	no	305.00	no
25-Apr-07	1.18	306.63	305.3	no	305.00	no
26-Apr-07	1.20	306.65	305.3	no	305.00	no
27-Apr-07	1.20	306.65	305.3	no	305.00	no
30-Apr-07	1.20	306.65	305.3	no	305.00	no
01-May-07	1.20	306.65	305.3	no	305.00	no
02-May-07	1.20	306.65	305.3	no	305.00	no
03-May-07	1.18	306.63	305.3	no	305.00	no
04-May-07	1.19	306.64	305.3	no	305.00	no
07-May-07	1.20	306.65	305.3	no	305.00	no
08-May-07	1.18	306.63	305.3	no	305.00	no
09-May-07	1.18	306.63	305.3	no	305.00	no
10-May-07	1.17	306.62	305.3	no	305.00	no
11-May-07	1.17	306.62	305.3	no	305.00	no
14-May-07	1.16	306.61	305.3	no	305.00	no
15-May-07	1.16	306.61	305.3	no	305.00	no
16-May-07	1.17	306.62	305.3	no	305.00	no
17-May-07	1.16	306.61	305.3	no	305.00	no
18-May-07	1.15	306.60	305.3	no	305.00	no
22-May-07	1.15	306.60	305.3	no	305.00	no
23-May-07	1.16	306.61	305.3	no	305.00	no
24-May-07	1.15	306.60	305.3	no	305.00	no
25-May-07	1.14	306.59	305.3	no	305.00	no
28-May-07	1.12	306.57	305.3	no	305.00	no
29-May-07	1.10	306.55	305.3	no	305.00	no
30-May-07	1.08	306.53	305.3	no	305.00	no
31-May-07	1.08	306.53	305.3	no	305.00	no
01-Jun-07	1.06	306.51	305.3	no	305.00	no
04-Jun-07	1.03	306.48	305.3	no	305.00	no
05-Jun-07	1.00	306.45	305.3	no	305.00	no
06-Jun-07	0.97	306.42	305.3	no	305.00	no
07-Jun-07	0.97	306.42	305.3	no	305.00	no
08-Jun-07	0.93	306.38	305.3	no	305.00	no
11-Jun-07	0.88	306.33	305.3	no	305.00	no
12-Jun-07	0.87	306.32	305.3	no	305.00	no
13-Jun-07	0.86	306.31	305.3	no	305.00	no
14-Jun-07	0.84	306.29	305.3	no	305.00	no
15-Jun-07	0.83	306.28	305.3	no	305.00	no
18-Jun-07	0.80	306.25	305.3	no	305.00	no
19-Jun-07	0.79	306.24	305.3	no	305.00	no
20-Jun-07	0.79	306.24	305.3	no	305.00	no
21-Jun-07	0.77	306.22	305.3	no	305.00	no
22-Jun-07	0.76	306.21	305.3	no	305.00	no
25-Jun-07	0.72	306.17	305.3	no	305.00	no
26-Jun-07	0.72	306.17	305.3	no	305.00	no
27-Jun-07	0.71	306.16	305.3	no	305.00	no
28-Jun-07	0.68	306.13	305.3	no	305.00	no
29-Jun-07	0.67	306.12	305.3	no	305.00	no
04-Jul-07	0.46	305.91	305.3	no	305.00	no
05-Jul-07	0.41	305.86	305.3	no	305.00	no
06-Jul-07	0.39	305.84	305.3	no	305.00	no
09-Jul-07	0.34	305.79	305.3	no	305.00	no
10-Jul-07	0.34	305.79	305.3	no	305.00	no
11-Jul-07	0.31	305.76	305.3	no	305.00	no
12-Jul-07	0.30	305.75	305.3	no	305.00	no
13-Jul-07	0.30	305.75	305.3	no	305.00	no
16-Jul-07	0.30	305.75	305.3	no	305.00	no
17-Jul-07	0.29	305.74	305.3	no	305.00	no
18-Jul-07	0.27	305.72	305.3	no	305.00	no
19-Jul-07	0.26	305.71	305.3	no	305.00	no
20-Jul-07	0.23	305.68	305.3	no	305.00	no
23-Jul-07	0.22	305.67	305.3	no	305.00	no
24-Jul-07	0.20	305.65	305.3	no	305.00	no
25-Jul-07	0.18	305.63	305.3	no	305.00	no
26-Jul-07	0.20	305.65	305.3	no	305.00	no
27-Jul-07	0.20	305.65	305.3	no	305.00	no
30-Jul-07	0.20	305.65	305.3	no	305.00	no
31-Jul-07	0.20	305.65	305.3	no	305.00	no
01-Aug-07	0.16	305.61	305.3	no	305.00	no
02-Aug-07	0.15	305.60	305.3	no	305.00	no
03-Aug-07	0.14	305.59	305.3	no	305.00	no
04-Aug-07	0.14	305.59	305.3	no	305.00	no
05-Aug-07	0.14	305.59	305.3	no	305.00	no
06-Aug-07	0.14	305.59	305.3	no	305.00	no
07-Aug-07	0.13	305.58	305.3	no	305.00	no
08-Aug-07	0.14	305.59	305.3	no	305.00	no
09-Aug-07	0.12	305.57	305.3	no	305.00	no
10-Aug-07	0.12	305.57	305.3	no	305.00	no
11-Aug-07	0.12	305.57	305.3	no	305.00	no
12-Aug-07	0.12	305.57	305.3	no	305.00	no
13-Aug-07	0.15	305.60	305.3	no	305.00	no
14-Aug-07	0.14	305.59	305.3	no	305.00	no
15-Aug-07	0.10	305.55	305.3	no	305.00	no
16-Aug-07	0.10	305.55	305.3	no	305.00	no
17-Aug-07	0.06	305.51	305.3	no	305.00	no
18-Aug-07	0.06	305.51	305.3	no	305.00	no
19-Aug-07	0.06	305.51	305.3	no	305.00	no
20-Aug-07	0.05	305.50	305.3	no	305.00	no
21-Aug-07	0.05	305.50	305.3	no	305.00	no
22-Aug-07	0.04	305.49	305.3	no	305.00	no
23-Aug-07	0.04	305.49	305.3	no	305.00	no
24-Aug-07	0.04	305.49	305.3	no	305.00	no
25-Aug-07	0.04	305.49	305.3	no	305.00	no
26-Aug-07	0.04	305.49	305.3	no	305.00	no
27-Aug-07	0.03	305.48	305.3	no	305.00	no
28-Aug-07	0.03	305.48	305.3	no	305.00	no
29-Aug-07	0.03	305.48	305.3	no	305.00	no

Table G-8
Threshold Summary - Phase 2 Pond
Mill Creek Aggregates Pit

Date	Gauge Reading Phase 2 Pond (m)	Water Elevation Phase 2 Pond (m ASL)	Early Warning Value (m ASL)	Exceedance of Early Warning Value	Threshold Value (Min) (m ASL)	Exceedance of Threshold Value
30-Aug-07	0.02	305.47	305.3	no	305.00	no
31-Aug-07	0.02	305.47	305.3	no	305.00	no
01-Sep-07	0.00	305.45	305.3	no	305.00	no
02-Sep-07	0.00	305.45	305.3	no	305.00	no
03-Sep-07	0.00	305.45	305.3	no	305.00	no
04-Sep-07	-0.01	305.44	305.3	no	305.00	no
05-Sep-07	-0.01	305.44	305.3	no	305.00	no
06-Sep-07	-0.01	305.44	305.3	no	305.00	no
07-Sep-07	-0.01	305.44	305.3	no	305.00	no
08-Sep-07	-0.01	305.44	305.3	no	305.00	no
09-Sep-07	-0.01	305.44	305.3	no	305.00	no
10-Sep-07	-0.02	305.43	305.3	no	305.00	no
11-Sep-07	-0.03	305.42	305.3	no	305.00	no
12-Sep-07	-0.03	305.42	305.3	no	305.00	no
13-Sep-07	-0.03	305.42	305.3	no	305.00	no
14-Sep-07	-0.03	305.42	305.3	no	305.00	no
15-Sep-07	-0.03	305.42	305.3	no	305.00	no
16-Sep-07	-0.03	305.42	305.3	no	305.00	no
17-Sep-07	-0.04	305.41	305.3	no	305.00	no
18-Sep-07	-0.04	305.41	305.3	no	305.00	no
19-Sep-07	-0.04	305.41	305.3	no	305.00	no
20-Sep-07	-0.04	305.41	305.3	no	305.00	no
21-Sep-07	-0.04	305.41	305.3	no	305.00	no
22-Sep-07	-0.04	305.41	305.3	no	305.00	no
23-Sep-07	-0.04	305.41	305.3	no	305.00	no
24-Sep-07	-0.05	305.40	305.3	no	305.00	no
25-Sep-07	-0.05	305.40	305.3	no	305.00	no
26-Sep-07	-0.05	305.40	305.3	no	305.00	no
27-Sep-07	-0.05	305.40	305.3	no	305.00	no
28-Sep-07	-0.05	305.40	305.3	no	305.00	no
29-Sep-07	-0.05	305.40	305.3	no	305.00	no
30-Sep-07	-0.05	305.40	305.3	no	305.00	no
01-Oct-07	-0.03	305.42	305.3	no	305.00	no
02-Oct-07	-0.03	305.42	305.3	no	305.00	no
03-Oct-07	-0.03	305.42	305.3	no	305.00	no
04-Oct-07	-0.03	305.42	305.3	no	305.00	no
05-Oct-07	-0.03	305.42	305.3	no	305.00	no
06-Oct-07	-0.03	305.42	305.3	no	305.00	no
07-Oct-07	-0.03	305.42	305.3	no	305.00	no
08-Oct-07	-0.03	305.42	305.3	no	305.00	no
09-Oct-07	-0.01	305.44	305.3	no	305.00	no
10-Oct-07	-0.01	305.44	305.3	no	305.00	no
11-Oct-07	-0.02	305.43	305.3	no	305.00	no
12-Oct-07	-0.02	305.43	305.3	no	305.00	no
13-Oct-07	-0.02	305.43	305.3	no	305.00	no
14-Oct-07	-0.02	305.43	305.3	no	305.00	no
15-Oct-07	-0.06	305.39	305.3	no	305.00	no
16-Oct-07	-0.07	305.38	305.3	no	305.00	no
17-Oct-07	-0.07	305.38	305.3	no	305.00	no
18-Oct-07	-0.07	305.38	305.3	no	305.00	no
19-Oct-07	-0.06	305.39	305.3	no	305.00	no
20-Oct-07	-0.06	305.39	305.3	no	305.00	no
21-Oct-07	-0.06	305.39	305.3	no	305.00	no
22-Oct-07	-0.07	305.38	305.3	no	305.00	no
23-Oct-07	-0.12	305.33	305.3	no	305.00	no
24-Oct-07	-0.12	305.33	305.3	no	305.00	no
25-Oct-07	-0.12	305.33	305.3	no	305.00	no
26-Oct-07	-0.13	305.32	305.3	no	305.00	no
27-Oct-07	-0.13	305.32	305.3	no	305.00	no
28-Oct-07	-0.13	305.32	305.3	no	305.00	no
29-Oct-07	-0.13	305.32	305.3	no	305.00	no
30-Oct-07	-0.13	305.32	305.3	no	305.00	no
31-Oct-07	-0.13	305.32	305.3	no	305.00	no
01-Nov-07	-0.13	305.32	305.3	no	305.00	no
02-Nov-07	-0.13	305.32	305.3	no	305.00	no
03-Nov-07	-0.14	305.31	305.3	no	305.00	no
04-Nov-07	-0.14	305.31	305.3	no	305.00	no
05-Nov-07	-0.14	305.31	305.3	no	305.00	no
06-Nov-07	-0.15	305.30	305.3	no	305.00	no
07-Nov-07	-0.17	305.28	305.3	Yes	305.00	no
08-Nov-07	-0.19	305.26	305.3	Yes	305.00	no
09-Nov-07	-0.18	305.27	305.3	Yes	305.00	no
10-Nov-07	-0.18	305.27	305.3	Yes	305.00	no
11-Nov-07	-0.18	305.27	305.3	Yes	305.00	no
12-Nov-07	-0.18	305.27	305.3	Yes	305.00	no
13-Nov-07	-0.18	305.27	305.3	Yes	305.00	no
14-Nov-07	-0.20	305.25	305.3	Yes	305.00	no
15-Nov-07	-0.18	305.27	305.3	Yes	305.00	no
16-Nov-07	-0.18	305.27	305.3	Yes	305.00	no
17-Nov-07	-0.18	305.27	305.3	Yes	305.00	no
18-Nov-07	-0.18	305.27	305.3	Yes	305.00	no
19-Nov-07	-0.14	305.31	305.3	no	305.00	no
20-Nov-07	-0.20	305.25	305.3	Yes	305.00	no
21-Nov-07	-0.20	305.25	305.3	Yes	305.00	no
22-Nov-07	-0.24	305.21	305.3	Yes	305.00	no
23-Nov-07	-0.15	305.30	305.3	no	305.00	no
24-Nov-07	-0.15	305.30	305.3	no	305.00	no
25-Nov-07	-0.15	305.30	305.3	no	305.00	no
26-Nov-07	-0.15	305.30	305.3	no	305.00	no
27-Nov-07	-0.14	305.31	305.3	no	305.00	no
28-Nov-07	-0.14	305.31	305.3	no	305.00	no
29-Nov-07	-0.14	305.31	305.3	no	305.00	no
30-Nov-07	-0.14	305.31	305.3	no	305.00	no
01-Dec-07	-0.14	305.31	305.3	no	305.00	no
02-Dec-07	-0.14	305.31	305.3	no	305.00	no
03-Dec-07	-0.14	305.31	305.3	no	305.00	no
04-Dec-07	-0.14	305.31	305.3	no	305.00	no
05-Dec-07	-0.14	305.31	305.3	no	305.00	no
06-Dec-07	-0.14	305.31	305.3	no	305.00	no
07-Dec-07	-0.14	305.31	305.3	no	305.00	no
08-Dec-07	-0.14	305.31	305.3	no	305.00	no
09-Dec-07	-0.14	305.31	305.3	no	305.00	no
10-Dec-07	-0.14	305.31	305.3	no	305.00	no
11-Dec-07	-0.14	305.31	305.3	no	305.00	no
12-Dec-07	-0.14	305.31	305.3	no	305.00	no
13-Dec-07	-0.14	305.31	305.3	no	305.00	no
19-Dec-07	-0.14	305.31	305.3	no	305.00	no
20-Dec-07	-0.14	305.31	305.3	no	305.00	no
21-Dec-07	-0.14	305.31	305.3	no	305.00	no
22-Dec-07	-0.14	305.31	305.3	no	305.00	no
26-Dec-07	-0.14	305.31	305.3	no	305.00	no
27-Dec-07	-0.14	305.31	305.3	no	305.00	no
30-Dec-07	-0.14	305.31	305.3	no	305.00	no
31-Dec-07	-0.14	305.31	305.3	no	305.00	no

Table G-8
Threshold Summary - Phase 2 Pond
Mill Creek Aggregates Pit

Date	Gauge Reading Phase 2 Pond (m)	Water Elevation Phase 2 Pond (m ASL)	Early Warning Value (m ASL)	Exceedance of Early Warning Value	Threshold Value (Min) (m ASL)	Exceedance of Threshold Value
10-Jan-08	-0.14	305.31	305.3	no	305.0	no
17-Jan-08	-0.14	305.31	305.3	no	305.0	no
22-Jan-08	-0.14	305.31	305.3	no	305.0	no
31-Jan-08	-0.14	305.31	305.3	no	305.0	no
7-Feb-08	-0.14	305.31	305.3	no	305.0	no
15-Feb-08	-0.14	305.31	305.3	no	305.0	no
21-Feb-08	-0.14	305.31	305.3	no	305.0	no
29-Feb-08	-0.14	305.31	305.3	no	305.0	no
10-Mar-08	-0.14	305.31	305.3	no	305.0	no
14-Mar-08	-0.14	305.31	305.3	no	305.0	no
20-Mar-08	-0.14	305.31	305.3	no	305.0	no
26-Mar-08	-0.14	305.31	305.3	no	305.0	no
31-Mar-08	-0.14	305.31	305.3	no	305.0	no
8-Apr-08	-0.14	305.31	305.3	no	305.0	no
14-Apr-08	0.74	306.57	305.3	no	305.0	no
15-Apr-08	0.76	306.58	305.3	no	305.0	no
16-Apr-08	0.75	306.53	305.3	no	305.0	no
17-Apr-08	0.76	306.49	305.3	no	305.0	no
18-Apr-08	0.75	306.39	305.3	no	305.0	no
19-Apr-08	0.75	306.39	305.3	no	305.0	no
20-Apr-08	0.75	306.39	305.3	no	305.0	no
21-Apr-08	0.76	306.43	305.3	no	305.0	no
22-Apr-08	0.74	306.42	305.3	no	305.0	no
23-Apr-08	0.76	306.50	305.3	no	305.0	no
24-Apr-08	0.75	306.43	305.3	no	305.0	no
25-Apr-08	0.75	306.43	305.3	no	305.0	no
26-Apr-08	0.75	306.43	305.3	no	305.0	no
27-Apr-08	0.75	306.43	305.3	no	305.0	no
28-Apr-08	0.74	306.49	305.3	no	305.0	no
29-Apr-08	0.74	306.49	305.3	no	305.0	no
30-Apr-08	0.75	306.53	305.3	no	305.0	no
1-May-08	0.78	306.59	305.3	no	305.0	no
2-May-08	0.75	306.53	305.3	no	305.0	no
3-May-08	0.75	306.53	305.3	no	305.0	no
4-May-08	0.75	306.53	305.3	no	305.0	no
5-May-08	0.78	306.58	305.3	no	305.0	no
6-May-08	0.78	306.60	305.3	no	305.0	no
7-May-08	0.79	306.53	305.3	no	305.0	no
8-May-08	0.79	306.57	305.3	no	305.0	no
9-May-08	0.79	306.58	305.3	no	305.0	no
10-May-08	0.78	306.58	305.3	no	305.0	no
11-May-08	0.78	306.58	305.3	no	305.0	no
12-May-08	0.78	306.60	305.3	no	305.0	no
13-May-08	0.79	306.61	305.3	no	305.0	no
14-May-08	0.78	306.61	305.3	no	305.0	no
15-May-08	0.79	306.61	305.3	no	305.0	no
16-May-08	0.80	306.59	305.3	no	305.0	no
17-May-08	0.80	306.59	305.3	no	305.0	no
18-May-08	0.80	306.59	305.3	no	305.0	no
19-May-08	0.80	306.59	305.3	no	305.0	no
20-May-08	0.79	306.54	305.3	no	305.0	no
21-May-08	0.80	306.54	305.3	no	305.0	no
22-May-08	0.81	306.43	305.3	no	305.0	no
23-May-08	0.80	306.39	305.3	no	305.0	no
24-May-08	0.79	306.39	305.3	no	305.0	no
25-May-08	0.79	306.39	305.3	no	305.0	no
26-May-08	0.79	306.44	305.3	no	305.0	no
27-May-08	0.78	306.59	305.3	no	305.0	no
28-May-08	0.78	306.55	305.3	no	305.0	no
29-May-08	0.78	306.53	305.3	no	305.0	no
30-May-08	0.76	306.52	305.3	no	305.0	no
31-May-08	0.76	306.52	305.3	no	305.0	no
1-Jun-08	0.76	306.52	305.3	no	305.0	no
2-Jun-08	0.78	306.42	305.3	no	305.0	no
3-Jun-08	0.79	306.56	305.3	no	305.0	no
4-Jun-08	0.78	306.40	305.3	no	305.0	no
5-Jun-08	0.80	306.58	305.3	no	305.0	no
6-Jun-08	0.80	306.46	305.3	no	305.0	no
7-Jun-08	0.80	306.46	305.3	no	305.0	no
8-Jun-08	0.80	306.46	305.3	no	305.0	no
9-Jun-08	0.79	306.52	305.3	no	305.0	no
10-Jun-08	0.78	306.57	305.3	no	305.0	no
11-Jun-08	0.78	306.60	305.3	no	305.0	no
12-Jun-08	0.76	306.62	305.3	no	305.0	no
13-Jun-08	0.77	306.62	305.3	no	305.0	no
14-Jun-08	0.77	306.62	305.3	no	305.0	no
15-Jun-08	0.77	306.62	305.3	no	305.0	no
16-Jun-08	0.78	306.57	305.3	no	305.0	no
17-Jun-08	0.79	306.55	305.3	no	305.0	no
18-Jun-08	0.79	306.43	305.3	no	305.0	no
19-Jun-08	0.79	306.36	305.3	no	305.0	no
20-Jun-08	0.79	306.29	305.3	no	305.0	no
21-Jun-08	0.79	306.29	305.3	no	305.0	no
22-Jun-08	0.79	306.29	305.3	no	305.0	no
23-Jun-08	0.79	306.63	305.3	no	305.0	no
24-Jun-08	0.78	306.60	305.3	no	305.0	no
25-Jun-08	0.78	306.63	305.3	no	305.0	no
26-Jun-08	0.78	306.61	305.3	no	305.0	no

Table G-8
Threshold Summary - Phase 2 Pond
Mill Creek Aggregates Pit

Date	Gauge Reading Phase 2 Pond (m)	Water Elevation Phase 2 Pond (m ASL)	Early Warning Value (m ASL)	Exceedance of Early Warning Value	Threshold Value (Min) (m ASL)	Exceedance of Threshold Value
27-Jun-08	0.78	306.49	305.3	no	305.0	no
28-Jun-08	0.78	306.49	305.3	no	305.0	no
29-Jun-08	0.78	306.49	305.3	no	305.0	no
30-Jun-08	0.80	306.51	305.3	no	305.0	no
1-Jul-08	0.77	306.48	305.3	no	305.0	no
2-Jul-08	0.77	306.48	305.3	no	305.0	no
3-Jul-08	0.78	306.49	305.3	no	305.0	no
4-Jul-08	0.78	306.49	305.3	no	305.0	no
5-Jul-08	0.78	306.49	305.3	no	305.0	no
6-Jul-08	0.78	306.49	305.3	no	305.0	no
7-Jul-08	0.77	306.48	305.3	no	305.0	no
8-Jul-08	0.76	306.47	305.3	no	305.0	no
9-Jul-08	0.77	306.48	305.3	no	305.0	no
10-Jul-08	0.75	306.46	305.3	no	305.0	no
11-Jul-08	0.79	306.50	305.3	no	305.0	no
12-Jul-08	0.79	306.50	305.3	no	305.0	no
13-Jul-08	0.79	306.50	305.3	no	305.0	no
14-Jul-08	0.79	306.50	305.3	no	305.0	no
15-Jul-08	0.80	306.51	305.3	no	305.0	no
16-Jul-08	0.76	306.47	305.3	no	305.0	no
17-Jul-08	0.76	306.47	305.3	no	305.0	no
18-Jul-08	0.78	306.49	305.3	no	305.0	no
19-Jul-08	0.78	306.49	305.3	no	305.0	no
20-Jul-08	0.78	306.49	305.3	no	305.0	no
21-Jul-08	0.79	306.50	305.3	no	305.0	no
22-Jul-08	0.80	306.51	305.3	no	305.0	no
23-Jul-08	0.83	306.54	305.3	no	305.0	no
24-Jul-08	0.84	306.55	305.3	no	305.0	no
25-Jul-08	0.85	306.56	305.3	no	305.0	no
26-Jul-08	0.85	306.56	305.3	no	305.0	no
27-Jul-08	0.85	306.56	305.3	no	305.0	no
28-Jul-08	0.84	306.55	305.3	no	305.0	no
29-Jul-08	0.83	306.54	305.3	no	305.0	no
30-Jul-08	0.83	306.54	305.3	no	305.0	no
31-Jul-08	0.83	306.54	305.3	no	305.0	no
1-Aug-08	0.83	306.54	305.3	no	305.0	no
2-Aug-08	0.83	306.54	305.3	no	305.0	no
3-Aug-08	0.83	306.54	305.3	no	305.0	no
4-Aug-08	0.82	306.53	305.3	no	305.0	no
5-Aug-08	0.82	306.53	305.3	no	305.0	no
6-Aug-08	0.81	306.52	305.3	no	305.0	no
7-Aug-08	0.82	306.53	305.3	no	305.0	no
8-Aug-08	0.81	306.52	305.3	no	305.0	no
9-Aug-08	0.81	306.52	305.3	no	305.0	no
10-Aug-08	0.81	306.52	305.3	no	305.0	no
11-Aug-08	0.80	306.51	305.3	no	305.0	no
12-Aug-08	0.81	306.52	305.3	no	305.0	no
13-Aug-08	0.80	306.51	305.3	no	305.0	no
14-Aug-08	0.80	306.51	305.3	no	305.0	no
15-Aug-08	0.80	306.51	305.3	no	305.0	no
16-Aug-08	0.80	306.51	305.3	no	305.0	no
17-Aug-08	0.80	306.51	305.3	no	305.0	no
18-Aug-08	0.79	306.50	305.3	no	305.0	no
19-Aug-08	0.78	306.49	305.3	no	305.0	no
20-Aug-08	0.79	306.50	305.3	no	305.0	no
21-Aug-08	0.78	306.49	305.3	no	305.0	no
22-Aug-08	0.78	306.49	305.3	no	305.0	no
23-Aug-08	0.78	306.49	305.3	no	305.0	no
24-Aug-08	0.78	306.49	305.3	no	305.0	no
25-Aug-08	0.80	306.51	305.3	no	305.0	no
26-Aug-08	0.81	306.52	305.3	no	305.0	no
27-Aug-08	0.79	306.50	305.3	no	305.0	no
28-Aug-08	0.77	306.48	305.3	no	305.0	no
29-Aug-08	0.76	306.47	305.3	no	305.0	no
30-Aug-08	0.76	306.47	305.3	no	305.0	no
31-Aug-08	0.76	306.47	305.3	no	305.0	no
1-Sep-08	0.75	306.46	305.3	no	305.0	no
2-Sep-08	0.75	306.46	305.3	no	305.0	no
3-Sep-08	0.75	306.46	305.3	no	305.0	no
4-Sep-08	0.75	306.46	305.3	no	305.0	no
5-Sep-08	0.74	306.45	305.3	no	305.0	no
6-Sep-08	0.76	306.47	305.3	no	305.0	no
7-Sep-08	0.76	306.47	305.3	no	305.0	no
8-Sep-08	0.76	306.47	305.3	no	305.0	no
9-Sep-08	0.77	306.48	305.3	no	305.0	no
10-Sep-08	0.75	306.46	305.3	no	305.0	no
11-Sep-08	0.75	306.46	305.3	no	305.0	no
12-Sep-08	0.74	306.45	305.3	no	305.0	no
13-Sep-08	0.76	306.47	305.3	no	305.0	no
14-Sep-08	0.76	306.47	305.3	no	305.0	no
15-Sep-08	0.77	306.48	305.3	no	305.0	no
16-Sep-08	0.77	306.48	305.3	no	305.0	no
17-Sep-08	0.78	306.49	305.3	no	305.0	no
18-Sep-08	0.76	306.47	305.3	no	305.0	no
19-Sep-08	0.80	306.51	305.3	no	305.0	no
20-Sep-08	0.80	306.51	305.3	no	305.0	no
21-Sep-08	0.80	306.51	305.3	no	305.0	no

Table G-8
Threshold Summary - Phase 2 Pond
Mill Creek Aggregates Pit

Date	Gauge Reading Phase 2 Pond (m)	Water Elevation Phase 2 Pond (m ASL)	Early Warning Value (m ASL)	Exceedance of Early Warning Value	Threshold Value (Min) (m ASL)	Exceedance of Threshold Value
22-Sep-08	0.78	306.49	305.3	no	305.0	no
23-Sep-08	0.76	306.47	305.3	no	305.0	no
24-Sep-08	0.75	306.46	305.3	no	305.0	no
25-Sep-08	0.76	306.47	305.3	no	305.0	no
26-Sep-08	0.76	306.47	305.3	no	305.0	no
27-Sep-08	0.76	306.47	305.3	no	305.0	no
28-Sep-08	0.76	306.47	305.3	no	305.0	no
29-Sep-08	0.78	306.49	305.3	no	305.0	no
30-Sep-08	0.79	306.50	305.3	no	305.0	no
1-Oct-08	0.80	306.51	305.3	no	305.0	no
2-Oct-08	0.80	306.51	305.3	no	305.0	no
3-Oct-08	0.80	306.51	305.3	no	305.0	no
4-Oct-08	0.80	306.51	305.3	no	305.0	no
5-Oct-08	0.80	306.51	305.3	no	305.0	no
6-Oct-08	0.79	306.50	305.3	no	305.0	no
7-Oct-08	0.79	306.50	305.3	no	305.0	no
8-Oct-08	0.78	306.49	305.3	no	305.0	no
9-Oct-08	0.78	306.49	305.3	no	305.0	no
10-Oct-08	0.78	306.49	305.3	no	305.0	no
11-Oct-08	0.78	306.49	305.3	no	305.0	no
12-Oct-08	0.78	306.49	305.3	no	305.0	no
13-Oct-08	0.76	306.47	305.3	no	305.0	no
14-Oct-08	0.77	306.48	305.3	no	305.0	no
15-Oct-08	0.76	306.47	305.3	no	305.0	no
16-Oct-08	0.76	306.47	305.3	no	305.0	no
17-Oct-08	0.76	306.47	305.3	no	305.0	no
18-Oct-08	0.76	306.47	305.3	no	305.0	no
19-Oct-08	0.76	306.47	305.3	no	305.0	no
20-Oct-08	0.76	306.47	305.3	no	305.0	no
21-Oct-08	0.77	306.48	305.3	no	305.0	no
22-Oct-08	0.75	306.46	305.3	no	305.0	no
23-Oct-08	0.75	306.46	305.3	no	305.0	no
24-Oct-08	0.75	306.46	305.3	no	305.0	no
25-Oct-08	0.75	306.46	305.3	no	305.0	no
26-Oct-08	0.75	306.46	305.3	no	305.0	no
27-Oct-08	0.75	306.46	305.3	no	305.0	no
28-Oct-08	0.75	306.46	305.3	no	305.0	no
29-Oct-08	0.75	306.46	305.3	no	305.0	no
30-Oct-08	0.75	306.46	305.3	no	305.0	no
31-Oct-08	0.75	306.46	305.3	no	305.0	no
1-Nov-08	0.75	306.46	305.3	no	305.0	no
2-Nov-08	0.75	306.46	305.3	no	305.0	no
3-Nov-08	0.75	306.46	305.3	no	305.0	no
4-Nov-08	0.75	306.46	305.3	no	305.0	no
5-Nov-08	0.75	306.46	305.3	no	305.0	no
6-Nov-08	0.75	306.46	305.3	no	305.0	no
7-Nov-08	0.75	306.46	305.3	no	305.0	no
8-Nov-08	0.75	306.46	305.3	no	305.0	no
12-Nov-08	0.75	306.46	305.3	no	305.0	no
19-Nov-08	0.75	306.46	305.3	no	305.0	no
26-Nov-08	0.75	306.46	305.3	no	305.0	no
3-Dec-08	0.75	306.46	305.3	no	305.0	no
10-Dec-08	0.75	306.46	305.3	no	305.0	no
17-Dec-08	0.75	306.46	305.3	no	305.0	no
26-Dec-08	0.75	306.46	305.3	no	305.0	no

Table G-8
Threshold Summary - Phase 2 Pond
Mill Creek Aggregates Pit

Date	Gauge Reading Phase 2 Pond (m)	Water Elevation Phase 2 Pond (m ASL)	Early Warning Value (m ASL)	Exceedance of Early Warning Value	Threshold Value (Min) (m ASL)	Exceedance of Threshold Value
1-Jan-09	0.75	306.46	305.3	no	305.0	no
2-Jan-09	0.75	306.46	305.3	no	305.0	no
3-Jan-09	0.75	306.46	305.3	no	305.0	no
4-Jan-09	0.75	306.46	305.3	no	305.0	no
5-Jan-09	0.75	306.46	305.3	no	305.0	no
6-Jan-09	0.75	306.46	305.3	no	305.0	no
7-Jan-09	0.75	306.46	305.3	no	305.0	no
8-Jan-09	0.75	306.46	305.3	no	305.0	no
9-Jan-09	0.75	306.46	305.3	no	305.0	no
10-Jan-09	0.75	306.46	305.3	no	305.0	no
11-Jan-09	0.75	306.46	305.3	no	305.0	no
12-Jan-09	0.75	306.46	305.3	no	305.0	no
13-Jan-09	0.75	306.46	305.3	no	305.0	no
14-Jan-09	0.75	306.46	305.3	no	305.0	no
15-Jan-09	0.75	306.46	305.3	no	305.0	no
16-Jan-09	0.75	306.46	305.3	no	305.0	no
17-Jan-09	0.75	306.46	305.3	no	305.0	no
18-Jan-09	0.75	306.46	305.3	no	305.0	no
19-Jan-09	0.75	306.46	305.3	no	305.0	no
20-Jan-09	0.75	306.46	305.3	no	305.0	no
21-Jan-09	0.75	306.46	305.3	no	305.0	no
22-Jan-09	0.75	306.46	305.3	no	305.0	no
23-Jan-09	0.75	306.46	305.3	no	305.0	no
24-Jan-09	0.75	306.46	305.3	no	305.0	no
25-Jan-09	0.75	306.46	305.3	no	305.0	no
26-Jan-09	0.75	306.46	305.3	no	305.0	no
27-Jan-09	0.75	306.46	305.3	no	305.0	no
28-Jan-09	0.75	306.46	305.3	no	305.0	no
29-Jan-09	0.75	306.46	305.3	no	305.0	no
30-Jan-09	0.75	306.46	305.3	no	305.0	no
31-Jan-09	0.75	306.46	305.3	no	305.0	no
1-Feb-09	0.75	306.46	305.3	no	305.0	no
2-Feb-09	0.75	306.46	305.3	no	305.0	no
3-Feb-09	0.75	306.46	305.3	no	305.0	no
4-Feb-09	0.75	306.46	305.3	no	305.0	no
5-Feb-09	0.75	306.46	305.3	no	305.0	no
6-Feb-09	0.75	306.46	305.3	no	305.0	no
7-Feb-09	0.75	306.46	305.3	no	305.0	no
8-Feb-09	0.75	306.46	305.3	no	305.0	no
9-Feb-09	0.75	306.46	305.3	no	305.0	no
10-Feb-09	0.75	306.46	305.3	no	305.0	no
11-Feb-09	0.75	306.46	305.3	no	305.0	no
12-Feb-09	0.75	306.46	305.3	no	305.0	no
13-Feb-09	0.75	306.46	305.3	no	305.0	no
14-Feb-09	0.75	306.46	305.3	no	305.0	no
15-Feb-09	0.75	306.46	305.3	no	305.0	no
16-Feb-09	0.75	306.46	305.3	no	305.0	no
17-Feb-09	0.75	306.46	305.3	no	305.0	no
18-Feb-09	0.75	306.46	305.3	no	305.0	no
19-Feb-09	0.75	306.46	305.3	no	305.0	no
20-Feb-09	0.75	306.46	305.3	no	305.0	no
21-Feb-09	0.75	306.46	305.3	no	305.0	no
22-Feb-09	0.75	306.46	305.3	no	305.0	no
23-Feb-09	0.75	306.46	305.3	no	305.0	no
24-Feb-09	0.75	306.46	305.3	no	305.0	no
25-Feb-09	0.75	306.46	305.3	no	305.0	no
26-Feb-09	0.75	306.46	305.3	no	305.0	no
27-Feb-09	0.75	306.46	305.3	no	305.0	no
28-Feb-09	0.75	306.46	305.3	no	305.0	no
1-Mar-09	0.75	306.46	305.3	no	305.0	no
2-Mar-09	0.75	306.46	305.3	no	305.0	no
3-Mar-09	0.75	306.46	305.3	no	305.0	no
4-Mar-09	0.75	306.46	305.3	no	305.0	no
5-Mar-09	0.75	306.46	305.3	no	305.0	no
6-Mar-09	0.75	306.46	305.3	no	305.0	no
7-Mar-09	0.75	306.46	305.3	no	305.0	no
8-Mar-09	0.75	306.46	305.3	no	305.0	no
9-Mar-09	0.75	306.46	305.3	no	305.0	no
10-Mar-09	0.75	306.46	305.3	no	305.0	no
11-Mar-09	0.75	306.46	305.3	no	305.0	no
12-Mar-09	0.75	306.46	305.3	no	305.0	no
13-Mar-09	0.75	306.46	305.3	no	305.0	no
14-Mar-09	0.75	306.46	305.3	no	305.0	no
15-Mar-09	0.75	306.46	305.3	no	305.0	no
2-Apr-09	0.90	306.77	305.3	no	305.0	no
3-Apr-09	0.92	306.78	305.3	no	305.0	no
4-Apr-09	0.92	306.78	305.3	no	305.0	no
5-Apr-09	0.92	306.78	305.3	no	305.0	no
6-Apr-09	0.96	306.82	305.3	no	305.0	no

Table G-8
Threshold Summary - Phase 2 Pond
Mill Creek Aggregates Pit

Date	Gauge Reading Phase 2 Pond (m)	Water Elevation Phase 2 Pond (m ASL)	Early Warning Value (m ASL)	Exceedance of Early Warning Value	Threshold Value (Min) (m ASL)	Exceedance of Threshold Value
7-Apr-09	0.96	306.82	305.3	no	305.0	no
8-Apr-09	0.95	306.81	305.3	no	305.0	no
9-Apr-09	0.95	306.81	305.3	no	305.0	no
10-Apr-09	0.95	306.81	305.3	no	305.0	no
11-Apr-09	0.95	306.81	305.3	no	305.0	no
12-Apr-09	0.95	306.81	305.3	no	305.0	no
13-Apr-09	0.95	306.81	305.3	no	305.0	no
14-Apr-09	0.95	306.81	305.3	no	305.0	no
15-Apr-09	0.95	306.81	305.3	no	305.0	no
16-Apr-09	0.95	306.81	305.3	no	305.0	no
17-Apr-09	0.95	306.81	305.3	no	305.0	no
18-Apr-09	0.95	306.81	305.3	no	305.0	no
19-Apr-09	0.95	306.81	305.3	no	305.0	no
20-Apr-09	0.96	306.82	305.3	no	305.0	no
21-Apr-09	0.96	306.82	305.3	no	305.0	no
22-Apr-09	0.96	306.82	305.3	no	305.0	no
23-Apr-09	0.96	306.82	305.3	no	305.0	no
24-Apr-09	0.96	306.82	305.3	no	305.0	no
25-Apr-09	0.96	306.82	305.3	no	305.0	no
26-Apr-09	0.96	306.82	305.3	no	305.0	no
27-Apr-09	0.96	306.82	305.3	no	305.0	no
28-Apr-09	0.97	306.83	305.3	no	305.0	no
29-Apr-09	0.97	306.83	305.3	no	305.0	no
30-Apr-09	0.98	306.84	305.3	no	305.0	no
1-May-09	0.98	306.84	305.3	no	305.0	no
2-May-09	0.98	306.84	305.3	no	305.0	no
3-May-09	0.98	306.84	305.3	no	305.0	no
4-May-09	0.96	306.82	305.3	no	305.0	no
5-May-09	0.96	306.82	305.3	no	305.0	no
6-May-09	0.96	306.82	305.3	no	305.0	no
7-May-09	0.95	306.81	305.3	no	305.0	no
8-May-09	0.96	306.82	305.3	no	305.0	no
9-May-09	0.96	306.82	305.3	no	305.0	no
10-May-09	0.96	306.82	305.3	no	305.0	no
11-May-09	0.95	306.81	305.3	no	305.0	no
12-May-09	0.95	306.81	305.3	no	305.0	no
13-May-09	0.94	306.80	305.3	no	305.0	no
14-May-09	0.94	306.80	305.3	no	305.0	no
15-May-09	0.94	306.80	305.3	no	305.0	no
16-May-09	0.94	306.80	305.3	no	305.0	no
17-May-09	0.94	306.80	305.3	no	305.0	no
18-May-09	0.93	306.79	305.3	no	305.0	no
19-May-09	0.93	306.79	305.3	no	305.0	no
20-May-09	0.92	306.78	305.3	no	305.0	no
21-May-09	0.92	306.78	305.3	no	305.0	no
22-May-09	0.92	306.78	305.3	no	305.0	no
23-May-09	0.92	306.78	305.3	no	305.0	no
24-May-09	0.92	306.78	305.3	no	305.0	no
25-May-09	0.92	306.78	305.3	no	305.0	no
26-May-09	0.91	306.77	305.3	no	305.0	no
27-May-09	0.91	306.77	305.3	no	305.0	no
28-May-09	0.91	306.77	305.3	no	305.0	no
29-May-09	0.90	306.76	305.3	no	305.0	no
30-May-09	0.90	306.76	305.3	no	305.0	no
31-May-09	0.90	306.76	305.3	no	305.0	no
1-Jun-09	0.89	306.75	305.3	no	305.0	no
2-Jun-09	0.89	306.75	305.3	no	305.0	no
3-Jun-09	0.89	306.75	305.3	no	305.0	no
4-Jun-09	0.89	306.75	305.3	no	305.0	no
5-Jun-09	0.89	306.75	305.3	no	305.0	no
6-Jun-09	0.89	306.75	305.3	no	305.0	no
7-Jun-09	0.89	306.75	305.3	no	305.0	no
8-Jun-09	0.89	306.75	305.3	no	305.0	no
9-Jun-09	0.88	306.74	305.3	no	305.0	no
10-Jun-09	0.85	306.71	305.3	no	305.0	no
11-Jun-09	0.85	306.71	305.3	no	305.0	no
12-Jun-09	0.85	306.71	305.3	no	305.0	no
13-Jun-09	0.85	306.71	305.3	no	305.0	no
14-Jun-09	0.85	306.71	305.3	no	305.0	no
15-Jun-09	0.83	306.69	305.3	no	305.0	no
16-Jun-09	0.82	306.68	305.3	no	305.0	no
17-Jun-09	0.81	306.67	305.3	no	305.0	no
18-Jun-09	0.80	306.66	305.3	no	305.0	no
19-Jun-09	0.81	306.67	305.3	no	305.0	no
20-Jun-09	0.81	306.67	305.3	no	305.0	no
21-Jun-09	0.81	306.67	305.3	no	305.0	no
22-Jun-09	0.80	306.66	305.3	no	305.0	no
23-Jun-09	0.81	306.67	305.3	no	305.0	no

Table G-8
Threshold Summary - Phase 2 Pond
Mill Creek Aggregates Pit

Date	Gauge Reading Phase 2 Pond (m)	Water Elevation Phase 2 Pond (m ASL)	Early Warning Value (m ASL)	Exceedance of Early Warning Value	Threshold Value (Min) (m ASL)	Exceedance of Threshold Value
24-Jun-09	0.82	306.68	305.3	no	305.0	no
25-Jun-09	0.82	306.68	305.3	no	305.0	no
26-Jun-09	0.81	306.67	305.3	no	305.0	no
27-Jun-09	0.81	306.67	305.3	no	305.0	no
28-Jun-09	0.81	306.67	305.3	no	305.0	no
29-Jun-09	0.81	306.67	305.3	no	305.0	no
30-Jun-09	0.81	306.67	305.3	no	305.0	no
1-Jul-09	0.81	306.67	305.3	no	305.0	no
2-Jul-09	0.79	306.65	305.3	no	305.0	no
3-Jul-09	0.79	306.65	305.3	no	305.0	no
4-Jul-09	0.79	306.65	305.3	no	305.0	no
5-Jul-09	0.79	306.65	305.3	no	305.0	no
6-Jul-09	0.77	306.63	305.3	no	305.0	no
7-Jul-09	0.77	306.63	305.3	no	305.0	no
8-Jul-09	0.77	306.63	305.3	no	305.0	no
9-Jul-09	0.77	306.63	305.3	no	305.0	no
10-Jul-09	0.77	306.63	305.3	no	305.0	no
11-Jul-09	0.75	306.61	305.3	no	305.0	no
12-Jul-09	0.75	306.61	305.3	no	305.0	no
13-Jul-09	0.75	306.61	305.3	no	305.0	no
14-Jul-09	0.75	306.61	305.3	no	305.0	no
15-Jul-09	0.75	306.61	305.3	no	305.0	no
16-Jul-09	0.75	306.61	305.3	no	305.0	no
17-Jul-09	0.75	306.61	305.3	no	305.0	no
18-Jul-09	0.75	306.61	305.3	no	305.0	no
19-Jul-09	0.75	306.61	305.3	no	305.0	no
20-Jul-09	0.74	306.60	305.3	no	305.0	no
21-Jul-09	0.75	306.61	305.3	no	305.0	no
22-Jul-09	0.75	306.61	305.3	no	305.0	no
23-Jul-09	0.74	306.60	305.3	no	305.0	no
24-Jul-09	0.74	306.60	305.3	no	305.0	no
25-Jul-09	0.74	306.60	305.3	no	305.0	no
26-Jul-09	0.74	306.60	305.3	no	305.0	no
27-Jul-09	0.73	306.59	305.3	no	305.0	no
28-Jul-09	0.73	306.59	305.3	no	305.0	no
29-Jul-09	0.73	306.59	305.3	no	305.0	no
30-Jul-09	0.73	306.59	305.3	no	305.0	no
31-Jul-09	0.73	306.59	305.3	no	305.0	no
1-Aug-09	0.73	306.59	305.3	no	305.0	no
2-Aug-09	0.73	306.59	305.3	no	305.0	no
3-Aug-09	0.73	306.59	305.3	no	305.0	no
4-Aug-09	0.73	306.59	305.3	no	305.0	no
5-Aug-09	0.74	306.60	305.3	no	305.0	no
6-Aug-09	0.73	306.59	305.3	no	305.0	no
7-Aug-09	0.73	306.59	305.3	no	305.0	no
8-Aug-09	0.73	306.59	305.3	no	305.0	no
9-Aug-09	0.73	306.59	305.3	no	305.0	no
10-Aug-09	0.70	306.56	305.3	no	305.0	no
11-Aug-09	0.70	306.56	305.3	no	305.0	no
12-Aug-09	0.70	306.56	305.3	no	305.0	no
13-Aug-09	0.70	306.56	305.3	no	305.0	no
14-Aug-09	0.70	306.56	305.3	no	305.0	no
15-Aug-09	0.70	306.56	305.3	no	305.0	no
16-Aug-09	0.70	306.56	305.3	no	305.0	no
17-Aug-09	0.71	306.57	305.3	no	305.0	no
18-Aug-09	0.71	306.57	305.3	no	305.0	no
19-Aug-09	0.71	306.57	305.3	no	305.0	no
20-Aug-09	0.71	306.57	305.3	no	305.0	no
21-Aug-09	0.71	306.57	305.3	no	305.0	no
22-Aug-09	0.71	306.57	305.3	no	305.0	no
23-Aug-09	0.71	306.57	305.3	no	305.0	no
24-Aug-09	0.71	306.57	305.3	no	305.0	no
25-Aug-09	0.71	306.57	305.3	no	305.0	no
26-Aug-09	0.70	306.56	305.3	no	305.0	no
27-Aug-09	0.69	306.55	305.3	no	305.0	no
28-Aug-09	0.68	306.54	305.3	no	305.0	no
29-Aug-09	0.68	306.54	305.3	no	305.0	no
30-Aug-09	0.68	306.54	305.3	no	305.0	no
31-Aug-09	0.68	306.54	305.3	no	305.0	no
1-Sep-09	0.67	306.53	305.3	no	305.0	no
2-Sep-09	0.67	306.53	305.3	no	305.0	no
3-Sep-09	0.67	306.53	305.3	no	305.0	no
4-Sep-09	0.67	306.53	305.3	no	305.0	no
5-Sep-09	0.67	306.53	305.3	no	305.0	no
6-Sep-09	0.67	306.53	305.3	no	305.0	no
7-Sep-09	0.67	306.53	305.3	no	305.0	no
8-Sep-09	0.66	306.52	305.3	no	305.0	no

Table G-8
Threshold Summary - Phase 2 Pond
Mill Creek Aggregates Pit

Date	Gauge Reading Phase 2 Pond (m)	Water Elevation Phase 2 Pond (m ASL)	Early Warning Value (m ASL)	Exceedance of Early Warning Value	Threshold Value (Min) (m ASL)	Exceedance of Threshold Value
9-Sep-09	0.66	306.52	305.3	no	305.0	no
10-Sep-09	0.64	306.50	305.3	no	305.0	no
11-Sep-09	0.62	306.48	305.3	no	305.0	no
12-Sep-09	0.62	306.48	305.3	no	305.0	no
13-Sep-09	0.62	306.48	305.3	no	305.0	no
14-Sep-09	0.65	306.51	305.3	no	305.0	no
15-Sep-09	0.65	306.51	305.3	no	305.0	no
16-Sep-09	0.65	306.51	305.3	no	305.0	no
17-Sep-09	0.65	306.51	305.3	no	305.0	no
18-Sep-09	0.65	306.51	305.3	no	305.0	no
19-Sep-09	0.65	306.51	305.3	no	305.0	no
20-Sep-09	0.65	306.51	305.3	no	305.0	no
21-Sep-09	0.60	306.46	305.3	no	305.0	no
22-Sep-09	0.60	306.46	305.3	no	305.0	no
23-Sep-09	0.57	306.43	305.3	no	305.0	no
24-Sep-09	0.57	306.43	305.3	no	305.0	no
25-Sep-09	0.54	306.40	305.3	no	305.0	no
26-Sep-09	0.54	306.40	305.3	no	305.0	no
27-Sep-09	0.54	306.40	305.3	no	305.0	no
28-Sep-09	0.52	306.38	305.3	no	305.0	no
29-Sep-09	0.52	306.38	305.3	no	305.0	no
30-Sep-09	0.52	306.38	305.3	no	305.0	no
1-Oct-09	0.52	306.38	305.3	no	305.0	no
2-Oct-09	0.52	306.38	305.3	no	305.0	no
3-Oct-09	0.52	306.38	305.3	no	305.0	no
4-Oct-09	0.52	306.38	305.3	no	305.0	no
5-Oct-09	0.50	306.36	305.3	no	305.0	no
6-Oct-09	0.50	306.36	305.3	no	305.0	no
7-Oct-09	0.49	306.35	305.3	no	305.0	no
8-Oct-09	0.50	306.36	305.3	no	305.0	no
9-Oct-09	0.49	306.35	305.3	no	305.0	no
10-Oct-09	0.49	306.35	305.3	no	305.0	no
11-Oct-09	0.49	306.35	305.3	no	305.0	no
12-Oct-09	0.49	306.35	305.3	no	305.0	no
13-Oct-09	0.49	306.35	305.3	no	305.0	no
14-Oct-09	0.49	306.35	305.3	no	305.0	no
15-Oct-09	0.49	306.35	305.3	no	305.0	no
16-Oct-09	0.49	306.35	305.3	no	305.0	no
17-Oct-09	0.49	306.35	305.3	no	305.0	no
18-Oct-09	0.49	306.35	305.3	no	305.0	no
19-Oct-09	0.47	306.33	305.3	no	305.0	no
20-Oct-09	0.48	306.34	305.3	no	305.0	no
21-Oct-09	0.47	306.33	305.3	no	305.0	no
22-Oct-09	0.49	306.35	305.3	no	305.0	no
23-Oct-09	0.49	306.35	305.3	no	305.0	no
24-Oct-09	0.49	306.35	305.3	no	305.0	no
25-Oct-09	0.49	306.35	305.3	no	305.0	no
26-Oct-09	0.49	306.35	305.3	no	305.0	no
27-Oct-09	0.47	306.33	305.3	no	305.0	no
28-Oct-09	0.47	306.33	305.3	no	305.0	no
29-Oct-09	0.47	306.33	305.3	no	305.0	no
30-Oct-09	0.46	306.32	305.3	no	305.0	no
31-Oct-09	0.46	306.32	305.3	no	305.0	no
1-Nov-09	0.47	306.33	305.3	no	305.0	no
2-Nov-09	0.46	306.32	305.3	no	305.0	no
3-Nov-09	0.46	306.32	305.3	no	305.0	no
4-Nov-09	0.47	306.33	305.3	no	305.0	no
5-Nov-09	0.47	306.33	305.3	no	305.0	no
6-Nov-09	0.47	306.33	305.3	no	305.0	no
7-Nov-09	0.47	306.33	305.3	no	305.0	no
8-Nov-09	0.47	306.33	305.3	no	305.0	no
9-Nov-09	0.45	306.31	305.3	no	305.0	no
10-Nov-09	0.45	306.31	305.3	no	305.0	no
11-Nov-09	0.45	306.31	305.3	no	305.0	no
12-Nov-09	0.44	306.30	305.3	no	305.0	no
13-Nov-09	0.46	306.32	305.3	no	305.0	no
14-Nov-09	0.46	306.32	305.3	no	305.0	no
15-Nov-09	0.46	306.32	305.3	no	305.0	no
16-Nov-09	0.44	306.30	305.3	no	305.0	no
17-Nov-09	0.43	306.29	305.3	no	305.0	no
18-Nov-09	0.43	306.29	305.3	no	305.0	no
19-Nov-09	0.43	306.29	305.3	no	305.0	no
20-Nov-09	0.43	306.29	305.3	no	305.0	no
21-Nov-09	0.43	306.29	305.3	no	305.0	no
22-Nov-09	0.43	306.29	305.3	no	305.0	no
23-Nov-09	0.43	306.29	305.3	no	305.0	no
24-Nov-09	0.41	306.27	305.3	no	305.0	no
25-Nov-09	0.41	306.27	305.3	no	305.0	no

Table G-8
Threshold Summary - Phase 2 Pond
Mill Creek Aggregates Pit

Date	Gauge Reading Phase 2 Pond (m)	Water Elevation Phase 2 Pond (m ASL)	Early Warning Value (m ASL)	Exceedance of Early Warning Value	Threshold Value (Min) (m ASL)	Exceedance of Threshold Value
26-Nov-09	0.41	306.27	305.3	no	305.0	no
27-Nov-09	0.41	306.27	305.3	no	305.0	no
28-Nov-09	0.41	306.27	305.3	no	305.0	no
29-Nov-09	0.41	306.27	305.3	no	305.0	no
30-Nov-09	0.41	306.27	305.3	no	305.0	no
1-Dec-09	0.41	306.27	305.3	no	305.0	no
2-Dec-09	0.41	306.27	305.3	no	305.0	no
3-Dec-09	0.41	306.27	305.3	no	305.0	no
4-Dec-09	0.41	306.27	305.3	no	305.0	no
5-Dec-09	0.41	306.27	305.3	no	305.0	no
6-Dec-09	0.41	306.27	305.3	no	305.0	no
7-Dec-09	0.41	306.27	305.3	no	305.0	no
8-Dec-09	0.41	306.27	305.3	no	305.0	no
9-Dec-09	0.41	306.27	305.3	no	305.0	no
10-Dec-09	0.41	306.27	305.3	no	305.0	no
11-Dec-09	0.41	306.27	305.3	no	305.0	no
12-Dec-09	0.41	306.27	305.3	no	305.0	no
13-Dec-09	0.41	306.27	305.3	no	305.0	no
14-Dec-09	0.41	306.27	305.3	no	305.0	no
15-Dec-09	0.41	306.27	305.3	no	305.0	no
16-Dec-09	0.41	306.27	305.3	no	305.0	no
17-Dec-09	0.41	306.27	305.3	no	305.0	no
18-Dec-09	0.41	306.27	305.3	no	305.0	no
19-Dec-09	0.41	306.27	305.3	no	305.0	no
20-Dec-09	0.41	306.27	305.3	no	305.0	no
21-Dec-09	0.41	306.27	305.3	no	305.0	no
22-Dec-09	0.41	306.27	305.3	no	305.0	no
23-Dec-09	0.41	306.27	305.3	no	305.0	no
24-Dec-09	0.41	306.27	305.3	no	305.0	no
25-Dec-09	0.41	306.27	305.3	no	305.0	no
26-Dec-09	0.41	306.27	305.3	no	305.0	no
27-Dec-09	0.41	306.27	305.3	no	305.0	no
28-Dec-09	0.41	306.27	305.3	no	305.0	no
29-Dec-09	0.41	306.27	305.3	no	305.0	no
30-Dec-09	0.41	306.27	305.3	no	305.0	no
31-Dec-09	0.41	306.27	305.3	no	305.0	no
1-Jan-10	0.41	306.27	305.3	no	305.0	no
2-Jan-10	0.41	306.27	305.3	no	305.0	no
3-Jan-10	0.41	306.27	305.3	no	305.0	no
4-Jan-10	0.41	306.27	305.3	no	305.0	no
5-Jan-10	0.41	306.27	305.3	no	305.0	no
6-Jan-10	0.41	306.27	305.3	no	305.0	no
7-Jan-10	0.41	306.27	305.3	no	305.0	no
8-Jan-10	0.41	306.27	305.3	no	305.0	no
9-Jan-10	0.41	306.27	305.3	no	305.0	no
10-Jan-10	0.41	306.27	305.3	no	305.0	no
11-Jan-10	0.41	306.27	305.3	no	305.0	no
12-Jan-10	0.41	306.27	305.3	no	305.0	no
13-Jan-10	0.41	306.27	305.3	no	305.0	no
14-Jan-10	0.41	306.27	305.3	no	305.0	no
15-Jan-10	0.41	306.27	305.3	no	305.0	no
16-Jan-10	0.41	306.27	305.3	no	305.0	no
17-Jan-10	0.41	306.27	305.3	no	305.0	no
18-Jan-10	0.41	306.27	305.3	no	305.0	no
19-Jan-10	0.41	306.27	305.3	no	305.0	no
20-Jan-10	0.41	306.27	305.3	no	305.0	no
21-Jan-10	0.41	306.27	305.3	no	305.0	no
22-Jan-10	0.41	306.27	305.3	no	305.0	no
23-Jan-10	0.41	306.27	305.3	no	305.0	no
24-Jan-10	0.41	306.27	305.3	no	305.0	no
25-Jan-10	0.41	306.27	305.3	no	305.0	no
26-Jan-10	0.41	306.27	305.3	no	305.0	no
27-Jan-10	0.41	306.27	305.3	no	305.0	no
28-Jan-10	0.41	306.27	305.3	no	305.0	no
29-Jan-10	0.41	306.27	305.3	no	305.0	no
30-Jan-10	0.41	306.27	305.3	no	305.0	no
31-Jan-10	0.41	306.27	305.3	no	305.0	no
1-Feb-10	0.41	306.27	305.3	no	305.0	no
2-Feb-10	0.41	306.27	305.3	no	305.0	no
3-Feb-10	0.41	306.27	305.3	no	305.0	no
4-Feb-10	0.41	306.27	305.3	no	305.0	no
5-Feb-10	0.41	306.27	305.3	no	305.0	no
6-Feb-10	0.41	306.27	305.3	no	305.0	no
7-Feb-10	0.41	306.27	305.3	no	305.0	no
8-Feb-10	0.41	306.27	305.3	no	305.0	no
9-Feb-10	0.41	306.27	305.3	no	305.0	no
10-Feb-10	0.41	306.27	305.3	no	305.0	no
11-Feb-10	0.41	306.27	305.3	no	305.0	no
12-Feb-10	0.41	306.27	305.3	no	305.0	no
13-Feb-10	0.41	306.27	305.3	no	305.0	no
14-Feb-10	0.41	306.27	305.3	no	305.0	no
15-Feb-10	0.41	306.27	305.3	no	305.0	no
16-Feb-10	0.41	306.27	305.3	no	305.0	no
17-Feb-10	0.41	306.27	305.3	no	305.0	no
18-Feb-10	0.41	306.27	305.3	no	305.0	no
19-Feb-10	0.41	306.27	305.3	no	305.0	no
20-Feb-10	0.41	306.27	305.3	no	305.0	no
21-Feb-10	0.41	306.27	305.3	no	305.0	no
22-Feb-10	0.41	306.27	305.3	no	305.0	no
23-Feb-10	0.41	306.27	305.3	no	305.0	no
24-Feb-10	0.41	306.27	305.3	no	305.0	no
25-Feb-10	0.41	306.27	305.3	no	305.0	no
26-Feb-10	0.41	306.27	305.3	no	305.0	no
27-Feb-10	0.41	306.27	305.3	no	305.0	no
28-Feb-10	0.41	306.27	305.3	no	305.0	no
1-Mar-10	0.41	306.27	305.3	no	305.0	no
2-Mar-10	0.41	306.27	305.3	no	305.0	no
3-Mar-10	0.41	306.27	305.3	no	305.0	no
4-Mar-10	0.41	306.27	305.3	no	305.0	no
5-Mar-10	0.41	306.27	305.3	no	305.0	no
6-Mar-10	0.41	306.27	305.3	no	305.0	no
7-Mar-10	0.41	306.27	305.3	no	305.0	no
8-Mar-10	0.41	306.27	305.3	no	305.0	no
9-Mar-10	0.41	306.27	305.3	no	305.0	no
10-Mar-10	0.41	306.27	305.3	no	305.0	no
11-Mar-10	0.41	306.27	305.3	no	305.0	no
12-Mar-10	0.41	306.27	305.3	no	305.0	no
13-Mar-10	0.41	306.27	305.3	no	305.0	no
14-Mar-10	0.41	306.27	305.3	no	305.0	no
15-Mar-10	0.41	306.27	305.3	no	305.0	no
16-Mar-10	0.41	306.27	305.3	no	305.0	no
17-Mar-10	0.41	306.27	305.3	no	305.0	no
18-Mar-10	0.41	306.27	305.3	no	305.0	no
19-Mar-10	0.41	306.27	305.3	no	305.0	no
20-Mar-10	0.41	306.27	305.3	no	305.0	no
21-Mar-10	0.41	306.27	305.3	no	305.0	no
22-Mar-10	0.41	306.27	305.3	no	305.0	no
23-Mar-10	0.41	306.27	305.3	no	305.0	no
24-Mar-10	0.23	306.29	305.3	no	305.0	no
25-Mar-10	0.23	306.29	305.3	no	305.0	no
26-Mar-10	0.24	306.30	305.3	no	305.0	no
27-Mar-10	0.24	306.30	305.3	no	305.0	no
28-Mar-10	0.24	306.30	305.3	no	305.0	no
29-Mar-10	0.24	306.30	305.3	no	305.0	no
30-Mar-10	0.24	306.30	305.3	no	305.0	no
31-Mar-10	0.24	306.30	305.3	no	305.0	no

Table G-8
Threshold Summary - Phase 2 Pond
Mill Creek Aggregates Pit

Date	Gauge Reading Phase 2 Pond (m)	Water Elevation Phase 2 Pond (m ASL)	Early Warning Value (m ASL)	Exceedance of Early Warning Value	Threshold Value (Min) (m ASL)	Exceedance of Threshold Value
1-Apr-10	0.41	306.47	305.3	no	305.0	no
2-Apr-10	0.42	306.48	305.3	no	305.0	no
3-Apr-10	0.42	306.48	305.3	no	305.0	no
4-Apr-10	0.42	306.48	305.3	no	305.0	no
5-Apr-10	0.42	306.48	305.3	no	305.0	no
6-Apr-10	0.43	306.49	305.3	no	305.0	no
7-Apr-10	0.44	306.50	305.3	no	305.0	no
8-Apr-10	0.44	306.50	305.3	no	305.0	no
9-Apr-10	0.45	306.51	305.3	no	305.0	no
10-Apr-10	0.45	306.51	305.3	no	305.0	no
11-Apr-10	0.45	306.51	305.3	no	305.0	no
12-Apr-10	0.46	306.52	305.3	no	305.0	no
13-Apr-10	0.46	306.52	305.3	no	305.0	no
14-Apr-10	0.44	306.50	305.3	no	305.0	no
15-Apr-10	0.44	306.50	305.3	no	305.0	no
16-Apr-10	0.44	306.50	305.3	no	305.0	no
17-Apr-10	0.44	306.50	305.3	no	305.0	no
18-Apr-10	0.44	306.50	305.3	no	305.0	no
19-Apr-10	0.43	306.49	305.3	no	305.0	no
20-Apr-10	0.44	306.50	305.3	no	305.0	no
21-Apr-10	0.44	306.50	305.3	no	305.0	no
22-Apr-10	0.44	306.50	305.3	no	305.0	no
23-Apr-10	0.43	306.49	305.3	no	305.0	no
24-Apr-10	0.43	306.49	305.3	no	305.0	no
25-Apr-10	0.43	306.49	305.3	no	305.0	no
26-Apr-10	0.43	306.49	305.3	no	305.0	no
27-Apr-10	0.42	306.48	305.3	no	305.0	no
28-Apr-10	0.42	306.48	305.3	no	305.0	no
29-Apr-10	0.41	306.47	305.3	no	305.0	no
30-Apr-10	0.40	306.46	305.3	no	305.0	no
1-May-10	0.40	306.46	305.3	no	305.0	no
2-May-10	0.40	306.46	305.3	no	305.0	no
3-May-10	0.39	306.45	305.3	no	305.0	no
4-May-10	0.39	306.45	305.3	no	305.0	no
5-May-10	0.38	306.44	305.3	no	305.0	no
6-May-10	0.39	306.45	305.3	no	305.0	no
7-May-10	0.39	306.45	305.3	no	305.0	no
8-May-10	0.39	306.45	305.3	no	305.0	no
9-May-10	0.39	306.45	305.3	no	305.0	no
10-May-10	0.39	306.45	305.3	no	305.0	no
11-May-10	0.36	306.42	305.3	no	305.0	no
12-May-10	0.41	306.47	305.3	no	305.0	no
13-May-10	0.38	306.44	305.3	no	305.0	no
14-May-10	0.38	306.44	305.3	no	305.0	no
15-May-10	0.38	306.44	305.3	no	305.0	no
16-May-10	0.38	306.44	305.3	no	305.0	no
17-May-10	0.40	306.46	305.3	no	305.0	no
18-May-10	0.39	306.45	305.3	no	305.0	no
19-May-10	0.39	306.45	305.3	no	305.0	no
20-May-10	0.37	306.43	305.3	no	305.0	no
21-May-10	0.36	306.42	305.3	no	305.0	no
22-May-10	0.36	306.42	305.3	no	305.0	no
23-May-10	0.36	306.42	305.3	no	305.0	no
24-May-10	0.36	306.42	305.3	no	305.0	no
25-May-10	0.38	306.44	305.3	no	305.0	no
26-May-10	0.38	306.44	305.3	no	305.0	no
27-May-10	0.38	306.44	305.3	no	305.0	no
28-May-10	0.35	306.41	305.3	no	305.0	no
29-May-10	0.35	306.41	305.3	no	305.0	no
30-May-10	0.35	306.41	305.3	no	305.0	no
31-May-10	0.35	306.41	305.3	no	305.0	no
1-Jun-10	0.34	306.40	305.3	no	305.0	no
2-Jun-10	0.34	306.40	305.3	no	305.0	no
3-Jun-10	0.32	306.38	305.3	no	305.0	no
4-Jun-10	0.45	306.51	305.3	no	305.0	no
5-Jun-10	0.45	306.51	305.3	no	305.0	no
6-Jun-10	0.45	306.51	305.3	no	305.0	no
7-Jun-10	0.39	306.45	305.3	no	305.0	no
8-Jun-10	0.38	306.44	305.3	no	305.0	no
9-Jun-10	0.37	306.43	305.3	no	305.0	no
10-Jun-10	0.38	306.44	305.3	no	305.0	no
11-Jun-10	0.38	306.44	305.3	no	305.0	no
12-Jun-10	0.38	306.44	305.3	no	305.0	no
13-Jun-10	0.38	306.44	305.3	no	305.0	no
14-Jun-10	0.37	306.43	305.3	no	305.0	no
15-Jun-10	0.36	306.42	305.3	no	305.0	no
16-Jun-10	0.35	306.41	305.3	no	305.0	no
17-Jun-10	0.36	306.42	305.3	no	305.0	no
18-Jun-10	0.32	306.38	305.3	no	305.0	no
19-Jun-10	0.32	306.38	305.3	no	305.0	no
20-Jun-10	0.32	306.38	305.3	no	305.0	no
21-Jun-10	0.32	306.38	305.3	no	305.0	no
22-Jun-10	0.33	306.39	305.3	no	305.0	no
23-Jun-10	0.32	306.38	305.3	no	305.0	no
24-Jun-10	0.32	306.38	305.3	no	305.0	no
25-Jun-10	0.31	306.37	305.3	no	305.0	no
26-Jun-10	0.31	306.37	305.3	no	305.0	no
27-Jun-10	0.31	306.37	305.3	no	305.0	no
28-Jun-10	0.34	306.40	305.3	no	305.0	no
29-Jun-10	0.30	306.36	305.3	no	305.0	no
30-Jun-10	0.31	306.37	305.3	no	305.0	no
1-Jul-10	0.31	306.37	305.3	no	305.0	no
2-Jul-10	0.30	306.36	305.3	no	305.0	no
3-Jul-10	0.30	306.36	305.3	no	305.0	no
4-Jul-10	0.30	306.36	305.3	no	305.0	no
5-Jul-10	0.29	306.35	305.3	no	305.0	no
6-Jul-10	0.29	306.35	305.3	no	305.0	no
7-Jul-10	0.28	306.34	305.3	no	305.0	no
8-Jul-10	0.37	306.43	305.3	no	305.0	no
9-Jul-10	0.28	306.34	305.3	no	305.0	no
10-Jul-10	0.28	306.34	305.3	no	305.0	no
11-Jul-10	0.28	306.34	305.3	no	305.0	no
12-Jul-10	0.28	306.34	305.3	no	305.0	no
13-Jul-10	0.29	306.35	305.3	no	305.0	no
14-Jul-10	0.29	306.35	305.3	no	305.0	no
15-Jul-10	0.29	306.35	305.3	no	305.0	no
16-Jul-10	0.28	306.34	305.3	no	305.0	no
17-Jul-10	0.28	306.34	305.3	no	305.0	no
18-Jul-10	0.28	306.34	305.3	no	305.0	no
19-Jul-10	0.35	306.41	305.3	no	305.0	no
20-Jul-10	0.32	306.38	305.3	no	305.0	no
21-Jul-10	0.21	306.27	305.3	no	305.0	no
22-Jul-10	0.20	306.26	305.3	no	305.0	no
23-Jul-10	0.28	306.34	305.3	no	305.0	no
24-Jul-10	0.28	306.34	305.3	no	305.0	no
25-Jul-10	0.28	306.34	305.3	no	305.0	no
26-Jul-10	0.29	306.35	305.3	no	305.0	no
27-Jul-10	0.29	306.35	305.3	no	305.0	no
28-Jul-10	0.29	306.35	305.3	no	305.0	no
29-Jul-10	0.27	306.33	305.3	no	305.0	no
30-Jul-10	0.26	306.32	305.3	no	305.0	no
31-Jul-10	0.26	306.32	305.3	no	305.0	no

Table G-8
Threshold Summary - Phase 2 Pond
Mill Creek Aggregates Pit

Date	Gauge Reading Phase 2 Pond (m)	Water Elevation Phase 2 Pond (m ASL)	Early Warning Value (m ASL)	Exceedance of Early Warning Value	Threshold Value (Min) (m ASL)	Exceedance of Threshold Value
1-Aug-10	0.26	306.32	305.3	no	305.0	no
2-Aug-10	0.26	306.32	305.3	no	305.0	no
3-Aug-10	0.27	306.33	305.3	no	305.0	no
4-Aug-10	0.25	306.31	305.3	no	305.0	no
5-Aug-10	0.25	306.31	305.3	no	305.0	no
6-Aug-10	0.25	306.31	305.3	no	305.0	no
7-Aug-10	0.25	306.31	305.3	no	305.0	no
8-Aug-10	0.25	306.31	305.3	no	305.0	no
9-Aug-10	0.24	306.30	305.3	no	305.0	no
10-Aug-10	0.20	306.26	305.3	no	305.0	no
11-Aug-10	0.30	306.36	305.3	no	305.0	no
12-Aug-10	0.19	306.25	305.3	no	305.0	no
13-Aug-10	0.19	306.25	305.3	no	305.0	no
14-Aug-10	0.19	306.25	305.3	no	305.0	no
15-Aug-10	0.19	306.25	305.3	no	305.0	no
16-Aug-10	0.20	306.26	305.3	no	305.0	no
17-Aug-10	0.19	306.25	305.3	no	305.0	no
18-Aug-10	0.18	306.24	305.3	no	305.0	no
19-Aug-10	0.18	306.24	305.3	no	305.0	no
20-Aug-10	0.16	306.22	305.3	no	305.0	no
21-Aug-10	0.16	306.22	305.3	no	305.0	no
22-Aug-10	0.16	306.22	305.3	no	305.0	no
23-Aug-10	0.17	306.23	305.3	no	305.0	no
24-Aug-10	0.17	306.23	305.3	no	305.0	no
25-Aug-10	0.17	306.23	305.3	no	305.0	no
26-Aug-10	0.17	306.23	305.3	no	305.0	no
27-Aug-10	0.11	306.17	305.3	no	305.0	no
28-Aug-10	0.11	306.17	305.3	no	305.0	no
29-Aug-10	0.11	306.17	305.3	no	305.0	no
30-Aug-10	0.13	306.19	305.3	no	305.0	no
31-Aug-10	0.13	306.19	305.3	no	305.0	no
1-Sep-10	0.12	306.18	305.3	no	305.0	no
2-Sep-10	0.12	306.18	305.3	no	305.0	no
3-Sep-10	0.12	306.18	305.3	no	305.0	no
4-Sep-10	0.12	306.18	305.3	no	305.0	no
5-Sep-10	0.12	306.18	305.3	no	305.0	no
6-Sep-10	0.12	306.18	305.3	no	305.0	no
7-Sep-10	0.12	306.18	305.3	no	305.0	no
8-Sep-10	0.10	306.16	305.3	no	305.0	no
9-Sep-10	0.10	306.16	305.3	no	305.0	no
10-Sep-10	0.10	306.16	305.3	no	305.0	no
11-Sep-10	0.10	306.16	305.3	no	305.0	no
12-Sep-10	0.10	306.16	305.3	no	305.0	no
13-Sep-10	0.09	306.15	305.3	no	305.0	no
14-Sep-10	0.09	306.15	305.3	no	305.0	no
15-Sep-10	0.08	306.14	305.3	no	305.0	no
16-Sep-10	0.08	306.14	305.3	no	305.0	no
17-Sep-10	0.09	306.15	305.3	no	305.0	no
18-Sep-10	0.09	306.15	305.3	no	305.0	no
19-Sep-10	0.10	306.16	305.3	no	305.0	no
20-Sep-10	0.05	306.11	305.3	no	305.0	no
21-Sep-10	0.08	306.14	305.3	no	305.0	no
22-Sep-10	0.08	306.14	305.3	no	305.0	no
23-Sep-10	0.08	306.14	305.3	no	305.0	no
24-Sep-10	0.08	306.14	305.3	no	305.0	no
25-Sep-10	0.08	306.14	305.3	no	305.0	no
26-Sep-10	0.08	306.14	305.3	no	305.0	no
27-Sep-10	0.08	306.14	305.3	no	305.0	no
28-Sep-10	0.00	306.06	305.3	no	305.0	no
29-Sep-10	0.03	306.09	305.3	no	305.0	no
30-Sep-10	0.02	306.08	305.3	no	305.0	no
1-Oct-10	0.01	306.07	305.3	no	305.0	no
2-Oct-10	0.01	306.07	305.3	no	305.0	no
3-Oct-10	0.01	306.07	305.3	no	305.0	no
4-Oct-10	0.00	306.06	305.3	no	305.0	no
5-Oct-10	0.00	306.06	305.3	no	305.0	no
6-Oct-10	0.00	306.06	305.3	no	305.0	no
7-Oct-10	0.00	306.06	305.3	no	305.0	no
8-Oct-10	0.02	306.08	305.3	no	305.0	no
9-Oct-10	0.02	306.08	305.3	no	305.0	no
10-Oct-10	0.02	306.08	305.3	no	305.0	no
11-Oct-10	0.02	306.08	305.3	no	305.0	no
12-Oct-10	0.01	306.07	305.3	no	305.0	no
13-Oct-10	0.00	306.06	305.3	no	305.0	no
14-Oct-10	0.00	306.06	305.3	no	305.0	no
15-Oct-10	0.00	306.06	305.3	no	305.0	no
16-Oct-10	0.00	306.06	305.3	no	305.0	no
17-Oct-10	-0.01	306.05	305.3	no	305.0	no
18-Oct-10	-0.02	306.04	305.3	no	305.0	no
19-Oct-10	-0.02	306.04	305.3	no	305.0	no
20-Oct-10	-0.02	306.04	305.3	no	305.0	no
21-Oct-10	-0.03	306.03	305.3	no	305.0	no
22-Oct-10	-0.03	306.03	305.3	no	305.0	no
23-Oct-10	-0.03	306.03	305.3	no	305.0	no
24-Oct-10	-0.03	306.03	305.3	no	305.0	no
25-Oct-10	-0.04	306.02	305.3	no	305.0	no
26-Oct-10	-0.04	306.02	305.3	no	305.0	no
27-Oct-10	-0.04	306.02	305.3	no	305.0	no
28-Oct-10	-0.03	306.03	305.3	no	305.0	no
29-Oct-10	-0.03	306.03	305.3	no	305.0	no
30-Oct-10	-0.03	306.03	305.3	no	305.0	no
31-Oct-10	-0.03	306.03	305.3	no	305.0	no
1-Nov-10	-0.01	306.05	305.3	no	305.0	no
2-Nov-10	-0.01	306.05	305.3	no	305.0	no
3-Nov-10	-0.01	306.05	305.3	no	305.0	no
4-Nov-10	-0.02	306.04	305.3	no	305.0	no
5-Nov-10	-0.03	306.03	305.3	no	305.0	no
6-Nov-10	-0.03	306.03	305.3	no	305.0	no
7-Nov-10	-0.03	306.03	305.3	no	305.0	no
8-Nov-10	-0.03	306.03	305.3	no	305.0	no
9-Nov-10	-0.04	306.02	305.3	no	305.0	no
10-Nov-10	-0.03	306.03	305.3	no	305.0	no
11-Nov-10	-0.03	306.03	305.3	no	305.0	no
12-Nov-10	-0.02	306.04	305.3	no	305.0	no
13-Nov-10	-0.02	306.04	305.3	no	305.0	no
14-Nov-10	-0.02	306.04	305.3	no	305.0	no
15-Nov-10	-0.03	306.03	305.3	no	305.0	no
16-Nov-10	-0.04	306.02	305.3	no	305.0	no
17-Nov-10	-0.04	306.02	305.3	no	305.0	no
18-Nov-10	-0.04	306.02	305.3	no	305.0	no
19-Nov-10	-0.04	306.02	305.3	no	305.0	no
20-Nov-10	-0.04	306.02	305.3	no	305.0	no
21-Nov-10	-0.04	306.02	305.3	no	305.0	no
22-Nov-10	-0.02	306.04	305.3	no	305.0	no
23-Nov-10	-0.02	306.04	305.3	no	305.0	no
24-Nov-10	-0.03	306.03	305.3	no	305.0	no
25-Nov-10	-0.04	306.02	305.3	no	305.0	no
26-Nov-10	-0.04	306.02	305.3	no	305.0	no
27-Nov-10	-0.04	306.02	305.3	no	305.0	no
28-Nov-10	-0.04	306.02	305.3	no	305.0	no
29-Nov-10	-0.04	306.02	305.3	no	305.0	no
30-Nov-10	-0.04	306.02	305.3	no	305.0	no

Table G-8
Threshold Summary - Phase 2 Pond
Mill Creek Aggregates Pit

Date	Gauge Reading Phase 2 Pond (m)	Water Elevation Phase 2 Pond (m ASL)	Early Warning Value (m ASL)	Exceedance of Early Warning Value	Threshold Value (Min) (m ASL)	Exceedance of Threshold Value
1-Dec-10	-0.04	306.02	305.3	no	305.0	no
2-Dec-10	-0.04	306.02	305.3	no	305.0	no
3-Dec-10	-0.04	306.02	305.3	no	305.0	no
4-Dec-10	-0.04	306.02	305.3	no	305.0	no
5-Dec-10	-0.04	306.02	305.3	no	305.0	no
6-Dec-10	-0.04	306.02	305.3	no	305.0	no
7-Dec-10	-0.04	306.02	305.3	no	305.0	no
8-Dec-10	-0.04	306.02	305.3	no	305.0	no
9-Dec-10	-0.04	306.02	305.3	no	305.0	no
10-Dec-10	-0.04	306.02	305.3	no	305.0	no
11-Dec-10	-0.04	306.02	305.3	no	305.0	no
12-Dec-10	-0.04	306.02	305.3	no	305.0	no
13-Dec-10	-0.04	306.02	305.3	no	305.0	no
14-Dec-10	-0.04	306.02	305.3	no	305.0	no
15-Dec-10	-0.04	306.02	305.3	no	305.0	no
16-Dec-10	-0.04	306.02	305.3	no	305.0	no
17-Dec-10	-0.04	306.02	305.3	no	305.0	no
18-Dec-10	-0.04	306.02	305.3	no	305.0	no
19-Dec-10	-0.04	306.02	305.3	no	305.0	no
20-Dec-10	-0.04	306.02	305.3	no	305.0	no
21-Dec-10	-0.04	306.02	305.3	no	305.0	no
22-Dec-10	-0.04	306.02	305.3	no	305.0	no
23-Dec-10	-0.04	306.02	305.3	no	305.0	no
24-Dec-10	-0.04	306.02	305.3	no	305.0	no
25-Dec-10	-0.04	306.02	305.3	no	305.0	no
26-Dec-10	-0.04	306.02	305.3	no	305.0	no
27-Dec-10	-0.04	306.02	305.3	no	305.0	no
28-Dec-10	-0.04	306.02	305.3	no	305.0	no
29-Dec-10	-0.04	306.02	305.3	no	305.0	no
30-Dec-10	-0.04	306.02	305.3	no	305.0	no
31-Dec-10	-0.04	306.02	305.3	no	305.0	no
1-Jan-11	-0.04	306.02	305.3	no	305.0	no
2-Jan-11	-0.04	306.02	305.3	no	305.0	no
3-Jan-11	-0.04	306.02	305.3	no	305.0	no
4-Jan-11	-0.04	306.02	305.3	no	305.0	no
5-Jan-11	-0.04	306.02	305.3	no	305.0	no
6-Jan-11	-0.04	306.02	305.3	no	305.0	no
7-Jan-11	-0.04	306.02	305.3	no	305.0	no
8-Jan-11	-0.04	306.02	305.3	no	305.0	no
9-Jan-11	-0.04	306.02	305.3	no	305.0	no
10-Jan-11	-0.04	306.02	305.3	no	305.0	no
11-Jan-11	-0.04	306.02	305.3	no	305.0	no
12-Jan-11	-0.04	306.02	305.3	no	305.0	no
13-Jan-11	-0.04	306.02	305.3	no	305.0	no
14-Jan-11	-0.04	306.02	305.3	no	305.0	no
15-Jan-11	-0.04	306.02	305.3	no	305.0	no
16-Jan-11	-0.04	306.02	305.3	no	305.0	no
17-Jan-11	-0.04	306.02	305.3	no	305.0	no
18-Jan-11	-0.04	306.02	305.3	no	305.0	no
19-Jan-11	-0.04	306.02	305.3	no	305.0	no
20-Jan-11	-0.04	306.02	305.3	no	305.0	no
21-Jan-11	-0.04	306.02	305.3	no	305.0	no
22-Jan-11	-0.04	306.02	305.3	no	305.0	no
23-Jan-11	-0.04	306.02	305.3	no	305.0	no
24-Jan-11	-0.04	306.02	305.3	no	305.0	no
25-Jan-11	-0.04	306.02	305.3	no	305.0	no
26-Jan-11	-0.04	306.02	305.3	no	305.0	no
27-Jan-11	-0.04	306.02	305.3	no	305.0	no
28-Jan-11	-0.04	306.02	305.3	no	305.0	no
29-Jan-11	-0.04	306.02	305.3	no	305.0	no
30-Jan-11	-0.04	306.02	305.3	no	305.0	no
31-Jan-11	-0.04	306.02	305.3	no	305.0	no
1-Feb-11	-0.04	306.02	305.3	no	305.0	no
2-Feb-11	-0.04	306.02	305.3	no	305.0	no
3-Feb-11	-0.04	306.02	305.3	no	305.0	no
4-Feb-11	-0.04	306.02	305.3	no	305.0	no
5-Feb-11	-0.04	306.02	305.3	no	305.0	no
6-Feb-11	-0.04	306.02	305.3	no	305.0	no
7-Feb-11	-0.04	306.02	305.3	no	305.0	no
8-Feb-11	-0.04	306.02	305.3	no	305.0	no
9-Feb-11	-0.04	306.02	305.3	no	305.0	no
10-Feb-11	-0.04	306.02	305.3	no	305.0	no
11-Feb-11	-0.04	306.02	305.3	no	305.0	no
12-Feb-11	-0.04	306.02	305.3	no	305.0	no
13-Feb-11	-0.04	306.02	305.3	no	305.0	no
14-Feb-11	-0.04	306.02	305.3	no	305.0	no
15-Feb-11	-0.04	306.02	305.3	no	305.0	no
16-Feb-11	-0.04	306.02	305.3	no	305.0	no
17-Feb-11	-0.04	306.02	305.3	no	305.0	no
18-Feb-11	-0.04	306.02	305.3	no	305.0	no
19-Feb-11	-0.04	306.02	305.3	no	305.0	no
20-Feb-11	-0.04	306.02	305.3	no	305.0	no
21-Feb-11	-0.04	306.02	305.3	no	305.0	no
22-Feb-11	-0.04	306.02	305.3	no	305.0	no
23-Feb-11	-0.04	306.02	305.3	no	305.0	no
24-Feb-11	-0.04	306.02	305.3	no	305.0	no
25-Feb-11	-0.04	306.02	305.3	no	305.0	no
26-Feb-11	-0.04	306.02	305.3	no	305.0	no
27-Feb-11	-0.04	306.02	305.3	no	305.0	no
28-Feb-11	-0.04	306.02	305.3	no	305.0	no
1-Mar-11	-0.04	306.02	305.3	no	305.0	no
2-Mar-11	-0.04	306.02	305.3	no	305.0	no
3-Mar-11	-0.04	306.02	305.3	no	305.0	no
4-Mar-11	-0.04	306.02	305.3	no	305.0	no
5-Mar-11	-0.04	306.02	305.3	no	305.0	no
6-Mar-11	-0.04	306.02	305.3	no	305.0	no
7-Mar-11	-0.04	306.02	305.3	no	305.0	no
8-Mar-11	-0.04	306.02	305.3	no	305.0	no
9-Mar-11	-0.04	306.02	305.3	no	305.0	no
10-Mar-11	-0.04	306.02	305.3	no	305.0	no
11-Mar-11	-0.04	306.02	305.3	no	305.0	no
12-Mar-11	-0.04	306.02	305.3	no	305.0	no
13-Mar-11	-0.04	306.02	305.3	no	305.0	no
14-Mar-11	-0.04	306.02	305.3	no	305.0	no
15-Mar-11	-0.04	306.02	305.3	no	305.0	no
16-Mar-11	-0.04	306.02	305.3	no	305.0	no
17-Mar-11	-0.04	306.02	305.3	no	305.0	no
18-Mar-11	-0.04	306.02	305.3	no	305.0	no
19-Mar-11	-0.04	306.02	305.3	no	305.0	no
20-Mar-11	-0.04	306.02	305.3	no	305.0	no
21-Mar-11	-0.04	306.02	305.3	no	305.0	no
22-Mar-11	-0.04	306.02	305.3	no	305.0	no
23-Mar-11	-0.04	306.02	305.3	no	305.0	no
24-Mar-11	-0.04	306.02	305.3	no	305.0	no
25-Mar-11	-0.04	306.02	305.3	no	305.0	no
26-Mar-11	-0.04	306.02	305.3	no	305.0	no
27-Mar-11	-0.04	306.02	305.3	no	305.0	no
28-Mar-11	-0.04	306.02	305.3	no	305.0	no
29-Mar-11	-0.04	306.02	305.3	no	305.0	no
30-Mar-11	-0.04	306.02	305.3	no	305.0	no
31-Mar-11	-0.04	306.02	305.3	no	305.0	no

Table G-8
Threshold Summary - Phase 2 Pond
Mill Creek Aggregates Pit

Date	Gauge Reading Phase 2 Pond (m)	Water Elevation Phase 2 Pond (m ASL)	Early Warning Value (m ASL)	Exceedance of Early Warning Value	Threshold Value (Min) (m ASL)	Exceedance of Threshold Value
11-Apr-11	0.85	306.29	305.3	no	305.0	no
12-Apr-11	0.84	306.28	305.3	no	305.0	no
13-Apr-11	0.83	306.27	305.3	no	305.0	no
14-Apr-11	0.83	306.27	305.3	no	305.0	no
15-Apr-11	0.79	306.23	305.3	no	305.0	no
16-Apr-11	0.79	306.23	305.3	no	305.0	no
17-Apr-11	0.79	306.23	305.3	no	305.0	no
18-Apr-11	0.82	306.26	305.3	no	305.0	no
19-Apr-11	0.85	306.29	305.3	no	305.0	no
20-Apr-11	0.87	306.31	305.3	no	305.0	no
21-Apr-11	0.85	306.29	305.3	no	305.0	no
22-Apr-11	0.85	306.29	305.3	no	305.0	no
23-Apr-11	0.85	306.29	305.3	no	305.0	no
24-Apr-11	0.85	306.29	305.3	no	305.0	no
25-Apr-11	0.90	306.34	305.3	no	305.0	no
26-Apr-11	0.92	306.36	305.3	no	305.0	no
27-Apr-11	0.90	306.34	305.3	no	305.0	no
28-Apr-11	0.94	306.38	305.3	no	305.0	no
29-Apr-11	0.94	306.38	305.3	no	305.0	no
30-Apr-11	0.94	306.38	305.3	no	305.0	no
1-May-11	0.94	306.38	305.3	no	305.0	no
2-May-11	0.98	306.42	305.3	no	305.0	no
3-May-11	0.97	306.41	305.3	no	305.0	no
4-May-11	0.98	306.42	305.3	no	305.0	no
5-May-11	0.98	306.42	305.3	no	305.0	no
6-May-11	0.98	306.42	305.3	no	305.0	no
7-May-11	0.98	306.42	305.3	no	305.0	no
8-May-11	0.98	306.42	305.3	no	305.0	no
9-May-11	1.02	306.46	305.3	no	305.0	no
10-May-11	1.02	306.46	305.3	no	305.0	no
11-May-11	1.02	306.46	305.3	no	305.0	no
12-May-11	1.02	306.46	305.3	no	305.0	no
13-May-11	1.02	306.46	305.3	no	305.0	no
14-May-11	1.02	306.46	305.3	no	305.0	no
15-May-11	1.02	306.46	305.3	no	305.0	no
16-May-11	0.98	306.42	305.3	no	305.0	no
17-May-11	1.02	306.46	305.3	no	305.0	no
18-May-11	1.02	306.46	305.3	no	305.0	no
19-May-11	1.02	306.46	305.3	no	305.0	no
20-May-11	1.02	306.46	305.3	no	305.0	no
21-May-11	1.02	306.46	305.3	no	305.0	no
22-May-11	1.02	306.46	305.3	no	305.0	no
23-May-11	1.02	306.46	305.3	no	305.0	no
24-May-11	1.04	306.48	305.3	no	305.0	no
25-May-11	1.04	306.48	305.3	no	305.0	no
26-May-11	1.03	306.47	305.3	no	305.0	no
27-May-11	1.03	306.47	305.3	no	305.0	no
28-May-11	1.03	306.47	305.3	no	305.0	no
29-May-11	1.03	306.47	305.3	no	305.0	no
30-May-11	1.02	306.46	305.3	no	305.0	no
31-May-11	1.02	306.46	305.3	no	305.0	no
1-Jun-11	1.02	306.46	305.3	no	305.0	no
2-Jun-11	1.02	306.46	305.3	no	305.0	no
3-Jun-11	1.02	306.46	305.3	no	305.0	no
4-Jun-11	1.02	306.46	305.3	no	305.0	no
5-Jun-11	1.02	306.46	305.3	no	305.0	no
6-Jun-11	1.02	306.46	305.3	no	305.0	no
7-Jun-11	1.02	306.46	305.3	no	305.0	no
8-Jun-11	1.02	306.46	305.3	no	305.0	no
9-Jun-11	1.02	306.46	305.3	no	305.0	no
10-Jun-11	1.02	306.46	305.3	no	305.0	no
11-Jun-11	1.02	306.46	305.3	no	305.0	no
12-Jun-11	1.02	306.46	305.3	no	305.0	no
13-Jun-11	1.02	306.46	305.3	no	305.0	no
14-Jun-11	1.02	306.46	305.3	no	305.0	no
15-Jun-11	1.02	306.46	305.3	no	305.0	no
16-Jun-11	1.02	306.46	305.3	no	305.0	no
17-Jun-11	1.02	306.46	305.3	no	305.0	no
18-Jun-11	1.02	306.46	305.3	no	305.0	no
19-Jun-11	1.02	306.46	305.3	no	305.0	no
20-Jun-11	1.02	306.46	305.3	no	305.0	no
21-Jun-11	1.02	306.46	305.3	no	305.0	no
22-Jun-11	1.02	306.46	305.3	no	305.0	no
23-Jun-11	1.02	306.46	305.3	no	305.0	no
24-Jun-11	1.02	306.46	305.3	no	305.0	no
25-Jun-11	1.02	306.46	305.3	no	305.0	no
26-Jun-11	1.02	306.46	305.3	no	305.0	no
27-Jun-11	1.02	306.46	305.3	no	305.0	no
28-Jun-11	1.02	306.46	305.3	no	305.0	no
29-Jun-11	1.02	306.46	305.3	no	305.0	no
30-Jun-11	1.02	306.46	305.3	no	305.0	no
1-Jul-11	1.02	306.46	305.3	no	305.0	no
2-Jul-11	1.02	306.46	305.3	no	305.0	no
3-Jul-11	1.02	306.46	305.3	no	305.0	no
4-Jul-11	1.02	306.46	305.3	no	305.0	no
5-Jul-11	1.02	306.46	305.3	no	305.0	no
6-Jul-11	1.02	306.46	305.3	no	305.0	no
7-Jul-11	1.02	306.46	305.3	no	305.0	no
8-Jul-11	1.02	306.46	305.3	no	305.0	no
9-Jul-11	1.02	306.46	305.3	no	305.0	no
10-Jul-11	1.02	306.46	305.3	no	305.0	no
11-Jul-11	1.02	306.46	305.3	no	305.0	no
12-Jul-11	1.02	306.46	305.3	no	305.0	no
13-Jul-11	1.02	306.46	305.3	no	305.0	no
14-Jul-11	1.02	306.46	305.3	no	305.0	no
15-Jul-11	1.02	306.46	305.3	no	305.0	no
16-Jul-11	1.02	306.46	305.3	no	305.0	no
17-Jul-11	1.02	306.46	305.3	no	305.0	no
18-Jul-11	1.02	306.46	305.3	no	305.0	no
19-Jul-11	1.02	306.46	305.3	no	305.0	no
20-Jul-11	1.02	306.46	305.3	no	305.0	no
21-Jul-11	1.02	306.46	305.3	no	305.0	no
22-Jul-11	1.02	306.46	305.3	no	305.0	no
23-Jul-11	1.02	306.46	305.3	no	305.0	no
24-Jul-11	1.02	306.46	305.3	no	305.0	no
25-Jul-11	1.02	306.46	305.3	no	305.0	no
26-Jul-11	1.02	306.46	305.3	no	305.0	no
27-Jul-11	1.02	306.46	305.3	no	305.0	no
28-Jul-11	1.02	306.46	305.3	no	305.0	no
29-Jul-11	1.02	306.46	305.3	no	305.0	no
30-Jul-11	1.02	306.46	305.3	no	305.0	no
31-Jul-11	1.02	306.46	305.3	no	305.0	no
1-Aug-11	1.02	306.46	305.3	no	305.0	no
2-Aug-11	1.02	306.46	305.3	no	305.0	no
3-Aug-11	0.58	306.45	305.3	no	305.0	no
4-Aug-11	0.58	306.45	305.3	no	305.0	no
5-Aug-11	0.57	306.44	305.3	no	305.0	no
6-Aug-11	0.57	306.44	305.3	no	305.0	no
7-Aug-11	0.57	306.44	305.3	no	305.0	no
8-Aug-11	0.58	306.45	305.3	no	305.0	no
9-Aug-11	0.57	306.44	305.3	no	305.0	no
10-Aug-11	0.57	306.44	305.3	no	305.0	no
11-Aug-11	0.57	306.44	305.3	no	305.0	no
12-Aug-11	0.55	306.42	305.3	no	305.0	no
13-Aug-11	0.55	306.42	305.3	no	305.0	no
14-Aug-11	0.55	306.42	305.3	no	305.0	no
15-Aug-11	0.53	306.40	305.3	no	305.0	no
16-Aug-11	0.52	306.39	305.3	no	305.0	no
17-Aug-11	0.52	306.39	305.3	no	305.0	no

Table G-8
Threshold Summary - Phase 2 Pond
Mill Creek Aggregates Pit

Date	Gauge Reading Phase 2 Pond (m)	Water Elevation Phase 2 Pond (m ASL)	Early Warning Value (m ASL)	Exceedance of Early Warning Value	Threshold Value (Min) (m ASL)	Exceedance of Threshold Value
18-Aug-11	0.51	306.38	305.3	no	305.0	no
19-Aug-11	0.50	306.37	305.3	no	305.0	no
20-Aug-11	0.50	306.37	305.3	no	305.0	no
21-Aug-11	0.50	306.37	305.3	no	305.0	no
22-Aug-11	0.48	306.35	305.3	no	305.0	no
23-Aug-11	0.48	306.35	305.3	no	305.0	no
24-Aug-11	0.48	306.35	305.3	no	305.0	no
25-Aug-11	0.49	306.36	305.3	no	305.0	no
26-Aug-11	0.47	306.34	305.3	no	305.0	no
27-Aug-11	0.47	306.34	305.3	no	305.0	no
28-Aug-11	0.47	306.34	305.3	no	305.0	no
29-Aug-11	0.45	306.32	305.3	no	305.0	no
30-Aug-11	0.45	306.32	305.3	no	305.0	no
31-Aug-11	0.43	306.30	305.3	no	305.0	no
1-Sep-11	0.43	306.30	305.3	no	305.0	no
2-Sep-11	0.40	306.27	305.3	no	305.0	no
3-Sep-11	0.40	306.27	305.3	no	305.0	no
4-Sep-11	0.40	306.27	305.3	no	305.0	no
5-Sep-11	0.40	306.27	305.3	no	305.0	no
6-Sep-11	0.41	306.28	305.3	no	305.0	no
7-Sep-11	0.40	306.27	305.3	no	305.0	no
8-Sep-11	0.40	306.27	305.3	no	305.0	no
9-Sep-11	0.39	306.26	305.3	no	305.0	no
10-Sep-11	0.39	306.26	305.3	no	305.0	no
11-Sep-11	0.39	306.26	305.3	no	305.0	no
12-Sep-11	0.36	306.23	305.3	no	305.0	no
13-Sep-11	0.36	306.23	305.3	no	305.0	no
14-Sep-11	0.35	306.22	305.3	no	305.0	no
15-Sep-11	0.35	306.22	305.3	no	305.0	no
16-Sep-11	0.35	306.22	305.3	no	305.0	no
17-Sep-11	0.35	306.22	305.3	no	305.0	no
18-Sep-11	0.35	306.22	305.3	no	305.0	no
19-Sep-11	0.30	306.17	305.3	no	305.0	no
20-Sep-11	0.34	306.21	305.3	no	305.0	no
21-Sep-11	0.34	306.21	305.3	no	305.0	no
22-Sep-11	0.34	306.21	305.3	no	305.0	no
23-Sep-11	0.34	306.21	305.3	no	305.0	no
24-Sep-11	0.34	306.21	305.3	no	305.0	no
25-Sep-11	0.34	306.21	305.3	no	305.0	no
26-Sep-11	0.33	306.20	305.3	no	305.0	no
27-Sep-11	0.33	306.20	305.3	no	305.0	no
28-Sep-11	0.35	306.22	305.3	no	305.0	no
29-Sep-11	0.34	306.21	305.3	no	305.0	no
30-Sep-11	0.32	306.19	305.3	no	305.0	no
1-Oct-11	0.32	306.19	305.3	no	305.0	no
2-Oct-11	0.32	306.19	305.3	no	305.0	no
3-Oct-11	0.32	306.19	305.3	no	305.0	no
4-Oct-11	0.30	306.17	305.3	no	305.0	no
5-Oct-11	0.30	306.17	305.3	no	305.0	no
6-Oct-11	0.30	306.17	305.3	no	305.0	no
7-Oct-11	0.28	306.15	305.3	no	305.0	no
8-Oct-11	0.28	306.15	305.3	no	305.0	no
9-Oct-11	0.28	306.15	305.3	no	305.0	no
10-Oct-11	0.28	306.15	305.3	no	305.0	no
11-Oct-11	0.26	306.13	305.3	no	305.0	no
12-Oct-11	0.25	306.12	305.3	no	305.0	no
13-Oct-11	0.26	306.13	305.3	no	305.0	no
14-Oct-11	0.29	306.16	305.3	no	305.0	no
15-Oct-11	0.29	306.16	305.3	no	305.0	no
16-Oct-11	0.29	306.16	305.3	no	305.0	no
17-Oct-11	0.29	306.16	305.3	no	305.0	no
18-Oct-11	0.29	306.16	305.3	no	305.0	no
19-Oct-11	0.29	306.16	305.3	no	305.0	no
20-Oct-11	0.30	306.17	305.3	no	305.0	no
21-Oct-11	0.30	306.17	305.3	no	305.0	no
22-Oct-11	0.30	306.17	305.3	no	305.0	no
23-Oct-11	0.30	306.17	305.3	no	305.0	no
24-Oct-11	0.30	306.17	305.3	no	305.0	no
25-Oct-11	0.30	306.17	305.3	no	305.0	no
26-Oct-11	0.30	306.17	305.3	no	305.0	no
27-Oct-11	0.30	306.17	305.3	no	305.0	no
28-Oct-11	0.30	306.17	305.3	no	305.0	no
29-Oct-11	0.30	306.17	305.3	no	305.0	no
30-Oct-11	0.30	306.17	305.3	no	305.0	no
31-Oct-11	0.29	306.16	305.3	no	305.0	no
1-Nov-11	0.29	306.16	305.3	no	305.0	no
2-Nov-11	0.29	306.16	305.3	no	305.0	no
3-Nov-11	0.29	306.16	305.3	no	305.0	no
4-Nov-11	0.29	306.16	305.3	no	305.0	no
5-Nov-11	0.29	306.16	305.3	no	305.0	no
6-Nov-11	0.29	306.16	305.3	no	305.0	no
7-Nov-11	0.24	306.11	305.3	no	305.0	no
8-Nov-11	0.24	306.11	305.3	no	305.0	no
9-Nov-11	0.24	306.11	305.3	no	305.0	no
10-Nov-11	0.22	306.09	305.3	no	305.0	no
11-Nov-11	0.20	306.07	305.3	no	305.0	no
12-Nov-11	0.20	306.07	305.3	no	305.0	no
13-Nov-11	0.20	306.07	305.3	no	305.0	no
14-Nov-11	0.22	306.09	305.3	no	305.0	no
15-Nov-11	0.30	306.17	305.3	no	305.0	no
16-Nov-11	0.30	306.17	305.3	no	305.0	no
17-Nov-11	0.30	306.17	305.3	no	305.0	no
18-Nov-11	0.30	306.17	305.3	no	305.0	no
19-Nov-11	0.30	306.17	305.3	no	305.0	no
20-Nov-11	0.30	306.17	305.3	no	305.0	no
21-Nov-11	0.30	306.17	305.3	no	305.0	no
22-Nov-11	0.30	306.17	305.3	no	305.0	no
23-Nov-11	0.30	306.17	305.3	no	305.0	no
24-Nov-11	0.31	306.18	305.3	no	305.0	no
25-Nov-11	0.31	306.18	305.3	no	305.0	no
26-Nov-11	0.31	306.18	305.3	no	305.0	no
27-Nov-11	0.31	306.18	305.3	no	305.0	no
28-Nov-11	0.30	306.17	305.3	no	305.0	no
29-Nov-11	0.29	306.16	305.3	no	305.0	no
30-Nov-11	0.29	306.16	305.3	no	305.0	no
1-Dec-11	0.28	306.15	305.3	no	305.0	no
2-Dec-11	0.28	306.15	305.3	no	305.0	no

Table G-8
Threshold Summary - Phase 2 Pond
Mill Creek Aggregates Pit

Date	Gauge Reading Phase 2 Pond (m)	Water Elevation Phase 2 Pond (m ASL)	Early Warning Value (m ASL)	Exceedance of Early Warning Value	Threshold Value (Min) (m ASL)	Exceedance of Threshold Value
1-Jan-12	0.29	306.16	305.3	no	305.0	no
2-Jan-12	0.29	306.16	305.3	no	305.0	no
3-Jan-12	0.29	306.16	305.3	no	305.0	no
4-Jan-12	0.29	306.16	305.3	no	305.0	no
5-Jan-12	0.29	306.16	305.3	no	305.0	no
6-Jan-12	0.29	306.16	305.3	no	305.0	no
7-Jan-12	0.29	306.16	305.3	no	305.0	no
8-Jan-12	0.29	306.16	305.3	no	305.0	no
9-Jan-12	0.29	306.16	305.3	no	305.0	no
10-Jan-12	0.29	306.16	305.3	no	305.0	no
11-Jan-12	0.29	306.16	305.3	no	305.0	no
12-Jan-12	0.29	306.16	305.3	no	305.0	no
13-Jan-12	0.29	306.16	305.3	no	305.0	no
14-Jan-12	0.29	306.16	305.3	no	305.0	no
15-Jan-12	0.29	306.16	305.3	no	305.0	no
16-Jan-12	0.29	306.16	305.3	no	305.0	no
17-Jan-12	0.29	306.16	305.3	no	305.0	no
18-Jan-12	0.29	306.16	305.3	no	305.0	no
19-Jan-12	0.29	306.16	305.3	no	305.0	no
20-Jan-12	0.29	306.16	305.3	no	305.0	no
21-Jan-12	0.29	306.16	305.3	no	305.0	no
22-Jan-12	0.29	306.16	305.3	no	305.0	no
23-Jan-12	0.29	306.16	305.3	no	305.0	no
24-Jan-12	0.29	306.16	305.3	no	305.0	no
25-Jan-12	0.29	306.16	305.3	no	305.0	no
26-Jan-12	0.29	306.16	305.3	no	305.0	no
27-Jan-12	0.29	306.16	305.3	no	305.0	no
28-Jan-12	0.29	306.16	305.3	no	305.0	no
29-Jan-12	0.29	306.16	305.3	no	305.0	no
30-Jan-12	0.29	306.16	305.3	no	305.0	no
31-Jan-12	0.29	306.16	305.3	no	305.0	no
1-Feb-12	0.29	306.16	305.3	no	305.0	no
2-Feb-12	0.29	306.16	305.3	no	305.0	no
3-Feb-12	0.29	306.16	305.3	no	305.0	no
4-Feb-12	0.29	306.16	305.3	no	305.0	no
5-Feb-12	0.29	306.16	305.3	no	305.0	no
6-Feb-12	0.29	306.16	305.3	no	305.0	no
7-Feb-12	0.29	306.16	305.3	no	305.0	no
8-Feb-12	0.29	306.16	305.3	no	305.0	no
9-Feb-12	0.29	306.16	305.3	no	305.0	no
10-Feb-12	0.29	306.16	305.3	no	305.0	no
11-Feb-12	0.29	306.16	305.3	no	305.0	no
12-Feb-12	0.29	306.16	305.3	no	305.0	no
13-Feb-12	0.29	306.16	305.3	no	305.0	no
14-Feb-12	0.29	306.16	305.3	no	305.0	no
15-Feb-12	0.29	306.16	305.3	no	305.0	no
16-Feb-12	0.29	306.16	305.3	no	305.0	no
17-Feb-12	0.29	306.16	305.3	no	305.0	no
18-Feb-12	0.29	306.16	305.3	no	305.0	no
19-Feb-12	0.29	306.16	305.3	no	305.0	no
20-Feb-12	0.29	306.16	305.3	no	305.0	no
21-Feb-12	0.29	306.16	305.3	no	305.0	no
22-Feb-12	0.29	306.16	305.3	no	305.0	no
23-Feb-12	0.29	306.16	305.3	no	305.0	no
24-Feb-12	0.29	306.16	305.3	no	305.0	no
25-Feb-12	0.29	306.16	305.3	no	305.0	no
26-Feb-12	0.29	306.16	305.3	no	305.0	no
27-Feb-12	0.29	306.16	305.3	no	305.0	no
28-Feb-12	0.29	306.16	305.3	no	305.0	no
29-Feb-12	0.29	306.16	305.3	no	305.0	no
1-Mar-12	0.29	306.16	305.3	no	305.0	no
2-Mar-12	0.29	306.16	305.3	no	305.0	no
3-Mar-12	0.29	306.16	305.3	no	305.0	no
4-Mar-12	0.29	306.16	305.3	no	305.0	no
5-Mar-12	0.29	306.16	305.3	no	305.0	no
6-Mar-12	0.29	306.16	305.3	no	305.0	no
7-Mar-12	0.29	306.16	305.3	no	305.0	no
8-Mar-12	0.29	306.16	305.3	no	305.0	no
9-Mar-12	0.29	306.16	305.3	no	305.0	no
10-Mar-12	0.29	306.16	305.3	no	305.0	no
11-Mar-12	0.29	306.16	305.3	no	305.0	no
12-Mar-12	0.29	306.16	305.3	no	305.0	no
13-Mar-12	0.29	306.16	305.3	no	305.0	no
14-Mar-12	0.29	306.16	305.3	no	305.0	no
15-Mar-12	0.29	306.16	305.3	no	305.0	no
16-Mar-12	0.29	306.16	305.3	no	305.0	no
17-Mar-12	0.29	306.16	305.3	no	305.0	no
18-Mar-12	0.29	306.16	305.3	no	305.0	no
19-Mar-12	0.29	306.16	305.3	no	305.0	no
20-Mar-12	0.29	306.16	305.3	no	305.0	no
21-Mar-12	0.29	306.16	305.3	no	305.0	no
22-Mar-12	0.68	306.45	305.3	no	305.0	no
23-Mar-12	0.68	306.45	305.3	no	305.0	no
24-Mar-12	0.68	306.45	305.3	no	305.0	no
25-Mar-12	0.68	306.45	305.3	no	305.0	no
26-Mar-12	0.68	306.45	305.3	no	305.0	no
27-Mar-12	0.69	306.46	305.3	no	305.0	no
28-Mar-12	0.67	306.44	305.3	no	305.0	no
29-Mar-12	0.68	306.45	305.3	no	305.0	no
30-Mar-12	0.67	306.44	305.3	no	305.0	no
31-Mar-12	0.67	306.44	305.3	no	305.0	no
1-Apr-12	0.67	306.44	305.3	no	305.0	no
2-Apr-12	0.66	306.43	305.3	no	305.0	no
3-Apr-12	0.67	306.44	305.3	no	305.0	no
4-Apr-12	0.66	306.43	305.3	no	305.0	no
5-Apr-12	0.66	306.43	305.3	no	305.0	no
9-Apr-12	0.66	306.43	305.3	no	305.0	no
10-Apr-12	0.67	306.44	305.3	no	305.0	no
11-Apr-12	0.62	306.39	305.3	no	305.0	no
12-Apr-12	0.60	306.37	305.3	no	305.0	no
13-Apr-12	0.60	306.37	305.3	no	305.0	no
14-Apr-12	0.60	306.37	305.3	no	305.0	no
15-Apr-12	0.60	306.37	305.3	no	305.0	no
16-Apr-12	0.62	306.39	305.3	no	305.0	no
17-Apr-12	0.62	306.39	305.3	no	305.0	no
18-Apr-12	0.61	306.38	305.3	no	305.0	no
19-Apr-12	0.61	306.38	305.3	no	305.0	no
20-Apr-12	0.60	306.37	305.3	no	305.0	no
21-Apr-12	0.60	306.37	305.3	no	305.0	no
22-Apr-12	0.60	306.37	305.3	no	305.0	no
23-Apr-12	0.60	306.37	305.3	no	305.0	no
24-Apr-12	0.60	306.37	305.3	no	305.0	no
25-Apr-12	0.60	306.37	305.3	no	305.0	no
26-Apr-12	0.60	306.37	305.3	no	305.0	no
27-Apr-12	0.60	306.37	305.3	no	305.0	no
28-Apr-12	0.60	306.37	305.3	no	305.0	no
29-Apr-12	0.60	306.37	305.3	no	305.0	no
30-Apr-12	0.57	306.35	305.3	no	305.0	no

Table G-8
Threshold Summary - Phase 2 Pond
Mill Creek Aggregates Pit

Date	Gauge Reading Phase 2 Pond (m)	Water Elevation Phase 2 Pond (m ASL)	Early Warning Value (m ASL)	Exceedance of Early Warning Value	Threshold Value (Min) (m ASL)	Exceedance of Threshold Value
1-May-12	0.58	306.36	305.3	no	305.0	no
2-May-12	0.57	306.35	305.3	no	305.0	no
3-May-12	0.58	306.36	305.3	no	305.0	no
4-May-12	0.60	306.37	305.3	no	305.0	no
5-May-12	0.60	306.37	305.3	no	305.0	no
6-May-12	0.60	306.37	305.3	no	305.0	no
7-May-12	0.58	306.36	305.3	no	305.0	no
8-May-12	0.58	306.36	305.3	no	305.0	no
9-May-12	0.60	306.37	305.3	no	305.0	no
10-May-12	0.60	306.37	305.3	no	305.0	no
11-May-12	0.60	306.37	305.3	no	305.0	no
12-May-12	0.60	306.37	305.3	no	305.0	no
13-May-12	0.60	306.37	305.3	no	305.0	no
14-May-12	0.57	306.35	305.3	no	305.0	no
15-May-12	0.57	306.35	305.3	no	305.0	no
16-May-12	0.56	306.34	305.3	no	305.0	no
17-May-12	0.56	306.34	305.3	no	305.0	no
18-May-12	0.56	306.34	305.3	no	305.0	no
19-May-12	0.56	306.34	305.3	no	305.0	no
20-May-12	0.56	306.34	305.3	no	305.0	no
21-May-12	0.55	306.32	305.3	no	305.0	no
22-May-12	0.55	306.32	305.3	no	305.0	no
23-May-12	0.55	306.32	305.3	no	305.0	no
24-May-12	0.57	306.35	305.3	no	305.0	no
25-May-12	0.57	306.35	305.3	no	305.0	no
26-May-12	0.57	306.35	305.3	no	305.0	no
27-May-12	0.57	306.35	305.3	no	305.0	no
28-May-12	0.52	306.30	305.3	no	305.0	no
29-May-12	0.52	306.30	305.3	no	305.0	no
30-May-12	0.50	306.28	305.3	no	305.0	no
31-May-12	0.50	306.27	305.3	no	305.0	no
1-Jun-12	0.49	306.26	305.3	no	305.0	no
2-Jun-12	0.49	306.26	305.3	no	305.0	no
3-Jun-12	0.49	306.26	305.3	no	305.0	no
4-Jun-12	0.50	306.27	305.3	no	305.0	no
5-Jun-12	0.50	306.27	305.3	no	305.0	no
6-Jun-12	0.50	306.27	305.3	no	305.0	no
7-Jun-12	0.50	306.27	305.3	no	305.0	no
8-Jun-12	0.50	306.27	305.3	no	305.0	no
9-Jun-12	0.50	306.27	305.3	no	305.0	no
10-Jun-12	0.50	306.27	305.3	no	305.0	no
11-Jun-12	0.50	306.27	305.3	no	305.0	no
12-Jun-12	0.50	306.27	305.3	no	305.0	no
13-Jun-12	0.48	306.25	305.3	no	305.0	no
14-Jun-12	0.45	306.23	305.3	no	305.0	no
15-Jun-12	0.45	306.23	305.3	no	305.0	no
16-Jun-12	0.45	306.23	305.3	no	305.0	no
17-Jun-12	0.45	306.23	305.3	no	305.0	no
18-Jun-12	0.42	306.19	305.3	no	305.0	no
19-Jun-12	0.42	306.19	305.3	no	305.0	no
20-Jun-12	0.42	306.19	305.3	no	305.0	no
21-Jun-12	0.42	306.19	305.3	no	305.0	no
22-Jun-12	0.42	306.19	305.3	no	305.0	no
23-Jun-12	0.42	306.19	305.3	no	305.0	no
24-Jun-12	0.42	306.19	305.3	no	305.0	no
25-Jun-12	0.43	306.20	305.3	no	305.0	no
26-Jun-12	0.39	306.17	305.3	no	305.0	no
27-Jun-12	0.39	306.17	305.3	no	305.0	no
28-Jun-12	0.41	306.18	305.3	no	305.0	no
29-Jun-12	0.41	306.18	305.3	no	305.0	no
30-Jun-12	0.41	306.18	305.3	no	305.0	no
1-Jul-12	0.41	306.18	305.3	no	305.0	no
2-Jul-12	0.41	306.18	305.3	no	305.0	no
3-Jul-12	0.38	306.16	305.3	no	305.0	no
4-Jul-12	0.38	306.16	305.3	no	305.0	no
5-Jul-12	0.38	306.16	305.3	no	305.0	no
6-Jul-12	0.38	306.16	305.3	no	305.0	no
7-Jul-12	0.38	306.16	305.3	no	305.0	no
8-Jul-12	0.38	306.16	305.3	no	305.0	no
9-Jul-12	0.36	306.13	305.3	no	305.0	no
10-Jul-12	0.35	306.12	305.3	no	305.0	no
11-Jul-12	0.33	306.11	305.3	no	305.0	no
12-Jul-12	0.32	306.10	305.3	no	305.0	no
13-Jul-12	0.31	306.09	305.3	no	305.0	no
14-Jul-12	0.31	306.09	305.3	no	305.0	no
15-Jul-12	0.31	306.09	305.3	no	305.0	no
16-Jul-12	0.31	306.09	305.3	no	305.0	no
17-Jul-12	0.30	306.07	305.3	no	305.0	no
18-Jul-12	0.30	306.07	305.3	no	305.0	no
19-Jul-12	0.29	306.06	305.3	no	305.0	no
20-Jul-12	0.27	306.05	305.3	no	305.0	no
21-Jul-12	0.27	306.05	305.3	no	305.0	no
22-Jul-12	0.27	306.05	305.3	no	305.0	no
23-Jul-12	0.26	306.04	305.3	no	305.0	no
24-Jul-12	0.25	306.03	305.3	no	305.0	no
25-Jul-12	0.25	306.02	305.3	no	305.0	no
26-Jul-12	0.25	306.02	305.3	no	305.0	no
27-Jul-12	0.25	306.02	305.3	no	305.0	no
28-Jul-12	0.25	306.02	305.3	no	305.0	no
29-Jul-12	0.25	306.02	305.3	no	305.0	no
30-Jul-12	0.25	306.02	305.3	no	305.0	no
31-Jul-12	0.25	306.02	305.3	no	305.0	no
1-Aug-12	0.19	305.97	305.3	no	305.0	no
2-Aug-12	0.19	305.97	305.3	no	305.0	no
3-Aug-12	0.19	305.97	305.3	no	305.0	no
4-Aug-12	0.19	305.97	305.3	no	305.0	no
5-Aug-12	0.19	305.97	305.3	no	305.0	no
6-Aug-12	0.19	305.97	305.3	no	305.0	no
7-Aug-12	0.18	305.95	305.3	no	305.0	no
8-Aug-12	0.18	305.95	305.3	no	305.0	no
9-Aug-12	0.18	305.95	305.3	no	305.0	no
10-Aug-12	0.18	305.95	305.3	no	305.0	no
11-Aug-12	0.18	305.95	305.3	no	305.0	no
12-Aug-12	0.18	305.95	305.3	no	305.0	no
13-Aug-12	0.19	305.97	305.3	no	305.0	no
14-Aug-12	0.19	305.97	305.3	no	305.0	no
15-Aug-12	0.19	305.97	305.3	no	305.0	no
16-Aug-12	0.19	305.97	305.3	no	305.0	no
17-Aug-12	0.19	305.97	305.3	no	305.0	no
18-Aug-12	0.19	305.97	305.3	no	305.0	no
19-Aug-12	0.19	305.97	305.3	no	305.0	no
20-Aug-12	0.16	305.93	305.3	no	305.0	no
21-Aug-12	0.14	305.92	305.3	no	305.0	no
22-Aug-12	0.13	305.91	305.3	no	305.0	no
23-Aug-12	0.13	305.91	305.3	no	305.0	no
24-Aug-12	0.13	305.90	305.3	no	305.0	no
25-Aug-12	0.13	305.90	305.3	no	305.0	no
26-Aug-12	0.13	305.90	305.3	no	305.0	no
27-Aug-12	0.13	305.90	305.3	no	305.0	no
28-Aug-12	0.10	305.87	305.3	no	305.0	no
29-Aug-12	0.10	305.87	305.3	no	305.0	no
30-Aug-12	0.10	305.87	305.3	no	305.0	no
31-Aug-12	0.08	305.86	305.3	no	305.0	no

Table G-8
Threshold Summary - Phase 2 Pond
Mill Creek Aggregates Pit

Date	Gauge Reading Phase 2 Pond (m)	Water Elevation Phase 2 Pond (m ASL)	Early Warning Value (m ASL)	Exceedance of Early Warning Value	Threshold Value (Min) (m ASL)	Exceedance of Threshold Value
1-Sep-12	0.08	305.86	305.3	no	305.0	no
2-Sep-12	0.08	305.86	305.3	no	305.0	no
3-Sep-12	0.08	305.86	305.3	no	305.0	no
4-Sep-12	0.05	305.82	305.3	no	305.0	no
5-Sep-12	0.07	305.85	305.3	no	305.0	no
6-Sep-12	0.06	305.84	305.3	no	305.0	no
7-Sep-12	0.06	305.83	305.3	no	305.0	no
8-Sep-12	0.06	305.83	305.3	no	305.0	no
9-Sep-12	0.06	305.83	305.3	no	305.0	no
10-Sep-12	0.07	305.85	305.3	no	305.0	no
11-Sep-12	0.07	305.85	305.3	no	305.0	no
12-Sep-12	0.07	305.85	305.3	no	305.0	no
13-Sep-12	0.07	305.85	305.3	no	305.0	no
14-Sep-12	0.07	305.85	305.3	no	305.0	no
15-Sep-12	0.07	305.85	305.3	no	305.0	no
16-Sep-12	0.07	305.85	305.3	no	305.0	no
17-Sep-12	0.04	305.81	305.3	no	305.0	no
18-Sep-12	0.04	305.81	305.3	no	305.0	no
19-Sep-12	0.05	305.82	305.3	no	305.0	no
20-Sep-12	0.04	305.81	305.3	no	305.0	no
21-Sep-12	0.05	305.82	305.3	no	305.0	no
22-Sep-12	0.05	305.82	305.3	no	305.0	no
23-Sep-12	0.05	305.82	305.3	no	305.0	no
24-Sep-12	0.05	305.82	305.3	no	305.0	no
25-Sep-12	0.04	305.81	305.3	no	305.0	no
26-Sep-12	0.06	305.83	305.3	no	305.0	no
27-Sep-12	0.06	305.83	305.3	no	305.0	no
28-Sep-12	0.04	305.81	305.3	no	305.0	no
29-Sep-12	0.04	305.81	305.3	no	305.0	no
30-Sep-12	0.04	305.81	305.3	no	305.0	no
1-Oct-12	0.02	305.80	305.3	no	305.0	no
2-Oct-12	0.02	305.80	305.3	no	305.0	no
3-Oct-12	0.04	305.81	305.3	no	305.0	no
4-Oct-12	0.04	305.81	305.3	no	305.0	no
5-Oct-12	0.02	305.80	305.3	no	305.0	no
6-Oct-12	0.02	305.80	305.3	no	305.0	no
7-Oct-12	0.02	305.80	305.3	no	305.0	no
8-Oct-12	0.01	305.79	305.3	no	305.0	no
9-Oct-12	0.01	305.79	305.3	no	305.0	no
10-Oct-12	0.00	305.78	305.3	no	305.0	no
11-Oct-12	0.00	305.78	305.3	no	305.0	no
12-Oct-12	0.00	305.78	305.3	no	305.0	no
13-Oct-12	0.00	305.78	305.3	no	305.0	no
14-Oct-12	0.00	305.78	305.3	no	305.0	no
15-Oct-12	-0.01	305.76	305.3	no	305.0	no
16-Oct-12	-0.01	305.76	305.3	no	305.0	no
17-Oct-12	-0.02	305.75	305.3	no	305.0	no
18-Oct-12	-0.02	305.75	305.3	no	305.0	no
19-Oct-12	-0.01	305.76	305.3	no	305.0	no
20-Oct-12	-0.01	305.76	305.3	no	305.0	no
21-Oct-12	-0.01	305.76	305.3	no	305.0	no
22-Oct-12	-0.03	305.74	305.3	no	305.0	no
23-Oct-12	-0.03	305.74	305.3	no	305.0	no
24-Oct-12	-0.02	305.75	305.3	no	305.0	no
25-Oct-12	-0.02	305.75	305.3	no	305.0	no
26-Oct-12	0.00	305.77	305.3	no	305.0	no
27-Oct-12	0.00	305.77	305.3	no	305.0	no
28-Oct-12	0.00	305.77	305.3	no	305.0	no
29-Oct-12	0.00	305.78	305.3	no	305.0	no
30-Oct-12	0.00	305.77	305.3	no	305.0	no
31-Oct-12	0.00	305.78	305.3	no	305.0	no
1-Nov-12	0.02	305.80	305.3	no	305.0	no
2-Nov-12	0.01	305.79	305.3	no	305.0	no
3-Nov-12	0.01	305.79	305.3	no	305.0	no
4-Nov-12	0.01	305.79	305.3	no	305.0	no
5-Nov-12	0.01	305.79	305.3	no	305.0	no
6-Nov-12	0.01	305.79	305.3	no	305.0	no
7-Nov-12	0.00	305.78	305.3	no	305.0	no
8-Nov-12	0.00	305.78	305.3	no	305.0	no
9-Nov-12	0.00	305.78	305.3	no	305.0	no
10-Nov-12	0.00	305.78	305.3	no	305.0	no
11-Nov-12	0.00	305.78	305.3	no	305.0	no
12-Nov-12	0.01	305.79	305.3	no	305.0	no
13-Nov-12	0.01	305.79	305.3	no	305.0	no
14-Nov-12	0.02	305.80	305.3	no	305.0	no
15-Nov-12	0.02	305.80	305.3	no	305.0	no
16-Nov-12	0.01	305.79	305.3	no	305.0	no
17-Nov-12	0.01	305.79	305.3	no	305.0	no
18-Nov-12	0.01	305.79	305.3	no	305.0	no
19-Nov-12	0.04	305.81	305.3	no	305.0	no
20-Nov-12	0.04	305.81	305.3	no	305.0	no
21-Nov-12	0.02	305.80	305.3	no	305.0	no
22-Nov-12	0.04	305.81	305.3	no	305.0	no
23-Nov-12	0.05	305.82	305.3	no	305.0	no
24-Nov-12	0.05	305.82	305.3	no	305.0	no
25-Nov-12	0.05	305.82	305.3	no	305.0	no
26-Nov-12	0.04	305.81	305.3	no	305.0	no
27-Nov-12	0.02	305.80	305.3	no	305.0	no
28-Nov-12	0.02	305.80	305.3	no	305.0	no
29-Nov-12	0.02	305.80	305.3	no	305.0	no
30-Nov-12	0.01	305.79	305.3	no	305.0	no
1-Dec-12	0.01	305.79	305.3	no	305.0	no
2-Dec-12	0.01	305.79	305.3	no	305.0	no
3-Dec-12	0.01	305.79	305.3	no	305.0	no
4-Dec-12	0.01	305.79	305.3	no	305.0	no
5-Dec-12	0.01	305.79	305.3	no	305.0	no
6-Dec-12	0.01	305.79	305.3	no	305.0	no
7-Dec-12	0.01	305.79	305.3	no	305.0	no
8-Dec-12	0.01	305.79	305.3	no	305.0	no
9-Dec-12	0.01	305.79	305.3	no	305.0	no
10-Dec-12	0.01	305.79	305.3	no	305.0	no
11-Dec-12	0.01	305.79	305.3	no	305.0	no
12-Dec-12	0.01	305.79	305.3	no	305.0	no
13-Dec-12	0.01	305.79	305.3	no	305.0	no
14-Dec-12	0.01	305.79	305.3	no	305.0	no
15-Dec-12	0.01	305.79	305.3	no	305.0	no
16-Dec-12	0.01	305.79	305.3	no	305.0	no
17-Dec-12	0.01	305.79	305.3	no	305.0	no
18-Dec-12	0.01	305.79	305.3	no	305.0	no
19-Dec-12	0.01	305.79	305.3	no	305.0	no
20-Dec-12	0.01	305.79	305.3	no	305.0	no
21-Dec-12	0.01	305.79	305.3	no	305.0	no
22-Dec-12	0.01	305.79	305.3	no	305.0	no
23-Dec-12	0.01	305.79	305.3	no	305.0	no
24-Dec-12	0.01	305.79	305.3	no	305.0	no
25-Dec-12	0.01	305.79	305.3	no	305.0	no
26-Dec-12	0.01	305.79	305.3	no	305.0	no
27-Dec-12	0.01	305.79	305.3	no	305.0	no
28-Dec-12	0.01	305.79	305.3	no	305.0	no
29-Dec-12	0.01	305.79	305.3	no	305.0	no
30-Dec-12	0.01	305.79	305.3	no	305.0	no
31-Dec-12	0.01	305.79	305.3	no	305.0	no

Table G-8
Threshold Summary - Phase 2 Pond
Mill Creek Aggregates Pit

Date	Gauge Reading Phase 2 Pond (m)	Water Elevation Phase 2 Pond (m ASL)	Early Warning Value (m ASL)	Exceedance of Early Warning Value	Threshold Value (Min) (m ASL)	Exceedance of Threshold Value
1-Jan-13	0.01	305.79	305.3	no	305.0	no
2-Jan-13	0.01	305.79	305.3	no	305.0	no
3-Jan-13	0.01	305.79	305.3	no	305.0	no
4-Jan-13	0.01	305.79	305.3	no	305.0	no
5-Jan-13	0.01	305.79	305.3	no	305.0	no
6-Jan-13	0.01	305.79	305.3	no	305.0	no
7-Jan-13	0.01	305.79	305.3	no	305.0	no
8-Jan-13	0.01	305.79	305.3	no	305.0	no
9-Jan-13	0.01	305.79	305.3	no	305.0	no
10-Jan-13	0.01	305.79	305.3	no	305.0	no
11-Jan-13	0.01	305.79	305.3	no	305.0	no
12-Jan-13	0.01	305.79	305.3	no	305.0	no
13-Jan-13	0.01	305.79	305.3	no	305.0	no
14-Jan-13	0.01	305.79	305.3	no	305.0	no
15-Jan-13	0.01	305.79	305.3	no	305.0	no
16-Jan-13	0.01	305.79	305.3	no	305.0	no
17-Jan-13	0.01	305.79	305.3	no	305.0	no
18-Jan-13	0.01	305.79	305.3	no	305.0	no
19-Jan-13	0.01	305.79	305.3	no	305.0	no
20-Jan-13	0.01	305.79	305.3	no	305.0	no
21-Jan-13	0.01	305.79	305.3	no	305.0	no
22-Jan-13	0.01	305.79	305.3	no	305.0	no
23-Jan-13	0.01	305.79	305.3	no	305.0	no
24-Jan-13	0.01	305.79	305.3	no	305.0	no
25-Jan-13	0.01	305.79	305.3	no	305.0	no
26-Jan-13	0.01	305.79	305.3	no	305.0	no
27-Jan-13	0.01	305.79	305.3	no	305.0	no
28-Jan-13	0.01	305.79	305.3	no	305.0	no
29-Jan-13	0.01	305.79	305.3	no	305.0	no
30-Jan-13	0.01	305.79	305.3	no	305.0	no
31-Jan-13	0.01	305.79	305.3	no	305.0	no
1-Feb-13	0.01	305.79	305.3	no	305.0	no
2-Feb-13	0.01	305.79	305.3	no	305.0	no
3-Feb-13	0.01	305.79	305.3	no	305.0	no
4-Feb-13	0.01	305.79	305.3	no	305.0	no
5-Feb-13	0.01	305.79	305.3	no	305.0	no
6-Feb-13	0.01	305.79	305.3	no	305.0	no
7-Feb-13	0.01	305.79	305.3	no	305.0	no
8-Feb-13	0.01	305.79	305.3	no	305.0	no
9-Feb-13	0.01	305.79	305.3	no	305.0	no
10-Feb-13	0.01	305.79	305.3	no	305.0	no
11-Feb-13	0.01	305.79	305.3	no	305.0	no
12-Feb-13	0.01	305.79	305.3	no	305.0	no
13-Feb-13	0.01	305.79	305.3	no	305.0	no
14-Feb-13	0.01	305.79	305.3	no	305.0	no
15-Feb-13	0.01	305.79	305.3	no	305.0	no
16-Feb-13	0.01	305.79	305.3	no	305.0	no
17-Feb-13	0.01	305.79	305.3	no	305.0	no
18-Feb-13	0.01	305.79	305.3	no	305.0	no
19-Feb-13	0.01	305.79	305.3	no	305.0	no
20-Feb-13	0.01	305.79	305.3	no	305.0	no
21-Feb-13	0.01	305.79	305.3	no	305.0	no
22-Feb-13	0.01	305.79	305.3	no	305.0	no
23-Feb-13	0.01	305.79	305.3	no	305.0	no
24-Feb-13	0.01	305.79	305.3	no	305.0	no
25-Feb-13	0.01	305.79	305.3	no	305.0	no
26-Feb-13	0.01	305.79	305.3	no	305.0	no
27-Feb-13	0.01	305.79	305.3	no	305.0	no
28-Feb-13	0.01	305.79	305.3	no	305.0	no
1-Mar-13	0.01	305.79	305.3	no	305.0	no
2-Mar-13	0.01	305.79	305.3	no	305.0	no
3-Mar-13	0.01	305.79	305.3	no	305.0	no
4-Mar-13	0.01	305.79	305.3	no	305.0	no
5-Mar-13	0.01	305.79	305.3	no	305.0	no
6-Mar-13	0.01	305.79	305.3	no	305.0	no
7-Mar-13	0.01	305.79	305.3	no	305.0	no
8-Mar-13	0.01	305.79	305.3	no	305.0	no
9-Mar-13	0.01	305.79	305.3	no	305.0	no
10-Mar-13	0.01	305.79	305.3	no	305.0	no
11-Mar-13	0.01	305.79	305.3	no	305.0	no
12-Mar-13	0.01	305.79	305.3	no	305.0	no
13-Mar-13	0.01	305.79	305.3	no	305.0	no
14-Mar-13	0.01	305.79	305.3	no	305.0	no
15-Mar-13	0.01	305.79	305.3	no	305.0	no
16-Mar-13	0.01	305.79	305.3	no	305.0	no
17-Mar-13	0.01	305.79	305.3	no	305.0	no
18-Mar-13	0.01	305.79	305.3	no	305.0	no
19-Mar-13	0.01	305.79	305.3	no	305.0	no
20-Mar-13	0.01	305.79	305.3	no	305.0	no
21-Mar-13	0.01	305.79	305.3	no	305.0	no
22-Mar-13	0.01	305.79	305.3	no	305.0	no
23-Mar-13	0.01	305.79	305.3	no	305.0	no
24-Mar-13	0.01	305.79	305.3	no	305.0	no
25-Mar-13	0.01	305.79	305.3	no	305.0	no
26-Mar-13	0.01	305.79	305.3	no	305.0	no
27-Mar-13	0.01	305.79	305.3	no	305.0	no
28-Mar-13	0.01	305.79	305.3	no	305.0	no
29-Mar-13	0.01	305.79	305.3	no	305.0	no
30-Mar-13	0.01	305.79	305.3	no	305.0	no
31-Mar-13	0.01	305.79	305.3	no	305.0	no
1-Apr-13	0.01	305.79	305.3	no	305.0	no
2-Apr-13	0.00	305.96	305.3	no	305.0	no
3-Apr-13	0.00	305.96	305.3	no	305.0	no
4-Apr-13	0.00	305.96	305.3	no	305.0	no
5-Apr-13	0.00	305.96	305.3	no	305.0	no
6-Apr-13	0.00	305.96	305.3	no	305.0	no
7-Apr-13	0.00	305.96	305.3	no	305.0	no
8-Apr-13	0.00	305.96	305.3	no	305.0	no
9-Apr-13	0.00	305.96	305.3	no	305.0	no
10-Apr-13	0.00	305.96	305.3	no	305.0	no
11-Apr-13	0.00	305.96	305.3	no	305.0	no
12-Apr-13	0.00	305.96	305.3	no	305.0	no
13-Apr-13	0.00	305.96	305.3	no	305.0	no
14-Apr-13	0.00	305.96	305.3	no	305.0	no
15-Apr-13	0.00	305.96	305.3	no	305.0	no
16-Apr-13	0.20	306.16	305.3	no	305.0	no
17-Apr-13	0.21	306.17	305.3	no	305.0	no
18-Apr-13	0.21	306.17	305.3	no	305.0	no
19-Apr-13	0.25	306.21	305.3	no	305.0	no
20-Apr-13	0.25	306.21	305.3	no	305.0	no
21-Apr-13	0.25	306.21	305.3	no	305.0	no
22-Apr-13	0.25	306.21	305.3	no	305.0	no
23-Apr-13	0.25	306.21	305.3	no	305.0	no
24-Apr-13	0.25	306.21	305.3	no	305.0	no
25-Apr-13	0.27	306.23	305.3	no	305.0	no
26-Apr-13	0.28	306.24	305.3	no	305.0	no
27-Apr-13	0.28	306.24	305.3	no	305.0	no
28-Apr-13	0.28	306.24	305.3	no	305.0	no
29-Apr-13	0.30	306.26	305.3	no	305.0	no
30-Apr-13	0.30	306.26	305.3	no	305.0	no

Table G-8
Threshold Summary - Phase 2 Pond
Mill Creek Aggregates Pit

Date	Gauge Reading Phase 2 Pond (m)	Water Elevation Phase 2 Pond (m ASL)	Early Warning Value (m ASL)	Exceedance of Early Warning Value	Threshold Value (Min) (m ASL)	Exceedance of Threshold Value
1-May-13	0.30	306.26	305.3	no	305.0	no
2-May-13	0.30	306.26	305.3	no	305.0	no
3-May-13	0.31	306.27	305.3	no	305.0	no
4-May-13	0.31	306.27	305.3	no	305.0	no
5-May-13	0.31	306.27	305.3	no	305.0	no
6-May-13	0.30	306.26	305.3	no	305.0	no
7-May-13	0.30	306.26	305.3	no	305.0	no
8-May-13	0.30	306.26	305.3	no	305.0	no
9-May-13	0.30	306.26	305.3	no	305.0	no
10-May-13	0.30	306.26	305.3	no	305.0	no
11-May-13	0.30	306.26	305.3	no	305.0	no
12-May-13	0.30	306.26	305.3	no	305.0	no
13-May-13	0.32	306.28	305.3	no	305.0	no
14-May-13	0.33	306.29	305.3	no	305.0	no
15-May-13	0.32	306.28	305.3	no	305.0	no
16-May-13	0.32	306.28	305.3	no	305.0	no
17-May-13	0.31	306.27	305.3	no	305.0	no
18-May-13	0.31	306.27	305.3	no	305.0	no
19-May-13	0.31	306.27	305.3	no	305.0	no
20-May-13	0.31	306.27	305.3	no	305.0	no
21-May-13	0.30	306.26	305.3	no	305.0	no
22-May-13	0.30	306.26	305.3	no	305.0	no
23-May-13	0.30	306.26	305.3	no	305.0	no
24-May-13	0.30	306.26	305.3	no	305.0	no
25-May-13	0.30	306.26	305.3	no	305.0	no
26-May-13	0.30	306.26	305.3	no	305.0	no
27-May-13	0.30	306.26	305.3	no	305.0	no
28-May-13	0.30	306.26	305.3	no	305.0	no
29-May-13	0.33	306.29	305.3	no	305.0	no
30-May-13	0.33	306.29	305.3	no	305.0	no
31-May-13	0.32	306.28	305.3	no	305.0	no
1-Jun-13	0.32	306.28	305.3	no	305.0	no
2-Jun-13	0.32	306.28	305.3	no	305.0	no
3-Jun-13	0.31	306.27	305.3	no	305.0	no
4-Jun-13	0.31	306.27	305.3	no	305.0	no
5-Jun-13	0.31	306.27	305.3	no	305.0	no
6-Jun-13	0.31	306.27	305.3	no	305.0	no
7-Jun-13	0.29	306.25	305.3	no	305.0	no
8-Jun-13	0.29	306.25	305.3	no	305.0	no
9-Jun-13	0.29	306.25	305.3	no	305.0	no
10-Jun-13	0.31	306.27	305.3	no	305.0	no
11-Jun-13	0.34	306.30	305.3	no	305.0	no
12-Jun-13	0.34	306.30	305.3	no	305.0	no
13-Jun-13	0.34	306.30	305.3	no	305.0	no
14-Jun-13	0.34	306.30	305.3	no	305.0	no
15-Jun-13	0.34	306.30	305.3	no	305.0	no
16-Jun-13	0.34	306.30	305.3	no	305.0	no
17-Jun-13	0.36	306.32	305.3	no	305.0	no
18-Jun-13	0.34	306.30	305.3	no	305.0	no
19-Jun-13	0.34	306.30	305.3	no	305.0	no
20-Jun-13	0.34	306.30	305.3	no	305.0	no
21-Jun-13	0.33	306.29	305.3	no	305.0	no
22-Jun-13	0.33	306.29	305.3	no	305.0	no
23-Jun-13	0.33	306.29	305.3	no	305.0	no
24-Jun-13	0.36	306.32	305.3	no	305.0	no
25-Jun-13	0.36	306.32	305.3	no	305.0	no
26-Jun-13	0.36	306.32	305.3	no	305.0	no
27-Jun-13	0.36	306.32	305.3	no	305.0	no
28-Jun-13	0.38	306.34	305.3	no	305.0	no
29-Jun-13	0.38	306.34	305.3	no	305.0	no
30-Jun-13	0.38	306.34	305.3	no	305.0	no
1-Jul-13	0.38	306.34	305.3	no	305.0	no
2-Jul-13	0.39	306.35	305.3	no	305.0	no
3-Jul-13	0.39	306.35	305.3	no	305.0	no
4-Jul-13	0.40	306.36	305.3	no	305.0	no
5-Jul-13	0.41	306.37	305.3	no	305.0	no
6-Jul-13	0.41	306.37	305.3	no	305.0	no
7-Jul-13	0.41	306.37	305.3	no	305.0	no
8-Jul-13	0.44	306.40	305.3	no	305.0	no
9-Jul-13	0.44	306.40	305.3	no	305.0	no
10-Jul-13	0.43	306.39	305.3	no	305.0	no
11-Jul-13	0.43	306.39	305.3	no	305.0	no
12-Jul-13	0.41	306.37	305.3	no	305.0	no
13-Jul-13	0.41	306.37	305.3	no	305.0	no
14-Jul-13	0.41	306.37	305.3	no	305.0	no
15-Jul-13	0.41	306.37	305.3	no	305.0	no
16-Jul-13	0.41	306.37	305.3	no	305.0	no
17-Jul-13	0.41	306.37	305.3	no	305.0	no
18-Jul-13	0.41	306.37	305.3	no	305.0	no
19-Jul-13	0.41	306.37	305.3	no	305.0	no
20-Jul-13	0.41	306.37	305.3	no	305.0	no
21-Jul-13	0.41	306.37	305.3	no	305.0	no
22-Jul-13	0.40	306.36	305.3	no	305.0	no
23-Jul-13	0.40	306.36	305.3	no	305.0	no
24-Jul-13	0.39	306.35	305.3	no	305.0	no
25-Jul-13	0.38	306.34	305.3	no	305.0	no
26-Jul-13	0.38	306.34	305.3	no	305.0	no
27-Jul-13	0.38	306.34	305.3	no	305.0	no
28-Jul-13	0.38	306.34	305.3	no	305.0	no
29-Jul-13	0.38	306.34	305.3	no	305.0	no
30-Jul-13	0.38	306.34	305.3	no	305.0	no
31-Jul-13	0.38	306.34	305.3	no	305.0	no
1-Aug-13	0.38	306.34	305.3	no	305.0	no
2-Aug-13	0.38	306.34	305.3	no	305.0	no
3-Aug-13	0.38	306.34	305.3	no	305.0	no
4-Aug-13	0.38	306.34	305.3	no	305.0	no
5-Aug-13	0.38	306.34	305.3	no	305.0	no
6-Aug-13	0.37	306.33	305.3	no	305.0	no
7-Aug-13	0.40	306.34	305.3	no	305.0	no
8-Aug-13	0.40	306.34	305.3	no	305.0	no
9-Aug-13	0.39	306.33	305.3	no	305.0	no
10-Aug-13	0.39	306.33	305.3	no	305.0	no
11-Aug-13	0.39	306.33	305.3	no	305.0	no
12-Aug-13	0.38	306.32	305.3	no	305.0	no
13-Aug-13	0.37	306.31	305.3	no	305.0	no
14-Aug-13	0.36	306.30	305.3	no	305.0	no
15-Aug-13	0.35	306.29	305.3	no	305.0	no
16-Aug-13	0.34	306.28	305.3	no	305.0	no
17-Aug-13	0.34	306.28	305.3	no	305.0	no
18-Aug-13	0.34	306.28	305.3	no	305.0	no
19-Aug-13	0.33	306.27	305.3	no	305.0	no
20-Aug-13	0.32	306.26	305.3	no	305.0	no
21-Aug-13	0.32	306.26	305.3	no	305.0	no
22-Aug-13	0.30	306.24	305.3	no	305.0	no
23-Aug-13	0.30	306.24	305.3	no	305.0	no
24-Aug-13	0.30	306.24	305.3	no	305.0	no
25-Aug-13	0.30	306.24	305.3	no	305.0	no
26-Aug-13	0.30	306.24	305.3	no	305.0	no
27-Aug-13	0.30	306.24	305.3	no	305.0	no
28-Aug-13	0.30	306.24	305.3	no	305.0	no
29-Aug-13	0.29	306.23	305.3	no	305.0	no
30-Aug-13	0.30	306.24	305.3	no	305.0	no
31-Aug-13	0.30	306.24	305.3	no	305.0	no

Table G-8
Threshold Summary - Phase 2 Pond
Mill Creek Aggregates Pit

Date	Gauge Reading Phase 2 Pond (m)	Water Elevation Phase 2 Pond (m ASL)	Early Warning Value (m ASL)	Exceedance of Early Warning Value	Threshold Value (Min) (m ASL)	Exceedance of Threshold Value
1-Sep-13	0.30	306.24	305.3	no	305.0	no
2-Sep-13	0.30	306.24	305.3	no	305.0	no
3-Sep-13	0.30	306.24	305.3	no	305.0	no
4-Sep-13	0.29	306.23	305.3	no	305.0	no
5-Sep-13	0.28	306.22	305.3	no	305.0	no
6-Sep-13	0.27	306.21	305.3	no	305.0	no
7-Sep-13	0.27	306.21	305.3	no	305.0	no
8-Sep-13	0.27	306.21	305.3	no	305.0	no
9-Sep-13	0.27	306.21	305.3	no	305.0	no
10-Sep-13	0.27	306.21	305.3	no	305.0	no
11-Sep-13	0.27	306.21	305.3	no	305.0	no
12-Sep-13	0.27	306.21	305.3	no	305.0	no
13-Sep-13	0.27	306.21	305.3	no	305.0	no
14-Sep-13	0.27	306.21	305.3	no	305.0	no
15-Sep-13	0.27	306.21	305.3	no	305.0	no
16-Sep-13	0.25	306.19	305.3	no	305.0	no
17-Sep-13	0.24	306.18	305.3	no	305.0	no
18-Sep-13	0.23	306.17	305.3	no	305.0	no
19-Sep-13	0.23	306.17	305.3	no	305.0	no
20-Sep-13	0.22	306.16	305.3	no	305.0	no
21-Sep-13	0.22	306.16	305.3	no	305.0	no
22-Sep-13	0.22	306.16	305.3	no	305.0	no
23-Sep-13	0.22	306.16	305.3	no	305.0	no
24-Sep-13	0.22	306.16	305.3	no	305.0	no
25-Sep-13	0.22	306.16	305.3	no	305.0	no
26-Sep-13	0.22	306.16	305.3	no	305.0	no
27-Sep-13	0.24	306.18	305.3	no	305.0	no
28-Sep-13	0.24	306.18	305.3	no	305.0	no
29-Sep-13	0.24	306.18	305.3	no	305.0	no
30-Sep-13	0.23	306.17	305.3	no	305.0	no
1-Oct-13	0.23	306.17	305.3	no	305.0	no
2-Oct-13	0.22	306.16	305.3	no	305.0	no
3-Oct-13	0.21	306.15	305.3	no	305.0	no
4-Oct-13	0.23	306.17	305.3	no	305.0	no
5-Oct-13	0.23	306.17	305.3	no	305.0	no
6-Oct-13	0.23	306.17	305.3	no	305.0	no
7-Oct-13	0.25	306.19	305.3	no	305.0	no
8-Oct-13	0.25	306.19	305.3	no	305.0	no
9-Oct-13	0.25	306.19	305.3	no	305.0	no
10-Oct-13	0.25	306.19	305.3	no	305.0	no
11-Oct-13	0.25	306.19	305.3	no	305.0	no
12-Oct-13	0.25	306.19	305.3	no	305.0	no
13-Oct-13	0.25	306.19	305.3	no	305.0	no
14-Oct-13	0.25	306.19	305.3	no	305.0	no
15-Oct-13	0.24	306.18	305.3	no	305.0	no
16-Oct-13	0.24	306.18	305.3	no	305.0	no
17-Oct-13	0.24	306.18	305.3	no	305.0	no
18-Oct-13	0.24	306.18	305.3	no	305.0	no
19-Oct-13	0.24	306.18	305.3	no	305.0	no
20-Oct-13	0.24	306.18	305.3	no	305.0	no
21-Oct-13	0.23	306.17	305.3	no	305.0	no
22-Oct-13	0.24	306.18	305.3	no	305.0	no
23-Oct-13	0.23	306.17	305.3	no	305.0	no
24-Oct-13	0.22	306.16	305.3	no	305.0	no
25-Oct-13	0.22	306.16	305.3	no	305.0	no
26-Oct-13	0.22	306.16	305.3	no	305.0	no
27-Oct-13	0.22	306.16	305.3	no	305.0	no
28-Oct-13	0.22	306.16	305.3	no	305.0	no
29-Oct-13	0.22	306.16	305.3	no	305.0	no
30-Oct-13	0.21	306.15	305.3	no	305.0	no
31-Oct-13	0.21	306.15	305.3	no	305.0	no
1-Nov-13	0.25	306.19	305.3	no	305.0	no
2-Nov-13	0.25	306.19	305.3	no	305.0	no
3-Nov-13	0.25	306.19	305.3	no	305.0	no
4-Nov-13	0.23	306.17	305.3	no	305.0	no
5-Nov-13	0.23	306.17	305.3	no	305.0	no
6-Nov-13	0.23	306.17	305.3	no	305.0	no
7-Nov-13	0.25	306.19	305.3	no	305.0	no
8-Nov-13	0.25	306.19	305.3	no	305.0	no
9-Nov-13	0.25	306.19	305.3	no	305.0	no
10-Nov-13	0.25	306.19	305.3	no	305.0	no
11-Nov-13	0.23	306.17	305.3	no	305.0	no
12-Nov-13	0.23	306.17	305.3	no	305.0	no
13-Nov-13	0.23	306.17	305.3	no	305.0	no
14-Nov-13	0.21	306.15	305.3	no	305.0	no
15-Nov-13	0.20	306.14	305.3	no	305.0	no
16-Nov-13	0.20	306.14	305.3	no	305.0	no
17-Nov-13	0.20	306.14	305.3	no	305.0	no
18-Nov-13	0.23	306.17	305.3	no	305.0	no
19-Nov-13	0.23	306.17	305.3	no	305.0	no
20-Nov-13	0.23	306.17	305.3	no	305.0	no
21-Nov-13	0.23	306.17	305.3	no	305.0	no
22-Nov-13	0.23	306.17	305.3	no	305.0	no
23-Nov-13	0.23	306.17	305.3	no	305.0	no
24-Nov-13	0.23	306.17	305.3	no	305.0	no
25-Nov-13	0.21	306.15	305.3	no	305.0	no
26-Nov-13	0.21	306.15	305.3	no	305.0	no
27-Nov-13	0.21	306.15	305.3	no	305.0	no
28-Nov-13	0.21	306.15	305.3	no	305.0	no
29-Nov-13	0.21	306.15	305.3	no	305.0	no
30-Nov-13	0.21	306.15	305.3	no	305.0	no
1-Dec-13	0.21	306.15	305.3	no	305.0	no
2-Dec-13	0.21	306.15	305.3	no	305.0	no
3-Dec-13	0.21	306.15	305.3	no	305.0	no
4-Dec-13	0.21	306.15	305.3	no	305.0	no
5-Dec-13	0.21	306.15	305.3	no	305.0	no
6-Dec-13	0.21	306.15	305.3	no	305.0	no
7-Dec-13	0.21	306.15	305.3	no	305.0	no
8-Dec-13	0.21	306.15	305.3	no	305.0	no
9-Dec-13	0.21	306.15	305.3	no	305.0	no
10-Dec-13	0.21	306.15	305.3	no	305.0	no
11-Dec-13	0.21	306.15	305.3	no	305.0	no
12-Dec-13	0.21	306.15	305.3	no	305.0	no
13-Dec-13	0.21	306.15	305.3	no	305.0	no
14-Dec-13	0.21	306.15	305.3	no	305.0	no
15-Dec-13	0.21	306.15	305.3	no	305.0	no
16-Dec-13	0.21	306.15	305.3	no	305.0	no
17-Dec-13	0.21	306.15	305.3	no	305.0	no
18-Dec-13	0.21	306.15	305.3	no	305.0	no
19-Dec-13	0.21	306.15	305.3	no	305.0	no
20-Dec-13	0.21	306.15	305.3	no	305.0	no
21-Dec-13	0.21	306.15	305.3	no	305.0	no
22-Dec-13	0.21	306.15	305.3	no	305.0	no
23-Dec-13	0.21	306.15	305.3	no	305.0	no
24-Dec-13	0.21	306.15	305.3	no	305.0	no
25-Dec-13	0.21	306.15	305.3	no	305.0	no
26-Dec-13	0.21	306.15	305.3	no	305.0	no
27-Dec-13	0.21	306.15	305.3	no	305.0	no
28-Dec-13	0.21	306.15	305.3	no	305.0	no
29-Dec-13	0.21	306.15	305.3	no	305.0	no
30-Dec-13	0.21	306.15	305.3	no	305.0	no
31-Dec-13	0.21	306.15	305.3	no	305.0	no

Table G-8
Threshold Summary - Phase 2 Pond
Mill Creek Aggregates Pit

Date	Gauge Reading Phase 2 Pond (m)	Water Elevation Phase 2 Pond (m ASL)	Early Warning Value (m ASL)	Exceedance of Early Warning Value	Threshold Value (Min) (m ASL)	Exceedance of Threshold Value
1-Jan-14	0.21	306.15	305.3	no	305.0	no
2-Jan-14	0.21	306.15	305.3	no	305.0	no
3-Jan-14	0.21	306.15	305.3	no	305.0	no
4-Jan-14	0.21	306.15	305.3	no	305.0	no
5-Jan-14	0.21	306.15	305.3	no	305.0	no
6-Jan-14	0.21	306.15	305.3	no	305.0	no
7-Jan-14	0.21	306.15	305.3	no	305.0	no
8-Jan-14	0.21	306.15	305.3	no	305.0	no
9-Jan-14	0.21	306.15	305.3	no	305.0	no
10-Jan-14	0.21	306.15	305.3	no	305.0	no
11-Jan-14	0.21	306.15	305.3	no	305.0	no
12-Jan-14	0.21	306.15	305.3	no	305.0	no
13-Jan-14	0.21	306.15	305.3	no	305.0	no
14-Jan-14	0.21	306.15	305.3	no	305.0	no
15-Jan-14	0.21	306.15	305.3	no	305.0	no
16-Jan-14	0.21	306.15	305.3	no	305.0	no
17-Jan-14	0.21	306.15	305.3	no	305.0	no
18-Jan-14	0.21	306.15	305.3	no	305.0	no
19-Jan-14	0.21	306.15	305.3	no	305.0	no
20-Jan-14	0.21	306.15	305.3	no	305.0	no
21-Jan-14	0.21	306.15	305.3	no	305.0	no
22-Jan-14	0.21	306.15	305.3	no	305.0	no
23-Jan-14	0.21	306.15	305.3	no	305.0	no
24-Jan-14	0.21	306.15	305.3	no	305.0	no
25-Jan-14	0.21	306.15	305.3	no	305.0	no
26-Jan-14	0.21	306.15	305.3	no	305.0	no
27-Jan-14	0.21	306.15	305.3	no	305.0	no
28-Jan-14	0.21	306.15	305.3	no	305.0	no
29-Jan-14	0.21	306.15	305.3	no	305.0	no
30-Jan-14	0.21	306.15	305.3	no	305.0	no
31-Jan-14	0.21	306.15	305.3	no	305.0	no
1-Feb-14	0.21	306.15	305.3	no	305.0	no
2-Feb-14	0.21	306.15	305.3	no	305.0	no
3-Feb-14	0.21	306.15	305.3	no	305.0	no
4-Feb-14	0.21	306.15	305.3	no	305.0	no
5-Feb-14	0.21	306.15	305.3	no	305.0	no
6-Feb-14	0.21	306.15	305.3	no	305.0	no
7-Feb-14	0.21	306.15	305.3	no	305.0	no
8-Feb-14	0.21	306.15	305.3	no	305.0	no
9-Feb-14	0.21	306.15	305.3	no	305.0	no
10-Feb-14	0.21	306.15	305.3	no	305.0	no
11-Feb-14	0.21	306.15	305.3	no	305.0	no
12-Feb-14	0.21	306.15	305.3	no	305.0	no
13-Feb-14	0.21	306.15	305.3	no	305.0	no
14-Feb-14	0.21	306.15	305.3	no	305.0	no
15-Feb-14	0.21	306.15	305.3	no	305.0	no
16-Feb-14	0.21	306.15	305.3	no	305.0	no
17-Feb-14	0.21	306.15	305.3	no	305.0	no
18-Feb-14	0.21	306.15	305.3	no	305.0	no
19-Feb-14	0.21	306.15	305.3	no	305.0	no
20-Feb-14	0.21	306.15	305.3	no	305.0	no
21-Feb-14	0.21	306.15	305.3	no	305.0	no
22-Feb-14	0.21	306.15	305.3	no	305.0	no
23-Feb-14	0.21	306.15	305.3	no	305.0	no
24-Feb-14	0.21	306.15	305.3	no	305.0	no
25-Feb-14	0.21	306.15	305.3	no	305.0	no
26-Feb-14	0.21	306.15	305.3	no	305.0	no
27-Feb-14	0.21	306.15	305.3	no	305.0	no
28-Feb-14	0.21	306.15	305.3	no	305.0	no
1-Mar-14	0.21	306.15	305.3	no	305.0	no
2-Mar-14	0.21	306.15	305.3	no	305.0	no
3-Mar-14	0.21	306.15	305.3	no	305.0	no
4-Mar-14	0.21	306.15	305.3	no	305.0	no
5-Mar-14	0.21	306.15	305.3	no	305.0	no
6-Mar-14	0.21	306.15	305.3	no	305.0	no
7-Mar-14	0.21	306.15	305.3	no	305.0	no
8-Mar-14	0.21	306.15	305.3	no	305.0	no
9-Mar-14	0.21	306.15	305.3	no	305.0	no
10-Mar-14	0.21	306.15	305.3	no	305.0	no
11-Mar-14	0.21	306.15	305.3	no	305.0	no
12-Mar-14	0.21	306.15	305.3	no	305.0	no
13-Mar-14	0.21	306.15	305.3	no	305.0	no
14-Mar-14	0.21	306.15	305.3	no	305.0	no
15-Mar-14	0.21	306.15	305.3	no	305.0	no
16-Mar-14	0.21	306.15	305.3	no	305.0	no
17-Mar-14	0.21	306.15	305.3	no	305.0	no
18-Mar-14	0.21	306.15	305.3	no	305.0	no
19-Mar-14	0.21	306.15	305.3	no	305.0	no
20-Mar-14	0.21	306.15	305.3	no	305.0	no
21-Mar-14	0.21	306.15	305.3	no	305.0	no
22-Mar-14	0.21	306.15	305.3	no	305.0	no
23-Mar-14	0.21	306.15	305.3	no	305.0	no
24-Mar-14	0.21	306.15	305.3	no	305.0	no
25-Mar-14	0.21	306.15	305.3	no	305.0	no
26-Mar-14	0.21	306.15	305.3	no	305.0	no
27-Mar-14	0.21	306.15	305.3	no	305.0	no
28-Mar-14	0.21	306.15	305.3	no	305.0	no
29-Mar-14	0.21	306.15	305.3	no	305.0	no
30-Mar-14	0.21	306.15	305.3	no	305.0	no
31-Mar-14	0.21	306.15	305.3	no	305.0	no
1-Apr-14	0.21	306.15	305.3	no	305.0	no
2-Apr-14	0.21	306.15	305.3	no	305.0	no
3-Apr-14	0.21	306.15	305.3	no	305.0	no
4-Apr-14	0.21	306.15	305.3	no	305.0	no
5-Apr-14	0.21	306.15	305.3	no	305.0	no
6-Apr-14	0.21	306.15	305.3	no	305.0	no
7-Apr-14	0.21	306.15	305.3	no	305.0	no
8-Apr-14	0.15	306.30	305.3	no	305.0	no
9-Apr-14	0.16	306.31	305.3	no	305.0	no
10-Apr-14	0.15	306.30	305.3	no	305.0	no
11-Apr-14	0.17	306.32	305.3	no	305.0	no
12-Apr-14	0.17	306.32	305.3	no	305.0	no
13-Apr-14	0.17	306.32	305.3	no	305.0	no
14-Apr-14	0.19	306.34	305.3	no	305.0	no
15-Apr-14	0.19	306.34	305.3	no	305.0	no
16-Apr-14	0.22	306.37	305.3	no	305.0	no
17-Apr-14	0.23	306.38	305.3	no	305.0	no
18-Apr-14	0.25	306.40	305.3	no	305.0	no
19-Apr-14	0.25	306.40	305.3	no	305.0	no
20-Apr-14	0.25	306.40	305.3	no	305.0	no
21-Apr-14	0.25	306.40	305.3	no	305.0	no
22-Apr-14	0.26	306.41	305.3	no	305.0	no
23-Apr-14	0.26	306.41	305.3	no	305.0	no
24-Apr-14	0.27	306.42	305.3	no	305.0	no
25-Apr-14	0.27	306.42	305.3	no	305.0	no
26-Apr-14	0.27	306.42	305.3	no	305.0	no
27-Apr-14	0.27	306.42	305.3	no	305.0	no
28-Apr-14	0.28	306.43	305.3	no	305.0	no
29-Apr-14	0.29	306.44	305.3	no	305.0	no
30-Apr-14	0.31	306.46	305.3	no	305.0	no
1-May-14	0.33	306.48	305.3	no	305.0	no
2-May-14	0.30	306.45	305.3	no	305.0	no
3-May-14	0.30	306.45	305.3	no	305.0	no
4-May-14	0.30	306.45	305.3	no	305.0	no
5-May-14	0.35	306.50	305.3	no	305.0	no
6-May-14	0.30	306.45	305.3	no	305.0	no
7-May-14	0.36	306.51	305.3	no	305.0	no
8-May-14	0.35	306.50	305.3	no	305.0	no
9-May-14	0.35	306.50	305.3	no	305.0	no
10-May-14	0.35	306.50	305.3	no	305.0	no
11-May-14	0.35	306.50	305.3	no	305.0	no
12-May-14	0.35	306.50	305.3	no	305.0	no
13-May-14	0.38	306.53	305.3	no	305.0	no
14-May-14	0.38	306.53	305.3	no	305.0	no

Table G-8
Threshold Summary - Phase 2 Pond
Mill Creek Aggregates Pit

Date	Gauge Reading Phase 2 Pond (m)	Water Elevation Phase 2 Pond (m ASL)	Early Warning Value (m ASL)	Exceedance of Early Warning Value	Threshold Value (Min) (m ASL)	Exceedance of Threshold Value
15-May-14	0.40	306.55	305.3	no	305.0	no
16-May-14	0.40	306.55	305.3	no	305.0	no
17-May-14	0.40	306.55	305.3	no	305.0	no
18-May-14	0.40	306.55	305.3	no	305.0	no
19-May-14	0.40	306.55	305.3	no	305.0	no
20-May-14	0.42	306.57	305.3	no	305.0	no
21-May-14	0.40	306.55	305.3	no	305.0	no
22-May-14	0.40	306.55	305.3	no	305.0	no
23-May-14	0.40	306.55	305.3	no	305.0	no
24-May-14	0.40	306.55	305.3	no	305.0	no
25-May-14	0.40	306.55	305.3	no	305.0	no
26-May-14	0.40	306.55	305.3	no	305.0	no
27-May-14	0.42	306.57	305.3	no	305.0	no
28-May-14	0.38	306.53	305.3	no	305.0	no
29-May-14	0.40	306.55	305.3	no	305.0	no
30-May-14	0.40	306.55	305.3	no	305.0	no
31-May-14	0.40	306.55	305.3	no	305.0	no
1-Jun-14	0.40	306.55	305.3	no	305.0	no
2-Jun-14	0.40	306.55	305.3	no	305.0	no
3-Jun-14	0.40	306.55	305.3	no	305.0	no
4-Jun-14	0.40	306.55	305.3	no	305.0	no
5-Jun-14	0.40	306.55	305.3	no	305.0	no
6-Jun-14	0.40	306.55	305.3	no	305.0	no
7-Jun-14	0.40	306.55	305.3	no	305.0	no
8-Jun-14	0.40	306.55	305.3	no	305.0	no
9-Jun-14	0.40	306.55	305.3	no	305.0	no
10-Jun-14	0.39	306.54	305.3	no	305.0	no
11-Jun-14	0.39	306.54	305.3	no	305.0	no
12-Jun-14	0.39	306.54	305.3	no	305.0	no
13-Jun-14	0.40	306.55	305.3	no	305.0	no
14-Jun-14	0.40	306.55	305.3	no	305.0	no
15-Jun-14	0.40	306.55	305.3	no	305.0	no
16-Jun-14	0.38	306.53	305.3	no	305.0	no
17-Jun-14	0.37	306.52	305.3	no	305.0	no
18-Jun-14	0.38	306.53	305.3	no	305.0	no
19-Jun-14	0.38	306.53	305.3	no	305.0	no
20-Jun-14	0.38	306.53	305.3	no	305.0	no
21-Jun-14	0.38	306.53	305.3	no	305.0	no
22-Jun-14	0.38	306.53	305.3	no	305.0	no
23-Jun-14	0.35	306.50	305.3	no	305.0	no
24-Jun-14	0.34	306.49	305.3	no	305.0	no
25-Jun-14	0.36	306.51	305.3	no	305.0	no
26-Jun-14	0.36	306.51	305.3	no	305.0	no
27-Jun-14	0.35	306.50	305.3	no	305.0	no
28-Jun-14	0.35	306.50	305.3	no	305.0	no
29-Jun-14	0.35	306.50	305.3	no	305.0	no
30-Jun-14	0.33	306.48	305.3	no	305.0	no
1-Jul-14	0.32	306.47	305.3	no	305.0	no
2-Jul-14	0.32	306.47	305.3	no	305.0	no
3-Jul-14	0.32	306.47	305.3	no	305.0	no
4-Jul-14	0.31	306.46	305.3	no	305.0	no
5-Jul-14	0.31	306.46	305.3	no	305.0	no
6-Jul-14	0.31	306.46	305.3	no	305.0	no
7-Jul-14	0.30	306.45	305.3	no	305.0	no
8-Jul-14	0.31	306.46	305.3	no	305.0	no
9-Jul-14	0.31	306.46	305.3	no	305.0	no
10-Jul-14	0.32	306.47	305.3	no	305.0	no
11-Jul-14	0.30	306.45	305.3	no	305.0	no
12-Jul-14	0.30	306.45	305.3	no	305.0	no
13-Jul-14	0.30	306.45	305.3	no	305.0	no
14-Jul-14	0.30	306.45	305.3	no	305.0	no
15-Jul-14	0.30	306.45	305.3	no	305.0	no
16-Jul-14	0.29	306.44	305.3	no	305.0	no
17-Jul-14	0.28	306.43	305.3	no	305.0	no
18-Jul-14	0.28	306.43	305.3	no	305.0	no
19-Jul-14	0.28	306.43	305.3	no	305.0	no
20-Jul-14	0.28	306.43	305.3	no	305.0	no
21-Jul-14	0.28	306.43	305.3	no	305.0	no
22-Jul-14	0.28	306.43	305.3	no	305.0	no
23-Jul-14	0.28	306.43	305.3	no	305.0	no
24-Jul-14	0.28	306.43	305.3	no	305.0	no
25-Jul-14	0.25	306.40	305.3	no	305.0	no
26-Jul-14	0.25	306.40	305.3	no	305.0	no
27-Jul-14	0.25	306.40	305.3	no	305.0	no
28-Jul-14	0.30	306.45	305.3	no	305.0	no
29-Jul-14	0.30	306.45	305.3	no	305.0	no
30-Jul-14	0.30	306.45	305.3	no	305.0	no
31-Jul-14	0.30	306.45	305.3	no	305.0	no
1-Aug-14	0.29	306.44	305.3	no	305.0	no
2-Aug-14	0.29	306.44	305.3	no	305.0	no
3-Aug-14	0.29	306.44	305.3	no	305.0	no
4-Aug-14	0.29	306.44	305.3	no	305.0	no
5-Aug-14	0.33	306.48	305.3	no	305.0	no
6-Aug-14	0.32	306.47	305.3	no	305.0	no
7-Aug-14	0.32	306.47	305.3	no	305.0	no
8-Aug-14	0.32	306.47	305.3	no	305.0	no
9-Aug-14	0.32	306.47	305.3	no	305.0	no
10-Aug-14	0.32	306.47	305.3	no	305.0	no
11-Aug-14	0.30	306.45	305.3	no	305.0	no
12-Aug-14	0.32	306.47	305.3	no	305.0	no
13-Aug-14	0.32	306.47	305.3	no	305.0	no
14-Aug-14	0.31	306.46	305.3	no	305.0	no
15-Aug-14	0.30	306.45	305.3	no	305.0	no
16-Aug-14	0.30	306.45	305.3	no	305.0	no
17-Aug-14	0.30	306.45	305.3	no	305.0	no
18-Aug-14	0.29	306.44	305.3	no	305.0	no
19-Aug-14	0.27	306.42	305.3	no	305.0	no
20-Aug-14	0.27	306.42	305.3	no	305.0	no
21-Aug-14	0.29	306.44	305.3	no	305.0	no
22-Aug-14	0.29	306.44	305.3	no	305.0	no
23-Aug-14	0.29	306.44	305.3	no	305.0	no
24-Aug-14	0.29	306.44	305.3	no	305.0	no
25-Aug-14	0.38	306.53	305.3	no	305.0	no
26-Aug-14	0.28	306.43	305.3	no	305.0	no
27-Aug-14	0.27	306.42	305.3	no	305.0	no
28-Aug-14	0.26	306.41	305.3	no	305.0	no
29-Aug-14	0.26	306.41	305.3	no	305.0	no
30-Aug-14	0.26	306.41	305.3	no	305.0	no
31-Aug-14	0.26	306.41	305.3	no	305.0	no
1-Sep-14	0.24	306.39	305.3	no	305.0	no
2-Sep-14	0.24	306.39	305.3	no	305.0	no
3-Sep-14	0.26	306.41	305.3	no	305.0	no
4-Sep-14	0.25	306.40	305.3	no	305.0	no
5-Sep-14	0.25	306.40	305.3	no	305.0	no
6-Sep-14	0.25	306.40	305.3	no	305.0	no
7-Sep-14	0.25	306.40	305.3	no	305.0	no
8-Sep-14	0.27	306.42	305.3	no	305.0	no
9-Sep-14	0.27	306.42	305.3	no	305.0	no
10-Sep-14	0.26	306.41	305.3	no	305.0	no
11-Sep-14	0.30	306.45	305.3	no	305.0	no
12-Sep-14	0.29	306.44	305.3	no	305.0	no
13-Sep-14	0.29	306.44	305.3	no	305.0	no
14-Sep-14	0.29	306.44	305.3	no	305.0	no
15-Sep-14	0.29	306.44	305.3	no	305.0	no
16-Sep-14	0.30	306.45	305.3	no	305.0	no
17-Sep-14	0.29	306.44	305.3	no	305.0	no
18-Sep-14	0.28	306.43	305.3	no	305.0	no
19-Sep-14	0.26	306.41	305.3	no	305.0	no
20-Sep-14	0.26	306.41	305.3	no	305.0	no
21-Sep-14	0.26	306.41	305.3	no	305.0	no
22-Sep-14	0.28	306.43	305.3	no	305.0	no
23-Sep-14	0.37	306.52	305.3	no	305.0	no
24-Sep-14	0.27	306.42	305.3	no	305.0	no
25-Sep-14	0.26	306.41	305.3	no	305.0	no

Table G-8
Threshold Summary - Phase 2 Pond
Mill Creek Aggregates Pit

Date	Gauge Reading Phase 2 Pond (m)	Water Elevation Phase 2 Pond (m ASL)	Early Warning Value (m ASL)	Exceedance of Early Warning Value	Threshold Value (Min) (m ASL)	Exceedance of Threshold Value
26-Sep-14	0.26	306.41	305.3	no	305.0	no
27-Sep-14	0.26	306.41	305.3	no	305.0	no
28-Sep-14	0.26	306.41	305.3	no	305.0	no
29-Sep-14	0.25	306.40	305.3	no	305.0	no
30-Sep-14	0.25	306.40	305.3	no	305.0	no
1-Oct-14	0.25	306.40	305.3	no	305.0	no
2-Oct-14	0.25	306.40	305.3	no	305.0	no
3-Oct-14	0.24	306.39	305.3	no	305.0	no
4-Oct-14	0.24	306.39	305.3	no	305.0	no
5-Oct-14	0.24	306.39	305.3	no	305.0	no
6-Oct-14	0.25	306.40	305.3	no	305.0	no
7-Oct-14	0.26	306.41	305.3	no	305.0	no
8-Oct-14	0.26	306.41	305.3	no	305.0	no
9-Oct-14	0.25	306.40	305.3	no	305.0	no
10-Oct-14	0.25	306.40	305.3	no	305.0	no
11-Oct-14	0.25	306.40	305.3	no	305.0	no
12-Oct-14	0.25	306.40	305.3	no	305.0	no
13-Oct-14	0.25	306.40	305.3	no	305.0	no
14-Oct-14	0.24	306.39	305.3	no	305.0	no
15-Oct-14	0.22	306.37	305.3	no	305.0	no
16-Oct-14	0.24	306.39	305.3	no	305.0	no
17-Oct-14	0.24	306.39	305.3	no	305.0	no
18-Oct-14	0.24	306.39	305.3	no	305.0	no
19-Oct-14	0.24	306.39	305.3	no	305.0	no
20-Oct-14	0.24	306.39	305.3	no	305.0	no
21-Oct-14	0.22	306.37	305.3	no	305.0	no
22-Oct-14	0.21	306.36	305.3	no	305.0	no
23-Oct-14	0.22	306.37	305.3	no	305.0	no
24-Oct-14	0.20	306.35	305.3	no	305.0	no
25-Oct-14	0.20	306.35	305.3	no	305.0	no
26-Oct-14	0.20	306.35	305.3	no	305.0	no
27-Oct-14	0.18	306.33	305.3	no	305.0	no
28-Oct-14	0.18	306.33	305.3	no	305.0	no
29-Oct-14	0.18	306.33	305.3	no	305.0	no
30-Oct-14	0.18	306.33	305.3	no	305.0	no
31-Oct-14	0.16	306.31	305.3	no	305.0	no
1-Nov-14	0.16	306.31	305.3	no	305.0	no
2-Nov-14	0.16	306.31	305.3	no	305.0	no
3-Nov-14	0.16	306.31	305.3	no	305.0	no
4-Nov-14	0.16	306.31	305.3	no	305.0	no
5-Nov-14	0.16	306.31	305.3	no	305.0	no
6-Nov-14	0.15	306.30	305.3	no	305.0	no
7-Nov-14	0.16	306.31	305.3	no	305.0	no
8-Nov-14	0.16	306.31	305.3	no	305.0	no
9-Nov-14	0.16	306.31	305.3	no	305.0	no
10-Nov-14	0.16	306.31	305.3	no	305.0	no
11-Nov-14	0.15	306.30	305.3	no	305.0	no
12-Nov-14	0.14	306.29	305.3	no	305.0	no
13-Nov-14	0.14	306.29	305.3	no	305.0	no
14-Nov-14	0.14	306.29	305.3	no	305.0	no
15-Nov-14	0.14	306.29	305.3	no	305.0	no
16-Nov-14	0.14	306.29	305.3	no	305.0	no
17-Nov-14	0.14	306.29	305.3	no	305.0	no
18-Nov-14	0.14	306.29	305.3	no	305.0	no
19-Nov-14	0.14	306.29	305.3	no	305.0	no
20-Nov-14	0.14	306.29	305.3	no	305.0	no
21-Nov-14	0.14	306.29	305.3	no	305.0	no
22-Nov-14	0.14	306.29	305.3	no	305.0	no
23-Nov-14	0.14	306.29	305.3	no	305.0	no
24-Nov-14	0.14	306.29	305.3	no	305.0	no
25-Nov-14	0.14	306.29	305.3	no	305.0	no
26-Nov-14	0.14	306.29	305.3	no	305.0	no
27-Nov-14	0.14	306.29	305.3	no	305.0	no
28-Nov-14	0.14	306.29	305.3	no	305.0	no
29-Nov-14	0.14	306.29	305.3	no	305.0	no
30-Nov-14	0.14	306.29	305.3	no	305.0	no
1-Dec-14	0.14	306.29	305.3	no	305.0	no
2-Dec-14	0.14	306.29	305.3	no	305.0	no
3-Dec-14	0.14	306.29	305.3	no	305.0	no
4-Dec-14	0.14	306.29	305.3	no	305.0	no
5-Dec-14	0.14	306.29	305.3	no	305.0	no
6-Dec-14	0.14	306.29	305.3	no	305.0	no
7-Dec-14	0.14	306.29	305.3	no	305.0	no
8-Dec-14	0.14	306.29	305.3	no	305.0	no
9-Dec-14	0.14	306.29	305.3	no	305.0	no
10-Dec-14	0.14	306.29	305.3	no	305.0	no
11-Dec-14	0.14	306.29	305.3	no	305.0	no
12-Dec-14	0.14	306.29	305.3	no	305.0	no
13-Dec-14	0.14	306.29	305.3	no	305.0	no
14-Dec-14	0.14	306.29	305.3	no	305.0	no
15-Dec-14	0.14	306.29	305.3	no	305.0	no
16-Dec-14	0.14	306.29	305.3	no	305.0	no
17-Dec-14	0.14	306.29	305.3	no	305.0	no
18-Dec-14	0.17	306.32	305.3	no	305.0	no
19-Dec-14	0.17	306.32	305.3	no	305.0	no
20-Dec-14	0.17	306.32	305.3	no	305.0	no
21-Dec-14	0.17	306.32	305.3	no	305.0	no
22-Dec-14	0.17	306.32	305.3	no	305.0	no
23-Dec-14	0.17	306.32	305.3	no	305.0	no
24-Dec-14	0.17	306.32	305.3	no	305.0	no
25-Dec-14	0.17	306.32	305.3	no	305.0	no
26-Dec-14	0.17	306.32	305.3	no	305.0	no
27-Dec-14	0.17	306.32	305.3	no	305.0	no
28-Dec-14	0.17	306.32	305.3	no	305.0	no
29-Dec-14	0.17	306.32	305.3	no	305.0	no
30-Dec-14	0.17	306.32	305.3	no	305.0	no
31-Dec-14	0.17	306.32	305.3	no	305.0	no
1-Jan-15			305.3		305.0	
2-Jan-15			305.3		305.0	
3-Jan-15			305.3		305.0	
4-Jan-15			305.3		305.0	
5-Jan-15			305.3		305.0	
6-Jan-15			305.3		305.0	
7-Jan-15			305.3		305.0	
8-Jan-15			305.3		305.0	
9-Jan-15			305.3		305.0	
10-Jan-15			305.3		305.0	
11-Jan-15			305.3		305.0	
12-Jan-15			305.3		305.0	
13-Jan-15			305.3		305.0	
14-Jan-15			305.3		305.0	
15-Jan-15			305.3		305.0	
16-Jan-15			305.3		305.0	
17-Jan-15			305.3		305.0	
18-Jan-15			305.3		305.0	
19-Jan-15			305.3		305.0	
20-Jan-15			305.3		305.0	
21-Jan-15			305.3		305.0	
22-Jan-15			305.3		305.0	
23-Jan-15			305.3		305.0	
24-Jan-15			305.3		305.0	
25-Jan-15			305.3		305.0	
26-Jan-15			305.3		305.0	
27-Jan-15			305.3		305.0	
28-Jan-15			305.3		305.0	
29-Jan-15			305.3		305.0	
30-Jan-15			305.3		305.0	
31-Jan-15			305.3		305.0	
1-Feb-15			305.3		305.0	
2-Feb-15			305.3		305.0	
3-Feb-15			305.3		305.0	
4-Feb-15			305.3		305.0	
5-Feb-15			305.3		305.0	

Table G-8
Threshold Summary - Phase 2 Pond
Mill Creek Aggregates Pit

Date	Gauge Reading Phase 2 Pond (m)	Water Elevation Phase 2 Pond (m ASL)	Early Warning Value (m ASL)	Exceedance of Early Warning Value	Threshold Value (Min) (m ASL)	Exceedance of Threshold Value
6-Feb-15			305.3		305.0	
7-Feb-15			305.3		305.0	
8-Feb-15			305.3		305.0	
9-Feb-15			305.3		305.0	
10-Feb-15			305.3		305.0	
11-Feb-15			305.3		305.0	
12-Feb-15			305.3		305.0	
13-Feb-15			305.3		305.0	
14-Feb-15			305.3		305.0	
15-Feb-15			305.3		305.0	
16-Feb-15			305.3		305.0	
17-Feb-15			305.3		305.0	
18-Feb-15			305.3		305.0	
19-Feb-15			305.3		305.0	
20-Feb-15			305.3		305.0	
21-Feb-15			305.3		305.0	
22-Feb-15			305.3		305.0	
23-Feb-15			305.3		305.0	
24-Feb-15			305.3		305.0	
25-Feb-15			305.3		305.0	
26-Feb-15			305.3		305.0	
27-Feb-15			305.3		305.0	
28-Feb-15			305.3		305.0	
1-Mar-15			305.3		305.0	
2-Mar-15			305.3		305.0	
3-Mar-15			305.3		305.0	
4-Mar-15			305.3		305.0	
5-Mar-15			305.3		305.0	
6-Mar-15			305.3		305.0	
7-Mar-15			305.3		305.0	
8-Mar-15			305.3		305.0	
9-Mar-15			305.3		305.0	
10-Mar-15			305.3		305.0	
11-Mar-15			305.3		305.0	
12-Mar-15			305.3		305.0	
13-Mar-15			305.3		305.0	
14-Mar-15			305.3		305.0	
15-Mar-15			305.3		305.0	
16-Mar-15			305.3		305.0	
17-Mar-15			305.3		305.0	
18-Mar-15			305.3		305.0	
19-Mar-15			305.3		305.0	
20-Mar-15			305.3		305.0	
21-Mar-15			305.3		305.0	
22-Mar-15			305.3		305.0	
23-Mar-15			305.3		305.0	
24-Mar-15			305.3		305.0	
25-Mar-15			305.3		305.0	
26-Mar-15			305.3		305.0	
27-Mar-15			305.3		305.0	
28-Mar-15			305.3		305.0	
29-Mar-15			305.3		305.0	
30-Mar-15			305.3		305.0	
31-Mar-15			305.3		305.0	
1-Apr-15			305.3		305.0	
2-Apr-15			305.3		305.0	
3-Apr-15			305.3		305.0	
4-Apr-15			305.3		305.0	
5-Apr-15			305.3		305.0	
6-Apr-15			305.3		305.0	
7-Apr-15			305.3		305.0	
8-Apr-15			305.3		305.0	
9-Apr-15			305.3		305.0	
10-Apr-15			305.3		305.0	
11-Apr-15			305.3		305.0	
12-Apr-15			305.3		305.0	
13-Apr-15			305.3		305.0	
14-Apr-15			305.3		305.0	
15-Apr-15			305.3		305.0	
16-Apr-15			305.3		305.0	
17-Apr-15	0.15	306.27	305.3	no	305.0	no
18-Apr-15	0.15	306.27	305.3	no	305.0	no
19-Apr-15	0.15	306.27	305.3	no	305.0	no
20-Apr-15	0.16	306.28	305.3	no	305.0	no
21-Apr-15	0.18	306.30	305.3	no	305.0	no
22-Apr-15	0.18	306.30	305.3	no	305.0	no
23-Apr-15	0.18	306.30	305.3	no	305.0	no
24-Apr-15	0.18	306.30	305.3	no	305.0	no
25-Apr-15	0.18	306.30	305.3	no	305.0	no
26-Apr-15	0.18	306.30	305.3	no	305.0	no
27-Apr-15	0.18	306.30	305.3	no	305.0	no
28-Apr-15	0.17	306.29	305.3	no	305.0	no
29-Apr-15	0.18	306.30	305.3	no	305.0	no
30-Apr-15	0.19	306.31	305.3	no	305.0	no
1-May-15	0.18	306.30	305.3	no	305.0	no
2-May-15	0.18	306.30	305.3	no	305.0	no
3-May-15	0.18	306.30	305.3	no	305.0	no
4-May-15	0.19	306.31	305.3	no	305.0	no
5-May-15	0.18	306.30	305.3	no	305.0	no
6-May-15	0.18	306.30	305.3	no	305.0	no
7-May-15	0.18	306.30	305.3	no	305.0	no
8-May-15	0.17	306.29	305.3	no	305.0	no
9-May-15	0.17	306.29	305.3	no	305.0	no
10-May-15	0.17	306.29	305.3	no	305.0	no
11-May-15	0.17	306.29	305.3	no	305.0	no
12-May-15	0.18	306.30	305.3	no	305.0	no
13-May-15	0.17	306.29	305.3	no	305.0	no
14-May-15	0.16	306.28	305.3	no	305.0	no
15-May-15	0.16	306.28	305.3	no	305.0	no
16-May-15	0.16	306.28	305.3	no	305.0	no
17-May-15	0.16	306.28	305.3	no	305.0	no
18-May-15	0.16	306.28	305.3	no	305.0	no
19-May-15	0.16	306.28	305.3	no	305.0	no
20-May-15	0.15	306.27	305.3	no	305.0	no
21-May-15	0.15	306.27	305.3	no	305.0	no
22-May-15	0.13	306.25	305.3	no	305.0	no
23-May-15	0.13	306.25	305.3	no	305.0	no
24-May-15	0.13	306.25	305.3	no	305.0	no
25-May-15	0.11	306.23	305.3	no	305.0	no
26-May-15	0.11	306.23	305.3	no	305.0	no
27-May-15	0.11	306.23	305.3	no	305.0	no
28-May-15	0.11	306.23	305.3	no	305.0	no
29-May-15	0.11	306.23	305.3	no	305.0	no
30-May-15	0.11	306.23	305.3	no	305.0	no
31-May-15	0.11	306.23	305.3	no	305.0	no
1-Jun-15	0.13	306.25	305.3	no	305.0	no
2-Jun-15	0.13	306.25	305.3	no	305.0	no
3-Jun-15	0.14	306.26	305.3	no	305.0	no
4-Jun-15	0.14	306.26	305.3	no	305.0	no
5-Jun-15	0.15	306.27	305.3	no	305.0	no
6-Jun-15			305.3		305.0	
7-Jun-15			305.3		305.0	
8-Jun-15	0.21	306.33	305.3	no	305.0	no
9-Jun-15	0.20	306.32	305.3	no	305.0	no
10-Jun-15	0.20	306.32	305.3	no	305.0	no
11-Jun-15	0.20	306.32	305.3	no	305.0	no
12-Jun-15	0.20	306.32	305.3	no	305.0	no
13-Jun-15			305.3		305.0	
14-Jun-15			305.3		305.0	
15-Jun-15	0.20	306.32	305.3	no	305.0	no
16-Jun-15	0.20	306.32	305.3	no	305.0	no
17-Jun-15	0.20	306.32	305.3	no	305.0	no
18-Jun-15	0.20	306.32	305.3	no	305.0	no

Table G-8
Threshold Summary - Phase 2 Pond
Mill Creek Aggregates Pit

Date	Gauge Reading Phase 2 Pond (m)	Water Elevation Phase 2 Pond (m ASL)	Early Warning Value (m ASL)	Exceedance of Early Warning Value	Threshold Value (Min) (m ASL)	Exceedance of Threshold Value
19-Jun-15	0.20	306.32	305.3	no	305.0	no
20-Jun-15			305.3		305.0	
21-Jun-15			305.3		305.0	
22-Jun-15	0.19	306.31	305.3	no	305.0	no
23-Jun-15	0.19	306.31	305.3	no	305.0	no
24-Jun-15	0.18	306.30	305.3	no	305.0	no
25-Jun-15	0.18	306.30	305.3	no	305.0	no
26-Jun-15	0.17	306.29	305.3	no	305.0	no
27-Jun-15			305.3		305.0	
28-Jun-15			305.3		305.0	
29-Jun-15	0.20	306.32	305.3	no	305.0	no
30-Jun-15	0.20	306.32	305.3	no	305.0	no
1-Jul-15			305.3		305.0	
2-Jul-15	0.19	306.31	305.3	no	305.0	no
3-Jul-15	0.19	306.31	305.3	no	305.0	no
4-Jul-15			305.3		305.0	
5-Jul-15			305.3		305.0	
6-Jul-15	0.18	306.30	305.3	no	305.0	no
7-Jul-15	0.18	306.30	305.3	no	305.0	no
8-Jul-15	0.19	306.31	305.3	no	305.0	no
9-Jul-15	0.27	306.39	305.3	no	305.0	no
10-Jul-15	0.19	306.31	305.3	no	305.0	no
11-Jul-15			305.3		305.0	
12-Jul-15			305.3		305.0	
13-Jul-15	0.18	306.30	305.3	no	305.0	no
14-Jul-15	0.18	306.30	305.3	no	305.0	no
15-Jul-15	0.19	306.31	305.3	no	305.0	no
16-Jul-15	0.18	306.30	305.3	no	305.0	no
17-Jul-15	0.18	306.30	305.3	no	305.0	no
18-Jul-15			305.3		305.0	
19-Jul-15			305.3		305.0	
20-Jul-15	0.18	306.30	305.3	no	305.0	no
21-Jul-15	0.18	306.30	305.3	no	305.0	no
22-Jul-15	0.16	306.28	305.3	no	305.0	no
23-Jul-15	0.15	306.27	305.3	no	305.0	no
24-Jul-15	0.14	306.26	305.3	no	305.0	no
25-Jul-15			305.3		305.0	
26-Jul-15			305.3		305.0	
27-Jul-15	0.11	306.23	305.3	no	305.0	no
28-Jul-15	0.12	306.24	305.3	no	305.0	no
29-Jul-15	0.10	306.22	305.3	no	305.0	no
30-Jul-15	0.10	306.22	305.3	no	305.0	no
31-Jul-15	0.10	306.22	305.3	no	305.0	no
1-Aug-15			305.3		305.0	
2-Aug-15			305.3		305.0	
3-Aug-15			305.3		305.0	
4-Aug-15	0.11	306.23	305.3	no	305.0	no
5-Aug-15	0.10	306.22	305.3	no	305.0	no
6-Aug-15	0.09	306.21	305.3	no	305.0	no
7-Aug-15	0.09	306.21	305.3	no	305.0	no
8-Aug-15			305.3		305.0	
9-Aug-15			305.3		305.0	
10-Aug-15	0.07	306.19	305.3	no	305.0	no
11-Aug-15	0.08	306.20	305.3	no	305.0	no
12-Aug-15	0.08	306.20	305.3	no	305.0	no
13-Aug-15	0.07	306.19	305.3	no	305.0	no
14-Aug-15	0.07	306.19	305.3	no	305.0	no
15-Aug-15			305.3		305.0	
16-Aug-15			305.3		305.0	
17-Aug-15	0.14	306.26	305.3	no	305.0	no
18-Aug-15	0.14	306.26	305.3	no	305.0	no
19-Aug-15	0.13	306.25	305.3	no	305.0	no
20-Aug-15	0.13	306.25	305.3	no	305.0	no
21-Aug-15	0.14	306.26	305.3	no	305.0	no
22-Aug-15			305.3		305.0	
23-Aug-15			305.3		305.0	
24-Aug-15	0.11	306.23	305.3	no	305.0	no
25-Aug-15	0.10	306.22	305.3	no	305.0	no
26-Aug-15	0.10	306.22	305.3	no	305.0	no
27-Aug-15	0.10	306.22	305.3	no	305.0	no
28-Aug-15	0.09	306.21	305.3	no	305.0	no
29-Aug-15			305.3		305.0	
30-Aug-15			305.3		305.0	
31-Aug-15	0.08	306.20	305.3	no	305.0	no
1-Sep-15	0.09	306.21	305.3	no	305.0	no
2-Sep-15	0.09	306.21	305.3	no	305.0	no
3-Sep-15	0.09	306.21	305.3	no	305.0	no
4-Sep-15	0.06	306.18	305.3	no	305.0	no
5-Sep-15			305.3		305.0	
6-Sep-15			305.3		305.0	
7-Sep-15			305.3		305.0	
8-Sep-15	0.09	306.21	305.3	no	305.0	no
9-Sep-15	0.05	306.17	305.3	no	305.0	no
10-Sep-15	0.05	306.17	305.3	no	305.0	no
11-Sep-15	0.05	306.17	305.3	no	305.0	no
12-Sep-15			305.3		305.0	
13-Sep-15			305.3		305.0	
14-Sep-15	0.03	306.15	305.3	no	305.0	no
15-Sep-15	0.02	306.14	305.3	no	305.0	no
16-Sep-15	0.02	306.14	305.3	no	305.0	no
17-Sep-15	0.02	306.14	305.3	no	305.0	no
18-Sep-15	0.01	306.13	305.3	no	305.0	no
19-Sep-15			305.3		305.0	
20-Sep-15			305.3		305.0	
21-Sep-15	0.02	306.14	305.3	no	305.0	no
22-Sep-15	0.01	306.13	305.3	no	305.0	no
23-Sep-15	0.02	306.14	305.3	no	305.0	no
24-Sep-15	0.02	306.14	305.3	no	305.0	no
25-Sep-15	0.02	306.14	305.3	no	305.0	no
26-Sep-15			305.3		305.0	
27-Sep-15			305.3		305.0	
28-Sep-15	0.04	306.16	305.3	no	305.0	no
29-Sep-15	0.04	306.16	305.3	no	305.0	no
30-Sep-15	0.07	306.19	305.3	no	305.0	no
1-Oct-15	0.07	306.19	305.3	no	305.0	no
2-Oct-15	0.05	306.17	305.3	no	305.0	no
3-Oct-15			305.3		305.0	
4-Oct-15			305.3		305.0	
5-Oct-15		306.15	305.3	no	305.0	no
6-Oct-15	0.01	306.13	305.3	no	305.0	no
7-Oct-15	0.02	306.14	305.3	no	305.0	no
8-Oct-15	0.02	306.14	305.3	no	305.0	no
9-Oct-15	0.02	306.14	305.3	no	305.0	no
10-Oct-15			305.3		305.0	
11-Oct-15			305.3		305.0	
12-Oct-15			305.3		305.0	
13-Oct-15	0.00	306.12	305.3	no	305.0	no
14-Oct-15	0.01	306.13	305.3	no	305.0	no
15-Oct-15	0.00	306.12	305.3	no	305.0	no
16-Oct-15	0.02	306.14	305.3	no	305.0	no
17-Oct-15			305.3		305.0	
18-Oct-15			305.3		305.0	
19-Oct-15	0.02	306.14	305.3	no	305.0	no
20-Oct-15	0.01	306.13	305.3	no	305.0	no
21-Oct-15	0.00	306.12	305.3	no	305.0	no
22-Oct-15	0.02	306.14	305.3	no	305.0	no
23-Oct-15	0.02	306.14	305.3	no	305.0	no
24-Oct-15			305.3		305.0	
25-Oct-15			305.3		305.0	
26-Oct-15	0.01	306.13	305.3	no	305.0	no
27-Oct-15	0.02	306.14	305.3	no	305.0	no
28-Oct-15	0.00	306.12	305.3	no	305.0	no
29-Oct-15	0.01	306.13	305.3	no	305.0	no

Table G-8
Threshold Summary - Phase 2 Pond
Mill Creek Aggregates Pit

Date	Gauge Reading Phase 2 Pond (m)	Water Elevation Phase 2 Pond (m ASL)	Early Warning Value (m ASL)	Exceedance of Early Warning Value	Threshold Value (Min) (m ASL)	Exceedance of Threshold Value
30-Oct-15	0.00	306.12	305.3	no	305.0	no
31-Oct-15			305.3		305.0	
1-Nov-15			305.3		305.0	
2-Nov-15	0.00	306.12	305.3	no	305.0	no
3-Nov-15	0.01	306.13	305.3	no	305.0	no
4-Nov-15	0.01	306.13	305.3	no	305.0	no
5-Nov-15	0.00	306.12	305.3	no	305.0	no
6-Nov-15	0.00	306.12	305.3	no	305.0	no
7-Nov-15			305.3		305.0	
8-Nov-15			305.3		305.0	
9-Nov-15	0.01	306.13	305.3	no	305.0	no
10-Nov-15	0.01	306.13	305.3	no	305.0	no
11-Nov-15	0.01	306.13	305.3	no	305.0	no
12-Nov-15	0.00	306.12	305.3	no	305.0	no
13-Nov-15	0.01	306.13	305.3	no	305.0	no
14-Nov-15			305.3		305.0	
15-Nov-15			305.3		305.0	
16-Nov-15	0.01	306.13	305.3	no	305.0	no
17-Nov-15	0.01	306.13	305.3	no	305.0	no
18-Nov-15	0.01	306.13	305.3	no	305.0	no
19-Nov-15	0.00	306.12	305.3	no	305.0	no
20-Nov-15	0.01	306.13	305.3	no	305.0	no
21-Nov-15			305.3		305.0	
22-Nov-15			305.3		305.0	
23-Nov-15	0.01	306.13	305.3	no	305.0	no
24-Nov-15	0.01	306.13	305.3	no	305.0	no
25-Nov-15	0.01	306.13	305.3	no	305.0	no
26-Nov-15	0.00	306.12	305.3	no	305.0	no
27-Nov-15	0.00	306.12	305.3	no	305.0	no
28-Nov-15			305.3		305.0	
29-Nov-15			305.3		305.0	
30-Nov-15	-0.01	306.11	305.3	no	305.0	no
1-Dec-15	-0.01	306.11	305.3	no	305.0	no
2-Dec-15	-0.02	306.10	305.3	no	305.0	no
3-Dec-15	-0.02	306.10	305.3	no	305.0	no
4-Dec-15	-0.03	306.09	305.3	no	305.0	no
5-Dec-15			305.3		305.0	
6-Dec-15			305.3		305.0	
7-Dec-15	-0.03	306.09	305.3	no	305.0	no
8-Dec-15	-0.03	306.09	305.3	no	305.0	no
9-Dec-15	-0.03	306.09	305.3	no	305.0	no
10-Dec-15	-0.03	306.09	305.3	no	305.0	no
11-Dec-15	-0.03	306.09	305.3	no	305.0	no
12-Dec-15			305.3		305.0	
13-Dec-15			305.3		305.0	
14-Dec-15	-0.03	306.09	305.3	no	305.0	no
15-Dec-15	-0.04	306.08	305.3	no	305.0	no
16-Dec-15	-0.04	306.08	305.3	no	305.0	no
17-Dec-15	-0.04	306.08	305.3	no	305.0	no
18-Dec-15	-0.04	306.08	305.3	no	305.0	no
19-Dec-15			305.3		305.0	
20-Dec-15			305.3		305.0	
21-Dec-15	-0.05	306.07	305.3	no	305.0	no
22-Dec-15	-0.05	306.07	305.3	no	305.0	no
23-Dec-15	-0.05	306.07	305.3	no	305.0	no
24-Dec-15			305.3		305.0	
25-Dec-15			305.3		305.0	
26-Dec-15			305.3		305.0	
27-Dec-15			305.3		305.0	
28-Dec-15			305.3		305.0	
29-Dec-15	-0.03	306.09	305.3	no	305.0	no
30-Dec-15			305.3		305.0	
31-Dec-15			305.3		305.0	
1-Jan-16			305.3		305.0	
2-Jan-16			305.3		305.0	
3-Jan-16			305.3		305.0	
4-Jan-16			305.3		305.0	
5-Jan-16			305.3		305.0	
6-Jan-16			305.3		305.0	
7-Jan-16			305.3		305.0	
8-Jan-16			305.3		305.0	
9-Jan-16			305.3		305.0	
10-Jan-16			305.3		305.0	
11-Jan-16			305.3		305.0	
12-Jan-16			305.3		305.0	
13-Jan-16			305.3		305.0	
14-Jan-16			305.3		305.0	
15-Jan-16			305.3		305.0	
16-Jan-16			305.3		305.0	
17-Jan-16			305.3		305.0	
18-Jan-16			305.3		305.0	
19-Jan-16			305.3		305.0	
20-Jan-16			305.3		305.0	
21-Jan-16			305.3		305.0	
22-Jan-16			305.3		305.0	
23-Jan-16			305.3		305.0	
24-Jan-16			305.3		305.0	
25-Jan-16			305.3		305.0	
26-Jan-16			305.3		305.0	
27-Jan-16			305.3		305.0	
28-Jan-16			305.3		305.0	
29-Jan-16			305.3		305.0	
30-Jan-16			305.3		305.0	
31-Jan-16			305.3		305.0	
1-Feb-16			305.3		305.0	
2-Feb-16			305.3		305.0	
3-Feb-16			305.3		305.0	
4-Feb-16			305.3		305.0	
5-Feb-16			305.3		305.0	
6-Feb-16			305.3		305.0	
7-Feb-16			305.3		305.0	
8-Feb-16			305.3		305.0	
9-Feb-16			305.3		305.0	
10-Feb-16			305.3		305.0	
11-Feb-16			305.3		305.0	
12-Feb-16			305.3		305.0	
13-Feb-16			305.3		305.0	
14-Feb-16			305.3		305.0	
15-Feb-16			305.3		305.0	
16-Feb-16			305.3		305.0	
17-Feb-16			305.3		305.0	
18-Feb-16			305.3		305.0	
19-Feb-16			305.3		305.0	
20-Feb-16			305.3		305.0	
21-Feb-16			305.3		305.0	
22-Feb-16			305.3		305.0	
23-Feb-16			305.3		305.0	
24-Feb-16			305.3		305.0	
25-Feb-16			305.3		305.0	
26-Feb-16			305.3		305.0	
27-Feb-16			305.3		305.0	
28-Feb-16			305.3		305.0	
29-Feb-16			305.3		305.0	
1-Mar-16			305.3		305.0	
2-Mar-16			305.3		305.0	
3-Mar-16			305.3		305.0	
4-Mar-16			305.3		305.0	
5-Mar-16			305.3		305.0	
6-Mar-16			305.3		305.0	
7-Mar-16			305.3		305.0	
8-Mar-16			305.3		305.0	
9-Mar-16			305.3		305.0	
10-Mar-16			305.3		305.0	
11-Mar-16			305.3		305.0	

Table G-8
Threshold Summary - Phase 2 Pond
Mill Creek Aggregates Pit

Date	Gauge Reading Phase 2 Pond (m)	Water Elevation Phase 2 Pond (m ASL)	Early Warning Value (m ASL)	Exceedance of Early Warning Value	Threshold Value (Min) (m ASL)	Exceedance of Threshold Value
12-Mar-16			305.3		305.0	
13-Mar-16			305.3		305.0	
14-Mar-16			305.3		305.0	
15-Mar-16			305.3		305.0	
16-Mar-16			305.3		305.0	
17-Mar-16			305.3		305.0	
18-Mar-16			305.3		305.0	
19-Mar-16			305.3		305.0	
20-Mar-16			305.3		305.0	
21-Mar-16			305.3		305.0	
22-Mar-16			305.3		305.0	
23-Mar-16			305.3		305.0	
24-Mar-16			305.3		305.0	
25-Mar-16			305.3		305.0	
26-Mar-16			305.3		305.0	
27-Mar-16			305.3		305.0	
28-Mar-16			305.3		305.0	
29-Mar-16	0.19	306.10	305.3	no	305.0	no
30-Mar-16	0.19	306.10	305.3	no	305.0	no
31-Mar-16	0.20	306.11	305.3	no	305.0	no
1-Apr-16	0.21	306.12	305.3	no	305.0	no
2-Apr-16			305.3		305.0	
3-Apr-16			305.3		305.0	
4-Apr-16	0.25	306.16	305.3	no	305.0	no
5-Apr-16	0.26	306.17	305.3	no	305.0	no
6-Apr-16	0.27	306.18	305.3	no	305.0	no
7-Apr-16	0.27	306.18	305.3	no	305.0	no
8-Apr-16	0.27	306.18	305.3	no	305.0	no
9-Apr-16			305.3		305.0	
10-Apr-16			305.3		305.0	
11-Apr-16	0.30	306.21	305.3	no	305.0	no
12-Apr-16	0.30	306.21	305.3	no	305.0	no
13-Apr-16	0.31	306.22	305.3	no	305.0	no
14-Apr-16	0.31	306.22	305.3	no	305.0	no
15-Apr-16	0.31	306.22	305.3	no	305.0	no
16-Apr-16			305.3		305.0	
17-Apr-16			305.3		305.0	
18-Apr-16	0.33	306.24	305.3	no	305.0	no
19-Apr-16	0.34	306.25	305.3	no	305.0	no
20-Apr-16	0.34	306.25	305.3	no	305.0	no
21-Apr-16	0.34	306.25	305.3	no	305.0	no
22-Apr-16	0.35	306.26	305.3	no	305.0	no
23-Apr-16			305.3		305.0	
24-Apr-16			305.3		305.0	
25-Apr-16	0.36	306.27	305.3	no	305.0	no
26-Apr-16	0.37	306.28	305.3	no	305.0	no
27-Apr-16	0.37	306.31	305.3	no	305.0	no
28-Apr-16	0.36	306.30	305.3	no	305.0	no
29-Apr-16	0.36	306.30	305.3	no	305.0	no
30-Apr-16			305.3		305.0	
1-May-16			305.3		305.0	
2-May-16	0.36	306.30	305.3	no	305.0	no
3-May-16	0.38	306.32	305.3	no	305.0	no
4-May-16	0.38	306.32	305.3	no	305.0	no
5-May-16	0.39	306.33	305.3	no	305.0	no
6-May-16	0.39	306.33	305.3	no	305.0	no
7-May-16			305.3		305.0	
8-May-16			305.3		305.0	
9-May-16	0.38	306.32	305.3	no	305.0	no
10-May-16	0.38	306.32	305.3	no	305.0	no
11-May-16	0.38	306.32	305.3	no	305.0	no
12-May-16	0.38	306.32	305.3	no	305.0	no
13-May-16	0.39	306.33	305.3	no	305.0	no
14-May-16			305.3		305.0	
15-May-16			305.3		305.0	
16-May-16	0.39	306.33	305.3	no	305.0	no
17-May-16	0.39	306.33	305.3	no	305.0	no
18-May-16	0.39	306.33	305.3	no	305.0	no
19-May-16	0.38	306.32	305.3	no	305.0	no
20-May-16	0.38	306.32	305.3	no	305.0	no
21-May-16			305.3		305.0	
22-May-16			305.3		305.0	
23-May-16			305.3		305.0	
24-May-16	0.39	306.33	305.3	no	305.0	no
25-May-16	0.38	306.32	305.3	no	305.0	no
26-May-16	0.38	306.32	305.3	no	305.0	no
27-May-16	0.41	306.35	305.3	no	305.0	no
28-May-16			305.3		305.0	
29-May-16			305.3		305.0	
30-May-16	0.40	306.34	305.3	no	305.0	no
31-May-16	0.40	306.34	305.3	no	305.0	no
1-Jun-16	0.39	306.33	305.3	no	305.0	no
2-Jun-16	0.39	306.33	305.3	no	305.0	no
3-Jun-16	0.39	306.33	305.3	no	305.0	no
4-Jun-16			305.3		305.0	
5-Jun-16			305.3		305.0	
6-Jun-16	0.40	306.34	305.3	no	305.0	no
7-Jun-16	0.39	306.33	305.3	no	305.0	no
8-Jun-16	0.39	306.33	305.3	no	305.0	no
9-Jun-16	0.38	306.32	305.3	no	305.0	no
10-Jun-16	0.38	306.32	305.3	no	305.0	no
11-Jun-16			305.3		305.0	
12-Jun-16			305.3		305.0	
13-Jun-16	0.36	306.30	305.3	no	305.0	no
14-Jun-16	0.36	306.30	305.3	no	305.0	no
15-Jun-16	0.36	306.30	305.3	no	305.0	no
16-Jun-16	0.36	306.30	305.3	no	305.0	no
17-Jun-16	0.32	306.26	305.3	no	305.0	no
18-Jun-16			305.3		305.0	
19-Jun-16			305.3		305.0	
20-Jun-16	0.35	306.29	305.3	no	305.0	no
21-Jun-16	0.35	306.29	305.3	no	305.0	no
22-Jun-16	0.35	306.29	305.3	no	305.0	no
23-Jun-16	0.34	306.28	305.3	no	305.0	no
24-Jun-16	0.32	306.26	305.3	no	305.0	no
25-Jun-16			305.3		305.0	
26-Jun-16			305.3		305.0	
27-Jun-16	0.32	306.26	305.3	no	305.0	no
28-Jun-16	0.31	306.25	305.3	no	305.0	no
29-Jun-16	0.30	306.24	305.3	no	305.0	no
30-Jun-16	0.30	306.24	305.3	no	305.0	no
1-Jul-16			305.3		305.0	
2-Jul-16			305.3		305.0	
3-Jul-16			305.3		305.0	
4-Jul-16	0.28	306.22	305.3	no	305.0	no
5-Jul-16	0.28	306.22	305.3	no	305.0	no
6-Jul-16	0.28	306.22	305.3	no	305.0	no
7-Jul-16	0.27	306.21	305.3	no	305.0	no
8-Jul-16	0.27	306.21	305.3	no	305.0	no
9-Jul-16			305.3		305.0	
10-Jul-16			305.3		305.0	
11-Jul-16	0.26	306.20	305.3	no	305.0	no
12-Jul-16	0.25	306.19	305.3	no	305.0	no
13-Jul-16	0.21	306.15	305.3	no	305.0	no
14-Jul-16	0.22	306.16	305.3	no	305.0	no
15-Jul-16	0.24	306.18	305.3	no	305.0	no
16-Jul-16			305.3		305.0	
17-Jul-16			305.3		305.0	
18-Jul-16			305.3		305.0	
19-Jul-16			305.3		305.0	
20-Jul-16			305.3		305.0	
21-Jul-16			305.3		305.0	
22-Jul-16	0.15	306.09	305.3	no	305.0	no

Table G-8
Threshold Summary - Phase 2 Pond
Mill Creek Aggregates Pit

Date	Gauge Reading Phase 2 Pond (m)	Water Elevation Phase 2 Pond (m ASL)	Early Warning Value (m ASL)	Exceedance of Early Warning Value	Threshold Value (Min) (m ASL)	Exceedance of Threshold Value
23-Jul-16			305.3		305.0	
24-Jul-16			305.3		305.0	
25-Jul-16			305.3		305.0	
26-Jul-16	0.27	306.08	305.3	no	305.0	no
27-Jul-16	0.27	306.08	305.3	no	305.0	no
28-Jul-16	0.27	306.08	305.3	no	305.0	no
29-Jul-16	0.27	306.08	305.3	no	305.0	no
30-Jul-16			305.3		305.0	
31-Jul-16			305.3		305.0	
1-Aug-16			305.3		305.0	
2-Aug-16	0.25	306.06	305.3	no	305.0	no
3-Aug-16	0.25	306.06	305.3	no	305.0	no
4-Aug-16	0.24	306.05	305.3	no	305.0	no
5-Aug-16	0.23	306.04	305.3	no	305.0	no
6-Aug-16			305.3		305.0	
7-Aug-16			305.3		305.0	
8-Aug-16	0.22	306.03	305.3	no	305.0	no
9-Aug-16	0.20	306.01	305.3	no	305.0	no
10-Aug-16	0.20	306.01	305.3	no	305.0	no
11-Aug-16	0.19	306.00	305.3	no	305.0	no
12-Aug-16	0.18	305.99	305.3	no	305.0	no
13-Aug-16			305.3		305.0	
14-Aug-16			305.3		305.0	
15-Aug-16	0.19	306.00	305.3	no	305.0	no
16-Aug-16	0.19	306.00	305.3	no	305.0	no
17-Aug-16	0.19	306.00	305.3	no	305.0	no
18-Aug-16	0.18	305.99	305.3	no	305.0	no
19-Aug-16	0.17	305.98	305.3	no	305.0	no
20-Aug-16			305.3		305.0	
21-Aug-16			305.3		305.0	
22-Aug-16	0.21	306.02	305.3	no	305.0	no
23-Aug-16	0.20	306.01	305.3	no	305.0	no
24-Aug-16	0.19	306.00	305.3	no	305.0	no
25-Aug-16	0.19	306.00	305.3	no	305.0	no
26-Aug-16	0.25	306.06	305.3	no	305.0	no
27-Aug-16			305.3		305.0	
28-Aug-16			305.3		305.0	
29-Aug-16	0.24	306.05	305.3	no	305.0	no
30-Aug-16	0.23	306.04	305.3	no	305.0	no
31-Aug-16	0.22	306.03	305.3	no	305.0	no
1-Sep-16	0.22	306.03	305.3	no	305.0	no
2-Sep-16	0.20	306.01	305.3	no	305.0	no
3-Sep-16			305.3		305.0	
4-Sep-16			305.3		305.0	
5-Sep-16			305.3		305.0	
6-Sep-16	0.18	305.99	305.3	no	305.0	no
7-Sep-16	0.17	305.98	305.3	no	305.0	no
8-Sep-16	0.19	306.00	305.3	no	305.0	no
9-Sep-16	0.19	306.00	305.3	no	305.0	no
10-Sep-16			305.3		305.0	
11-Sep-16			305.3		305.0	
12-Sep-16	0.19	306.00	305.3	no	305.0	no
13-Sep-16	0.18	305.99	305.3	no	305.0	no
14-Sep-16	0.15	305.96	305.3	no	305.0	no
15-Sep-16	0.14	305.95	305.3	no	305.0	no
16-Sep-16			305.3		305.0	
17-Sep-16			305.3		305.0	
18-Sep-16			305.3		305.0	
19-Sep-16	0.14	305.95	305.3	no	305.0	no
20-Sep-16	0.13	305.94	305.3	no	305.0	no
21-Sep-16	0.13	305.94	305.3	no	305.0	no
22-Sep-16	0.12	305.93	305.3	no	305.0	no
23-Sep-16	0.11	305.92	305.3	no	305.0	no
24-Sep-16			305.3		305.0	
25-Sep-16			305.3		305.0	
26-Sep-16	0.09	305.90	305.3	no	305.0	no
27-Sep-16	0.09	305.90	305.3	no	305.0	no
28-Sep-16	0.09	305.90	305.3	no	305.0	no
29-Sep-16	0.09	305.90	305.3	no	305.0	no
30-Sep-16	0.08	305.89	305.3	no	305.0	no
1-Oct-16			305.3		305.0	
2-Oct-16			305.3		305.0	
3-Oct-16	0.07	305.88	305.3	no	305.0	no
4-Oct-16	0.07	305.88	305.3	no	305.0	no
5-Oct-16	0.05	305.86	305.3	no	305.0	no
6-Oct-16	0.05	305.86	305.3	no	305.0	no
7-Oct-16	0.03	305.84	305.3	no	305.0	no
8-Oct-16			305.3		305.0	
9-Oct-16			305.3		305.0	
10-Oct-16			305.3		305.0	
11-Oct-16	0.02	305.83	305.3	no	305.0	no
12-Oct-16	0.02	305.83	305.3	no	305.0	no
13-Oct-16	0.02	305.83	305.3	no	305.0	no
14-Oct-16	0.02	305.83	305.3	no	305.0	no
15-Oct-16			305.3		305.0	
16-Oct-16			305.3		305.0	
17-Oct-16	0.00	305.81	305.3	no	305.0	no
18-Oct-16	0.20	305.81	305.3	no	305.0	no
19-Oct-16	0.20	305.81	305.3	no	305.0	no
20-Oct-16	0.19	305.80	305.3	no	305.0	no
21-Oct-16	0.20	305.81	305.3	no	305.0	no
22-Oct-16			305.3		305.0	
23-Oct-16			305.3		305.0	
24-Oct-16	0.18	305.79	305.3	no	305.0	no
25-Oct-16	0.18	305.79	305.3	no	305.0	no
26-Oct-16	0.17	305.78	305.3	no	305.0	no
27-Oct-16	0.18	305.79	305.3	no	305.0	no
28-Oct-16	0.18	305.79	305.3	no	305.0	no
29-Oct-16			305.3		305.0	
30-Oct-16			305.3		305.0	
31-Oct-16	0.15	305.76	305.3	no	305.0	no
1-Nov-16	0.14	305.75	305.3	no	305.0	no
2-Nov-16	0.15	305.76	305.3	no	305.0	no
3-Nov-16	0.17	305.78	305.3	no	305.0	no
4-Nov-16	0.16	305.77	305.3	no	305.0	no
5-Nov-16			305.3		305.0	
6-Nov-16			305.3		305.0	
7-Nov-16	0.15	305.76	305.3	no	305.0	no
8-Nov-16	0.15	305.76	305.3	no	305.0	no
9-Nov-16	0.15	305.76	305.3	no	305.0	no
10-Nov-16	0.15	305.76	305.3	no	305.0	no
11-Nov-16	0.15	305.76	305.3	no	305.0	no
12-Nov-16			305.3		305.0	
13-Nov-16			305.3		305.0	
14-Nov-16	0.13	305.74	305.3	no	305.0	no
15-Nov-16	0.13	305.74	305.3	no	305.0	no
16-Nov-16	0.13	305.74	305.3	no	305.0	no
17-Nov-16	0.12	305.73	305.3	no	305.0	no
18-Nov-16	0.12	305.73	305.3	no	305.0	no
19-Nov-16			305.3		305.0	
20-Nov-16			305.3		305.0	
21-Nov-16	0.11	305.72	305.3	no	305.0	no
22-Nov-16	0.11	305.72	305.3	no	305.0	no
23-Nov-16	0.11	305.72	305.3	no	305.0	no
24-Nov-16	0.11	305.72	305.3	no	305.0	no
25-Nov-16	0.10	305.71	305.3	no	305.0	no
26-Nov-16			305.3		305.0	
27-Nov-16			305.3		305.0	
28-Nov-16	0.11	305.72	305.3	no	305.0	no
29-Nov-16	0.11	305.72	305.3	no	305.0	no
30-Nov-16	0.11	305.72	305.3	no	305.0	no

Table G-8
Threshold Summary - Phase 2 Pond
Mill Creek Aggregates Pit

Date	Gauge Reading Phase 2 Pond (m)	Water Elevation Phase 2 Pond (m ASL)	Early Warning Value (m ASL)	Exceedance of Early Warning Value	Threshold Value (Min) (m ASL)	Exceedance of Threshold Value
1-Dec-16	0.11	305.72	305.3	no	305.0	no
2-Dec-16	0.11	305.72	305.3	no	305.0	no
3-Dec-16			305.3		305.0	
4-Dec-16			305.3		305.0	
5-Dec-16			305.3		305.0	
6-Dec-16			305.3		305.0	
7-Dec-16			305.3		305.0	
8-Dec-16			305.3		305.0	
9-Dec-16			305.3		305.0	
10-Dec-16			305.3		305.0	
11-Dec-16			305.3		305.0	
12-Dec-16			305.3		305.0	
13-Dec-16			305.3		305.0	
14-Dec-16			305.3		305.0	
15-Dec-16			305.3		305.0	
16-Dec-16			305.3		305.0	
17-Dec-16			305.3		305.0	
18-Dec-16			305.3		305.0	
19-Dec-16			305.3		305.0	
20-Dec-16			305.3		305.0	
21-Dec-16			305.3		305.0	
22-Dec-16			305.3		305.0	
23-Dec-16			305.3		305.0	
24-Dec-16			305.3		305.0	
25-Dec-16			305.3		305.0	
26-Dec-16			305.3		305.0	
27-Dec-16			305.3		305.0	
28-Dec-16			305.3		305.0	
29-Dec-16			305.3		305.0	
30-Dec-16			305.3		305.0	
31-Dec-16			305.3		305.0	
1-Jan-17			305.3		305.0	
2-Jan-17			305.3		305.0	
3-Jan-17			305.3		305.0	
4-Jan-17			305.3		305.0	
5-Jan-17			305.3		305.0	
6-Jan-17			305.3		305.0	
7-Jan-17			305.3		305.0	
8-Jan-17			305.3		305.0	
9-Jan-17			305.3		305.0	
10-Jan-17			305.3		305.0	
11-Jan-17			305.3		305.0	
12-Jan-17			305.3		305.0	
13-Jan-17			305.3		305.0	
14-Jan-17			305.3		305.0	
15-Jan-17			305.3		305.0	
16-Jan-17			305.3		305.0	
17-Jan-17			305.3		305.0	
18-Jan-17			305.3		305.0	
19-Jan-17			305.3		305.0	
20-Jan-17			305.3		305.0	
21-Jan-17			305.3		305.0	
22-Jan-17			305.3		305.0	
23-Jan-17			305.3		305.0	
24-Jan-17			305.3		305.0	
25-Jan-17			305.3		305.0	
26-Jan-17			305.3		305.0	
27-Jan-17			305.3		305.0	
28-Jan-17			305.3		305.0	
29-Jan-17			305.3		305.0	
30-Jan-17			305.3		305.0	
31-Jan-17			305.3		305.0	
1-Feb-17			305.3		305.0	
2-Feb-17			305.3		305.0	
3-Feb-17			305.3		305.0	
4-Feb-17			305.3		305.0	
5-Feb-17			305.3		305.0	
6-Feb-17			305.3		305.0	
7-Feb-17			305.3		305.0	
8-Feb-17			305.3		305.0	
9-Feb-17			305.3		305.0	
10-Feb-17			305.3		305.0	
11-Feb-17			305.3		305.0	
12-Feb-17			305.3		305.0	
13-Feb-17			305.3		305.0	
14-Feb-17			305.3		305.0	
15-Feb-17			305.3		305.0	
16-Feb-17			305.3		305.0	
17-Feb-17			305.3		305.0	
18-Feb-17			305.3		305.0	
19-Feb-17			305.3		305.0	
20-Feb-17			305.3		305.0	
21-Feb-17			305.3		305.0	
22-Feb-17			305.3		305.0	
23-Feb-17			305.3		305.0	
24-Feb-17			305.3		305.0	
25-Feb-17			305.3		305.0	
26-Feb-17			305.3		305.0	
27-Feb-17			305.3		305.0	
28-Feb-17			305.3		305.0	
1-Mar-17			305.3		305.0	
2-Mar-17			305.3		305.0	
3-Mar-17			305.3		305.0	
4-Mar-17			305.3		305.0	
5-Mar-17			305.3		305.0	
6-Mar-17			305.3		305.0	
7-Mar-17			305.3		305.0	
8-Mar-17			305.3		305.0	
9-Mar-17			305.3		305.0	
10-Mar-17			305.3		305.0	
11-Mar-17			305.3		305.0	
12-Mar-17			305.3		305.0	
13-Mar-17			305.3		305.0	
14-Mar-17			305.3		305.0	
15-Mar-17			305.3		305.0	
16-Mar-17			305.3		305.0	
17-Mar-17			305.3		305.0	
18-Mar-17			305.3		305.0	
19-Mar-17			305.3		305.0	
20-Mar-17			305.3		305.0	
21-Mar-17			305.3		305.0	
22-Mar-17			305.3		305.0	
23-Mar-17			305.3		305.0	
24-Mar-17			305.3		305.0	
25-Mar-17			305.3		305.0	
26-Mar-17			305.3		305.0	
27-Mar-17	0.45	306.05	305.3	no	305.0	no
28-Mar-17	0.45	306.05	305.3	no	305.0	no
29-Mar-17	0.46	306.06	305.3	no	305.0	no
30-Mar-17	0.46	306.06	305.3	no	305.0	no
31-Mar-17	0.46	306.06	305.3	no	305.0	no
1-Apr-17			305.3		305.0	
2-Apr-17			305.3		305.0	
3-Apr-17	0.48	306.08	305.3	no	305.0	no
4-Apr-17	0.48	306.08	305.3	no	305.0	no
5-Apr-17	0.48	306.08	305.3	no	305.0	no
6-Apr-17	0.49	306.09	305.3	no	305.0	no
7-Apr-17	0.51	306.11	305.3	no	305.0	no
8-Apr-17			305.3		305.0	
9-Apr-17			305.3		305.0	
10-Apr-17	0.55	306.15	305.3	no	305.0	no
11-Apr-17	0.56	306.16	305.3	no	305.0	no
12-Apr-17	0.56	306.16	305.3	no	305.0	no

Table G-8
Threshold Summary - Phase 2 Pond
Mill Creek Aggregates Pit

Date	Gauge Reading Phase 2 Pond (m)	Water Elevation Phase 2 Pond (m ASL)	Early Warning Value (m ASL)	Exceedance of Early Warning Value	Threshold Value (Min) (m ASL)	Exceedance of Threshold Value
13-Apr-17	0.57	306.17	305.3	no	305.0	no
14-Apr-17			305.3		305.0	
15-Apr-17			305.3		305.0	
16-Apr-17			305.3		305.0	
17-Apr-17	0.58	306.18	305.3	no	305.0	no
18-Apr-17	0.58	306.18	305.3	no	305.0	no
19-Apr-17	0.58	306.18	305.3	no	305.0	no
20-Apr-17	0.58	306.18	305.3	no	305.0	no
21-Apr-17	0.60	306.20	305.3	no	305.0	no
22-Apr-17			305.3		305.0	
23-Apr-17			305.3		305.0	
24-Apr-17	0.62	306.22	305.3	no	305.0	no
25-Apr-17	0.62	306.22	305.3	no	305.0	no
26-Apr-17	0.62	306.22	305.3	no	305.0	no
27-Apr-17	0.60	306.20	305.3	no	305.0	no
28-Apr-17	0.61	306.21	305.3	no	305.0	no
29-Apr-17			305.3		305.0	
30-Apr-17			305.3		305.0	
1-May-17	0.65	306.25	305.3	no	305.0	no
2-May-17	0.67	306.27	305.3	no	305.0	no
3-May-17	0.67	306.27	305.3	no	305.0	no
4-May-17	0.67	306.27	305.3	no	305.0	no
5-May-17	0.65	306.25	305.3	no	305.0	no
6-May-17			305.3		305.0	
7-May-17			305.3		305.0	
8-May-17	0.73	306.33	305.3	no	305.0	no
9-May-17	0.74	306.34	305.3	no	305.0	no
10-May-17	0.74	306.34	305.3	no	305.0	no
11-May-17	0.75	306.35	305.3	no	305.0	no
12-May-17	0.74	306.34	305.3	no	305.0	no
13-May-17			305.3		305.0	
14-May-17			305.3		305.0	
15-May-17	0.74	306.34	305.3	no	305.0	no
16-May-17	0.74	306.34	305.3	no	305.0	no
17-May-17	0.74	306.34	305.3	no	305.0	no
18-May-17	0.74	306.34	305.3	no	305.0	no
19-May-17	0.74	306.34	305.3	no	305.0	no
20-May-17			305.3		305.0	
21-May-17			305.3		305.0	
22-May-17			305.3		305.0	
23-May-17	0.77	306.37	305.3	no	305.0	no
24-May-17	0.77	306.37	305.3	no	305.0	no
25-May-17	0.78	306.38	305.3	no	305.0	no
26-May-17	0.77	306.37	305.3	no	305.0	no
27-May-17			305.3		305.0	
28-May-17			305.3		305.0	
29-May-17	0.79	306.39	305.3	no	305.0	no
30-May-17	0.81	306.41	305.3	no	305.0	no
31-May-17	0.84	306.44	305.3	no	305.0	no
1-Jun-17	0.80	306.40	305.3	no	305.0	no
2-Jun-17	0.80	306.40	305.3	no	305.0	no
3-Jun-17			305.3		305.0	
4-Jun-17			305.3		305.0	
5-Jun-17	0.80	306.40	305.3	no	305.0	no
6-Jun-17	0.81	306.41	305.3	no	305.0	no
7-Jun-17	0.80	306.40	305.3	no	305.0	no
8-Jun-17	0.81	306.41	305.3	no	305.0	no
9-Jun-17	0.81	306.41	305.3	no	305.0	no
10-Jun-17			305.3		305.0	
11-Jun-17			305.3		305.0	
12-Jun-17	0.80	306.40	305.3	no	305.0	no
13-Jun-17	0.78	306.38	305.3	no	305.0	no
14-Jun-17	0.79	306.39	305.3	no	305.0	no
15-Jun-17	0.78	306.38	305.3	no	305.0	no
16-Jun-17	0.78	306.38	305.3	no	305.0	no
17-Jun-17	0.79	306.39	305.3	no	305.0	no
18-Jun-17			305.3		305.0	
19-Jun-17	0.80	306.40	305.3	no	305.0	no
20-Jun-17	0.79	306.39	305.3	no	305.0	no
21-Jun-17	0.78	306.38	305.3	no	305.0	no
22-Jun-17	0.78	306.38	305.3	no	305.0	no
23-Jun-17	0.80	306.40	305.3	no	305.0	no
24-Jun-17	0.80	306.40	305.3	no	305.0	no
25-Jun-17			305.3		305.0	
26-Jun-17	0.79	306.39	305.3	no	305.0	no
27-Jun-17	0.79	306.39	305.3	no	305.0	no
28-Jun-17	0.79	306.39	305.3	no	305.0	no
29-Jun-17	0.79	306.39	305.3	no	305.0	no
30-Jun-17	0.81	306.41	305.3	no	305.0	no
1-Jul-17			305.3		305.0	
2-Jul-17			305.3		305.0	
3-Jul-17			305.3		305.0	
4-Jul-17	0.81	306.41	305.3	no	305.0	no
5-Jul-17	0.80	306.40	305.3	no	305.0	no
6-Jul-17	0.80	306.40	305.3	no	305.0	no
7-Jul-17	0.79	306.39	305.3	no	305.0	no
8-Jul-17			305.3		305.0	
9-Jul-17			305.3		305.0	
10-Jul-17	0.76	306.36	305.3	no	305.0	no
11-Jul-17	0.76	306.36	305.3	no	305.0	no
12-Jul-17	0.76	306.36	305.3	no	305.0	no
13-Jul-17	0.77	306.37	305.3	no	305.0	no
14-Jul-17	0.78	306.38	305.3	no	305.0	no
15-Jul-17	0.78	306.38	305.3	no	305.0	no
16-Jul-17			305.3		305.0	
17-Jul-17	0.78	306.38	305.3	no	305.0	no
18-Jul-17	0.78	306.38	305.3	no	305.0	no
19-Jul-17	0.77	306.37	305.3	no	305.0	no
20-Jul-17	0.77	306.37	305.3	no	305.0	no
21-Jul-17	0.77	306.37	305.3	no	305.0	no
22-Jul-17	0.77	306.37	305.3	no	305.0	no
23-Jul-17			305.3		305.0	
24-Jul-17	0.75	306.35	305.3	no	305.0	no
25-Jul-17	0.75	306.35	305.3	no	305.0	no
26-Jul-17	0.75	306.35	305.3	no	305.0	no
27-Jul-17	0.79	306.39	305.3	no	305.0	no
28-Jul-17	0.78	306.38	305.3	no	305.0	no
29-Jul-17			305.3		305.0	
30-Jul-17			305.3		305.0	
31-Jul-17	0.76	306.36	305.3	no	305.0	no
1-Aug-17	0.73	306.33	305.3	no	305.0	no
2-Aug-17	0.71	306.31	305.3	no	305.0	no
3-Aug-17	0.72	306.32	305.3	no	305.0	no
4-Aug-17	0.72	306.32	305.3	no	305.0	no
5-Aug-17			305.3		305.0	
6-Aug-17			305.3		305.0	
7-Aug-17			305.3		305.0	
8-Aug-17	0.72	306.32	305.3	no	305.0	no
9-Aug-17	0.71	306.31	305.3	no	305.0	no
10-Aug-17	0.68	306.28	305.3	no	305.0	no
11-Aug-17	0.70	306.30	305.3	no	305.0	no
12-Aug-17	0.70	306.30	305.3	no	305.0	no
13-Aug-17			305.3		305.0	
14-Aug-17	0.73	306.33	305.3	no	305.0	no
15-Aug-17	0.73	306.33	305.3	no	305.0	no
16-Aug-17	0.73	306.33	305.3	no	305.0	no
17-Aug-17	0.72	306.32	305.3	no	305.0	no
18-Aug-17	0.72	306.32	305.3	no	305.0	no
19-Aug-17	0.72	306.32	305.3	no	305.0	no
20-Aug-17			305.3		305.0	
21-Aug-17	0.69	306.29	305.3	no	305.0	no
22-Aug-17	0.69	306.29	305.3	no	305.0	no
23-Aug-17	0.68	306.28	305.3	no	305.0	no

Table G-8
Threshold Summary - Phase 2 Pond
Mill Creek Aggregates Pit

Date	Gauge Reading Phase 2 Pond (m)	Water Elevation Phase 2 Pond (m ASL)	Early Warning Value (m ASL)	Exceedance of Early Warning Value	Threshold Value (Min) (m ASL)	Exceedance of Threshold Value
24-Aug-17	0.68	306.28	305.3	no	305.0	no
25-Aug-17	0.66	306.26	305.3	no	305.0	no
26-Aug-17	0.67	306.27	305.3	no	305.0	no
27-Aug-17			305.3		305.0	
28-Aug-17	0.64	306.24	305.3	no	305.0	no
29-Aug-17	0.64	306.24	305.3	no	305.0	no
30-Aug-17	0.64	306.24	305.3	no	305.0	no
31-Aug-17	0.62	306.22	305.3	no	305.0	no
1-Sep-17	0.61	306.21	305.3	no	305.0	no
2-Sep-17	0.62	306.22	305.3	no	305.0	no
3-Sep-17			305.3		305.0	
4-Sep-17			305.3		305.0	
5-Sep-17	0.59	306.19	305.3	no	305.0	no
6-Sep-17	0.60	306.20	305.3	no	305.0	no
7-Sep-17	0.57	306.17	305.3	no	305.0	no
8-Sep-17	0.56	306.16	305.3	no	305.0	no
9-Sep-17			305.3		305.0	
10-Sep-17			305.3		305.0	
11-Sep-17	0.58	306.18	305.3	no	305.0	no
12-Sep-17	0.54	306.14	305.3	no	305.0	no
13-Sep-17	0.53	306.13	305.3	no	305.0	no
14-Sep-17	0.53	306.13	305.3	no	305.0	no
15-Sep-17	0.50	306.10	305.3	no	305.0	no
16-Sep-17	0.53	306.13	305.3	no	305.0	no
17-Sep-17			305.3		305.0	
18-Sep-17	0.59	306.19	305.3	no	305.0	no
19-Sep-17	0.50	306.10	305.3	no	305.0	no
20-Sep-17	0.50	306.10	305.3	no	305.0	no
21-Sep-17	0.50	306.10	305.3	no	305.0	no
22-Sep-17	0.49	306.09	305.3	no	305.0	no
23-Sep-17	0.49	306.09	305.3	no	305.0	no
24-Sep-17			305.3		305.0	
25-Sep-17	0.48	306.08	305.3	no	305.0	no
26-Sep-17	0.48	306.08	305.3	no	305.0	no
27-Sep-17	0.47	306.07	305.3	no	305.0	no
28-Sep-17	0.46	306.06	305.3	no	305.0	no
29-Sep-17	0.45	306.05	305.3	no	305.0	no
30-Sep-17	0.45	306.05	305.3	no	305.0	no
1-Oct-17			305.3		305.0	
2-Oct-17	0.42	306.02	305.3	no	305.0	no
3-Oct-17	0.39	305.99	305.3	no	305.0	no
4-Oct-17	0.41	306.01	305.3	no	305.0	no
5-Oct-17	0.40	306.00	305.3	no	305.0	no
6-Oct-17	0.40	306.00	305.3	no	305.0	no
7-Oct-17			305.3		305.0	
8-Oct-17			305.3		305.0	
9-Oct-17			305.3		305.0	
10-Oct-17	0.40	306.00	305.3	no	305.0	no
11-Oct-17	0.40	306.00	305.3	no	305.0	no
12-Oct-17	0.39	305.99	305.3	no	305.0	no
13-Oct-17	0.39	305.99	305.3	no	305.0	no
14-Oct-17	0.38	305.98	305.3	no	305.0	no
15-Oct-17			305.3		305.0	
16-Oct-17	0.39	305.99	305.3	no	305.0	no
17-Oct-17	0.38	305.98	305.3	no	305.0	no
18-Oct-17	0.36	305.96	305.3	no	305.0	no
19-Oct-17	0.37	305.97	305.3	no	305.0	no
20-Oct-17	0.36	305.96	305.3	no	305.0	no
21-Oct-17	0.34	305.94	305.3	no	305.0	no
22-Oct-17			305.3		305.0	
23-Oct-17	0.34	305.94	305.3	no	305.0	no
24-Oct-17	0.35	305.95	305.3	no	305.0	no
25-Oct-17	0.35	305.95	305.3	no	305.0	no
26-Oct-17	0.35	305.95	305.3	no	305.0	no
27-Oct-17	0.34	305.94	305.3	no	305.0	no
28-Oct-17	0.33	305.93	305.3	no	305.0	no
29-Oct-17			305.3		305.0	
30-Oct-17	0.31	305.91	305.3	no	305.0	no
31-Oct-17	0.30	305.90	305.3	no	305.0	no
1-Nov-17	0.30	305.90	305.3	no	305.0	no
2-Nov-17	0.30	305.90	305.3	no	305.0	no
3-Nov-17	0.30	305.90	305.3	no	305.0	no
4-Nov-17	0.30	305.90	305.3	no	305.0	no
5-Nov-17			305.3		305.0	
6-Nov-17	0.33	305.93	305.3	no	305.0	no
7-Nov-17	0.33	305.93	305.3	no	305.0	no
8-Nov-17	0.31	305.91	305.3	no	305.0	no
9-Nov-17	0.30	305.90	305.3	no	305.0	no
10-Nov-17			305.3		305.0	
11-Nov-17			305.3		305.0	
12-Nov-17			305.3		305.0	
13-Nov-17	0.29	305.89	305.3	no	305.0	no
14-Nov-17	0.29	305.89	305.3	no	305.0	no
15-Nov-17	0.29	305.89	305.3	no	305.0	no
16-Nov-17	0.29	305.89	305.3	no	305.0	no
17-Nov-17	0.28	305.88	305.3	no	305.0	no
18-Nov-17	0.29	305.89	305.3	no	305.0	no
19-Nov-17			305.3		305.0	
20-Nov-17	0.29	305.89	305.3	no	305.0	no
21-Nov-17	0.29	305.89	305.3	no	305.0	no
22-Nov-17	0.29	305.89	305.3	no	305.0	no
23-Nov-17	0.28	305.88	305.3	no	305.0	no
24-Nov-17	0.28	305.88	305.3	no	305.0	no
25-Nov-17			305.3		305.0	
26-Nov-17			305.3		305.0	
27-Nov-17	0.27	305.87	305.3	no	305.0	no
28-Nov-17	0.27	305.87	305.3	no	305.0	no
29-Nov-17	0.27	305.87	305.3	no	305.0	no
30-Nov-17	0.25	305.85	305.3	no	305.0	no
1-Dec-17	0.25	305.85	305.3	no	305.0	no
2-Dec-17	0.24	305.84	305.3	no	305.0	no
3-Dec-17			305.3		305.0	
4-Dec-17	0.24	305.84	305.3	no	305.0	no
5-Dec-17	0.26	305.86	305.3	no	305.0	no
6-Dec-17	0.25	305.85	305.3	no	305.0	no
7-Dec-17	0.25	305.85	305.3	no	305.0	no
8-Dec-17	0.25	305.85	305.3	no	305.0	no
9-Dec-17	0.25	305.85	305.3	no	305.0	no
10-Dec-17	0.25	305.85	305.3	no	305.0	no
11-Dec-17	0.25	305.85	305.3	no	305.0	no
12-Dec-17	0.25	305.85	305.3	no	305.0	no
13-Dec-17	0.25	305.85	305.3	no	305.0	no
14-Dec-17	0.25	305.85	305.3	no	305.0	no
15-Dec-17	0.25	305.85	305.3	no	305.0	no
16-Dec-17			305.3		305.0	
17-Dec-17			305.3		305.0	
18-Dec-17			305.3		305.0	
19-Dec-17			305.3		305.0	
20-Dec-17			305.3		305.0	
21-Dec-17			305.3		305.0	
22-Dec-17			305.3		305.0	
23-Dec-17			305.3		305.0	
24-Dec-17			305.3		305.0	
25-Dec-17			305.3		305.0	
26-Dec-17			305.3		305.0	
27-Dec-17			305.3		305.0	
28-Dec-17			305.3		305.0	
29-Dec-17			305.3		305.0	
30-Dec-17			305.3		305.0	
31-Dec-17			305.3		305.0	

Table G-8
Threshold Summary - Phase 2 Pond
Mill Creek Aggregates Pit

Date	Gauge Reading Phase 2 Pond (m)	Water Elevation Phase 2 Pond (m ASL)	Early Warning Value (m ASL)	Exceedance of Early Warning Value	Threshold Value (Min) (m ASL)	Exceedance of Threshold Value
1-Jan-18			305.3		305.0	
2-Jan-18			305.3		305.0	
3-Jan-18			305.3		305.0	
4-Jan-18			305.3		305.0	
5-Jan-18			305.3		305.0	
6-Jan-18			305.3		305.0	
7-Jan-18			305.3		305.0	
8-Jan-18			305.3		305.0	
9-Jan-18			305.3		305.0	
10-Jan-18			305.3		305.0	
11-Jan-18			305.3		305.0	
12-Jan-18			305.3		305.0	
13-Jan-18			305.3		305.0	
14-Jan-18			305.3		305.0	
15-Jan-18			305.3		305.0	
16-Jan-18			305.3		305.0	
17-Jan-18			305.3		305.0	
18-Jan-18			305.3		305.0	
19-Jan-18			305.3		305.0	
20-Jan-18			305.3		305.0	
21-Jan-18			305.3		305.0	
22-Jan-18			305.3		305.0	
23-Jan-18			305.3		305.0	
24-Jan-18			305.3		305.0	
25-Jan-18			305.3		305.0	
26-Jan-18			305.3		305.0	
27-Jan-18			305.3		305.0	
28-Jan-18			305.3		305.0	
29-Jan-18			305.3		305.0	
30-Jan-18			305.3		305.0	
31-Jan-18			305.3		305.0	
1-Feb-18			305.3		305.0	
2-Feb-18			305.3		305.0	
3-Feb-18			305.3		305.0	
4-Feb-18			305.3		305.0	
5-Feb-18			305.3		305.0	
6-Feb-18			305.3		305.0	
7-Feb-18			305.3		305.0	
8-Feb-18			305.3		305.0	
9-Feb-18			305.3		305.0	
10-Feb-18			305.3		305.0	
11-Feb-18			305.3		305.0	
12-Feb-18			305.3		305.0	
13-Feb-18			305.3		305.0	
14-Feb-18			305.3		305.0	
15-Feb-18			305.3		305.0	
16-Feb-18			305.3		305.0	
17-Feb-18			305.3		305.0	
18-Feb-18			305.3		305.0	
19-Feb-18			305.3		305.0	
20-Feb-18			305.3		305.0	
21-Feb-18			305.3		305.0	
22-Feb-18			305.3		305.0	
23-Feb-18			305.3		305.0	
24-Feb-18			305.3		305.0	
25-Feb-18			305.3		305.0	
26-Feb-18			305.3		305.0	
27-Feb-18			305.3		305.0	
28-Feb-18			305.3		305.0	
1-Mar-18			305.3		305.0	
2-Mar-18			305.3		305.0	
3-Mar-18			305.3		305.0	
4-Mar-18			305.3		305.0	
5-Mar-18			305.3		305.0	
6-Mar-18			305.3		305.0	
7-Mar-18			305.3		305.0	
8-Mar-18			305.3		305.0	
9-Mar-18			305.3		305.0	
10-Mar-18			305.3		305.0	
11-Mar-18			305.3		305.0	
12-Mar-18			305.3		305.0	
13-Mar-18			305.3		305.0	
14-Mar-18			305.3		305.0	
15-Mar-18			305.3		305.0	
16-Mar-18			305.3		305.0	
17-Mar-18			305.3		305.0	
18-Mar-18			305.3		305.0	
19-Mar-18			305.3		305.0	
20-Mar-18			305.3		305.0	
21-Mar-18			305.3		305.0	
22-Mar-18			305.3		305.0	
23-Mar-18			305.3		305.0	
24-Mar-18			305.3		305.0	
25-Mar-18			305.3		305.0	
26-Mar-18			305.3		305.0	
27-Mar-18			305.3		305.0	
28-Mar-18			305.3		305.0	
29-Mar-18			305.3		305.0	
30-Mar-18			305.3		305.0	
31-Mar-18			305.3		305.0	
1-Apr-18			305.3		305.0	
2-Apr-18	0.74	306.03	305.3	no	305.0	no
3-Apr-18	0.74	306.03	305.3	no	305.0	no
4-Apr-18	0.75	306.04	305.3	no	305.0	no
5-Apr-18	0.75	306.04	305.3	no	305.0	no
6-Apr-18	0.78	306.07	305.3	no	305.0	no
7-Apr-18			305.3		305.0	
8-Apr-18			305.3		305.0	
9-Apr-18	0.75	306.04	305.3	no	305.0	no
10-Apr-18	0.73	306.02	305.3	no	305.0	no
11-Apr-18	0.77	306.06	305.3	no	305.0	no
12-Apr-18	0.75	306.04	305.3	no	305.0	no
13-Apr-18	0.75	306.04	305.3	no	305.0	no
14-Apr-18			305.3		305.0	
15-Apr-18			305.3		305.0	
16-Apr-18			305.3		305.0	
17-Apr-18			305.3		305.0	
18-Apr-18	0.83	306.12	305.3	no	305.0	no
19-Apr-18	0.80	306.09	305.3	no	305.0	no
20-Apr-18	0.81	306.10	305.3	no	305.0	no
21-Apr-18	0.81	306.10	305.3	no	305.0	no
22-Apr-18			305.3		305.0	
23-Apr-18	0.84	306.13	305.3	no	305.0	no
24-Apr-18	0.85	306.14	305.3	no	305.0	no
25-Apr-18	0.86	306.15	305.3	no	305.0	no
26-Apr-18	0.87	306.16	305.3	no	305.0	no
27-Apr-18	0.87	306.16	305.3	no	305.0	no
28-Apr-18	0.87	306.16	305.3	no	305.0	no
29-Apr-18			305.3		305.0	
30-Apr-18	0.87	306.16	305.3	no	305.0	no
1-May-18	0.88	306.17	305.3	no	305.0	no
2-May-18	0.88	306.17	305.3	no	305.0	no
3-May-18	0.88	306.17	305.3	no	305.0	no
4-May-18	0.90	306.19	305.3	no	305.0	no
5-May-18	0.90	306.19	305.3	no	305.0	no
6-May-18			305.3		305.0	
7-May-18	0.90	306.19	305.3	no	305.0	no
8-May-18	0.90	306.19	305.3	no	305.0	no
9-May-18	0.90	306.19	305.3	no	305.0	no
10-May-18	0.91	306.20	305.3	no	305.0	no
11-May-18	0.90	306.19	305.3	no	305.0	no
12-May-18	0.90	306.19	305.3	no	305.0	no
13-May-18			305.3		305.0	

Table G-8
Threshold Summary - Phase 2 Pond
Mill Creek Aggregates Pit

Date	Gauge Reading Phase 2 Pond (m)	Water Elevation Phase 2 Pond (m ASL)	Early Warning Value (m ASL)	Exceedance of Early Warning Value	Threshold Value (Min) (m ASL)	Exceedance of Threshold Value
14-May-18	0.90	306.19	305.3	no	305.0	no
15-May-18	0.93	306.22	305.3	no	305.0	no
16-May-18	0.92	306.21	305.3	no	305.0	no
17-May-18	0.90	306.19	305.3	no	305.0	no
18-May-18	0.89	306.18	305.3	no	305.0	no
19-May-18	0.90	306.19	305.3	no	305.0	no
20-May-18			305.3		305.0	
21-May-18			305.3		305.0	
22-May-18	0.94	306.23	305.3	no	305.0	no
23-May-18	0.94	306.23	305.3	no	305.0	no
24-May-18	0.94	306.23	305.3	no	305.0	no
25-May-18	0.93	306.22	305.3	no	305.0	no
26-May-18	0.92	306.21	305.3	no	305.0	no
27-May-18			305.3		305.0	
28-May-18	0.90	306.19	305.3	no	305.0	no
29-May-18	0.93	306.22	305.3	no	305.0	no
30-May-18	0.93	306.22	305.3	no	305.0	no
31-May-18	0.92	306.21	305.3	no	305.0	no
1-Jun-18	0.92	306.21	305.3	no	305.0	no
2-Jun-18	0.90	306.19	305.3	no	305.0	no
3-Jun-18			305.3		305.0	
4-Jun-18	0.90	306.19	305.3	no	305.0	no
5-Jun-18	0.90	306.19	305.3	no	305.0	no
6-Jun-18	0.89	306.18	305.3	no	305.0	no
7-Jun-18	0.89	306.18	305.3	no	305.0	no
8-Jun-18	0.89	306.18	305.3	no	305.0	no
9-Jun-18	0.90	306.19	305.3	no	305.0	no
10-Jun-18			305.3		305.0	
11-Jun-18	0.89	306.18	305.3	no	305.0	no
12-Jun-18	0.87	306.16	305.3	no	305.0	no
13-Jun-18	0.87	306.16	305.3	no	305.0	no
14-Jun-18	0.88	306.17	305.3	no	305.0	no
15-Jun-18	0.86	306.15	305.3	no	305.0	no
16-Jun-18	0.86	306.15	305.3	no	305.0	no
17-Jun-18			305.3		305.0	
18-Jun-18	0.85	306.14	305.3	no	305.0	no
19-Jun-18	0.85	306.14	305.3	no	305.0	no
20-Jun-18	0.85	306.14	305.3	no	305.0	no
21-Jun-18	0.84	306.13	305.3	no	305.0	no
22-Jun-18	0.85	306.14	305.3	no	305.0	no
23-Jun-18	0.84	306.13	305.3	no	305.0	no
24-Jun-18			305.3		305.0	
25-Jun-18	0.87	306.16	305.3	no	305.0	no
26-Jun-18	0.87	306.16	305.3	no	305.0	no
27-Jun-18	0.88	306.17	305.3	no	305.0	no
28-Jun-18	0.87	306.16	305.3	no	305.0	no
29-Jun-18	0.88	306.17	305.3	no	305.0	no
30-Jun-18			305.3		305.0	
1-Jul-18			305.3		305.0	
2-Jul-18			305.3		305.0	
3-Jul-18	0.88	306.17	305.3	no	305.0	no
4-Jul-18	0.86	306.15	305.3	no	305.0	no
5-Jul-18	0.86	306.15	305.3	no	305.0	no
6-Jul-18	0.87	306.16	305.3	no	305.0	no
7-Jul-18	0.83	306.12	305.3	no	305.0	no
8-Jul-18			305.3		305.0	
9-Jul-18	0.82	306.11	305.3	no	305.0	no
10-Jul-18	0.81	306.10	305.3	no	305.0	no
11-Jul-18	0.80	306.09	305.3	no	305.0	no
12-Jul-18	0.80	306.09	305.3	no	305.0	no
13-Jul-18	0.79	306.08	305.3	no	305.0	no
14-Jul-18	0.78	306.07	305.3	no	305.0	no
15-Jul-18			305.3		305.0	
16-Jul-18	0.78	306.07	305.3	no	305.0	no
17-Jul-18	0.78	306.07	305.3	no	305.0	no
18-Jul-18	0.78	306.07	305.3	no	305.0	no
19-Jul-18	0.76	306.05	305.3	no	305.0	no
20-Jul-18	0.77	306.06	305.3	no	305.0	no
21-Jul-18	0.78	306.07	305.3	no	305.0	no
22-Jul-18			305.3		305.0	
23-Jul-18	0.75	306.04	305.3	no	305.0	no
24-Jul-18	0.76	306.05	305.3	no	305.0	no
25-Jul-18	0.74	306.03	305.3	no	305.0	no
26-Jul-18	0.74	306.03	305.3	no	305.0	no
27-Jul-18	0.75	306.04	305.3	no	305.0	no
28-Jul-18	0.74	306.03	305.3	no	305.0	no
29-Jul-18			305.3		305.0	
30-Jul-18	0.74	306.03	305.3	no	305.0	no
31-Jul-18	0.74	306.03	305.3	no	305.0	no
1-Aug-18	0.72	306.01	305.3	no	305.0	no
2-Aug-18	0.73	306.02	305.3	no	305.0	no
3-Aug-18	0.72	306.01	305.3	no	305.0	no
4-Aug-18			305.3		305.0	
5-Aug-18			305.3		305.0	
6-Aug-18			305.3		305.0	
7-Aug-18	0.73	306.02	305.3	no	305.0	no
8-Aug-18	0.73	306.02	305.3	no	305.0	no
9-Aug-18	0.75	306.04	305.3	no	305.0	no
10-Aug-18	0.74	306.03	305.3	no	305.0	no
11-Aug-18	0.72	306.01	305.3	no	305.0	no
12-Aug-18			305.3		305.0	
13-Aug-18	0.71	306.00	305.3	no	305.0	no
14-Aug-18	0.72	306.01	305.3	no	305.0	no
15-Aug-18	0.70	305.99	305.3	no	305.0	no
16-Aug-18	0.70	305.99	305.3	no	305.0	no
17-Aug-18	0.70	305.99	305.3	no	305.0	no
18-Aug-18	0.72	306.01	305.3	no	305.0	no
19-Aug-18			305.3		305.0	
20-Aug-18	0.71	306.00	305.3	no	305.0	no
21-Aug-18	0.70	305.99	305.3	no	305.0	no
22-Aug-18	0.71	306.00	305.3	no	305.0	no
23-Aug-18	0.70	305.99	305.3	no	305.0	no
24-Aug-18	0.69	305.98	305.3	no	305.0	no
25-Aug-18	0.68	305.97	305.3	no	305.0	no
26-Aug-18			305.3		305.0	
27-Aug-18	0.70	305.99	305.3	no	305.0	no
28-Aug-18	0.70	305.99	305.3	no	305.0	no
29-Aug-18	0.70	305.99	305.3	no	305.0	no
30-Aug-18	0.70	305.99	305.3	no	305.0	no
31-Aug-18	0.70	305.99	305.3	no	305.0	no
1-Sep-18			305.3		305.0	
2-Sep-18			305.3		305.0	
3-Sep-18			305.3		305.0	
4-Sep-18	0.68	305.97	305.3	no	305.0	no
5-Sep-18	0.68	305.97	305.3	no	305.0	no
6-Sep-18	0.68	305.97	305.3	no	305.0	no
7-Sep-18	0.67	305.96	305.3	no	305.0	no
8-Sep-18	0.66	305.95	305.3	no	305.0	no
9-Sep-18			305.3		305.0	
10-Sep-18	0.68	305.97	305.3	no	305.0	no
11-Sep-18	0.67	305.96	305.3	no	305.0	no
12-Sep-18	0.65	305.94	305.3	no	305.0	no
13-Sep-18	0.64	305.93	305.3	no	305.0	no
14-Sep-18	0.63	305.92	305.3	no	305.0	no
15-Sep-18	0.61	305.90	305.3	no	305.0	no
16-Sep-18			305.3		305.0	
17-Sep-18	0.64	305.93	305.3	no	305.0	no
18-Sep-18	0.63	305.92	305.3	no	305.0	no
19-Sep-18	0.61	305.90	305.3	no	305.0	no
20-Sep-18	0.62	305.91	305.3	no	305.0	no
21-Sep-18	0.61	305.90	305.3	no	305.0	no

Table G-8
Threshold Summary - Phase 2 Pond
Mill Creek Aggregates Pit

Date	Gauge Reading Phase 2 Pond (m)	Water Elevation Phase 2 Pond (m ASL)	Early Warning Value (m ASL)	Exceedance of Early Warning Value	Threshold Value (Min) (m ASL)	Exceedance of Threshold Value
22-Sep-18	0.60	305.89	305.3	no	305.0	no
23-Sep-18			305.3		305.0	
24-Sep-18	0.59	305.88	305.3	no	305.0	no
25-Sep-18	0.59	305.88	305.3	no	305.0	no
26-Sep-18	0.59	305.88	305.3	no	305.0	no
27-Sep-18	0.59	305.88	305.3	no	305.0	no
28-Sep-18	0.58	305.87	305.3	no	305.0	no
29-Sep-18	0.57	305.86	305.3	no	305.0	no
30-Sep-18			305.3		305.0	
1-Oct-18	0.59	305.88	305.3	no	305.0	no
2-Oct-18	0.59	305.88	305.3	no	305.0	no
3-Oct-18	0.60	305.89	305.3	no	305.0	no
4-Oct-18	0.60	305.89	305.3	no	305.0	no
5-Oct-18	0.60	305.89	305.3	no	305.0	no
6-Oct-18	0.60	305.89	305.3	no	305.0	no
7-Oct-18			305.3		305.0	
8-Oct-18			305.3		305.0	
9-Oct-18	0.60	305.89	305.3	no	305.0	no
10-Oct-18	0.59	305.88	305.3	no	305.0	no
11-Oct-18	0.59	305.88	305.3	no	305.0	no
12-Oct-18	0.59	305.88	305.3	no	305.0	no
13-Oct-18	0.59	305.88	305.3	no	305.0	no
14-Oct-18			305.3		305.0	
15-Oct-18	0.58	305.87	305.3	no	305.0	no
16-Oct-18	0.57	305.86	305.3	no	305.0	no
17-Oct-18	0.56	305.85	305.3	no	305.0	no
18-Oct-18	0.55	305.84	305.3	no	305.0	no
19-Oct-18	0.54	305.83	305.3	no	305.0	no
20-Oct-18	0.54	305.83	305.3	no	305.0	no
21-Oct-18			305.3		305.0	
22-Oct-18	0.51	305.80	305.3	no	305.0	no
23-Oct-18	0.51	305.80	305.3	no	305.0	no
24-Oct-18	0.50	305.79	305.3	no	305.0	no
25-Oct-18	0.50	305.79	305.3	no	305.0	no
26-Oct-18	0.50	305.79	305.3	no	305.0	no
27-Oct-18	0.51	305.80	305.3	no	305.0	no
28-Oct-18			305.3		305.0	
29-Oct-18	0.50	305.79	305.3	no	305.0	no
30-Oct-18	0.50	305.79	305.3	no	305.0	no
31-Oct-18	0.48	305.77	305.3	no	305.0	no
1-Nov-18	0.48	305.77	305.3	no	305.0	no
2-Nov-18	0.53	305.82	305.3	no	305.0	no
3-Nov-18	0.56	305.85	305.3	no	305.0	no
4-Nov-18			305.3		305.0	
5-Nov-18	0.56	305.85	305.3	no	305.0	no
6-Nov-18	0.55	305.84	305.3	no	305.0	no
7-Nov-18	0.57	305.86	305.3	no	305.0	no
8-Nov-18	0.57	305.86	305.3	no	305.0	no
9-Nov-18	0.56	305.85	305.3	no	305.0	no
10-Nov-18	0.56	305.85	305.3	no	305.0	no
11-Nov-18			305.3		305.0	
12-Nov-18	0.56	305.85	305.3	no	305.0	no
13-Nov-18	0.56	305.85	305.3	no	305.0	no
14-Nov-18	0.55	305.84	305.3	no	305.0	no
15-Nov-18	0.56	305.85	305.3	no	305.0	no
16-Nov-18	0.55	305.84	305.3	no	305.0	no
17-Nov-18	0.55	305.84	305.3	no	305.0	no
18-Nov-18			305.3		305.0	
19-Nov-18	0.56	305.85	305.3	no	305.0	no
20-Nov-18	0.55	305.84	305.3	no	305.0	no
21-Nov-18	0.53	305.82	305.3	no	305.0	no
22-Nov-18	0.52	305.81	305.3	no	305.0	no
23-Nov-18	0.53	305.82	305.3	no	305.0	no
24-Nov-18	0.52	305.81	305.3	no	305.0	no
25-Nov-18			305.3		305.0	
26-Nov-18	0.51	305.80	305.3	no	305.0	no
27-Nov-18	0.56	305.85	305.3	no	305.0	no
28-Nov-18	0.57	305.86	305.3	no	305.0	no
29-Nov-18	0.56	305.85	305.3	no	305.0	no
30-Nov-18	0.55	305.84	305.3	no	305.0	no
1-Dec-18	0.55	305.84	305.3	no	305.0	no
2-Dec-18			305.3		305.0	
3-Dec-18	0.57	305.86	305.3	no	305.0	no
4-Dec-18	0.56	305.85	305.3	no	305.0	no
5-Dec-18	0.56	305.85	305.3	no	305.0	no
6-Dec-18	0.56	305.85	305.3	no	305.0	no
7-Dec-18	0.55	305.84	305.3	no	305.0	no
8-Dec-18			305.3		305.0	
9-Dec-18			305.3		305.0	
10-Dec-18	0.55	305.84	305.3	no	305.0	no
11-Dec-18	0.55	305.84	305.3	no	305.0	no
12-Dec-18	0.55	305.84	305.3	no	305.0	no
13-Dec-18	0.56	305.85	305.3	no	305.0	no
14-Dec-18	0.55	305.84	305.3	no	305.0	no
15-Dec-18	0.55	305.84	305.3	no	305.0	no
16-Dec-18			305.3		305.0	
17-Dec-18			305.3		305.0	
18-Dec-18			305.3		305.0	
19-Dec-18			305.3		305.0	
20-Dec-18			305.3		305.0	
21-Dec-18			305.3		305.0	
22-Dec-18			305.3		305.0	
23-Dec-18			305.3		305.0	
24-Dec-18			305.3		305.0	
25-Dec-18			305.3		305.0	
26-Dec-18			305.3		305.0	
27-Dec-18			305.3		305.0	
28-Dec-18			305.3		305.0	
29-Dec-18			305.3		305.0	
30-Dec-18			305.3		305.0	
31-Dec-18			305.3		305.0	

Table G-9
Threshold Summary - Phase 3 Pond
Mill Creek Aggregates Pit

Date	Gauge Reading Phase 3 Pond (m)	Water Elevation Phase 3 Ponc (m ASL)	Early Warning Value (Min) (m ASL)	Exceedance of Early Warning Value	Threshold Value (Min) (m ASL)	Exceedance of Threshold Value
10-Jan-08	0.29	304.38	304.1	no	303.85	no
17-Jan-08	0.29	304.38	304.1	no	303.85	no
22-Jan-08	0.29	304.38	304.1	no	303.85	no
31-Jan-08	0.29	304.38	304.1	no	303.85	no
7-Feb-08	0.29	304.38	304.1	no	303.85	no
15-Feb-08	0.29	304.38	304.1	no	303.85	no
21-Feb-08	0.29	304.38	304.1	no	303.85	no
29-Feb-08	0.29	304.38	304.1	no	303.85	no
10-Mar-08	0.29	304.38	304.1	no	303.85	no
14-Mar-08	0.29	304.38	304.1	no	303.85	no
20-Mar-08	0.29	304.38	304.1	no	303.85	no
26-Mar-08	0.29	304.38	304.1	no	303.85	no
31-Mar-08	0.29	304.38	304.1	no	303.85	no
8-Apr-08	0.29	304.38	304.1	no	303.85	no
14-Apr-08	0.80	304.87	304.1	no	303.85	no
15-Apr-08	0.81	304.88	304.1	no	303.85	no
16-Apr-08	0.80	304.87	304.1	no	303.85	no
17-Apr-08	0.81	304.88	304.1	no	303.85	no
18-Apr-08	0.81	304.88	304.1	no	303.85	no
19-Apr-08	0.81	304.88	304.1	no	303.85	no
20-Apr-08	0.81	304.88	304.1	no	303.85	no
21-Apr-08	0.80	304.87	304.1	no	303.85	no
22-Apr-08	0.80	304.87	304.1	no	303.85	no
23-Apr-08	0.80	304.87	304.1	no	303.85	no
24-Apr-08	0.79	304.86	304.1	no	303.85	no
25-Apr-08	0.79	304.86	304.1	no	303.85	no
26-Apr-08	0.79	304.86	304.1	no	303.85	no
27-Apr-08	0.79	304.86	304.1	no	303.85	no
28-Apr-08	0.78	304.85	304.1	no	303.85	no
29-Apr-08	0.78	304.85	304.1	no	303.85	no
30-Apr-08	0.79	304.86	304.1	no	303.85	no
1-May-08	0.81	304.88	304.1	no	303.85	no
2-May-08	0.81	304.88	304.1	no	303.85	no
3-May-08	0.81	304.88	304.1	no	303.85	no
4-May-08	0.81	304.88	304.1	no	303.85	no
5-May-08	0.79	304.86	304.1	no	303.85	no
6-May-08	0.79	304.86	304.1	no	303.85	no
7-May-08	0.78	304.85	304.1	no	303.85	no
8-May-08	0.78	304.85	304.1	no	303.85	no
9-May-08	0.78	304.85	304.1	no	303.85	no
10-May-08	0.78	304.85	304.1	no	303.85	no
11-May-08	0.78	304.85	304.1	no	303.85	no
12-May-08	0.76	304.83	304.1	no	303.85	no
13-May-08	0.74	304.81	304.1	no	303.85	no
14-May-08	0.73	304.80	304.1	no	303.85	no
15-May-08	0.71	304.78	304.1	no	303.85	no
16-May-08	0.69	304.76	304.1	no	303.85	no
17-May-08	0.69	304.76	304.1	no	303.85	no
18-May-08	0.69	304.76	304.1	no	303.85	no
19-May-08	0.64	304.71	304.1	no	303.85	no
20-May-08	0.61	304.68	304.1	no	303.85	no
21-May-08	0.60	304.67	304.1	no	303.85	no
22-May-08	0.60	304.67	304.1	no	303.85	no
23-May-08	0.57	304.64	304.1	no	303.85	no
24-May-08	0.57	304.64	304.1	no	303.85	no
25-May-08	0.57	304.64	304.1	no	303.85	no
26-May-08	0.57	304.64	304.1	no	303.85	no
27-May-08	0.55	304.62	304.1	no	303.85	no
28-May-08	0.59	304.66	304.1	no	303.85	no
29-May-08	0.40	304.47	304.1	no	303.85	no
30-May-08	0.37	304.44	304.1	no	303.85	no
31-May-08	0.37	304.44	304.1	no	303.85	no
1-Jun-08	0.37	304.44	304.1	no	303.85	no
2-Jun-08	0.35	304.42	304.1	no	303.85	no
3-Jun-08	0.28	304.35	304.1	no	303.85	no
4-Jun-08	0.26	304.33	304.1	no	303.85	no
5-Jun-08	0.23	304.30	304.1	no	303.85	no
6-Jun-08	0.26	304.33	304.1	no	303.85	no
7-Jun-08	0.26	304.33	304.1	no	303.85	no
8-Jun-08	0.26	304.33	304.1	no	303.85	no
9-Jun-08	0.35	304.42	304.1	no	303.85	no
10-Jun-08	0.38	304.45	304.1	no	303.85	no
11-Jun-08	0.44	304.51	304.1	no	303.85	no
12-Jun-08	0.43	304.50	304.1	no	303.85	no
13-Jun-08	0.41	304.48	304.1	no	303.85	no
14-Jun-08	0.41	304.48	304.1	no	303.85	no
15-Jun-08	0.41	304.48	304.1	no	303.85	no
16-Jun-08	0.46	304.53	304.1	no	303.85	no
17-Jun-08	0.53	304.60	304.1	no	303.85	no
18-Jun-08	0.54	304.61	304.1	no	303.85	no
19-Jun-08	0.52	304.59	304.1	no	303.85	no
20-Jun-08	0.52	304.59	304.1	no	303.85	no
21-Jun-08	0.52	304.59	304.1	no	303.85	no
22-Jun-08	0.52	304.59	304.1	no	303.85	no
23-Jun-08	0.51	304.58	304.1	no	303.85	no
24-Jun-08	0.50	304.57	304.1	no	303.85	no
25-Jun-08	0.47	304.54	304.1	no	303.85	no
26-Jun-08	0.47	304.54	304.1	no	303.85	no
27-Jun-08	0.46	304.53	304.1	no	303.85	no
28-Jun-08	0.46	304.53	304.1	no	303.85	no
29-Jun-08	0.46	304.53	304.1	no	303.85	no
30-Jun-08	0.51	304.58	304.1	no	303.85	no
1-Jul-08	0.50	304.57	304.1	no	303.85	no
2-Jul-08	0.50	304.57	304.1	no	303.85	no
3-Jul-08	0.49	304.56	304.1	no	303.85	no
4-Jul-08	0.48	304.55	304.1	no	303.85	no
5-Jul-08	0.48	304.55	304.1	no	303.85	no
6-Jul-08	0.48	304.55	304.1	no	303.85	no
7-Jul-08	0.47	304.54	304.1	no	303.85	no
8-Jul-08	0.46	304.53	304.1	no	303.85	no
9-Jul-08	0.44	304.51	304.1	no	303.85	no
10-Jul-08	0.41	304.48	304.1	no	303.85	no
11-Jul-08	0.47	304.54	304.1	no	303.85	no
12-Jul-08	0.47	304.54	304.1	no	303.85	no
13-Jul-08	0.47	304.54	304.1	no	303.85	no
14-Jul-08	0.48	304.55	304.1	no	303.85	no
15-Jul-08	0.50	304.57	304.1	no	303.85	no
16-Jul-08	0.53	304.60	304.1	no	303.85	no
17-Jul-08	0.55	304.62	304.1	no	303.85	no
18-Jul-08	0.58	304.65	304.1	no	303.85	no
19-Jul-08	0.58	304.65	304.1	no	303.85	no

Table G-9
Threshold Summary - Phase 3 Pond
Mill Creek Aggregates Pit

Date	Gauge Reading Phase 3 Pond (m)	Water Elevation Phase 3 Pond (m ASL)	Early Warning Value (Min) (m ASL)	Exceedance of Early Warning Value	Threshold Value (Min) (m ASL)	Exceedance of Threshold Value
20-Jul-08	0.58	304.65	304.1	no	303.85	no
21-Jul-08	0.60	304.67	304.1	no	303.85	no
22-Jul-08	0.61	304.68	304.1	no	303.85	no
23-Jul-08	0.69	304.76	304.1	no	303.85	no
24-Jul-08	0.70	304.77	304.1	no	303.85	no
25-Jul-08	0.69	304.76	304.1	no	303.85	no
26-Jul-08	0.69	304.76	304.1	no	303.85	no
27-Jul-08	0.69	304.76	304.1	no	303.85	no
28-Jul-08	0.71	304.78	304.1	no	303.85	no
29-Jul-08	0.70	304.77	304.1	no	303.85	no
30-Jul-08	0.68	304.75	304.1	no	303.85	no
31-Jul-08	0.69	304.76	304.1	no	303.85	no
1-Aug-08	0.68	304.75	304.1	no	303.85	no
2-Aug-08	0.69	304.76	304.1	no	303.85	no
3-Aug-08	0.69	304.76	304.1	no	303.85	no
4-Aug-08	0.69	304.76	304.1	no	303.85	no
5-Aug-08	0.70	304.77	304.1	no	303.85	no
6-Aug-08	0.70	304.77	304.1	no	303.85	no
7-Aug-08	0.69	304.76	304.1	no	303.85	no
8-Aug-08	0.66	304.73	304.1	no	303.85	no
9-Aug-08	0.66	304.73	304.1	no	303.85	no
10-Aug-08	0.66	304.73	304.1	no	303.85	no
11-Aug-08	0.68	304.75	304.1	no	303.85	no
12-Aug-08	0.65	304.72	304.1	no	303.85	no
13-Aug-08	0.64	304.71	304.1	no	303.85	no
14-Aug-08	0.65	304.72	304.1	no	303.85	no
15-Aug-08	0.65	304.72	304.1	no	303.85	no
16-Aug-08	0.65	304.72	304.1	no	303.85	no
17-Aug-08	0.65	304.72	304.1	no	303.85	no
18-Aug-08	0.64	304.71	304.1	no	303.85	no
19-Aug-08	0.62	304.69	304.1	no	303.85	no
20-Aug-08	0.60	304.67	304.1	no	303.85	no
21-Aug-08	0.58	304.65	304.1	no	303.85	no
22-Aug-08	0.58	304.65	304.1	no	303.85	no
23-Aug-08	0.58	304.65	304.1	no	303.85	no
24-Aug-08	0.58	304.65	304.1	no	303.85	no
25-Aug-08	0.52	304.59	304.1	no	303.85	no
26-Aug-08	0.54	304.61	304.1	no	303.85	no
27-Aug-08	0.48	304.55	304.1	no	303.85	no
28-Aug-08	0.47	304.54	304.1	no	303.85	no
29-Aug-08	0.46	304.53	304.1	no	303.85	no
30-Aug-08	0.46	304.53	304.1	no	303.85	no
31-Aug-08	0.46	304.53	304.1	no	303.85	no
1-Sep-08	0.48	304.55	304.1	no	303.85	no
2-Sep-08	0.48	304.55	304.1	no	303.85	no
3-Sep-08	0.48	304.55	304.1	no	303.85	no
4-Sep-08	0.47	304.54	304.1	no	303.85	no
5-Sep-08	0.46	304.53	304.1	no	303.85	no
6-Sep-08	0.49	304.56	304.1	no	303.85	no
7-Sep-08	0.49	304.56	304.1	no	303.85	no
8-Sep-08	0.49	304.56	304.1	no	303.85	no
9-Sep-08	0.54	304.61	304.1	no	303.85	no
10-Sep-08	0.59	304.66	304.1	no	303.85	no
11-Sep-08	0.57	304.64	304.1	no	303.85	no
12-Sep-08	0.55	304.62	304.1	no	303.85	no
13-Sep-08	0.55	304.62	304.1	no	303.85	no
14-Sep-08	0.55	304.62	304.1	no	303.85	no
15-Sep-08	0.61	304.68	304.1	no	303.85	no
16-Sep-08	0.61	304.68	304.1	no	303.85	no
17-Sep-08	0.62	304.69	304.1	no	303.85	no
18-Sep-08	0.63	304.70	304.1	no	303.85	no
19-Sep-08	0.63	304.70	304.1	no	303.85	no
20-Sep-08	0.63	304.70	304.1	no	303.85	no
21-Sep-08	0.63	304.70	304.1	no	303.85	no
22-Sep-08	0.62	304.69	304.1	no	303.85	no
23-Sep-08	0.63	304.70	304.1	no	303.85	no
24-Sep-08	0.62	304.69	304.1	no	303.85	no
25-Sep-08	0.63	304.70	304.1	no	303.85	no
26-Sep-08	0.64	304.71	304.1	no	303.85	no
27-Sep-08	0.64	304.71	304.1	no	303.85	no
28-Sep-08	0.64	304.71	304.1	no	303.85	no
29-Sep-08	0.63	304.70	304.1	no	303.85	no
30-Sep-08	0.62	304.69	304.1	no	303.85	no
1-Oct-08	0.61	304.68	304.1	no	303.85	no
2-Oct-08	0.61	304.68	304.1	no	303.85	no
3-Oct-08	0.61	304.68	304.1	no	303.85	no
4-Oct-08	0.61	304.68	304.1	no	303.85	no
5-Oct-08	0.61	304.68	304.1	no	303.85	no
6-Oct-08	0.60	304.67	304.1	no	303.85	no
7-Oct-08	0.58	304.65	304.1	no	303.85	no
8-Oct-08	0.58	304.65	304.1	no	303.85	no
9-Oct-08	0.58	304.65	304.1	no	303.85	no
10-Oct-08	0.57	304.64	304.1	no	303.85	no
11-Oct-08	0.57	304.64	304.1	no	303.85	no
12-Oct-08	0.57	304.64	304.1	no	303.85	no
13-Oct-08	0.57	304.64	304.1	no	303.85	no
14-Oct-08	0.57	304.64	304.1	no	303.85	no
15-Oct-08	0.57	304.64	304.1	no	303.85	no
16-Oct-08	0.57	304.64	304.1	no	303.85	no
17-Oct-08	0.57	304.64	304.1	no	303.85	no
18-Oct-08	0.57	304.64	304.1	no	303.85	no
19-Oct-08	0.57	304.64	304.1	no	303.85	no
20-Oct-08	0.56	304.63	304.1	no	303.85	no
21-Oct-08	0.57	304.64	304.1	no	303.85	no
22-Oct-08	0.56	304.63	304.1	no	303.85	no
23-Oct-08	0.55	304.62	304.1	no	303.85	no
24-Oct-08	0.54	304.61	304.1	no	303.85	no
25-Oct-08	0.54	304.61	304.1	no	303.85	no
26-Oct-08	0.54	304.61	304.1	no	303.85	no
27-Oct-08	0.55	304.62	304.1	no	303.85	no
28-Oct-08	0.56	304.63	304.1	no	303.85	no
29-Oct-08	0.57	304.64	304.1	no	303.85	no
30-Oct-08	0.58	304.65	304.1	no	303.85	no
31-Oct-08	0.59	304.66	304.1	no	303.85	no
1-Nov-08	0.59	304.66	304.1	no	303.85	no
2-Nov-08	0.59	304.66	304.1	no	303.85	no
3-Nov-08	0.59	304.66	304.1	no	303.85	no
4-Nov-08	0.59	304.66	304.1	no	303.85	no
5-Nov-08	0.59	304.66	304.1	no	303.85	no
6-Nov-08	0.59	304.66	304.1	no	303.85	no
7-Nov-08	0.59	304.66	304.1	no	303.85	no
8-Nov-08	0.59	304.66	304.1	no	303.85	no

Table G-9
Threshold Summary - Phase 3 Pond
Mill Creek Aggregates Pit

Date	Gauge Reading Phase 3 Pond (m)	Water Elevation Phase 3 Pond (m ASL)	Early Warning Value (Min) (m ASL)	Exceedance of Early Warning Value	Threshold Value (Min) (m ASL)	Exceedance of Threshold Value
09-Nov-08	0.60	304.67	304.1	no	303.85	no
10-Nov-08	0.62	304.69	304.1	no	303.85	no
11-Nov-08	0.63	304.70	304.1	no	303.85	no
12-Nov-08	0.63	304.70	304.1	no	303.85	no
13-Nov-08	0.68	304.75	304.1	no	303.85	no
14-Nov-08	0.70	304.77	304.1	no	303.85	no
15-Nov-08	0.70	304.77	304.1	no	303.85	no
16-Nov-08	0.70	304.77	304.1	no	303.85	no
17-Nov-08	0.70	304.77	304.1	no	303.85	no
18-Nov-08	0.73	304.80	304.1	no	303.85	no
19-Nov-08	0.74	304.81	304.1	no	303.85	no
20-Nov-08	0.74	304.81	304.1	no	303.85	no
21-Nov-08	0.74	304.81	304.1	no	303.85	no
22-Nov-08	0.74	304.81	304.1	no	303.85	no
23-Nov-08	0.74	304.81	304.1	no	303.85	no
24-Nov-08	0.75	304.82	304.1	no	303.85	no
25-Nov-08	0.75	304.82	304.1	no	303.85	no
26-Nov-08	0.75	304.82	304.1	no	303.85	no
27-Nov-08	0.76	304.83	304.1	no	303.85	no
28-Nov-08	0.76	304.83	304.1	no	303.85	no
29-Nov-08	0.76	304.83	304.1	no	303.85	no
30-Nov-08	0.76	304.83	304.1	no	303.85	no
01-Dec-08	0.80	304.87	304.1	no	303.85	no
02-Dec-08	0.80	304.87	304.1	no	303.85	no
03-Dec-08	0.80	304.87	304.1	no	303.85	no
04-Dec-08	0.80	304.87	304.1	no	303.85	no
05-Dec-08	0.80	304.87	304.1	no	303.85	no
06-Dec-08	0.80	304.87	304.1	no	303.85	no
07-Dec-08	0.80	304.87	304.1	no	303.85	no
08-Dec-08	0.80	304.87	304.1	no	303.85	no
09-Dec-08	0.80	304.87	304.1	no	303.85	no
10-Dec-08	0.80	304.87	304.1	no	303.85	no
11-Dec-08	0.80	304.87	304.1	no	303.85	no
12-Dec-08	0.80	304.87	304.1	no	303.85	no
13-Dec-08	0.80	304.87	304.1	no	303.85	no
14-Dec-08	0.80	304.87	304.1	no	303.85	no
15-Dec-08	0.80	304.87	304.1	no	303.85	no
16-Dec-08	0.80	304.87	304.1	no	303.85	no
17-Dec-08	0.80	304.87	304.1	no	303.85	no
18-Dec-08	0.80	304.87	304.1	no	303.85	no
19-Dec-08	0.80	304.87	304.1	no	303.85	no
20-Dec-08	0.80	304.87	304.1	no	303.85	no
21-Dec-08	0.80	304.87	304.1	no	303.85	no
22-Dec-08	0.80	304.87	304.1	no	303.85	no
23-Dec-08	0.80	304.87	304.1	no	303.85	no
24-Dec-08	0.80	304.87	304.1	no	303.85	no
25-Dec-08	0.80	304.87	304.1	no	303.85	no
26-Dec-08	0.80	304.87	304.1	no	303.85	no
27-Dec-08	0.80	304.87	304.1	no	303.85	no
28-Dec-08	0.80	304.87	304.1	no	303.85	no
29-Dec-08	0.80	304.87	304.1	no	303.85	no
30-Dec-08	0.80	304.87	304.1	no	303.85	no
31-Dec-08	0.80	304.87	304.1	no	303.85	no
1-Jan-09	0.80	304.87	304.1	no	303.85	no
2-Jan-09	0.80	304.87	304.1	no	303.85	no
3-Jan-09	0.80	304.87	304.1	no	303.85	no
4-Jan-09	0.80	304.87	304.1	no	303.85	no
5-Jan-09	0.80	304.87	304.1	no	303.85	no
6-Jan-09	0.80	304.87	304.1	no	303.85	no
7-Jan-09	0.80	304.87	304.1	no	303.85	no
8-Jan-09	0.80	304.87	304.1	no	303.85	no
9-Jan-09	0.80	304.87	304.1	no	303.85	no
10-Jan-09	0.80	304.87	304.1	no	303.85	no
11-Jan-09	0.80	304.87	304.1	no	303.85	no
12-Jan-09	0.80	304.87	304.1	no	303.85	no
13-Jan-09	0.80	304.87	304.1	no	303.85	no
14-Jan-09	0.80	304.87	304.1	no	303.85	no
15-Jan-09	0.80	304.87	304.1	no	303.85	no
16-Jan-09	0.80	304.87	304.1	no	303.85	no
17-Jan-09	0.80	304.87	304.1	no	303.85	no
18-Jan-09	0.80	304.87	304.1	no	303.85	no
19-Jan-09	0.80	304.87	304.1	no	303.85	no
20-Jan-09	0.80	304.87	304.1	no	303.85	no
21-Jan-09	0.80	304.87	304.1	no	303.85	no
22-Jan-09	0.80	304.87	304.1	no	303.85	no
23-Jan-09	0.80	304.87	304.1	no	303.85	no
24-Jan-09	0.80	304.87	304.1	no	303.85	no
25-Jan-09	0.80	304.87	304.1	no	303.85	no
26-Jan-09	0.80	304.87	304.1	no	303.85	no
27-Jan-09	0.80	304.87	304.1	no	303.85	no
28-Jan-09	0.80	304.87	304.1	no	303.85	no
29-Jan-09	0.80	304.87	304.1	no	303.85	no
30-Jan-09	0.80	304.87	304.1	no	303.85	no
31-Jan-09	0.80	304.87	304.1	no	303.85	no
1-Feb-09	0.80	304.87	304.1	no	303.85	no
2-Feb-09	0.80	304.87	304.1	no	303.85	no
3-Feb-09	0.80	304.87	304.1	no	303.85	no
4-Feb-09	0.80	304.87	304.1	no	303.85	no
5-Feb-09	0.80	304.87	304.1	no	303.85	no
6-Feb-09	0.80	304.87	304.1	no	303.85	no
7-Feb-09	0.80	304.87	304.1	no	303.85	no
8-Feb-09	0.80	304.87	304.1	no	303.85	no
9-Feb-09	0.80	304.87	304.1	no	303.85	no
10-Feb-09	0.80	304.87	304.1	no	303.85	no
11-Feb-09	0.80	304.87	304.1	no	303.85	no
12-Feb-09	0.80	304.87	304.1	no	303.85	no
13-Feb-09	0.80	304.87	304.1	no	303.85	no
14-Feb-09	0.80	304.87	304.1	no	303.85	no
15-Feb-09	0.80	304.87	304.1	no	303.85	no
16-Feb-09	0.80	304.87	304.1	no	303.85	no
17-Feb-09	0.80	304.87	304.1	no	303.85	no
18-Feb-09	0.80	304.87	304.1	no	303.85	no
19-Feb-09	0.80	304.87	304.1	no	303.85	no
20-Feb-09	0.80	304.87	304.1	no	303.85	no
21-Feb-09	0.80	304.87	304.1	no	303.85	no
22-Feb-09	0.80	304.87	304.1	no	303.85	no
23-Feb-09	0.80	304.87	304.1	no	303.85	no
24-Feb-09	0.80	304.87	304.1	no	303.85	no
25-Feb-09	0.80	304.87	304.1	no	303.85	no
26-Feb-09	0.80	304.87	304.1	no	303.85	no
27-Feb-09	0.80	304.87	304.1	no	303.85	no
28-Feb-09	0.80	304.87	304.1	no	303.85	no
1-Mar-09	0.80	304.87	304.1	no	303.85	no

Table G-9
Threshold Summary - Phase 3 Pond
Mill Creek Aggregates Pit

Date	Gauge Reading Phase 3 Pond (m)	Water Elevation Phase 3 Pond (m ASL)	Early Warning Value (Min) (m ASL)	Exceedance of Early Warning Value	Threshold Value (Min) (m ASL)	Exceedance of Threshold Value
2-Mar-09	0.80	304.87	304.1	no	303.85	no
3-Mar-09	0.80	304.87	304.1	no	303.85	no
4-Mar-09	0.80	304.87	304.1	no	303.85	no
5-Mar-09	0.80	304.87	304.1	no	303.85	no
6-Mar-09	0.80	304.87	304.1	no	303.85	no
7-Mar-09	0.80	304.87	304.1	no	303.85	no
8-Mar-09	0.80	304.87	304.1	no	303.85	no
9-Mar-09	0.80	304.87	304.1	no	303.85	no
10-Mar-09	0.80	304.87	304.1	no	303.85	no
11-Mar-09	0.80	304.87	304.1	no	303.85	no
12-Mar-09	0.80	304.87	304.1	no	303.85	no
13-Mar-09	0.80	304.87	304.1	no	303.85	no
14-Mar-09	0.80	304.87	304.1	no	303.85	no
15-Mar-09	0.80	304.87	304.1	no	303.85	no
2-Apr-09	0.80	305.00	304.1	no	303.85	no
3-Apr-09	0.82	305.02	304.1	no	303.85	no
4-Apr-09	0.82	305.02	304.1	no	303.85	no
5-Apr-09	0.82	305.02	304.1	no	303.85	no
6-Apr-09	0.87	305.07	304.1	no	303.85	no
7-Apr-09	0.87	305.07	304.1	no	303.85	no
8-Apr-09	0.87	305.07	304.1	no	303.85	no
9-Apr-09	0.87	305.07	304.1	no	303.85	no
10-Apr-09	0.86	305.06	304.1	no	303.85	no
11-Apr-09	0.86	305.06	304.1	no	303.85	no
12-Apr-09	0.86	305.06	304.1	no	303.85	no
13-Apr-09	0.86	305.06	304.1	no	303.85	no
14-Apr-09	0.82	305.02	304.1	no	303.85	no
15-Apr-09	0.82	305.02	304.1	no	303.85	no
16-Apr-09	0.80	305.00	304.1	no	303.85	no
17-Apr-09	0.80	305.00	304.1	no	303.85	no
18-Apr-09	0.80	305.00	304.1	no	303.85	no
19-Apr-09	0.80	305.00	304.1	no	303.85	no
20-Apr-09	0.81	305.01	304.1	no	303.85	no
21-Apr-09	0.84	305.04	304.1	no	303.85	no
22-Apr-09	0.84	305.04	304.1	no	303.85	no
23-Apr-09	0.85	305.05	304.1	no	303.85	no
24-Apr-09	0.86	305.06	304.1	no	303.85	no
25-Apr-09	0.86	305.06	304.1	no	303.85	no
26-Apr-09	0.86	305.06	304.1	no	303.85	no
27-Apr-09	0.87	305.07	304.1	no	303.85	no
28-Apr-09	0.88	305.08	304.1	no	303.85	no
29-Apr-09	0.88	305.08	304.1	no	303.85	no
30-Apr-09	0.90	305.10	304.1	no	303.85	no
1-May-09	0.90	305.10	304.1	no	303.85	no
2-May-09	0.90	305.10	304.1	no	303.85	no
3-May-09	0.90	305.10	304.1	no	303.85	no
4-May-09	0.87	305.07	304.1	no	303.85	no
5-May-09	0.87	305.07	304.1	no	303.85	no
6-May-09	0.84	305.04	304.1	no	303.85	no
7-May-09	0.78	304.98	304.1	no	303.85	no
8-May-09	0.78	304.98	304.1	no	303.85	no
9-May-09	0.78	304.98	304.1	no	303.85	no
10-May-09	0.78	304.98	304.1	no	303.85	no
11-May-09	0.74	304.94	304.1	no	303.85	no
12-May-09	0.72	304.92	304.1	no	303.85	no
13-May-09	0.70	304.90	304.1	no	303.85	no
14-May-09	0.69	304.89	304.1	no	303.85	no
15-May-09	0.68	304.88	304.1	no	303.85	no
16-May-09	0.68	304.88	304.1	no	303.85	no
17-May-09	0.68	304.88	304.1	no	303.85	no
18-May-09	0.64	304.84	304.1	no	303.85	no
19-May-09	0.63	304.83	304.1	no	303.85	no
20-May-09	0.62	304.82	304.1	no	303.85	no
21-May-09	0.62	304.82	304.1	no	303.85	no
22-May-09	0.61	304.81	304.1	no	303.85	no
23-May-09	0.61	304.81	304.1	no	303.85	no
24-May-09	0.61	304.81	304.1	no	303.85	no
25-May-09	0.62	304.82	304.1	no	303.85	no
26-May-09	0.62	304.82	304.1	no	303.85	no
27-May-09	0.64	304.84	304.1	no	303.85	no
28-May-09	0.63	304.83	304.1	no	303.85	no
29-May-09	0.61	304.81	304.1	no	303.85	no
30-May-09	0.61	304.81	304.1	no	303.85	no
31-May-09	0.61	304.81	304.1	no	303.85	no
1-Jun-09	0.66	304.86	304.1	no	303.85	no
2-Jun-09	0.66	304.86	304.1	no	303.85	no
3-Jun-09	0.68	304.88	304.1	no	303.85	no
4-Jun-09	0.67	304.87	304.1	no	303.85	no
5-Jun-09	0.66	304.86	304.1	no	303.85	no
6-Jun-09	0.66	304.86	304.1	no	303.85	no
7-Jun-09	0.66	304.86	304.1	no	303.85	no
8-Jun-09	0.65	304.85	304.1	no	303.85	no
9-Jun-09	0.63	304.83	304.1	no	303.85	no
10-Jun-09	0.65	304.85	304.1	no	303.85	no
11-Jun-09	0.64	304.84	304.1	no	303.85	no
12-Jun-09	0.65	304.85	304.1	no	303.85	no
13-Jun-09	0.65	304.85	304.1	no	303.85	no
14-Jun-09	0.65	304.85	304.1	no	303.85	no
15-Jun-09	0.66	304.86	304.1	no	303.85	no
16-Jun-09	0.67	304.87	304.1	no	303.85	no
17-Jun-09	0.65	304.85	304.1	no	303.85	no
18-Jun-09	0.67	304.87	304.1	no	303.85	no
19-Jun-09	0.65	304.85	304.1	no	303.85	no
20-Jun-09	0.65	304.85	304.1	no	303.85	no
21-Jun-09	0.65	304.85	304.1	no	303.85	no
22-Jun-09	0.66	304.86	304.1	no	303.85	no
23-Jun-09	0.65	304.85	304.1	no	303.85	no
24-Jun-09	0.66	304.86	304.1	no	303.85	no
25-Jun-09	0.67	304.87	304.1	no	303.85	no
26-Jun-09	0.67	304.87	304.1	no	303.85	no
27-Jun-09	0.67	304.87	304.1	no	303.85	no
28-Jun-09	0.67	304.87	304.1	no	303.85	no
29-Jun-09	0.66	304.86	304.1	no	303.85	no
30-Jun-09	0.66	304.86	304.1	no	303.85	no
1-Jul-09	0.66	304.86	304.1	no	303.85	no
2-Jul-09	0.66	304.86	304.1	no	303.85	no
3-Jul-09	0.66	304.86	304.1	no	303.85	no
4-Jul-09	0.66	304.86	304.1	no	303.85	no
5-Jul-09	0.66	304.86	304.1	no	303.85	no
6-Jul-09	0.66	304.86	304.1	no	303.85	no
7-Jul-09	0.66	304.86	304.1	no	303.85	no
8-Jul-09	0.65	304.85	304.1	no	303.85	no

Table G-9
Threshold Summary - Phase 3 Pond
Mill Creek Aggregates Pit

Date	Gauge Reading Phase 3 Pond (m)	Water Elevation Phase 3 Pond (m ASL)	Early Warning Value (Min) (m ASL)	Exceedance of Early Warning Value	Threshold Value (Min) (m ASL)	Exceedance of Threshold Value
9-Jul-09	0.65	304.85	304.1	no	303.85	no
10-Jul-09	0.65	304.85	304.1	no	303.85	no
11-Jul-09	0.65	304.85	304.1	no	303.85	no
12-Jul-09	0.65	304.85	304.1	no	303.85	no
13-Jul-09	0.66	304.86	304.1	no	303.85	no
14-Jul-09	0.63	304.83	304.1	no	303.85	no
15-Jul-09	0.62	304.82	304.1	no	303.85	no
16-Jul-09	0.61	304.81	304.1	no	303.85	no
17-Jul-09	0.61	304.81	304.1	no	303.85	no
18-Jul-09	0.61	304.81	304.1	no	303.85	no
19-Jul-09	0.61	304.81	304.1	no	303.85	no
20-Jul-09	0.61	304.81	304.1	no	303.85	no
21-Jul-09	0.60	304.80	304.1	no	303.85	no
22-Jul-09	0.60	304.80	304.1	no	303.85	no
23-Jul-09	0.59	304.79	304.1	no	303.85	no
24-Jul-09	0.59	304.79	304.1	no	303.85	no
25-Jul-09	0.59	304.79	304.1	no	303.85	no
26-Jul-09	0.59	304.79	304.1	no	303.85	no
27-Jul-09	0.59	304.79	304.1	no	303.85	no
28-Jul-09	0.59	304.79	304.1	no	303.85	no
29-Jul-09	0.58	304.78	304.1	no	303.85	no
30-Jul-09	0.58	304.78	304.1	no	303.85	no
31-Jul-09	0.58	304.78	304.1	no	303.85	no
1-Aug-09	0.58	304.78	304.1	no	303.85	no
2-Aug-09	0.58	304.78	304.1	no	303.85	no
3-Aug-09	0.58	304.78	304.1	no	303.85	no
4-Aug-09	0.60	304.80	304.1	no	303.85	no
5-Aug-09	0.61	304.81	304.1	no	303.85	no
6-Aug-09	0.62	304.82	304.1	no	303.85	no
7-Aug-09	0.62	304.82	304.1	no	303.85	no
8-Aug-09	0.62	304.82	304.1	no	303.85	no
9-Aug-09	0.62	304.82	304.1	no	303.85	no
10-Aug-09	0.63	304.83	304.1	no	303.85	no
11-Aug-09	0.63	304.83	304.1	no	303.85	no
12-Aug-09	0.63	304.83	304.1	no	303.85	no
13-Aug-09	0.62	304.82	304.1	no	303.85	no
14-Aug-09	0.61	304.81	304.1	no	303.85	no
15-Aug-09	0.61	304.81	304.1	no	303.85	no
16-Aug-09	0.61	304.81	304.1	no	303.85	no
17-Aug-09	0.60	304.80	304.1	no	303.85	no
18-Aug-09	0.60	304.80	304.1	no	303.85	no
19-Aug-09	0.60	304.80	304.1	no	303.85	no
20-Aug-09	0.62	304.82	304.1	no	303.85	no
21-Aug-09	0.62	304.82	304.1	no	303.85	no
22-Aug-09	0.62	304.82	304.1	no	303.85	no
23-Aug-09	0.62	304.82	304.1	no	303.85	no
24-Aug-09	0.63	304.83	304.1	no	303.85	no
25-Aug-09	0.63	304.83	304.1	no	303.85	no
26-Aug-09	0.64	304.84	304.1	no	303.85	no
27-Aug-09	0.63	304.83	304.1	no	303.85	no
28-Aug-09	0.63	304.83	304.1	no	303.85	no
29-Aug-09	0.63	304.83	304.1	no	303.85	no
30-Aug-09	0.63	304.83	304.1	no	303.85	no
31-Aug-09	0.63	304.83	304.1	no	303.85	no
1-Sep-09	0.63	304.83	304.1	no	303.85	no
2-Sep-09	0.63	304.83	304.1	no	303.85	no
3-Sep-09	0.64	304.84	304.1	no	303.85	no
4-Sep-09	0.64	304.84	304.1	no	303.85	no
5-Sep-09	0.64	304.84	304.1	no	303.85	no
6-Sep-09	0.64	304.84	304.1	no	303.85	no
7-Sep-09	0.64	304.84	304.1	no	303.85	no
8-Sep-09	0.64	304.84	304.1	no	303.85	no
9-Sep-09	0.64	304.84	304.1	no	303.85	no
10-Sep-09	0.64	304.84	304.1	no	303.85	no
11-Sep-09	0.62	304.82	304.1	no	303.85	no
12-Sep-09	0.62	304.82	304.1	no	303.85	no
13-Sep-09	0.62	304.82	304.1	no	303.85	no
14-Sep-09	0.60	304.80	304.1	no	303.85	no
15-Sep-09	0.60	304.80	304.1	no	303.85	no
16-Sep-09	0.60	304.80	304.1	no	303.85	no
17-Sep-09	0.58	304.78	304.1	no	303.85	no
18-Sep-09	0.58	304.78	304.1	no	303.85	no
19-Sep-09	0.58	304.78	304.1	no	303.85	no
20-Sep-09	0.58	304.78	304.1	no	303.85	no
21-Sep-09	0.58	304.78	304.1	no	303.85	no
22-Sep-09	0.58	304.78	304.1	no	303.85	no
23-Sep-09	0.58	304.78	304.1	no	303.85	no
24-Sep-09	0.57	304.77	304.1	no	303.85	no
25-Sep-09	0.51	304.71	304.1	no	303.85	no
26-Sep-09	0.51	304.71	304.1	no	303.85	no
27-Sep-09	0.51	304.71	304.1	no	303.85	no
28-Sep-09	0.53	304.73	304.1	no	303.85	no
29-Sep-09	0.53	304.73	304.1	no	303.85	no
30-Sep-09	0.50	304.70	304.1	no	303.85	no
1-Oct-09	0.50	304.70	304.1	no	303.85	no
2-Oct-09	0.50	304.70	304.1	no	303.85	no
3-Oct-09	0.50	304.70	304.1	no	303.85	no
4-Oct-09	0.50	304.70	304.1	no	303.85	no
5-Oct-09	0.50	304.70	304.1	no	303.85	no
6-Oct-09	0.51	304.71	304.1	no	303.85	no
7-Oct-09	0.52	304.72	304.1	no	303.85	no
8-Oct-09	0.52	304.72	304.1	no	303.85	no
9-Oct-09	0.52	304.72	304.1	no	303.85	no
10-Oct-09	0.52	304.72	304.1	no	303.85	no
11-Oct-09	0.52	304.72	304.1	no	303.85	no
12-Oct-09	0.52	304.72	304.1	no	303.85	no
13-Oct-09	0.53	304.73	304.1	no	303.85	no
14-Oct-09	0.53	304.73	304.1	no	303.85	no
15-Oct-09	0.54	304.74	304.1	no	303.85	no
16-Oct-09	0.55	304.75	304.1	no	303.85	no
17-Oct-09	0.55	304.75	304.1	no	303.85	no
18-Oct-09	0.55	304.75	304.1	no	303.85	no
19-Oct-09	0.54	304.74	304.1	no	303.85	no
20-Oct-09	0.55	304.75	304.1	no	303.85	no
21-Oct-09	0.55	304.75	304.1	no	303.85	no
22-Oct-09	0.55	304.75	304.1	no	303.85	no
23-Oct-09	0.54	304.74	304.1	no	303.85	no
24-Oct-09	0.54	304.74	304.1	no	303.85	no
25-Oct-09	0.54	304.74	304.1	no	303.85	no
26-Oct-09	0.55	304.75	304.1	no	303.85	no
27-Oct-09	0.55	304.75	304.1	no	303.85	no
28-Oct-09	0.55	304.75	304.1	no	303.85	no
29-Oct-09	0.57	304.77	304.1	no	303.85	no
30-Oct-09	0.57	304.77	304.1	no	303.85	no
31-Oct-09	0.57	304.77	304.1	no	303.85	no
1-Nov-09	0.57	304.77	304.1	no	303.85	no
2-Nov-09	0.57	304.77	304.1	no	303.85	no
3-Nov-09	0.57	304.77	304.1	no	303.85	no

Table G-9
Threshold Summary - Phase 3 Pond
Mill Creek Aggregates Pit

Date	Gauge Reading Phase 3 Pond (m)	Water Elevation Phase 3 Pond (m ASL)	Early Warning Value (Min) (m ASL)	Exceedance of Early Warning Value	Threshold Value (Min) (m ASL)	Exceedance of Threshold Value
4-Nov-09	0.57	304.77	304.1	no	303.85	no
5-Nov-09	0.57	304.77	304.1	no	303.85	no
6-Nov-09	0.57	304.77	304.1	no	303.85	no
7-Nov-09	0.57	304.77	304.1	no	303.85	no
8-Nov-09	0.57	304.77	304.1	no	303.85	no
9-Nov-09	0.56	304.76	304.1	no	303.85	no
10-Nov-09	0.56	304.76	304.1	no	303.85	no
11-Nov-09	0.57	304.77	304.1	no	303.85	no
12-Nov-09	0.56	304.76	304.1	no	303.85	no
13-Nov-09	0.57	304.77	304.1	no	303.85	no
14-Nov-09	0.56	304.76	304.1	no	303.85	no
15-Nov-09	0.56	304.76	304.1	no	303.85	no
16-Nov-09	0.56	304.76	304.1	no	303.85	no
17-Nov-09	0.57	304.77	304.1	no	303.85	no
18-Nov-09	0.57	304.77	304.1	no	303.85	no
19-Nov-09	0.57	304.77	304.1	no	303.85	no
20-Nov-09	0.55	304.75	304.1	no	303.85	no
21-Nov-09	0.55	304.75	304.1	no	303.85	no
22-Nov-09	0.55	304.75	304.1	no	303.85	no
23-Nov-09	0.57	304.77	304.1	no	303.85	no
24-Nov-09	0.57	304.77	304.1	no	303.85	no
25-Nov-09	0.57	304.77	304.1	no	303.85	no
26-Nov-09	0.57	304.77	304.1	no	303.85	no
27-Nov-09	0.57	304.77	304.1	no	303.85	no
28-Nov-09	0.57	304.77	304.1	no	303.85	no
29-Nov-09	0.57	304.77	304.1	no	303.85	no
30-Nov-09	0.56	304.76	304.1	no	303.85	no
1-Dec-09	0.56	304.76	304.1	no	303.85	no
2-Dec-09	0.57	304.77	304.1	no	303.85	no
3-Dec-09	0.60	304.80	304.1	no	303.85	no
4-Dec-09	0.60	304.80	304.1	no	303.85	no
5-Dec-09	0.60	304.80	304.1	no	303.85	no
6-Dec-09	0.60	304.80	304.1	no	303.85	no
7-Dec-09	0.60	304.80	304.1	no	303.85	no
8-Dec-09	0.60	304.80	304.1	no	303.85	no
9-Dec-09	0.60	304.80	304.1	no	303.85	no
10-Dec-09	0.60	304.80	304.1	no	303.85	no
11-Dec-09	0.60	304.80	304.1	no	303.85	no
12-Dec-09	0.60	304.80	304.1	no	303.85	no
13-Dec-09	0.60	304.80	304.1	no	303.85	no
14-Dec-09	0.60	304.80	304.1	no	303.85	no
15-Dec-09	0.60	304.80	304.1	no	303.85	no
16-Dec-09	0.60	304.80	304.1	no	303.85	no
17-Dec-09	0.60	304.80	304.1	no	303.85	no
18-Dec-09	0.60	304.80	304.1	no	303.85	no
19-Dec-09	0.60	304.80	304.1	no	303.85	no
20-Dec-09	0.60	304.80	304.1	no	303.85	no
21-Dec-09	0.60	304.80	304.1	no	303.85	no
22-Dec-09	0.60	304.80	304.1	no	303.85	no
23-Dec-09	0.60	304.80	304.1	no	303.85	no
24-Dec-09	0.60	304.80	304.1	no	303.85	no
25-Dec-09	0.60	304.80	304.1	no	303.85	no
26-Dec-09	0.60	304.80	304.1	no	303.85	no
27-Dec-09	0.60	304.80	304.1	no	303.85	no
28-Dec-09	0.60	304.80	304.1	no	303.85	no
29-Dec-09	0.60	304.80	304.1	no	303.85	no
30-Dec-09	0.60	304.80	304.1	no	303.85	no
31-Dec-09	0.60	304.80	304.1	no	303.85	no
1-Jan-10	0.70	304.90	304.1	no	303.85	no
2-Jan-10	0.70	304.90	304.1	no	303.85	no
3-Jan-10	0.70	304.90	304.1	no	303.85	no
4-Jan-10	0.70	304.90	304.1	no	303.85	no
5-Jan-10	0.70	304.90	304.1	no	303.85	no
6-Jan-10	0.70	304.90	304.1	no	303.85	no
7-Jan-10	0.70	304.90	304.1	no	303.85	no
8-Jan-10	0.70	304.90	304.1	no	303.85	no
9-Jan-10	0.70	304.90	304.1	no	303.85	no
10-Jan-10	0.70	304.90	304.1	no	303.85	no
11-Jan-10	0.70	304.90	304.1	no	303.85	no
12-Jan-10	0.70	304.90	304.1	no	303.85	no
13-Jan-10	0.70	304.90	304.1	no	303.85	no
14-Jan-10	0.70	304.90	304.1	no	303.85	no
15-Jan-10	0.70	304.90	304.1	no	303.85	no
16-Jan-10	0.70	304.90	304.1	no	303.85	no
17-Jan-10	0.70	304.90	304.1	no	303.85	no
18-Jan-10	0.70	304.90	304.1	no	303.85	no
19-Jan-10	0.70	304.90	304.1	no	303.85	no
20-Jan-10	0.70	304.90	304.1	no	303.85	no
21-Jan-10	0.70	304.90	304.1	no	303.85	no
22-Jan-10	0.70	304.90	304.1	no	303.85	no
23-Jan-10	0.70	304.90	304.1	no	303.85	no
24-Jan-10	0.70	304.90	304.1	no	303.85	no
25-Jan-10	0.70	304.90	304.1	no	303.85	no
26-Jan-10	0.70	304.90	304.1	no	303.85	no
27-Jan-10	0.70	304.90	304.1	no	303.85	no
28-Jan-10	0.70	304.90	304.1	no	303.85	no
29-Jan-10	0.70	304.90	304.1	no	303.85	no
30-Jan-10	0.70	304.90	304.1	no	303.85	no
31-Jan-10	0.70	304.90	304.1	no	303.85	no
1-Feb-10	0.70	304.90	304.1	no	303.85	no
2-Feb-10	0.70	304.90	304.1	no	303.85	no
3-Feb-10	0.70	304.90	304.1	no	303.85	no
4-Feb-10	0.70	304.90	304.1	no	303.85	no
5-Feb-10	0.70	304.90	304.1	no	303.85	no
6-Feb-10	0.70	304.90	304.1	no	303.85	no
7-Feb-10	0.70	304.90	304.1	no	303.85	no
8-Feb-10	0.70	304.90	304.1	no	303.85	no
9-Feb-10	0.70	304.90	304.1	no	303.85	no
10-Feb-10	0.70	304.90	304.1	no	303.85	no
11-Feb-10	0.70	304.90	304.1	no	303.85	no
12-Feb-10	0.70	304.90	304.1	no	303.85	no
13-Feb-10	0.70	304.90	304.1	no	303.85	no
14-Feb-10	0.70	304.90	304.1	no	303.85	no
15-Feb-10	0.70	304.90	304.1	no	303.85	no
16-Feb-10	0.70	304.90	304.1	no	303.85	no
17-Feb-10	0.70	304.90	304.1	no	303.85	no
18-Feb-10	0.70	304.90	304.1	no	303.85	no
19-Feb-10	0.70	304.90	304.1	no	303.85	no
20-Feb-10	0.70	304.90	304.1	no	303.85	no
21-Feb-10	0.70	304.90	304.1	no	303.85	no
22-Feb-10	0.70	304.90	304.1	no	303.85	no
23-Feb-10	0.70	304.90	304.1	no	303.85	no
24-Feb-10	0.70	304.90	304.1	no	303.85	no
25-Feb-10	0.70	304.90	304.1	no	303.85	no

Table G-9
Threshold Summary - Phase 3 Pond
Mill Creek Aggregates Pit

Date	Gauge Reading Phase 3 Pond (m)	Water Elevation Phase 3 Pond (m ASL)	Early Warning Value (Min) (m ASL)	Exceedance of Early Warning Value	Threshold Value (Min) (m ASL)	Exceedance of Threshold Value
26-Feb-10	0.70	304.90	304.1	no	303.85	no
27-Feb-10	0.70	304.90	304.1	no	303.85	no
28-Feb-10	0.70	304.90	304.1	no	303.85	no
1-Mar-10	0.70	304.90	304.1	no	303.85	no
2-Mar-10	0.70	304.90	304.1	no	303.85	no
3-Mar-10	0.70	304.90	304.1	no	303.85	no
4-Mar-10	0.70	304.90	304.1	no	303.85	no
5-Mar-10	0.70	304.90	304.1	no	303.85	no
6-Mar-10	0.70	304.90	304.1	no	303.85	no
7-Mar-10	0.70	304.90	304.1	no	303.85	no
8-Mar-10	0.70	304.90	304.1	no	303.85	no
9-Mar-10	0.70	304.90	304.1	no	303.85	no
10-Mar-10	0.70	304.90	304.1	no	303.85	no
11-Mar-10	0.70	304.90	304.1	no	303.85	no
12-Mar-10	0.70	304.90	304.1	no	303.85	no
13-Mar-10	0.70	304.90	304.1	no	303.85	no
14-Mar-10	0.70	304.90	304.1	no	303.85	no
15-Mar-10	0.70	304.90	304.1	no	303.85	no
16-Mar-10	0.70	304.90	304.1	no	303.85	no
17-Mar-10	0.70	304.90	304.1	no	303.85	no
18-Mar-10	0.70	304.90	304.1	no	303.85	no
19-Mar-10	0.70	304.90	304.1	no	303.85	no
20-Mar-10	0.70	304.90	304.1	no	303.85	no
21-Mar-10	0.70	304.90	304.1	no	303.85	no
22-Mar-10	0.70	304.90	304.1	no	303.85	no
23-Mar-10	0.70	304.90	304.1	no	303.85	no
24-Mar-10	0.48	304.75	304.1	no	303.85	no
25-Mar-10	0.48	304.75	304.1	no	303.85	no
26-Mar-10	0.49	304.76	304.1	no	303.85	no
27-Mar-10	0.49	304.76	304.1	no	303.85	no
28-Mar-10	0.49	304.76	304.1	no	303.85	no
29-Mar-10	0.49	304.76	304.1	no	303.85	no
30-Mar-10	0.48	304.75	304.1	no	303.85	no
31-Mar-10	0.48	304.75	304.1	no	303.85	no
1-Apr-10	0.51	304.78	304.1	no	303.85	no
2-Apr-10	0.55	304.82	304.1	no	303.85	no
3-Apr-10	0.55	304.82	304.1	no	303.85	no
4-Apr-10	0.55	304.82	304.1	no	303.85	no
5-Apr-10	0.55	304.82	304.1	no	303.85	no
6-Apr-10	0.71	304.98	304.1	no	303.85	no
7-Apr-10	0.76	305.03	304.1	no	303.85	no
8-Apr-10	0.80	305.07	304.1	no	303.85	no
9-Apr-10	0.80	305.07	304.1	no	303.85	no
10-Apr-10	0.80	305.07	304.1	no	303.85	no
11-Apr-10	0.80	305.07	304.1	no	303.85	no
12-Apr-10	0.81	305.08	304.1	no	303.85	no
13-Apr-10	0.79	305.06	304.1	no	303.85	no
14-Apr-10	0.79	305.06	304.1	no	303.85	no
15-Apr-10	0.75	305.02	304.1	no	303.85	no
16-Apr-10	0.74	305.01	304.1	no	303.85	no
17-Apr-10	0.74	305.01	304.1	no	303.85	no
18-Apr-10	0.74	305.01	304.1	no	303.85	no
19-Apr-10	0.74	305.01	304.1	no	303.85	no
20-Apr-10	0.74	305.01	304.1	no	303.85	no
21-Apr-10	0.74	305.01	304.1	no	303.85	no
22-Apr-10	0.73	305.00	304.1	no	303.85	no
23-Apr-10	0.74	305.01	304.1	no	303.85	no
24-Apr-10	0.74	305.01	304.1	no	303.85	no
25-Apr-10	0.74	305.01	304.1	no	303.85	no
26-Apr-10	0.70	304.97	304.1	no	303.85	no
27-Apr-10	0.68	304.95	304.1	no	303.85	no
28-Apr-10	0.66	304.93	304.1	no	303.85	no
29-Apr-10	0.68	304.95	304.1	no	303.85	no
30-Apr-10	0.71	304.98	304.1	no	303.85	no
1-May-10	0.71	304.98	304.1	no	303.85	no
2-May-10	0.71	304.98	304.1	no	303.85	no
3-May-10	0.70	304.97	304.1	no	303.85	no
4-May-10	0.70	304.97	304.1	no	303.85	no
5-May-10	0.68	304.95	304.1	no	303.85	no
6-May-10	0.65	304.92	304.1	no	303.85	no
7-May-10	0.60	304.87	304.1	no	303.85	no
8-May-10	0.60	304.87	304.1	no	303.85	no
9-May-10	0.60	304.87	304.1	no	303.85	no
10-May-10	0.65	304.92	304.1	no	303.85	no
11-May-10	0.60	304.87	304.1	no	303.85	no
12-May-10	0.61	304.88	304.1	no	303.85	no
13-May-10	0.60	304.87	304.1	no	303.85	no
14-May-10	0.60	304.87	304.1	no	303.85	no
15-May-10	0.60	304.87	304.1	no	303.85	no
16-May-10	0.60	304.87	304.1	no	303.85	no
17-May-10	0.63	304.90	304.1	no	303.85	no
18-May-10	0.60	304.87	304.1	no	303.85	no
19-May-10	0.60	304.87	304.1	no	303.85	no
20-May-10	0.62	304.89	304.1	no	303.85	no
21-May-10	0.59	304.86	304.1	no	303.85	no
22-May-10	0.59	304.86	304.1	no	303.85	no
23-May-10	0.59	304.86	304.1	no	303.85	no
24-May-10	0.59	304.86	304.1	no	303.85	no
25-May-10	0.63	304.90	304.1	no	303.85	no

Table G-9
Threshold Summary - Phase 3 Pond
Mill Creek Aggregates Pit

Date	Gauge Reading Phase 3 Pond (m)	Water Elevation Phase 3 Pond (m ASL)	Early Warning Value (Min) (m ASL)	Exceedance of Early Warning Value	Threshold Value (Min) (m ASL)	Exceedance of Threshold Value
26-May-10	0.65	304.92	304.1	no	303.85	no
27-May-10	0.68	304.95	304.1	no	303.85	no
28-May-10	0.68	304.95	304.1	no	303.85	no
29-May-10	0.68	304.95	304.1	no	303.85	no
30-May-10	0.68	304.95	304.1	no	303.85	no
31-May-10	0.65	304.92	304.1	no	303.85	no
1-Jun-10	0.70	304.97	304.1	no	303.85	no
2-Jun-10	0.65	304.92	304.1	no	303.85	no
3-Jun-10	0.74	305.01	304.1	no	303.85	no
4-Jun-10	0.77	305.04	304.1	no	303.85	no
5-Jun-10	0.77	305.04	304.1	no	303.85	no
6-Jun-10	0.77	305.04	304.1	no	303.85	no
7-Jun-10	0.77	305.04	304.1	no	303.85	no
8-Jun-10	0.74	305.01	304.1	no	303.85	no
9-Jun-10	0.74	305.01	304.1	no	303.85	no
10-Jun-10	0.78	305.05	304.1	no	303.85	no
11-Jun-10	0.78	305.05	304.1	no	303.85	no
12-Jun-10	0.78	305.05	304.1	no	303.85	no
13-Jun-10	0.78	305.05	304.1	no	303.85	no
14-Jun-10	0.79	305.06	304.1	no	303.85	no
15-Jun-10	0.78	305.05	304.1	no	303.85	no
16-Jun-10	0.75	305.02	304.1	no	303.85	no
17-Jun-10	0.74	305.01	304.1	no	303.85	no
18-Jun-10	0.71	304.98	304.1	no	303.85	no
19-Jun-10	0.71	304.98	304.1	no	303.85	no
20-Jun-10	0.71	304.98	304.1	no	303.85	no
21-Jun-10	0.69	304.96	304.1	no	303.85	no
22-Jun-10	0.72	304.99	304.1	no	303.85	no
23-Jun-10	0.80	305.07	304.1	no	303.85	no
24-Jun-10	0.79	305.06	304.1	no	303.85	no
25-Jun-10	0.77	305.04	304.1	no	303.85	no
26-Jun-10	0.77	305.04	304.1	no	303.85	no
27-Jun-10	0.77	305.04	304.1	no	303.85	no
28-Jun-10	0.79	305.06	304.1	no	303.85	no
29-Jun-10	0.78	305.05	304.1	no	303.85	no
30-Jun-10	0.75	305.02	304.1	no	303.85	no
1-Jul-10	0.75	305.02	304.1	no	303.85	no
2-Jul-10	0.74	305.01	304.1	no	303.85	no
3-Jul-10	0.74	305.01	304.1	no	303.85	no
4-Jul-10	0.74	305.01	304.1	no	303.85	no
5-Jul-10	0.69	304.96	304.1	no	303.85	no
6-Jul-10	0.69	304.96	304.1	no	303.85	no
7-Jul-10	0.75	305.02	304.1	no	303.85	no
8-Jul-10	0.74	305.01	304.1	no	303.85	no
9-Jul-10	0.73	305.00	304.1	no	303.85	no
10-Jul-10	0.73	305.00	304.1	no	303.85	no
11-Jul-10	0.73	305.00	304.1	no	303.85	no
12-Jul-10	0.69	304.96	304.1	no	303.85	no
13-Jul-10	0.73	305.00	304.1	no	303.85	no
14-Jul-10	0.73	305.00	304.1	no	303.85	no
15-Jul-10	0.72	304.99	304.1	no	303.85	no
16-Jul-10	0.70	304.97	304.1	no	303.85	no
17-Jul-10	0.70	304.97	304.1	no	303.85	no
18-Jul-10	0.70	304.97	304.1	no	303.85	no
19-Jul-10	0.68	304.95	304.1	no	303.85	no
20-Jul-10	0.69	304.96	304.1	no	303.85	no
21-Jul-10	0.68	304.95	304.1	no	303.85	no
22-Jul-10	0.68	304.95	304.1	no	303.85	no
23-Jul-10	0.75	305.02	304.1	no	303.85	no
24-Jul-10	0.75	305.02	304.1	no	303.85	no
25-Jul-10	0.75	305.02	304.1	no	303.85	no
26-Jul-10	0.80	305.07	304.1	no	303.85	no
27-Jul-10	0.77	305.04	304.1	no	303.85	no
28-Jul-10	0.77	305.04	304.1	no	303.85	no
29-Jul-10	0.75	305.02	304.1	no	303.85	no
30-Jul-10	0.74	305.01	304.1	no	303.85	no
31-Jul-10	0.74	305.01	304.1	no	303.85	no
1-Aug-10	0.74	305.01	304.1	no	303.85	no
2-Aug-10	0.74	305.01	304.1	no	303.85	no
3-Aug-10	0.72	304.99	304.1	no	303.85	no
4-Aug-10	0.73	305.00	304.1	no	303.85	no
5-Aug-10	0.71	304.98	304.1	no	303.85	no
6-Aug-10	0.72	304.99	304.1	no	303.85	no
7-Aug-10	0.72	304.99	304.1	no	303.85	no
8-Aug-10	0.72	304.99	304.1	no	303.85	no
9-Aug-10	0.67	304.94	304.1	no	303.85	no
10-Aug-10	0.72	304.99	304.1	no	303.85	no
11-Aug-10	0.65	304.92	304.1	no	303.85	no
12-Aug-10	0.60	304.87	304.1	no	303.85	no
13-Aug-10	0.60	304.87	304.1	no	303.85	no
14-Aug-10	0.60	304.87	304.1	no	303.85	no
15-Aug-10	0.60	304.87	304.1	no	303.85	no
16-Aug-10	0.62	304.89	304.1	no	303.85	no
17-Aug-10	0.58	304.85	304.1	no	303.85	no
18-Aug-10	0.58	304.85	304.1	no	303.85	no
19-Aug-10	0.55	304.82	304.1	no	303.85	no
20-Aug-10	0.57	304.84	304.1	no	303.85	no
21-Aug-10	0.57	304.84	304.1	no	303.85	no

Table G-9
Threshold Summary - Phase 3 Pond
Mill Creek Aggregates Pit

Date	Gauge Reading Phase 3 Pond (m)	Water Elevation Phase 3 Pond (m ASL)	Early Warning Value (Min) (m ASL)	Exceedance of Early Warning Value	Threshold Value (Min) (m ASL)	Exceedance of Threshold Value
22-Aug-10	0.57	304.84	304.1	no	303.85	no
23-Aug-10	0.66	304.93	304.1	no	303.85	no
24-Aug-10	0.60	304.87	304.1	no	303.85	no
25-Aug-10	0.65	304.92	304.1	no	303.85	no
26-Aug-10	0.66	304.93	304.1	no	303.85	no
27-Aug-10	0.60	304.87	304.1	no	303.85	no
28-Aug-10	0.60	304.87	304.1	no	303.85	no
29-Aug-10	0.60	304.87	304.1	no	303.85	no
30-Aug-10	0.61	304.88	304.1	no	303.85	no
31-Aug-10	0.60	304.87	304.1	no	303.85	no
1-Sep-10	0.63	304.90	304.1	no	303.85	no
2-Sep-10	0.69	304.96	304.1	no	303.85	no
3-Sep-10	0.72	304.99	304.1	no	303.85	no
4-Sep-10	0.72	304.99	304.1	no	303.85	no
5-Sep-10	0.72	304.99	304.1	no	303.85	no
6-Sep-10	0.72	304.99	304.1	no	303.85	no
7-Sep-10	0.70	304.97	304.1	no	303.85	no
8-Sep-10	0.70	304.97	304.1	no	303.85	no
9-Sep-10	0.68	304.95	304.1	no	303.85	no
10-Sep-10	0.60	304.87	304.1	no	303.85	no
11-Sep-10	0.60	304.87	304.1	no	303.85	no
12-Sep-10	0.60	304.87	304.1	no	303.85	no
13-Sep-10	0.61	304.88	304.1	no	303.85	no
14-Sep-10	0.59	304.86	304.1	no	303.85	no
15-Sep-10	0.59	304.86	304.1	no	303.85	no
16-Sep-10	0.59	304.86	304.1	no	303.85	no
17-Sep-10	0.59	304.86	304.1	no	303.85	no
18-Sep-10	0.59	304.86	304.1	no	303.85	no
19-Sep-10	0.59	304.86	304.1	no	303.85	no
20-Sep-10	0.50	304.77	304.1	no	303.85	no
21-Sep-10	0.68	304.95	304.1	no	303.85	no
22-Sep-10	0.66	304.93	304.1	no	303.85	no
23-Sep-10	0.65	304.92	304.1	no	303.85	no
24-Sep-10	0.60	304.87	304.1	no	303.85	no
25-Sep-10	0.60	304.87	304.1	no	303.85	no
26-Sep-10	0.60	304.87	304.1	no	303.85	no
27-Sep-10	0.60	304.87	304.1	no	303.85	no
28-Sep-10	0.62	304.89	304.1	no	303.85	no
29-Sep-10	0.74	305.01	304.1	no	303.85	no
30-Sep-10	0.72	304.99	304.1	no	303.85	no
1-Oct-10	0.69	304.96	304.1	no	303.85	no
2-Oct-10	0.69	304.96	304.1	no	303.85	no
3-Oct-10	0.69	304.96	304.1	no	303.85	no
4-Oct-10	0.65	304.92	304.1	no	303.85	no
5-Oct-10	0.66	304.93	304.1	no	303.85	no
6-Oct-10	0.66	304.93	304.1	no	303.85	no
7-Oct-10	0.70	304.97	304.1	no	303.85	no
8-Oct-10	0.63	304.90	304.1	no	303.85	no
9-Oct-10	0.63	304.90	304.1	no	303.85	no
10-Oct-10	0.63	304.90	304.1	no	303.85	no
11-Oct-10	0.63	304.90	304.1	no	303.85	no
12-Oct-10	0.64	304.91	304.1	no	303.85	no
13-Oct-10	0.68	304.95	304.1	no	303.85	no
14-Oct-10	0.68	304.95	304.1	no	303.85	no
15-Oct-10	0.69	304.96	304.1	no	303.85	no
16-Oct-10	0.69	304.96	304.1	no	303.85	no
17-Oct-10	0.69	304.96	304.1	no	303.85	no
18-Oct-10	0.65	304.92	304.1	no	303.85	no
19-Oct-10	0.64	304.91	304.1	no	303.85	no
20-Oct-10	0.65	304.92	304.1	no	303.85	no
21-Oct-10	0.65	304.92	304.1	no	303.85	no
22-Oct-10	0.65	304.92	304.1	no	303.85	no
23-Oct-10	0.65	304.92	304.1	no	303.85	no
24-Oct-10	0.65	304.92	304.1	no	303.85	no
25-Oct-10	0.73	305.00	304.1	no	303.85	no
26-Oct-10	0.73	305.00	304.1	no	303.85	no
27-Oct-10	0.72	304.99	304.1	no	303.85	no
28-Oct-10	0.72	304.99	304.1	no	303.85	no
29-Oct-10	0.73	305.00	304.1	no	303.85	no
30-Oct-10	0.73	305.00	304.1	no	303.85	no
31-Oct-10	0.73	305.00	304.1	no	303.85	no

Table G-9
Threshold Summary - Phase 3 Pond
Mill Creek Aggregates Pit

Date	Gauge Reading Phase 3 Pond (m)	Water Elevation Phase 3 Pond (m ASL)	Early Warning Value (Min) (m ASL)	Exceedance of Early Warning Value	Threshold Value (Min) (m ASL)	Exceedance of Threshold Value
1-Nov-10	0.69	304.96	304.1	no	303.85	no
2-Nov-10	0.68	304.95	304.1	no	303.85	no
3-Nov-10	0.66	304.93	304.1	no	303.85	no
4-Nov-10	0.67	304.94	304.1	no	303.85	no
5-Nov-10	0.69	304.96	304.1	no	303.85	no
6-Nov-10	0.69	304.96	304.1	no	303.85	no
7-Nov-10	0.69	304.96	304.1	no	303.85	no
8-Nov-10	0.73	305.00	304.1	no	303.85	no
9-Nov-10	0.72	304.99	304.1	no	303.85	no
10-Nov-10	0.70	304.97	304.1	no	303.85	no
11-Nov-10	0.70	304.97	304.1	no	303.85	no
12-Nov-10	0.71	304.98	304.1	no	303.85	no
13-Nov-10	0.71	304.98	304.1	no	303.85	no
14-Nov-10	0.71	304.98	304.1	no	303.85	no
15-Nov-10	0.70	304.97	304.1	no	303.85	no
16-Nov-10	0.66	304.93	304.1	no	303.85	no
17-Nov-10	0.68	304.95	304.1	no	303.85	no
18-Nov-10	0.68	304.95	304.1	no	303.85	no
19-Nov-10	0.68	304.95	304.1	no	303.85	no
20-Nov-10	0.68	304.95	304.1	no	303.85	no
21-Nov-10	0.68	304.95	304.1	no	303.85	no
22-Nov-10	0.60	304.87	304.1	no	303.85	no
23-Nov-10	0.65	304.92	304.1	no	303.85	no
24-Nov-10	0.59	304.86	304.1	no	303.85	no
25-Nov-10	0.59	304.86	304.1	no	303.85	no
26-Nov-10	0.60	304.87	304.1	no	303.85	no
27-Nov-10	0.60	304.87	304.1	no	303.85	no
28-Nov-10	0.60	304.87	304.1	no	303.85	no
29-Nov-10	0.60	304.87	304.1	no	303.85	no
30-Nov-10	0.60	304.87	304.1	no	303.85	no
1-Dec-10	0.60	304.87	304.1	no	303.85	no
2-Dec-10	0.60	304.87	304.1	no	303.85	no
3-Dec-10	0.60	304.87	304.1	no	303.85	no
4-Dec-10	0.60	304.87	304.1	no	303.85	no
5-Dec-10	0.60	304.87	304.1	no	303.85	no
6-Dec-10	0.60	304.87	304.1	no	303.85	no
7-Dec-10	0.60	304.87	304.1	no	303.85	no
8-Dec-10	0.60	304.87	304.1	no	303.85	no
9-Dec-10	0.60	304.87	304.1	no	303.85	no
10-Dec-10	0.60	304.87	304.1	no	303.85	no
11-Dec-10	0.60	304.87	304.1	no	303.85	no
12-Dec-10	0.60	304.87	304.1	no	303.85	no
13-Dec-10	0.60	304.87	304.1	no	303.85	no
14-Dec-10	0.60	304.87	304.1	no	303.85	no
15-Dec-10	0.60	304.87	304.1	no	303.85	no
16-Dec-10	0.60	304.87	304.1	no	303.85	no
17-Dec-10	0.60	304.87	304.1	no	303.85	no
18-Dec-10	0.60	304.87	304.1	no	303.85	no
19-Dec-10	0.60	304.87	304.1	no	303.85	no
20-Dec-10	0.60	304.87	304.1	no	303.85	no
21-Dec-10	0.60	304.87	304.1	no	303.85	no
22-Dec-10	0.60	304.87	304.1	no	303.85	no
23-Dec-10	0.60	304.87	304.1	no	303.85	no
24-Dec-10	0.60	304.87	304.1	no	303.85	no
25-Dec-10	0.60	304.87	304.1	no	303.85	no
26-Dec-10	0.60	304.87	304.1	no	303.85	no
27-Dec-10	0.60	304.87	304.1	no	303.85	no
28-Dec-10	0.60	304.87	304.1	no	303.85	no
29-Dec-10	0.60	304.87	304.1	no	303.85	no
30-Dec-10	0.60	304.87	304.1	no	303.85	no
31-Dec-10	0.60	304.87	304.1	no	303.85	no
1-Jan-11	0.60	304.87	304.1	no	303.85	no
2-Jan-11	0.60	304.87	304.1	no	303.85	no
3-Jan-11	0.60	304.87	304.1	no	303.85	no
4-Jan-11	0.60	304.87	304.1	no	303.85	no
5-Jan-11	0.60	304.87	304.1	no	303.85	no
6-Jan-11	0.60	304.87	304.1	no	303.85	no
7-Jan-11	0.60	304.87	304.1	no	303.85	no
8-Jan-11	0.60	304.87	304.1	no	303.85	no
9-Jan-11	0.60	304.87	304.1	no	303.85	no
10-Jan-11	0.60	304.87	304.1	no	303.85	no
11-Jan-11	0.60	304.87	304.1	no	303.85	no
12-Jan-11	0.60	304.87	304.1	no	303.85	no
13-Jan-11	0.60	304.87	304.1	no	303.85	no
14-Jan-11	0.60	304.87	304.1	no	303.85	no
15-Jan-11	0.60	304.87	304.1	no	303.85	no
16-Jan-11	0.60	304.87	304.1	no	303.85	no
17-Jan-11	0.60	304.87	304.1	no	303.85	no
18-Jan-11	0.60	304.87	304.1	no	303.85	no

Table G-9
Threshold Summary - Phase 3 Pond
Mill Creek Aggregates Pit

Date	Gauge Reading Phase 3 Pond (m)	Water Elevation Phase 3 Pond (m ASL)	Early Warning Value (Min) (m ASL)	Exceedance of Early Warning Value	Threshold Value (Min) (m ASL)	Exceedance of Threshold Value
19-Jan-11	0.60	304.87	304.1	no	303.85	no
20-Jan-11	0.60	304.87	304.1	no	303.85	no
21-Jan-11	0.60	304.87	304.1	no	303.85	no
22-Jan-11	0.60	304.87	304.1	no	303.85	no
23-Jan-11	0.60	304.87	304.1	no	303.85	no
24-Jan-11	0.60	304.87	304.1	no	303.85	no
25-Jan-11	0.60	304.87	304.1	no	303.85	no
26-Jan-11	0.60	304.87	304.1	no	303.85	no
27-Jan-11	0.60	304.87	304.1	no	303.85	no
28-Jan-11	0.60	304.87	304.1	no	303.85	no
29-Jan-11	0.60	304.87	304.1	no	303.85	no
30-Jan-11	0.60	304.87	304.1	no	303.85	no
31-Jan-11	0.60	304.87	304.1	no	303.85	no
1-Feb-11	0.60	304.87	304.1	no	303.85	no
2-Feb-11	0.60	304.87	304.1	no	303.85	no
3-Feb-11	0.60	304.87	304.1	no	303.85	no
4-Feb-11	0.60	304.87	304.1	no	303.85	no
5-Feb-11	0.60	304.87	304.1	no	303.85	no
6-Feb-11	0.60	304.87	304.1	no	303.85	no
7-Feb-11	0.60	304.87	304.1	no	303.85	no
8-Feb-11	0.60	304.87	304.1	no	303.85	no
9-Feb-11	0.60	304.87	304.1	no	303.85	no
10-Feb-11	0.60	304.87	304.1	no	303.85	no
11-Feb-11	0.60	304.87	304.1	no	303.85	no
12-Feb-11	0.60	304.87	304.1	no	303.85	no
13-Feb-11	0.60	304.87	304.1	no	303.85	no
14-Feb-11	0.60	304.87	304.1	no	303.85	no
15-Feb-11	0.60	304.87	304.1	no	303.85	no
16-Feb-11	0.60	304.87	304.1	no	303.85	no
17-Feb-11	0.60	304.87	304.1	no	303.85	no
18-Feb-11	0.60	304.87	304.1	no	303.85	no
19-Feb-11	0.60	304.87	304.1	no	303.85	no
20-Feb-11	0.60	304.87	304.1	no	303.85	no
21-Feb-11	0.60	304.87	304.1	no	303.85	no
22-Feb-11	0.60	304.87	304.1	no	303.85	no
23-Feb-11	0.60	304.87	304.1	no	303.85	no
24-Feb-11	0.60	304.87	304.1	no	303.85	no
25-Feb-11	0.60	304.87	304.1	no	303.85	no
26-Feb-11	0.60	304.87	304.1	no	303.85	no
27-Feb-11	0.60	304.87	304.1	no	303.85	no
28-Feb-11	0.60	304.87	304.1	no	303.85	no
1-Mar-11	0.60	304.87	304.1	no	303.85	no
2-Mar-11	0.60	304.87	304.1	no	303.85	no
3-Mar-11	0.60	304.87	304.1	no	303.85	no
4-Mar-11	0.60	304.87	304.1	no	303.85	no
5-Mar-11	0.60	304.87	304.1	no	303.85	no
6-Mar-11	0.60	304.87	304.1	no	303.85	no
7-Mar-11	0.60	304.87	304.1	no	303.85	no
8-Mar-11	0.60	304.87	304.1	no	303.85	no
9-Mar-11	0.60	304.87	304.1	no	303.85	no
10-Mar-11	0.60	304.87	304.1	no	303.85	no
11-Mar-11	0.60	304.87	304.1	no	303.85	no
12-Mar-11	0.60	304.87	304.1	no	303.85	no
13-Mar-11	0.60	304.87	304.1	no	303.85	no
14-Mar-11	0.60	304.87	304.1	no	303.85	no
15-Mar-11	0.60	304.87	304.1	no	303.85	no
16-Mar-11	0.60	304.87	304.1	no	303.85	no
17-Mar-11	0.60	304.87	304.1	no	303.85	no
18-Mar-11	0.60	304.87	304.1	no	303.85	no
19-Mar-11	0.60	304.87	304.1	no	303.85	no
20-Mar-11	0.60	304.87	304.1	no	303.85	no
21-Mar-11	0.60	304.87	304.1	no	303.85	no
22-Mar-11	0.60	304.87	304.1	no	303.85	no
23-Mar-11	0.60	304.87	304.1	no	303.85	no
24-Mar-11	0.60	304.87	304.1	no	303.85	no
25-Mar-11	0.60	304.87	304.1	no	303.85	no
26-Mar-11	0.60	304.87	304.1	no	303.85	no
27-Mar-11	0.60	304.87	304.1	no	303.85	no
28-Mar-11	0.60	304.87	304.1	no	303.85	no
29-Mar-11	0.60	304.87	304.1	no	303.85	no
30-Mar-11	0.60	304.87	304.1	no	303.85	no
31-Mar-11	0.60	304.87	304.1	no	303.85	no

Table G-9
Threshold Summary - Phase 3 Pond
Mill Creek Aggregates Pit

Date	Gauge Reading Phase 3 Pond (m)	Water Elevation Phase 3 Pond (m ASL)	Early Warning Value (Min) (m ASL)	Exceedance of Early Warning Value	Threshold Value (Min) (m ASL)	Exceedance of Threshold Value
11-Apr-11	0.60	305.11	304.1	no	303.85	no
12-Apr-11	0.60	305.11	304.1	no	303.85	no
13-Apr-11	0.58	305.09	304.1	no	303.85	no
14-Apr-11	0.57	305.08	304.1	no	303.85	no
15-Apr-11	0.56	305.07	304.1	no	303.85	no
16-Apr-11	0.56	305.07	304.1	no	303.85	no
17-Apr-11	0.56	305.07	304.1	no	303.85	no
18-Apr-11	0.60	305.11	304.1	no	303.85	no
19-Apr-11	0.60	305.11	304.1	no	303.85	no
20-Apr-11	0.61	305.12	304.1	no	303.85	no
21-Apr-11	0.65	305.16	304.1	no	303.85	no
22-Apr-11	0.65	305.16	304.1	no	303.85	no
23-Apr-11	0.65	305.16	304.1	no	303.85	no
24-Apr-11	0.65	305.16	304.1	no	303.85	no
25-Apr-11	0.66	305.17	304.1	no	303.85	no
26-Apr-11	0.68	305.19	304.1	no	303.85	no
27-Apr-11	0.69	305.20	304.1	no	303.85	no
28-Apr-11	0.69	305.20	304.1	no	303.85	no
29-Apr-11	0.68	305.19	304.1	no	303.85	no
30-Apr-11	0.68	305.19	304.1	no	303.85	no
1-May-11	0.68	305.19	304.1	no	303.85	no
2-May-11	0.69	305.20	304.1	no	303.85	no
3-May-11	0.68	305.19	304.1	no	303.85	no
4-May-11	0.66	305.17	304.1	no	303.85	no
5-May-11	0.66	305.17	304.1	no	303.85	no
6-May-11	0.64	305.15	304.1	no	303.85	no
7-May-11	0.64	305.15	304.1	no	303.85	no
8-May-11	0.64	305.15	304.1	no	303.85	no
9-May-11	0.60	305.11	304.1	no	303.85	no
10-May-11	0.60	305.11	304.1	no	303.85	no
11-May-11	0.58	305.09	304.1	no	303.85	no
12-May-11	0.56	305.07	304.1	no	303.85	no
13-May-11	0.55	305.06	304.1	no	303.85	no
14-May-11	0.55	305.06	304.1	no	303.85	no
15-May-11	0.55	305.06	304.1	no	303.85	no
16-May-11	0.61	305.12	304.1	no	303.85	no
17-May-11	0.62	305.13	304.1	no	303.85	no
18-May-11	0.59	305.10	304.1	no	303.85	no
19-May-11	0.70	305.21	304.1	no	303.85	no
20-May-11	0.57	305.08	304.1	no	303.85	no
21-May-11	0.57	305.08	304.1	no	303.85	no
22-May-11	0.57	305.08	304.1	no	303.85	no
23-May-11	0.57	305.08	304.1	no	303.85	no
24-May-11	0.58	305.09	304.1	no	303.85	no
25-May-11	0.55	305.06	304.1	no	303.85	no
26-May-11	0.53	305.04	304.1	no	303.85	no
27-May-11	0.51	305.02	304.1	no	303.85	no
28-May-11	0.51	305.02	304.1	no	303.85	no
29-May-11	0.51	305.02	304.1	no	303.85	no
30-May-11	0.52	305.03	304.1	no	303.85	no
31-May-11	0.52	305.03	304.1	no	303.85	no
1-Jun-11	0.53	305.04	304.1	no	303.85	no
2-Jun-11	0.50	305.01	304.1	no	303.85	no
3-Jun-11	0.49	305.00	304.1	no	303.85	no
4-Jun-11	0.49	305.00	304.1	no	303.85	no
5-Jun-11	0.49	305.00	304.1	no	303.85	no
6-Jun-11	0.53	305.04	304.1	no	303.85	no
7-Jun-11	0.51	305.02	304.1	no	303.85	no
8-Jun-11	0.51	305.02	304.1	no	303.85	no
9-Jun-11	0.54	305.05	304.1	no	303.85	no
10-Jun-11	0.54	305.05	304.1	no	303.85	no
11-Jun-11	0.54	305.05	304.1	no	303.85	no
12-Jun-11	0.54	305.05	304.1	no	303.85	no
13-Jun-11	0.52	305.03	304.1	no	303.85	no
14-Jun-11	0.52	305.03	304.1	no	303.85	no
15-Jun-11	0.51	305.02	304.1	no	303.85	no
16-Jun-11	0.50	305.01	304.1	no	303.85	no
17-Jun-11	0.49	305.00	304.1	no	303.85	no
18-Jun-11	0.49	305.00	304.1	no	303.85	no
19-Jun-11	0.49	305.00	304.1	no	303.85	no
20-Jun-11	0.46	304.97	304.1	no	303.85	no
21-Jun-11	0.46	304.97	304.1	no	303.85	no
22-Jun-11	0.47	304.98	304.1	no	303.85	no

Table G-9
Threshold Summary - Phase 3 Pond
Mill Creek Aggregates Pit

Date	Gauge Reading Phase 3 Pond (m)	Water Elevation Phase 3 Pond (m ASL)	Early Warning Value (Min) (m ASL)	Exceedance of Early Warning Value	Threshold Value (Min) (m ASL)	Exceedance of Threshold Value
23-Jun-11	0.48	304.99	304.1	no	303.85	no
24-Jun-11	0.49	305.00	304.1	no	303.85	no
25-Jun-11	0.49	305.00	304.1	no	303.85	no
26-Jun-11	0.49	305.00	304.1	no	303.85	no
27-Jun-11	0.48	304.99	304.1	no	303.85	no
28-Jun-11	0.48	304.99	304.1	no	303.85	no
29-Jun-11	0.43	304.94	304.1	no	303.85	no
30-Jun-11	0.40	304.91	304.1	no	303.85	no
1-Jul-11	0.40	304.91	304.1	no	303.85	no
2-Jul-11	0.40	304.91	304.1	no	303.85	no
3-Jul-11	0.40	304.91	304.1	no	303.85	no
4-Jul-11	0.38	304.89	304.1	no	303.85	no
5-Jul-11	0.33	304.84	304.1	no	303.85	no
6-Jul-11	0.27	304.78	304.1	no	303.85	no
7-Jul-11	0.27	304.78	304.1	no	303.85	no
8-Jul-11	0.23	304.74	304.1	no	303.85	no
9-Jul-11	0.23	304.74	304.1	no	303.85	no
10-Jul-11	0.23	304.74	304.1	no	303.85	no
11-Jul-11	0.23	304.74	304.1	no	303.85	no
12-Jul-11	0.23	304.74	304.1	no	303.85	no
13-Jul-11	0.23	304.74	304.1	no	303.85	no
14-Jul-11	0.26	304.77	304.1	no	303.85	no
15-Jul-11	0.26	304.77	304.1	no	303.85	no
16-Jul-11	0.26	304.77	304.1	no	303.85	no
17-Jul-11	0.26	304.77	304.1	no	303.85	no
18-Jul-11	0.19	304.70	304.1	no	303.85	no
19-Jul-11	0.32	304.83	304.1	no	303.85	no
20-Jul-11	0.36	304.87	304.1	no	303.85	no
21-Jul-11	0.31	304.82	304.1	no	303.85	no
22-Jul-11	0.36	304.87	304.1	no	303.85	no
23-Jul-11	0.36	304.87	304.1	no	303.85	no
24-Jul-11	0.36	304.87	304.1	no	303.85	no
25-Jul-11	0.34	304.85	304.1	no	303.85	no
26-Jul-11	0.31	304.82	304.1	no	303.85	no
27-Jul-11	0.31	304.82	304.1	no	303.85	no
28-Jul-11	0.31	304.82	304.1	no	303.85	no
29-Jul-11	0.31	304.82	304.1	no	303.85	no
30-Jul-11	0.31	304.82	304.1	no	303.85	no
31-Jul-11	0.31	304.82	304.1	no	303.85	no
1-Aug-11	0.31	304.82	304.1	no	303.85	no
2-Aug-11	0.30	304.81	304.1	no	303.85	no
3-Aug-11	0.34	304.85	304.1	no	303.85	no
4-Aug-11	0.30	304.81	304.1	no	303.85	no
5-Aug-11	0.36	304.87	304.1	no	303.85	no
6-Aug-11	0.36	304.87	304.1	no	303.85	no
7-Aug-11	0.36	304.87	304.1	no	303.85	no
8-Aug-11	0.34	304.85	304.1	no	303.85	no
9-Aug-11	0.31	304.82	304.1	no	303.85	no
10-Aug-11	0.31	304.82	304.1	no	303.85	no
11-Aug-11	0.25	304.76	304.1	no	303.85	no
12-Aug-11	0.30	304.81	304.1	no	303.85	no
13-Aug-11	0.30	304.81	304.1	no	303.85	no
14-Aug-11	0.30	304.81	304.1	no	303.85	no
15-Aug-11	0.27	304.78	304.1	no	303.85	no
16-Aug-11	0.31	304.82	304.1	no	303.85	no
17-Aug-11	0.32	304.83	304.1	no	303.85	no
18-Aug-11	0.33	304.84	304.1	no	303.85	no
19-Aug-11	0.30	304.81	304.1	no	303.85	no
20-Aug-11	0.30	304.81	304.1	no	303.85	no
21-Aug-11	0.30	304.81	304.1	no	303.85	no
22-Aug-11	0.35	304.86	304.1	no	303.85	no
23-Aug-11	0.32	304.83	304.1	no	303.85	no
24-Aug-11	0.35	304.86	304.1	no	303.85	no
25-Aug-11	0.38	304.89	304.1	no	303.85	no
26-Aug-11	0.38	304.89	304.1	no	303.85	no
27-Aug-11	0.38	304.89	304.1	no	303.85	no
28-Aug-11	0.38	304.89	304.1	no	303.85	no
29-Aug-11	0.37	304.88	304.1	no	303.85	no
30-Aug-11	0.39	304.90	304.1	no	303.85	no
31-Aug-11	0.37	304.88	304.1	no	303.85	no
1-Sep-11	0.35	304.86	304.1	no	303.85	no
2-Sep-11	0.33	304.84	304.1	no	303.85	no
3-Sep-11	0.33	304.84	304.1	no	303.85	no
4-Sep-11	0.33	304.84	304.1	no	303.85	no
5-Sep-11	0.33	304.84	304.1	no	303.85	no
6-Sep-11	0.31	304.82	304.1	no	303.85	no
7-Sep-11	0.36	304.87	304.1	no	303.85	no

Table G-9
Threshold Summary - Phase 3 Pond
Mill Creek Aggregates Pit

Date	Gauge Reading Phase 3 Pond (m)	Water Elevation Phase 3 Pond (m ASL)	Early Warning Value (Min) (m ASL)	Exceedance of Early Warning Value	Threshold Value (Min) (m ASL)	Exceedance of Threshold Value
8-Sep-11	0.33	304.84	304.1	no	303.85	no
9-Sep-11	0.32	304.83	304.1	no	303.85	no
10-Sep-11	0.32	304.83	304.1	no	303.85	no
11-Sep-11	0.32	304.83	304.1	no	303.85	no
12-Sep-11	0.36	304.87	304.1	no	303.85	no
13-Sep-11	0.36	304.87	304.1	no	303.85	no
14-Sep-11	0.35	304.86	304.1	no	303.85	no
15-Sep-11	0.29	304.80	304.1	no	303.85	no
16-Sep-11	0.30	304.81	304.1	no	303.85	no
17-Sep-11	0.30	304.81	304.1	no	303.85	no
18-Sep-11	0.30	304.81	304.1	no	303.85	no
19-Sep-11	0.30	304.81	304.1	no	303.85	no
20-Sep-11	0.35	304.86	304.1	no	303.85	no
21-Sep-11	0.30	304.81	304.1	no	303.85	no
22-Sep-11	0.37	304.88	304.1	no	303.85	no
23-Sep-11	0.41	304.92	304.1	no	303.85	no
24-Sep-11	0.41	304.92	304.1	no	303.85	no
25-Sep-11	0.41	304.92	304.1	no	303.85	no
26-Sep-11	0.40	304.91	304.1	no	303.85	no
27-Sep-11	0.39	304.90	304.1	no	303.85	no
28-Sep-11	0.35	304.86	304.1	no	303.85	no
29-Sep-11	0.30	304.81	304.1	no	303.85	no
30-Sep-11	0.37	304.88	304.1	no	303.85	no
1-Oct-11	0.37	304.88	304.1	no	303.85	no
2-Oct-11	0.37	304.88	304.1	no	303.85	no
3-Oct-11	0.38	304.89	304.1	no	303.85	no
4-Oct-11	0.41	304.92	304.1	no	303.85	no
5-Oct-11	0.40	304.91	304.1	no	303.85	no
6-Oct-11	0.39	304.90	304.1	no	303.85	no
7-Oct-11	0.40	304.91	304.1	no	303.85	no
8-Oct-11	0.40	304.91	304.1	no	303.85	no
9-Oct-11	0.40	304.91	304.1	no	303.85	no
10-Oct-11	0.40	304.91	304.1	no	303.85	no
11-Oct-11	0.40	304.91	304.1	no	303.85	no
12-Oct-11	0.36	304.87	304.1	no	303.85	no
13-Oct-11	0.36	304.87	304.1	no	303.85	no
14-Oct-11	0.38	304.89	304.1	no	303.85	no
15-Oct-11	0.38	304.89	304.1	no	303.85	no
16-Oct-11	0.38	304.89	304.1	no	303.85	no
17-Oct-11	0.40	304.91	304.1	no	303.85	no
18-Oct-11	0.34	304.85	304.1	no	303.85	no
19-Oct-11	0.40	304.91	304.1	no	303.85	no
20-Oct-11	0.48	304.99	304.1	no	303.85	no
21-Oct-11	0.49	305.00	304.1	no	303.85	no
22-Oct-11	0.49	305.00	304.1	no	303.85	no
23-Oct-11	0.49	305.00	304.1	no	303.85	no
24-Oct-11	0.48	304.99	304.1	no	303.85	no
25-Oct-11	0.45	304.96	304.1	no	303.85	no
26-Oct-11	0.46	304.97	304.1	no	303.85	no
27-Oct-11	0.45	304.96	304.1	no	303.85	no
28-Oct-11	0.45	304.96	304.1	no	303.85	no
29-Oct-11	0.45	304.96	304.1	no	303.85	no
30-Oct-11	0.45	304.96	304.1	no	303.85	no
31-Oct-11	0.48	304.99	304.1	no	303.85	no
1-Nov-11	0.45	304.96	304.1	no	303.85	no
2-Nov-11	0.44	304.95	304.1	no	303.85	no
3-Nov-11	0.48	304.99	304.1	no	303.85	no
4-Nov-11	0.48	304.99	304.1	no	303.85	no
5-Nov-11	0.48	304.99	304.1	no	303.85	no
6-Nov-11	0.48	304.99	304.1	no	303.85	no
7-Nov-11	0.50	305.01	304.1	no	303.85	no
8-Nov-11	0.51	305.02	304.1	no	303.85	no
9-Nov-11	0.49	305.00	304.1	no	303.85	no
10-Nov-11	0.50	305.01	304.1	no	303.85	no
11-Nov-11	0.49	305.00	304.1	no	303.85	no
12-Nov-11	0.49	305.00	304.1	no	303.85	no
13-Nov-11	0.49	305.00	304.1	no	303.85	no
14-Nov-11	0.50	305.01	304.1	no	303.85	no
15-Nov-11	0.50	305.01	304.1	no	303.85	no
16-Nov-11	0.50	305.01	304.1	no	303.85	no
17-Nov-11	0.50	305.01	304.1	no	303.85	no
18-Nov-11	0.48	304.99	304.1	no	303.85	no
19-Nov-11	0.48	304.99	304.1	no	303.85	no
20-Nov-11	0.48	304.99	304.1	no	303.85	no
21-Nov-11	0.47	304.98	304.1	no	303.85	no
22-Nov-11	0.47	304.98	304.1	no	303.85	no
23-Nov-11	0.48	304.99	304.1	no	303.85	no
24-Nov-11	0.48	304.99	304.1	no	303.85	no
25-Nov-11	0.47	304.98	304.1	no	303.85	no
26-Nov-11	0.47	304.98	304.1	no	303.85	no
27-Nov-11	0.47	304.98	304.1	no	303.85	no
28-Nov-11	0.48	304.99	304.1	no	303.85	no
29-Nov-11	0.48	304.99	304.1	no	303.85	no
30-Nov-11	0.49	305.00	304.1	no	303.85	no
1-Dec-11	0.49	305.00	304.1	no	303.85	no
2-Dec-11	0.49	305.00	304.1	no	303.85	no
1-Jan-12	0.49	305.00	304.1	no	303.85	no
2-Jan-12	0.49	305.00	304.1	no	303.85	no
3-Jan-12	0.49	305.00	304.1	no	303.85	no
4-Jan-12	0.49	305.00	304.1	no	303.85	no
5-Jan-12	0.49	305.00	304.1	no	303.85	no
6-Jan-12	0.49	305.00	304.1	no	303.85	no
7-Jan-12	0.49	305.00	304.1	no	303.85	no
8-Jan-12	0.49	305.00	304.1	no	303.85	no
9-Jan-12	0.49	305.00	304.1	no	303.85	no
10-Jan-12	0.49	305.00	304.1	no	303.85	no
11-Jan-12	0.49	305.00	304.1	no	303.85	no
12-Jan-12	0.49	305.00	304.1	no	303.85	no
13-Jan-12	0.49	305.00	304.1	no	303.85	no
14-Jan-12	0.49	305.00	304.1	no	303.85	no
15-Jan-12	0.49	305.00	304.1	no	303.85	no
16-Jan-12	0.49	305.00	304.1	no	303.85	no
17-Jan-12	0.49	305.00	304.1	no	303.85	no
18-Jan-12	0.49	305.00	304.1	no	303.85	no
19-Jan-12	0.49	305.00	304.1	no	303.85	no
20-Jan-12	0.49	305.00	304.1	no	303.85	no
21-Jan-12	0.49	305.00	304.1	no	303.85	no
22-Jan-12	0.49	305.00	304.1	no	303.85	no
23-Jan-12	0.49	305.00	304.1	no	303.85	no
24-Jan-12	0.49	305.00	304.1	no	303.85	no
25-Jan-12	0.49	305.00	304.1	no	303.85	no
26-Jan-12	0.49	305.00	304.1	no	303.85	no
27-Jan-12	0.49	305.00	304.1	no	303.85	no
28-Jan-12	0.49	305.00	304.1	no	303.85	no
29-Jan-12	0.49	305.00	304.1	no	303.85	no
30-Jan-12	0.49	305.00	304.1	no	303.85	no
31-Jan-12	0.49	305.00	304.1	no	303.85	no
1-Feb-12	0.49	305.00	304.1	no	303.85	no
2-Feb-12	0.49	305.00	304.1	no	303.85	no
3-Feb-12	0.49	305.00	304.1	no	303.85	no
4-Feb-12	0.49	305.00	304.1	no	303.85	no
5-Feb-12	0.49	305.00	304.1	no	303.85	no
6-Feb-12	0.49	305.00	304.1	no	303.85	no
7-Feb-12	0.49	305.00	304.1	no	303.85	no
8-Feb-12	0.49	305.00	304.1	no	303.85	no
9-Feb-12	0.49	305.00	304.1	no	303.85	no
10-Feb-12	0.49	305.00	304.1	no	303.85	no
11-Feb-12	0.49	305.00	304.1	no	303.85	no
12-Feb-12	0.49	305.00	304.1	no	303.85	no
13-Feb-12	0.49	305.00	304.1	no	303.85	no

Table G-9
Threshold Summary - Phase 3 Pond
Mill Creek Aggregates Pit

Date	Gauge Reading Phase 3 Pond (m)	Water Elevation Phase 3 Pond (m ASL)	Early Warning Value (Min) (m ASL)	Exceedance of Early Warning Value	Threshold Value (Min) (m ASL)	Exceedance of Threshold Value
14-Feb-12	0.49	305.00	304.1	no	303.85	no
15-Feb-12	0.49	305.00	304.1	no	303.85	no
16-Feb-12	0.49	305.00	304.1	no	303.85	no
17-Feb-12	0.49	305.00	304.1	no	303.85	no
18-Feb-12	0.49	305.00	304.1	no	303.85	no
19-Feb-12	0.49	305.00	304.1	no	303.85	no
20-Feb-12	0.49	305.00	304.1	no	303.85	no
21-Feb-12	0.49	305.00	304.1	no	303.85	no
22-Feb-12	0.49	305.00	304.1	no	303.85	no
23-Feb-12	0.49	305.00	304.1	no	303.85	no
24-Feb-12	0.49	305.00	304.1	no	303.85	no
25-Feb-12	0.49	305.00	304.1	no	303.85	no
26-Feb-12	0.49	305.00	304.1	no	303.85	no
27-Feb-12	0.49	305.00	304.1	no	303.85	no
28-Feb-12	0.49	305.00	304.1	no	303.85	no
29-Feb-12	0.49	305.00	304.1	no	303.85	no
1-Mar-12	0.49	305.00	304.1	no	303.85	no
2-Mar-12	0.49	305.00	304.1	no	303.85	no
3-Mar-12	0.49	305.00	304.1	no	303.85	no
4-Mar-12	0.49	305.00	304.1	no	303.85	no
5-Mar-12	0.49	305.00	304.1	no	303.85	no
6-Mar-12	0.49	305.00	304.1	no	303.85	no
7-Mar-12	0.49	305.00	304.1	no	303.85	no
8-Mar-12	0.49	305.00	304.1	no	303.85	no
9-Mar-12	0.49	305.00	304.1	no	303.85	no
10-Mar-12	0.49	305.00	304.1	no	303.85	no
11-Mar-12	0.49	305.00	304.1	no	303.85	no
12-Mar-12	0.49	305.00	304.1	no	303.85	no
13-Mar-12	0.49	305.00	304.1	no	303.85	no
14-Mar-12	0.49	305.00	304.1	no	303.85	no
15-Mar-12	0.49	305.00	304.1	no	303.85	no
16-Mar-12	0.49	305.00	304.1	no	303.85	no
17-Mar-12	0.49	305.00	304.1	no	303.85	no
18-Mar-12	0.49	305.00	304.1	no	303.85	no
19-Mar-12	0.49	305.00	304.1	no	303.85	no
20-Mar-12	0.49	305.00	304.1	no	303.85	no
21-Mar-12	0.49	305.00	304.1	no	303.85	no
22-Mar-12	0.68	305.04	304.1	no	303.85	no
23-Mar-12	0.60	304.96	304.1	no	303.85	no
24-Mar-12	0.60	304.96	304.1	no	303.85	no
25-Mar-12	0.60	304.96	304.1	no	303.85	no
26-Mar-12	0.58	304.94	304.1	no	303.85	no
27-Mar-12	0.54	304.90	304.1	no	303.85	no
28-Mar-12	0.50	304.86	304.1	no	303.85	no
1-Apr-12	0.50	304.86	304.1	no	303.85	no
2-Apr-12	0.40	304.76	304.1	no	303.85	no
3-Apr-12	0.37	304.73	304.1	no	303.85	no
4-Apr-12	0.29	304.65	304.1	no	303.85	no
5-Apr-12	0.44	304.80	304.1	no	303.85	no
9-Apr-12	0.42	304.78	304.1	no	303.85	no
10-Apr-12	0.50	304.86	304.1	no	303.85	no
11-Apr-12	0.49	304.85	304.1	no	303.85	no
12-Apr-12	0.50	304.86	304.1	no	303.85	no
13-Apr-12	0.48	304.84	304.1	no	303.85	no
14-Apr-12	0.48	304.84	304.1	no	303.85	no
15-Apr-12	0.48	304.84	304.1	no	303.85	no
16-Apr-12	0.48	304.84	304.1	no	303.85	no
17-Apr-12	0.46	304.82	304.1	no	303.85	no
18-Apr-12	0.44	304.80	304.1	no	303.85	no
19-Apr-12	0.42	304.78	304.1	no	303.85	no
20-Apr-12	0.39	304.75	304.1	no	303.85	no
21-Apr-12	0.39	304.75	304.1	no	303.85	no
22-Apr-12	0.39	304.75	304.1	no	303.85	no
23-Apr-12	0.39	304.75	304.1	no	303.85	no
24-Apr-12	0.40	304.76	304.1	no	303.85	no
25-Apr-12	0.40	304.76	304.1	no	303.85	no
26-Apr-12	0.38	304.74	304.1	no	303.85	no
27-Apr-12	0.38	304.74	304.1	no	303.85	no
28-Apr-12	0.38	304.74	304.1	no	303.85	no
29-Apr-12	0.38	304.74	304.1	no	303.85	no
30-Apr-12	0.36	304.72	304.1	no	303.85	no
1-May-12	0.36	304.72	304.1	no	303.85	no
2-May-12	0.35	304.71	304.1	no	303.85	no
3-May-12	0.33	304.69	304.1	no	303.85	no
4-May-12	0.38	304.74	304.1	no	303.85	no
5-May-12	0.38	304.74	304.1	no	303.85	no
6-May-12	0.38	304.74	304.1	no	303.85	no
7-May-12	0.50	304.86	304.1	no	303.85	no
8-May-12	0.50	304.86	304.1	no	303.85	no
9-May-12	0.58	304.94	304.1	no	303.85	no
10-May-12	0.60	304.96	304.1	no	303.85	no
11-May-12	0.60	304.96	304.1	no	303.85	no
12-May-12	0.60	304.96	304.1	no	303.85	no
13-May-12	0.60	304.96	304.1	no	303.85	no
14-May-12	0.50	304.86	304.1	no	303.85	no
15-May-12	0.47	304.83	304.1	no	303.85	no
16-May-12	0.44	304.80	304.1	no	303.85	no
17-May-12	0.39	304.75	304.1	no	303.85	no
18-May-12	0.39	304.75	304.1	no	303.85	no
19-May-12	0.39	304.75	304.1	no	303.85	no
20-May-12	0.39	304.75	304.1	no	303.85	no
21-May-12	0.40	304.76	304.1	no	303.85	no
22-May-12	0.40	304.76	304.1	no	303.85	no
23-May-12	0.40	304.76	304.1	no	303.85	no
24-May-12	0.38	304.74	304.1	no	303.85	no
25-May-12	0.38	304.74	304.1	no	303.85	no
26-May-12	0.38	304.74	304.1	no	303.85	no
27-May-12	0.38	304.74	304.1	no	303.85	no
28-May-12	0.43	304.79	304.1	no	303.85	no
29-May-12	0.40	304.76	304.1	no	303.85	no
30-May-12	0.39	304.75	304.1	no	303.85	no
31-May-12	0.38	304.74	304.1	no	303.85	no
1-Jun-12	0.37	304.73	304.1	no	303.85	no
2-Jun-12	0.37	304.73	304.1	no	303.85	no
3-Jun-12	0.37	304.73	304.1	no	303.85	no
4-Jun-12	0.48	304.84	304.1	no	303.85	no
5-Jun-12	0.46	304.82	304.1	no	303.85	no
6-Jun-12	0.42	304.78	304.1	no	303.85	no
7-Jun-12	0.40	304.76	304.1	no	303.85	no
8-Jun-12	0.40	304.76	304.1	no	303.85	no
9-Jun-12	0.40	304.76	304.1	no	303.85	no
10-Jun-12	0.40	304.76	304.1	no	303.85	no
11-Jun-12	0.53	304.89	304.1	no	303.85	no
12-Jun-12	0.50	304.86	304.1	no	303.85	no
13-Jun-12	0.49	304.85	304.1	no	303.85	no
14-Jun-12	0.47	304.83	304.1	no	303.85	no
15-Jun-12	0.45	304.81	304.1	no	303.85	no
16-Jun-12	0.45	304.81	304.1	no	303.85	no
17-Jun-12	0.45	304.81	304.1	no	303.85	no
18-Jun-12	0.49	304.85	304.1	no	303.85	no
19-Jun-12	0.45	304.81	304.1	no	303.85	no
20-Jun-12	0.40	304.76	304.1	no	303.85	no
21-Jun-12	0.40	304.76	304.1	no	303.85	no
22-Jun-12	0.40	304.76	304.1	no	303.85	no
23-Jun-12	0.40	304.76	304.1	no	303.85	no
24-Jun-12	0.40	304.76	304.1	no	303.85	no
25-Jun-12	0.46	304.82	304.1	no	303.85	no
26-Jun-12	0.41	304.77	304.1	no	303.85	no
27-Jun-12	0.38	304.74	304.1	no	303.85	no
28-Jun-12	0.30	304.66	304.1	no	303.85	no

Table G-9
Threshold Summary - Phase 3 Pond
Mill Creek Aggregates Pit

Date	Gauge Reading Phase 3 Pond (m)	Water Elevation Phase 3 Pond (m ASL)	Early Warning Value (Min) (m ASL)	Exceedance of Early Warning Value	Threshold Value (Min) (m ASL)	Exceedance of Threshold Value
29-Jun-12	0.30	304.66	304.1	no	303.85	no
30-Jun-12	0.30	304.66	304.1	no	303.85	no
1-Jul-12	0.30	304.66	304.1	no	303.85	no
2-Jul-12	0.30	304.66	304.1	no	303.85	no
3-Jul-12	0.40	304.76	304.1	no	303.85	no
4-Jul-12	0.42	304.78	304.1	no	303.85	no
5-Jul-12	0.42	304.78	304.1	no	303.85	no
6-Jul-12	0.48	304.84	304.1	no	303.85	no
7-Jul-12	0.48	304.84	304.1	no	303.85	no
8-Jul-12	0.48	304.84	304.1	no	303.85	no
9-Jul-12	0.52	304.88	304.1	no	303.85	no
10-Jul-12	0.53	304.89	304.1	no	303.85	no
11-Jul-12	0.54	304.90	304.1	no	303.85	no
12-Jul-12	0.55	304.91	304.1	no	303.85	no
13-Jul-12	0.57	304.93	304.1	no	303.85	no
14-Jul-12	0.57	304.93	304.1	no	303.85	no
15-Jul-12	0.57	304.93	304.1	no	303.85	no
16-Jul-12	0.59	304.95	304.1	no	303.85	no
17-Jul-12	0.60	304.96	304.1	no	303.85	no
18-Jul-12	0.60	304.96	304.1	no	303.85	no
19-Jul-12	0.60	304.96	304.1	no	303.85	no
20-Jul-12	0.59	304.95	304.1	no	303.85	no
21-Jul-12	0.59	304.95	304.1	no	303.85	no
22-Jul-12	0.59	304.95	304.1	no	303.85	no
23-Jul-12	0.61	304.97	304.1	no	303.85	no
24-Jul-12	0.59	304.95	304.1	no	303.85	no
25-Jul-12	0.56	304.92	304.1	no	303.85	no
26-Jul-12	0.59	304.95	304.1	no	303.85	no
27-Jul-12	0.61	304.97	304.1	no	303.85	no
28-Jul-12	0.61	304.97	304.1	no	303.85	no
29-Jul-12	0.61	304.97	304.1	no	303.85	no
30-Jul-12	0.60	304.96	304.1	no	303.85	no
31-Jul-12	0.58	304.94	304.1	no	303.85	no
1-Aug-12	0.59	304.95	304.1	no	303.85	no
2-Aug-12	0.59	304.95	304.1	no	303.85	no
3-Aug-12	0.60	304.96	304.1	no	303.85	no
4-Aug-12	0.60	304.96	304.1	no	303.85	no
5-Aug-12	0.60	304.96	304.1	no	303.85	no
6-Aug-12	0.60	304.96	304.1	no	303.85	no
7-Aug-12	0.60	304.96	304.1	no	303.85	no
8-Aug-12	0.60	304.96	304.1	no	303.85	no
9-Aug-12	0.60	304.96	304.1	no	303.85	no
10-Aug-12	0.60	304.96	304.1	no	303.85	no
11-Aug-12	0.60	304.96	304.1	no	303.85	no
12-Aug-12	0.60	304.96	304.1	no	303.85	no
13-Aug-12	0.65	305.01	304.1	no	303.85	no
14-Aug-12	0.63	304.99	304.1	no	303.85	no
15-Aug-12	0.60	304.96	304.1	no	303.85	no
16-Aug-12	0.58	304.94	304.1	no	303.85	no
17-Aug-12	0.58	304.94	304.1	no	303.85	no
18-Aug-12	0.58	304.94	304.1	no	303.85	no
19-Aug-12	0.58	304.94	304.1	no	303.85	no
20-Aug-12	0.55	304.91	304.1	no	303.85	no
21-Aug-12	0.62	304.98	304.1	no	303.85	no
22-Aug-12	0.60	304.96	304.1	no	303.85	no
23-Aug-12	0.58	304.94	304.1	no	303.85	no
24-Aug-12	0.56	304.92	304.1	no	303.85	no
25-Aug-12	0.56	304.92	304.1	no	303.85	no
26-Aug-12	0.56	304.92	304.1	no	303.85	no
27-Aug-12	0.60	304.96	304.1	no	303.85	no
28-Aug-12	0.60	304.96	304.1	no	303.85	no
29-Aug-12	0.59	304.95	304.1	no	303.85	no
30-Aug-12	0.60	304.96	304.1	no	303.85	no
31-Aug-12	0.60	304.96	304.1	no	303.85	no
1-Sep-12	0.60	304.96	304.1	no	303.85	no
2-Sep-12	0.60	304.96	304.1	no	303.85	no
3-Sep-12	0.60	304.96	304.1	no	303.85	no
4-Sep-12	0.63	304.99	304.1	no	303.85	no
5-Sep-12	0.66	305.02	304.1	no	303.85	no
6-Sep-12	0.65	305.01	304.1	no	303.85	no
7-Sep-12	0.63	304.99	304.1	no	303.85	no
8-Sep-12	0.63	304.99	304.1	no	303.85	no
9-Sep-12	0.63	304.99	304.1	no	303.85	no
10-Sep-12	0.60	304.96	304.1	no	303.85	no
11-Sep-12	0.62	304.98	304.1	no	303.85	no
12-Sep-12	0.60	304.96	304.1	no	303.85	no
13-Sep-12	0.60	304.96	304.1	no	303.85	no
14-Sep-12	0.60	304.96	304.1	no	303.85	no
15-Sep-12	0.60	304.96	304.1	no	303.85	no
16-Sep-12	0.60	304.96	304.1	no	303.85	no
17-Sep-12	0.61	304.97	304.1	no	303.85	no
18-Sep-12	0.61	304.97	304.1	no	303.85	no
19-Sep-12	0.60	304.96	304.1	no	303.85	no
20-Sep-12	0.60	304.96	304.1	no	303.85	no
21-Sep-12	0.59	304.95	304.1	no	303.85	no
22-Sep-12	0.59	304.95	304.1	no	303.85	no
23-Sep-12	0.59	304.95	304.1	no	303.85	no
24-Sep-12	0.59	304.95	304.1	no	303.85	no
25-Sep-12	0.60	304.96	304.1	no	303.85	no
26-Sep-12	0.50	304.86	304.1	no	303.85	no
27-Sep-12	0.50	304.86	304.1	no	303.85	no
28-Sep-12	0.61	304.97	304.1	no	303.85	no
29-Sep-12	0.61	304.97	304.1	no	303.85	no
30-Sep-12	0.61	304.97	304.1	no	303.85	no
1-Oct-12	0.66	305.02	304.1	no	303.85	no
2-Oct-12	0.66	305.02	304.1	no	303.85	no
3-Oct-12	0.67	305.03	304.1	no	303.85	no
4-Oct-12	0.63	304.99	304.1	no	303.85	no
5-Oct-12	0.64	305.00	304.1	no	303.85	no
6-Oct-12	0.64	305.00	304.1	no	303.85	no
7-Oct-12	0.64	305.00	304.1	no	303.85	no
8-Oct-12	0.64	305.00	304.1	no	303.85	no
9-Oct-12	0.60	304.96	304.1	no	303.85	no
10-Oct-12	0.62	304.98	304.1	no	303.85	no
11-Oct-12	0.60	304.96	304.1	no	303.85	no
12-Oct-12	0.60	304.96	304.1	no	303.85	no
13-Oct-12	0.60	304.96	304.1	no	303.85	no
14-Oct-12	0.60	304.96	304.1	no	303.85	no
15-Oct-12	0.64	305.00	304.1	no	303.85	no
16-Oct-12	0.63	304.99	304.1	no	303.85	no
17-Oct-12	0.61	304.97	304.1	no	303.85	no
18-Oct-12	0.61	304.97	304.1	no	303.85	no
19-Oct-12	0.60	304.96	304.1	no	303.85	no
20-Oct-12	0.60	304.96	304.1	no	303.85	no
21-Oct-12	0.60	304.96	304.1	no	303.85	no
22-Oct-12	0.61	304.97	304.1	no	303.85	no
23-Oct-12	0.61	304.97	304.1	no	303.85	no
24-Oct-12	0.63	304.99	304.1	no	303.85	no
25-Oct-12	0.63	304.99	304.1	no	303.85	no
26-Oct-12	0.62	304.98	304.1	no	303.85	no
27-Oct-12	0.62	304.98	304.1	no	303.85	no
28-Oct-12	0.62	304.98	304.1	no	303.85	no
29-Oct-12	0.71	305.07	304.1	no	303.85	no
30-Oct-12	0.70	305.06	304.1	no	303.85	no
31-Oct-12	0.66	305.02	304.1	no	303.85	no
1-Nov-12	0.66	305.02	304.1	no	303.85	no
2-Nov-12	0.65	305.01	304.1	no	303.85	no
3-Nov-12	0.65	305.01	304.1	no	303.85	no
4-Nov-12	0.65	305.01	304.1	no	303.85	no
5-Nov-12	0.66	305.02	304.1	no	303.85	no

Table G-9
Threshold Summary - Phase 3 Pond
Mill Creek Aggregates Pit

Date	Gauge Reading Phase 3 Pond (m)	Water Elevation Phase 3 Pond (m ASL)	Early Warning Value (Min) (m ASL)	Exceedance of Early Warning Value	Threshold Value (Min) (m ASL)	Exceedance of Threshold Value
6-Nov-12	0.66	305.02	304.1	no	303.85	no
7-Nov-12	0.65	305.01	304.1	no	303.85	no
8-Nov-12	0.65	305.01	304.1	no	303.85	no
9-Nov-12	0.61	304.97	304.1	no	303.85	no
10-Nov-12	0.61	304.97	304.1	no	303.85	no
11-Nov-12	0.61	304.97	304.1	no	303.85	no
12-Nov-12	0.66	305.02	304.1	no	303.85	no
13-Nov-12	0.65	305.01	304.1	no	303.85	no
14-Nov-12	0.63	304.99	304.1	no	303.85	no
15-Nov-12	0.60	304.96	304.1	no	303.85	no
16-Nov-12	0.60	304.96	304.1	no	303.85	no
17-Nov-12	0.60	304.96	304.1	no	303.85	no
18-Nov-12	0.60	304.96	304.1	no	303.85	no
19-Nov-12	0.59	304.95	304.1	no	303.85	no
20-Nov-12	0.59	304.95	304.1	no	303.85	no
21-Nov-12	0.59	304.95	304.1	no	303.85	no
22-Nov-12	0.59	304.95	304.1	no	303.85	no
23-Nov-12	0.59	304.95	304.1	no	303.85	no
24-Nov-12	0.59	304.95	304.1	no	303.85	no
25-Nov-12	0.59	304.95	304.1	no	303.85	no
26-Nov-12	0.61	304.97	304.1	no	303.85	no
27-Nov-12	0.61	304.97	304.1	no	303.85	no
28-Nov-12	0.61	304.97	304.1	no	303.85	no
29-Nov-12	0.61	304.97	304.1	no	303.85	no
30-Nov-12	0.61	304.97	304.1	no	303.85	no
1-Dec-12	0.61	304.97	304.1	no	303.85	no
2-Dec-12	0.61	304.97	304.1	no	303.85	no
3-Dec-12	0.61	304.97	304.1	no	303.85	no
4-Dec-12	0.61	304.97	304.1	no	303.85	no
5-Dec-12	0.61	304.97	304.1	no	303.85	no
6-Dec-12	0.61	304.97	304.1	no	303.85	no
7-Dec-12	0.61	304.97	304.1	no	303.85	no
8-Dec-12	0.61	304.97	304.1	no	303.85	no
9-Dec-12	0.61	304.97	304.1	no	303.85	no
10-Dec-12	0.61	304.97	304.1	no	303.85	no
11-Dec-12	0.61	304.97	304.1	no	303.85	no
12-Dec-12	0.61	304.97	304.1	no	303.85	no
13-Dec-12	0.61	304.97	304.1	no	303.85	no
14-Dec-12	0.61	304.97	304.1	no	303.85	no
15-Dec-12	0.61	304.97	304.1	no	303.85	no
16-Dec-12	0.61	304.97	304.1	no	303.85	no
17-Dec-12	0.61	304.97	304.1	no	303.85	no
18-Dec-12	0.61	304.97	304.1	no	303.85	no
19-Dec-12	0.61	304.97	304.1	no	303.85	no
20-Dec-12	0.61	304.97	304.1	no	303.85	no
21-Dec-12	0.61	304.97	304.1	no	303.85	no
22-Dec-12	0.61	304.97	304.1	no	303.85	no
23-Dec-12	0.61	304.97	304.1	no	303.85	no
24-Dec-12	0.61	304.97	304.1	no	303.85	no
25-Dec-12	0.61	304.97	304.1	no	303.85	no
26-Dec-12	0.61	304.97	304.1	no	303.85	no
27-Dec-12	0.61	304.97	304.1	no	303.85	no
28-Dec-12	0.61	304.97	304.1	no	303.85	no
29-Dec-12	0.61	304.97	304.1	no	303.85	no
30-Dec-12	0.61	304.97	304.1	no	303.85	no
31-Dec-12	0.61	304.97	304.1	no	303.85	no
1-Jan-13	0.61	304.97	304.1	no	303.85	no
2-Jan-13	0.61	304.97	304.1	no	303.85	no
3-Jan-13	0.61	304.97	304.1	no	303.85	no
4-Jan-13	0.61	304.97	304.1	no	303.85	no
5-Jan-13	0.61	304.97	304.1	no	303.85	no
6-Jan-13	0.61	304.97	304.1	no	303.85	no
7-Jan-13	0.61	304.97	304.1	no	303.85	no
8-Jan-13	0.61	304.97	304.1	no	303.85	no
9-Jan-13	0.61	304.97	304.1	no	303.85	no
10-Jan-13	0.61	304.97	304.1	no	303.85	no
11-Jan-13	0.61	304.97	304.1	no	303.85	no
12-Jan-13	0.61	304.97	304.1	no	303.85	no
13-Jan-13	0.61	304.97	304.1	no	303.85	no
14-Jan-13	0.61	304.97	304.1	no	303.85	no
15-Jan-13	0.61	304.97	304.1	no	303.85	no
16-Jan-13	0.61	304.97	304.1	no	303.85	no
17-Jan-13	0.61	304.97	304.1	no	303.85	no
18-Jan-13	0.61	304.97	304.1	no	303.85	no
19-Jan-13	0.61	304.97	304.1	no	303.85	no
20-Jan-13	0.61	304.97	304.1	no	303.85	no
21-Jan-13	0.61	304.97	304.1	no	303.85	no
22-Jan-13	0.61	304.97	304.1	no	303.85	no
23-Jan-13	0.61	304.97	304.1	no	303.85	no
24-Jan-13	0.61	304.97	304.1	no	303.85	no
25-Jan-13	0.61	304.97	304.1	no	303.85	no
26-Jan-13	0.61	304.97	304.1	no	303.85	no
27-Jan-13	0.61	304.97	304.1	no	303.85	no
28-Jan-13	0.61	304.97	304.1	no	303.85	no
29-Jan-13	0.61	304.97	304.1	no	303.85	no
30-Jan-13	0.61	304.97	304.1	no	303.85	no
31-Jan-13	0.61	304.97	304.1	no	303.85	no
1-Feb-13	0.61	304.97	304.1	no	303.85	no
2-Feb-13	0.61	304.97	304.1	no	303.85	no
3-Feb-13	0.61	304.97	304.1	no	303.85	no
4-Feb-13	0.61	304.97	304.1	no	303.85	no
5-Feb-13	0.61	304.97	304.1	no	303.85	no
6-Feb-13	0.61	304.97	304.1	no	303.85	no
7-Feb-13	0.61	304.97	304.1	no	303.85	no
8-Feb-13	0.61	304.97	304.1	no	303.85	no
9-Feb-13	0.61	304.97	304.1	no	303.85	no
10-Feb-13	0.61	304.97	304.1	no	303.85	no
11-Feb-13	0.61	304.97	304.1	no	303.85	no
12-Feb-13	0.61	304.97	304.1	no	303.85	no
13-Feb-13	0.61	304.97	304.1	no	303.85	no
14-Feb-13	0.61	304.97	304.1	no	303.85	no
15-Feb-13	0.61	304.97	304.1	no	303.85	no
16-Feb-13	0.61	304.97	304.1	no	303.85	no
17-Feb-13	0.61	304.97	304.1	no	303.85	no
18-Feb-13	0.61	304.97	304.1	no	303.85	no
19-Feb-13	0.61	304.97	304.1	no	303.85	no
20-Feb-13	0.61	304.97	304.1	no	303.85	no
21-Feb-13	0.61	304.97	304.1	no	303.85	no
22-Feb-13	0.61	304.97	304.1	no	303.85	no
23-Feb-13	0.61	304.97	304.1	no	303.85	no
24-Feb-13	0.61	304.97	304.1	no	303.85	no
25-Feb-13	0.61	304.97	304.1	no	303.85	no
26-Feb-13	0.61	304.97	304.1	no	303.85	no
27-Feb-13	0.61	304.97	304.1	no	303.85	no
28-Feb-13	0.61	304.97	304.1	no	303.85	no

Table G-9
Threshold Summary - Phase 3 Pond
Mill Creek Aggregates Pit

Date	Gauge Reading Phase 3 Pond (m)	Water Elevation Phase 3 Pond (m ASL)	Early Warning Value (Min) (m ASL)	Exceedance of Early Warning Value	Threshold Value (Min) (m ASL)	Exceedance of Threshold Value
1-Mar-13	0.61	304.97	304.1	no	303.85	no
2-Mar-13	0.61	304.97	304.1	no	303.85	no
3-Mar-13	0.61	304.97	304.1	no	303.85	no
4-Mar-13	0.61	304.97	304.1	no	303.85	no
5-Mar-13	0.61	304.97	304.1	no	303.85	no
6-Mar-13	0.61	304.97	304.1	no	303.85	no
7-Mar-13	0.61	304.97	304.1	no	303.85	no
8-Mar-13	0.61	304.97	304.1	no	303.85	no
9-Mar-13	0.61	304.97	304.1	no	303.85	no
10-Mar-13	0.61	304.97	304.1	no	303.85	no
11-Mar-13	0.61	304.97	304.1	no	303.85	no
12-Mar-13	0.61	304.97	304.1	no	303.85	no
13-Mar-13	0.61	304.97	304.1	no	303.85	no
14-Mar-13	0.61	304.97	304.1	no	303.85	no
15-Mar-13	0.61	304.97	304.1	no	303.85	no
16-Mar-13	0.61	304.97	304.1	no	303.85	no
17-Mar-13	0.61	304.97	304.1	no	303.85	no
18-Mar-13	0.61	304.97	304.1	no	303.85	no
19-Mar-13	0.61	304.97	304.1	no	303.85	no
20-Mar-13	0.61	304.97	304.1	no	303.85	no
21-Mar-13	0.61	304.97	304.1	no	303.85	no
22-Mar-13	0.61	304.97	304.1	no	303.85	no
23-Mar-13	0.61	304.97	304.1	no	303.85	no
24-Mar-13	0.61	304.97	304.1	no	303.85	no
25-Mar-13	0.61	304.97	304.1	no	303.85	no
26-Mar-13	0.61	304.97	304.1	no	303.85	no
27-Mar-13	0.61	304.97	304.1	no	303.85	no
28-Mar-13	0.61	304.97	304.1	no	303.85	no
29-Mar-13	0.61	304.97	304.1	no	303.85	no
30-Mar-13	0.61	304.97	304.1	no	303.85	no
31-Mar-13	0.61	304.97	304.1	no	303.85	no
1-Apr-13	0.61	304.97	304.1	no	303.85	no
2-Apr-13	0.60	305.49	304.1	no	303.85	no
3-Apr-13	0.59	305.48	304.1	no	303.85	no
4-Apr-13	0.59	305.48	304.1	no	303.85	no
5-Apr-13	0.58	305.47	304.1	no	303.85	no
6-Apr-13	0.58	305.47	304.1	no	303.85	no
7-Apr-13	0.58	305.47	304.1	no	303.85	no
8-Apr-13	0.60	305.49	304.1	no	303.85	no
9-Apr-13	0.60	305.49	304.1	no	303.85	no
10-Apr-13	0.60	305.49	304.1	no	303.85	no
11-Apr-13	0.61	305.50	304.1	no	303.85	no
12-Apr-13	0.61	305.50	304.1	no	303.85	no
13-Apr-13	0.61	305.50	304.1	no	303.85	no
14-Apr-13	0.61	305.50	304.1	no	303.85	no
15-Apr-13	0.69	305.58	304.1	no	303.85	no
16-Apr-13	0.67	305.56	304.1	no	303.85	no
17-Apr-13	0.68	305.57	304.1	no	303.85	no
18-Apr-13	0.68	305.57	304.1	no	303.85	no
19-Apr-13	0.66	305.55	304.1	no	303.85	no
20-Apr-13	0.66	305.55	304.1	no	303.85	no
21-Apr-13	0.66	305.55	304.1	no	303.85	no
22-Apr-13	0.65	305.54	304.1	no	303.85	no
23-Apr-13	0.62	305.51	304.1	no	303.85	no
24-Apr-13	0.62	305.51	304.1	no	303.85	no
25-Apr-13	0.64	305.53	304.1	no	303.85	no
26-Apr-13	0.60	305.49	304.1	no	303.85	no
27-Apr-13	0.60	305.49	304.1	no	303.85	no
28-Apr-13	0.60	305.49	304.1	no	303.85	no
29-Apr-13	0.61	305.50	304.1	no	303.85	no
30-Apr-13	0.59	305.48	304.1	no	303.85	no
1-May-13	0.57	305.46	304.1	no	303.85	no
2-May-13	0.58	305.47	304.1	no	303.85	no
3-May-13	0.55	305.44	304.1	no	303.85	no
4-May-13	0.55	305.44	304.1	no	303.85	no
5-May-13	0.55	305.44	304.1	no	303.85	no
6-May-13	0.56	305.45	304.1	no	303.85	no
7-May-13	0.55	305.44	304.1	no	303.85	no
8-May-13	0.52	305.41	304.1	no	303.85	no
9-May-13	0.52	305.41	304.1	no	303.85	no
10-May-13	0.50	305.39	304.1	no	303.85	no
11-May-13	0.50	305.39	304.1	no	303.85	no
12-May-13	0.50	305.39	304.1	no	303.85	no
13-May-13	0.53	305.42	304.1	no	303.85	no
14-May-13	0.50	305.39	304.1	no	303.85	no
15-May-13	0.54	305.43	304.1	no	303.85	no
16-May-13	0.56	305.45	304.1	no	303.85	no
17-May-13	0.58	305.47	304.1	no	303.85	no
18-May-13	0.58	305.47	304.1	no	303.85	no
19-May-13	0.58	305.47	304.1	no	303.85	no
20-May-13	0.58	305.47	304.1	no	303.85	no
21-May-13	0.59	305.48	304.1	no	303.85	no
22-May-13	0.59	305.48	304.1	no	303.85	no
23-May-13	0.59	305.48	304.1	no	303.85	no
24-May-13	0.60	305.49	304.1	no	303.85	no
25-May-13	0.60	305.49	304.1	no	303.85	no
26-May-13	0.60	305.49	304.1	no	303.85	no
27-May-13	0.61	305.50	304.1	no	303.85	no
28-May-13	0.61	305.50	304.1	no	303.85	no
29-May-13	0.62	305.51	304.1	no	303.85	no
30-May-13	0.63	305.52	304.1	no	303.85	no
31-May-13	0.62	305.51	304.1	no	303.85	no
1-Jun-13	0.60	305.49	304.1	no	303.85	no
2-Jun-13	0.60	305.49	304.1	no	303.85	no
3-Jun-13	0.59	305.48	304.1	no	303.85	no
4-Jun-13	0.60	305.49	304.1	no	303.85	no
5-Jun-13	0.61	305.50	304.1	no	303.85	no
6-Jun-13	0.59	305.48	304.1	no	303.85	no
7-Jun-13	0.58	305.47	304.1	no	303.85	no
8-Jun-13	0.63	305.47	304.1	no	303.85	no
9-Jun-13	0.63	305.47	304.1	no	303.85	no
10-Jun-13	0.56	305.40	304.1	no	303.85	no
11-Jun-13	0.58	305.42	304.1	no	303.85	no
12-Jun-13	0.57	305.41	304.1	no	303.85	no
13-Jun-13	0.57	305.41	304.1	no	303.85	no
14-Jun-13	0.57	305.41	304.1	no	303.85	no
15-Jun-13	0.57	305.41	304.1	no	303.85	no
16-Jun-13	0.57	305.41	304.1	no	303.85	no
17-Jun-13	0.46	305.30	304.1	no	303.85	no
18-Jun-13	0.48	305.32	304.1	no	303.85	no
19-Jun-13	0.53	305.37	304.1	no	303.85	no
20-Jun-13	0.53	305.37	304.1	no	303.85	no
21-Jun-13	0.52	305.36	304.1	no	303.85	no
22-Jun-13	0.52	305.36	304.1	no	303.85	no
23-Jun-13	0.52	305.36	304.1	no	303.85	no
24-Jun-13	0.59	305.43	304.1	no	303.85	no
25-Jun-13	0.59	305.43	304.1	no	303.85	no
26-Jun-13	0.56	305.40	304.1	no	303.85	no
27-Jun-13	0.55	305.39	304.1	no	303.85	no
28-Jun-13	0.58	305.42	304.1	no	303.85	no
29-Jun-13	0.58	305.42	304.1	no	303.85	no
30-Jun-13	0.58	305.42	304.1	no	303.85	no
1-Jul-13	0.58	305.42	304.1	no	303.85	no
2-Jul-13	0.48	305.32	304.1	no	303.85	no
3-Jul-13	0.47	305.31	304.1	no	303.85	no
4-Jul-13	0.52	305.36	304.1	no	303.85	no
5-Jul-13	0.52	305.36	304.1	no	303.85	no
6-Jul-13	0.52	305.36	304.1	no	303.85	no
7-Jul-13	0.52	305.36	304.1	no	303.85	no
8-Jul-13	0.52	305.36	304.1	no	303.85	no

Table G-9
Threshold Summary - Phase 3 Pond
Mill Creek Aggregates Pit

Date	Gauge Reading Phase 3 Pond (m)	Water Elevation Phase 3 Pond (m ASL)	Early Warning Value (Min) (m ASL)	Exceedance of Early Warning Value	Threshold Value (Min) (m ASL)	Exceedance of Threshold Value
9-Jul-13	0.51	305.35	304.1	no	303.85	no
10-Jul-13	0.50	305.34	304.1	no	303.85	no
11-Jul-13	0.48	305.32	304.1	no	303.85	no
12-Jul-13	0.45	305.29	304.1	no	303.85	no
13-Jul-13	0.45	305.29	304.1	no	303.85	no
14-Jul-13	0.45	305.29	304.1	no	303.85	no
15-Jul-13	0.45	305.29	304.1	no	303.85	no
16-Jul-13	0.45	305.29	304.1	no	303.85	no
17-Jul-13	0.45	305.29	304.1	no	303.85	no
18-Jul-13	0.47	305.31	304.1	no	303.85	no
19-Jul-13	0.47	305.31	304.1	no	303.85	no
20-Jul-13	0.47	305.31	304.1	no	303.85	no
21-Jul-13	0.47	305.31	304.1	no	303.85	no
22-Jul-13	0.57	305.41	304.1	no	303.85	no
23-Jul-13	0.58	305.42	304.1	no	303.85	no
24-Jul-13	0.56	305.40	304.1	no	303.85	no
25-Jul-13	0.54	305.38	304.1	no	303.85	no
26-Jul-13	0.54	305.38	304.1	no	303.85	no
27-Jul-13	0.54	305.38	304.1	no	303.85	no
28-Jul-13	0.54	305.38	304.1	no	303.85	no
29-Jul-13	0.54	305.38	304.1	no	303.85	no
30-Jul-13	0.47	305.31	304.1	no	303.85	no
31-Jul-13	0.47	305.31	304.1	no	303.85	no
1-Aug-13	0.36	305.20	304.1	no	303.85	no
2-Aug-13	0.36	305.20	304.1	no	303.85	no
3-Aug-13	0.36	305.20	304.1	no	303.85	no
4-Aug-13	0.36	305.20	304.1	no	303.85	no
5-Aug-13	0.36	305.20	304.1	no	303.85	no
6-Aug-13	0.36	305.20	304.1	no	303.85	no
7-Aug-13	0.34	305.18	304.1	no	303.85	no
8-Aug-13	0.34	305.18	304.1	no	303.85	no
9-Aug-13	0.32	305.16	304.1	no	303.85	no
10-Aug-13	0.32	305.16	304.1	no	303.85	no
11-Aug-13	0.32	305.16	304.1	no	303.85	no
12-Aug-13	0.34	305.18	304.1	no	303.85	no
13-Aug-13	0.38	305.22	304.1	no	303.85	no
14-Aug-13	0.36	305.20	304.1	no	303.85	no
15-Aug-13	0.35	305.19	304.1	no	303.85	no
16-Aug-13	0.32	305.16	304.1	no	303.85	no
17-Aug-13	0.32	305.16	304.1	no	303.85	no
18-Aug-13	0.32	305.16	304.1	no	303.85	no
19-Aug-13	0.36	305.20	304.1	no	303.85	no
20-Aug-13	0.30	305.14	304.1	no	303.85	no
21-Aug-13	0.44	305.28	304.1	no	303.85	no
22-Aug-13	0.41	305.25	304.1	no	303.85	no
23-Aug-13	0.38	305.22	304.1	no	303.85	no
24-Aug-13	0.38	305.22	304.1	no	303.85	no
25-Aug-13	0.38	305.22	304.1	no	303.85	no
26-Aug-13	0.38	305.22	304.1	no	303.85	no
27-Aug-13	0.39	305.23	304.1	no	303.85	no
28-Aug-13	0.39	305.23	304.1	no	303.85	no
29-Aug-13	0.31	305.15	304.1	no	303.85	no
30-Aug-13	0.40	305.24	304.1	no	303.85	no
31-Aug-13	0.40	305.24	304.1	no	303.85	no
1-Sep-13	0.40	305.24	304.1	no	303.85	no
2-Sep-13	0.40	305.24	304.1	no	303.85	no
3-Sep-13	0.43	305.27	304.1	no	303.85	no
4-Sep-13	0.39	305.23	304.1	no	303.85	no
5-Sep-13	0.38	305.22	304.1	no	303.85	no
6-Sep-13	0.37	305.21	304.1	no	303.85	no
7-Sep-13	0.37	305.21	304.1	no	303.85	no
8-Sep-13	0.37	305.21	304.1	no	303.85	no
9-Sep-13	0.37	305.21	304.1	no	303.85	no
10-Sep-13	0.37	305.21	304.1	no	303.85	no
11-Sep-13	0.37	305.21	304.1	no	303.85	no
12-Sep-13	0.38	305.22	304.1	no	303.85	no
13-Sep-13	0.38	305.22	304.1	no	303.85	no
14-Sep-13	0.38	305.22	304.1	no	303.85	no
15-Sep-13	0.38	305.22	304.1	no	303.85	no
16-Sep-13	0.40	305.24	304.1	no	303.85	no
17-Sep-13	0.39	305.23	304.1	no	303.85	no
18-Sep-13	0.38	305.22	304.1	no	303.85	no
19-Sep-13	0.37	305.21	304.1	no	303.85	no
20-Sep-13	0.35	305.19	304.1	no	303.85	no
21-Sep-13	0.35	305.19	304.1	no	303.85	no
22-Sep-13	0.35	305.19	304.1	no	303.85	no
23-Sep-13	0.40	305.24	304.1	no	303.85	no
24-Sep-13	0.40	305.24	304.1	no	303.85	no
25-Sep-13	0.40	305.24	304.1	no	303.85	no
26-Sep-13	0.40	305.24	304.1	no	303.85	no
27-Sep-13	0.41	305.25	304.1	no	303.85	no
28-Sep-13	0.41	305.25	304.1	no	303.85	no
29-Sep-13	0.41	305.25	304.1	no	303.85	no
30-Sep-13	0.52	305.36	304.1	no	303.85	no
1-Oct-13	0.46	305.30	304.1	no	303.85	no
2-Oct-13	0.44	305.28	304.1	no	303.85	no
3-Oct-13	0.44	305.28	304.1	no	303.85	no
4-Oct-13	0.20	305.04	304.1	no	303.85	no
5-Oct-13	0.20	305.04	304.1	no	303.85	no
6-Oct-13	0.20	305.04	304.1	no	303.85	no
7-Oct-13	0.40	305.24	304.1	no	303.85	no
8-Oct-13	0.40	305.24	304.1	no	303.85	no
9-Oct-13	0.40	305.24	304.1	no	303.85	no
10-Oct-13	0.40	305.24	304.1	no	303.85	no
11-Oct-13	0.40	305.24	304.1	no	303.85	no
12-Oct-13	0.40	305.24	304.1	no	303.85	no
13-Oct-13	0.40	305.24	304.1	no	303.85	no
14-Oct-13	0.40	305.24	304.1	no	303.85	no
15-Oct-13	0.35	305.19	304.1	no	303.85	no
16-Oct-13	0.34	305.18	304.1	no	303.85	no
17-Oct-13	0.35	305.19	304.1	no	303.85	no
18-Oct-13	0.33	305.17	304.1	no	303.85	no
19-Oct-13	0.33	305.17	304.1	no	303.85	no
20-Oct-13	0.33	305.17	304.1	no	303.85	no
21-Oct-13	0.33	305.17	304.1	no	303.85	no
22-Oct-13	0.33	305.17	304.1	no	303.85	no
23-Oct-13	0.38	305.22	304.1	no	303.85	no
24-Oct-13	0.38	305.22	304.1	no	303.85	no
25-Oct-13	0.38	305.22	304.1	no	303.85	no
26-Oct-13	0.38	305.22	304.1	no	303.85	no
27-Oct-13	0.38	305.22	304.1	no	303.85	no
28-Oct-13	0.41	305.25	304.1	no	303.85	no
29-Oct-13	0.37	305.21	304.1	no	303.85	no
30-Oct-13	0.34	305.18	304.1	no	303.85	no
31-Oct-13	0.34	305.18	304.1	no	303.85	no
1-Nov-13	0.34	305.18	304.1	no	303.85	no
2-Nov-13	0.34	305.18	304.1	no	303.85	no
3-Nov-13	0.34	305.18	304.1	no	303.85	no
4-Nov-13	0.41	305.25	304.1	no	303.85	no
5-Nov-13	0.41	305.25	304.1	no	303.85	no
6-Nov-13	0.41	305.25	304.1	no	303.85	no
7-Nov-13	0.41	305.25	304.1	no	303.85	no
8-Nov-13	0.41	305.25	304.1	no	303.85	no
9-Nov-13	0.41	305.25	304.1	no	303.85	no
10-Nov-13	0.41	305.25	304.1	no	303.85	no
11-Nov-13	0.47	305.31	304.1	no	303.85	no
12-Nov-13	0.41	305.25	304.1	no	303.85	no
13-Nov-13	0.40	305.24	304.1	no	303.85	no
14-Nov-13	0.35	305.19	304.1	no	303.85	no
15-Nov-13	0.35	305.19	304.1	no	303.85	no

Table G-9
Threshold Summary - Phase 3 Pond
Mill Creek Aggregates Pit

Date	Gauge Reading Phase 3 Pond (m)	Water Elevation Phase 3 Pond (m ASL)	Early Warning Value (Min) (m ASL)	Exceedance of Early Warning Value	Threshold Value (Min) (m ASL)	Exceedance of Threshold Value
16-Nov-13	0.35	305.19	304.1	no	303.85	no
17-Nov-13	0.35	305.19	304.1	no	303.85	no
18-Nov-13	0.36	305.20	304.1	no	303.85	no
19-Nov-13	0.36	305.20	304.1	no	303.85	no
20-Nov-13	0.36	305.20	304.1	no	303.85	no
21-Nov-13	0.35	305.19	304.1	no	303.85	no
22-Nov-13	0.35	305.19	304.1	no	303.85	no
23-Nov-13	0.35	305.19	304.1	no	303.85	no
24-Nov-13	0.35	305.19	304.1	no	303.85	no
25-Nov-13	0.43	305.27	304.1	no	303.85	no
26-Nov-13	0.46	305.30	304.1	no	303.85	no
27-Nov-13	0.47	305.31	304.1	no	303.85	no
28-Nov-13	0.47	305.31	304.1	no	303.85	no
29-Nov-13	0.47	305.31	304.1	no	303.85	no
30-Nov-13	0.47	305.31	304.1	no	303.85	no
1-Dec-13	0.47	305.31	304.1	no	303.85	no
2-Dec-13	0.47	305.31	304.1	no	303.85	no
3-Dec-13	0.47	305.31	304.1	no	303.85	no
4-Dec-13	0.47	305.31	304.1	no	303.85	no
5-Dec-13	0.47	305.31	304.1	no	303.85	no
6-Dec-13	0.47	305.31	304.1	no	303.85	no
7-Dec-13	0.47	305.31	304.1	no	303.85	no
8-Dec-13	0.47	305.31	304.1	no	303.85	no
9-Dec-13	0.47	305.31	304.1	no	303.85	no
10-Dec-13	0.47	305.31	304.1	no	303.85	no
11-Dec-13	0.47	305.31	304.1	no	303.85	no
12-Dec-13	0.47	305.31	304.1	no	303.85	no
13-Dec-13	0.47	305.31	304.1	no	303.85	no
14-Dec-13	0.47	305.31	304.1	no	303.85	no
15-Dec-13	0.47	305.31	304.1	no	303.85	no
16-Dec-13	0.47	305.31	304.1	no	303.85	no
17-Dec-13	0.47	305.31	304.1	no	303.85	no
18-Dec-13	0.47	305.31	304.1	no	303.85	no
19-Dec-13	0.47	305.31	304.1	no	303.85	no
20-Dec-13	0.47	305.31	304.1	no	303.85	no
21-Dec-13	0.47	305.31	304.1	no	303.85	no
22-Dec-13	0.47	305.31	304.1	no	303.85	no
23-Dec-13	0.47	305.31	304.1	no	303.85	no
24-Dec-13	0.47	305.31	304.1	no	303.85	no
25-Dec-13	0.47	305.31	304.1	no	303.85	no
26-Dec-13	0.47	305.31	304.1	no	303.85	no
27-Dec-13	0.47	305.31	304.1	no	303.85	no
28-Dec-13	0.47	305.31	304.1	no	303.85	no
29-Dec-13	0.47	305.31	304.1	no	303.85	no
30-Dec-13	0.47	305.31	304.1	no	303.85	no
31-Dec-13	0.47	305.31	304.1	no	303.85	no
1-Jan-14	0.47	305.31	304.1	no	303.85	no
2-Jan-14	0.47	305.31	304.1	no	303.85	no
3-Jan-14	0.47	305.31	304.1	no	303.85	no
4-Jan-14	0.47	305.31	304.1	no	303.85	no
5-Jan-14	0.47	305.31	304.1	no	303.85	no
6-Jan-14	0.47	305.31	304.1	no	303.85	no
7-Jan-14	0.47	305.31	304.1	no	303.85	no
8-Jan-14	0.47	305.31	304.1	no	303.85	no
9-Jan-14	0.47	305.31	304.1	no	303.85	no
10-Jan-14	0.47	305.31	304.1	no	303.85	no
11-Jan-14	0.47	305.31	304.1	no	303.85	no
12-Jan-14	0.47	305.31	304.1	no	303.85	no
13-Jan-14	0.47	305.31	304.1	no	303.85	no
14-Jan-14	0.47	305.31	304.1	no	303.85	no
15-Jan-14	0.47	305.31	304.1	no	303.85	no
16-Jan-14	0.47	305.31	304.1	no	303.85	no
17-Jan-14	0.47	305.31	304.1	no	303.85	no
18-Jan-14	0.47	305.31	304.1	no	303.85	no
19-Jan-14	0.47	305.31	304.1	no	303.85	no
20-Jan-14	0.47	305.31	304.1	no	303.85	no
21-Jan-14	0.47	305.31	304.1	no	303.85	no
22-Jan-14	0.47	305.31	304.1	no	303.85	no
23-Jan-14	0.47	305.31	304.1	no	303.85	no
24-Jan-14	0.47	305.31	304.1	no	303.85	no
25-Jan-14	0.47	305.31	304.1	no	303.85	no
26-Jan-14	0.47	305.31	304.1	no	303.85	no
27-Jan-14	0.47	305.31	304.1	no	303.85	no
28-Jan-14	0.47	305.31	304.1	no	303.85	no
29-Jan-14	0.47	305.31	304.1	no	303.85	no
30-Jan-14	0.47	305.31	304.1	no	303.85	no
31-Jan-14	0.47	305.31	304.1	no	303.85	no
1-Feb-14	0.47	305.31	304.1	no	303.85	no
2-Feb-14	0.47	305.31	304.1	no	303.85	no
3-Feb-14	0.47	305.31	304.1	no	303.85	no
4-Feb-14	0.47	305.31	304.1	no	303.85	no
5-Feb-14	0.47	305.31	304.1	no	303.85	no
6-Feb-14	0.47	305.31	304.1	no	303.85	no
7-Feb-14	0.47	305.31	304.1	no	303.85	no
8-Feb-14	0.47	305.31	304.1	no	303.85	no
9-Feb-14	0.47	305.31	304.1	no	303.85	no
10-Feb-14	0.47	305.31	304.1	no	303.85	no
11-Feb-14	0.47	305.31	304.1	no	303.85	no
12-Feb-14	0.47	305.31	304.1	no	303.85	no
13-Feb-14	0.47	305.31	304.1	no	303.85	no
14-Feb-14	0.47	305.31	304.1	no	303.85	no
15-Feb-14	0.47	305.31	304.1	no	303.85	no
16-Feb-14	0.47	305.31	304.1	no	303.85	no
17-Feb-14	0.47	305.31	304.1	no	303.85	no
18-Feb-14	0.47	305.31	304.1	no	303.85	no
19-Feb-14	0.47	305.31	304.1	no	303.85	no
20-Feb-14	0.47	305.31	304.1	no	303.85	no
21-Feb-14	0.47	305.31	304.1	no	303.85	no
22-Feb-14	0.47	305.31	304.1	no	303.85	no
23-Feb-14	0.47	305.31	304.1	no	303.85	no
24-Feb-14	0.47	305.31	304.1	no	303.85	no
25-Feb-14	0.47	305.31	304.1	no	303.85	no
26-Feb-14	0.47	305.31	304.1	no	303.85	no
27-Feb-14	0.47	305.31	304.1	no	303.85	no
28-Feb-14	0.47	305.31	304.1	no	303.85	no
1-Mar-14	0.47	305.31	304.1	no	303.85	no
2-Mar-14	0.47	305.31	304.1	no	303.85	no
3-Mar-14	0.47	305.31	304.1	no	303.85	no
4-Mar-14	0.47	305.31	304.1	no	303.85	no
5-Mar-14	0.47	305.31	304.1	no	303.85	no
6-Mar-14	0.47	305.31	304.1	no	303.85	no
7-Mar-14	0.47	305.31	304.1	no	303.85	no
8-Mar-14	0.47	305.31	304.1	no	303.85	no
9-Mar-14	0.47	305.31	304.1	no	303.85	no
10-Mar-14	0.47	305.31	304.1	no	303.85	no
11-Mar-14	0.47	305.31	304.1	no	303.85	no
12-Mar-14	0.47	305.31	304.1	no	303.85	no
13-Mar-14	0.47	305.31	304.1	no	303.85	no
14-Mar-14	0.47	305.31	304.1	no	303.85	no
15-Mar-14	0.47	305.31	304.1	no	303.85	no
16-Mar-14	0.47	305.31	304.1	no	303.85	no
17-Mar-14	0.47	305.31	304.1	no	303.85	no
18-Mar-14	0.47	305.31	304.1	no	303.85	no
19-Mar-14	0.47	305.31	304.1	no	303.85	no
20-Mar-14	0.47	305.31	304.1	no	303.85	no
21-Mar-14	0.47	305.31	304.1	no	303.85	no
22-Mar-14	0.47	305.31	304.1	no	303.85	no
23-Mar-14	0.47	305.31	304.1	no	303.85	no
24-Mar-14	0.47	305.31	304.1	no	303.85	no
25-Mar-14	0.47	305.31	304.1	no	303.85	no

Table G-9
Threshold Summary - Phase 3 Pond
Mill Creek Aggregates Pit

Date	Gauge Reading Phase 3 Pond (m)	Water Elevation Phase 3 Pond (m ASL)	Early Warning Value (Min) (m ASL)	Exceedance of Early Warning Value	Threshold Value (Min) (m ASL)	Exceedance of Threshold Value
26-Mar-14	0.47	305.31	304.1	no	303.85	no
27-Mar-14	0.47	305.31	304.1	no	303.85	no
28-Mar-14	0.47	305.31	304.1	no	303.85	no
29-Mar-14	0.47	305.31	304.1	no	303.85	no
30-Mar-14	0.47	305.31	304.1	no	303.85	no
31-Mar-14	0.47	305.31	304.1	no	303.85	no
1-Apr-14	0.47	305.31	304.1	no	303.85	no
2-Apr-14	0.47	305.31	304.1	no	303.85	no
3-Apr-14	0.47	305.31	304.1	no	303.85	no
4-Apr-14	0.47	305.31	304.1	no	303.85	no
5-Apr-14	0.47	305.31	304.1	no	303.85	no
6-Apr-14	0.47	305.31	304.1	no	303.85	no
7-Apr-14	0.47	305.31	304.1	no	303.85	no
8-Apr-14	0.20	305.42	304.1	no	303.85	no
9-Apr-14	0.21	305.43	304.1	no	303.85	no
10-Apr-14	0.20	305.42	304.1	no	303.85	no
11-Apr-14	0.22	305.44	304.1	no	303.85	no
12-Apr-14	0.22	305.44	304.1	no	303.85	no
13-Apr-14	0.22	305.44	304.1	no	303.85	no
14-Apr-14	0.23	305.45	304.1	no	303.85	no
15-Apr-14	0.24	305.46	304.1	no	303.85	no
16-Apr-14	0.24	305.46	304.1	no	303.85	no
17-Apr-14	0.22	305.44	304.1	no	303.85	no
18-Apr-14	0.24	305.46	304.1	no	303.85	no
19-Apr-14	0.24	305.46	304.1	no	303.85	no
20-Apr-14	0.24	305.46	304.1	no	303.85	no
21-Apr-14	0.22	305.44	304.1	no	303.85	no
22-Apr-14	0.24	305.46	304.1	no	303.85	no
23-Apr-14	0.24	305.46	304.1	no	303.85	no
24-Apr-14	0.20	305.42	304.1	no	303.85	no
25-Apr-14	0.20	305.42	304.1	no	303.85	no
26-Apr-14	0.20	305.42	304.1	no	303.85	no
27-Apr-14	0.20	305.42	304.1	no	303.85	no
28-Apr-14	0.24	305.46	304.1	no	303.85	no
29-Apr-14	0.25	305.47	304.1	no	303.85	no
30-Apr-14	0.26	305.48	304.1	no	303.85	no
1-May-14	0.26	305.48	304.1	no	303.85	no
2-May-14	0.26	305.48	304.1	no	303.85	no
3-May-14	0.26	305.48	304.1	no	303.85	no
4-May-14	0.26	305.48	304.1	no	303.85	no
5-May-14	0.20	305.42	304.1	no	303.85	no
6-May-14	0.18	305.40	304.1	no	303.85	no
7-May-14	0.18	305.40	304.1	no	303.85	no
8-May-14	0.25	305.47	304.1	no	303.85	no
9-May-14	0.25	305.47	304.1	no	303.85	no
10-May-14	0.25	305.47	304.1	no	303.85	no
11-May-14	0.25	305.47	304.1	no	303.85	no
12-May-14	0.25	305.47	304.1	no	303.85	no
13-May-14	0.29	305.51	304.1	no	303.85	no
14-May-14	0.29	305.51	304.1	no	303.85	no
15-May-14	0.29	305.51	304.1	no	303.85	no
16-May-14	0.29	305.51	304.1	no	303.85	no
17-May-14	0.29	305.51	304.1	no	303.85	no
18-May-14	0.29	305.51	304.1	no	303.85	no
19-May-14	0.29	305.51	304.1	no	303.85	no
20-May-14	0.29	305.51	304.1	no	303.85	no
21-May-14	0.29	305.51	304.1	no	303.85	no
22-May-14	0.29	305.51	304.1	no	303.85	no
23-May-14	0.29	305.51	304.1	no	303.85	no
24-May-14	0.29	305.51	304.1	no	303.85	no
25-May-14	0.29	305.51	304.1	no	303.85	no
26-May-14	0.36	305.58	304.1	no	303.85	no
27-May-14	0.29	305.51	304.1	no	303.85	no
28-May-14	0.28	305.50	304.1	no	303.85	no
29-May-14	0.22	305.44	304.1	no	303.85	no
30-May-14	0.20	305.42	304.1	no	303.85	no
31-May-14	0.20	305.42	304.1	no	303.85	no
1-Jun-14	0.27	305.49	304.1	no	303.85	no
2-Jun-14	0.27	305.49	304.1	no	303.85	no
3-Jun-14	0.27	305.49	304.1	no	303.85	no
4-Jun-14	0.30	305.52	304.1	no	303.85	no
5-Jun-14	0.33	305.55	304.1	no	303.85	no
6-Jun-14	0.34	305.56	304.1	no	303.85	no
7-Jun-14	0.34	305.56	304.1	no	303.85	no
8-Jun-14	0.34	305.56	304.1	no	303.85	no
9-Jun-14	0.38	305.60	304.1	no	303.85	no
10-Jun-14	0.40	305.62	304.1	no	303.85	no
11-Jun-14	0.38	305.60	304.1	no	303.85	no
12-Jun-14	0.35	305.57	304.1	no	303.85	no
13-Jun-14	0.32	305.54	304.1	no	303.85	no
14-Jun-14	0.32	305.54	304.1	no	303.85	no
15-Jun-14	0.32	305.54	304.1	no	303.85	no
16-Jun-14	0.18	305.40	304.1	no	303.85	no
17-Jun-14	0.20	305.42	304.1	no	303.85	no
18-Jun-14	0.22	305.44	304.1	no	303.85	no
19-Jun-14	0.25	305.47	304.1	no	303.85	no
20-Jun-14	0.25	305.47	304.1	no	303.85	no
21-Jun-14	0.25	305.47	304.1	no	303.85	no
22-Jun-14	0.25	305.47	304.1	no	303.85	no
23-Jun-14	0.25	305.47	304.1	no	303.85	no
24-Jun-14	0.25	305.47	304.1	no	303.85	no
25-Jun-14	0.29	305.51	304.1	no	303.85	no
26-Jun-14	0.40	305.62	304.1	no	303.85	no
27-Jun-14	0.28	305.50	304.1	no	303.85	no
28-Jun-14	0.28	305.50	304.1	no	303.85	no
29-Jun-14	0.28	305.50	304.1	no	303.85	no
30-Jun-14	0.26	305.48	304.1	no	303.85	no
1-Jul-14	0.26	305.18	304.1	no	303.85	no
2-Jul-14	0.27	305.19	304.1	no	303.85	no
3-Jul-14	0.27	305.19	304.1	no	303.85	no
4-Jul-14	0.28	305.20	304.1	no	303.85	no
5-Jul-14	0.28	305.20	304.1	no	303.85	no
6-Jul-14	0.28	305.20	304.1	no	303.85	no
7-Jul-14	0.35	305.27	304.1	no	303.85	no
8-Jul-14	0.35	305.27	304.1	no	303.85	no
9-Jul-14	0.36	305.28	304.1	no	303.85	no
10-Jul-14	0.37	305.29	304.1	no	303.85	no
11-Jul-14	0.35	305.27	304.1	no	303.85	no
12-Jul-14	0.35	305.27	304.1	no	303.85	no
13-Jul-14	0.35	305.27	304.1	no	303.85	no
14-Jul-14	0.26	305.18	304.1	no	303.85	no
15-Jul-14	0.25	305.17	304.1	no	303.85	no
16-Jul-14	0.25	305.17	304.1	no	303.85	no
17-Jul-14	0.23	305.15	304.1	no	303.85	no
18-Jul-14	0.24	305.16	304.1	no	303.85	no
19-Jul-14	0.24	305.16	304.1	no	303.85	no
20-Jul-14	0.24	305.16	304.1	no	303.85	no
21-Jul-14	0.23	305.15	304.1	no	303.85	no
22-Jul-14	0.23	305.15	304.1	no	303.85	no
23-Jul-14	0.20	305.12	304.1	no	303.85	no
24-Jul-14	0.20	305.12	304.1	no	303.85	no
25-Jul-14	0.24	305.16	304.1	no	303.85	no
26-Jul-14	0.24	305.16	304.1	no	303.85	no
27-Jul-14	0.24	305.16	304.1	no	303.85	no
28-Jul-14	0.40	305.32	304.1	no	303.85	no
29-Jul-14	0.42	305.34	304.1	no	303.85	no
30-Jul-14	0.40	305.32	304.1	no	303.85	no
31-Jul-14	0.38	305.30	304.1	no	303.85	no

Table G-9
Threshold Summary - Phase 3 Pond
Mill Creek Aggregates Pit

Date	Gauge Reading Phase 3 Pond (m)	Water Elevation Phase 3 Pond (m ASL)	Early Warning Value (Min) (m ASL)	Exceedance of Early Warning Value	Threshold Value (Min) (m ASL)	Exceedance of Threshold Value
1-Aug-14	0.35	305.27	304.1	no	303.85	no
2-Aug-14	0.35	305.27	304.1	no	303.85	no
3-Aug-14	0.35	305.27	304.1	no	303.85	no
4-Aug-14	0.35	305.27	304.1	no	303.85	no
5-Aug-14	0.29	305.21	304.1	no	303.85	no
6-Aug-14	0.32	305.24	304.1	no	303.85	no
7-Aug-14	0.35	305.27	304.1	no	303.85	no
8-Aug-14	0.33	305.25	304.1	no	303.85	no
9-Aug-14	0.33	305.25	304.1	no	303.85	no
10-Aug-14	0.33	305.25	304.1	no	303.85	no
11-Aug-14	0.39	305.31	304.1	no	303.85	no
12-Aug-14	0.38	305.30	304.1	no	303.85	no
13-Aug-14	0.37	305.29	304.1	no	303.85	no
14-Aug-14	0.40	305.32	304.1	no	303.85	no
15-Aug-14	0.41	305.33	304.1	no	303.85	no
16-Aug-14	0.41	305.33	304.1	no	303.85	no
17-Aug-14	0.41	305.33	304.1	no	303.85	no
18-Aug-14	0.46	305.38	304.1	no	303.85	no
19-Aug-14	0.41	305.33	304.1	no	303.85	no
20-Aug-14	0.43	305.35	304.1	no	303.85	no
21-Aug-14	0.46	305.38	304.1	no	303.85	no
22-Aug-14	0.44	305.36	304.1	no	303.85	no
23-Aug-14	0.44	305.36	304.1	no	303.85	no
24-Aug-14	0.44	305.36	304.1	no	303.85	no
25-Aug-14	0.42	305.34	304.1	no	303.85	no
26-Aug-14	0.42	305.34	304.1	no	303.85	no
27-Aug-14	0.41	305.33	304.1	no	303.85	no
28-Aug-14	0.43	305.35	304.1	no	303.85	no
29-Aug-14	0.44	305.36	304.1	no	303.85	no
30-Aug-14	0.44	305.36	304.1	no	303.85	no
31-Aug-14	0.44	305.36	304.1	no	303.85	no
1-Sep-14	0.40	305.32	304.1	no	303.85	no
2-Sep-14	0.40	305.32	304.1	no	303.85	no
3-Sep-14	0.45	305.37	304.1	no	303.85	no
4-Sep-14	0.46	305.38	304.1	no	303.85	no
5-Sep-14	0.46	305.38	304.1	no	303.85	no
6-Sep-14	0.46	305.38	304.1	no	303.85	no
7-Sep-14	0.46	305.38	304.1	no	303.85	no
8-Sep-14	0.49	305.41	304.1	no	303.85	no
9-Sep-14	0.50	305.42	304.1	no	303.85	no
10-Sep-14	0.50	305.42	304.1	no	303.85	no
11-Sep-14	0.60	305.52	304.1	no	303.85	no
12-Sep-14	0.58	305.50	304.1	no	303.85	no
13-Sep-14	0.58	305.50	304.1	no	303.85	no
14-Sep-14	0.58	305.50	304.1	no	303.85	no
15-Sep-14	0.58	305.50	304.1	no	303.85	no
16-Sep-14	0.60	305.52	304.1	no	303.85	no
17-Sep-14	0.60	305.52	304.1	no	303.85	no
18-Sep-14	0.60	305.52	304.1	no	303.85	no
19-Sep-14	0.59	305.51	304.1	no	303.85	no
20-Sep-14	0.59	305.51	304.1	no	303.85	no
21-Sep-14	0.59	305.51	304.1	no	303.85	no
22-Sep-14	0.57	305.49	304.1	no	303.85	no
23-Sep-14	0.57	305.49	304.1	no	303.85	no
24-Sep-14	0.59	305.51	304.1	no	303.85	no
25-Sep-14	0.60	305.52	304.1	no	303.85	no
26-Sep-14	0.59	305.51	304.1	no	303.85	no
27-Sep-14	0.59	305.51	304.1	no	303.85	no
28-Sep-14	0.59	305.51	304.1	no	303.85	no
29-Sep-14	0.57	305.49	304.1	no	303.85	no
30-Sep-14	0.54	305.46	304.1	no	303.85	no
1-Oct-14	0.58	305.50	304.1	no	303.85	no
2-Oct-14	0.57	305.49	304.1	no	303.85	no
3-Oct-14	0.58	305.50	304.1	no	303.85	no
4-Oct-14	0.58	305.50	304.1	no	303.85	no
5-Oct-14	0.58	305.50	304.1	no	303.85	no
6-Oct-14	0.55	305.47	304.1	no	303.85	no
7-Oct-14	0.56	305.48	304.1	no	303.85	no
8-Oct-14	0.58	305.50	304.1	no	303.85	no
9-Oct-14	0.56	305.48	304.1	no	303.85	no
10-Oct-14	0.55	305.47	304.1	no	303.85	no
11-Oct-14	0.55	305.47	304.1	no	303.85	no
12-Oct-14	0.55	305.47	304.1	no	303.85	no
13-Oct-14	0.55	305.47	304.1	no	303.85	no
14-Oct-14	0.53	305.45	304.1	no	303.85	no
15-Oct-14	0.52	305.44	304.1	no	303.85	no
16-Oct-14	0.50	305.42	304.1	no	303.85	no
17-Oct-14	0.57	305.49	304.1	no	303.85	no
18-Oct-14	0.57	305.49	304.1	no	303.85	no
19-Oct-14	0.57	305.49	304.1	no	303.85	no
20-Oct-14	0.56	305.48	304.1	no	303.85	no
21-Oct-14	0.56	305.48	304.1	no	303.85	no
22-Oct-14	0.57	305.49	304.1	no	303.85	no
23-Oct-14	0.58	305.50	304.1	no	303.85	no
24-Oct-14	0.58	305.50	304.1	no	303.85	no
25-Oct-14	0.58	305.50	304.1	no	303.85	no
26-Oct-14	0.58	305.50	304.1	no	303.85	no
27-Oct-14	0.64	305.56	304.1	no	303.85	no
28-Oct-14	0.56	305.48	304.1	no	303.85	no
29-Oct-14	0.56	305.48	304.1	no	303.85	no
30-Oct-14	0.56	305.48	304.1	no	303.85	no
31-Oct-14	0.55	305.47	304.1	no	303.85	no
1-Nov-14	0.55	305.47	304.1	no	303.85	no
2-Nov-14	0.55	305.47	304.1	no	303.85	no
3-Nov-14	0.52	305.44	304.1	no	303.85	no
4-Nov-14	0.51	305.43	304.1	no	303.85	no
5-Nov-14	0.64	305.56	304.1	no	303.85	no
6-Nov-14	0.56	305.48	304.1	no	303.85	no
7-Nov-14	0.56	305.48	304.1	no	303.85	no
8-Nov-14	0.56	305.48	304.1	no	303.85	no
9-Nov-14	0.56	305.48	304.1	no	303.85	no
10-Nov-14	0.56	305.48	304.1	no	303.85	no
11-Nov-14	0.54	305.46	304.1	no	303.85	no
12-Nov-14	0.50	305.42	304.1	no	303.85	no
13-Nov-14	0.54	305.46	304.1	no	303.85	no
14-Nov-14	0.50	305.42	304.1	no	303.85	no
15-Nov-14	0.50	305.42	304.1	no	303.85	no
16-Nov-14	0.50	305.42	304.1	no	303.85	no
17-Nov-14	0.50	305.42	304.1	no	303.85	no
18-Nov-14	0.50	305.42	304.1	no	303.85	no
19-Nov-14	0.50	305.42	304.1	no	303.85	no
20-Nov-14	0.50	305.42	304.1	no	303.85	no
21-Nov-14	0.50	305.42	304.1	no	303.85	no
22-Nov-14	0.50	305.42	304.1	no	303.85	no
23-Nov-14	0.50	305.42	304.1	no	303.85	no
24-Nov-14	0.50	305.42	304.1	no	303.85	no
25-Nov-14	0.50	305.42	304.1	no	303.85	no
26-Nov-14	0.50	305.42	304.1	no	303.85	no
27-Nov-14	0.50	305.42	304.1	no	303.85	no
28-Nov-14	0.50	305.42	304.1	no	303.85	no
29-Nov-14	0.50	305.42	304.1	no	303.85	no
30-Nov-14	0.50	305.42	304.1	no	303.85	no
1-Dec-14	0.50	305.42	304.1	no	303.85	no
2-Dec-14	0.50	305.42	304.1	no	303.85	no
3-Dec-14	0.50	305.42	304.1	no	303.85	no
4-Dec-14	0.50	305.42	304.1	no	303.85	no
5-Dec-14	0.50	305.42	304.1	no	303.85	no
6-Dec-14	0.50	305.42	304.1	no	303.85	no
7-Dec-14	0.50	305.42	304.1	no	303.85	no
8-Dec-14	0.50	305.42	304.1	no	303.85	no
9-Dec-14	0.50	305.42	304.1	no	303.85	no
10-Dec-14	0.50	305.42	304.1	no	303.85	no
11-Dec-14	0.50	305.42	304.1	no	303.85	no
12-Dec-14	0.50	305.42	304.1	no	303.85	no

Table G-9
Threshold Summary - Phase 3 Pond
Mill Creek Aggregates Pit

Date	Gauge Reading Phase 3 Pond (m)	Water Elevation Phase 3 Pond (m ASL)	Early Warning Value (Min) (m ASL)	Exceedance of Early Warning Value	Threshold Value (Min) (m ASL)	Exceedance of Threshold Value
13-Dec-14	0.50	305.42	304.1	no	303.85	no
14-Dec-14	0.50	305.42	304.1	no	303.85	no
15-Dec-14	0.50	305.42	304.1	no	303.85	no
16-Dec-14	0.50	305.42	304.1	no	303.85	no
17-Dec-14	0.50	305.42	304.1	no	303.85	no
18-Dec-14	0.52	305.44	304.1	no	303.85	no
19-Dec-14	0.52	305.44	304.1	no	303.85	no
20-Dec-14	0.52	305.44	304.1	no	303.85	no
21-Dec-14	0.52	305.44	304.1	no	303.85	no
22-Dec-14	0.52	305.44	304.1	no	303.85	no
23-Dec-14	0.52	305.44	304.1	no	303.85	no
24-Dec-14	0.52	305.44	304.1	no	303.85	no
25-Dec-14	0.52	305.44	304.1	no	303.85	no
26-Dec-14	0.52	305.44	304.1	no	303.85	no
27-Dec-14	0.52	305.44	304.1	no	303.85	no
28-Dec-14	0.52	305.44	304.1	no	303.85	no
29-Dec-14	0.52	305.44	304.1	no	303.85	no
30-Dec-14	0.52	305.44	304.1	no	303.85	no
31-Dec-14	0.52	305.44	304.1	no	303.85	no
1-Jan-15			304.1		303.85	
2-Jan-15			304.1		303.85	
3-Jan-15			304.1		303.85	
4-Jan-15			304.1		303.85	
5-Jan-15			304.1		303.85	
6-Jan-15			304.1		303.85	
7-Jan-15			304.1		303.85	
8-Jan-15			304.1		303.85	
9-Jan-15			304.1		303.85	
10-Jan-15			304.1		303.85	
11-Jan-15			304.1		303.85	
12-Jan-15			304.1		303.85	
13-Jan-15			304.1		303.85	
14-Jan-15			304.1		303.85	
15-Jan-15			304.1		303.85	
16-Jan-15			304.1		303.85	
17-Jan-15			304.1		303.85	
18-Jan-15			304.1		303.85	
19-Jan-15			304.1		303.85	
20-Jan-15			304.1		303.85	
21-Jan-15			304.1		303.85	
22-Jan-15			304.1		303.85	
23-Jan-15			304.1		303.85	
24-Jan-15			304.1		303.85	
25-Jan-15			304.1		303.85	
26-Jan-15			304.1		303.85	
27-Jan-15			304.1		303.85	
28-Jan-15			304.1		303.85	
29-Jan-15			304.1		303.85	
30-Jan-15			304.1		303.85	
31-Jan-15			304.1		303.85	
1-Feb-15			304.1		303.85	
2-Feb-15			304.1		303.85	
3-Feb-15			304.1		303.85	
4-Feb-15			304.1		303.85	
5-Feb-15			304.1		303.85	
6-Feb-15			304.1		303.85	
7-Feb-15			304.1		303.85	
8-Feb-15			304.1		303.85	
9-Feb-15			304.1		303.85	
10-Feb-15			304.1		303.85	
11-Feb-15			304.1		303.85	
12-Feb-15			304.1		303.85	
13-Feb-15			304.1		303.85	
14-Feb-15			304.1		303.85	
15-Feb-15			304.1		303.85	
16-Feb-15			304.1		303.85	
17-Feb-15			304.1		303.85	
18-Feb-15			304.1		303.85	
19-Feb-15			304.1		303.85	
20-Feb-15			304.1		303.85	
21-Feb-15			304.1		303.85	
22-Feb-15			304.1		303.85	
23-Feb-15			304.1		303.85	
24-Feb-15			304.1		303.85	
25-Feb-15			304.1		303.85	
26-Feb-15			304.1		303.85	
27-Feb-15			304.1		303.85	
28-Feb-15			304.1		303.85	
1-Mar-15			304.1		303.85	
2-Mar-15			304.1		303.85	
3-Mar-15			304.1		303.85	
4-Mar-15			304.1		303.85	
5-Mar-15			304.1		303.85	
6-Mar-15			304.1		303.85	
7-Mar-15			304.1		303.85	
8-Mar-15			304.1		303.85	
9-Mar-15			304.1		303.85	
10-Mar-15			304.1		303.85	
11-Mar-15			304.1		303.85	
12-Mar-15			304.1		303.85	
13-Mar-15			304.1		303.85	
14-Mar-15			304.1		303.85	
15-Mar-15			304.1		303.85	
16-Mar-15			304.1		303.85	
17-Mar-15			304.1		303.85	
18-Mar-15			304.1		303.85	
19-Mar-15			304.1		303.85	
20-Mar-15			304.1		303.85	
21-Mar-15			304.1		303.85	
22-Mar-15			304.1		303.85	
23-Mar-15			304.1		303.85	
24-Mar-15			304.1		303.85	
25-Mar-15			304.1		303.85	
26-Mar-15			304.1		303.85	
27-Mar-15			304.1		303.85	
28-Mar-15			304.1		303.85	
29-Mar-15			304.1		303.85	
30-Mar-15			304.1		303.85	
31-Mar-15			304.1		303.85	
1-Apr-15			304.1		303.85	
2-Apr-15			304.1		303.85	
3-Apr-15			304.1		303.85	
4-Apr-15			304.1		303.85	
5-Apr-15			304.1		303.85	
6-Apr-15			304.1		303.85	
7-Apr-15			304.1		303.85	
8-Apr-15			304.1		303.85	
9-Apr-15			304.1		303.85	
10-Apr-15			304.1		303.85	
11-Apr-15			304.1		303.85	
12-Apr-15			304.1		303.85	
13-Apr-15			304.1		303.85	
14-Apr-15			304.1		303.85	

Table G-9
Threshold Summary - Phase 3 Pond
Mill Creek Aggregates Pit

Date	Gauge Reading Phase 3 Pond (m)	Water Elevation Phase 3 Pond (m ASL)	Early Warning Value (Min) (m ASL)	Exceedance of Early Warning Value	Threshold Value (Min) (m ASL)	Exceedance of Threshold Value
15-Apr-15			304.1		303.85	
16-Apr-15			304.1		303.85	
17-Apr-15	0.50	305.84	304.1	no	303.85	no
18-Apr-15	0.50	305.84	304.1	no	303.85	no
19-Apr-15	0.50	305.84	304.1	no	303.85	no
20-Apr-15	0.40	305.74	304.1	no	303.85	no
21-Apr-15	0.40	305.74	304.1	no	303.85	no
22-Apr-15	0.40	305.74	304.1	no	303.85	no
23-Apr-15	0.38	305.72	304.1	no	303.85	no
24-Apr-15	0.36	305.70	304.1	no	303.85	no
25-Apr-15	0.36	305.70	304.1	no	303.85	no
26-Apr-15	0.36	305.70	304.1	no	303.85	no
27-Apr-15	0.38	305.72	304.1	no	303.85	no
28-Apr-15	0.36	305.70	304.1	no	303.85	no
29-Apr-15	0.34	305.68	304.1	no	303.85	no
30-Apr-15	0.31	305.65	304.1	no	303.85	no
1-May-15	0.33	305.67	304.1	no	303.85	no
2-May-15	0.33	305.67	304.1	no	303.85	no
3-May-15	0.33	305.67	304.1	no	303.85	no
4-May-15	0.30	305.64	304.1	no	303.85	no
5-May-15	0.29	305.63	304.1	no	303.85	no
6-May-15	0.28	305.62	304.1	no	303.85	no
7-May-15	0.28	305.62	304.1	no	303.85	no
8-May-15	0.27	305.61	304.1	no	303.85	no
9-May-15	0.27	305.61	304.1	no	303.85	no
10-May-15	0.27	305.61	304.1	no	303.85	no
11-May-15	0.28	305.62	304.1	no	303.85	no
12-May-15	0.31	305.65	304.1	no	303.85	no
13-May-15	0.29	305.63	304.1	no	303.85	no
14-May-15	0.28	305.62	304.1	no	303.85	no
15-May-15	0.27	305.61	304.1	no	303.85	no
16-May-15	0.27	305.61	304.1	no	303.85	no
17-May-15	0.27	305.61	304.1	no	303.85	no
18-May-15	0.27	305.61	304.1	no	303.85	no
19-May-15	0.38	305.72	304.1	no	303.85	no
20-May-15	0.27	305.61	304.1	no	303.85	no
21-May-15	0.26	305.60	304.1	no	303.85	no
22-May-15	0.30	305.64	304.1	no	303.85	no
23-May-15	0.30	305.64	304.1	no	303.85	no
24-May-15	0.30	305.64	304.1	no	303.85	no
25-May-15	0.20	305.54	304.1	no	303.85	no
26-May-15	0.19	305.53	304.1	no	303.85	no
27-May-15	0.19	305.53	304.1	no	303.85	no
28-May-15	0.18	305.52	304.1	no	303.85	no
29-May-15	0.16	305.50	304.1	no	303.85	no
30-May-15	0.16	305.50	304.1	no	303.85	no
31-May-15	0.16	305.50	304.1	no	303.85	no
1-Jun-15	0.18	305.52	304.1	no	303.85	no
2-Jun-15	0.18	305.52	304.1	no	303.85	no
3-Jun-15	0.20	305.54	304.1	no	303.85	no
4-Jun-15	0.22	305.56	304.1	no	303.85	no
5-Jun-15	0.25	305.59	304.1	no	303.85	no
6-Jun-15			304.1		303.85	
7-Jun-15			304.1		303.85	
8-Jun-15	0.23	305.57	304.1	no	303.85	no
9-Jun-15	0.23	305.57	304.1	no	303.85	no
10-Jun-15	0.23	305.57	304.1	no	303.85	no
11-Jun-15	0.25	305.59	304.1	no	303.85	no
12-Jun-15	0.24	305.58	304.1	no	303.85	no
13-Jun-15			304.1		303.85	
14-Jun-15			304.1		303.85	
15-Jun-15	0.29	305.63	304.1	no	303.85	no
16-Jun-15	0.29	305.63	304.1	no	303.85	no
17-Jun-15	0.28	305.62	304.1	no	303.85	no
18-Jun-15	0.26	305.60	304.1	no	303.85	no
19-Jun-15	0.26	305.60	304.1	no	303.85	no
20-Jun-15			304.1		303.85	
21-Jun-15			304.1		303.85	
22-Jun-15	0.24	305.58	304.1	no	303.85	no
23-Jun-15	0.27	305.61	304.1	no	303.85	no
24-Jun-15	0.25	305.59	304.1	no	303.85	no
25-Jun-15	0.23	305.57	304.1	no	303.85	no
26-Jun-15	0.22	305.56	304.1	no	303.85	no
27-Jun-15			304.1		303.85	
28-Jun-15			304.1		303.85	
29-Jun-15	0.24	305.58	304.1	no	303.85	no
30-Jun-15	0.25	305.59	304.1	no	303.85	no
1-Jul-15			304.1		303.85	
2-Jul-15	0.23	305.57	304.1	no	303.85	no
3-Jul-15	0.21	305.55	304.1	no	303.85	no
4-Jul-15			304.1		303.85	
5-Jul-15			304.1		303.85	
6-Jul-15	0.19	305.53	304.1	no	303.85	no
7-Jul-15	0.18	305.52	304.1	no	303.85	no
8-Jul-15	0.20	305.54	304.1	no	303.85	no
9-Jul-15	0.18	305.52	304.1	no	303.85	no
10-Jul-15	0.18	305.52	304.1	no	303.85	no
11-Jul-15			304.1		303.85	
12-Jul-15			304.1		303.85	
13-Jul-15	0.16	305.50	304.1	no	303.85	no
14-Jul-15	0.15	305.49	304.1	no	303.85	no
15-Jul-15	0.18	305.52	304.1	no	303.85	no
16-Jul-15	0.20	305.54	304.1	no	303.85	no
17-Jul-15	0.22	305.56	304.1	no	303.85	no
18-Jul-15			304.1		303.85	
19-Jul-15			304.1		303.85	
20-Jul-15	0.24	305.58	304.1	no	303.85	no
21-Jul-15	0.26	305.60	304.1	no	303.85	no
22-Jul-15	0.25	305.59	304.1	no	303.85	no
23-Jul-15	0.24	305.58	304.1	no	303.85	no
24-Jul-15	0.22	305.56	304.1	no	303.85	no
25-Jul-15			304.1		303.85	
26-Jul-15			304.1		303.85	
27-Jul-15	0.18	305.52	304.1	no	303.85	no
28-Jul-15	0.18	305.52	304.1	no	303.85	no
29-Jul-15	0.18	305.52	304.1	no	303.85	no
30-Jul-15	0.18	305.52	304.1	no	303.85	no
31-Jul-15	0.15	305.49	304.1	no	303.85	no
1-Aug-15			304.1		303.85	
2-Aug-15			304.1		303.85	
3-Aug-15			304.1		303.85	
4-Aug-15	0.15	305.49	304.1	no	303.85	no
5-Aug-15	0.14	305.48	304.1	no	303.85	no
6-Aug-15	0.13	305.47	304.1	no	303.85	no
7-Aug-15	0.12	305.46	304.1	no	303.85	no
8-Aug-15			304.1		303.85	
9-Aug-15			304.1		303.85	
10-Aug-15	0.09	305.43	304.1	no	303.85	no
11-Aug-15	0.11	305.45	304.1	no	303.85	no
12-Aug-15	0.10	305.44	304.1	no	303.85	no
13-Aug-15	0.09	305.43	304.1	no	303.85	no
14-Aug-15	0.09	305.43	304.1	no	303.85	no
15-Aug-15			304.1		303.85	

Table G-9
Threshold Summary - Phase 3 Pond
Mill Creek Aggregates Pit

Date	Gauge Reading Phase 3 Pond (m)	Water Elevation Phase 3 Pond (m ASL)	Early Warning Value (Min) (m ASL)	Exceedance of Early Warning Value	Threshold Value (Min) (m ASL)	Exceedance of Threshold Value
16-Aug-15			304.1		303.85	
17-Aug-15	0.15	305.49	304.1	no	303.85	no
18-Aug-15	0.14	305.48	304.1	no	303.85	no
19-Aug-15	0.14	305.48	304.1	no	303.85	no
20-Aug-15	0.14	305.48	304.1	no	303.85	no
21-Aug-15	0.13	305.47	304.1	no	303.85	no
22-Aug-15			304.1		303.85	
23-Aug-15			304.1		303.85	
24-Aug-15	0.13	305.47	304.1	no	303.85	no
25-Aug-15	0.08	305.42	304.1	no	303.85	no
26-Aug-15	0.09	305.43	304.1	no	303.85	no
27-Aug-15	0.09	305.43	304.1	no	303.85	no
28-Aug-15	0.09	305.43	304.1	no	303.85	no
29-Aug-15			304.1		303.85	
30-Aug-15			304.1		303.85	
31-Aug-15	0.07	305.41	304.1	no	303.85	no
1-Sep-15	0.07	305.41	304.1	no	303.85	no
2-Sep-15	0.06	305.40	304.1	no	303.85	no
3-Sep-15	0.07	305.41	304.1	no	303.85	no
4-Sep-15	0.07	305.41	304.1	no	303.85	no
5-Sep-15			304.1		303.85	
6-Sep-15			304.1		303.85	
7-Sep-15			304.1		303.85	
8-Sep-15	0.13	305.47	304.1	no	303.85	no
9-Sep-15	0.32	305.41	304.1	no	303.85	no
10-Sep-15	0.28	305.37	304.1	no	303.85	no
11-Sep-15	0.28	305.37	304.1	no	303.85	no
12-Sep-15			304.1		303.85	
13-Sep-15			304.1		303.85	
14-Sep-15	0.25	305.34	304.1	no	303.85	no
15-Sep-15	0.25	305.34	304.1	no	303.85	no
16-Sep-15	0.27	305.36	304.1	no	303.85	no
17-Sep-15	0.29	305.38	304.1	no	303.85	no
18-Sep-15	0.32	305.41	304.1	no	303.85	no
19-Sep-15			304.1		303.85	
20-Sep-15			304.1		303.85	
21-Sep-15	0.32	305.41	304.1	no	303.85	no
22-Sep-15	0.32	305.41	304.1	no	303.85	no
23-Sep-15	0.32	305.41	304.1	no	303.85	no
24-Sep-15	0.34	305.43	304.1	no	303.85	no
25-Sep-15	0.30	305.39	304.1	no	303.85	no
26-Sep-15			304.1		303.85	
27-Sep-15			304.1		303.85	
28-Sep-15	0.29	305.38	304.1	no	303.85	no
29-Sep-15	0.29	305.38	304.1	no	303.85	no
30-Sep-15	0.33	305.42	304.1	no	303.85	no
1-Oct-15	0.32	305.41	304.1	no	303.85	no
2-Oct-15	0.31	305.40	304.1	no	303.85	no
3-Oct-15			304.1		303.85	
4-Oct-15			304.1		303.85	
5-Oct-15	0.27	305.36	304.1	no	303.85	no
6-Oct-15	0.27	305.36	304.1	no	303.85	no
7-Oct-15	0.26	305.35	304.1	no	303.85	no
8-Oct-15	0.26	305.35	304.1	no	303.85	no
9-Oct-15	0.25	305.34	304.1	no	303.85	no
10-Oct-15			304.1		303.85	
11-Oct-15			304.1		303.85	
12-Oct-15			304.1		303.85	
13-Oct-15	0.24	305.33	304.1	no	303.85	no
14-Oct-15	0.23	305.32	304.1	no	303.85	no
15-Oct-15	0.23	305.32	304.1	no	303.85	no
16-Oct-15	0.23	305.32	304.1	no	303.85	no
17-Oct-15			304.1		303.85	
18-Oct-15			304.1		303.85	
19-Oct-15	0.20	305.29	304.1	no	303.85	no
20-Oct-15	0.20	305.29	304.1	no	303.85	no
21-Oct-15	0.19	305.28	304.1	no	303.85	no
22-Oct-15	0.18	305.27	304.1	no	303.85	no
23-Oct-15	0.18	305.27	304.1	no	303.85	no
24-Oct-15			304.1		303.85	
25-Oct-15			304.1		303.85	
26-Oct-15	0.18	305.27	304.1	no	303.85	no
27-Oct-15	0.18	305.27	304.1	no	303.85	no
28-Oct-15	0.18	305.27	304.1	no	303.85	no
29-Oct-15	0.21	305.30	304.1	no	303.85	no
30-Oct-15	0.21	305.30	304.1	no	303.85	no
31-Oct-15			304.1		303.85	
1-Nov-15			304.1		303.85	
2-Nov-15	0.21	305.30	304.1	no	303.85	no
3-Nov-15	0.20	305.29	304.1	no	303.85	no
4-Nov-15	0.18	305.27	304.1	no	303.85	no
5-Nov-15	0.20	305.29	304.1	no	303.85	no
6-Nov-15	0.18	305.27	304.1	no	303.85	no
7-Nov-15			304.1		303.85	
8-Nov-15			304.1		303.85	
9-Nov-15	0.18	305.27	304.1	no	303.85	no
10-Nov-15	0.17	305.26	304.1	no	303.85	no
11-Nov-15	0.17	305.26	304.1	no	303.85	no
12-Nov-15	0.17	305.26	304.1	no	303.85	no
13-Nov-15	0.16	305.25	304.1	no	303.85	no
14-Nov-15			304.1		303.85	
15-Nov-15			304.1		303.85	
16-Nov-15	0.16	305.25	304.1	no	303.85	no
17-Nov-15	0.16	305.25	304.1	no	303.85	no
18-Nov-15	0.15	305.24	304.1	no	303.85	no
19-Nov-15	0.15	305.24	304.1	no	303.85	no
20-Nov-15	0.15	305.24	304.1	no	303.85	no
21-Nov-15			304.1		303.85	
22-Nov-15			304.1		303.85	
23-Nov-15	0.13	305.22	304.1	no	303.85	no
24-Nov-15	0.13	305.22	304.1	no	303.85	no
25-Nov-15	0.13	305.22	304.1	no	303.85	no
26-Nov-15	0.12	305.21	304.1	no	303.85	no
27-Nov-15	0.12	305.21	304.1	no	303.85	no
28-Nov-15			304.1		303.85	
29-Nov-15			304.1		303.85	
30-Nov-15	0.11	305.20	304.1	no	303.85	no
1-Dec-15	0.11	305.20	304.1	no	303.85	no
2-Dec-15	0.11	305.20	304.1	no	303.85	no
3-Dec-15	0.10	305.19	304.1	no	303.85	no
4-Dec-15	0.10	305.19	304.1	no	303.85	no
5-Dec-15			304.1		303.85	
6-Dec-15			304.1		303.85	
7-Dec-15	0.09	305.18	304.1	no	303.85	no
8-Dec-15	0.09	305.18	304.1	no	303.85	no
9-Dec-15	0.09	305.18	304.1	no	303.85	no
10-Dec-15	0.09	305.18	304.1	no	303.85	no
11-Dec-15	0.09	305.18	304.1	no	303.85	no
12-Dec-15			304.1		303.85	
13-Dec-15			304.1		303.85	
14-Dec-15	0.09	305.18	304.1	no	303.85	no
15-Dec-15	0.09	305.18	304.1	no	303.85	no
16-Dec-15	0.09	305.18	304.1	no	303.85	no
17-Dec-15	0.10	305.19	304.1	no	303.85	no
18-Dec-15	0.10	305.19	304.1	no	303.85	no
19-Dec-15			304.1		303.85	
20-Dec-15			304.1		303.85	
21-Dec-15	0.14	305.23	304.1	no	303.85	no
22-Dec-15	0.15	305.24	304.1	no	303.85	no
23-Dec-15	0.16	305.25	304.1	no	303.85	no
24-Dec-15			304.1		303.85	
25-Dec-15			304.1		303.85	
26-Dec-15			304.1		303.85	

Table G-9
Threshold Summary - Phase 3 Pond
Mill Creek Aggregates Pit

Date	Gauge Reading Phase 3 Pond (m)	Water Elevation Phase 3 Pond (m ASL)	Early Warning Value (Min) (m ASL)	Exceedance of Early Warning Value	Threshold Value (Min) (m ASL)	Exceedance of Threshold Value
27-Dec-15			304.1		303.85	
28-Dec-15			304.1		303.85	
29-Dec-15	0.26	305.35	304.1	no	303.85	no
30-Dec-15			304.1		303.85	
31-Dec-15			304.1		303.85	
1-Jan-16			304.1		303.85	
2-Jan-16			304.1		303.85	
3-Jan-16			304.1		303.85	
4-Jan-16			304.1		303.85	
5-Jan-16			304.1		303.85	
6-Jan-16			304.1		303.85	
7-Jan-16			304.1		303.85	
8-Jan-16			304.1		303.85	
9-Jan-16			304.1		303.85	
10-Jan-16			304.1		303.85	
11-Jan-16			304.1		303.85	
12-Jan-16			304.1		303.85	
13-Jan-16			304.1		303.85	
14-Jan-16			304.1		303.85	
15-Jan-16			304.1		303.85	
16-Jan-16			304.1		303.85	
17-Jan-16			304.1		303.85	
18-Jan-16			304.1		303.85	
19-Jan-16			304.1		303.85	
20-Jan-16			304.1		303.85	
21-Jan-16			304.1		303.85	
22-Jan-16			304.1		303.85	
23-Jan-16			304.1		303.85	
24-Jan-16			304.1		303.85	
25-Jan-16			304.1		303.85	
26-Jan-16			304.1		303.85	
27-Jan-16			304.1		303.85	
28-Jan-16			304.1		303.85	
29-Jan-16			304.1		303.85	
30-Jan-16			304.1		303.85	
31-Jan-16			304.1		303.85	
1-Feb-16			304.1		303.85	
2-Feb-16			304.1		303.85	
3-Feb-16			304.1		303.85	
4-Feb-16			304.1		303.85	
5-Feb-16			304.1		303.85	
6-Feb-16			304.1		303.85	
7-Feb-16			304.1		303.85	
8-Feb-16			304.1		303.85	
9-Feb-16			304.1		303.85	
10-Feb-16			304.1		303.85	
11-Feb-16			304.1		303.85	
12-Feb-16			304.1		303.85	
13-Feb-16			304.1		303.85	
14-Feb-16			304.1		303.85	
15-Feb-16			304.1		303.85	
16-Feb-16			304.1		303.85	
17-Feb-16			304.1		303.85	
18-Feb-16			304.1		303.85	
19-Feb-16			304.1		303.85	
20-Feb-16			304.1		303.85	
21-Feb-16			304.1		303.85	
22-Feb-16			304.1		303.85	
23-Feb-16			304.1		303.85	
24-Feb-16			304.1		303.85	
25-Feb-16			304.1		303.85	
26-Feb-16			304.1		303.85	
27-Feb-16			304.1		303.85	
28-Feb-16			304.1		303.85	
29-Feb-16			304.1		303.85	
1-Mar-16			304.1		303.85	
2-Mar-16			304.1		303.85	
3-Mar-16			304.1		303.85	
4-Mar-16			304.1		303.85	
5-Mar-16			304.1		303.85	
6-Mar-16			304.1		303.85	
7-Mar-16			304.1		303.85	
8-Mar-16			304.1		303.85	
9-Mar-16			304.1		303.85	
10-Mar-16			304.1		303.85	
11-Mar-16			304.1		303.85	
12-Mar-16			304.1		303.85	
13-Mar-16			304.1		303.85	
14-Mar-16			304.1		303.85	
15-Mar-16			304.1		303.85	
16-Mar-16			304.1		303.85	
17-Mar-16			304.1		303.85	
18-Mar-16			304.1		303.85	
19-Mar-16			304.1		303.85	
20-Mar-16			304.1		303.85	
21-Mar-16			304.1		303.85	
22-Mar-16			304.1		303.85	
23-Mar-16			304.1		303.85	
24-Mar-16			304.1		303.85	
25-Mar-16			304.1		303.85	
26-Mar-16			304.1		303.85	
27-Mar-16			304.1		303.85	
28-Mar-16			304.1		303.85	
29-Mar-16	0.38	305.52	304.1	no	303.85	no
30-Mar-16	0.39	305.53	304.1	no	303.85	no
31-Mar-16	0.40	305.54	304.1	no	303.85	no
1-Apr-16	0.40	305.54	304.1	no	303.85	no
2-Apr-16			304.1		303.85	
3-Apr-16			304.1		303.85	
4-Apr-16	0.45	305.59	304.1	no	303.85	no
5-Apr-16	0.46	305.60	304.1	no	303.85	no
6-Apr-16	0.47	305.61	304.1	no	303.85	no
7-Apr-16	0.47	305.61	304.1	no	303.85	no
8-Apr-16	0.49	305.63	304.1	no	303.85	no
9-Apr-16			304.1		303.85	
10-Apr-16			304.1		303.85	
11-Apr-16	0.56	305.70	304.1	no	303.85	no
12-Apr-16	0.58	305.72	304.1	no	303.85	no
13-Apr-16	0.60	305.74	304.1	no	303.85	no
14-Apr-16	0.61	305.75	304.1	no	303.85	no
15-Apr-16	0.61	305.75	304.1	no	303.85	no
16-Apr-16			304.1		303.85	
17-Apr-16			304.1		303.85	
18-Apr-16	0.61	305.75	304.1	no	303.85	no
19-Apr-16	0.61	305.75	304.1	no	303.85	no
20-Apr-16	0.62	305.76	304.1	no	303.85	no
21-Apr-16	0.62	305.76	304.1	no	303.85	no
22-Apr-16	0.63	305.77	304.1	no	303.85	no
23-Apr-16			304.1		303.85	
24-Apr-16			304.1		303.85	
25-Apr-16	0.66	305.80	304.1	no	303.85	no
26-Apr-16	0.67	305.81	304.1	no	303.85	no
27-Apr-16	0.65	305.79	304.1	no	303.85	no
28-Apr-16	0.65	305.79	304.1	no	303.85	no
29-Apr-16	0.65	305.79	304.1	no	303.85	no
30-Apr-16			304.1		303.85	
1-May-16			304.1		303.85	
2-May-16	0.65	305.79	304.1	no	303.85	no
3-May-16	0.66	305.80	304.1	no	303.85	no
4-May-16	0.65	305.79	304.1	no	303.85	no
5-May-16	0.65	305.79	304.1	no	303.85	no
6-May-16	0.65	305.79	304.1	no	303.85	no
7-May-16			304.1		303.85	
8-May-16			304.1		303.85	

Table G-9
Threshold Summary - Phase 3 Pond
Mill Creek Aggregates Pit

Date	Gauge Reading Phase 3 Pond (m)	Water Elevation Phase 3 Pond (m ASL)	Early Warning Value (Min) (m ASL)	Exceedance of Early Warning Value	Threshold Value (Min) (m ASL)	Exceedance of Threshold Value
9-May-16	0.65	305.79	304.1	no	303.85	no
10-May-16	0.64	305.78	304.1	no	303.85	no
11-May-16	0.63	305.77	304.1	no	303.85	no
12-May-16	0.63	305.77	304.1	no	303.85	no
13-May-16	0.65	305.79	304.1	no	303.85	no
14-May-16			304.1		303.85	
15-May-16			304.1		303.85	
16-May-16	0.60	305.74	304.1	no	303.85	no
17-May-16	0.60	305.74	304.1	no	303.85	no
18-May-16	0.60	305.74	304.1	no	303.85	no
19-May-16	0.59	305.73	304.1	no	303.85	no
20-May-16	0.59	305.73	304.1	no	303.85	no
21-May-16			304.1		303.85	
22-May-16			304.1		303.85	
23-May-16			304.1		303.85	
24-May-16	0.59	305.73	304.1	no	303.85	no
25-May-16	0.59	305.73	304.1	no	303.85	no
26-May-16	0.58	305.72	304.1	no	303.85	no
27-May-16	0.60	305.74	304.1	no	303.85	no
28-May-16			304.1		303.85	
29-May-16			304.1		303.85	
30-May-16	0.59	305.73	304.1	no	303.85	no
31-May-16	0.59	305.73	304.1	no	303.85	no
1-Jun-16	0.59	305.73	304.1	no	303.85	no
2-Jun-16	0.58	305.72	304.1	no	303.85	no
3-Jun-16	0.58	305.72	304.1	no	303.85	no
4-Jun-16			304.1		303.85	
5-Jun-16			304.1		303.85	
6-Jun-16	0.59	305.73	304.1	no	303.85	no
7-Jun-16	0.59	305.73	304.1	no	303.85	no
8-Jun-16	0.59	305.73	304.1	no	303.85	no
9-Jun-16	0.59	305.73	304.1	no	303.85	no
10-Jun-16	0.55	305.69	304.1	no	303.85	no
11-Jun-16			304.1		303.85	
12-Jun-16			304.1		303.85	
13-Jun-16	0.52	305.66	304.1	no	303.85	no
14-Jun-16	0.52	305.66	304.1	no	303.85	no
15-Jun-16	0.52	305.66	304.1	no	303.85	no
16-Jun-16	0.50	305.64	304.1	no	303.85	no
17-Jun-16	0.50	305.64	304.1	no	303.85	no
18-Jun-16			304.1		303.85	
19-Jun-16			304.1		303.85	
20-Jun-16	0.54	305.68	304.1	no	303.85	no
21-Jun-16	0.54	305.68	304.1	no	303.85	no
22-Jun-16	0.56	305.70	304.1	no	303.85	no
23-Jun-16	0.54	305.68	304.1	no	303.85	no
24-Jun-16	0.54	305.68	304.1	no	303.85	no
25-Jun-16			304.1		303.85	
26-Jun-16			304.1		303.85	
27-Jun-16	0.58	305.72	304.1	no	303.85	no
28-Jun-16	0.58	305.72	304.1	no	303.85	no
29-Jun-16	0.57	305.71	304.1	no	303.85	no
30-Jun-16	0.57	305.71	304.1	no	303.85	no
1-Jul-16			304.1		303.85	
2-Jul-16			304.1		303.85	
3-Jul-16			304.1		303.85	
4-Jul-16	0.57	305.71	304.1	no	303.85	no
5-Jul-16	0.55	305.69	304.1	no	303.85	no
6-Jul-16	0.53	305.67	304.1	no	303.85	no
7-Jul-16	0.54	305.68	304.1	no	303.85	no
8-Jul-16	0.54	305.68	304.1	no	303.85	no
9-Jul-16			304.1		303.85	
10-Jul-16			304.1		303.85	
11-Jul-16	0.49	305.63	304.1	no	303.85	no
12-Jul-16	0.49	305.63	304.1	no	303.85	no
13-Jul-16	0.47	305.61	304.1	no	303.85	no
14-Jul-16	0.48	305.62	304.1	no	303.85	no
15-Jul-16	0.48	305.62	304.1	no	303.85	no
16-Jul-16			304.1		303.85	
17-Jul-16			304.1		303.85	
18-Jul-16	0.48	305.62	304.1	no	303.85	no
19-Jul-16	0.45	305.59	304.1	no	303.85	no
20-Jul-16	0.45	305.59	304.1	no	303.85	no
21-Jul-16	0.44	305.58	304.1	no	303.85	no
22-Jul-16	0.43	305.57	304.1	no	303.85	no
23-Jul-16			304.1		303.85	
24-Jul-16			304.1		303.85	
25-Jul-16	0.43	305.57	304.1	no	303.85	no
26-Jul-16	0.43	305.57	304.1	no	303.85	no
27-Jul-16	0.42	305.56	304.1	no	303.85	no
28-Jul-16	0.41	305.55	304.1	no	303.85	no
29-Jul-16	0.39	305.53	304.1	no	303.85	no
30-Jul-16			304.1		303.85	
31-Jul-16			304.1		303.85	
1-Aug-16			304.1		303.85	
2-Aug-16	0.38	305.52	304.1	no	303.85	no
3-Aug-16	0.38	305.52	304.1	no	303.85	no
4-Aug-16	0.39	305.53	304.1	no	303.85	no
5-Aug-16	0.37	305.51	304.1	no	303.85	no
6-Aug-16			304.1		303.85	
7-Aug-16			304.1		303.85	
8-Aug-16	0.38	305.52	304.1	no	303.85	no
9-Aug-16	0.40	305.54	304.1	no	303.85	no
10-Aug-16	0.42	305.56	304.1	no	303.85	no
11-Aug-16	0.44	305.58	304.1	no	303.85	no
12-Aug-16	0.48	305.62	304.1	no	303.85	no
13-Aug-16			304.1		303.85	
14-Aug-16			304.1		303.85	
15-Aug-16	0.49	305.63	304.1	no	303.85	no
16-Aug-16	0.54	305.68	304.1	no	303.85	no
17-Aug-16	0.55	305.69	304.1	no	303.85	no
18-Aug-16	0.56	305.70	304.1	no	303.85	no
19-Aug-16	0.58	305.72	304.1	no	303.85	no
20-Aug-16			304.1		303.85	
21-Aug-16			304.1		303.85	
22-Aug-16	0.66	305.80	304.1	no	303.85	no
23-Aug-16	0.64	305.78	304.1	no	303.85	no
24-Aug-16	0.63	305.77	304.1	no	303.85	no
25-Aug-16	0.62	305.76	304.1	no	303.85	no
26-Aug-16	0.67	305.81	304.1	no	303.85	no
27-Aug-16			304.1		303.85	
28-Aug-16			304.1		303.85	
29-Aug-16	0.65	305.79	304.1	no	303.85	no
30-Aug-16	0.65	305.79	304.1	no	303.85	no
31-Aug-16	0.63	305.77	304.1	no	303.85	no
1-Sep-16	0.63	305.77	304.1	no	303.85	no
2-Sep-16	0.62	305.76	304.1	no	303.85	no
3-Sep-16			304.1		303.85	
4-Sep-16			304.1		303.85	
5-Sep-16			304.1		303.85	
6-Sep-16	0.58	305.72	304.1	no	303.85	no
7-Sep-16	0.58	305.72	304.1	no	303.85	no
8-Sep-16	0.59	305.73	304.1	no	303.85	no
9-Sep-16	0.59	305.73	304.1	no	303.85	no
10-Sep-16			304.1		303.85	
11-Sep-16			304.1		303.85	
12-Sep-16	0.59	305.73	304.1	no	303.85	no
13-Sep-16	0.55	305.69	304.1	no	303.85	no
14-Sep-16	0.55	305.69	304.1	no	303.85	no
15-Sep-16	0.55	305.69	304.1	no	303.85	no
16-Sep-16			304.1		303.85	
17-Sep-16			304.1		303.85	
18-Sep-16			304.1		303.85	
19-Sep-16	0.50	305.64	304.1	no	303.85	no

Table G-9
Threshold Summary - Phase 3 Pond
Mill Creek Aggregates Pit

Date	Gauge Reading Phase 3 Pond (m)	Water Elevation Phase 3 Pond (m ASL)	Early Warning Value (Min) (m ASL)	Exceedance of Early Warning Value	Threshold Value (Min) (m ASL)	Exceedance of Threshold Value
20-Sep-16	0.50	305.64	304.1	no	303.85	no
21-Sep-16	0.49	305.63	304.1	no	303.85	no
22-Sep-16	0.49	305.63	304.1	no	303.85	no
23-Sep-16	0.47	305.61	304.1	no	303.85	no
24-Sep-16			304.1		303.85	
25-Sep-16			304.1		303.85	
26-Sep-16	0.41	305.55	304.1	no	303.85	no
27-Sep-16	0.43	305.57	304.1	no	303.85	no
28-Sep-16	0.42	305.56	304.1	no	303.85	no
29-Sep-16	0.35	305.49	304.1	no	303.85	no
30-Sep-16	0.40	305.54	304.1	no	303.85	no
1-Oct-16			304.1		303.85	
2-Oct-16			304.1		303.85	
3-Oct-16	0.39	305.53	304.1	no	303.85	no
4-Oct-16	0.38	305.52	304.1	no	303.85	no
5-Oct-16	0.38	305.52	304.1	no	303.85	no
6-Oct-16	0.37	305.51	304.1	no	303.85	no
7-Oct-16	0.36	305.50	304.1	no	303.85	no
8-Oct-16			304.1		303.85	
9-Oct-16			304.1		303.85	
10-Oct-16			304.1		303.85	
11-Oct-16	0.33	305.47	304.1	no	303.85	no
12-Oct-16	0.33	305.47	304.1	no	303.85	no
13-Oct-16	0.33	305.47	304.1	no	303.85	no
14-Oct-16	0.32	305.46	304.1	no	303.85	no
15-Oct-16			304.1		303.85	
16-Oct-16			304.1		303.85	
17-Oct-16	0.29	305.43	304.1	no	303.85	no
18-Oct-16	0.28	305.42	304.1	no	303.85	no
19-Oct-16	0.28	305.42	304.1	no	303.85	no
20-Oct-16	0.27	305.41	304.1	no	303.85	no
21-Oct-16	0.27	305.41	304.1	no	303.85	no
22-Oct-16			304.1		303.85	
23-Oct-16			304.1		303.85	
24-Oct-16	0.28	305.42	304.1	no	303.85	no
25-Oct-16	0.28	305.42	304.1	no	303.85	no
26-Oct-16	0.23	305.37	304.1	no	303.85	no
27-Oct-16	0.23	305.37	304.1	no	303.85	no
28-Oct-16	0.22	305.36	304.1	no	303.85	no
29-Oct-16			304.1		303.85	
30-Oct-16			304.1		303.85	
31-Oct-16	0.21	305.35	304.1	no	303.85	no
1-Nov-16	0.21	305.35	304.1	no	303.85	no
2-Nov-16	0.22	305.36	304.1	no	303.85	no
3-Nov-16	0.24	305.38	304.1	no	303.85	no
4-Nov-16	0.24	305.38	304.1	no	303.85	no
5-Nov-16			304.1		303.85	
6-Nov-16			304.1		303.85	
7-Nov-16	0.22	305.36	304.1	no	303.85	no
8-Nov-16	0.23	305.37	304.1	no	303.85	no
9-Nov-16	0.20	305.34	304.1	no	303.85	no
10-Nov-16	0.20	305.34	304.1	no	303.85	no
11-Nov-16	0.19	305.33	304.1	no	303.85	no
12-Nov-16			304.1		303.85	
13-Nov-16			304.1		303.85	
14-Nov-16	0.17	305.31	304.1	no	303.85	no
15-Nov-16	0.17	305.31	304.1	no	303.85	no
16-Nov-16	0.17	305.31	304.1	no	303.85	no
17-Nov-16	0.16	305.30	304.1	no	303.85	no
18-Nov-16	0.16	305.30	304.1	no	303.85	no
19-Nov-16			304.1		303.85	
20-Nov-16			304.1		303.85	
21-Nov-16	0.15	305.29	304.1	no	303.85	no
22-Nov-16	0.15	305.29	304.1	no	303.85	no
23-Nov-16	0.15	305.29	304.1	no	303.85	no
24-Nov-16	0.13	305.27	304.1	no	303.85	no
25-Nov-16	0.13	305.27	304.1	no	303.85	no
26-Nov-16			304.1		303.85	
27-Nov-16			304.1		303.85	
28-Nov-16	0.13	305.27	304.1	no	303.85	no
29-Nov-16	0.14	305.28	304.1	no	303.85	no
30-Nov-16	0.15	305.29	304.1	no	303.85	no
1-Dec-16	0.15	305.29	304.1	no	303.85	no
2-Dec-16	0.14	305.28	304.1	no	303.85	no
3-Dec-16			304.1		303.85	
4-Dec-16			304.1		303.85	
5-Dec-16	0.13	305.27	304.1	no	303.85	no
6-Dec-16	0.13	305.27	304.1	no	303.85	no
7-Dec-16	0.13	305.27	304.1	no	303.85	no
8-Dec-16			304.1		303.85	
9-Dec-16			304.1		303.85	
10-Dec-16			304.1		303.85	
11-Dec-16			304.1		303.85	
12-Dec-16			304.1		303.85	
13-Dec-16			304.1		303.85	
14-Dec-16			304.1		303.85	
15-Dec-16			304.1		303.85	
16-Dec-16			304.1		303.85	
17-Dec-16			304.1		303.85	
18-Dec-16			304.1		303.85	
19-Dec-16			304.1		303.85	
20-Dec-16			304.1		303.85	
21-Dec-16			304.1		303.85	
22-Dec-16			304.1		303.85	
23-Dec-16			304.1		303.85	
24-Dec-16			304.1		303.85	
25-Dec-16			304.1		303.85	
26-Dec-16			304.1		303.85	
27-Dec-16			304.1		303.85	
28-Dec-16			304.1		303.85	
29-Dec-16			304.1		303.85	
30-Dec-16			304.1		303.85	
31-Dec-16			304.1		303.85	
1-Jan-17			304.1		303.85	
2-Jan-17			304.1		303.85	
3-Jan-17			304.1		303.85	
4-Jan-17			304.1		303.85	
5-Jan-17			304.1		303.85	
6-Jan-17			304.1		303.85	
7-Jan-17			304.1		303.85	
8-Jan-17			304.1		303.85	
9-Jan-17			304.1		303.85	
10-Jan-17			304.1		303.85	
11-Jan-17			304.1		303.85	
12-Jan-17			304.1		303.85	
13-Jan-17			304.1		303.85	
14-Jan-17			304.1		303.85	
15-Jan-17			304.1		303.85	
16-Jan-17			304.1		303.85	
17-Jan-17			304.1		303.85	
18-Jan-17			304.1		303.85	
19-Jan-17			304.1		303.85	
20-Jan-17			304.1		303.85	
21-Jan-17			304.1		303.85	
22-Jan-17			304.1		303.85	
23-Jan-17			304.1		303.85	
24-Jan-17			304.1		303.85	
25-Jan-17			304.1		303.85	
26-Jan-17			304.1		303.85	
27-Jan-17			304.1		303.85	
28-Jan-17			304.1		303.85	
29-Jan-17			304.1		303.85	
30-Jan-17			304.1		303.85	
31-Jan-17			304.1		303.85	

Table G-9
Threshold Summary - Phase 3 Pond
Mill Creek Aggregates Pit

Date	Gauge Reading Phase 3 Pond (m)	Water Elevation Phase 3 Pond (m ASL)	Early Warning Value (Min) (m ASL)	Exceedance of Early Warning Value	Threshold Value (Min) (m ASL)	Exceedance of Threshold Value
1-Feb-17			304.1		303.85	
2-Feb-17			304.1		303.85	
3-Feb-17			304.1		303.85	
4-Feb-17			304.1		303.85	
5-Feb-17			304.1		303.85	
6-Feb-17			304.1		303.85	
7-Feb-17			304.1		303.85	
8-Feb-17			304.1		303.85	
9-Feb-17			304.1		303.85	
10-Feb-17			304.1		303.85	
11-Feb-17			304.1		303.85	
12-Feb-17			304.1		303.85	
13-Feb-17			304.1		303.85	
14-Feb-17			304.1		303.85	
15-Feb-17			304.1		303.85	
16-Feb-17			304.1		303.85	
17-Feb-17			304.1		303.85	
18-Feb-17			304.1		303.85	
19-Feb-17			304.1		303.85	
20-Feb-17			304.1		303.85	
21-Feb-17			304.1		303.85	
22-Feb-17			304.1		303.85	
23-Feb-17			304.1		303.85	
24-Feb-17			304.1		303.85	
25-Feb-17			304.1		303.85	
26-Feb-17			304.1		303.85	
27-Feb-17			304.1		303.85	
28-Feb-17			304.1		303.85	
1-Mar-17			304.1		303.85	
2-Mar-17			304.1		303.85	
3-Mar-17			304.1		303.85	
4-Mar-17			304.1		303.85	
5-Mar-17			304.1		303.85	
6-Mar-17			304.1		303.85	
7-Mar-17			304.1		303.85	
8-Mar-17			304.1		303.85	
9-Mar-17			304.1		303.85	
10-Mar-17			304.1		303.85	
11-Mar-17			304.1		303.85	
12-Mar-17			304.1		303.85	
13-Mar-17			304.1		303.85	
14-Mar-17			304.1		303.85	
15-Mar-17			304.1		303.85	
16-Mar-17			304.1		303.85	
17-Mar-17			304.1		303.85	
18-Mar-17			304.1		303.85	
19-Mar-17			304.1		303.85	
20-Mar-17			304.1		303.85	
21-Mar-17			304.1		303.85	
22-Mar-17			304.1		303.85	
23-Mar-17			304.1		303.85	
24-Mar-17			304.1		303.85	
25-Mar-17			304.1		303.85	
26-Mar-17			304.1		303.85	
27-Mar-17	0.45	305.22	304.1	no	303.85	no
28-Mar-17	0.45	305.22	304.1	no	303.85	no
29-Mar-17	0.45	305.22	304.1	no	303.85	no
30-Mar-17	0.45	305.22	304.1	no	303.85	no
31-Mar-17	0.45	305.22	304.1	no	303.85	no
1-Apr-17			304.1		303.85	
2-Apr-17			304.1		303.85	
3-Apr-17	0.48	305.25	304.1	no	303.85	no
4-Apr-17	0.48	305.25	304.1	no	303.85	no
5-Apr-17	0.48	305.25	304.1	no	303.85	no
6-Apr-17	0.48	305.25	304.1	no	303.85	no
7-Apr-17	0.48	305.25	304.1	no	303.85	no
8-Apr-17			304.1		303.85	
9-Apr-17			304.1		303.85	
10-Apr-17	0.51	305.28	304.1	no	303.85	no
11-Apr-17	0.51	305.28	304.1	no	303.85	no
12-Apr-17	0.51	305.28	304.1	no	303.85	no
13-Apr-17	0.51	305.28	304.1	no	303.85	no
14-Apr-17			304.1		303.85	
15-Apr-17			304.1		303.85	
16-Apr-17			304.1		303.85	
17-Apr-17	0.51	305.28	304.1	no	303.85	no
18-Apr-17	0.50	305.27	304.1	no	303.85	no
19-Apr-17	0.49	305.26	304.1	no	303.85	no
20-Apr-17	0.49	305.26	304.1	no	303.85	no
21-Apr-17	0.50	305.27	304.1	no	303.85	no
22-Apr-17			304.1		303.85	
23-Apr-17			304.1		303.85	
24-Apr-17	0.50	305.27	304.1	no	303.85	no
25-Apr-17	0.50	305.27	304.1	no	303.85	no
26-Apr-17	0.50	305.27	304.1	no	303.85	no
27-Apr-17	0.52	305.29	304.1	no	303.85	no
28-Apr-17	0.53	305.30	304.1	no	303.85	no
29-Apr-17			304.1		303.85	
30-Apr-17			304.1		303.85	
1-May-17	0.50	305.27	304.1	no	303.85	no
2-May-17	0.50	305.27	304.1	no	303.85	no
3-May-17	0.50	305.27	304.1	no	303.85	no
4-May-17	0.50	305.27	304.1	no	303.85	no
5-May-17	0.50	305.27	304.1	no	303.85	no
6-May-17			304.1		303.85	
7-May-17			304.1		303.85	
8-May-17	0.54	305.31	304.1	no	303.85	no
9-May-17	0.53	305.30	304.1	no	303.85	no
10-May-17	0.53	305.30	304.1	no	303.85	no
11-May-17	0.53	305.30	304.1	no	303.85	no
12-May-17	0.52	305.29	304.1	no	303.85	no
13-May-17			304.1		303.85	
14-May-17			304.1		303.85	
15-May-17	0.49	305.26	304.1	no	303.85	no
16-May-17	0.49	305.26	304.1	no	303.85	no
17-May-17	0.49	305.26	304.1	no	303.85	no
18-May-17	0.49	305.26	304.1	no	303.85	no
19-May-17	0.49	305.26	304.1	no	303.85	no
20-May-17			304.1		303.85	
21-May-17			304.1		303.85	
22-May-17			304.1		303.85	
23-May-17	0.48	305.25	304.1	no	303.85	no
24-May-17	0.47	305.24	304.1	no	303.85	no
25-May-17	0.48	305.25	304.1	no	303.85	no
26-May-17	0.48	305.25	304.1	no	303.85	no
27-May-17			304.1		303.85	
28-May-17			304.1		303.85	
29-May-17	0.47	305.24	304.1	no	303.85	no
30-May-17	0.48	305.25	304.1	no	303.85	no
31-May-17	0.47	305.24	304.1	no	303.85	no
1-Jun-17	0.47	305.24	304.1	no	303.85	no
2-Jun-17	0.47	305.24	304.1	no	303.85	no
3-Jun-17			304.1		303.85	
4-Jun-17			304.1		303.85	
5-Jun-17	0.46	305.23	304.1	no	303.85	no
6-Jun-17	0.45	305.22	304.1	no	303.85	no
7-Jun-17	0.45	305.22	304.1	no	303.85	no
8-Jun-17	0.42	305.19	304.1	no	303.85	no
9-Jun-17	0.43	305.20	304.1	no	303.85	no
10-Jun-17			304.1		303.85	
11-Jun-17			304.1		303.85	
12-Jun-17	0.40	305.17	304.1	no	303.85	no
13-Jun-17	0.40	305.17	304.1	no	303.85	no
14-Jun-17	0.37	305.14	304.1	no	303.85	no

Table G-9
Threshold Summary - Phase 3 Pond
Mill Creek Aggregates Pit

Date	Gauge Reading Phase 3 Pond (m)	Water Elevation Phase 3 Pond (m ASL)	Early Warning Value (Min) (m ASL)	Exceedance of Early Warning Value	Threshold Value (Min) (m ASL)	Exceedance of Threshold Value
15-Jun-17	0.37	305.14	304.1	no	303.85	no
16-Jun-17	0.37	305.14	304.1	no	303.85	no
17-Jun-17	0.37	305.14	304.1	no	303.85	no
18-Jun-17			304.1		303.85	
19-Jun-17	0.40	305.17	304.1	no	303.85	no
20-Jun-17	0.35	305.12	304.1	no	303.85	no
21-Jun-17	0.35	305.12	304.1	no	303.85	no
22-Jun-17	0.35	305.12	304.1	no	303.85	no
23-Jun-17	0.37	305.14	304.1	no	303.85	no
24-Jun-17	0.37	305.14	304.1	no	303.85	no
25-Jun-17			304.1		303.85	
26-Jun-17	0.35	305.12	304.1	no	303.85	no
27-Jun-17	0.35	305.12	304.1	no	303.85	no
28-Jun-17	0.34	305.11	304.1	no	303.85	no
29-Jun-17	0.34	305.11	304.1	no	303.85	no
30-Jun-17	0.35	305.12	304.1	no	303.85	no
1-Jul-17			304.1		303.85	
2-Jul-17			304.1		303.85	
3-Jul-17			304.1		303.85	
4-Jul-17	0.35	305.12	304.1	no	303.85	no
5-Jul-17	0.33	305.10	304.1	no	303.85	no
6-Jul-17	0.33	305.10	304.1	no	303.85	no
7-Jul-17	0.33	305.10	304.1	no	303.85	no
8-Jul-17			304.1		303.85	
9-Jul-17			304.1		303.85	
10-Jul-17	0.30	305.07	304.1	no	303.85	no
11-Jul-17	0.30	305.07	304.1	no	303.85	no
12-Jul-17	0.30	305.07	304.1	no	303.85	no
13-Jul-17	0.30	305.07	304.1	no	303.85	no
14-Jul-17	0.30	305.07	304.1	no	303.85	no
15-Jul-17	0.30	305.07	304.1	no	303.85	no
16-Jul-17			304.1		303.85	
17-Jul-17	0.31	305.08	304.1	no	303.85	no
18-Jul-17	0.30	305.07	304.1	no	303.85	no
19-Jul-17	0.30	305.07	304.1	no	303.85	no
20-Jul-17	0.30	305.07	304.1	no	303.85	no
21-Jul-17	0.30	305.07	304.1	no	303.85	no
22-Jul-17	0.30	305.07	304.1	no	303.85	no
23-Jul-17			304.1		303.85	
24-Jul-17	0.28	305.05	304.1	no	303.85	no
25-Jul-17	0.28	305.05	304.1	no	303.85	no
26-Jul-17	0.27	305.04	304.1	no	303.85	no
27-Jul-17	0.27	305.04	304.1	no	303.85	no
28-Jul-17	0.27	305.04	304.1	no	303.85	no
29-Jul-17			304.1		303.85	
30-Jul-17			304.1		303.85	
31-Jul-17	0.25	305.02	304.1	no	303.85	no
1-Aug-17	0.24	305.01	304.1	no	303.85	no
2-Aug-17	0.25	305.02	304.1	no	303.85	no
3-Aug-17	0.25	305.02	304.1	no	303.85	no
4-Aug-17	0.25	305.02	304.1	no	303.85	no
5-Aug-17			304.1		303.85	
6-Aug-17			304.1		303.85	
7-Aug-17			304.1		303.85	
8-Aug-17	0.23	305.00	304.1	no	303.85	no
9-Aug-17	0.22	304.99	304.1	no	303.85	no
10-Aug-17	0.21	304.98	304.1	no	303.85	no
11-Aug-17	0.20	304.97	304.1	no	303.85	no
12-Aug-17	0.23	305.00	304.1	no	303.85	no
13-Aug-17			304.1		303.85	
14-Aug-17	0.23	305.00	304.1	no	303.85	no
15-Aug-17	0.23	305.00	304.1	no	303.85	no
16-Aug-17	0.23	305.00	304.1	no	303.85	no
17-Aug-17	0.22	304.99	304.1	no	303.85	no
18-Aug-17	0.23	305.00	304.1	no	303.85	no
19-Aug-17	0.23	305.00	304.1	no	303.85	no
20-Aug-17			304.1		303.85	
21-Aug-17	0.21	304.98	304.1	no	303.85	no
22-Aug-17	0.20	304.97	304.1	no	303.85	no
23-Aug-17	0.20	304.97	304.1	no	303.85	no
24-Aug-17	0.20	304.97	304.1	no	303.85	no
25-Aug-17	0.18	304.95	304.1	no	303.85	no
26-Aug-17	0.20	304.97	304.1	no	303.85	no
27-Aug-17			304.1		303.85	
28-Aug-17	0.17	304.94	304.1	no	303.85	no
29-Aug-17	0.16	304.93	304.1	no	303.85	no
30-Aug-17	0.37	304.95	304.1	no	303.85	no
31-Aug-17	0.36	304.94	304.1	no	303.85	no
1-Sep-17	0.36	304.94	304.1	no	303.85	no
2-Sep-17	0.34	304.92	304.1	no	303.85	no
3-Sep-17			304.1		303.85	
4-Sep-17			304.1		303.85	
5-Sep-17	0.36	304.94	304.1	no	303.85	no
6-Sep-17	0.34	304.92	304.1	no	303.85	no
7-Sep-17	0.35	304.93	304.1	no	303.85	no
8-Sep-17	0.35	304.93	304.1	no	303.85	no
9-Sep-17			304.1		303.85	
10-Sep-17			304.1		303.85	
11-Sep-17	0.36	304.94	304.1	no	303.85	no
12-Sep-17	0.32	304.90	304.1	no	303.85	no
13-Sep-17	0.32	304.90	304.1	no	303.85	no
14-Sep-17	0.32	304.90	304.1	no	303.85	no
15-Sep-17	0.30	304.88	304.1	no	303.85	no
16-Sep-17	0.32	304.90	304.1	no	303.85	no
17-Sep-17			304.1		303.85	
18-Sep-17	0.29	304.87	304.1	no	303.85	no
19-Sep-17	0.30	304.88	304.1	no	303.85	no
20-Sep-17	0.30	304.88	304.1	no	303.85	no
21-Sep-17	0.30	304.88	304.1	no	303.85	no
22-Sep-17	0.29	304.87	304.1	no	303.85	no
23-Sep-17	0.29	304.87	304.1	no	303.85	no
24-Sep-17			304.1		303.85	
25-Sep-17	0.29	304.87	304.1	no	303.85	no
26-Sep-17	0.28	304.86	304.1	no	303.85	no
27-Sep-17	0.28	304.86	304.1	no	303.85	no
28-Sep-17	0.27	304.85	304.1	no	303.85	no
29-Sep-17	0.26	304.84	304.1	no	303.85	no
30-Sep-17	0.26	304.84	304.1	no	303.85	no
1-Oct-17			304.1		303.85	
2-Oct-17	0.25	304.83	304.1	no	303.85	no
3-Oct-17	0.24	304.82	304.1	no	303.85	no
4-Oct-17	0.24	304.82	304.1	no	303.85	no
5-Oct-17	0.24	304.82	304.1	no	303.85	no
6-Oct-17	0.24	304.82	304.1	no	303.85	no
7-Oct-17			304.1		303.85	
8-Oct-17			304.1		303.85	
9-Oct-17			304.1		303.85	
10-Oct-17	0.25	304.83	304.1	no	303.85	no
11-Oct-17	0.24	304.82	304.1	no	303.85	no
12-Oct-17	0.23	304.81	304.1	no	303.85	no
13-Oct-17	0.22	304.80	304.1	no	303.85	no
14-Oct-17	0.23	304.81	304.1	no	303.85	no
15-Oct-17			304.1		303.85	
16-Oct-17	0.24	304.82	304.1	no	303.85	no
17-Oct-17	0.24	304.82	304.1	no	303.85	no
18-Oct-17	0.23	304.81	304.1	no	303.85	no
19-Oct-17	0.23	304.81	304.1	no	303.85	no
20-Oct-17	0.21	304.79	304.1	no	303.85	no
21-Oct-17	0.21	304.79	304.1	no	303.85	no
22-Oct-17			304.1		303.85	
23-Oct-17	0.21	304.79	304.1	no	303.85	no
24-Oct-17	0.23	304.81	304.1	no	303.85	no
25-Oct-17	0.23	304.81	304.1	no	303.85	no
26-Oct-17	0.23	304.81	304.1	no	303.85	no

Table G-9
Threshold Summary - Phase 3 Pond
Mill Creek Aggregates Pit

Date	Gauge Reading Phase 3 Pond (m)	Water Elevation Phase 3 Pond (m ASL)	Early Warning Value (Min) (m ASL)	Exceedance of Early Warning Value	Threshold Value (Min) (m ASL)	Exceedance of Threshold Value
27-Oct-17	0.23	304.81	304.1	no	303.85	no
28-Oct-17	0.22	304.80	304.1	no	303.85	no
29-Oct-17			304.1		303.85	
30-Oct-17	0.20	304.78	304.1	no	303.85	no
31-Oct-17	0.20	304.78	304.1	no	303.85	no
1-Nov-17	0.20	304.78	304.1	no	303.85	no
2-Nov-17	0.20	304.78	304.1	no	303.85	no
3-Nov-17	0.21	304.79	304.1	no	303.85	no
4-Nov-17	0.22	304.80	304.1	no	303.85	no
5-Nov-17			304.1		303.85	
6-Nov-17	0.25	304.83	304.1	no	303.85	no
7-Nov-17	0.24	304.82	304.1	no	303.85	no
8-Nov-17	0.24	304.82	304.1	no	303.85	no
9-Nov-17	0.24	304.82	304.1	no	303.85	no
10-Nov-17			304.1		303.85	
11-Nov-17			304.1		303.85	
12-Nov-17			304.1		303.85	
13-Nov-17	0.22	304.80	304.1	no	303.85	no
14-Nov-17	0.22	304.80	304.1	no	303.85	no
15-Nov-17	0.24	304.82	304.1	no	303.85	no
16-Nov-17	0.28	304.86	304.1	no	303.85	no
17-Nov-17	0.26	304.84	304.1	no	303.85	no
18-Nov-17	0.25	304.83	304.1	no	303.85	no
19-Nov-17			304.1		303.85	
20-Nov-17	0.28	304.86	304.1	no	303.85	no
21-Nov-17	0.28	304.86	304.1	no	303.85	no
22-Nov-17	0.28	304.86	304.1	no	303.85	no
23-Nov-17	0.27	304.85	304.1	no	303.85	no
24-Nov-17	0.28	304.86	304.1	no	303.85	no
25-Nov-17			304.1		303.85	
26-Nov-17			304.1		303.85	
27-Nov-17	0.26	304.84	304.1	no	303.85	no
28-Nov-17	0.26	304.84	304.1	no	303.85	no
29-Nov-17	0.26	304.84	304.1	no	303.85	no
30-Nov-17	0.27	304.85	304.1	no	303.85	no
1-Dec-17	0.26	304.84	304.1	no	303.85	no
2-Dec-17	0.27	304.85	304.1	no	303.85	no
3-Dec-17			304.1		303.85	
4-Dec-17	0.27	304.85	304.1	no	303.85	no
5-Dec-17	0.32	304.90	304.1	no	303.85	no
6-Dec-17	0.32	304.90	304.1	no	303.85	no
7-Dec-17	0.31	304.89	304.1	no	303.85	no
8-Dec-17	0.31	304.89	304.1	no	303.85	no
9-Dec-17	0.31	304.89	304.1	no	303.85	no
10-Dec-17	0.31	304.89	304.1	no	303.85	no
11-Dec-17	0.31	304.89	304.1	no	303.85	no
12-Dec-17	0.31	304.89	304.1	no	303.85	no
13-Dec-17	0.31	304.89	304.1	no	303.85	no
14-Dec-17	0.31	304.89	304.1	no	303.85	no
15-Dec-17	0.31	304.89	304.1	no	303.85	no
16-Dec-17			304.1		303.85	
17-Dec-17			304.1		303.85	
18-Dec-17			304.1		303.85	
19-Dec-17			304.1		303.85	
20-Dec-17			304.1		303.85	
21-Dec-17			304.1		303.85	
22-Dec-17			304.1		303.85	
23-Dec-17			304.1		303.85	
24-Dec-17			304.1		303.85	
25-Dec-17			304.1		303.85	
26-Dec-17			304.1		303.85	
27-Dec-17			304.1		303.85	
28-Dec-17			304.1		303.85	
29-Dec-17			304.1		303.85	
30-Dec-17			304.1		303.85	
31-Dec-17			304.1		303.85	
1-Jan-18			304.1		303.85	
2-Jan-18			304.1		303.85	
3-Jan-18			304.1		303.85	
4-Jan-18			304.1		303.85	
5-Jan-18			304.1		303.85	
6-Jan-18			304.1		303.85	
7-Jan-18			304.1		303.85	
8-Jan-18			304.1		303.85	
9-Jan-18			304.1		303.85	
10-Jan-18			304.1		303.85	
11-Jan-18			304.1		303.85	
12-Jan-18			304.1		303.85	
13-Jan-18			304.1		303.85	
14-Jan-18			304.1		303.85	
15-Jan-18			304.1		303.85	
16-Jan-18			304.1		303.85	
17-Jan-18			304.1		303.85	
18-Jan-18			304.1		303.85	
19-Jan-18			304.1		303.85	
20-Jan-18			304.1		303.85	
21-Jan-18			304.1		303.85	
22-Jan-18			304.1		303.85	
23-Jan-18			304.1		303.85	
24-Jan-18			304.1		303.85	
25-Jan-18			304.1		303.85	
26-Jan-18			304.1		303.85	
27-Jan-18			304.1		303.85	
28-Jan-18			304.1		303.85	
29-Jan-18			304.1		303.85	
30-Jan-18			304.1		303.85	
31-Jan-18			304.1		303.85	
1-Feb-18			304.1		303.85	
2-Feb-18			304.1		303.85	
3-Feb-18			304.1		303.85	
4-Feb-18			304.1		303.85	
5-Feb-18			304.1		303.85	
6-Feb-18			304.1		303.85	
7-Feb-18			304.1		303.85	
8-Feb-18			304.1		303.85	
9-Feb-18			304.1		303.85	
10-Feb-18			304.1		303.85	
11-Feb-18			304.1		303.85	
12-Feb-18			304.1		303.85	
13-Feb-18			304.1		303.85	
14-Feb-18			304.1		303.85	
15-Feb-18			304.1		303.85	
16-Feb-18			304.1		303.85	
17-Feb-18			304.1		303.85	
18-Feb-18			304.1		303.85	
19-Feb-18			304.1		303.85	
20-Feb-18			304.1		303.85	
21-Feb-18			304.1		303.85	
22-Feb-18			304.1		303.85	
23-Feb-18			304.1		303.85	
24-Feb-18			304.1		303.85	
25-Feb-18			304.1		303.85	
26-Feb-18			304.1		303.85	
27-Feb-18			304.1		303.85	
28-Feb-18			304.1		303.85	
1-Mar-18			304.1		303.85	
2-Mar-18			304.1		303.85	
3-Mar-18			304.1		303.85	
4-Mar-18			304.1		303.85	
5-Mar-18			304.1		303.85	
6-Mar-18			304.1		303.85	
7-Mar-18			304.1		303.85	
8-Mar-18			304.1		303.85	
9-Mar-18			304.1		303.85	

Table G-9
Threshold Summary - Phase 3 Pond
Mill Creek Aggregates Pit

Date	Gauge Reading Phase 3 Pond (m)	Water Elevation Phase 3 Pond (m ASL)	Early Warning Value (Min) (m ASL)	Exceedance of Early Warning Value	Threshold Value (Min) (m ASL)	Exceedance of Threshold Value
10-Mar-18			304.1		303.85	
11-Mar-18			304.1		303.85	
12-Mar-18			304.1		303.85	
13-Mar-18			304.1		303.85	
14-Mar-18			304.1		303.85	
15-Mar-18			304.1		303.85	
16-Mar-18			304.1		303.85	
17-Mar-18			304.1		303.85	
18-Mar-18			304.1		303.85	
19-Mar-18			304.1		303.85	
20-Mar-18			304.1		303.85	
21-Mar-18			304.1		303.85	
22-Mar-18			304.1		303.85	
23-Mar-18			304.1		303.85	
24-Mar-18			304.1		303.85	
25-Mar-18			304.1		303.85	
26-Mar-18			304.1		303.85	
27-Mar-18			304.1		303.85	
28-Mar-18			304.1		303.85	
29-Mar-18			304.1		303.85	
30-Mar-18			304.1		303.85	
31-Mar-18			304.1		303.85	
1-Apr-18			304.1		303.85	
2-Apr-18	0.70	304.94	304.1	no	303.85	no
3-Apr-18	0.71	304.95	304.1	no	303.85	no
4-Apr-18	0.72	304.96	304.1	no	303.85	no
5-Apr-18	0.74	304.98	304.1	no	303.85	no
6-Apr-18	0.72	304.96	304.1	no	303.85	no
7-Apr-18			304.1		303.85	
8-Apr-18			304.1		303.85	
9-Apr-18	0.73	304.97	304.1	no	303.85	no
10-Apr-18	0.73	304.97	304.1	no	303.85	no
11-Apr-18	0.71	304.95	304.1	no	303.85	no
12-Apr-18	0.71	304.95	304.1	no	303.85	no
13-Apr-18	0.70	304.94	304.1	no	303.85	no
14-Apr-18			304.1		303.85	
15-Apr-18			304.1		303.85	
16-Apr-18			304.1		303.85	
17-Apr-18			304.1		303.85	
18-Apr-18	0.82	305.06	304.1	no	303.85	no
19-Apr-18	0.83	305.07	304.1	no	303.85	no
20-Apr-18	0.80	305.04	304.1	no	303.85	no
21-Apr-18	0.80	305.04	304.1	no	303.85	no
22-Apr-18			304.1		303.85	
23-Apr-18	0.81	305.05	304.1	no	303.85	no
24-Apr-18	0.80	305.04	304.1	no	303.85	no
25-Apr-18	0.80	305.04	304.1	no	303.85	no
26-Apr-18	0.80	305.04	304.1	no	303.85	no
27-Apr-18	0.83	305.07	304.1	no	303.85	no
28-Apr-18	0.83	305.07	304.1	no	303.85	no
29-Apr-18			304.1		303.85	
30-Apr-18	0.82	305.06	304.1	no	303.85	no
1-May-18	0.83	305.07	304.1	no	303.85	no
2-May-18	0.83	305.07	304.1	no	303.85	no
3-May-18	0.81	305.05	304.1	no	303.85	no
4-May-18	0.85	305.09	304.1	no	303.85	no
5-May-18	0.81	305.05	304.1	no	303.85	no
6-May-18			304.1		303.85	
7-May-18	0.85	305.09	304.1	no	303.85	no
8-May-18	0.85	305.09	304.1	no	303.85	no
9-May-18	0.84	305.08	304.1	no	303.85	no
10-May-18	0.84	305.08	304.1	no	303.85	no
11-May-18	0.84	305.08	304.1	no	303.85	no
12-May-18	0.82	305.06	304.1	no	303.85	no
13-May-18			304.1		303.85	
14-May-18	0.82	305.06	304.1	no	303.85	no
15-May-18	0.82	305.06	304.1	no	303.85	no
16-May-18	0.80	305.04	304.1	no	303.85	no
17-May-18	0.82	305.06	304.1	no	303.85	no
18-May-18	0.80	305.04	304.1	no	303.85	no
19-May-18	0.80	305.04	304.1	no	303.85	no
20-May-18			304.1		303.85	
21-May-18			304.1		303.85	
22-May-18	0.81	305.05	304.1	no	303.85	no
23-May-18	0.80	305.04	304.1	no	303.85	no
24-May-18	0.80	305.04	304.1	no	303.85	no
25-May-18	0.80	305.04	304.1	no	303.85	no
26-May-18	0.80	305.04	304.1	no	303.85	no
27-May-18			304.1		303.85	
28-May-18	0.79	305.03	304.1	no	303.85	no
29-May-18	0.79	305.03	304.1	no	303.85	no
30-May-18	0.77	305.01	304.1	no	303.85	no
31-May-18	0.77	305.01	304.1	no	303.85	no
1-Jun-18	0.78	305.02	304.1	no	303.85	no
2-Jun-18	0.76	305.00	304.1	no	303.85	no
3-Jun-18			304.1		303.85	
4-Jun-18	0.77	305.01	304.1	no	303.85	no
5-Jun-18	0.76	305.00	304.1	no	303.85	no
6-Jun-18	0.77	305.01	304.1	no	303.85	no
7-Jun-18	0.75	304.99	304.1	no	303.85	no
8-Jun-18	0.75	304.99	304.1	no	303.85	no
9-Jun-18	0.74	304.98	304.1	no	303.85	no
10-Jun-18			304.1		303.85	
11-Jun-18	0.72	304.96	304.1	no	303.85	no
12-Jun-18	0.71	304.95	304.1	no	303.85	no
13-Jun-18	0.71	304.95	304.1	no	303.85	no
14-Jun-18	0.71	304.95	304.1	no	303.85	no
15-Jun-18	0.69	304.93	304.1	no	303.85	no
16-Jun-18	0.69	304.93	304.1	no	303.85	no
17-Jun-18			304.1		303.85	
18-Jun-18	0.68	304.92	304.1	no	303.85	no
19-Jun-18	0.68	304.92	304.1	no	303.85	no
20-Jun-18	0.68	304.92	304.1	no	303.85	no
21-Jun-18	0.68	304.92	304.1	no	303.85	no
22-Jun-18	0.67	304.91	304.1	no	303.85	no
23-Jun-18	0.67	304.91	304.1	no	303.85	no
24-Jun-18			304.1		303.85	
25-Jun-18	0.69	304.93	304.1	no	303.85	no
26-Jun-18	0.69	304.93	304.1	no	303.85	no
27-Jun-18	0.69	304.93	304.1	no	303.85	no
28-Jun-18	0.69	304.93	304.1	no	303.85	no
29-Jun-18	0.70	304.94	304.1	no	303.85	no
30-Jun-18			304.1		303.85	
1-Jul-18			304.1		303.85	
2-Jul-18			304.1		303.85	
3-Jul-18	0.68	304.92	304.1	no	303.85	no
4-Jul-18	0.68	304.92	304.1	no	303.85	no
5-Jul-18	0.67	304.91	304.1	no	303.85	no
6-Jul-18	0.67	304.91	304.1	no	303.85	no
7-Jul-18	0.65	304.89	304.1	no	303.85	no
8-Jul-18			304.1		303.85	
9-Jul-18	0.64	304.88	304.1	no	303.85	no
10-Jul-18	0.61	304.85	304.1	no	303.85	no
11-Jul-18	0.62	304.86	304.1	no	303.85	no
12-Jul-18	0.60	304.84	304.1	no	303.85	no
13-Jul-18	0.60	304.84	304.1	no	303.85	no
14-Jul-18	0.59	304.83	304.1	no	303.85	no
15-Jul-18			304.1		303.85	
16-Jul-18	0.58	304.82	304.1	no	303.85	no
17-Jul-18	0.57	304.81	304.1	no	303.85	no
18-Jul-18	0.58	304.82	304.1	no	303.85	no
19-Jul-18	0.56	304.80	304.1	no	303.85	no
20-Jul-18	0.55	304.79	304.1	no	303.85	no

Table G-9
Threshold Summary - Phase 3 Pond
Mill Creek Aggregates Pit

Date	Gauge Reading Phase 3 Pond (m)	Water Elevation Phase 3 Pond (m ASL)	Early Warning Value (Min) (m ASL)	Exceedance of Early Warning Value	Threshold Value (Min) (m ASL)	Exceedance of Threshold Value
21-Jul-18	0.56	304.80	304.1	no	303.85	no
22-Jul-18			304.1		303.85	
23-Jul-18	0.55	304.79	304.1	no	303.85	no
24-Jul-18	0.55	304.79	304.1	no	303.85	no
25-Jul-18	0.53	304.77	304.1	no	303.85	no
26-Jul-18	0.53	304.77	304.1	no	303.85	no
27-Jul-18	0.54	304.78	304.1	no	303.85	no
28-Jul-18	0.51	304.75	304.1	no	303.85	no
29-Jul-18			304.1		303.85	
30-Jul-18	0.52	304.76	304.1	no	303.85	no
31-Jul-18	0.50	304.74	304.1	no	303.85	no
1-Aug-18	0.50	304.74	304.1	no	303.85	no
2-Aug-18	0.50	304.74	304.1	no	303.85	no
3-Aug-18	0.50	304.74	304.1	no	303.85	no
4-Aug-18			304.1		303.85	
5-Aug-18			304.1		303.85	
6-Aug-18			304.1		303.85	
7-Aug-18	0.49	304.73	304.1	no	303.85	no
8-Aug-18	0.50	304.74	304.1	no	303.85	no
9-Aug-18	0.50	304.74	304.1	no	303.85	no
10-Aug-18	0.50	304.74	304.1	no	303.85	no
11-Aug-18	0.50	304.74	304.1	no	303.85	no
12-Aug-18			304.1		303.85	
13-Aug-18	0.49	304.73	304.1	no	303.85	no
14-Aug-18	0.49	304.73	304.1	no	303.85	no
15-Aug-18	0.48	304.72	304.1	no	303.85	no
16-Aug-18	0.47	304.71	304.1	no	303.85	no
17-Aug-18	0.48	304.72	304.1	no	303.85	no
18-Aug-18	0.49	304.73	304.1	no	303.85	no
19-Aug-18			304.1		303.85	
20-Aug-18	0.48	304.72	304.1	no	303.85	no
21-Aug-18	0.48	304.72	304.1	no	303.85	no
22-Aug-18	0.49	304.73	304.1	no	303.85	no
23-Aug-18	0.48	304.72	304.1	no	303.85	no
24-Aug-18	0.48	304.72	304.1	no	303.85	no
25-Aug-18	0.47	304.71	304.1	no	303.85	no
26-Aug-18			304.1		303.85	
27-Aug-18	0.49	304.73	304.1	no	303.85	no
28-Aug-18	0.49	304.73	304.1	no	303.85	no
29-Aug-18	0.48	304.72	304.1	no	303.85	no
30-Aug-18	0.49	304.73	304.1	no	303.85	no
31-Aug-18	0.49	304.73	304.1	no	303.85	no
1-Sep-18			304.1		303.85	
2-Sep-18			304.1		303.85	
3-Sep-18			304.1		303.85	
4-Sep-18	0.46	304.70	304.1	no	303.85	no
5-Sep-18	0.48	304.72	304.1	no	303.85	no
6-Sep-18	0.47	304.71	304.1	no	303.85	no
7-Sep-18	0.49	304.73	304.1	no	303.85	no
8-Sep-18	0.45	304.69	304.1	no	303.85	no
9-Sep-18			304.1		303.85	
10-Sep-18	0.44	304.68	304.1	no	303.85	no
11-Sep-18	0.43	304.67	304.1	no	303.85	no
12-Sep-18	0.43	304.67	304.1	no	303.85	no
13-Sep-18	0.42	304.66	304.1	no	303.85	no
14-Sep-18	0.41	304.65	304.1	no	303.85	no
15-Sep-18	0.41	304.65	304.1	no	303.85	no
16-Sep-18			304.1		303.85	
17-Sep-18	0.42	304.66	304.1	no	303.85	no
18-Sep-18	0.41	304.65	304.1	no	303.85	no
19-Sep-18	0.40	304.64	304.1	no	303.85	no
20-Sep-18	0.38	304.62	304.1	no	303.85	no
21-Sep-18	0.39	304.63	304.1	no	303.85	no
22-Sep-18	0.38	304.62	304.1	no	303.85	no
23-Sep-18			304.1		303.85	
24-Sep-18	0.38	304.62	304.1	no	303.85	no
25-Sep-18	0.38	304.62	304.1	no	303.85	no
26-Sep-18	0.38	304.62	304.1	no	303.85	no
27-Sep-18	0.37	304.61	304.1	no	303.85	no
28-Sep-18	0.37	304.61	304.1	no	303.85	no
29-Sep-18	0.38	304.62	304.1	no	303.85	no
30-Sep-18			304.1		303.85	
1-Oct-18	0.38	304.62	304.1	no	303.85	no
2-Oct-18	0.40	304.64	304.1	no	303.85	no
3-Oct-18	0.39	304.63	304.1	no	303.85	no
4-Oct-18	0.41	304.65	304.1	no	303.85	no
5-Oct-18	0.38	304.62	304.1	no	303.85	no
6-Oct-18	0.41	304.65	304.1	no	303.85	no
7-Oct-18			304.1		303.85	
8-Oct-18			304.1		303.85	
9-Oct-18	0.41	304.65	304.1	no	303.85	no
10-Oct-18	0.41	304.65	304.1	no	303.85	no
11-Oct-18	0.41	304.65	304.1	no	303.85	no
12-Oct-18	0.40	304.64	304.1	no	303.85	no
13-Oct-18	0.40	304.64	304.1	no	303.85	no
14-Oct-18			304.1		303.85	
15-Oct-18	0.39	304.63	304.1	no	303.85	no
16-Oct-18	0.39	304.63	304.1	no	303.85	no
17-Oct-18	0.39	304.63	304.1	no	303.85	no
18-Oct-18	0.38	304.62	304.1	no	303.85	no
19-Oct-18	0.38	304.62	304.1	no	303.85	no
20-Oct-18	0.37	304.61	304.1	no	303.85	no
21-Oct-18			304.1		303.85	
22-Oct-18	0.37	304.61	304.1	no	303.85	no
23-Oct-18	0.36	304.60	304.1	no	303.85	no
24-Oct-18	0.37	304.61	304.1	no	303.85	no
25-Oct-18	0.36	304.60	304.1	no	303.85	no
26-Oct-18	0.36	304.60	304.1	no	303.85	no
27-Oct-18	0.37	304.61	304.1	no	303.85	no
28-Oct-18			304.1		303.85	
29-Oct-18	0.37	304.61	304.1	no	303.85	no
30-Oct-18	0.36	304.60	304.1	no	303.85	no
31-Oct-18	0.38	304.62	304.1	no	303.85	no
1-Nov-18	0.39	304.63	304.1	no	303.85	no
2-Nov-18	0.43	304.67	304.1	no	303.85	no
3-Nov-18	0.43	304.67	304.1	no	303.85	no
4-Nov-18			304.1		303.85	
5-Nov-18	0.44	304.68	304.1	no	303.85	no
6-Nov-18	0.43	304.67	304.1	no	303.85	no
7-Nov-18	0.44	304.68	304.1	no	303.85	no
8-Nov-18	0.45	304.69	304.1	no	303.85	no
9-Nov-18	0.45	304.69	304.1	no	303.85	no
10-Nov-18	0.45	304.69	304.1	no	303.85	no
11-Nov-18			304.1		303.85	
12-Nov-18	0.43	304.67	304.1	no	303.85	no
13-Nov-18	0.45	304.69	304.1	no	303.85	no
14-Nov-18	0.45	304.69	304.1	no	303.85	no
15-Nov-18	0.45	304.69	304.1	no	303.85	no
16-Nov-18	0.45	304.69	304.1	no	303.85	no
17-Nov-18	0.45	304.69	304.1	no	303.85	no
18-Nov-18			304.1		303.85	
19-Nov-18	0.46	304.70	304.1	no	303.85	no
20-Nov-18	0.46	304.70	304.1	no	303.85	no
21-Nov-18	0.46	304.70	304.1	no	303.85	no
22-Nov-18	0.47	304.71	304.1	no	303.85	no
23-Nov-18	0.46	304.70	304.1	no	303.85	no
24-Nov-18	0.46	304.70	304.1	no	303.85	no
25-Nov-18			304.1		303.85	
26-Nov-18	0.48	304.72	304.1	no	303.85	no
27-Nov-18	0.50	304.74	304.1	no	303.85	no
28-Nov-18	0.52	304.76	304.1	no	303.85	no
29-Nov-18	0.52	304.76	304.1	no	303.85	no
30-Nov-18	0.52	304.76	304.1	no	303.85	no

Table G-9
Threshold Summary - Phase 3 Pond
Mill Creek Aggregates Pit

Date	Gauge Reading Phase 3 Pond (m)	Water Elevation Phase 3 Pond (m ASL)	Early Warning Value (Min) (m ASL)	Exceedance of Early Warning Value	Threshold Value (Min) (m ASL)	Exceedance of Threshold Value
1-Dec-18	0.50	304.74	304.1	no	303.85	no
2-Dec-18			304.1		303.85	
3-Dec-18	0.52	304.76	304.1	no	303.85	no
4-Dec-18	0.52	304.76	304.1	no	303.85	no
5-Dec-18	0.51	304.75	304.1	no	303.85	no
6-Dec-18			304.1		303.85	
7-Dec-18			304.1		303.85	
8-Dec-18			304.1		303.85	
9-Dec-18			304.1		303.85	
10-Dec-18			304.1		303.85	
11-Dec-18			304.1		303.85	
12-Dec-18			304.1		303.85	
13-Dec-18			304.1		303.85	
14-Dec-18			304.1		303.85	
15-Dec-18			304.1		303.85	
16-Dec-18			304.1		303.85	
17-Dec-18			304.1		303.85	
18-Dec-18			304.1		303.85	
19-Dec-18			304.1		303.85	
20-Dec-18			304.1		303.85	
21-Dec-18			304.1		303.85	
22-Dec-18			304.1		303.85	
23-Dec-18			304.1		303.85	
24-Dec-18			304.1		303.85	
25-Dec-18			304.1		303.85	
26-Dec-18			304.1		303.85	
27-Dec-18			304.1		303.85	
28-Dec-18			304.1		303.85	
29-Dec-18			304.1		303.85	
30-Dec-18			304.1		303.85	
31-Dec-18			304.1		303.85	

Table G-10
Threshold Summary - Phase 4 Pond
Mill Creek Aggregates Pit

Date	Gauge Reading Phase 4 Pond (m)	Water Elevation Phase 4 Pond (m ASL)	Early Warning Value (Min) (m ASL)	Exceedance of Early Warning Value	Threshold Value (Min) (m ASL)	Exceedance of Threshold Value
1-Sep-13	0.48	305.24	305.10	no	304.5	no
2-Sep-13	0.48	305.24	305.10	no	304.5	no
3-Sep-13	0.51	305.27	305.10	no	304.5	no
4-Sep-13	0.20	304.96	305.10	yes	304.5	no
5-Sep-13	0.45	305.21	305.10	no	304.5	no
6-Sep-13	0.17	304.93	305.10	yes	304.5	no
7-Sep-13	0.17	304.93	305.10	yes	304.5	no
8-Sep-13	0.17	304.93	305.10	yes	304.5	no
9-Sep-13	0.50	305.26	305.10	no	304.5	no
10-Sep-13	0.25	305.01	305.10	yes	304.5	no
11-Sep-13	0.01	304.77	305.10	yes	304.5	no
12-Sep-13	0.30	305.06	305.10	yes	304.5	no
13-Sep-13	0.50	305.26	305.10	no	304.5	no
14-Sep-13	0.50	305.26	305.10	no	304.5	no
15-Sep-13	0.50	305.26	305.10	no	304.5	no
16-Sep-13	0.49	305.25	305.10	no	304.5	no
17-Sep-13	0.35	305.11	305.10	no	304.5	no
18-Sep-13	0.09	304.85	305.10	yes	304.5	no
19-Sep-13	0.35	305.11	305.10	no	304.5	no
20-Sep-13	0.14	304.90	305.10	yes	304.5	no
21-Sep-13	0.14	304.90	305.10	yes	304.5	no
22-Sep-13	0.14	304.90	305.10	yes	304.5	no
23-Sep-13	0.50	305.26	305.10	no	304.5	no
24-Sep-13	0.49	305.25	305.10	no	304.5	no
25-Sep-13	0.49	305.25	305.10	no	304.5	no
26-Sep-13	0.50	305.26	305.10	no	304.5	no
27-Sep-13	0.31	305.07	305.10	yes	304.5	no
28-Sep-13	0.31	305.07	305.10	yes	304.5	no
29-Sep-13	0.31	305.07	305.10	yes	304.5	no
30-Sep-13	0.44	305.20	305.10	no	304.5	no
1-Oct-13	0.45	305.21	305.10	no	304.5	no
2-Oct-13	0.48	305.24	305.10	no	304.5	no
3-Oct-13	0.30	305.06	305.10	yes	304.5	no
4-Oct-13	0.50	305.26	305.10	no	304.5	no
5-Oct-13	0.50	305.26	305.10	no	304.5	no
6-Oct-13	0.50	305.26	305.10	no	304.5	no
7-Oct-13	0.53	305.29	305.10	no	304.5	no
8-Oct-13	0.48	305.24	305.10	no	304.5	no
9-Oct-13	0.35	305.11	305.10	no	304.5	no
10-Oct-13	0.20	304.96	305.10	yes	304.5	no
11-Oct-13	0.40	305.16	305.10	no	304.5	no
12-Oct-13	0.40	305.16	305.10	no	304.5	no
13-Oct-13	0.40	305.16	305.10	no	304.5	no
14-Oct-13	0.40	305.16	305.10	no	304.5	no
15-Oct-13	0.48	305.24	305.10	no	304.5	no
16-Oct-13	0.37	305.13	305.10	no	304.5	no
17-Oct-13	0.47	305.23	305.10	no	304.5	no
18-Oct-13	0.40	305.16	305.10	no	304.5	no
19-Oct-13	0.40	305.16	305.10	no	304.5	no
20-Oct-13	0.40	305.16	305.10	no	304.5	no
21-Oct-13	0.50	305.26	305.10	no	304.5	no
22-Oct-13	0.50	305.26	305.10	no	304.5	no
23-Oct-13	0.48	305.24	305.10	no	304.5	no
24-Oct-13	0.55	305.31	305.10	no	304.5	no
25-Oct-13	0.53	305.29	305.10	no	304.5	no
26-Oct-13	0.53	305.29	305.10	no	304.5	no
27-Oct-13	0.53	305.29	305.10	no	304.5	no
28-Oct-13	0.52	305.28	305.10	no	304.5	no
29-Oct-13	0.46	305.22	305.10	no	304.5	no
30-Oct-13	0.40	305.16	305.10	no	304.5	no
31-Oct-13	0.49	305.25	305.10	no	304.5	no
1-Nov-13	0.46	305.22	305.10	no	304.5	no
2-Nov-13	0.46	305.22	305.10	no	304.5	no
3-Nov-13	0.46	305.22	305.10	no	304.5	no
4-Nov-13	0.53	305.29	305.10	no	304.5	no
5-Nov-13	0.54	305.30	305.10	no	304.5	no
6-Nov-13	0.53	305.29	305.10	no	304.5	no
7-Nov-13	0.54	305.30	305.10	no	304.5	no
8-Nov-13	0.54	305.30	305.10	no	304.5	no
9-Nov-13	0.54	305.30	305.10	no	304.5	no
10-Nov-13	0.54	305.30	305.10	no	304.5	no
11-Nov-13	0.58	305.34	305.10	no	304.5	no
12-Nov-13	0.55	305.31	305.10	no	304.5	no
13-Nov-13	0.48	305.24	305.10	no	304.5	no
14-Nov-13	0.43	305.19	305.10	no	304.5	no
15-Nov-13	0.45	305.21	305.10	no	304.5	no
16-Nov-13	0.45	305.21	305.10	no	304.5	no
17-Nov-13	0.45	305.21	305.10	no	304.5	no
18-Nov-13	0.52	305.28	305.10	no	304.5	no
19-Nov-13	0.41	305.17	305.10	no	304.5	no
20-Nov-13	0.40	305.16	305.10	no	304.5	no
21-Nov-13	0.40	305.16	305.10	no	304.5	no
22-Nov-13	0.50	305.26	305.10	no	304.5	no
23-Nov-13	0.50	305.26	305.10	no	304.5	no
24-Nov-13	0.50	305.26	305.10	no	304.5	no
25-Nov-13	0.45	305.21	305.10	no	304.5	no
26-Nov-13	0.47	305.23	305.10	no	304.5	no
27-Nov-13	0.50	305.26	305.10	no	304.5	no
28-Nov-13	0.50	305.26	305.10	no	304.5	no
29-Nov-13	0.50	305.26	305.10	no	304.5	no
30-Nov-13	0.50	305.26	305.10	no	304.5	no
1-Dec-13	0.50	305.26	305.10	no	304.5	no
2-Dec-13	0.50	305.26	305.10	no	304.5	no
3-Dec-13	0.50	305.26	305.10	no	304.5	no
4-Dec-13	0.50	305.26	305.10	no	304.5	no
5-Dec-13	0.50	305.26	305.10	no	304.5	no
6-Dec-13	0.50	305.26	305.10	no	304.5	no
7-Dec-13	0.50	305.26	305.10	no	304.5	no
8-Dec-13	0.50	305.26	305.10	no	304.5	no
9-Dec-13	0.50	305.26	305.10	no	304.5	no
10-Dec-13	0.50	305.26	305.10	no	304.5	no
11-Dec-13	0.50	305.26	305.10	no	304.5	no
12-Dec-13	0.50	305.26	305.10	no	304.5	no
13-Dec-13	0.50	305.26	305.10	no	304.5	no
14-Dec-13	0.50	305.26	305.10	no	304.5	no
15-Dec-13	0.50	305.26	305.10	no	304.5	no
16-Dec-13	0.50	305.26	305.10	no	304.5	no
17-Dec-13	0.50	305.26	305.10	no	304.5	no
18-Dec-13	0.50	305.26	305.10	no	304.5	no
19-Dec-13	0.50	305.26	305.10	no	304.5	no
20-Dec-13	0.50	305.26	305.10	no	304.5	no
21-Dec-13	0.50	305.26	305.10	no	304.5	no

Table G-10
Threshold Summary - Phase 4 Pond
Mill Creek Aggregates Pit

Date	Gauge Reading Phase 4 Pond (m)	Water Elevation Phase 4 Pond (m ASL)	Early Warning Value (Min) (m ASL)	Exceedance of Early Warning Value	Threshold Value (Min) (m ASL)	Exceedance of Threshold Value
22-Dec-13	0.50	305.26	305.10	no	304.5	no
23-Dec-13	0.50	305.26	305.10	no	304.5	no
24-Dec-13	0.50	305.26	305.10	no	304.5	no
25-Dec-13	0.50	305.26	305.10	no	304.5	no
26-Dec-13	0.50	305.26	305.10	no	304.5	no
27-Dec-13	0.50	305.26	305.10	no	304.5	no
28-Dec-13	0.50	305.26	305.10	no	304.5	no
29-Dec-13	0.50	305.26	305.10	no	304.5	no
30-Dec-13	0.50	305.26	305.10	no	304.5	no
31-Dec-13	0.50	305.26	305.10	no	304.5	no
1-Jan-14	0.50	305.26	305.10	no	304.5	no
2-Jan-14	0.50	305.26	305.10	no	304.5	no
3-Jan-14	0.50	305.26	305.10	no	304.5	no
4-Jan-14	0.50	305.26	305.10	no	304.5	no
5-Jan-14	0.50	305.26	305.10	no	304.5	no
6-Jan-14	0.50	305.26	305.10	no	304.5	no
7-Jan-14	0.50	305.26	305.10	no	304.5	no
8-Jan-14	0.50	305.26	305.10	no	304.5	no
9-Jan-14	0.50	305.26	305.10	no	304.5	no
10-Jan-14	0.50	305.26	305.10	no	304.5	no
11-Jan-14	0.50	305.26	305.10	no	304.5	no
12-Jan-14	0.50	305.26	305.10	no	304.5	no
13-Jan-14	0.50	305.26	305.10	no	304.5	no
14-Jan-14	0.50	305.26	305.10	no	304.5	no
15-Jan-14	0.50	305.26	305.10	no	304.5	no
16-Jan-14	0.50	305.26	305.10	no	304.5	no
17-Jan-14	0.50	305.26	305.10	no	304.5	no
18-Jan-14	0.50	305.26	305.10	no	304.5	no
19-Jan-14	0.50	305.26	305.10	no	304.5	no
20-Jan-14	0.50	305.26	305.10	no	304.5	no
21-Jan-14	0.50	305.26	305.10	no	304.5	no
22-Jan-14	0.50	305.26	305.10	no	304.5	no
23-Jan-14	0.50	305.26	305.10	no	304.5	no
24-Jan-14	0.50	305.26	305.10	no	304.5	no
25-Jan-14	0.50	305.26	305.10	no	304.5	no
26-Jan-14	0.50	305.26	305.10	no	304.5	no
27-Jan-14	0.50	305.26	305.10	no	304.5	no
28-Jan-14	0.50	305.26	305.10	no	304.5	no
29-Jan-14	0.50	305.26	305.10	no	304.5	no
30-Jan-14	0.50	305.26	305.10	no	304.5	no
31-Jan-14	0.50	305.26	305.10	no	304.5	no
1-Feb-14	0.50	305.26	305.10	no	304.5	no
2-Feb-14	0.50	305.26	305.10	no	304.5	no
3-Feb-14	0.50	305.26	305.10	no	304.5	no
4-Feb-14	0.50	305.26	305.10	no	304.5	no
5-Feb-14	0.50	305.26	305.10	no	304.5	no
6-Feb-14	0.50	305.26	305.10	no	304.5	no
7-Feb-14	0.50	305.26	305.10	no	304.5	no
8-Feb-14	0.50	305.26	305.10	no	304.5	no
9-Feb-14	0.50	305.26	305.10	no	304.5	no
10-Feb-14	0.50	305.26	305.10	no	304.5	no
11-Feb-14	0.50	305.26	305.10	no	304.5	no
12-Feb-14	0.50	305.26	305.10	no	304.5	no
13-Feb-14	0.50	305.26	305.10	no	304.5	no
14-Feb-14	0.50	305.26	305.10	no	304.5	no
15-Feb-14	0.50	305.26	305.10	no	304.5	no
16-Feb-14	0.50	305.26	305.10	no	304.5	no
17-Feb-14	0.50	305.26	305.10	no	304.5	no
18-Feb-14	0.50	305.26	305.10	no	304.5	no
19-Feb-14	0.50	305.26	305.10	no	304.5	no
20-Feb-14	0.50	305.26	305.10	no	304.5	no
21-Feb-14	0.50	305.26	305.10	no	304.5	no
22-Feb-14	0.50	305.26	305.10	no	304.5	no
23-Feb-14	0.50	305.26	305.10	no	304.5	no
24-Feb-14	0.50	305.26	305.10	no	304.5	no
25-Feb-14	0.50	305.26	305.10	no	304.5	no
26-Feb-14	0.50	305.26	305.10	no	304.5	no
27-Feb-14	0.50	305.26	305.10	no	304.5	no
28-Feb-14	0.50	305.26	305.10	no	304.5	no
1-Mar-14	0.50	305.26	305.10	no	304.5	no
2-Mar-14	0.50	305.26	305.10	no	304.5	no
3-Mar-14	0.50	305.26	305.10	no	304.5	no
4-Mar-14	0.50	305.26	305.10	no	304.5	no
5-Mar-14	0.50	305.26	305.10	no	304.5	no
6-Mar-14	0.50	305.26	305.10	no	304.5	no
7-Mar-14	0.50	305.26	305.10	no	304.5	no
8-Mar-14	0.50	305.26	305.10	no	304.5	no
9-Mar-14	0.50	305.26	305.10	no	304.5	no
10-Mar-14	0.50	305.26	305.10	no	304.5	no
11-Mar-14	0.50	305.26	305.10	no	304.5	no
12-Mar-14	0.50	305.26	305.10	no	304.5	no
13-Mar-14	0.50	305.26	305.10	no	304.5	no
14-Mar-14	0.50	305.26	305.10	no	304.5	no
15-Mar-14	0.50	305.26	305.10	no	304.5	no
16-Mar-14	0.50	305.26	305.10	no	304.5	no
17-Mar-14	0.50	305.26	305.10	no	304.5	no
18-Mar-14	0.50	305.26	305.10	no	304.5	no
19-Mar-14	0.50	305.26	305.10	no	304.5	no
20-Mar-14	0.50	305.26	305.10	no	304.5	no
21-Mar-14	0.50	305.26	305.10	no	304.5	no
22-Mar-14	0.50	305.26	305.10	no	304.5	no
23-Mar-14	0.50	305.26	305.10	no	304.5	no
24-Mar-14	0.50	305.26	305.10	no	304.5	no
25-Mar-14	0.50	305.26	305.10	no	304.5	no
26-Mar-14	0.50	305.26	305.10	no	304.5	no
27-Mar-14	0.50	305.26	305.10	no	304.5	no
28-Mar-14	0.50	305.26	305.10	no	304.5	no
29-Mar-14	0.50	305.26	305.10	no	304.5	no
30-Mar-14	0.50	305.26	305.10	no	304.5	no
31-Mar-14	0.50	305.26	305.10	no	304.5	no
1-Apr-14	0.50	305.26	305.10	no	304.5	no
2-Apr-14	0.50	305.26	305.10	no	304.5	no
3-Apr-14	0.50	305.26	305.10	no	304.5	no
4-Apr-14	0.50	305.26	305.10	no	304.5	no
5-Apr-14	0.50	305.26	305.10	no	304.5	no
6-Apr-14	0.50	305.26	305.10	no	304.5	no
7-Apr-14	0.50	305.26	305.10	no	304.5	no
8-Apr-14	0.21	305.51	305.10	no	304.5	no
9-Apr-14	0.23	305.53	305.10	no	304.5	no
10-Apr-14	0.23	305.53	305.10	no	304.5	no
11-Apr-14	0.22	305.52	305.10	no	304.5	no
12-Apr-14	0.22	305.52	305.10	no	304.5	no
13-Apr-14	0.22	305.52	305.10	no	304.5	no

Table G-10
Threshold Summary - Phase 4 Pond
Mill Creek Aggregates Pit

Date	Gauge Reading Phase 4 Pond (m)	Water Elevation Phase 4 Pond (m ASL)	Early Warning Value (Min) (m ASL)	Exceedance of Early Warning Value	Threshold Value (Min) (m ASL)	Exceedance of Threshold Value
14-Apr-14	0.20	305.50	305.10	no	304.5	no
15-Apr-14	0.26	305.56	305.10	no	304.5	no
16-Apr-14	0.21	305.51	305.10	no	304.5	no
17-Apr-14	0.26	305.56	305.10	no	304.5	no
18-Apr-14	0.24	305.54	305.10	no	304.5	no
19-Apr-14	0.24	305.54	305.10	no	304.5	no
20-Apr-14	0.24	305.54	305.10	no	304.5	no
21-Apr-14	0.36	305.66	305.10	no	304.5	no
22-Apr-14	0.26	305.56	305.10	no	304.5	no
23-Apr-14	0.23	305.53	305.10	no	304.5	no
24-Apr-14	0.26	305.56	305.10	no	304.5	no
25-Apr-14	0.05	305.35	305.10	no	304.5	no
26-Apr-14	0.05	305.35	305.10	no	304.5	no
27-Apr-14	0.05	305.35	305.10	no	304.5	no
28-Apr-14	0.06	305.36	305.10	no	304.5	no
29-Apr-14	0.10	305.40	305.10	no	304.5	no
30-Apr-14	0.18	305.48	305.10	no	304.5	no
1-May-14	0.19	305.49	305.10	no	304.5	no
2-May-14	0.15	305.45	305.10	no	304.5	no
3-May-14	0.15	305.45	305.10	no	304.5	no
4-May-14	0.15	305.45	305.10	no	304.5	no
5-May-14	0.08	305.38	305.10	no	304.5	no
6-May-14	0.11	305.41	305.10	no	304.5	no
7-May-14	0.16	305.46	305.10	no	304.5	no
8-May-14	0.19	305.49	305.10	no	304.5	no
9-May-14	0.16	305.46	305.10	no	304.5	no
10-May-14	0.16	305.46	305.10	no	304.5	no
11-May-14	0.16	305.46	305.10	no	304.5	no
12-May-14	0.18	305.48	305.10	no	304.5	no
13-May-14	0.25	305.55	305.10	no	304.5	no
14-May-14	0.20	305.50	305.10	no	304.5	no
15-May-14	0.23	305.53	305.10	no	304.5	no
16-May-14	0.20	305.50	305.10	no	304.5	no
17-May-14	0.20	305.50	305.10	no	304.5	no
18-May-14	0.20	305.50	305.10	no	304.5	no
19-May-14	0.20	305.50	305.10	no	304.5	no
20-May-14	0.23	305.53	305.10	no	304.5	no
21-May-14	0.26	305.56	305.10	no	304.5	no
22-May-14	0.26	305.56	305.10	no	304.5	no
23-May-14	0.31	305.61	305.10	no	304.5	no
24-May-14	0.31	305.61	305.10	no	304.5	no
25-May-14	0.31	305.61	305.10	no	304.5	no
26-May-14	0.29	305.59	305.10	no	304.5	no
27-May-14	0.26	305.56	305.10	no	304.5	no
28-May-14	0.20	305.50	305.10	no	304.5	no
29-May-14	0.18	305.48	305.10	no	304.5	no
30-May-14	0.14	305.44	305.10	no	304.5	no
31-May-14	0.14	305.44	305.10	no	304.5	no
1-Jun-14	0.21	305.51	305.10	no	304.5	no
2-Jun-14	0.21	305.51	305.10	no	304.5	no
3-Jun-14	0.25	305.55	305.10	no	304.5	no
4-Jun-14	0.26	305.56	305.10	no	304.5	no
5-Jun-14	0.28	305.58	305.10	no	304.5	no
6-Jun-14	0.30	305.60	305.10	no	304.5	no
7-Jun-14	0.30	305.60	305.10	no	304.5	no
8-Jun-14	0.30	305.60	305.10	no	304.5	no
9-Jun-14	0.34	305.64	305.10	no	304.5	no
10-Jun-14	0.35	305.65	305.10	no	304.5	no
11-Jun-14	0.32	305.62	305.10	no	304.5	no
12-Jun-14	0.29	305.59	305.10	no	304.5	no
13-Jun-14	0.27	305.57	305.10	no	304.5	no
14-Jun-14	0.27	305.57	305.10	no	304.5	no
15-Jun-14	0.27	305.57	305.10	no	304.5	no
16-Jun-14	0.11	305.41	305.10	no	304.5	no
17-Jun-14	0.15	305.45	305.10	no	304.5	no
18-Jun-14	0.17	305.47	305.10	no	304.5	no
19-Jun-14	0.19	305.49	305.10	no	304.5	no
20-Jun-14	0.19	305.49	305.10	no	304.5	no
21-Jun-14	0.19	305.49	305.10	no	304.5	no
22-Jun-14	0.19	305.49	305.10	no	304.5	no
23-Jun-14	0.19	305.49	305.10	no	304.5	no
24-Jun-14	0.22	305.52	305.10	no	304.5	no
25-Jun-14	0.26	305.56	305.10	no	304.5	no
26-Jun-14	0.26	305.56	305.10	no	304.5	no
27-Jun-14	0.17	305.47	305.10	no	304.5	no
28-Jun-14	0.17	305.47	305.10	no	304.5	no
29-Jun-14	0.17	305.47	305.10	no	304.5	no
30-Jun-14	0.19	305.49	305.10	no	304.5	no
1-Jul-14	0.10	304.93	305.10	yes	304.5	no
2-Jul-14	0.11	304.94	305.10	yes	304.5	no
3-Jul-14	0.45	305.28	305.10	no	304.5	no
4-Jul-14	0.50	305.33	305.10	no	304.5	no
5-Jul-14	0.50	305.33	305.10	no	304.5	no
6-Jul-14	0.50	305.33	305.10	no	304.5	no
7-Jul-14	0.58	305.41	305.10	no	304.5	no
8-Jul-14	0.58	305.41	305.10	no	304.5	no
9-Jul-14	0.60	305.43	305.10	no	304.5	no
10-Jul-14	0.62	305.45	305.10	no	304.5	no
11-Jul-14	0.58	305.41	305.10	no	304.5	no
12-Jul-14	0.58	305.41	305.10	no	304.5	no
13-Jul-14	0.58	305.41	305.10	no	304.5	no
14-Jul-14	0.42	305.25	305.10	no	304.5	no
15-Jul-14	0.34	305.17	305.10	no	304.5	no
16-Jul-14	0.26	305.09	305.10	yes	304.5	no
17-Jul-14	0.22	305.05	305.10	yes	304.5	no
18-Jul-14	0.18	305.01	305.10	yes	304.5	no
19-Jul-14	0.18	305.01	305.10	yes	304.5	no
20-Jul-14	0.18	305.01	305.10	yes	304.5	no
21-Jul-14	0.51	305.34	305.10	no	304.5	no
22-Jul-14	0.40	305.23	305.10	no	304.5	no
23-Jul-14	0.35	305.18	305.10	no	304.5	no
24-Jul-14	0.51	305.34	305.10	no	304.5	no
25-Jul-14	0.48	305.31	305.10	no	304.5	no
26-Jul-14	0.48	305.31	305.10	no	304.5	no
27-Jul-14	0.48	305.31	305.10	no	304.5	no
28-Jul-14	0.64	305.47	305.10	no	304.5	no
29-Jul-14	0.67	305.50	305.10	no	304.5	no
30-Jul-14	0.65	305.48	305.10	no	304.5	no
31-Jul-14	0.60	305.43	305.10	no	304.5	no

Table G-10
Threshold Summary - Phase 4 Pond
Mill Creek Aggregates Pit

Date	Gauge Reading Phase 4 Pond (m)	Water Elevation Phase 4 Pond (m ASL)	Early Warning Value (Min) (m ASL)	Exceedance of Early Warning Value	Threshold Value (Min) (m ASL)	Exceedance of Threshold Value
1-Aug-14	0.59	305.42	305.10	no	304.5	no
2-Aug-14	0.59	305.42	305.10	no	304.5	no
3-Aug-14	0.59	305.42	305.10	no	304.5	no
4-Aug-14	0.59	305.42	305.10	no	304.5	no
5-Aug-14	0.52	305.35	305.10	no	304.5	no
6-Aug-14	0.55	305.38	305.10	no	304.5	no
7-Aug-14	0.58	305.41	305.10	no	304.5	no
8-Aug-14	0.56	305.39	305.10	no	304.5	no
9-Aug-14	0.56	305.39	305.10	no	304.5	no
10-Aug-14	0.56	305.39	305.10	no	304.5	no
11-Aug-14	0.61	305.44	305.10	no	304.5	no
12-Aug-14	0.62	305.45	305.10	no	304.5	no
13-Aug-14	0.62	305.45	305.10	no	304.5	no
14-Aug-14	0.64	305.47	305.10	no	304.5	no
15-Aug-14	0.66	305.49	305.10	no	304.5	no
16-Aug-14	0.66	305.49	305.10	no	304.5	no
17-Aug-14	0.66	305.49	305.10	no	304.5	no
18-Aug-14	0.70	305.53	305.10	no	304.5	no
19-Aug-14	0.67	305.50	305.10	no	304.5	no
20-Aug-14	0.66	305.49	305.10	no	304.5	no
21-Aug-14	0.70	305.53	305.10	no	304.5	no
22-Aug-14	0.67	305.50	305.10	no	304.5	no
23-Aug-14	0.67	305.50	305.10	no	304.5	no
24-Aug-14	0.67	305.50	305.10	no	304.5	no
25-Aug-14	0.66	305.49	305.10	no	304.5	no
26-Aug-14	0.60	305.43	305.10	no	304.5	no
27-Aug-14	0.62	305.45	305.10	no	304.5	no
28-Aug-14	0.70	305.53	305.10	no	304.5	no
29-Aug-14	0.60	305.43	305.10	no	304.5	no
30-Aug-14	0.60	305.43	305.10	no	304.5	no
31-Aug-14	0.60	305.43	305.10	no	304.5	no
1-Sep-14	0.79	305.62	305.10	no	304.5	no
2-Sep-14	0.79	305.62	305.10	no	304.5	no
3-Sep-14	0.69	305.52	305.10	no	304.5	no
4-Sep-14	0.66	305.49	305.10	no	304.5	no
5-Sep-14	0.67	305.50	305.10	no	304.5	no
6-Sep-14	0.67	305.50	305.10	no	304.5	no
7-Sep-14	0.67	305.50	305.10	no	304.5	no
8-Sep-14	0.82	305.65	305.10	no	304.5	no
9-Sep-14	0.78	305.61	305.10	no	304.5	no
10-Sep-14	0.77	305.60	305.10	no	304.5	no
11-Sep-14	0.81	305.64	305.10	no	304.5	no
12-Sep-14	0.79	305.62	305.10	no	304.5	no
13-Sep-14	0.79	305.62	305.10	no	304.5	no
14-Sep-14	0.79	305.62	305.10	no	304.5	no
15-Sep-14	0.80	305.63	305.10	no	304.5	no
16-Sep-14	0.82	305.65	305.10	no	304.5	no
17-Sep-14	0.77	305.60	305.10	no	304.5	no
18-Sep-14	0.69	305.52	305.10	no	304.5	no
19-Sep-14	0.73	305.56	305.10	no	304.5	no
20-Sep-14	0.73	305.56	305.10	no	304.5	no
21-Sep-14	0.73	305.56	305.10	no	304.5	no
22-Sep-14	0.86	305.69	305.10	no	304.5	no
23-Sep-14	0.73	305.56	305.10	no	304.5	no
24-Sep-14	0.58	305.41	305.10	no	304.5	no
25-Sep-14	0.48	305.31	305.10	no	304.5	no
26-Sep-14	0.64	305.47	305.10	no	304.5	no
27-Sep-14	0.64	305.47	305.10	no	304.5	no
28-Sep-14	0.64	305.47	305.10	no	304.5	no
29-Sep-14	0.85	305.68	305.10	no	304.5	no
30-Sep-14	0.76	305.59	305.10	no	304.5	no
1-Oct-14	0.64	305.47	305.10	no	304.5	no
2-Oct-14	0.66	305.49	305.10	no	304.5	no
3-Oct-14	0.59	305.42	305.10	no	304.5	no
4-Oct-14	0.59	305.42	305.10	no	304.5	no
5-Oct-14	0.59	305.42	305.10	no	304.5	no
6-Oct-14	0.80	305.63	305.10	no	304.5	no
7-Oct-14	0.72	305.55	305.10	no	304.5	no
8-Oct-14	0.65	305.48	305.10	no	304.5	no
9-Oct-14	0.69	305.52	305.10	no	304.5	no
10-Oct-14	0.64	305.47	305.10	no	304.5	no
11-Oct-14	0.64	305.47	305.10	no	304.5	no
12-Oct-14	0.64	305.47	305.10	no	304.5	no
13-Oct-14	0.64	305.47	305.10	no	304.5	no
14-Oct-14	0.85	305.68	305.10	no	304.5	no
15-Oct-14	0.78	305.61	305.10	no	304.5	no
16-Oct-14	0.67	305.50	305.10	no	304.5	no
17-Oct-14	0.65	305.48	305.10	no	304.5	no
18-Oct-14	0.65	305.48	305.10	no	304.5	no
19-Oct-14	0.65	305.48	305.10	no	304.5	no
20-Oct-14	0.78	305.61	305.10	no	304.5	no
21-Oct-14	0.71	305.54	305.10	no	304.5	no
22-Oct-14	0.63	305.46	305.10	no	304.5	no
23-Oct-14	0.64	305.47	305.10	no	304.5	no
24-Oct-14	0.64	305.47	305.10	no	304.5	no
25-Oct-14	0.64	305.47	305.10	no	304.5	no
26-Oct-14	0.64	305.47	305.10	no	304.5	no
27-Oct-14	0.76	305.59	305.10	no	304.5	no
28-Oct-14	0.68	305.51	305.10	no	304.5	no
29-Oct-14	0.63	305.46	305.10	no	304.5	no
30-Oct-14	0.67	305.50	305.10	no	304.5	no
31-Oct-14	0.71	305.54	305.10	no	304.5	no
1-Nov-14	0.71	305.54	305.10	no	304.5	no
2-Nov-14	0.71	305.54	305.10	no	304.5	no
3-Nov-14	0.83	305.66	305.10	no	304.5	no
4-Nov-14	0.75	305.58	305.10	no	304.5	no
5-Nov-14	0.54	305.37	305.10	no	304.5	no
6-Nov-14	0.65	305.48	305.10	no	304.5	no
7-Nov-14	0.67	305.50	305.10	no	304.5	no
8-Nov-14	0.67	305.50	305.10	no	304.5	no
9-Nov-14	0.67	305.50	305.10	no	304.5	no
10-Nov-14	0.80	305.63	305.10	no	304.5	no
11-Nov-14	0.74	305.57	305.10	no	304.5	no
12-Nov-14	0.65	305.48	305.10	no	304.5	no
13-Nov-14	0.60	305.43	305.10	no	304.5	no
14-Nov-14	0.53	305.36	305.10	no	304.5	no
15-Nov-14	0.53	305.36	305.10	no	304.5	no
16-Nov-14	0.53	305.36	305.10	no	304.5	no
17-Nov-14	0.53	305.36	305.10	no	304.5	no
18-Nov-14	0.53	305.36	305.10	no	304.5	no
19-Nov-14	0.53	305.36	305.10	no	304.5	no
20-Nov-14	0.53	305.36	305.10	no	304.5	no

Table G-10
Threshold Summary - Phase 4 Pond
Mill Creek Aggregates Pit

Date	Gauge Reading Phase 4 Pond (m)	Water Elevation Phase 4 Pond (m ASL)	Early Warning Value (Min) (m ASL)	Exceedance of Early Warning Value	Threshold Value (Min) (m ASL)	Exceedance of Threshold Value
21-Nov-14	0.53	305.36	305.10	no	304.5	no
22-Nov-14	0.53	305.36	305.10	no	304.5	no
23-Nov-14	0.53	305.36	305.10	no	304.5	no
24-Nov-14	0.53	305.36	305.10	no	304.5	no
25-Nov-14	0.53	305.36	305.10	no	304.5	no
26-Nov-14	0.53	305.36	305.10	no	304.5	no
27-Nov-14	0.53	305.36	305.10	no	304.5	no
28-Nov-14	0.53	305.36	305.10	no	304.5	no
29-Nov-14	0.53	305.36	305.10	no	304.5	no
30-Nov-14	0.53	305.36	305.10	no	304.5	no
1-Dec-14	0.53	305.36	305.10	no	304.5	no
2-Dec-14	0.53	305.36	305.10	no	304.5	no
3-Dec-14	0.53	305.36	305.10	no	304.5	no
4-Dec-14	0.53	305.36	305.10	no	304.5	no
5-Dec-14	0.53	305.36	305.10	no	304.5	no
6-Dec-14	0.53	305.36	305.10	no	304.5	no
7-Dec-14	0.53	305.36	305.10	no	304.5	no
8-Dec-14	0.53	305.36	305.10	no	304.5	no
9-Dec-14	0.53	305.36	305.10	no	304.5	no
10-Dec-14	0.53	305.36	305.10	no	304.5	no
11-Dec-14	0.53	305.36	305.10	no	304.5	no
12-Dec-14	0.53	305.36	305.10	no	304.5	no
13-Dec-14	0.53	305.36	305.10	no	304.5	no
14-Dec-14	0.53	305.36	305.10	no	304.5	no
15-Dec-14	0.53	305.36	305.10	no	304.5	no
16-Dec-14	0.53	305.36	305.10	no	304.5	no
17-Dec-14	0.53	305.36	305.10	no	304.5	no
18-Dec-14	0.80	305.63	305.10	no	304.5	no
19-Dec-14	0.80	305.63	305.10	no	304.5	no
20-Dec-14	0.80	305.63	305.10	no	304.5	no
21-Dec-14	0.80	305.63	305.10	no	304.5	no
22-Dec-14	0.80	305.63	305.10	no	304.5	no
23-Dec-14	0.80	305.63	305.10	no	304.5	no
24-Dec-14	0.80	305.63	305.10	no	304.5	no
25-Dec-14	0.80	305.63	305.10	no	304.5	no
26-Dec-14	0.80	305.63	305.10	no	304.5	no
27-Dec-14	0.80	305.63	305.10	no	304.5	no
28-Dec-14	0.80	305.63	305.10	no	304.5	no
29-Dec-14	0.80	305.63	305.10	no	304.5	no
30-Dec-14	0.80	305.63	305.10	no	304.5	no
31-Dec-14	0.80	305.63	305.10	no	304.5	no
1-Jan-15			305.10		304.5	
2-Jan-15			305.10		304.5	
3-Jan-15			305.10		304.5	
4-Jan-15			305.10		304.5	
5-Jan-15			305.10		304.5	
6-Jan-15			305.10		304.5	
7-Jan-15			305.10		304.5	
8-Jan-15			305.10		304.5	
9-Jan-15			305.10		304.5	
10-Jan-15			305.10		304.5	
11-Jan-15			305.10		304.5	
12-Jan-15			305.10		304.5	
13-Jan-15			305.10		304.5	
14-Jan-15			305.10		304.5	
15-Jan-15			305.10		304.5	
16-Jan-15			305.10		304.5	
17-Jan-15			305.10		304.5	
18-Jan-15			305.10		304.5	
19-Jan-15			305.10		304.5	
20-Jan-15			305.10		304.5	
21-Jan-15			305.10		304.5	
22-Jan-15			305.10		304.5	
23-Jan-15			305.10		304.5	
24-Jan-15			305.10		304.5	
25-Jan-15			305.10		304.5	
26-Jan-15			305.10		304.5	
27-Jan-15			305.10		304.5	
28-Jan-15			305.10		304.5	
29-Jan-15			305.10		304.5	
30-Jan-15			305.10		304.5	
31-Jan-15			305.10		304.5	
1-Feb-15			305.10		304.5	
2-Feb-15			305.10		304.5	
3-Feb-15			305.10		304.5	
4-Feb-15			305.10		304.5	
5-Feb-15			305.10		304.5	
6-Feb-15			305.10		304.5	
7-Feb-15			305.10		304.5	
8-Feb-15			305.10		304.5	
9-Feb-15			305.10		304.5	
10-Feb-15			305.10		304.5	
11-Feb-15			305.10		304.5	
12-Feb-15			305.10		304.5	
13-Feb-15			305.10		304.5	
14-Feb-15			305.10		304.5	
15-Feb-15			305.10		304.5	
16-Feb-15			305.10		304.5	
17-Feb-15			305.10		304.5	
18-Feb-15			305.10		304.5	
19-Feb-15			305.10		304.5	
20-Feb-15			305.10		304.5	
21-Feb-15			305.10		304.5	
22-Feb-15			305.10		304.5	
23-Feb-15			305.10		304.5	
24-Feb-15			305.10		304.5	
25-Feb-15			305.10		304.5	
26-Feb-15			305.10		304.5	
27-Feb-15			305.10		304.5	
28-Feb-15			305.10		304.5	
1-Mar-15			305.10		304.5	
2-Mar-15			305.10		304.5	
3-Mar-15			305.10		304.5	
4-Mar-15			305.10		304.5	
5-Mar-15			305.10		304.5	
6-Mar-15			305.10		304.5	
7-Mar-15			305.10		304.5	
8-Mar-15			305.10		304.5	
9-Mar-15			305.10		304.5	
10-Mar-15			305.10		304.5	
11-Mar-15			305.10		304.5	
12-Mar-15			305.10		304.5	
13-Mar-15			305.10		304.5	
14-Mar-15			305.10		304.5	
15-Mar-15			305.10		304.5	
16-Mar-15			305.10		304.5	

Table G-10
Threshold Summary - Phase 4 Pond
Mill Creek Aggregates Pit

Date	Gauge Reading Phase 4 Pond (m)	Water Elevation Phase 4 Pond (m ASL)	Early Warning Value (Min) (m ASL)	Exceedance of Early Warning Value	Threshold Value (Min) (m ASL)	Exceedance of Threshold Value
17-Mar-15			305.10		304.5	
18-Mar-15			305.10		304.5	
19-Mar-15			305.10		304.5	
20-Mar-15			305.10		304.5	
21-Mar-15			305.10		304.5	
22-Mar-15			305.10		304.5	
23-Mar-15			305.10		304.5	
24-Mar-15			305.10		304.5	
25-Mar-15			305.10		304.5	
26-Mar-15			305.10		304.5	
27-Mar-15			305.10		304.5	
28-Mar-15			305.10		304.5	
29-Mar-15			305.10		304.5	
30-Mar-15			305.10		304.5	
31-Mar-15			305.10		304.5	
1-Apr-15			305.10		304.5	
2-Apr-15			305.10		304.5	
3-Apr-15			305.10		304.5	
4-Apr-15			305.10		304.5	
5-Apr-15			305.10		304.5	
6-Apr-15			305.10		304.5	
7-Apr-15			305.10		304.5	
8-Apr-15			305.10		304.5	
9-Apr-15			305.10		304.5	
10-Apr-15			305.10		304.5	
11-Apr-15			305.10		304.5	
12-Apr-15			305.10		304.5	
13-Apr-15			305.10		304.5	
14-Apr-15			305.10		304.5	
15-Apr-15			305.10		304.5	
16-Apr-15			305.10		304.5	
17-Apr-15	0.40	305.83	305.10	no	304.5	no
18-Apr-15	0.40	305.83	305.10	no	304.5	no
19-Apr-15	0.40	305.83	305.10	no	304.5	no
20-Apr-15	0.30	305.73	305.10	no	304.5	no
21-Apr-15	0.30	305.73	305.10	no	304.5	no
22-Apr-15	0.30	305.73	305.10	no	304.5	no
23-Apr-15	0.30	305.73	305.10	no	304.5	no
24-Apr-15	0.28	305.71	305.10	no	304.5	no
25-Apr-15	0.28	305.71	305.10	no	304.5	no
26-Apr-15	0.28	305.71	305.10	no	304.5	no
27-Apr-15	0.30	305.73	305.10	no	304.5	no
28-Apr-15	0.26	305.69	305.10	no	304.5	no
29-Apr-15	0.24	305.67	305.10	no	304.5	no
30-Apr-15	0.24	305.67	305.10	no	304.5	no
1-May-15	0.26	305.69	305.10	no	304.5	no
2-May-15	0.26	305.69	305.10	no	304.5	no
3-May-15	0.26	305.69	305.10	no	304.5	no
4-May-15	0.00	305.43	305.10	no	304.5	no
5-May-15	0.00	305.43	305.10	no	304.5	no
6-May-15	0.08	305.51	305.10	no	304.5	no
7-May-15	0.09	305.52	305.10	no	304.5	no
8-May-15	0.19	305.62	305.10	no	304.5	no
9-May-15	0.19	305.62	305.10	no	304.5	no
10-May-15	0.19	305.62	305.10	no	304.5	no
11-May-15	0.25	305.68	305.10	no	304.5	no
12-May-15	0.23	305.66	305.10	no	304.5	no
13-May-15	0.15	305.58	305.10	no	304.5	no
14-May-15	0.19	305.62	305.10	no	304.5	no
15-May-15	0.19	305.62	305.10	no	304.5	no
16-May-15	0.19	305.62	305.10	no	304.5	no
17-May-15	0.19	305.62	305.10	no	304.5	no
18-May-15	0.19	305.62	305.10	no	304.5	no
19-May-15	0.30	305.73	305.10	no	304.5	no
20-May-15	0.26	305.69	305.10	no	304.5	no
21-May-15	0.23	305.66	305.10	no	304.5	no
22-May-15	0.20	305.63	305.10	no	304.5	no
23-May-15	0.20	305.63	305.10	no	304.5	no
24-May-15	0.20	305.63	305.10	no	304.5	no
25-May-15	0.26	305.69	305.10	no	304.5	no
26-May-15	0.20	305.63	305.10	no	304.5	no
27-May-15	0.20	305.63	305.10	no	304.5	no
28-May-15	0.21	305.64	305.10	no	304.5	no
29-May-15	0.17	305.60	305.10	no	304.5	no
30-May-15	0.17	305.60	305.10	no	304.5	no
31-May-15	0.17	305.60	305.10	no	304.5	no
1-Jun-15	0.27	305.70	305.10	no	304.5	no
2-Jun-15	0.20	305.63	305.10	no	304.5	no
3-Jun-15	0.20	305.63	305.10	no	304.5	no
4-Jun-15	0.20	305.63	305.10	no	304.5	no
5-Jun-15	0.25	305.68	305.10	no	304.5	no
6-Jun-15			305.10		304.5	
7-Jun-15			305.10		304.5	
8-Jun-15	0.29	305.72	305.10	no	304.5	no
9-Jun-15	0.22	305.65	305.10	no	304.5	no
10-Jun-15	0.27	305.70	305.10	no	304.5	no
11-Jun-15	0.24	305.67	305.10	no	304.5	no
12-Jun-15	0.24	305.67	305.10	no	304.5	no
13-Jun-15			305.10		304.5	
14-Jun-15			305.10		304.5	
15-Jun-15	0.30	305.73	305.10	no	304.5	no
16-Jun-15	0.24	305.67	305.10	no	304.5	no
17-Jun-15	0.27	305.70	305.10	no	304.5	no
18-Jun-15	0.24	305.67	305.10	no	304.5	no
19-Jun-15	0.22	305.65	305.10	no	304.5	no
20-Jun-15			305.10		304.5	
21-Jun-15			305.10		304.5	
22-Jun-15	0.30	305.73	305.10	no	304.5	no
23-Jun-15	0.32	305.75	305.10	no	304.5	no
24-Jun-15	0.28	305.71	305.10	no	304.5	no
25-Jun-15	0.23	305.66	305.10	no	304.5	no
26-Jun-15	0.22	305.65	305.10	no	304.5	no
27-Jun-15			305.10		304.5	
28-Jun-15			305.10		304.5	
29-Jun-15	0.28	305.71	305.10	no	304.5	no
30-Jun-15	0.29	305.72	305.10	no	304.5	no
1-Jul-15			305.10		304.5	
2-Jul-15	0.30	305.73	305.10	no	304.5	no
3-Jul-15	0.24	305.67	305.10	no	304.5	no
4-Jul-15			305.10		304.5	
5-Jul-15			305.10		304.5	
6-Jul-15	0.31	305.74	305.10	no	304.5	no
7-Jul-15	0.30	305.73	305.10	no	304.5	no
8-Jul-15	0.29	305.72	305.10	no	304.5	no

Table G-10
Threshold Summary - Phase 4 Pond
Mill Creek Aggregates Pit

Date	Gauge Reading Phase 4 Pond (m)	Water Elevation Phase 4 Pond (m ASL)	Early Warning Value (Min) (m ASL)	Exceedance of Early Warning Value	Threshold Value (Min) (m ASL)	Exceedance of Threshold Value
9-Jul-15	0.27	305.70	305.10	no	304.5	no
10-Jul-15	0.27	305.70	305.10	no	304.5	no
11-Jul-15			305.10		304.5	
12-Jul-15			305.10		304.5	
13-Jul-15	0.36	305.79	305.10	no	304.5	no
14-Jul-15	0.30	305.73	305.10	no	304.5	no
15-Jul-15	0.26	305.69	305.10	no	304.5	no
16-Jul-15	0.19	305.62	305.10	no	304.5	no
17-Jul-15	0.20	305.63	305.10	no	304.5	no
18-Jul-15			305.10		304.5	
19-Jul-15			305.10		304.5	
20-Jul-15	0.26	305.69	305.10	no	304.5	no
21-Jul-15	0.21	305.64	305.10	no	304.5	no
22-Jul-15	0.19	305.62	305.10	no	304.5	no
23-Jul-15	0.17	305.60	305.10	no	304.5	no
24-Jul-15	0.10	305.53	305.10	no	304.5	no
25-Jul-15			305.10		304.5	
26-Jul-15			305.10		304.5	
27-Jul-15	0.20	305.63	305.10	no	304.5	no
28-Jul-15	0.26	305.69	305.10	no	304.5	no
29-Jul-15	0.20	305.63	305.10	no	304.5	no
30-Jul-15	0.16	305.59	305.10	no	304.5	no
31-Jul-15	0.32	305.75	305.10	no	304.5	no
1-Aug-15			305.10		304.5	
2-Aug-15			305.10		304.5	
3-Aug-15			305.10		304.5	
4-Aug-15	0.28	305.71	305.10	no	304.5	no
5-Aug-15	0.26	305.69	305.10	no	304.5	no
6-Aug-15	0.23	305.66	305.10	no	304.5	no
7-Aug-15	0.21	305.64	305.10	no	304.5	no
8-Aug-15			305.10		304.5	
9-Aug-15			305.10		304.5	
10-Aug-15	0.26	305.69	305.10	no	304.5	no
11-Aug-15	0.22	305.65	305.10	no	304.5	no
12-Aug-15	0.16	305.59	305.10	no	304.5	no
13-Aug-15	0.10	305.53	305.10	no	304.5	no
14-Aug-15	0.11	305.54	305.10	no	304.5	no
15-Aug-15			305.10		304.5	
16-Aug-15			305.10		304.5	
17-Aug-15	0.33	305.76	305.10	no	304.5	no
18-Aug-15	0.27	305.70	305.10	no	304.5	no
19-Aug-15	0.20	305.63	305.10	no	304.5	no
20-Aug-15	0.17	305.60	305.10	no	304.5	no
21-Aug-15	0.13	305.56	305.10	no	304.5	no
22-Aug-15			305.10		304.5	
23-Aug-15			305.10		304.5	
24-Aug-15	0.18	305.61	305.10	no	304.5	no
25-Aug-15	0.24	305.67	305.10	no	304.5	no
26-Aug-15	0.22	305.65	305.10	no	304.5	no
27-Aug-15	0.20	305.63	305.10	no	304.5	no
28-Aug-15	0.17	305.60	305.10	no	304.5	no
29-Aug-15			305.10		304.5	
30-Aug-15			305.10		304.5	
31-Aug-15	0.25	305.68	305.10	no	304.5	no
1-Sep-15	0.21	305.64	305.10	no	304.5	no
2-Sep-15	0.18	305.61	305.10	no	304.5	no
3-Sep-15	0.11	305.54	305.10	no	304.5	no
4-Sep-15	0.16	305.59	305.10	no	304.5	no
5-Sep-15			305.10		304.5	
6-Sep-15			305.10		304.5	
7-Sep-15			305.10		304.5	
8-Sep-15	0.26	305.69	305.10	no	304.5	no
9-Sep-15	0.22	305.65	305.10	no	304.5	no
10-Sep-15	0.19	305.62	305.10	no	304.5	no
11-Sep-15	0.23	305.66	305.10	no	304.5	no
12-Sep-15			305.10		304.5	
13-Sep-15			305.10		304.5	
14-Sep-15	0.24	305.67	305.10	no	304.5	no
15-Sep-15	0.29	305.72	305.10	no	304.5	no
16-Sep-15	0.24	305.67	305.10	no	304.5	no
17-Sep-15	0.17	305.60	305.10	no	304.5	no
18-Sep-15	0.15	305.58	305.10	no	304.5	no
19-Sep-15			305.10		304.5	
20-Sep-15			305.10		304.5	
21-Sep-15	0.15	305.58	305.10	no	304.5	no
22-Sep-15	0.10	305.53	305.10	no	304.5	no
23-Sep-15	0.05	305.48	305.10	no	304.5	no
24-Sep-15	0.20	305.43	305.10	no	304.5	no
25-Sep-15	0.25	305.48	305.10	no	304.5	no
26-Sep-15			305.10		304.5	
27-Sep-15			305.10		304.5	
28-Sep-15	0.38	305.61	305.10	no	304.5	no
29-Sep-15	0.37	305.60	305.10	no	304.5	no
30-Sep-15	0.40	305.63	305.10	no	304.5	no

Table G-10
Threshold Summary - Phase 4 Pond
Mill Creek Aggregates Pit

Date	Gauge Reading Phase 4 Pond (m)	Water Elevation Phase 4 Pond (m ASL)	Early Warning Value (Min) (m ASL)	Exceedance of Early Warning Value	Threshold Value (Min) (m ASL)	Exceedance of Threshold Value
1-Oct-15	0.42	305.65	305.10	no	304.5	no
2-Oct-15	0.46	305.69	305.10	no	304.5	no
3-Oct-15			305.10		304.5	
4-Oct-15			305.10		304.5	
5-Oct-15	0.49	305.72	305.10	no	304.5	no
6-Oct-15	0.40	305.63	305.10	no	304.5	no
7-Oct-15	0.36	305.59	305.10	no	304.5	no
8-Oct-15	0.38	305.61	305.10	no	304.5	no
9-Oct-15	0.45	305.68	305.10	no	304.5	no
10-Oct-15			305.10		304.5	
11-Oct-15			305.10		304.5	
12-Oct-15			305.10		304.5	
13-Oct-15	0.54	305.77	305.10	no	304.5	no
14-Oct-15	0.47	305.70	305.10	no	304.5	no
15-Oct-15	0.39	305.62	305.10	no	304.5	no
16-Oct-15	0.39	305.62	305.10	no	304.5	no
17-Oct-15			305.10		304.5	
18-Oct-15			305.10		304.5	
19-Oct-15	0.35	305.58	305.10	no	304.5	no
20-Oct-15	0.33	305.56	305.10	no	304.5	no
21-Oct-15	0.32	305.55	305.10	no	304.5	no
22-Oct-15	0.30	305.53	305.10	no	304.5	no
23-Oct-15	0.30	305.53	305.10	no	304.5	no
24-Oct-15			305.10		304.5	
25-Oct-15			305.10		304.5	
26-Oct-15	0.30	305.53	305.10	no	304.5	no
27-Oct-15	0.07	305.55	305.10	no	304.5	no
28-Oct-15	0.09	305.57	305.10	no	304.5	no
29-Oct-15	0.11	305.59	305.10	no	304.5	no
30-Oct-15	0.11	305.59	305.10	no	304.5	no
31-Oct-15			305.10		304.5	
1-Nov-15			305.10		304.5	
2-Nov-15	0.10	305.58	305.10	no	304.5	no
3-Nov-15	0.10	305.58	305.10	no	304.5	no
4-Nov-15	0.09	305.57	305.10	no	304.5	no
5-Nov-15	0.09	305.57	305.10	no	304.5	no
6-Nov-15	0.09	305.57	305.10	no	304.5	no
7-Nov-15			305.10		304.5	
8-Nov-15			305.10		304.5	
9-Nov-15	0.08	305.56	305.10	no	304.5	no
10-Nov-15	0.07	305.55	305.10	no	304.5	no
11-Nov-15	0.07	305.55	305.10	no	304.5	no
12-Nov-15	0.08	305.56	305.10	no	304.5	no
13-Nov-15	0.08	305.56	305.10	no	304.5	no
14-Nov-15			305.10		304.5	
15-Nov-15			305.10		304.5	
16-Nov-15	0.14	305.62	305.10	no	304.5	no
17-Nov-15	0.10	305.58	305.10	no	304.5	no
18-Nov-15	0.11	305.59	305.10	no	304.5	no
19-Nov-15	0.11	305.59	305.10	no	304.5	no
20-Nov-15	0.11	305.59	305.10	no	304.5	no
21-Nov-15			305.10		304.5	
22-Nov-15			305.10		304.5	
23-Nov-15	0.20	305.68	305.10	no	304.5	no
24-Nov-15	0.22	305.70	305.10	no	304.5	no
25-Nov-15	0.23	305.71	305.10	no	304.5	no
26-Nov-15	0.24	305.72	305.10	no	304.5	no
27-Nov-15	0.26	305.74	305.10	no	304.5	no
28-Nov-15			305.10		304.5	
29-Nov-15			305.10		304.5	
30-Nov-15	0.29	305.77	305.10	no	304.5	no
1-Dec-15	0.30	305.78	305.10	no	304.5	no
2-Dec-15	0.31	305.79	305.10	no	304.5	no
3-Dec-15	0.33	305.81	305.10	no	304.5	no
4-Dec-15	0.34	305.82	305.10	no	304.5	no
5-Dec-15			305.10		304.5	
6-Dec-15			305.10		304.5	
7-Dec-15	0.38	305.86	305.10	no	304.5	no
8-Dec-15	0.38	305.86	305.10	no	304.5	no
9-Dec-15	0.39	305.87	305.10	no	304.5	no
10-Dec-15	0.39	305.87	305.10	no	304.5	no
11-Dec-15	0.40	305.88	305.10	no	304.5	no
12-Dec-15			305.10		304.5	
13-Dec-15			305.10		304.5	
14-Dec-15	0.42	305.90	305.10	no	304.5	no
15-Dec-15	0.42	305.90	305.10	no	304.5	no
16-Dec-15	0.43	305.91	305.10	no	304.5	no
17-Dec-15	0.44	305.92	305.10	no	304.5	no
18-Dec-15	0.44	305.92	305.10	no	304.5	no
19-Dec-15			305.10		304.5	
20-Dec-15			305.10		304.5	
21-Dec-15	0.39	305.87	305.10	no	304.5	no
22-Dec-15	0.39	305.87	305.10	no	304.5	no
23-Dec-15	0.39	305.87	305.10	no	304.5	no
24-Dec-15			305.10		304.5	
25-Dec-15			305.10		304.5	

Table G-10
Threshold Summary - Phase 4 Pond
Mill Creek Aggregates Pit

Date	Gauge Reading Phase 4 Pond (m)	Water Elevation Phase 4 Pond (m ASL)	Early Warning Value (Min) (m ASL)	Exceedance of Early Warning Value	Threshold Value (Min) (m ASL)	Exceedance of Threshold Value
26-Dec-15			305.10		304.5	
27-Dec-15			305.10		304.5	
28-Dec-15			305.10		304.5	
29-Dec-15	0.37	305.85	305.10	no	304.5	no
30-Dec-15			305.10		304.5	
31-Dec-15			305.10		304.5	
1-Jan-16			305.10		304.5	
2-Jan-16			305.10		304.5	
3-Jan-16			305.10		304.5	
4-Jan-16			305.10		304.5	
5-Jan-16			305.10		304.5	
6-Jan-16			305.10		304.5	
7-Jan-16			305.10		304.5	
8-Jan-16			305.10		304.5	
9-Jan-16			305.10		304.5	
10-Jan-16			305.10		304.5	
11-Jan-16			305.10		304.5	
12-Jan-16			305.10		304.5	
13-Jan-16			305.10		304.5	
14-Jan-16			305.10		304.5	
15-Jan-16			305.10		304.5	
16-Jan-16			305.10		304.5	
17-Jan-16			305.10		304.5	
18-Jan-16			305.10		304.5	
19-Jan-16			305.10		304.5	
20-Jan-16			305.10		304.5	
21-Jan-16			305.10		304.5	
22-Jan-16			305.10		304.5	
23-Jan-16			305.10		304.5	
24-Jan-16			305.10		304.5	
25-Jan-16			305.10		304.5	
26-Jan-16			305.10		304.5	
27-Jan-16			305.10		304.5	
28-Jan-16			305.10		304.5	
29-Jan-16			305.10		304.5	
30-Jan-16			305.10		304.5	
31-Jan-16			305.10		304.5	
1-Feb-16			305.10		304.5	
2-Feb-16			305.10		304.5	
3-Feb-16	0.52	305.80	305.10	no	304.5	no
4-Feb-16	0.51	305.79	305.10	no	304.5	no
5-Feb-16	0.50	305.78	305.10	no	304.5	no
6-Feb-16			305.10		304.5	
7-Feb-16			305.10		304.5	
8-Feb-16	0.49	305.77	305.10	no	304.5	no
9-Feb-16	0.48	305.76	305.10	no	304.5	no
10-Feb-16	0.46	305.74	305.10	no	304.5	no
11-Feb-16	0.45	305.73	305.10	no	304.5	no
12-Feb-16	0.43	305.71	305.10	no	304.5	no
13-Feb-16	0.40	305.68	305.10	no	304.5	no
14-Feb-16	0.39	305.67	305.10	no	304.5	no
15-Feb-16	0.38	305.66	305.10	no	304.5	no
16-Feb-16	0.37	305.65	305.10	no	304.5	no
17-Feb-16	0.36	305.64	305.10	no	304.5	no
18-Feb-16	0.35	305.63	305.10	no	304.5	no
19-Feb-16	0.35	305.63	305.10	no	304.5	no
20-Feb-16			305.10		304.5	
21-Feb-16			305.10		304.5	
22-Feb-16	0.43	305.71	305.10	no	304.5	no
23-Feb-16	0.41	305.69	305.10	no	304.5	no
24-Feb-16	0.40	305.68	305.10	no	304.5	no
25-Feb-16	0.39	305.67	305.10	no	304.5	no
26-Feb-16	0.39	305.67	305.10	no	304.5	no
27-Feb-16			305.10		304.5	
28-Feb-16			305.10		304.5	
29-Feb-16	0.48	305.76	305.10	no	304.5	no
1-Mar-16	0.50	305.78	305.10	no	304.5	no
2-Mar-16	0.48	305.76	305.10	no	304.5	no
3-Mar-16	0.47	305.75	305.10	no	304.5	no
4-Mar-16	0.46	305.74	305.10	no	304.5	no
5-Mar-16			305.10		304.5	
6-Mar-16			305.10		304.5	
7-Mar-16	0.42	305.70	305.10	no	304.5	no
8-Mar-16	0.42	305.70	305.10	no	304.5	no
9-Mar-16	0.42	305.70	305.10	no	304.5	no
10-Mar-16	0.41	305.69	305.10	no	304.5	no
11-Mar-16	0.41	305.69	305.10	no	304.5	no
12-Mar-16			305.10		304.5	
13-Mar-16			305.10		304.5	
14-Mar-16	0.48	305.76	305.10	no	304.5	no
15-Mar-16	0.48	305.76	305.10	no	304.5	no
16-Mar-16	0.47	305.75	305.10	no	304.5	no
17-Mar-16	0.47	305.75	305.10	no	304.5	no

Table G-10
Threshold Summary - Phase 4 Pond
Mill Creek Aggregates Pit

Date	Gauge Reading Phase 4 Pond (m)	Water Elevation Phase 4 Pond (m ASL)	Early Warning Value (Min) (m ASL)	Exceedance of Early Warning Value	Threshold Value (Min) (m ASL)	Exceedance of Threshold Value
18-Mar-16	0.46	305.74	305.10	no	304.5	no
19-Mar-16			305.10		304.5	
20-Mar-16			305.10		304.5	
21-Mar-16	0.42	305.70	305.10	no	304.5	no
22-Mar-16	0.42	305.70	305.10	no	304.5	no
23-Mar-16	0.42	305.70	305.10	no	304.5	no
24-Mar-16	0.43	305.71	305.10	no	304.5	no
25-Mar-16	0.48	305.76	305.10	no	304.5	no
26-Mar-16			305.10		304.5	
27-Mar-16	0.47	305.75	305.10	no	304.5	no
28-Mar-16	0.50	305.78	305.10	no	304.5	no
29-Mar-16	0.49	305.77	305.10	no	304.5	no
30-Mar-16	0.49	305.77	305.10	no	304.5	no
31-Mar-16	0.49	305.77	305.10	no	304.5	no
1-Apr-16	0.49	305.77	305.10	no	304.5	no
2-Apr-16			305.10		304.5	
3-Apr-16			305.10		304.5	
4-Apr-16	0.50	305.78	305.10	no	304.5	no
5-Apr-16	0.50	305.78	305.10	no	304.5	no
6-Apr-16	0.50	305.78	305.10	no	304.5	no
7-Apr-16	0.51	305.79	305.10	no	304.5	no
8-Apr-16	0.52	305.80	305.10	no	304.5	no
9-Apr-16			305.10		304.5	
10-Apr-16			305.10		304.5	
11-Apr-16	0.50	305.78	305.10	no	304.5	no
12-Apr-16	0.44	305.72	305.10	no	304.5	no
13-Apr-16	0.38	305.66	305.10	no	304.5	no
14-Apr-16	0.39	305.67	305.10	no	304.5	no
15-Apr-16	0.44	305.72	305.10	no	304.5	no
16-Apr-16			305.10		304.5	
17-Apr-16			305.10		304.5	
18-Apr-16	0.49	305.77	305.10	no	304.5	no
19-Apr-16	0.51	305.79	305.10	no	304.5	no
20-Apr-16	0.47	305.75	305.10	no	304.5	no
21-Apr-16	0.48	305.76	305.10	no	304.5	no
22-Apr-16	0.48	305.76	305.10	no	304.5	no
23-Apr-16			305.10		304.5	
24-Apr-16			305.10		304.5	
25-Apr-16	0.50	305.78	305.10	no	304.5	no
26-Apr-16	0.50	305.78	305.10	no	304.5	no
27-Apr-16	0.50	305.82	305.10	no	304.5	no
28-Apr-16	0.48	305.80	305.10	no	304.5	no
29-Apr-16	0.49	305.81	305.10	no	304.5	no
30-Apr-16			305.10		304.5	
1-May-16			305.10		304.5	
2-May-16	0.50	305.82	305.10	no	304.5	no
3-May-16	0.50	305.82	305.10	no	304.5	no
4-May-16	0.50	305.82	305.10	no	304.5	no
5-May-16	0.49	305.81	305.10	no	304.5	no
6-May-16	0.48	305.80	305.10	no	304.5	no
7-May-16			305.10		304.5	
8-May-16			305.10		304.5	
9-May-16	0.51	305.83	305.10	no	304.5	no
10-May-16	0.49	305.81	305.10	no	304.5	no
11-May-16	0.48	305.80	305.10	no	304.5	no
12-May-16	0.48	305.80	305.10	no	304.5	no
13-May-16	0.48	305.80	305.10	no	304.5	no
14-May-16			305.10		304.5	
15-May-16			305.10		304.5	
16-May-16	0.50	305.82	305.10	no	304.5	no
17-May-16	0.49	305.81	305.10	no	304.5	no
18-May-16	0.48	305.80	305.10	no	304.5	no
19-May-16	0.47	305.79	305.10	no	304.5	no
20-May-16	0.47	305.79	305.10	no	304.5	no
21-May-16			305.10		304.5	
22-May-16			305.10		304.5	
23-May-16			305.10		304.5	
24-May-16	0.51	305.83	305.10	no	304.5	no
25-May-16	0.49	305.81	305.10	no	304.5	no
26-May-16	0.49	305.81	305.10	no	304.5	no
27-May-16	0.52	305.84	305.10	no	304.5	no
28-May-16			305.10		304.5	
29-May-16			305.10		304.5	
30-May-16	0.50	305.82	305.10	no	304.5	no
31-May-16	0.50	305.82	305.10	no	304.5	no

Table G-10
Threshold Summary - Phase 4 Pond
Mill Creek Aggregates Pit

Date	Gauge Reading Phase 4 Pond (m)	Water Elevation Phase 4 Pond (m ASL)	Early Warning Value (Min) (m ASL)	Exceedance of Early Warning Value	Threshold Value (Min) (m ASL)	Exceedance of Threshold Value
1-Jun-16	0.49	305.81	305.10	no	304.5	no
2-Jun-16	0.49	305.81	305.10	no	304.5	no
3-Jun-16	0.49	305.81	305.10	no	304.5	no
4-Jun-16			305.10		304.5	
5-Jun-16			305.10		304.5	
6-Jun-16	0.53	305.85	305.10	no	304.5	no
7-Jun-16	0.51	305.83	305.10	no	304.5	no
8-Jun-16	0.50	305.82	305.10	no	304.5	no
9-Jun-16	0.49	305.81	305.10	no	304.5	no
10-Jun-16	0.49	305.81	305.10	no	304.5	no
11-Jun-16			305.10		304.5	
12-Jun-16			305.10		304.5	
13-Jun-16	0.51	305.83	305.10	no	304.5	no
14-Jun-16	0.50	305.82	305.10	no	304.5	no
15-Jun-16	0.50	305.82	305.10	no	304.5	no
16-Jun-16	0.52	305.84	305.10	no	304.5	no
17-Jun-16	0.50	305.82	305.10	no	304.5	no
18-Jun-16			305.10		304.5	
19-Jun-16			305.10		304.5	
20-Jun-16	0.51	305.83	305.10	no	304.5	no
21-Jun-16	0.48	305.80	305.10	no	304.5	no
22-Jun-16	0.51	305.83	305.10	no	304.5	no
23-Jun-16	0.55	305.87	305.10	no	304.5	no
24-Jun-16	0.55	305.87	305.10	no	304.5	no
25-Jun-16			305.10		304.5	
26-Jun-16			305.10		304.5	
27-Jun-16	0.51	305.83	305.10	no	304.5	no
28-Jun-16	0.54	305.86	305.10	no	304.5	no
29-Jun-16	0.50	305.82	305.10	no	304.5	no
30-Jun-16	0.50	305.82	305.10	no	304.5	no
1-Jul-16			305.10		304.5	
2-Jul-16			305.10		304.5	
3-Jul-16			305.10		304.5	
4-Jul-16	0.52	305.84	305.10	no	304.5	no
5-Jul-16	0.50	305.82	305.10	no	304.5	no
6-Jul-16	0.49	305.81	305.10	no	304.5	no
7-Jul-16	0.47	305.79	305.10	no	304.5	no
8-Jul-16	0.48	305.80	305.10	no	304.5	no
9-Jul-16			305.10		304.5	
10-Jul-16			305.10		304.5	
11-Jul-16	0.51	305.83	305.10	no	304.5	no
12-Jul-16	0.50	305.82	305.10	no	304.5	no
13-Jul-16	0.48	305.80	305.10	no	304.5	no
14-Jul-16	0.49	305.81	305.10	no	304.5	no
15-Jul-16	0.50	305.82	305.10	no	304.5	no
16-Jul-16			305.10		304.5	
17-Jul-16			305.10		304.5	
18-Jul-16	0.52	305.84	305.10	no	304.5	no
19-Jul-16	0.50	305.82	305.10	no	304.5	no
20-Jul-16	0.50	305.82	305.10	no	304.5	no
21-Jul-16	0.47	305.79	305.10	no	304.5	no
22-Jul-16	0.49	305.81	305.10	no	304.5	no
23-Jul-16			305.10		304.5	
24-Jul-16			305.10		304.5	
25-Jul-16	0.53	305.85	305.10	no	304.5	no
26-Jul-16	0.50	305.82	305.10	no	304.5	no
27-Jul-16	0.50	305.82	305.10	no	304.5	no
28-Jul-16	0.50	305.82	305.10	no	304.5	no
29-Jul-16	0.49	305.81	305.10	no	304.5	no
30-Jul-16			305.10		304.5	
31-Jul-16			305.10		304.5	
1-Aug-16			305.10		304.5	
2-Aug-16	0.49	305.81	305.10	no	304.5	no
3-Aug-16	0.53	305.85	305.10	no	304.5	no
4-Aug-16	0.51	305.83	305.10	no	304.5	no
5-Aug-16	0.49	305.81	305.10	no	304.5	no
6-Aug-16			305.10		304.5	
7-Aug-16			305.10		304.5	
8-Aug-16	0.44	305.76	305.10	no	304.5	no
9-Aug-16	0.41	305.73	305.10	no	304.5	no
10-Aug-16	0.43	305.75	305.10	no	304.5	no
11-Aug-16	0.45	305.77	305.10	no	304.5	no
12-Aug-16	0.47	305.79	305.10	no	304.5	no
13-Aug-16			305.10		304.5	
14-Aug-16			305.10		304.5	
15-Aug-16	0.51	305.83	305.10	no	304.5	no
16-Aug-16	0.45	305.77	305.10	no	304.5	no

Table G-10
Threshold Summary - Phase 4 Pond
Mill Creek Aggregates Pit

Date	Gauge Reading Phase 4 Pond (m)	Water Elevation Phase 4 Pond (m ASL)	Early Warning Value (Min) (m ASL)	Exceedance of Early Warning Value	Threshold Value (Min) (m ASL)	Exceedance of Threshold Value
17-Aug-16	0.46	305.78	305.10	no	304.5	no
18-Aug-16	0.47	305.79	305.10	no	304.5	no
19-Aug-16	0.48	305.80	305.10	no	304.5	no
20-Aug-16			305.10		304.5	
21-Aug-16			305.10		304.5	
22-Aug-16	0.52	305.84	305.10	no	304.5	no
23-Aug-16	0.50	305.82	305.10	no	304.5	no
24-Aug-16	0.50	305.82	305.10	no	304.5	no
25-Aug-16	0.49	305.81	305.10	no	304.5	no
26-Aug-16	0.52	305.84	305.10	no	304.5	no
27-Aug-16			305.10		304.5	
28-Aug-16			305.10		304.5	
29-Aug-16	0.52	305.84	305.10	no	304.5	no
30-Aug-16	0.50	305.82	305.10	no	304.5	no
31-Aug-16	0.52	305.84	305.10	no	304.5	no
1-Sep-16	0.54	305.86	305.10	no	304.5	no
2-Sep-16	0.50	305.82	305.10	no	304.5	no
3-Sep-16			305.10		304.5	
4-Sep-16			305.10		304.5	
5-Sep-16			305.10		304.5	
6-Sep-16	0.52	305.84	305.10	no	304.5	no
7-Sep-16	0.50	305.82	305.10	no	304.5	no
8-Sep-16	0.52	305.84	305.10	no	304.5	no
9-Sep-16	0.50	305.82	305.10	no	304.5	no
10-Sep-16			305.10		304.5	
11-Sep-16			305.10		304.5	
12-Sep-16	0.51	305.83	305.10	no	304.5	no
13-Sep-16	0.50	305.82	305.10	no	304.5	no
14-Sep-16	0.51	305.83	305.10	no	304.5	no
15-Sep-16	0.46	305.78	305.10	no	304.5	no
16-Sep-16			305.10		304.5	
17-Sep-16			305.10		304.5	
18-Sep-16			305.10		304.5	
19-Sep-16	0.52	305.84	305.10	no	304.5	no
20-Sep-16	0.52	305.84	305.10	no	304.5	no
21-Sep-16	0.50	305.82	305.10	no	304.5	no
22-Sep-16	0.48	305.80	305.10	no	304.5	no
23-Sep-16	0.48	305.80	305.10	no	304.5	no
24-Sep-16			305.10		304.5	
25-Sep-16			305.10		304.5	
26-Sep-16	0.52	305.84	305.10	no	304.5	no
27-Sep-16	0.53	305.85	305.10	no	304.5	no
28-Sep-16	0.45	305.77	305.10	no	304.5	no
29-Sep-16	0.45	305.77	305.10	no	304.5	no
30-Sep-16	0.49	305.81	305.10	no	304.5	no
1-Oct-16			305.10		304.5	
2-Oct-16			305.10		304.5	
3-Oct-16	0.52	305.84	305.10	no	304.5	no
4-Oct-16	0.51	305.83	305.10	no	304.5	no
5-Oct-16	0.49	305.81	305.10	no	304.5	no
6-Oct-16	0.47	305.79	305.10	no	304.5	no
7-Oct-16	0.46	305.78	305.10	no	304.5	no
8-Oct-16			305.10		304.5	
9-Oct-16			305.10		304.5	
10-Oct-16			305.10		304.5	
11-Oct-16	0.50	305.82	305.10	no	304.5	no
12-Oct-16	0.49	305.81	305.10	no	304.5	no
13-Oct-16	0.49	305.81	305.10	no	304.5	no
14-Oct-16	0.48	305.80	305.10	no	304.5	no
15-Oct-16			305.10		304.5	
16-Oct-16			305.10		304.5	
17-Oct-16	0.50	305.82	305.10	no	304.5	no
18-Oct-16	0.49	305.81	305.10	no	304.5	no
19-Oct-16	0.48	305.80	305.10	no	304.5	no
20-Oct-16	0.48	305.80	305.10	no	304.5	no
21-Oct-16	0.51	305.83	305.10	no	304.5	no
22-Oct-16			305.10		304.5	
23-Oct-16			305.10		304.5	
24-Oct-16	0.51	305.83	305.10	no	304.5	no
25-Oct-16	0.51	305.83	305.10	no	304.5	no
26-Oct-16	0.47	305.79	305.10	no	304.5	no
27-Oct-16	0.47	305.79	305.10	no	304.5	no
28-Oct-16	0.55	305.87	305.10	no	304.5	no
29-Oct-16			305.10		304.5	
30-Oct-16			305.10		304.5	
31-Oct-16	0.53	305.85	305.10	no	304.5	no

Table G-10
Threshold Summary - Phase 4 Pond
Mill Creek Aggregates Pit

Date	Gauge Reading Phase 4 Pond (m)	Water Elevation Phase 4 Pond (m ASL)	Early Warning Value (Min) (m ASL)	Exceedance of Early Warning Value	Threshold Value (Min) (m ASL)	Exceedance of Threshold Value
1-Nov-16	0.51	305.83	305.10	no	304.5	no
2-Nov-16	0.50	305.82	305.10	no	304.5	no
3-Nov-16	0.52	305.84	305.10	no	304.5	no
4-Nov-16	0.51	305.83	305.10	no	304.5	no
5-Nov-16			305.10		304.5	
6-Nov-16			305.10		304.5	
7-Nov-16	0.52	305.84	305.10	no	304.5	no
8-Nov-16	0.50	305.82	305.10	no	304.5	no
9-Nov-16	0.50	305.82	305.10	no	304.5	no
10-Nov-16	0.49	305.81	305.10	no	304.5	no
11-Nov-16	0.47	305.79	305.10	no	304.5	no
12-Nov-16			305.10		304.5	
13-Nov-16			305.10		304.5	
14-Nov-16	0.48	305.80	305.10	no	304.5	no
15-Nov-16	0.48	305.80	305.10	no	304.5	no
16-Nov-16	0.49	305.81	305.10	no	304.5	no
17-Nov-16	0.48	305.80	305.10	no	304.5	no
18-Nov-16	0.48	305.80	305.10	no	304.5	no
19-Nov-16			305.10		304.5	
20-Nov-16			305.10		304.5	
21-Nov-16	0.48	305.80	305.10	no	304.5	no
22-Nov-16	0.48	305.80	305.10	no	304.5	no
23-Nov-16	0.48	305.80	305.10	no	304.5	no
24-Nov-16	0.48	305.80	305.10	no	304.5	no
25-Nov-16	0.49	305.81	305.10	no	304.5	no
26-Nov-16			305.10		304.5	
27-Nov-16			305.10		304.5	
28-Nov-16	0.54	305.86	305.10	no	304.5	no
29-Nov-16	0.53	305.85	305.10	no	304.5	no
30-Nov-16	0.51	305.83	305.10	no	304.5	no
1-Dec-16	0.51	305.83	305.10	no	304.5	no
2-Dec-16	0.49	305.81	305.10	no	304.5	no
3-Dec-16			305.10		304.5	
4-Dec-16			305.10		304.5	
5-Dec-16	0.53	305.85	305.10	no	304.5	no
6-Dec-16	0.52	305.84	305.10	no	304.5	no
7-Dec-16	0.51	305.83	305.10	no	304.5	no
8-Dec-16	0.52	305.84	305.10	no	304.5	no
9-Dec-16	0.52	305.84	305.10	no	304.5	no
10-Dec-16			305.10		304.5	
11-Dec-16			305.10		304.5	
12-Dec-16	0.54	305.86	305.10	no	304.5	no
13-Dec-16	0.54	305.86	305.10	no	304.5	no
14-Dec-16	0.56	305.88	305.10	no	304.5	no
15-Dec-16	0.58	305.90	305.10	no	304.5	no
16-Dec-16	0.58	305.90	305.10	no	304.5	no
17-Dec-16			305.10		304.5	
18-Dec-16			305.10		304.5	
19-Dec-16	0.57	305.89	305.10	no	304.5	no
20-Dec-16	0.57	305.89	305.10	no	304.5	no
21-Dec-16	0.58	305.90	305.10	no	304.5	no
22-Dec-16	0.58	305.90	305.10	no	304.5	no
23-Dec-16	0.58	305.90	305.10	no	304.5	no
24-Dec-16			305.10		304.5	
25-Dec-16			305.10		304.5	
26-Dec-16			305.10		304.5	
27-Dec-16			305.10		304.5	
28-Dec-16			305.10		304.5	
29-Dec-16			305.10		304.5	
30-Dec-16			305.10		304.5	
31-Dec-16			305.10		304.5	
1-Jan-17			305.10		304.5	
2-Jan-17			305.10		304.5	
3-Jan-17			305.10		304.5	
4-Jan-17			305.10		304.5	
5-Jan-17			305.10		304.5	
6-Jan-17			305.10		304.5	
7-Jan-17			305.10		304.5	
8-Jan-17			305.10		304.5	
9-Jan-17			305.10		304.5	
10-Jan-17			305.10		304.5	
11-Jan-17			305.10		304.5	
12-Jan-17			305.10		304.5	
13-Jan-17			305.10		304.5	
14-Jan-17			305.10		304.5	
15-Jan-17			305.10		304.5	
16-Jan-17			305.10		304.5	

Table G-10
Threshold Summary - Phase 4 Pond
Mill Creek Aggregates Pit

Date	Gauge Reading Phase 4 Pond (m)	Water Elevation Phase 4 Pond (m ASL)	Early Warning Value (Min) (m ASL)	Exceedance of Early Warning Value	Threshold Value (Min) (m ASL)	Exceedance of Threshold Value
17-Jan-17			305.10		304.5	
18-Jan-17			305.10		304.5	
19-Jan-17			305.10		304.5	
20-Jan-17			305.10		304.5	
21-Jan-17			305.10		304.5	
22-Jan-17			305.10		304.5	
23-Jan-17			305.10		304.5	
24-Jan-17			305.10		304.5	
25-Jan-17			305.10		304.5	
26-Jan-17			305.10		304.5	
27-Jan-17			305.10		304.5	
28-Jan-17			305.10		304.5	
29-Jan-17			305.10		304.5	
30-Jan-17			305.10		304.5	
31-Jan-17			305.10		304.5	
1-Feb-17			305.10		304.5	
2-Feb-17			305.10		304.5	
3-Feb-17			305.10		304.5	
4-Feb-17			305.10		304.5	
5-Feb-17			305.10		304.5	
6-Feb-17			305.10		304.5	
7-Feb-17			305.10		304.5	
8-Feb-17			305.10		304.5	
9-Feb-17			305.10		304.5	
10-Feb-17			305.10		304.5	
11-Feb-17			305.10		304.5	
12-Feb-17			305.10		304.5	
13-Feb-17			305.10		304.5	
14-Feb-17			305.10		304.5	
15-Feb-17			305.10		304.5	
16-Feb-17			305.10		304.5	
17-Feb-17			305.10		304.5	
18-Feb-17			305.10		304.5	
19-Feb-17			305.10		304.5	
20-Feb-17			305.10		304.5	
21-Feb-17			305.10		304.5	
22-Feb-17			305.10		304.5	
23-Feb-17			305.10		304.5	
24-Feb-17			305.10		304.5	
25-Feb-17			305.10		304.5	
26-Feb-17			305.10		304.5	
27-Feb-17			305.10		304.5	
28-Feb-17			305.10		304.5	
1-Mar-17			305.10		304.5	
2-Mar-17			305.10		304.5	
3-Mar-17			305.10		304.5	
4-Mar-17			305.10		304.5	
5-Mar-17			305.10		304.5	
6-Mar-17			305.10		304.5	
7-Mar-17			305.10		304.5	
8-Mar-17			305.10		304.5	
9-Mar-17			305.10		304.5	
10-Mar-17			305.10		304.5	
11-Mar-17			305.10		304.5	
12-Mar-17			305.10		304.5	
13-Mar-17			305.10		304.5	
14-Mar-17			305.10		304.5	
15-Mar-17			305.10		304.5	
16-Mar-17			305.10		304.5	
17-Mar-17			305.10		304.5	
18-Mar-17			305.10		304.5	
19-Mar-17			305.10		304.5	
20-Mar-17			305.10		304.5	
21-Mar-17			305.10		304.5	
22-Mar-17			305.10		304.5	
23-Mar-17			305.10		304.5	
24-Mar-17			305.10		304.5	
25-Mar-17			305.10		304.5	
26-Mar-17			305.10		304.5	
27-Mar-17	0.41	305.66	305.10	no	304.5	no
28-Mar-17	0.41	305.66	305.10	no	304.5	no
29-Mar-17	0.41	305.66	305.10	no	304.5	no
30-Mar-17	0.41	305.66	305.10	no	304.5	no
31-Mar-17	0.41	305.66	305.10	no	304.5	no
1-Apr-17			305.10		304.5	
2-Apr-17			305.10		304.5	
3-Apr-17	0.49	305.74	305.10	no	304.5	no
4-Apr-17	0.54	305.79	305.10	no	304.5	no
5-Apr-17	0.60	305.85	305.10	no	304.5	no
6-Apr-17	0.63	305.88	305.10	no	304.5	no
7-Apr-17	0.70	305.95	305.10	no	304.5	no
8-Apr-17			305.10		304.5	
9-Apr-17			305.10		304.5	
10-Apr-17	0.57	305.83	305.10	no	304.5	no
11-Apr-17	0.59	305.85	305.10	no	304.5	no
12-Apr-17	0.59	305.85	305.10	no	304.5	no
13-Apr-17	0.59	305.85	305.10	no	304.5	no
14-Apr-17			305.10		304.5	
15-Apr-17			305.10		304.5	
16-Apr-17			305.10		304.5	
17-Apr-17	0.70	305.96	305.10	no	304.5	no
18-Apr-17	0.67	305.93	305.10	no	304.5	no
19-Apr-17	0.65	305.91	305.10	no	304.5	no
20-Apr-17	0.63	305.89	305.10	no	304.5	no
21-Apr-17	0.66	305.92	305.10	no	304.5	no
22-Apr-17			305.10		304.5	
23-Apr-17			305.10		304.5	
24-Apr-17	0.70	305.96	305.10	no	304.5	no
25-Apr-17	0.67	305.93	305.10	no	304.5	no
26-Apr-17	0.65	305.91	305.10	no	304.5	no
27-Apr-17	0.60	305.86	305.10	no	304.5	no
28-Apr-17	0.62	305.88	305.10	no	304.5	no
29-Apr-17			305.10		304.5	
30-Apr-17			305.10		304.5	
1-May-17	0.70	305.96	305.10	no	304.5	no
2-May-17	0.79	306.05	305.10	no	304.5	no
3-May-17	0.78	306.04	305.10	no	304.5	no
4-May-17	0.72	305.98	305.10	no	304.5	no
5-May-17	0.76	306.02	305.10	no	304.5	no
6-May-17			305.10		304.5	
7-May-17			305.10		304.5	
8-May-17	0.64	305.90	305.10	no	304.5	no
9-May-17	0.62	305.88	305.10	no	304.5	no
10-May-17	0.60	305.86	305.10	no	304.5	no
11-May-17	0.59	305.85	305.10	no	304.5	no
12-May-17	0.57	305.83	305.10	no	304.5	no
13-May-17			305.10		304.5	
14-May-17			305.10		304.5	
15-May-17	0.67	305.93	305.10	no	304.5	no
16-May-17	0.76	306.02	305.10	no	304.5	no
17-May-17	0.74	306.00	305.10	no	304.5	no
18-May-17	0.71	305.97	305.10	no	304.5	no
19-May-17	0.68	305.94	305.10	no	304.5	no
20-May-17			305.10		304.5	
21-May-17			305.10		304.5	
22-May-17			305.10		304.5	
23-May-17	0.74	306.00	305.10	no	304.5	no
24-May-17	0.71	305.97	305.10	no	304.5	no
25-May-17	0.74	306.00	305.10	no	304.5	no

Table G-10
Threshold Summary - Phase 4 Pond
Mill Creek Aggregates Pit

Date	Gauge Reading Phase 4 Pond (m)	Water Elevation Phase 4 Pond (m ASL)	Early Warning Value (Min) (m ASL)	Exceedance of Early Warning Value	Threshold Value (Min) (m ASL)	Exceedance of Threshold Value
26-May-17	0.74	306.00	305.10	no	304.5	no
27-May-17			305.10		304.5	
28-May-17			305.10		304.5	
29-May-17	0.70	305.96	305.10	no	304.5	no
30-May-17	0.76	306.02	305.10	no	304.5	no
31-May-17	0.72	305.98	305.10	no	304.5	no
1-Jun-17	0.70	305.96	305.10	no	304.5	no
2-Jun-17	0.65	305.91	305.10	no	304.5	no
3-Jun-17			305.10		304.5	
4-Jun-17			305.10		304.5	
5-Jun-17	0.71	305.97	305.10	no	304.5	no
6-Jun-17	0.69	305.95	305.10	no	304.5	no
7-Jun-17	0.65	305.91	305.10	no	304.5	no
8-Jun-17	0.62	305.88	305.10	no	304.5	no
9-Jun-17	0.60	305.86	305.10	no	304.5	no
10-Jun-17			305.10		304.5	
11-Jun-17			305.10		304.5	
12-Jun-17	0.67	305.93	305.10	no	304.5	no
13-Jun-17	0.63	305.89	305.10	no	304.5	no
14-Jun-17	0.60	305.86	305.10	no	304.5	no
15-Jun-17	0.57	305.83	305.10	no	304.5	no
16-Jun-17	0.59	305.85	305.10	no	304.5	no
17-Jun-17	0.51	305.77	305.10	no	304.5	no
18-Jun-17			305.10		304.5	
19-Jun-17	0.62	305.88	305.10	no	304.5	no
20-Jun-17	0.59	305.85	305.10	no	304.5	no
21-Jun-17	0.56	305.82	305.10	no	304.5	no
22-Jun-17	0.54	305.80	305.10	no	304.5	no
23-Jun-17	0.55	305.81	305.10	no	304.5	no
24-Jun-17	0.54	305.80	305.10	no	304.5	no
25-Jun-17			305.10		304.5	
26-Jun-17	0.64	305.90	305.10	no	304.5	no
27-Jun-17	0.62	305.88	305.10	no	304.5	no
28-Jun-17	0.60	305.86	305.10	no	304.5	no
29-Jun-17	0.57	305.83	305.10	no	304.5	no
30-Jun-17	0.56	305.82	305.10	no	304.5	no
1-Jul-17			305.10		304.5	
2-Jul-17			305.10		304.5	
3-Jul-17			305.10		304.5	
4-Jul-17	0.73	305.99	305.10	no	304.5	no
5-Jul-17	0.70	305.96	305.10	no	304.5	no
6-Jul-17	0.70	305.96	305.10	no	304.5	no
7-Jul-17	0.63	305.89	305.10	no	304.5	no
8-Jul-17			305.10		304.5	
9-Jul-17			305.10		304.5	
10-Jul-17	0.71	305.97	305.10	no	304.5	no
11-Jul-17	0.67	305.93	305.10	no	304.5	no
12-Jul-17	0.64	305.90	305.10	no	304.5	no
13-Jul-17	0.65	305.91	305.10	no	304.5	no
14-Jul-17	0.62	305.88	305.10	no	304.5	no
15-Jul-17	0.62	305.88	305.10	no	304.5	no
16-Jul-17			305.10		304.5	
17-Jul-17	0.70	305.96	305.10	no	304.5	no
18-Jul-17	0.67	305.93	305.10	no	304.5	no
19-Jul-17	0.63	305.89	305.10	no	304.5	no
20-Jul-17	0.60	305.86	305.10	no	304.5	no
21-Jul-17	0.58	305.84	305.10	no	304.5	no
22-Jul-17	0.56	305.82	305.10	no	304.5	no
23-Jul-17			305.10		304.5	
24-Jul-17	0.66	305.92	305.10	no	304.5	no
25-Jul-17	0.63	305.89	305.10	no	304.5	no
26-Jul-17	0.60	305.86	305.10	no	304.5	no
27-Jul-17	0.58	305.84	305.10	no	304.5	no
28-Jul-17	0.55	305.81	305.10	no	304.5	no
29-Jul-17			305.10		304.5	
30-Jul-17			305.10		304.5	
31-Jul-17	0.56	305.82	305.10	no	304.5	no
1-Aug-17	0.58	305.84	305.10	no	304.5	no
2-Aug-17	0.60	305.86	305.10	no	304.5	no
3-Aug-17	0.61	305.87	305.10	no	304.5	no
4-Aug-17	0.64	305.90	305.10	no	304.5	no
5-Aug-17			305.10		304.5	
6-Aug-17			305.10		304.5	
7-Aug-17			305.10		304.5	
8-Aug-17	0.75	306.01	305.10	no	304.5	no
9-Aug-17	0.78	306.04	305.10	no	304.5	no
10-Aug-17	0.79	306.05	305.10	no	304.5	no
11-Aug-17	0.85	306.11	305.10	no	304.5	no
12-Aug-17	0.83	306.09	305.10	no	304.5	no
13-Aug-17			305.10		304.5	
14-Aug-17	0.89	306.15	305.10	no	304.5	no
15-Aug-17	0.85	306.11	305.10	no	304.5	no
16-Aug-17	0.83	306.09	305.10	no	304.5	no
17-Aug-17	0.83	306.09	305.10	no	304.5	no
18-Aug-17	0.84	306.10	305.10	no	304.5	no
19-Aug-17	0.84	306.10	305.10	no	304.5	no
20-Aug-17			305.10		304.5	
21-Aug-17	0.89	306.15	305.10	no	304.5	no
22-Aug-17	0.90	306.16	305.10	no	304.5	no
23-Aug-17	0.91	306.17	305.10	no	304.5	no
24-Aug-17	0.90	306.16	305.10	no	304.5	no
25-Aug-17	0.90	306.16	305.10	no	304.5	no
26-Aug-17	0.88	306.14	305.10	no	304.5	no
27-Aug-17			305.10		304.5	
28-Aug-17	0.91	306.17	305.10	no	304.5	no
29-Aug-17	0.90	306.16	305.10	no	304.5	no
30-Aug-17	0.89	306.15	305.10	no	304.5	no
31-Aug-17	0.92	306.18	305.10	no	304.5	no
1-Sep-17	0.89	306.15	305.10	no	304.5	no
2-Sep-17	0.92	306.18	305.10	no	304.5	no
3-Sep-17			305.10		304.5	
4-Sep-17			305.10		304.5	
5-Sep-17	0.95	306.21	305.10	no	304.5	no
6-Sep-17	0.93	306.19	305.10	no	304.5	no
7-Sep-17	0.91	306.17	305.10	no	304.5	no
8-Sep-17	0.90	306.16	305.10	no	304.5	no
9-Sep-17			305.10		304.5	
10-Sep-17			305.10		304.5	
11-Sep-17	0.90	306.16	305.10	no	304.5	no
12-Sep-17	0.88	306.14	305.10	no	304.5	no
13-Sep-17	0.85	306.11	305.10	no	304.5	no
14-Sep-17	0.82	306.08	305.10	no	304.5	no
15-Sep-17	0.80	306.06	305.10	no	304.5	no
16-Sep-17	0.80	306.06	305.10	no	304.5	no
17-Sep-17			305.10		304.5	
18-Sep-17	0.85	306.11	305.10	no	304.5	no
19-Sep-17	0.84	306.10	305.10	no	304.5	no
20-Sep-17	0.80	306.06	305.10	no	304.5	no
21-Sep-17	0.79	306.05	305.10	no	304.5	no
22-Sep-17	0.78	306.04	305.10	no	304.5	no
23-Sep-17	0.76	306.02	305.10	no	304.5	no
24-Sep-17			305.10		304.5	
25-Sep-17	0.82	306.08	305.10	no	304.5	no
26-Sep-17	0.80	306.06	305.10	no	304.5	no
27-Sep-17	0.78	306.04	305.10	no	304.5	no
28-Sep-17	0.75	306.01	305.10	no	304.5	no
29-Sep-17	0.82	306.08	305.10	no	304.5	no
30-Sep-17	0.80	306.06	305.10	no	304.5	no

Table G-10
Threshold Summary - Phase 4 Pond
Mill Creek Aggregates Pit

Date	Gauge Reading Phase 4 Pond (m)	Water Elevation Phase 4 Pond (m ASL)	Early Warning Value (Min) (m ASL)	Exceedance of Early Warning Value	Threshold Value (Min) (m ASL)	Exceedance of Threshold Value
1-Oct-17			305.10		304.5	
2-Oct-17	0.55	305.81	305.10	no	304.5	no
3-Oct-17	0.54	305.80	305.10	no	304.5	no
4-Oct-17	0.57	305.83	305.10	no	304.5	no
5-Oct-17	0.65	305.91	305.10	no	304.5	no
6-Oct-17	0.72	305.98	305.10	no	304.5	no
7-Oct-17			305.10		304.5	
8-Oct-17			305.10		304.5	
9-Oct-17			305.10		304.5	
10-Oct-17	0.81	306.07	305.10	no	304.5	no
11-Oct-17	0.80	306.06	305.10	no	304.5	no
12-Oct-17	0.80	306.06	305.10	no	304.5	no
13-Oct-17	0.80	306.06	305.10	no	304.5	no
14-Oct-17	0.80	306.06	305.10	no	304.5	no
15-Oct-17			305.10		304.5	
16-Oct-17	0.83	306.09	305.10	no	304.5	no
17-Oct-17	0.84	306.10	305.10	no	304.5	no
18-Oct-17	0.80	306.06	305.10	no	304.5	no
19-Oct-17	0.80	306.06	305.10	no	304.5	no
20-Oct-17	0.80	306.06	305.10	no	304.5	no
21-Oct-17	0.78	306.04	305.10	no	304.5	no
22-Oct-17			305.10		304.5	
23-Oct-17	0.82	306.08	305.10	no	304.5	no
24-Oct-17	0.84	306.10	305.10	no	304.5	no
25-Oct-17	0.84	306.10	305.10	no	304.5	no
26-Oct-17	0.83	306.09	305.10	no	304.5	no
27-Oct-17	0.82	306.08	305.10	no	304.5	no
28-Oct-17	0.81	306.07	305.10	no	304.5	no
29-Oct-17			305.10		304.5	
30-Oct-17	0.85	306.11	305.10	no	304.5	no
31-Oct-17	0.81	306.07	305.10	no	304.5	no
1-Nov-17	0.79	306.05	305.10	no	304.5	no
2-Nov-17	0.79	306.05	305.10	no	304.5	no
3-Nov-17	0.78	306.04	305.10	no	304.5	no
4-Nov-17	0.78	306.04	305.10	no	304.5	no
5-Nov-17			305.10		304.5	
6-Nov-17	0.84	306.10	305.10	no	304.5	no
7-Nov-17	0.82	306.08	305.10	no	304.5	no
8-Nov-17	0.80	306.06	305.10	no	304.5	no
9-Nov-17	0.80	306.06	305.10	no	304.5	no
10-Nov-17			305.10		304.5	
11-Nov-17			305.10		304.5	
12-Nov-17			305.10		304.5	
13-Nov-17	0.80	306.06	305.10	no	304.5	no
14-Nov-17	0.78	306.04	305.10	no	304.5	no
15-Nov-17	0.79	306.05	305.10	no	304.5	no
16-Nov-17	0.79	306.05	305.10	no	304.5	no
17-Nov-17	0.76	306.02	305.10	no	304.5	no
18-Nov-17	0.76	306.02	305.10	no	304.5	no
19-Nov-17			305.10		304.5	
20-Nov-17	0.85	306.11	305.10	no	304.5	no
21-Nov-17	0.84	306.10	305.10	no	304.5	no
22-Nov-17	0.87	306.13	305.10	no	304.5	no
23-Nov-17	0.82	306.08	305.10	no	304.5	no
24-Nov-17	0.81	306.07	305.10	no	304.5	no
25-Nov-17			305.10		304.5	
26-Nov-17			305.10		304.5	
27-Nov-17	0.78	306.04	305.10	no	304.5	no
28-Nov-17	0.78	306.04	305.10	no	304.5	no
29-Nov-17	0.77	306.03	305.10	no	304.5	no
30-Nov-17	0.71	305.97	305.10	no	304.5	no
1-Dec-17	0.70	305.96	305.10	no	304.5	no
2-Dec-17	0.72	305.98	305.10	no	304.5	no
3-Dec-17			305.10		304.5	
4-Dec-17	0.77	306.03	305.10	no	304.5	no
5-Dec-17	0.78	306.04	305.10	no	304.5	no
6-Dec-17	0.72	305.98	305.10	no	304.5	no
7-Dec-17	0.70	305.96	305.10	no	304.5	no
8-Dec-17	0.70	305.96	305.10	no	304.5	no
9-Dec-17	0.70	305.96	305.10	no	304.5	no
10-Dec-17	0.70	305.96	305.10	no	304.5	no
11-Dec-17	0.70	305.96	305.10	no	304.5	no
12-Dec-17	0.70	305.96	305.10	no	304.5	no
13-Dec-17	0.70	305.96	305.10	no	304.5	no
14-Dec-17	0.70	305.96	305.10	no	304.5	no
15-Dec-17	0.70	305.96	305.10	no	304.5	no
16-Dec-17			305.10		304.5	
17-Dec-17			305.10		304.5	
18-Dec-17			305.10		304.5	
19-Dec-17			305.10		304.5	
20-Dec-17			305.10		304.5	
21-Dec-17			305.10		304.5	
22-Dec-17			305.10		304.5	
23-Dec-17			305.10		304.5	
24-Dec-17			305.10		304.5	
25-Dec-17			305.10		304.5	
26-Dec-17			305.10		304.5	
27-Dec-17			305.10		304.5	
28-Dec-17			305.10		304.5	
29-Dec-17			305.10		304.5	
30-Dec-17			305.10		304.5	
31-Dec-17			305.10		304.5	
1-Jan-18			305.10		304.5	
2-Jan-18			305.10		304.5	
3-Jan-18			305.10		304.5	
4-Jan-18			305.10		304.5	
5-Jan-18			305.10		304.5	
6-Jan-18			305.10		304.5	
7-Jan-18			305.10		304.5	
8-Jan-18			305.10		304.5	
9-Jan-18			305.10		304.5	
10-Jan-18			305.10		304.5	
11-Jan-18			305.10		304.5	
12-Jan-18			305.10		304.5	
13-Jan-18			305.10		304.5	
14-Jan-18			305.10		304.5	
15-Jan-18			305.10		304.5	
16-Jan-18			305.10		304.5	
17-Jan-18			305.10		304.5	
18-Jan-18			305.10		304.5	
19-Jan-18			305.10		304.5	
20-Jan-18			305.10		304.5	
21-Jan-18			305.10		304.5	
22-Jan-18			305.10		304.5	
23-Jan-18			305.10		304.5	
24-Jan-18			305.10		304.5	
25-Jan-18			305.10		304.5	
26-Jan-18			305.10		304.5	
27-Jan-18			305.10		304.5	
28-Jan-18			305.10		304.5	
29-Jan-18			305.10		304.5	
30-Jan-18			305.10		304.5	
31-Jan-18			305.10		304.5	
1-Feb-18			305.10		304.5	
2-Feb-18			305.10		304.5	
3-Feb-18			305.10		304.5	
4-Feb-18			305.10		304.5	
5-Feb-18			305.10		304.5	
6-Feb-18			305.10		304.5	

Table G-10
Threshold Summary - Phase 4 Pond
Mill Creek Aggregates Pit

Date	Gauge Reading Phase 4 Pond (m)	Water Elevation Phase 4 Pond (m ASL)	Early Warning Value (Min) (m ASL)	Exceedance of Early Warning Value	Threshold Value (Min) (m ASL)	Exceedance of Threshold Value
8-Feb-18			305.10		304.5	
9-Feb-18			305.10		304.5	
10-Feb-18			305.10		304.5	
11-Feb-18			305.10		304.5	
12-Feb-18			305.10		304.5	
13-Feb-18			305.10		304.5	
14-Feb-18			305.10		304.5	
15-Feb-18			305.10		304.5	
16-Feb-18			305.10		304.5	
17-Feb-18			305.10		304.5	
18-Feb-18			305.10		304.5	
19-Feb-18			305.10		304.5	
20-Feb-18			305.10		304.5	
21-Feb-18			305.10		304.5	
22-Feb-18			305.10		304.5	
23-Feb-18			305.10		304.5	
24-Feb-18			305.10		304.5	
25-Feb-18			305.10		304.5	
26-Feb-18			305.10		304.5	
27-Feb-18			305.10		304.5	
28-Feb-18			305.10		304.5	
1-Mar-18			305.10		304.5	
2-Mar-18			305.10		304.5	
3-Mar-18			305.10		304.5	
4-Mar-18			305.10		304.5	
5-Mar-18			305.10		304.5	
6-Mar-18			305.10		304.5	
7-Mar-18			305.10		304.5	
8-Mar-18			305.10		304.5	
9-Mar-18			305.10		304.5	
10-Mar-18			305.10		304.5	
11-Mar-18			305.10		304.5	
12-Mar-18			305.10		304.5	
13-Mar-18			305.10		304.5	
14-Mar-18			305.10		304.5	
15-Mar-18			305.10		304.5	
16-Mar-18			305.10		304.5	
17-Mar-18			305.10		304.5	
18-Mar-18			305.10		304.5	
19-Mar-18			305.10		304.5	
20-Mar-18			305.10		304.5	
21-Mar-18			305.10		304.5	
22-Mar-18			305.10		304.5	
23-Mar-18			305.10		304.5	
24-Mar-18			305.10		304.5	
25-Mar-18			305.10		304.5	
26-Mar-18			305.10		304.5	
27-Mar-18			305.10		304.5	
28-Mar-18			305.10		304.5	
29-Mar-18			305.10		304.5	
30-Mar-18			305.10		304.5	
31-Mar-18			305.10		304.5	
1-Apr-18			305.10		304.5	
2-Apr-18	0.76	306.23	305.10	no	304.5	no
3-Apr-18	0.78	306.25	305.10	no	304.5	no
4-Apr-18	0.80	306.27	305.10	no	304.5	no
5-Apr-18	0.88	306.35	305.10	no	304.5	no
6-Apr-18	0.90	306.37	305.10	no	304.5	no
7-Apr-18			305.10		304.5	
8-Apr-18			305.10		304.5	
9-Apr-18	1.05	306.52	305.10	no	304.5	no
10-Apr-18	0.98	306.45	305.10	no	304.5	no
11-Apr-18	0.95	306.42	305.10	no	304.5	no
12-Apr-18	0.91	306.38	305.10	no	304.5	no
13-Apr-18	0.89	306.36	305.10	no	304.5	no
14-Apr-18			305.10		304.5	
15-Apr-18			305.10		304.5	
16-Apr-18			305.10		304.5	
17-Apr-18			305.10		304.5	
18-Apr-18	0.99	306.46	305.10	no	304.5	no
19-Apr-18	0.99	306.46	305.10	no	304.5	no
20-Apr-18	0.93	306.40	305.10	no	304.5	no
21-Apr-18	0.90	306.37	305.10	no	304.5	no
22-Apr-18			305.10		304.5	
23-Apr-18	0.94	306.41	305.10	no	304.5	no
24-Apr-18	0.90	306.37	305.10	no	304.5	no
25-Apr-18	0.89	306.36	305.10	no	304.5	no
26-Apr-18	0.89	306.36	305.10	no	304.5	no
27-Apr-18	0.87	306.34	305.10	no	304.5	no
28-Apr-18	0.85	306.32	305.10	no	304.5	no
29-Apr-18			305.10		304.5	
30-Apr-18	0.89	306.36	305.10	no	304.5	no
1-May-18	0.83	306.30	305.10	no	304.5	no
2-May-18	0.81	306.28	305.10	no	304.5	no
3-May-18	0.82	306.29	305.10	no	304.5	no
4-May-18	0.78	306.25	305.10	no	304.5	no
5-May-18	0.83	306.30	305.10	no	304.5	no
6-May-18			305.10		304.5	
7-May-18	0.88	306.35	305.10	no	304.5	no
8-May-18	0.93	306.40	305.10	no	304.5	no
9-May-18	0.99	306.46	305.10	no	304.5	no
10-May-18	0.95	306.42	305.10	no	304.5	no
11-May-18	0.92	306.39	305.10	no	304.5	no
12-May-18	0.90	306.37	305.10	no	304.5	no
13-May-18			305.10		304.5	
14-May-18	0.92	306.39	305.10	no	304.5	no
15-May-18	0.90	306.37	305.10	no	304.5	no
16-May-18	0.86	306.33	305.10	no	304.5	no
17-May-18	0.85	306.32	305.10	no	304.5	no
18-May-18	0.82	306.29	305.10	no	304.5	no
19-May-18	0.87	306.34	305.10	no	304.5	no
20-May-18			305.10		304.5	
21-May-18			305.10		304.5	
22-May-18	0.90	306.37	305.10	no	304.5	no
23-May-18	0.88	306.35	305.10	no	304.5	no
24-May-18	0.88	306.35	305.10	no	304.5	no
25-May-18	0.93	306.40	305.10	no	304.5	no
26-May-18	0.96	306.43	305.10	no	304.5	no
27-May-18			305.10		304.5	
28-May-18	0.99	306.46	305.10	no	304.5	no
29-May-18	0.98	306.45	305.10	no	304.5	no
30-May-18	0.99	306.46	305.10	no	304.5	no
31-May-18	0.95	306.42	305.10	no	304.5	no
1-Jun-18	0.99	306.46	305.10	no	304.5	no
2-Jun-18	0.96	306.43	305.10	no	304.5	no
3-Jun-18			305.10		304.5	
4-Jun-18	0.96	306.43	305.10	no	304.5	no
5-Jun-18	0.92	306.39	305.10	no	304.5	no
6-Jun-18	0.88	306.35	305.10	no	304.5	no
7-Jun-18	0.85	306.32	305.10	no	304.5	no
8-Jun-18	0.81	306.28	305.10	no	304.5	no
9-Jun-18	0.81	306.28	305.10	no	304.5	no
10-Jun-18			305.10		304.5	
11-Jun-18	0.81	306.28	305.10	no	304.5	no
12-Jun-18	0.84	306.31	305.10	no	304.5	no
13-Jun-18	0.87	306.34	305.10	no	304.5	no
14-Jun-18	0.92	306.39	305.10	no	304.5	no
15-Jun-18	0.87	306.34	305.10	no	304.5	no
16-Jun-18	0.85	306.32	305.10	no	304.5	no

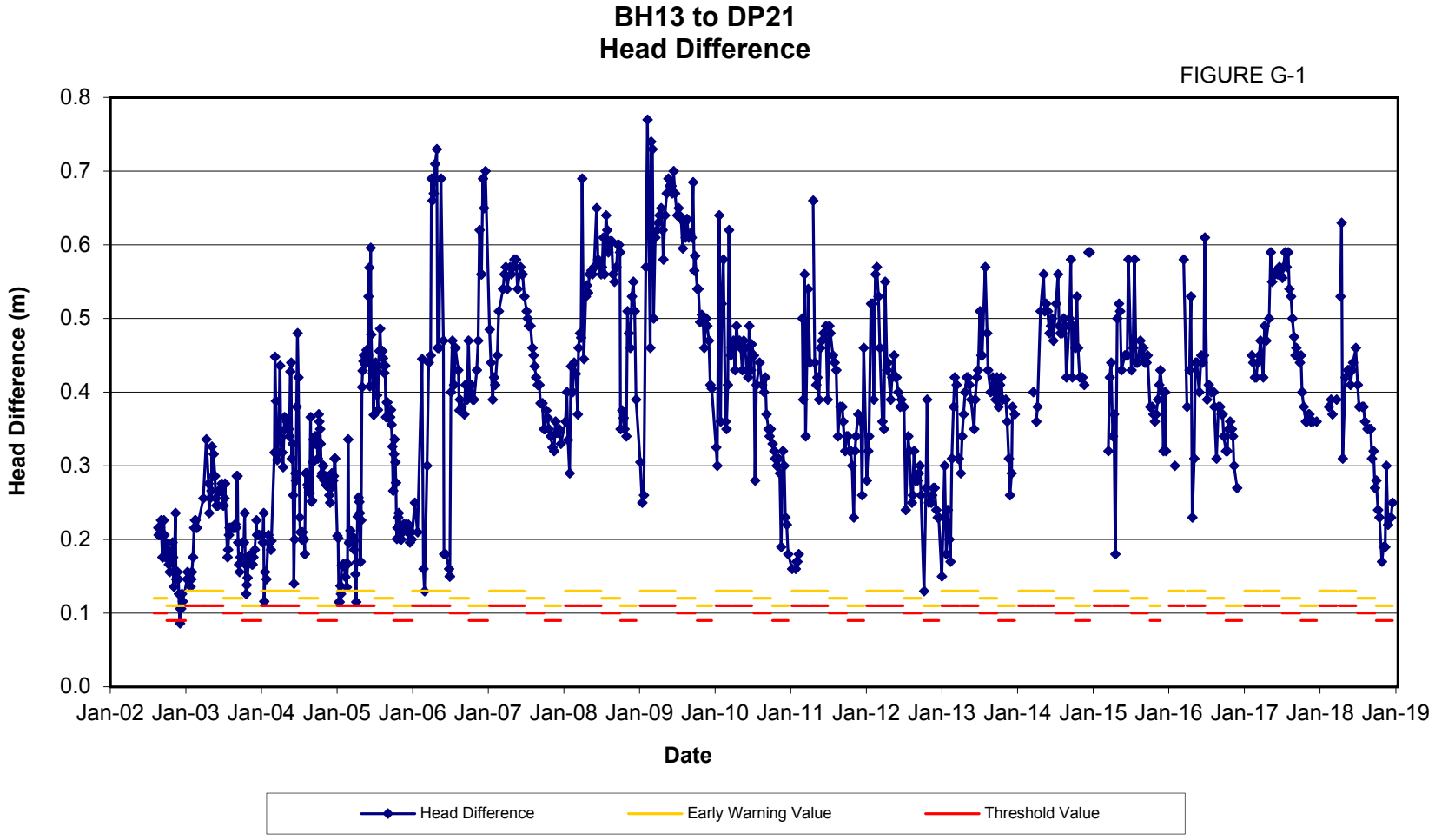
Table G-10
Threshold Summary - Phase 4 Pond
Mill Creek Aggregates Pit

Date	Gauge Reading Phase 4 Pond (m)	Water Elevation Phase 4 Pond (m ASL)	Early Warning Value (Min) (m ASL)	Exceedance of Early Warning Value	Threshold Value (Min) (m ASL)	Exceedance of Threshold Value
18-Jun-18	0.83	306.30	305.10	no	304.5	no
19-Jun-18	0.79	306.26	305.10	no	304.5	no
20-Jun-18	0.77	306.24	305.10	no	304.5	no
21-Jun-18	0.76	306.23	305.10	no	304.5	no
22-Jun-18	0.74	306.21	305.10	no	304.5	no
23-Jun-18	0.75	306.22	305.10	no	304.5	no
24-Jun-18			305.10		304.5	
25-Jun-18	0.81	306.28	305.10	no	304.5	no
26-Jun-18	0.85	306.32	305.10	no	304.5	no
27-Jun-18	0.90	306.37	305.10	no	304.5	no
28-Jun-18	0.90	306.37	305.10	no	304.5	no
29-Jun-18	0.91	306.38	305.10	no	304.5	no
30-Jun-18			305.10		304.5	
1-Jul-18			305.10		304.5	
2-Jul-18			305.10		304.5	
3-Jul-18	0.92	306.39	305.10	no	304.5	no
4-Jul-18	0.88	306.35	305.10	no	304.5	no
5-Jul-18	0.84	306.31	305.10	no	304.5	no
6-Jul-18	0.81	306.28	305.10	no	304.5	no
7-Jul-18	0.86	306.33	305.10	no	304.5	no
8-Jul-18			305.10		304.5	
9-Jul-18	0.87	306.34	305.10	no	304.5	no
10-Jul-18	0.88	306.35	305.10	no	304.5	no
11-Jul-18	0.86	306.33	305.10	no	304.5	no
12-Jul-18	0.81	306.28	305.10	no	304.5	no
13-Jul-18	0.79	306.26	305.10	no	304.5	no
14-Jul-18	0.77	306.24	305.10	no	304.5	no
15-Jul-18			305.10		304.5	
16-Jul-18	0.77	306.24	305.10	no	304.5	no
17-Jul-18	0.76	306.23	305.10	no	304.5	no
18-Jul-18	0.73	306.20	305.10	no	304.5	no
19-Jul-18	0.76	306.23	305.10	no	304.5	no
20-Jul-18	0.75	306.22	305.10	no	304.5	no
21-Jul-18	0.74	306.21	305.10	no	304.5	no
22-Jul-18			305.10		304.5	
23-Jul-18	0.75	306.22	305.10	no	304.5	no
24-Jul-18	0.71	306.18	305.10	no	304.5	no
25-Jul-18	0.70	306.17	305.10	no	304.5	no
26-Jul-18	0.69	306.16	305.10	no	304.5	no
27-Jul-18	0.75	306.22	305.10	no	304.5	no
28-Jul-18	0.71	306.18	305.10	no	304.5	no
29-Jul-18			305.10		304.5	
30-Jul-18	0.70	306.17	305.10	no	304.5	no
31-Jul-18	0.68	306.15	305.10	no	304.5	no
1-Aug-18	0.66	306.13	305.10	no	304.5	no
2-Aug-18	0.70	306.17	305.10	no	304.5	no
3-Aug-18	0.67	306.14	305.10	no	304.5	no
4-Aug-18			305.10		304.5	
5-Aug-18			305.10		304.5	
6-Aug-18			305.10		304.5	
7-Aug-18	0.72	306.19	305.10	no	304.5	no
8-Aug-18	0.69	306.16	305.10	no	304.5	no
9-Aug-18	0.76	306.23	305.10	no	304.5	no
10-Aug-18	0.72	306.19	305.10	no	304.5	no
11-Aug-18	0.77	306.24	305.10	no	304.5	no
12-Aug-18			305.10		304.5	
13-Aug-18	0.77	306.24	305.10	no	304.5	no
14-Aug-18	0.72	306.19	305.10	no	304.5	no
15-Aug-18	0.73	306.20	305.10	no	304.5	no
16-Aug-18	0.67	306.14	305.10	no	304.5	no
17-Aug-18	0.65	306.12	305.10	no	304.5	no
18-Aug-18	0.64	306.11	305.10	no	304.5	no
19-Aug-18			305.10		304.5	
20-Aug-18	0.66	306.13	305.10	no	304.5	no
21-Aug-18	0.70	306.17	305.10	no	304.5	no
22-Aug-18	0.68	306.15	305.10	no	304.5	no
23-Aug-18	0.74	306.21	305.10	no	304.5	no
24-Aug-18	0.68	306.15	305.10	no	304.5	no
25-Aug-18	0.64	306.11	305.10	no	304.5	no
26-Aug-18			305.10		304.5	
27-Aug-18	0.69	306.16	305.10	no	304.5	no
28-Aug-18	0.66	306.13	305.10	no	304.5	no
29-Aug-18	0.70	306.17	305.10	no	304.5	no
30-Aug-18	0.76	306.23	305.10	no	304.5	no
31-Aug-18	0.70	306.17	305.10	no	304.5	no
1-Sep-18			305.10		304.5	
2-Sep-18			305.10		304.5	
3-Sep-18			305.10		304.5	
4-Sep-18	0.70	306.17	305.10	no	304.5	no
5-Sep-18	0.67	306.14	305.10	no	304.5	no
6-Sep-18	0.61	306.08	305.10	no	304.5	no
7-Sep-18	0.55	306.02	305.10	no	304.5	no
8-Sep-18	0.49	305.96	305.10	no	304.5	no
9-Sep-18			305.10		304.5	
10-Sep-18	0.50	305.97	305.10	no	304.5	no
11-Sep-18	0.59	306.06	305.10	no	304.5	no
12-Sep-18	0.56	306.03	305.10	no	304.5	no
13-Sep-18	0.51	305.98	305.10	no	304.5	no
14-Sep-18	0.48	305.95	305.10	no	304.5	no
15-Sep-18	0.48	305.95	305.10	no	304.5	no
16-Sep-18			305.10		304.5	
17-Sep-18	0.50	305.97	305.10	no	304.5	no
18-Sep-18	0.52	305.99	305.10	no	304.5	no
19-Sep-18	0.49	305.96	305.10	no	304.5	no
20-Sep-18	0.45	305.92	305.10	no	304.5	no
21-Sep-18	0.38	305.85	305.10	no	304.5	no
22-Sep-18	0.34	305.81	305.10	no	304.5	no
23-Sep-18			305.10		304.5	
24-Sep-18	0.36	305.83	305.10	no	304.5	no
25-Sep-18	0.39	305.86	305.10	no	304.5	no
26-Sep-18	0.43	305.90	305.10	no	304.5	no
27-Sep-18	0.46	305.93	305.10	no	304.5	no
28-Sep-18	0.48	305.95	305.10	no	304.5	no
29-Sep-18	0.52	305.99	305.10	no	304.5	no
30-Sep-18			305.10		304.5	
1-Oct-18	0.56	306.03	305.10	no	304.5	no
2-Oct-18	0.55	306.02	305.10	no	304.5	no
3-Oct-18	0.54	306.01	305.10	no	304.5	no
4-Oct-18	0.49	305.96	305.10	no	304.5	no
5-Oct-18	0.46	305.93	305.10	no	304.5	no
6-Oct-18	0.46	305.93	305.10	no	304.5	no
7-Oct-18			305.10		304.5	
8-Oct-18			305.10		304.5	
9-Oct-18	0.49	305.96	305.10	no	304.5	no
10-Oct-18	0.46	305.93	305.10	no	304.5	no
11-Oct-18	0.51	305.98	305.10	no	304.5	no
12-Oct-18	0.48	305.95	305.10	no	304.5	no
13-Oct-18	0.50	305.97	305.10	no	304.5	no
14-Oct-18			305.10		304.5	
15-Oct-18	0.50	305.97	305.10	no	304.5	no
16-Oct-18	0.50	305.97	305.10	no	304.5	no
17-Oct-18	0.47	305.94	305.10	no	304.5	no
18-Oct-18	0.46	305.93	305.10	no	304.5	no
19-Oct-18	0.43	305.90	305.10	no	304.5	no
20-Oct-18	0.42	305.89	305.10	no	304.5	no
21-Oct-18			305.10		304.5	
22-Oct-18	0.43	305.90	305.10	no	304.5	no
23-Oct-18	0.49	305.96	305.10	no	304.5	no
24-Oct-18	0.52	305.99	305.10	no	304.5	no

Table G-10
Threshold Summary - Phase 4 Pond
Mill Creek Aggregates Pit

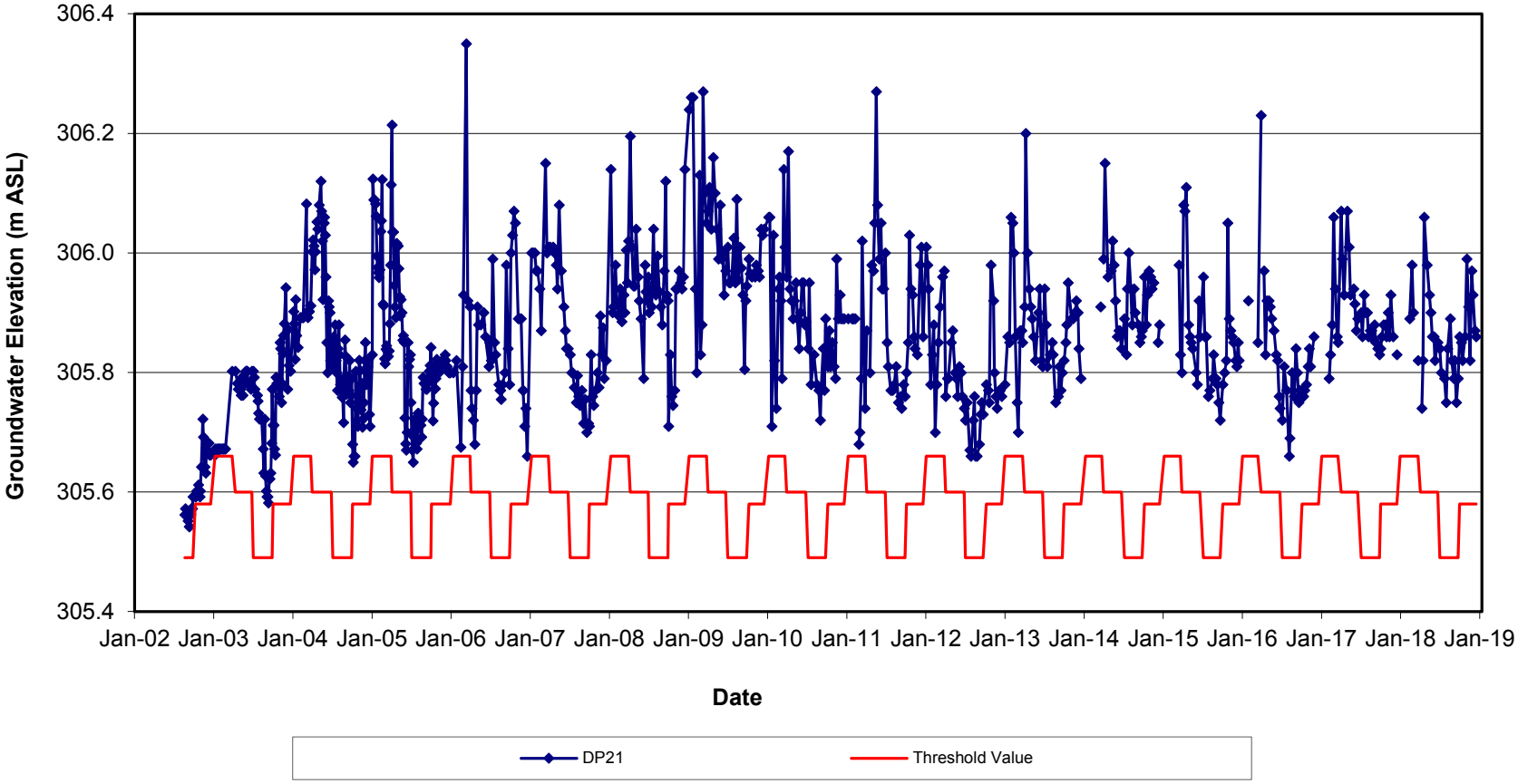
Date	Gauge Reading Phase 4 Pond (m)	Water Elevation Phase 4 Pond (m ASL)	Early Warning Value (Min) (m ASL)	Exceedance of Early Warning Value	Threshold Value (Min) (m ASL)	Exceedance of Threshold Value
26-Oct-18	0.51	305.98	305.10	no	304.5	no
27-Oct-18	0.56	306.03	305.10	no	304.5	no
28-Oct-18			305.10		304.5	
29-Oct-18	0.58	306.05	305.10	no	304.5	no
30-Oct-18	0.61	306.08	305.10	no	304.5	no
31-Oct-18	0.59	306.06	305.10	no	304.5	no
1-Nov-18	0.58	306.05	305.10	no	304.5	no
2-Nov-18	0.55	306.02	305.10	no	304.5	no
3-Nov-18	0.52	305.99	305.10	no	304.5	no
4-Nov-18			305.10		304.5	
5-Nov-18	0.55	306.02	305.10	no	304.5	no
6-Nov-18	0.60	306.07	305.10	no	304.5	no
7-Nov-18	0.62	306.09	305.10	no	304.5	no
8-Nov-18	0.67	306.14	305.10	no	304.5	no
9-Nov-18	0.62	306.09	305.10	no	304.5	no
10-Nov-18	0.63	306.10	305.10	no	304.5	no
11-Nov-18			305.10		304.5	
12-Nov-18	0.61	306.08	305.10	no	304.5	no
13-Nov-18	0.58	306.05	305.10	no	304.5	no
14-Nov-18	0.59	306.06	305.10	no	304.5	no
15-Nov-18	0.61	306.08	305.10	no	304.5	no
16-Nov-18	0.62	306.09	305.10	no	304.5	no
17-Nov-18	0.62	306.09	305.10	no	304.5	no
18-Nov-18			305.10		304.5	
19-Nov-18	0.65	306.12	305.10	no	304.5	no
20-Nov-18	0.60	306.07	305.10	no	304.5	no
21-Nov-18	0.59	306.06	305.10	no	304.5	no
22-Nov-18	0.58	306.05	305.10	no	304.5	no
23-Nov-18	0.55	306.02	305.10	no	304.5	no
24-Nov-18	0.52	305.99	305.10	no	304.5	no
25-Nov-18			305.10		304.5	
26-Nov-18	0.55	306.02	305.10	no	304.5	no
27-Nov-18	0.57	306.04	305.10	no	304.5	no
28-Nov-18	0.60	306.07	305.10	no	304.5	no
29-Nov-18	0.61	306.08	305.10	no	304.5	no
30-Nov-18	0.60	306.07	305.10	no	304.5	no
1-Dec-18	0.60	306.07	305.10	no	304.5	no
2-Dec-18			305.10		304.5	
3-Dec-18	0.62	306.09	305.10	no	304.5	no
4-Dec-18	0.64	306.11	305.10	no	304.5	no
5-Dec-18	0.65	306.12	305.10	no	304.5	no
6-Dec-18	0.61	306.08	305.10	no	304.5	no
7-Dec-18	0.59	306.06	305.10	no	304.5	no
8-Dec-18			305.10		304.5	
9-Dec-18			305.10		304.5	
10-Dec-18			305.10		304.5	
11-Dec-18			305.10		304.5	
12-Dec-18			305.10		304.5	
13-Dec-18			305.10		304.5	
14-Dec-18			305.10		304.5	
15-Dec-18			305.10		304.5	
16-Dec-18			305.10		304.5	
17-Dec-18			305.10		304.5	
18-Dec-18			305.10		304.5	
19-Dec-18			305.10		304.5	
20-Dec-18			305.10		304.5	
21-Dec-18			305.10		304.5	
22-Dec-18			305.10		304.5	
23-Dec-18			305.10		304.5	
24-Dec-18			305.10		304.5	
25-Dec-18			305.10		304.5	
26-Dec-18			305.10		304.5	
27-Dec-18			305.10		304.5	
28-Dec-18			305.10		304.5	
29-Dec-18			305.10		304.5	
30-Dec-18			305.10		304.5	
31-Dec-18			305.10		304.5	

FIGURE G-1


BH13 to DP21
Head Difference
Head Difference (m)
0.0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
Jan-02 Jan-03 Jan-04 Jan-05 Jan-06 Jan-07 Jan-08 Jan-09 Jan-10 Jan-11 Jan-12 Jan-13 Jan-14 Jan-15 Jan-16 Jan-17 Jan-18 Jan-19
Date
Head Difference
Early Warning Value
Threshold Value

DP21 Thresholds

FIGURE G-2



BH92-12 TO DP17
HEAD DIFFERENCE

FIGURE G-3

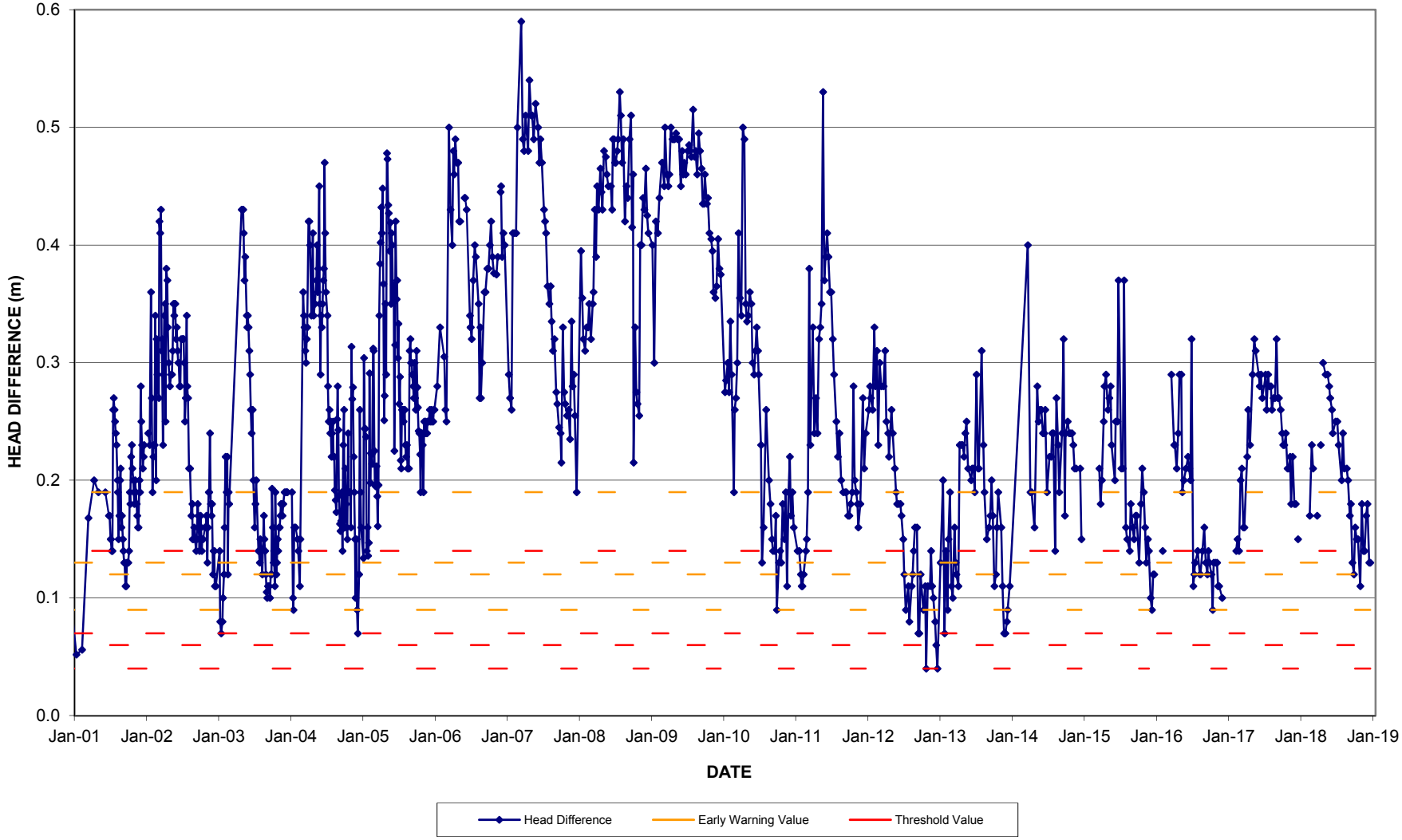
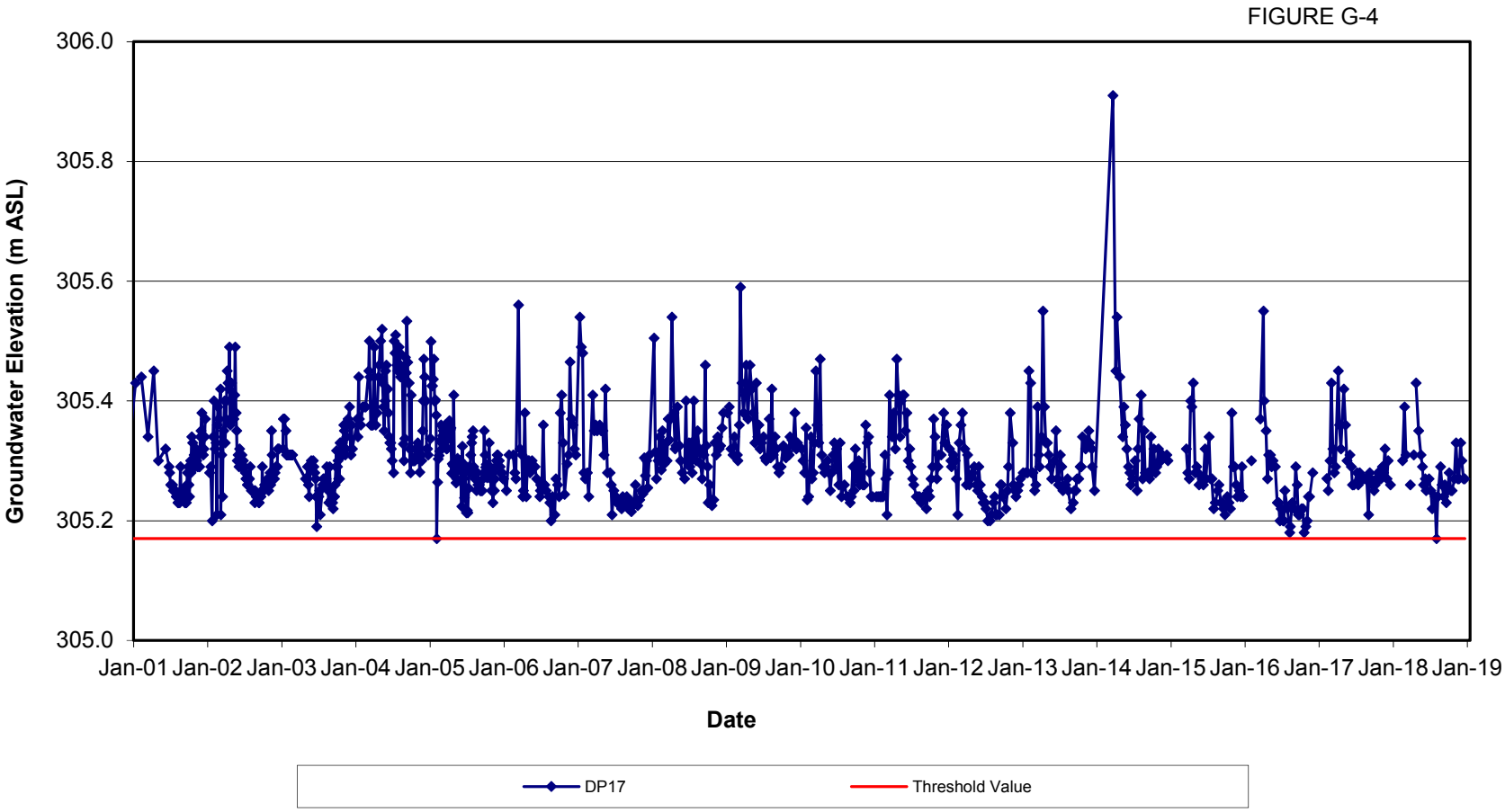
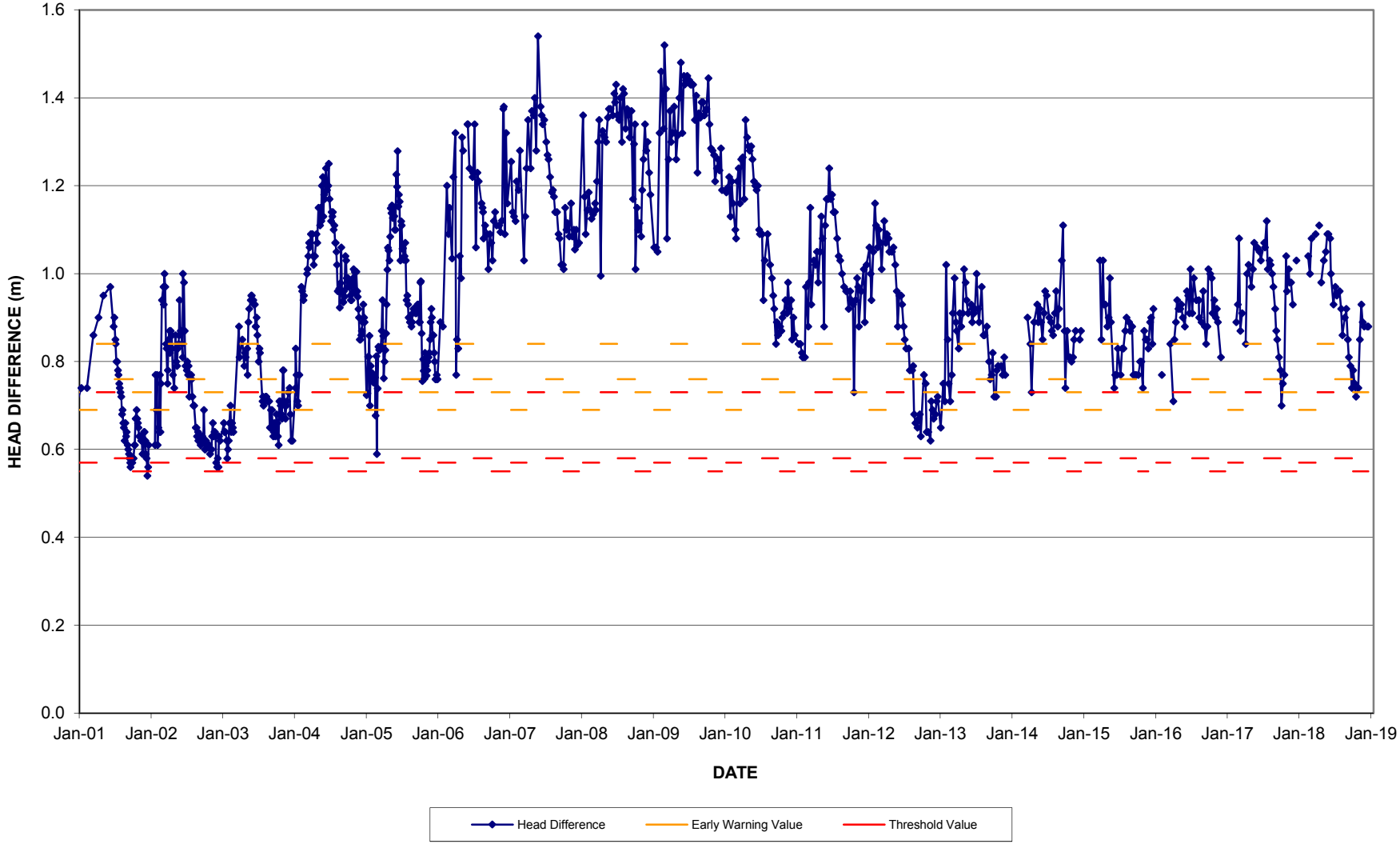


FIGURE G-4


DP17 Threshold
306.0
305.8
305.6
305.4
305.2
305.0
Groundwater Elevation (m ASL)
Jan-01 Jan-02 Jan-03 Jan-04 Jan-05 Jan-06 Jan-07 Jan-08 Jan-09 Jan-10 Jan-11 Jan-12 Jan-13 Jan-14 Jan-15 Jan-16 Jan-17 Jan-18 Jan-19
Date
DP17
Threshold Value

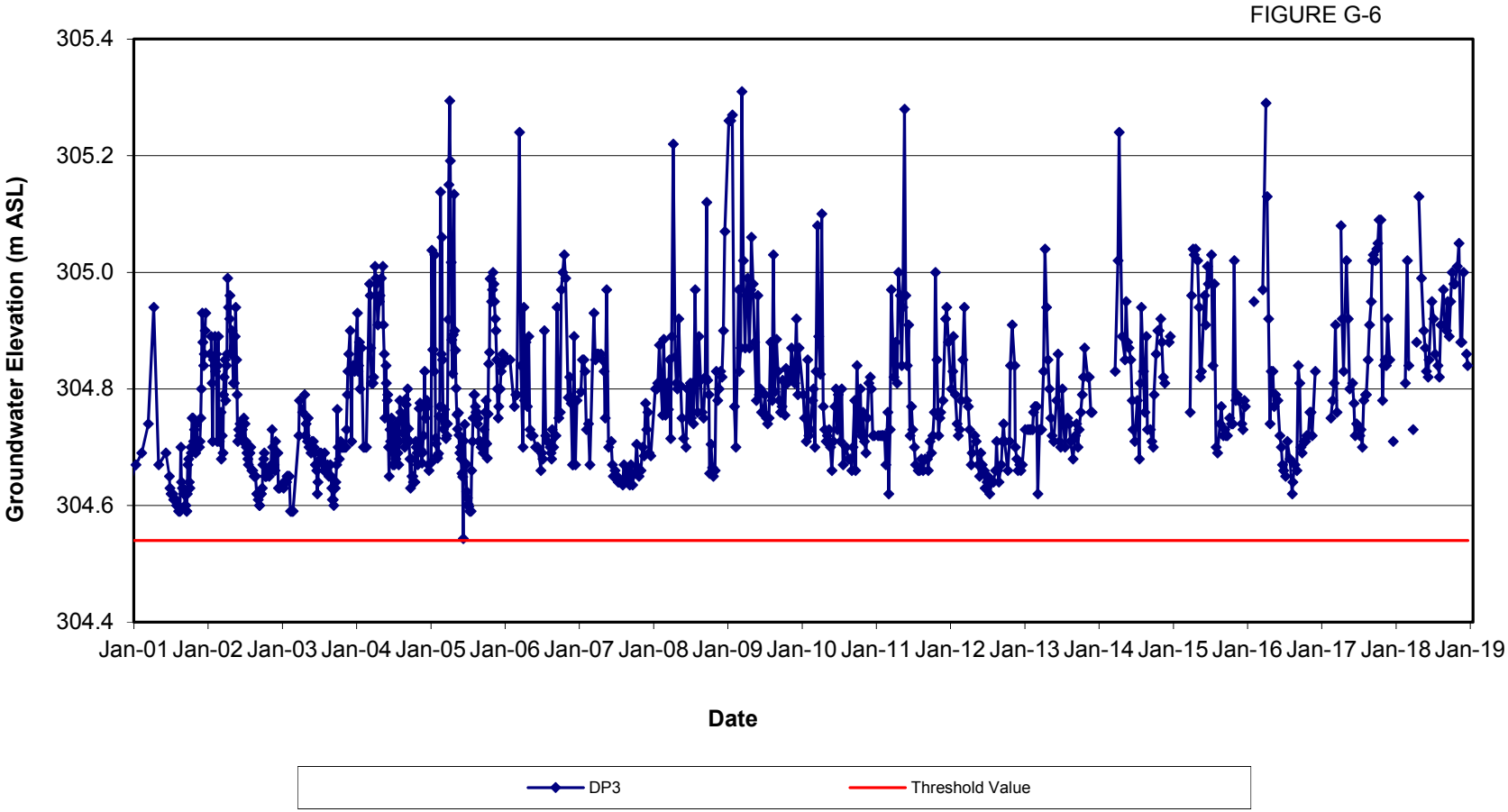
DP6 TO DP3
HEAD DIFFERENCE

FIGURE G-5



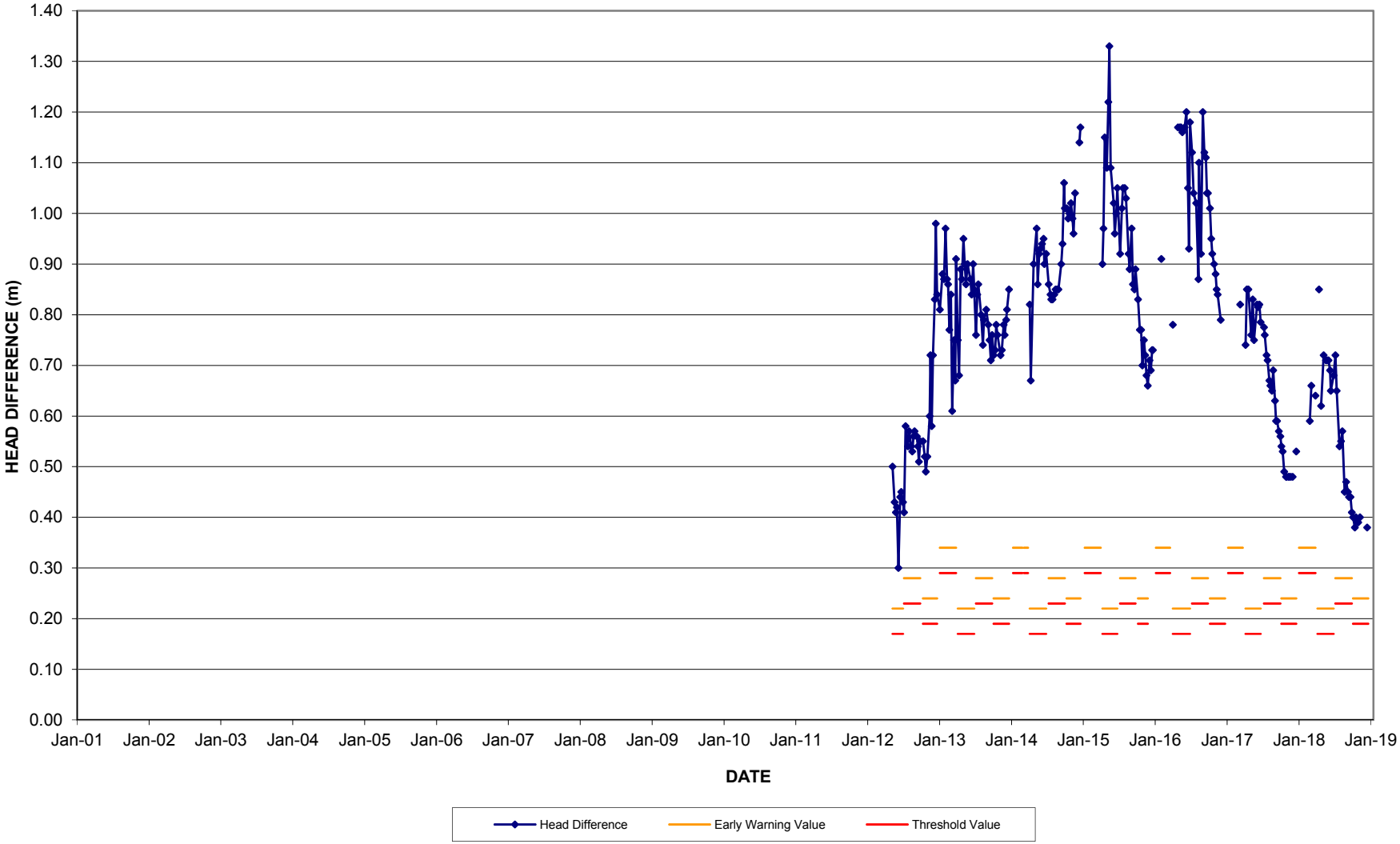
DP3 Threshold

FIGURE G-6



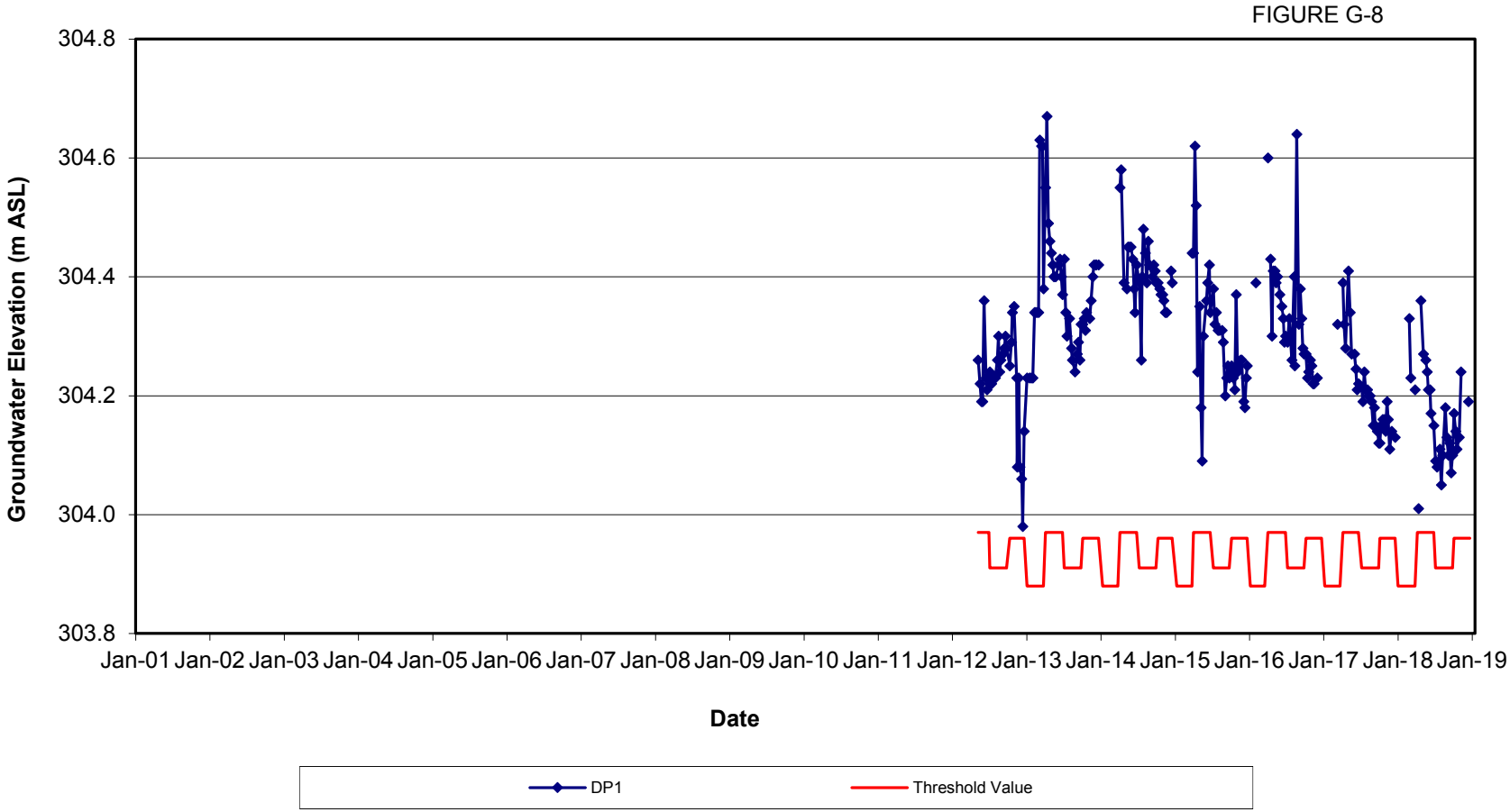
BH92-29 TO DP1
HEAD DIFFERENCE

FIGURE G-7



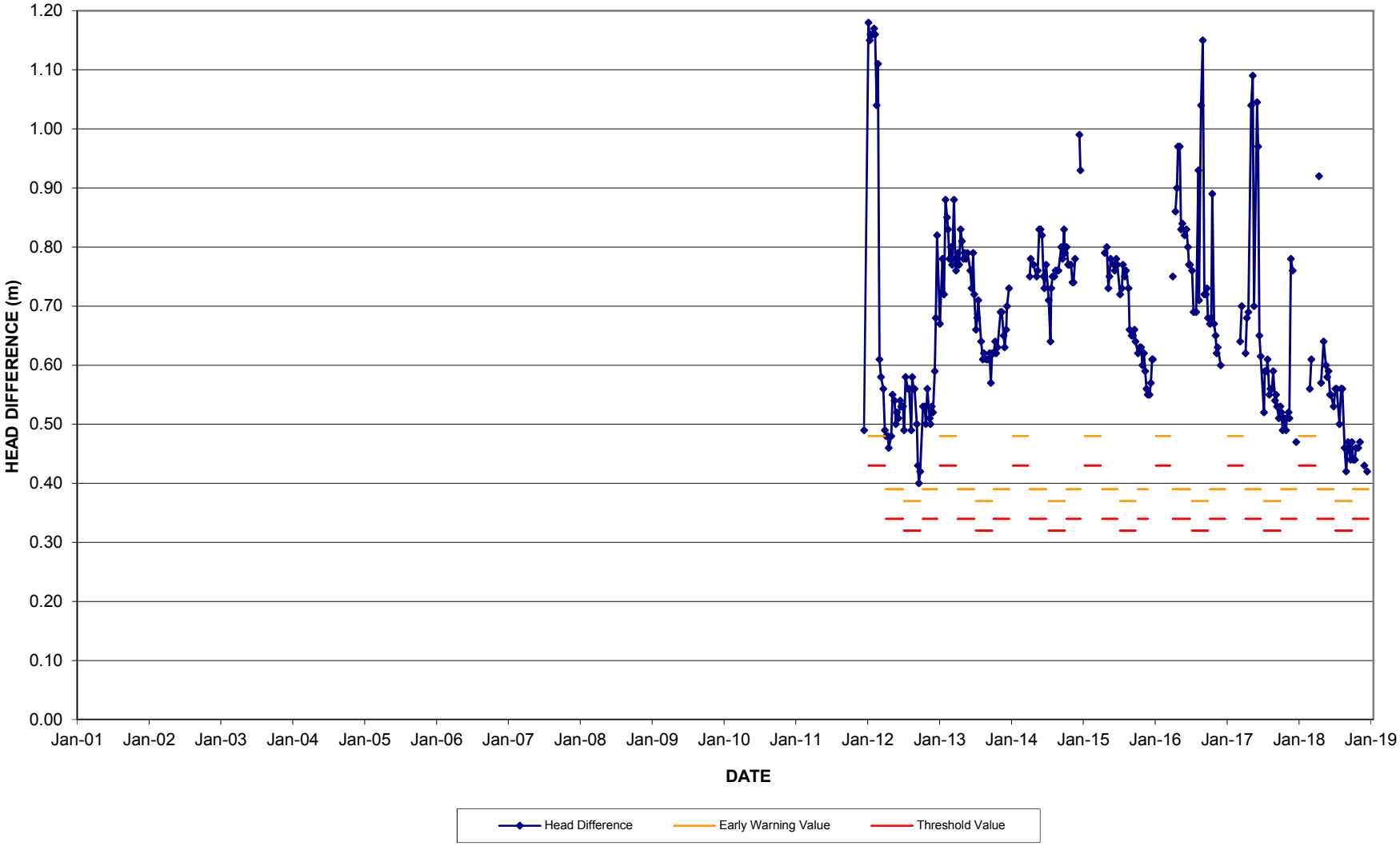
DP1 Thresholds

FIGURE G-8



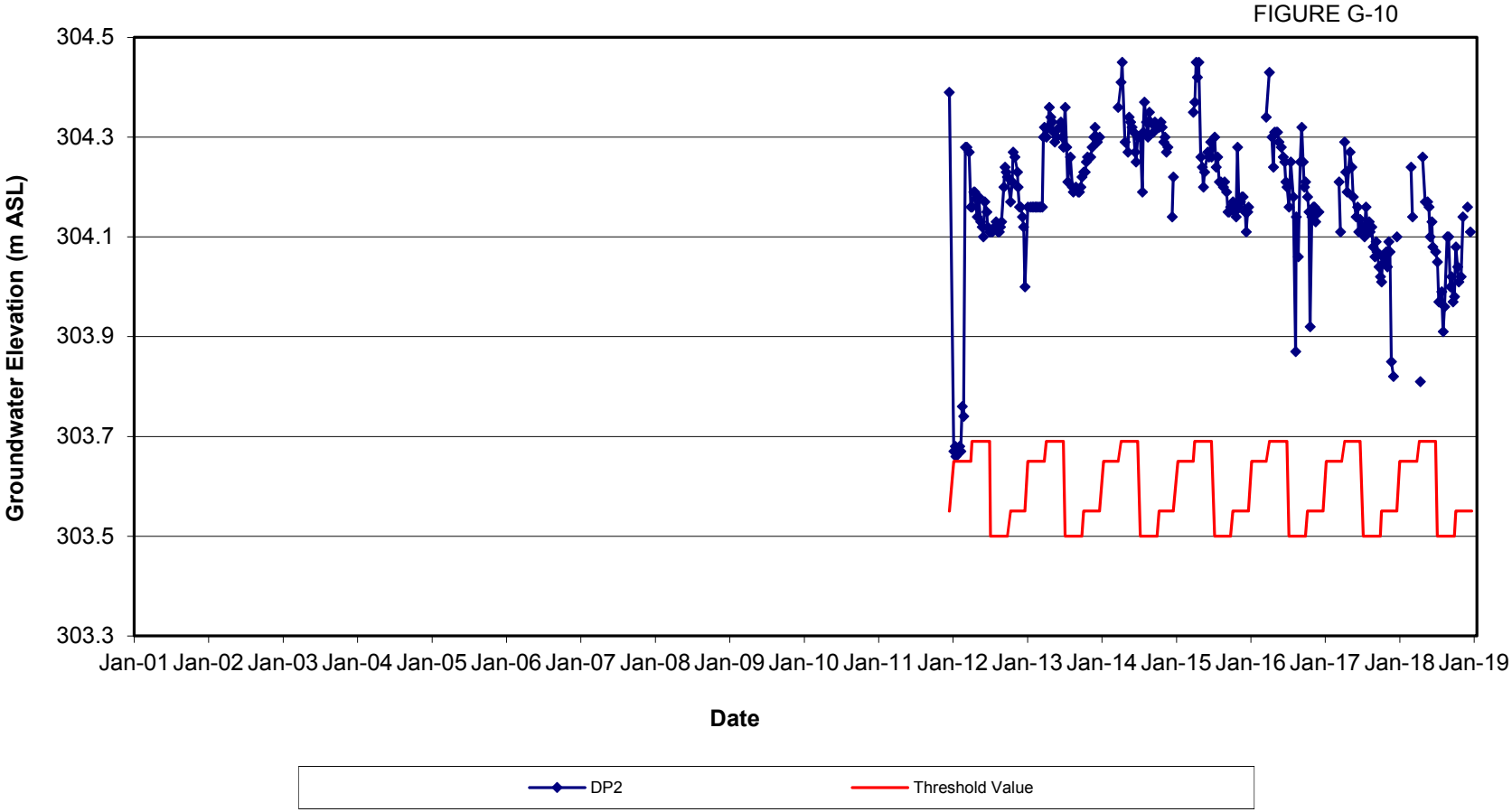
BH92-27 TO DP2
HEAD DIFFERENCE

FIGURE G-9



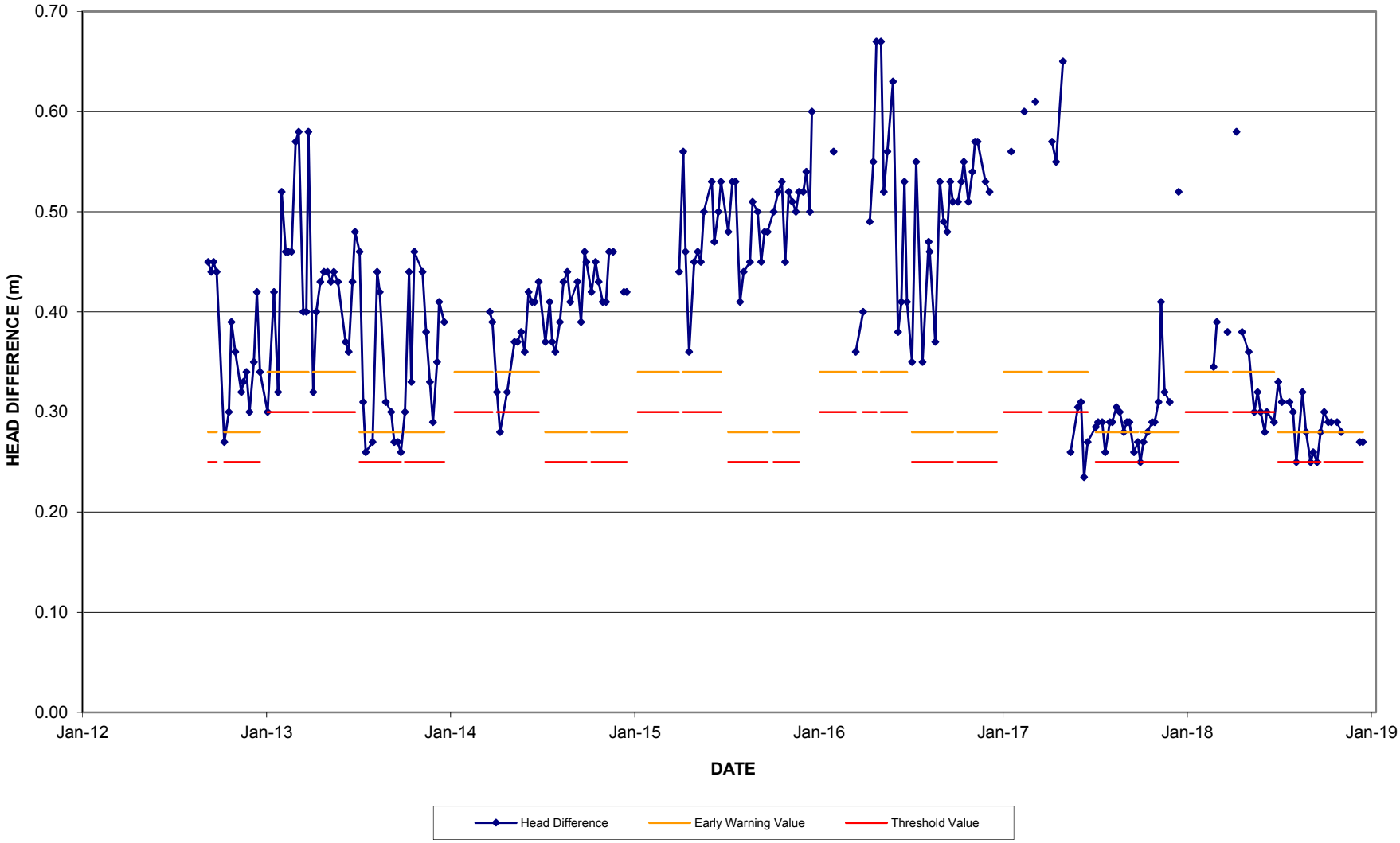
DP2 Thresholds

FIGURE G-10



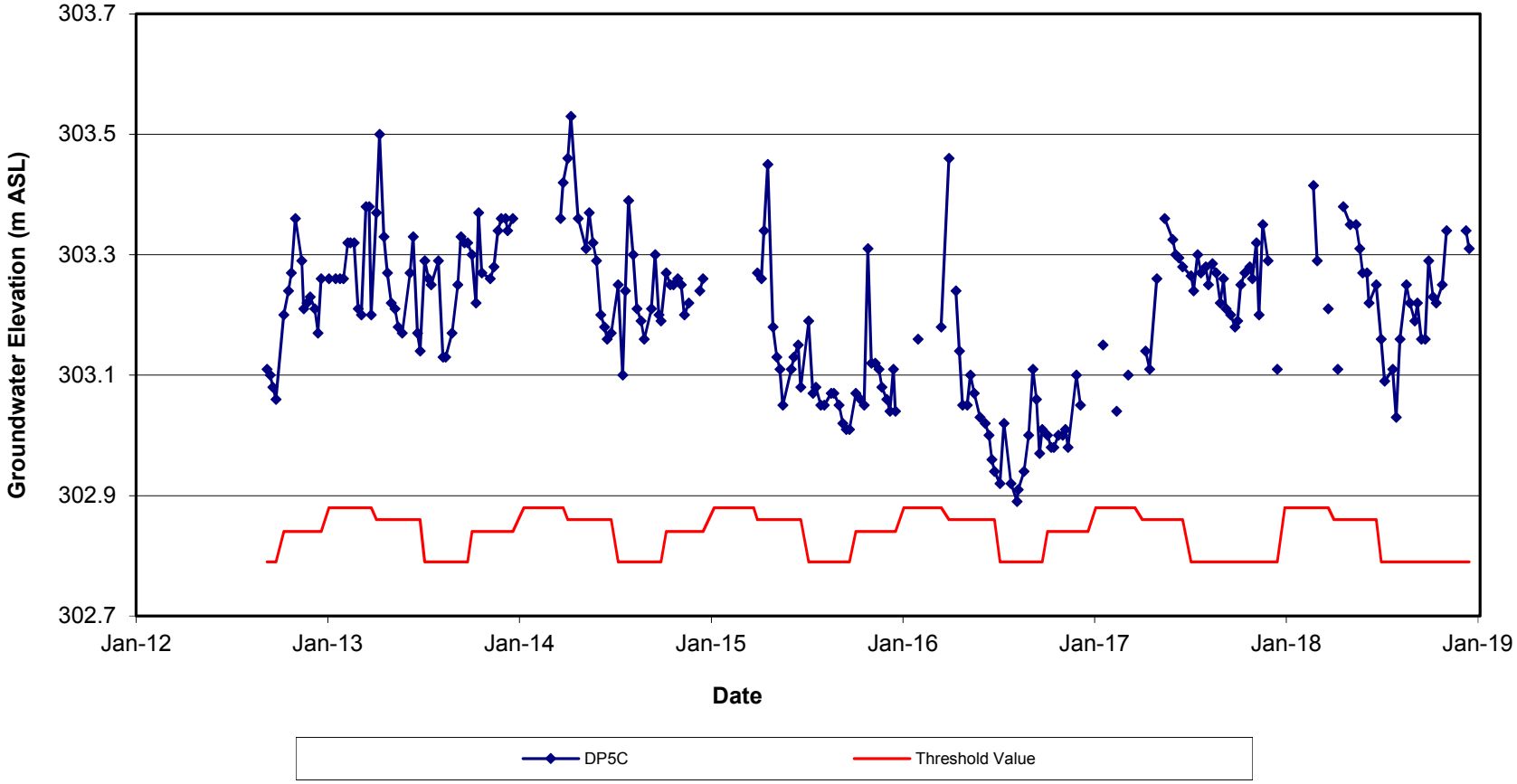
OW5-84 TO DP5C/CR
HEAD DIFFERENCE

FIGURE G-11



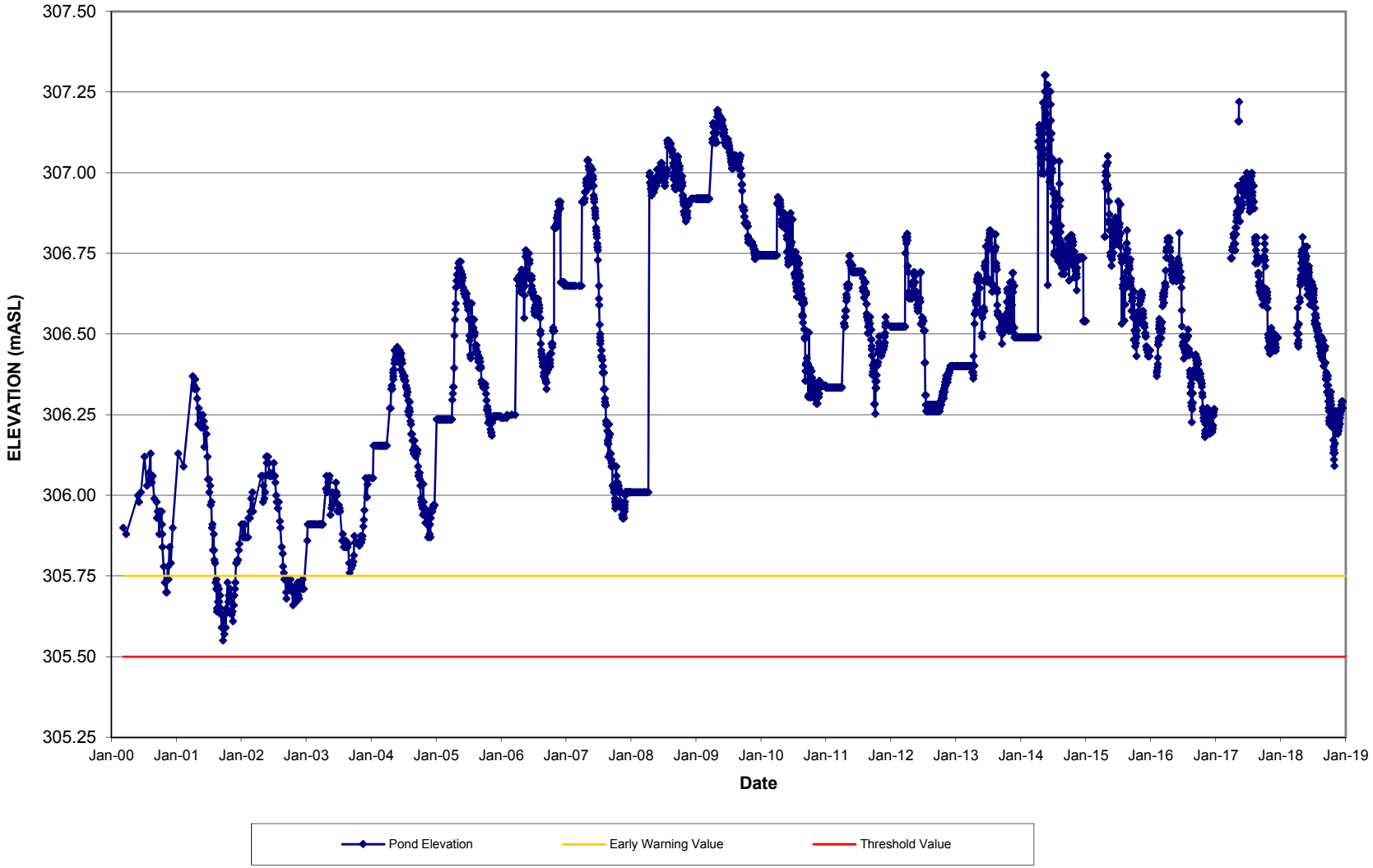
DP5C/CR Thresholds

FIGURE G-12



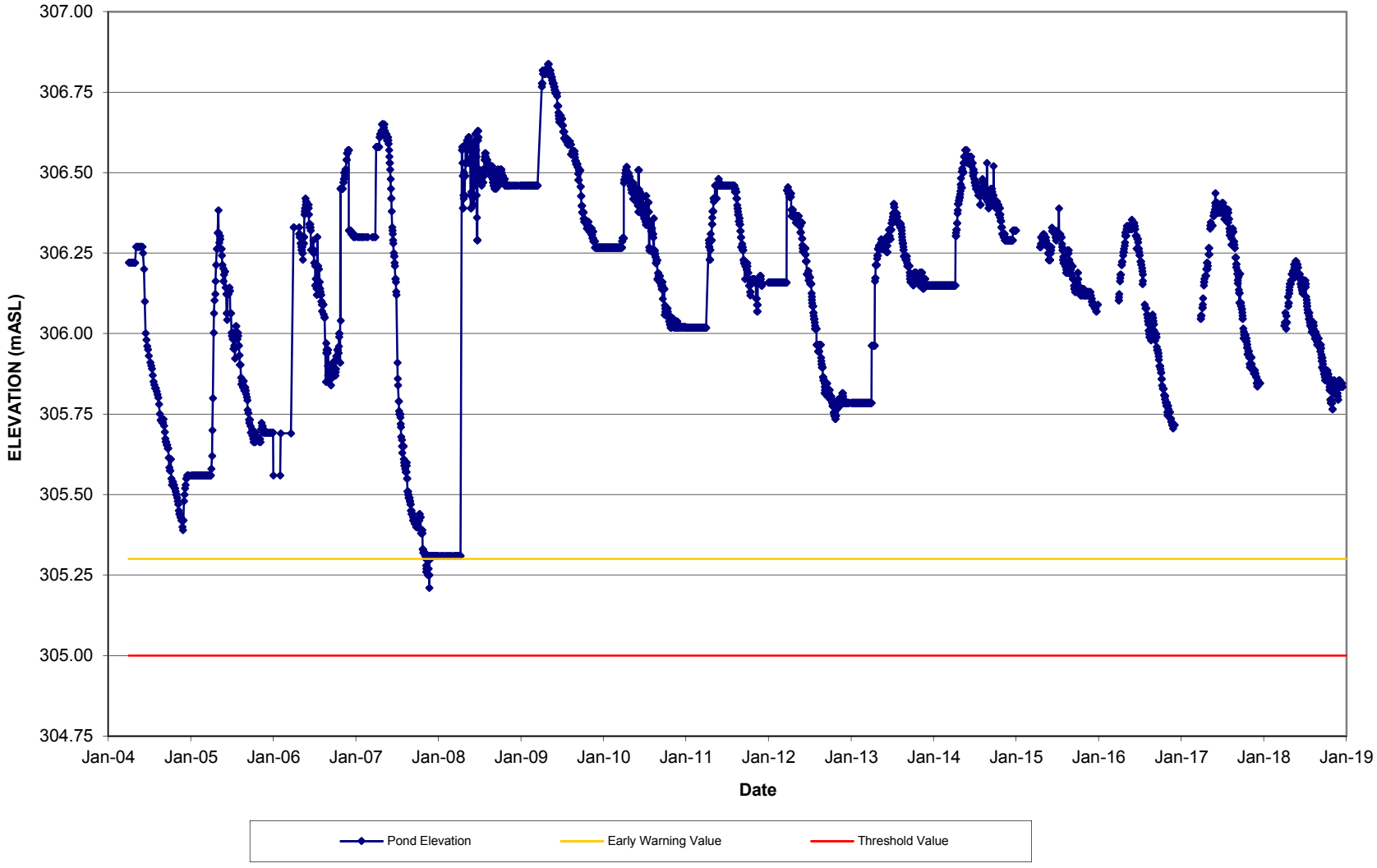
Phase 1 Pond Elevation

FIGURE G-13



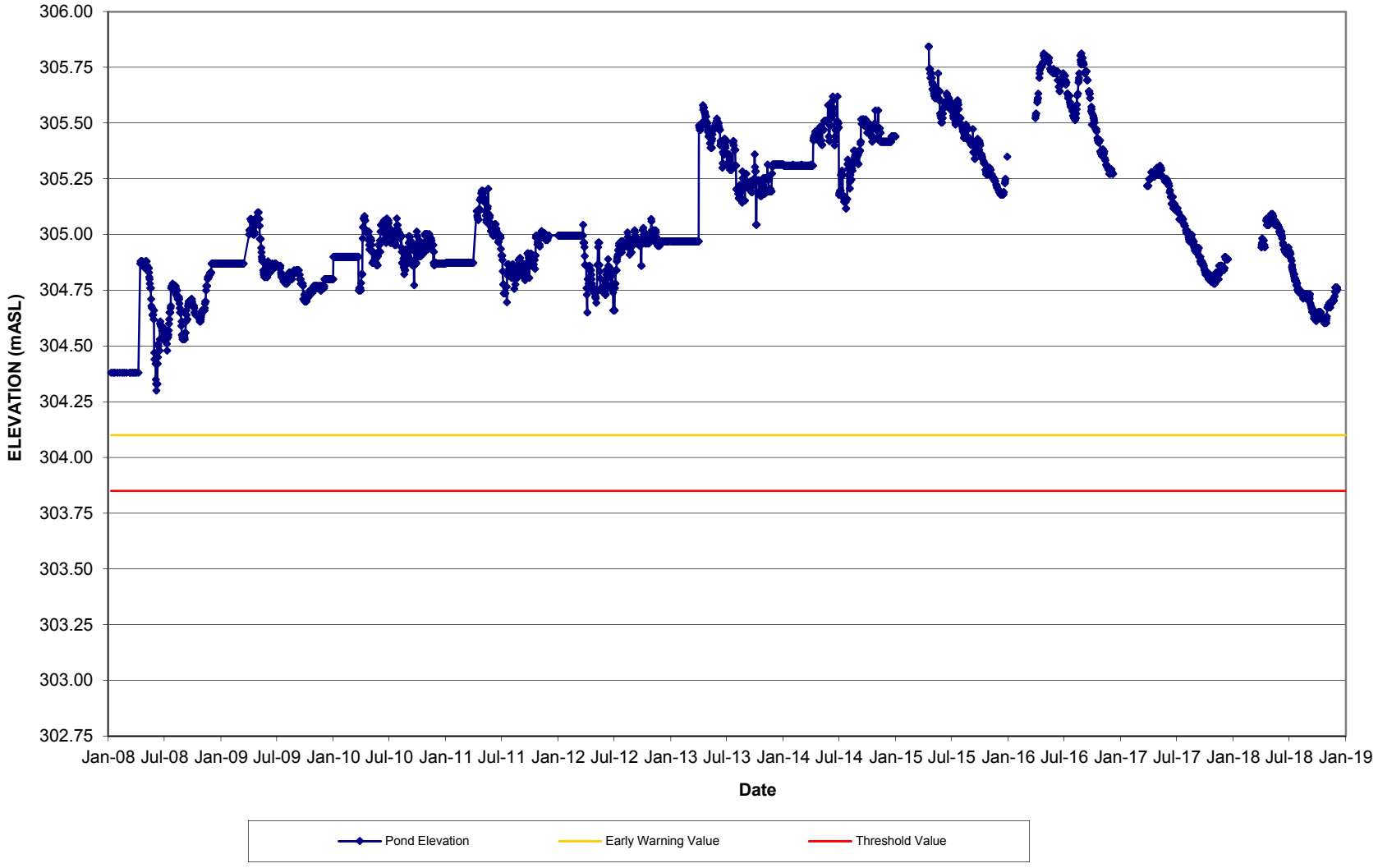
Phase 2 Pond Elevation

FIGURE G-14



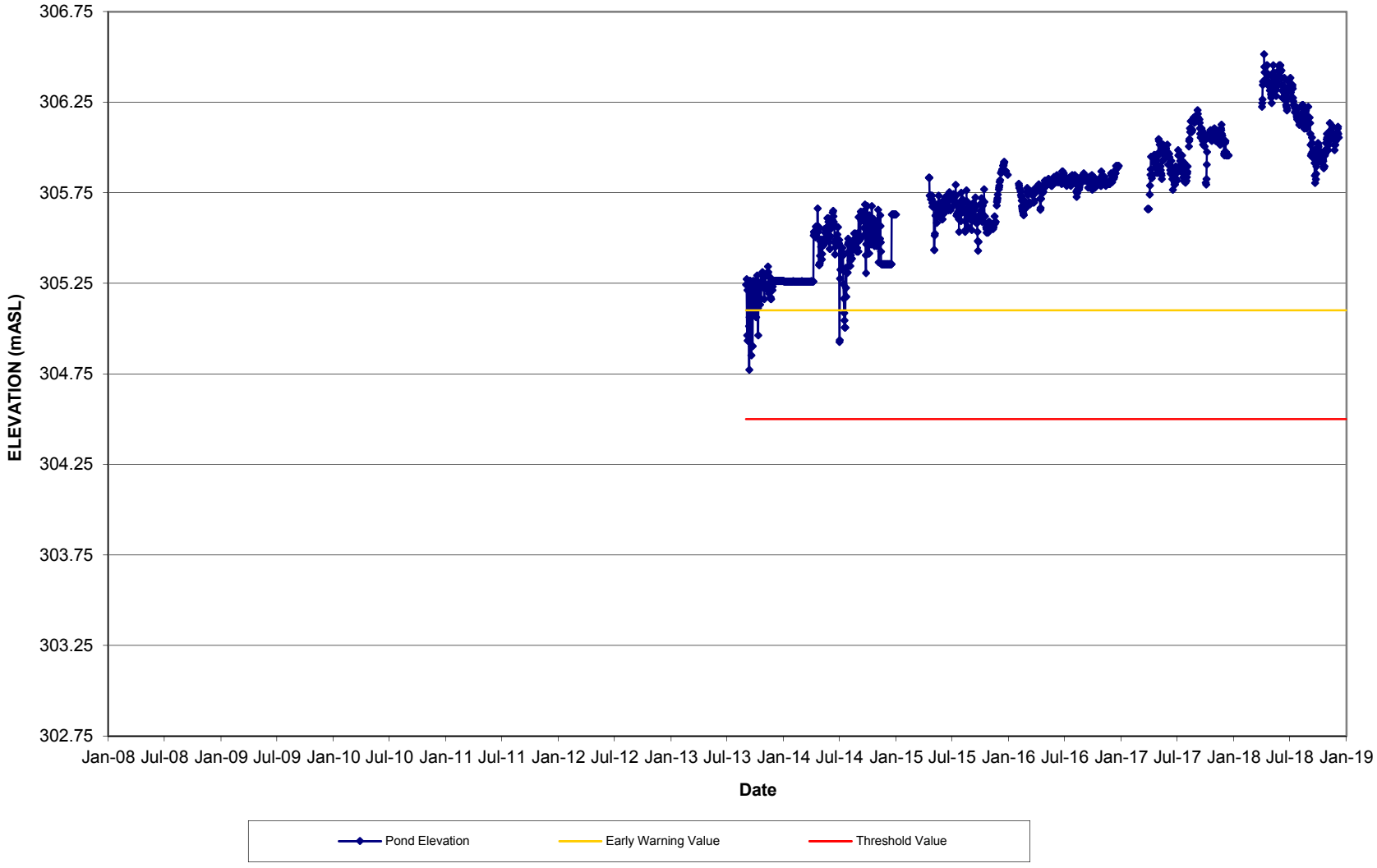
Phase 3 Pond Elevation

FIGURE G-15



Phase 4 Pond Elevation

FIGURE G-16



MILL CREEK AGGREGATES

TABLE G-11: SUMMARY OF THRESHOLDS AND ACTION RESPONSE PROTOCOL GROUNDWATER AND SURFACE WATER

Monitor Pair/Location	Seasonal Threshold Values	Seasonal Early Warning Values	Action Response Protocol
(1) BH13to $DP21_{in}$ east of Hanlon Interchange to Mill Creek	Spring: 0.11 m head difference (305.60) Summer: 0.10 m head difference (305.49) Fall: 0.09 m head difference (305.58) Winter: 0.11 m head difference (305.66)	0.13 m head difference 0.12 m head difference 0.11 m head difference 0.13 m head difference	***Typical Response Protocol*** **A: Early Warning Value Exceedance** (1) In the event that an early warning level is breached, verify water level(s) at monitor pair(s) within two days. (2) Inform Dufferin by phone and in writing. Increase monitoring frequency to twice per week in vicinity of monitoring pair. (3) Review extraction and processing operations with Dufferin staff. Rectify any obvious cause of low water levels. Continue assessment and monitoring at high frequency to establish trend in water levels, cause of low water levels, and degree of impact likely to ensue from an exceedance of a threshold. Groundwater discharge conditions at the creek will be included in the assessment. (4) If water levels continue to decline and approach the threshold value, mitigation measures, such as a recharge trench, will be prepared and implemented if necessary. MNR will be informed in writing that this process is underway. Relocation of the extraction operation to another phase is also considered an acceptable form of mitigation. Other mitigation measures may be appropriate for specific conditions, and these would be discussed and agreed with MNR prior to implementation. (5) MNR will be informed in writing, and shall be in agreement with the proposed mitigation measures, prior to the implementation of mitigation measures. Initial results of the mitigation shall be submitted to MNR within one month of implementation. **B. Threshold Exceedance** If mitigation is unsuccessful while extraction is occurring, extraction in that phase will cease. Operations will relocate to another phase, if one is available. If the exceedance continues for a period of one month, then another more rigorous, and possibly permanent, method of mitigation will be implemented in consultation with MNR. If any working threshold is continually being exceeded for more than seven consecutive days, then below water table extraction will cease at that Phase and not begin again until the groundwater/pond level elevation is above the threshold value for seven consecutive days.
(2) BH92-12 to $DP17_{in}$ East of Hanlon interchange to Mill Creek	Spring: 0.14m head difference (305.17) Summer: 0.06 m head difference (305.17) Fall: 0.04 m head difference (305.17) Winter: 0.07 m head difference (305.17)	0.19 m head difference 0.12 m head difference 0.09 m head difference 0.13 m head difference	
(3) $DP6_{in}$ to $DP3_{in}$ South of Hanlon Interchange to Mill Creek	Spring: 0.73 m head difference (304.54) Summer: 0.58 m head difference (304.54) Fall: 0.55 m head difference (304.54) Winter: 0.57 m head difference (304.54)	0.84 m head difference 0.76 m head difference 0.73 m head difference 0.69 m head difference	
(4) BH92-29 to $DP1_{in}$ Northwest corner of site; west of approved Phase 3 extraction area	Spring: 0.17 m head difference (303.97) Summer: 0.23 m head difference (303.91) Fall: 0.19 m head difference (303.96) Winter: 0.29 m head difference (303.88)	0.22 m head difference 0.28 m head difference 0.24 m head difference 0.34 m head difference	
(5) BH92-27 to $DP2_{in}$ West of approved Phase 3 extraction area	Spring: 0.34 m head difference (303.69) Summer: 0.32 m head difference (303.50) Fall: 0.34 m head difference (303.55) Winter: 0.43 m head difference (303.65)	0.39 m head difference 0.37 m head difference 0.39 m head difference 0.48 m head difference	
(6) OW5-84 to $DP5C_{in}$ Southwest corner of site downgradient from silt pond SP1 to Mill Creek	Spring: 0.30 m head difference (302.86) Summer: 0.25 m head difference (302.79) Fall: 0.25 m head difference (302.84) Winter: 0.30 m head difference (302.88)	0.34 m head difference 0.28 m head difference 0.28 m head difference 0.34 m head difference	
(7) Phase 1 Pond	305.5 mASL	305.75 mASL	
(8) Phase 2 Pond	305.0 mASL	305.30 mASL	
(9) Phase 3 Pond	303.85 mASL	304.10 mASL	
(10) Phase 4 Pond	304.50 mASL	305.10 mASL	
(11) Silt Pond SP3	Maximum: 307.1 mASL Minimum: 304.85 mASL	Maximum: 306.85 mASL Minimum: 305.10 mASL	

Notes:

(1) Thresholds and action response plan came into effect on June 30, 2001. New thresholds added July 31, 2002, October 2004, December 2005, April 2011, December 2011, May 2012, and October 2012.

(2) Values in brackets refer to minimum water level elevations (metres above sea level) at monitors $DP21_{in}$, $DP17_{in}$, $DP3_{in}$, $DP1_{in}$, $DP2_{in}$ and $DP5C_{in}$, respectively.

(3) Seasons are defined as follows:
Winter = January to March inclusive
Spring = April to June inclusive
Summer = July to September inclusive
Fall = October to December inclusive

(4) (in) indicates that the water levels are measured inside the drive point.

Dufferin Aggregates, a division of CRH Canada Group Inc.

Technical Appendix C 2018 Annual Fisheries Report of the Mill Creek Coordinated Monitoring Report

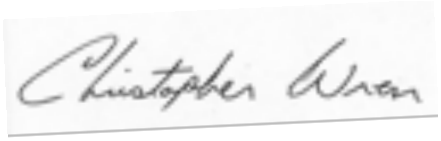
Prepared by:

LRG Environmental
RR 1, 443807 Concession Road 8, Markdale, ON, Canada N0C 1H0
T 519.986.2970 F 519.986.3127

Date:

March 25, 2019

Signature Page

Report Prepared By:	Report Reviewed By:
	
Lisa Guenther-Wren, M.Sc., Aquatic Biologist	Christopher Wren, Ph.D., Senior Scientist

Forward

This report is a Technical Appendix to the Mill Creek Coordinated Monitoring Report, providing detailed data and discussions for the annual Fisheries Monitoring Program for the Mill Creek pit operated by Dufferin Aggregates and owned by the University of Guelph. The results in this Appendix cover the period of January 1, 2018 to December 31, 2018. Detailed monitoring data for hydrology and hydrogeology are provided in separate Technical Appendices and integrated in the main body of the Coordinated Report (see below). Terrestrial biology and wetland monitoring are reported prior to the start of each new extraction phase and results are submitted separately from these reports.

The Mill Creek Coordinated Monitoring Report (prepared by LRG Environmental) integrates and summarizes the three monitoring components detailed in the following Technical Appendices:

- Technical Appendix A - Hydrology (prepared by Stantec)
- Technical Appendix B - Hydrogeology (prepared by WSP Canada Inc.)
- Technical Appendix C - Fisheries (prepared by LRG Environmental)

This submission represents Technical Appendix C.

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Sub Appendices

1. Introduction

1.1 Project Background

LRG Environmental was retained by Dufferin Aggregates, a division of CRH Canada Group Inc., to conduct the fisheries monitoring for the Mill Creek operation as required by Ministry of Natural Resources (MNR) Aggregate Licence No. 5738. Detailed environmental monitoring is a condition of the aggregate licence. In particular, condition #23 states:

> *Pit operation shall not result in a net loss of the productive capacity of fish habitat in Mill Creek or its tributaries.*

The purpose of this Technical Appendix is to integrate the 2018 fisheries results with data from previous years. A detailed environmental monitoring plan for the Mill Creek operation was originally developed in 1993 (Planning Initiatives 1993) and received final approval by the MNR and the Department of Fisheries and Oceans (DFO) in October of 1993. The monitoring program includes the preparation of a technical appendix for each discipline:

- Technical Appendix A- Surface Water Hydrology
- Technical Appendix B- Hydrogeology
- Technical Appendix C- Fisheries

After evaluation of the ecological monitoring results, changes to the program were proposed and accepted by the MNR in 2012 and implemented in 2013. One of the changes was to reduce the trout population electrofishing survey to once every two years instead of annually. As a result, there was no population electrofishing survey in 2014, 2016 or 2018. A Coordinated Monitoring Report that summarizes and integrates information from each of the monitoring programs is submitted to the Ontario Ministry of Natural Resources and Forestry (MNRF), formerly the MNR, by March 31 each year. Limited gravel extraction at the site began in 1994. Extraction below the water table commenced in the spring of 1995 in the south end of Phase 1. Therefore, the fisheries data collected up to and including 1994 represent the pre-operational baseline conditions. Further details on the operation are provided in the Coordinated Report.

1.2 Study Area

Mill Creek is a permanently flowing watercourse, which rises on the Galt moraine about 3.2 km northeast of the Village of Aberfoyle. The creek drains about 5972 ha of largely rural land before it enters the Grand River near Shades Mill in the City of Cambridge.

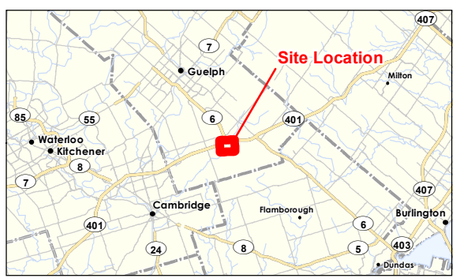
Some earlier reports refer to Mill Creek as Galt Creek. However, in the current nomenclature, Galt Creek is one of two small tributaries that enter Mill Creek from the north. Pond Creek is the other coldwater tributary that enters Mill Creek about 260 m downstream of Galt Creek (Figure 1).

Stantec

Legend
- Mill Creek Pit Property Limits (Study Area)
- Air Temperature Monitoring Station
- Surface Water Monitoring (SWM) Station
- Flow Direction
- Watercourse

0 200 400 metres
1:7,000 (At original document size of 11x17)

Notes
1. Coordinate System: NAD 1983 UTM Zone 17N
2. Base features produced under license with the Ontario Ministry of Natural Resources and Forestry © Queen's Printer for Ontario, 2017.
3. Orthoimagery provided by © Dufferin Aggregates, 2017. Imagery taken in 2017.



Project Location
Wellington County

160960549 REVA
Prepared by PW on 2018-03-23

Client/Project
DUFFERIN AGGREGATES
MILL CREEK SURFACE WATER MONITORING PROGRAM

Figure No.
1

Title
Location of Surface Water and Air Temperature Monitoring Stations at Dufferin Aggregates Mill Creek Pit Property

The Study Area is divided into two reaches that are referred to as the Hanlon By-pass station (Hwy 401 downstream to Galt Creek - 610 m) and the University of Guelph station (Galt Creek downstream to the western property boundary - 660 m). The former name is attributed to the section that was diverted around the Hwy 401/Hanlon Expressway interchange during construction in 1974. A trout population survey is also conducted on a reach of Mill Creek known as the Bond Tract. The Bond Tract is located approximately 6 km downstream of the University station. The original purpose of the Bond Tract was to provide reference data for the Study Area.

1.3 Background Fisheries Information

A historical perspective of the background fisheries information was summarized in the 1995 Coordinated Monitoring Report (ESP *et al*. 1995).

Mill Creek was a native brook trout (*Salvelinus fontinalis*) stream that gradually deteriorated as result of watershed development (*e.g.* agriculture, land clearing, Hwy 401, Hanlon Expressway). Brown trout (*Salmo trutta*) were first stocked in the watershed in the 1940's, and stocking continued in the 1950's and 1960's. Replacement of native Brook trout by Brown trout is common in North America in locations where temperatures become too warm for Brook trout (Nyman 1970; Jonsson et al. 2001). In Mill Creek, brown trout is now the dominant salmonid species in the main channel, with brook trout found primarily in the small coldwater tributaries. Other studies have confirmed that the salmonid population in Mill Creek above Hwy 401 is almost exclusively brown trout (Dance Environmental Inc. 2000).

Trout productivity and carrying capacity remains lower in the Hanlon reach compared with the University reach. Dufferin Aggregates and their biologists have previously recommended that fish habitat restoration again be undertaken within the Hanlon reach. However, the Ministry of Transportation (MTO) has now proposed construction of a new Highway 401 off ramp and Morriston bypass. In fact, some land in the study area was expropriated from the University of Guelph by the MTO in 2018 which possibly includes sections of Mill Creek. Therefore, it is appropriate to wait to determine what construction activities will be taking place, and if MTO will be required to undertake any fish habitat remediation activities related to the project.

A spill of jet fuel by a third party occurred on the east bound Hwy 401 during the early morning of January 13, 2019. Although this event did not occur in 2018, it is noted here as a potential factor that could possibly impact the ecology of Mill Creek and ability to carry out some of the planned monitoring activities in 2019. Remediation efforts have been extensive in the area and continue at the time of this report. An unknown, but potentially significant, quantity of jet fuel entered Mill Creek directly in the Hanlon reach in the vicinity of Drive Point 17 (DP17). An earthen berm was later installed across the drainage swale that was allowing fuel to enter Mill Creek, but fuel was seen visibly penetrating the berm by members of LRG Environmental several weeks after the berm was constructed. Fuel was trapped under the ice and absorbed onto the stream banks throughout the winter months. The biological impacts, if any, of the spill are not yet known.

The Friends of Mill Creek (FOMC) was established in the fall of 1997 and is a working group with the primary objective of habitat rehabilitation and protection of the fisheries in Mill Creek. It is a

unique partnership including representatives from industry, various levels of government including the Township of Puslinch, the GRCA, MNRF, University of Guelph, Wellington County Stewardship Council, as well as residents and interest groups. Dufferin Aggregates personnel are active in the FOMC.

The FOMC established a Stewardship Ranger program in 2003 with the purpose of hiring summer students to carry out the stream rehabilitation under the supervision of a trained fisheries biologist. During the past sixteen summers the Mill Creek Stewardship Rangers have carried out numerous projects in the watershed ranging from habitat improvement to stream temperature monitoring. General habitat enhancement and debris removal at various locations along Mill Creek were completed by the crew in 2018. It is expected that the Stewardship Rangers will again be active in 2019, but it is not known if they will be permitted to undertake any in-stream work downstream of where the spill of jet fuel occurred.

Occasionally, beaver dam activity occurs within the study area. A beaver dam was removed in July 2015 by the Mill Creek Rangers. Beaver activity was evident in 2017 and increased significantly in 2018. At least three beaver dams were present in the Hanlon reach in 2018 which interrupted water flow and water levels and likely interfered with brown trout spawning activity which is discussed further in Section 5.2. Trappers were retained by Dufferin in Autumn 2018 and at least five beavers were removed. Removal of the multiple beaver dams is recommended by the Stewardship Rangers in July 2019 during the appropriate in-water work timing window. However, due to the fuel remediation activities and possible long-term presence of the jet fuel in Mill Creek, the Ontario Ministry of the Environment Conservation and Parks (MECP) may prohibit any in-stream work in 2019, including components of the 2019 monitoring program.

2. Methods

Monitoring conducted and reported in this fisheries report includes:

- Mill Creek water chemistry;
- Creek surface water temperature; and
- Brown trout spawning (redd) surveys.

2.1 Water Quality

Water samples for chemical analysis have been collected by this study team since 1993. Water quality results for the period 1993-2017 are found in Sub-Appendix A of this report. Historical surface water quality data (pre-1993) are available in ESP *et al*. (1995) Technical Appendix C. Ground water chemistry is analyzed as part of the ground water monitoring program (Technical Appendix B).

For this report, water samples were collected by Stantec on December 7, 2018 at the four surface water sampling stations (SWM1, SWM2, SWM3, and SWM4). Station locations are shown on Figure 1. Water samples were submitted to Maxxam Analytical Laboratories and analyzed for the following parameters:

- pH, conductivity, hardness
- alkalinity: total, carbonate, bicarbonate
- nitrate, nitrite, ammonia
- total phosphorus, orthophosphate
- total organic carbon
- suspended solids
- chloride
- fecal coliform bacteria
- biological oxygen demand, chemical oxygen demand

2.2 Surface Water Temperature

Water temperature is recorded hourly at all four monitoring stations as part of the surface water monitoring program (Technical Appendix B) Water temperatures are discussed in this report as it relates to available trout habitat. Prior to 1997 water temperatures were measured manually, not necessarily daily and usually only once per day. Prior to 1993 temperatures were measured by the GRCA and Faunaquatics.

2.3 Redd Survey

Trout redds have been counted in the study area for 34 years beginning in 1983. The GRCA and the Cambridge District MNR counted and mapped trout redds in the Study Area from 1983 to 1992. Since 1993 the redd survey has been conducted by the same basic fisheries consultants retained by Dufferin Aggregates. In 2018 the redd survey was conducted on December 7th. The redd surveys were conducted by experienced fisheries biologists, who are familiar with the Study Area. All redds were mapped on large-scale maps and compared to historical data. A trout redd is an obvious nest or disturbance in the substrate. Brown trout redds are typically elongated scars in the streambed, characterized by a mound of gravel at the downstream end. Multiple redds have several scars and mounds created by more than one spawning pair. Brook trout redds are smaller, rounder and less obvious than brown trout redds. Redd surveys are conducted in the University and Hanlon reaches. Redd surveys are not conducted at the Bond Tract Station due to absence of suitable spawning habitat.

3. Results

3.1 Water Quality

The water quality monitoring program provides a snap shot of existing water quality conditions. Data for 2018 are provided in Table 1. The 1993 to 2017 water chemistry data are provided in Sub-Appendix A of this report.

In 2018, The fecal coliform count ranged from <10 - 20 CFU/100 mL with no results exceeding the Provincial Water Quality Objective (PWQO) of 100 CFU/100 mL.

The concentrations of most of the water quality parameters are similar between the upstream (SWM1) and downstream (SWM2) limits of the Mill Creek Property.

The presence of nitrate in the two tributaries can be attributed to agricultural runoff in the watershed. In 2018, the highest nitrate level was observed at SWM3 (Pond Creek) with a value of 4.33 mg/L which is lower than proposed or existing guidelines. For nitrate, there is no PWQO for the protection of freshwater biota, as it is relatively non-toxic to fish. There is a federal (Environment Canada) water quality guideline for nitrate of 13 mg/L for long term exposure and 550 mg/L for short term exposure. Long term exposure is defined as $\geq$ 7 days for fish and invertebrates, and $\geq$ 24 hrs for plants and algae (CCME 2012). The Ontario Drinking Water Objective for nitrate is 10 mg/L. Nitrite was not analyzed in 2018. Nitrite is traditionally below detection limits in Mill Creek and would not be expected to be present as the nitrite molecule is quickly oxidized to Nitrate, therefore, it is not really necessary to analyze for nitrite. It is often just routinely included in the analytical package.

Total phosphorus was below detection limits at three of the sites (<0.020), but exceeded the PWQO (0.03 mg/L) at SWM4 with a concentration of 0.035 mg/L. Total phosphorous levels have varied in Mill Creek but were generally higher during the 1990's with several measurements above the PWQO (Sub Appendix A). The maximum total phosphorous levels measured occurred in 2001 and were 0.12 and 0.19 mg/L at SWM1 and SWM3, respectively. Since the mid 2000's the total phosphorous levels have typically been less than the PWQO of 0.03 mg/L.

The results indicate that water quality is similar within the study area, but the data do suggest possible influences from road salt and agricultural practices. Chloride and conductivity were higher in Galt Creek (SWM4) relative to the other three stations (Table 1) which is consistent with previous years. The Canadian water quality guidelines for chloride for the protection of freshwater life are 640 mg/L and 120 mg/L, for short term (< 96 hr) and long term or indefinite exposure, respectively (CCME 2012).

The recent results show chloride concentrations in Mill Creek ranged from 31 mg/L at SWM 3 to 97 mg/L at SWM4. Therefore, salt concentrations measured in Mill Creek are well below levels expected to impact the fisheries. The basic water chemistry of Mill Creek appears relatively unchanged over the past 30+ years, however, chloride and conductivity levels in Mill Creek appear to have gradually increased during the past 21 years (Figure 2). Sampling has been conducted in November and December in recent years. It is likely that road salt has already been applied by this time. In 2017, water quality sampling was undertaken in September prior to the application of road salt and the

chloride concentration was slightly lower than 2016 and 2018. Prior to 1999, chloride levels in Mill Creek were consistently below 40 mg/L but are now routinely above 50 mg/L, and were above 70 mg/L for the past three years. These changes may be due to the influence of road salts applied within the watershed and entering the water system. Thus, stream chloride and conductivity values could be influenced by seasonal conditions and time of sampling.

Conductivity of Mill Creek is relatively high (typically > 650 umhos/cm) for a surface stream indicating the high proportion of groundwater in the stream. The higher conductivity of Galt Creek further emphasizes the strong groundwater influence on this small tributary.

Table 1. Mill Creek Water Quality December 7, 2018.

	SWM1 Hwy. 401	SWM4 Galt Ck.	SWM3 Pond Ck.	SWM2 (boundary)	PWQO[1]	L0Q[2]
All units are mg/L, unless otherwise indicated.						
pH (units)	8.30	8.27	8.30	8.30	6.5 – 8.5	N/A
Conductivity (μmhos/cm)	700	860	660	750	-	1
Hardness (mg/L as $CaCO_3$)	320	350	350	330	-	1
Alkalinity (Total)	260	270	270	260	-	1
Chloride	59	97	31	73	-	1
Nitrate	0.45	3.50	4.33	1.15	See[3]	0.1
Nitrite	No analysis	No analysis	No analysis	No analysis	<0.1[4]	0.01
Ammonia	0.080	<0.050	<0.050	0.076	1.2 (0.02)[5]	0.05
Orthophosphate	<0.01	<0.01	<0.01	<0.01	-	0.01
Total Phosphorus	<0.020	0.035	<0.020	<0.020	0.03	0.020
Total Organic Carbon	6.4	5.0	2.5	6.0	-	0.2
BOD5	<2	<2	<2	<2	-	2
Chemical Oxygen Demand	15	11	11	13	-	4
Total Suspended Solids	<10	<10	<10	11	-	10
Fecal Coliforms (CFU/100ml)	10	20	<10	<10	100	N/A
Total Coliforms (CFU/100ml)	40	50	120	40	-	N/A

[1] PWQO = Provincial Quality Guideline for the Protection of Aquatic Life (- denotes no guideline)
[2] LOQ = Limit of Quantitation (Reportable Detection Limit)
[3] concentrations that stimulate prolific weed growth should be avoided
[4] federal guideline (CCREM)
[5] value in brackets is calculated un-ionized ammonia at pH 8.0 and 20°C
n/a = not applicable

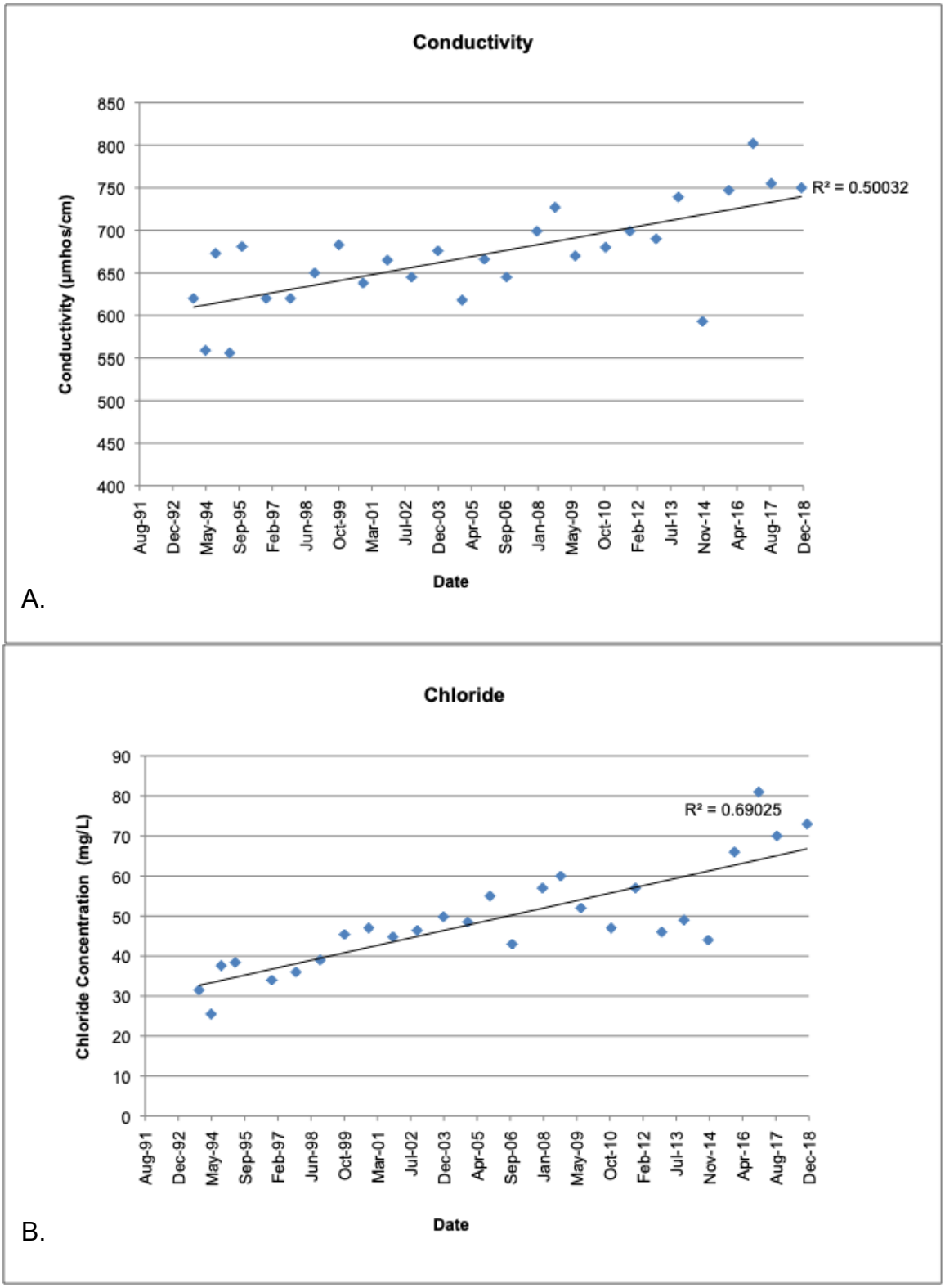


Figure 2 Historical Conductivity and Chloride Values in Mill Creek at SWM2 (1993 – 2018)

3.2 Surface Water Temperature

Water temperatures in the main channel of Mill Creek (SWM1, SWM2) for the summer of 2018 are shown in Figure 3 along with critical trout temperatures. The maximum tolerable temperature for brook trout is considered to be 24ºC (Raleigh 1982). Brook trout generally prefer water temperatures below 19-20 ºC so it is not surprising that they are generally excluded from the main branch of Mill Creek.

The maximum summer water temperature measured in Mill Creek in 2018 was 26.34ºC at SWM1 on July 1 at 16:00 hrs (Figure 3). The highest water temperature ever recorded in the Study Area was 27.9ºC in 2002. The maximum surface water temperature in 2018 occurred one days after the maximum air temperature which peaked at 32.05ºC on June 30, 2018 at 15:00 hrs after a prolonged period of warm air temperature. Water temperatures relative to air temperatures are discussed in further detail in Technical Appendix B. The main branch of Mill Creek within the study area exceeded the maximum temperature which brook trout can tolerate (24 ºC) on multiple occasions in 2018 (Figure 3). The upper tolerable temperature for brown trout (26.8ºC; Raleigh et al 1986) was not exceeded in 2018.

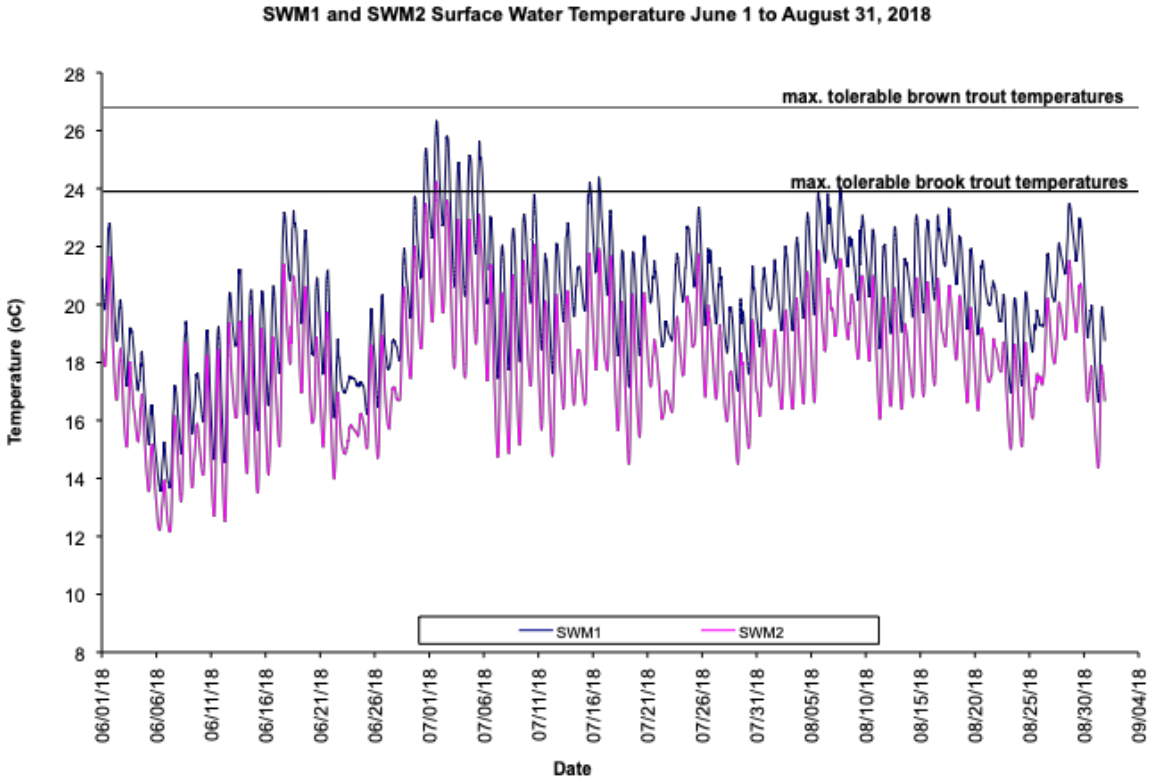


Figure 3 Thermographs from SWM1 and SWM2, for June 1 to August 31, 2018 (data from Stantec 2019)

Stream water temperatures have traditionally been cooler at the downstream SWM2 station compared with SWM1. This trend continued in 2018. When the maximum water temperature occurred at SWM1 (26.34°C: July 1 16:00), the temperature at SWM2 was 2.08°C lower (Figure 4). The maximum summer temperature at SWM2 in 2018 was 24.26°C on July 1. The greatest temperature difference between SWM1 and SWM2 during the summer of 2018 occurred on July 15th at 13:00 hrs when SWM2 was 3.89°C cooler than SWM1.

Surface water temperatures are cooler at SWM2 than SWM1 due to ground water input, inflow of the two coldwater tributaries and good shade from riparian vegetation within the University reach down to Concession Rd. 2. The maximum summer temperatures in the two small tributaries were only 13.95°C (SWM3) and 17.08°C (SWM4). Thus, this reach of Mill Creek continues to protect and enhance the coldwater attributes of the stream, and provides good habitat for brown trout.

The continuous temperature recorders also illustrate the effect of diurnal solar warming on Mill Creek water as the temperatures gradually rise during the day and cool off at night (Figure 4 and 5). Summer maximums for SWM1 and SWM2 occurred at the same time in 2018. At SWM1 the maximum daily temperature fluctuation was 3.62°C between July 1 and July 2 (Table 2). At SWM2 the temperature fluctuation was 4.55°C following the maximum temperature of 24.26°C.

The daily maximum temperature fluctuation at SWM3 was 2.70°C, and occurred between July 6 and 7th. The daily maximum temperature fluctuation at SWM4 was 3.59°C, and occurred between June 30th and July 1st (Figure 5).

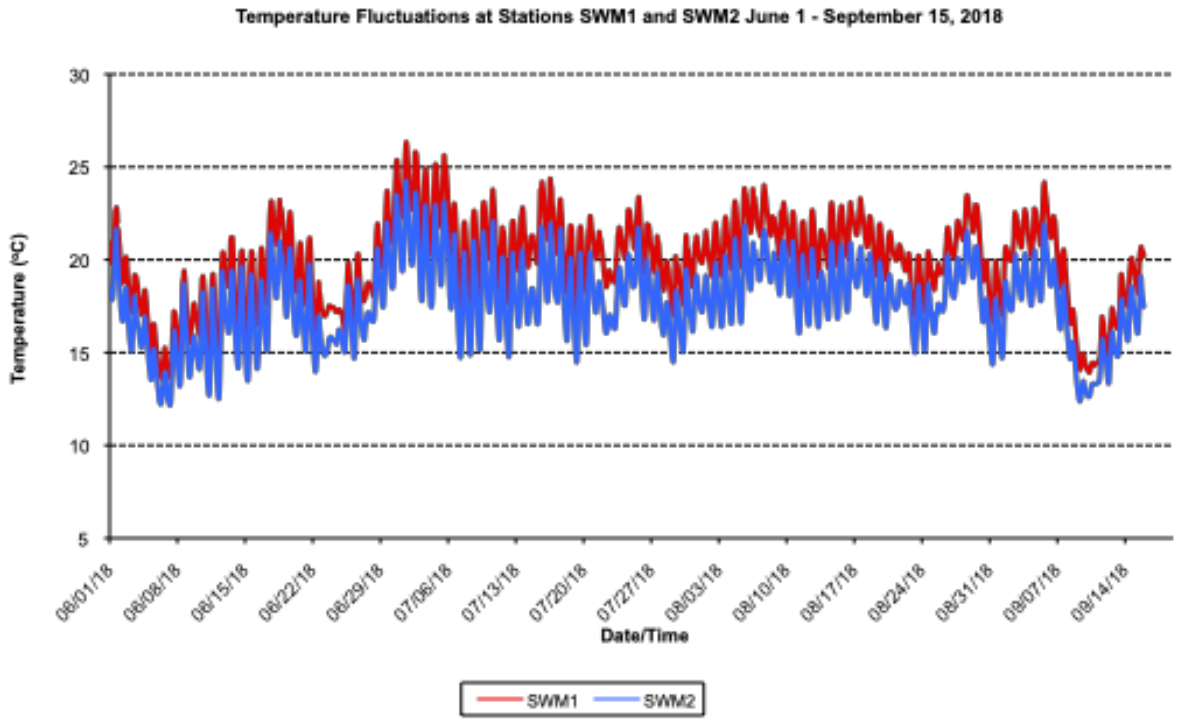


Figure 4 Diurnal Temperature Fluctuations from June 1 to September 15 at SWM1 and SWM2.

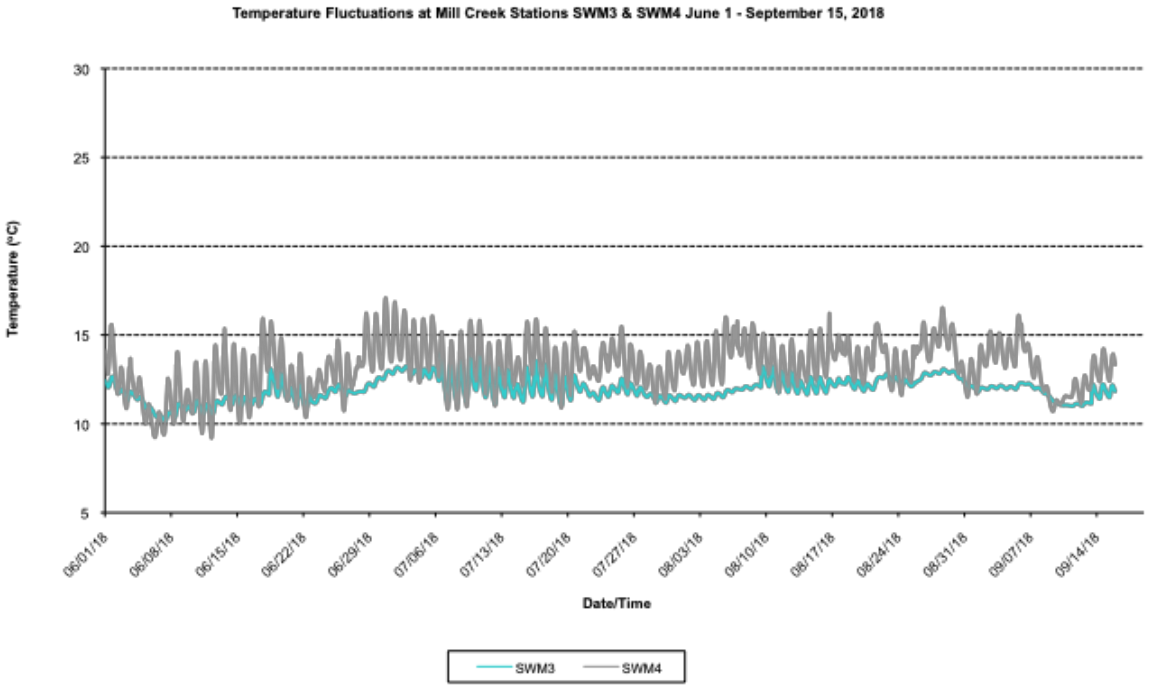


Figure 5 Diurnal Temperature Fluctuations from June 1 to September 15 at SWM3 and SWM4.

Table 2. Diurnal Temperature Difference Following Maximum Recorded Temperature at Each Surface Water Monitoring Station in 2018

Station	Summer Maximum			Post-Maximum Low			Fluctuation[a] (°C)
	Temp. (°C)	Date	Time	Temp. (°C)	Date	Time	
SWM 1	26.34	July 1	16:00	22.72	July 2	06:00	3.62
SWM 2	24.26	July 1	16:00	19.71	July 2	06:00	4.55
SWM 3	13.95	July 6	14:00	11.25	July 7	07:00	2.70
SWM 4	17.08	June 30	17:00	13.49	July 1	08:00	3.59
a. Difference between Summer maximum and minimum temperature the following day							

Figure 6 illustrates the maximum surface water temperatures recorded at SWM1 and SWM2 in Mill Creek since 1983. Figure 7 illustrates the maximum surface water temperatures recorded at SWM3 and SWM4 in Mill Creek since 1983. Surface water data were collected manually prior to 1997 and true maximum temperatures may not be represented by the dataset, since data were not recorded on a continual basis (sampling events were selected according to weather conditions). In addition, temperatures were typically recorded manually between noon and 3:00 pm but maximum temperatures are now usually observed after 4:00 pm. Therefore, while water temperatures appear

higher since 1998, maximum temperatures prior to 1997 may actually have been greater than those presented in Figures 6 and 7.

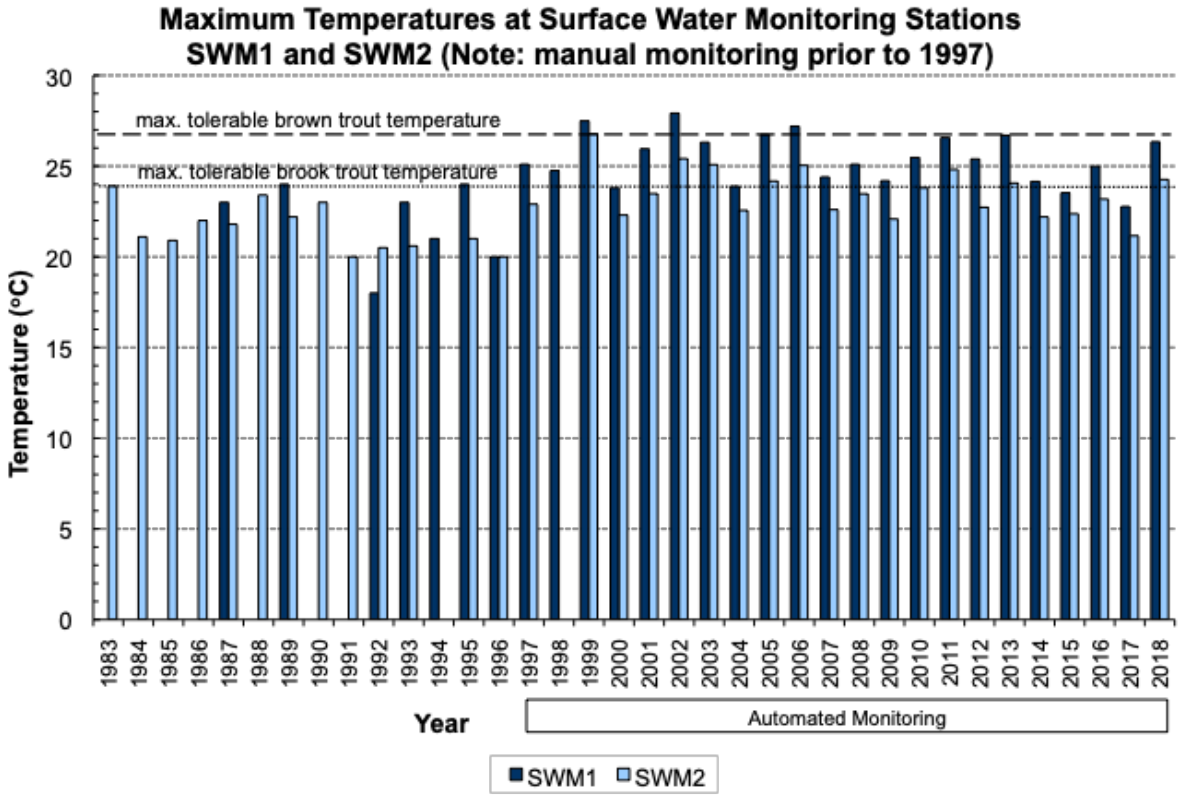


Figure 6 Historical Maximum Mid-Summer Water Temperatures in Mill Creek (1983 to 2018) at SWM1 and SWM2

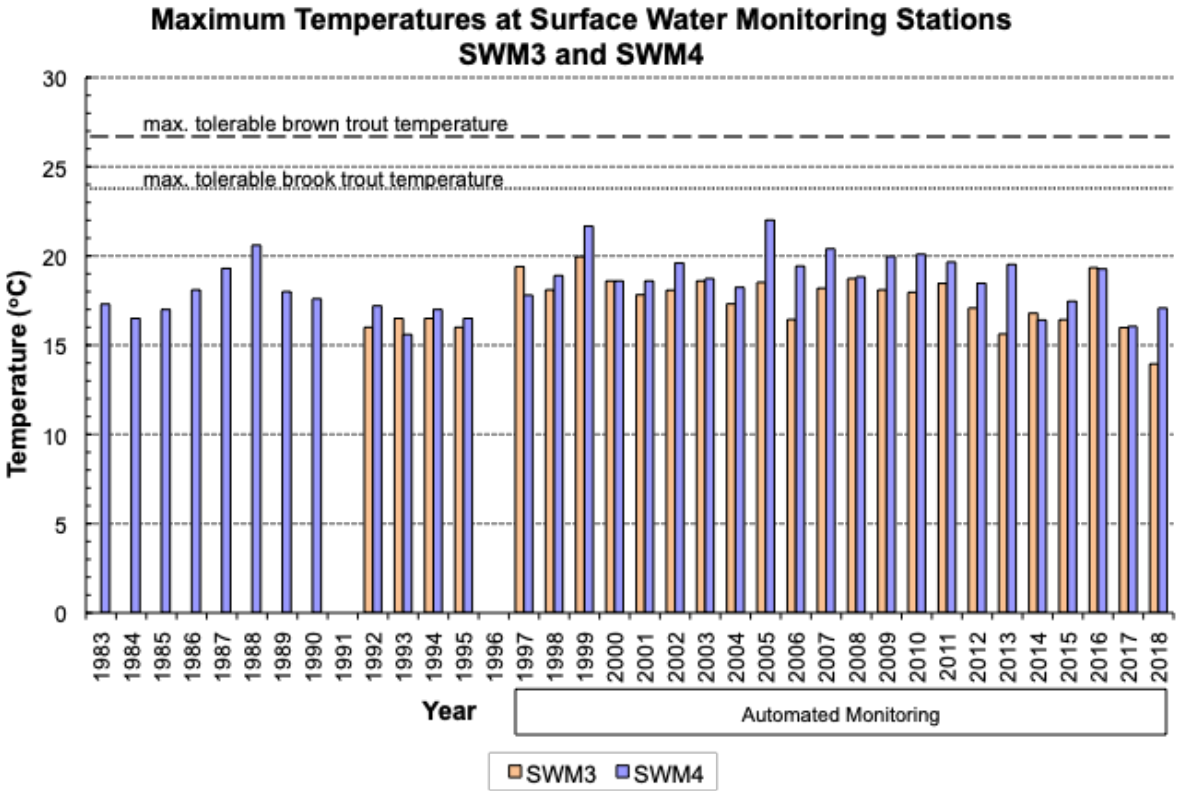


Figure 7 Historical Maximum Mid-Summer Water Temperatures in Mill Creek (1983 to 2018) for SWM3 and SWM4

3.3 Redd Surveys

The redd survey was conducted by Stantec staff on December 7, 2018. The number of redds in the University of Guelph reach was 43 (Figure 8). This is a marked decrease from 2017 and similar to red numbers pre-2000. The highest number of redds recorded to date in this reach was 194 in 2010.

The number of redds recorded in the Hanlon reach was 20 (Figure 9) which is lower than observed during the past 10 years. But 20 redds is in line with the numbers observed for the 20-year period 1984 to 2005 (Figure 9). The highest number of redds in this reach was 107 in 2016 which was also the first time that the number of redds in the Hanlon reach exceeded the number of redds in the University reach.

The locations of brown trout redds observed in the fall 2018 surveys are shown in Figure 10. The greatest spawning activity is typically concentrated toward the lower reaches of the Study Area, below the confluence of Pond Creek and in the vicinity between Pond Creek and SWM4. The majority of redds were again found in this area in 2018, despite the lower numbers overall. Large-scale habitat maps have been used for plotting the locations of redds since 2001. Not only are redds concentrated

in the same general areas each year, but many redds are made in the exact same locations from one year to the next.

The lower number of redds observed in 2018 compared with the past 10-12 years is most likely due to the high level of beaver activity and multiple dams that were created on both reaches of the creek. There are at least 3 dams on the system in the study reach that may be limiting fish movement through the system. Additional dams may be present upstream and/or downstream of the study area that we are not aware of which could further restrict fish movement. In particular there are two new dams in the upper Hanlon Reach, in areas that have seen a high number of redds in the past 12 years. In addition to restricting trout movement, the dams change water flow patterns, scouring new areas and causing sediment deposition. Thick sediments were observed to cover areas that previously provided suitable spawning substrate. The larger of the dams (near DP22) was constructed at a site that is known to consistently support many large redds in previous years. It is also possible that high water velocity created by the dams made some areas unsuitable for trout spawning.

In addition to direct habitat changes, the redds are likely under-reported in 2018 as the beaver activity may have made some redds difficult to detect. The dams and woody material across the stream covered the creek bottom to the extent that even if redds were present they were not visible and, therefore, would not be included in the survey count. The dams also cause areas of gravel scouring which would also mask redds.

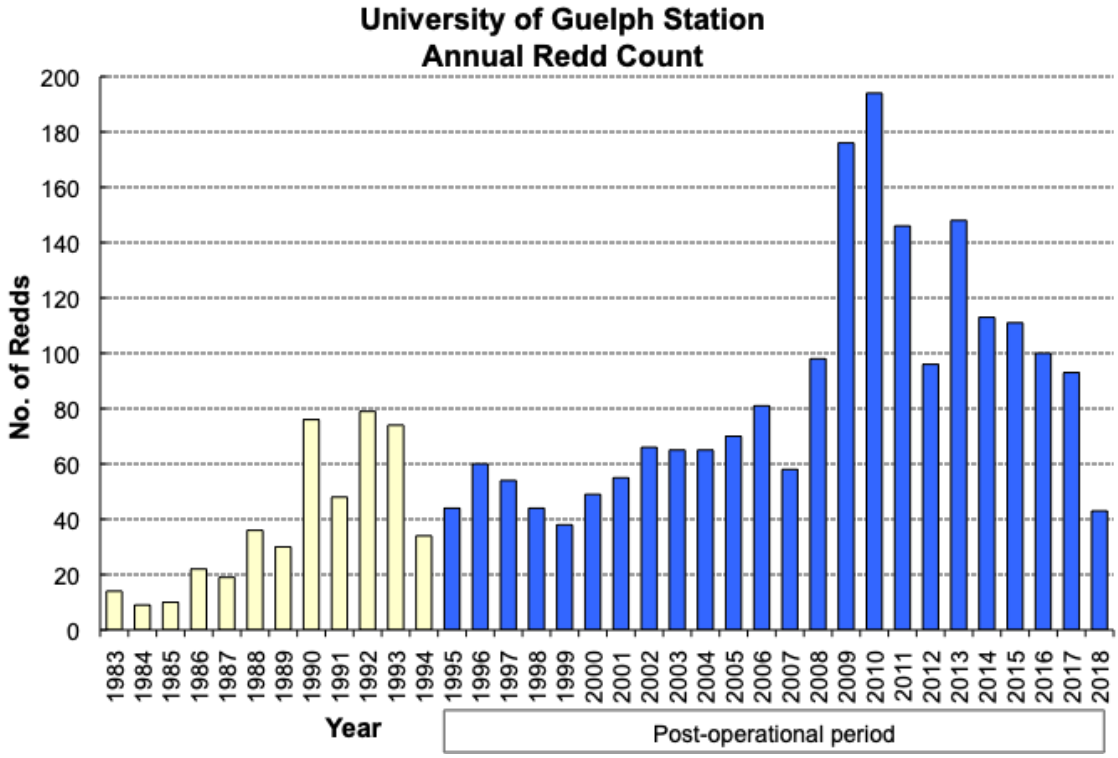


Figure 8 Annual Brown Trout Redd Counts in the University of Guelph Station.

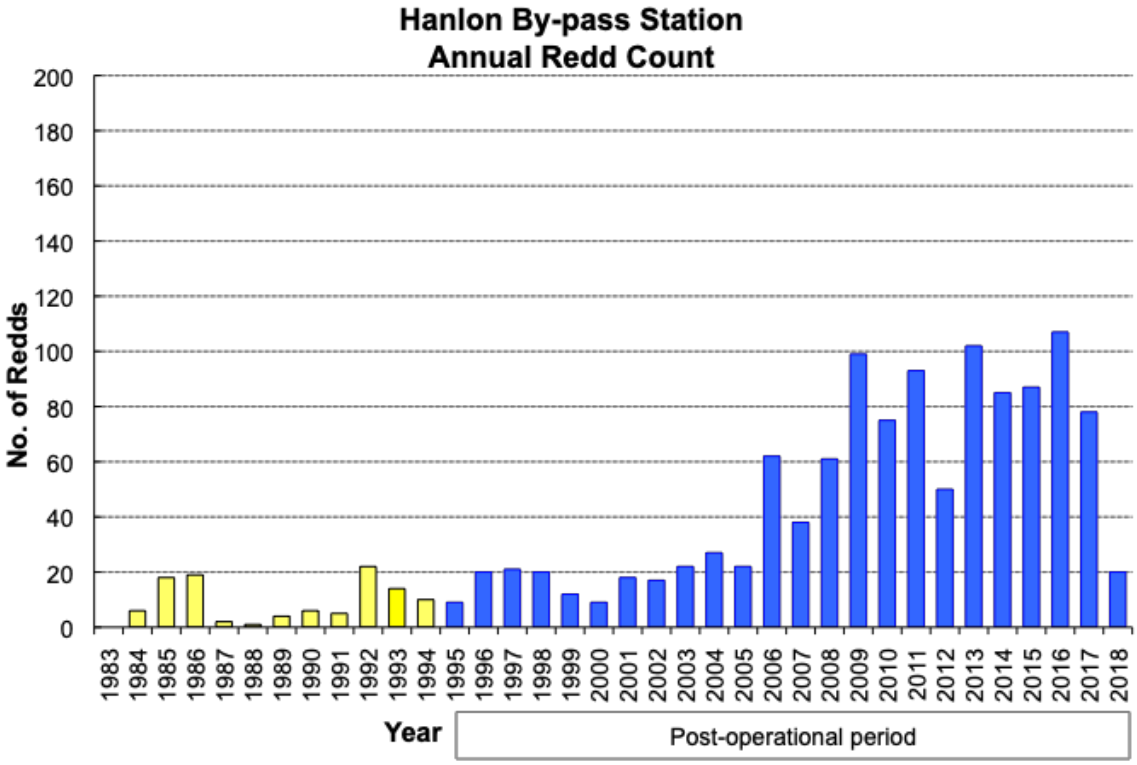


Figure 9 Annual Brown Trout Redd Counts in the Hanlon By-pass Station

Dufferin Aggregates hired a trapper to remove the beavers in the area in the fall of 2018. The trapper removed at least 5 large beavers near the dam at DP21. It is recommended that the beaver dams be removed in the summer of 2019 by the Stewardship Rangers. However, the ability to remove the beaver dams and conduct in-stream works downstream of the jet fuel spill will be dependant upon approval from the Ontario Ministry of Environment Conservation and Parks (MECP).

The amount of silt build-up in the lower part of the Hanlon reach continues to render it unsafe to conduct the redd survey or electrofishing in this area.

The lower number of redds observed in 2018 could result in reduced recruitment which might be reflected in lower trout Young of the Year (YOY) estimates during the planned fall 2019 electrofishing survey. Another confounding factor that might cause reduced recruitment and affect next year's YOY estimate is the spill of jet fuel that occurred on Hwy. 401 on January 13, 2019. An unknown, but potentially significant, quantity of jet fuel directly entered Mill Creek following the spill at approximately the location of Drive Point 17 (DP17) in the Hanlon reach. Active Brown trout spawning is known to occur here and downstream of this location.

At the time of this report the impact of the jet fuel on aquatic biota in Mill Creek including incubating trout eggs in this area is simply not known

Redd survey dates and results for all previous years are presented in Sub-Appendix C.

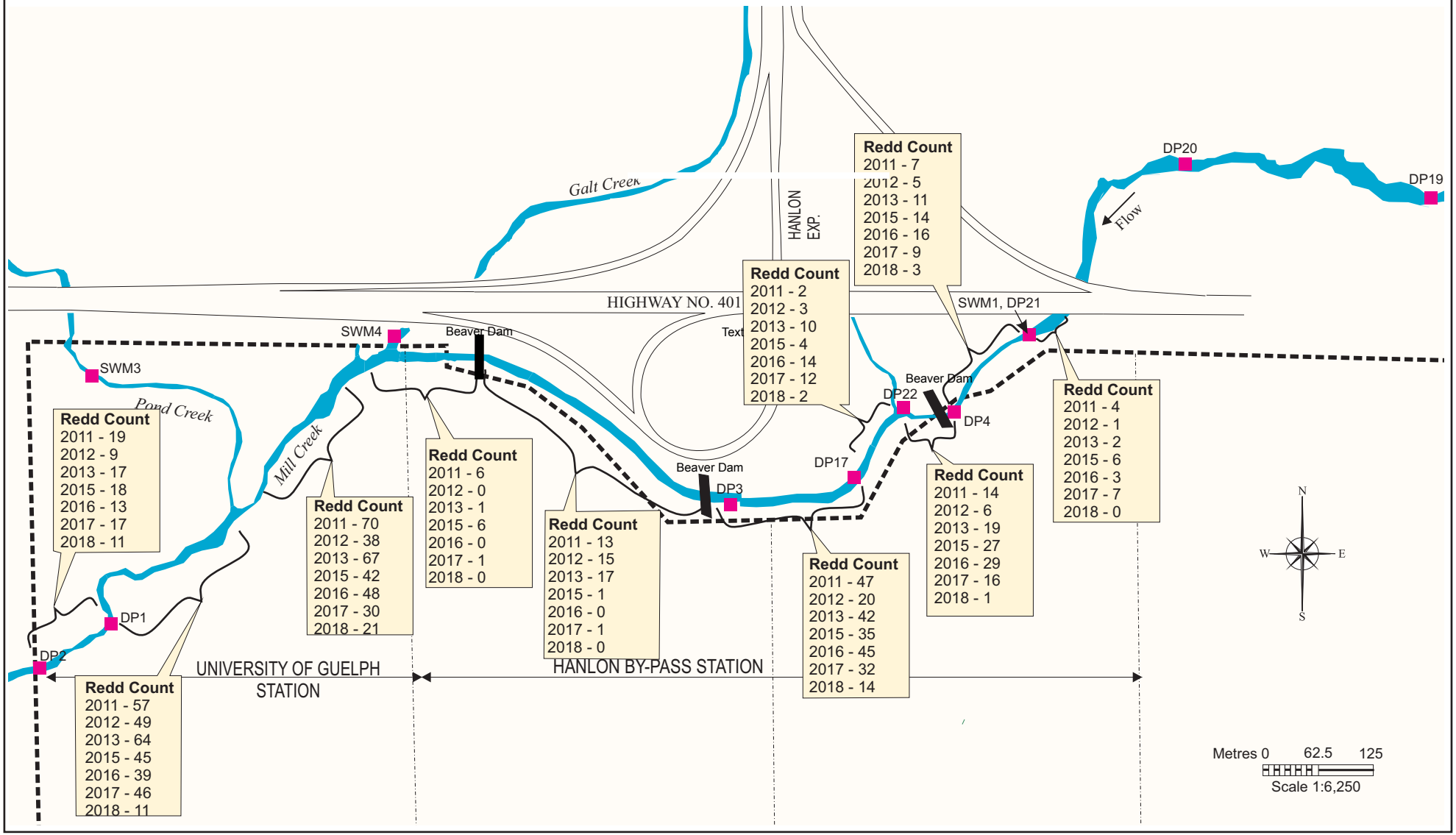
PROJECT NAME:	DATE INITIATED:	FILENAME:	
MILL CREEK FISHERIES MONITORING PROGRAM	February, 2008	MCFig10_2017.cdr	**FIGURE 10**

PREPARED FOR: DUFFERIN AGGREGATES

REVISION NO.	REVISION DATE	DESCRIPTION	REVISED BY:
-	-	-	-

BROWN TROUT REDD LOCATIONS 2011 - 2018

REV. NO.	DRAWN BY:	CHECKED BY:	SCALE:	PROJECT NO.:	APPROVED:
0	MAJ	LGW	AS SHOWN	10-001	LGW



4. Summary and Recommendations

4.1 Summary

Water chemistry has not changed notably in Mill Creek or its tributaries. However, Chloride and conductivity levels appear to be trending upwards in recent years likely as a result of road salt entering the environment.

The maximum summer water temperatures in Mill Creek in 2018 were similar to recent years. The maximum tolerable temperature for brook trout was exceeded at SWM1 on multiple occasions and on one occasion at SWM2. The maximum tolerable temperature for brown trout was not exceeded at any of the stations in 2018. Water temperature in Mill Creek continues to decline as it passes through the study area as a result of groundwater input, contributions from two coldwater tributaries and good riparian shading.

The brown trout population survey was not conducted in 2018 as per the current monitoring program and is proposed for 2019. However, due to the fuel remediation activities and possible long-term presence of the jet fuel in Mill Creek, the Ontario Ministry of the Environment Conservation and Parks (MECP) may prohibit any in-stream activities in 2019, including the electrofishing and red survey components of the approved monitoring program.

This was the 35th consecutive year of trout redd surveys. Spawning activity as indicated by the observed number of redds was considerably lower in both the University and Hanlon reaches in 2018 compared with the past 10-12 years. However, there has been significant natural fluctuations over the past 3 decades and the redd count in 2018 was more similar to numbers observed from 1984 to 2005.

Beaver activity was likely the key factor reducing the number of trout redds in 2018. Removal of the multiple beaver dams is recommended in July 2019 by the Stewardship Rangers during the appropriate in-water work timing window. However, this too may not be permitted if the MECP prohibits in-stream activities.

Although the number of redds was lower in 2018 there has been no consistent reduction in any biological or habitat variable that would suggest impacts to fisheries production or fisheries habitat related to aggregate extraction. Therefore, Dufferin Aggregates continues to be in compliance with Licence Condition #23, which states there must be no “net loss of the productive capacity of fish habitat in Mill Creek or its tributaries."

4.2 Biological Thresholds

Warning threshold values were proposed and implemented for some of the monitoring components (*e.g*. ground water) for Mill Creek to implement actions, which might include mitigation and/or habitat enhancement. For the fisheries and biological parameters, the "action thresholds" to be considered were (from the original 1993 Coordinated Report on Monitoring Programs):

1. "Consistent reduction in fisheries production as indicated by spawning activity, salmonid biomass estimates or other biological indicators";
2. "Consistent reduction in fisheries habitat as indicated by physical habitat attributes (*e.g*. stream cross sections)"; and
3. "Measured changes in water quality for fish".

To date, there has not been a reduction in fisheries (trout) production in any of the study reaches. On the contrary, the average number of trout is higher, for the post-extraction period.

To date, there has not been a reduction in fish habitat.

There has been no measurable change in water quality in Mill Creek.

Numerical Threshold levels would be difficult to establish for this component of the program. Fluctuations in fish populations (29 years of data) and redd counts (35 years of data) have occurred in the past, and are attributed to several factors unrelated to gravel extraction.

4.3 Recommendations

The trout population and the redd survey form the core of the fisheries monitoring program. It is recommended that Dufferin Aggregates continue to conduct the redd survey annually, and to continue the trout population electrofishing surveys in Mill Creek every two years.

We recommend that the identification and approximate enumeration of other species should continue, to monitor potential intrusion by other species. The intrusion of other species (*e.g*. bass, pike) could negatively impact the resident trout populations.

The Bond Tract continues to be a poor reference area due to the different fish habitat it provides but will continue to be used to highlight any general trends in the Mill Creek brown trout population.

Water quality data should continue to be collected at all four sampling locations. It is recommended that water samples be collected twice in 2019; once in late fall around the redd survey and once during the summer particularly to assess chloride levels at a time of year when road salts should not be a factor.

Removal of beaver dams and debris is once again recommended in 2019.

Study team members should continue to monitor remediation activities related to the jet fuel spill and collect information related to the dispersal and impacts of the fuel spill to assist with interpretation of upcoming electrofishing results.

5. References

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Sub Appendix A

Water Quality Data (1993-2017)
&
Summary of Historical Conductivity & Alkalinity Values

Appendix Table A-1.	Mill Creek Water Quality Monitoring; Nov. 25, 1993 (ESP).					
	SWM1 Hwy 401	SWM4 Galt Ck	SWM3 Pond Ck	SWM2 (boundary)	PWQO1	LOQ2
All units are mg/L unless indicated otherwise.						
Temperature (ºC)	0	1.5	3	1.5	-	
pH (units)	7.4	7.3	7.3	7.3	6.5-8.5	0.01
Conductivity (umhos/cm)	590	700	600	620	-	1
Hardness (mg/L as CaCo3)	320	320	310	300	-	1
Alkalinity (bicarbonate)	250	240	250	250	-	
Alkalinity (carbonate)	5	5	5	5	-	
Alkalinity (Total)	250	240	250	250	-	1
Chloride	20.7	56.7	15.8	31.5	-	0.05
Nitrate	0.45	1.55	3.62	0.68	see[3]	0.03
Nitrite	0.15	0.15	0.15	0.15	0.06[4]	0.03
Ammonia[5]	0.042 (0.0005)	0.042 (0.0005)	0.042 (0.0005)	0.07 (0.0008)	1.2 (0.02)	0.02
Orthophosphate	0.022	0.022	0.022	0.022	-	0.05
Total Phosphorus	0.022	0.022	0.022	0.022	0.03	0.01
Total Organic Carbon	4.25	3.18	2.48	3.78	-	0.05
BOD5	1.7	2	2	1.7	-	1
Chemical Oxygen Demand	31	14	2.7	57	-	5
Total Suspended Solids	2.3	1.6	4.3	2.0		1
Fecal Coliforms (CFU/100ml)	2	4	3	4		
Total Coliforms (CFU/100ml)	18	23	17	19		

[1] PWQO = Provincial Water Quality Guideline for the Protection of Aquatic Life (- no guideline)
[2] LOQ = Limit of Quantitation
[3] concentrations that stimulate prolific weed growth should be avoided
[4] federal guideline (CCREM)
[5] at pH 7.5 and 20ºC

Appendix Table A-2.	Mill Creek Water Quality Monitoring; May 11, 1994 (ESP).					
	SWM1 Hwy 401	SWM4 Galt Ck	SWM3 Pond Ck	SWM2 (boundary)	PWQO1	LOQ2
All units are mg/L unless indicated otherwise.						
Temperature (ºC)						
pH (units)	7.9	8.06	8.05	8.1	6.5-8.5	0.01
Conductivity (umhos/cm)	522	641	557	559	-	1
Hardness (mg/L as CaCo3)	280	294	299	287	-	1
Alkalinity (bicarbonate)	230	235	244	233	-	
Alkalinity (carbonate)	1.7	2.5	2.6	2.8	-	
Alkalinity (Total)	234	237	247	236	-	1
Chloride	16.7	49.9	16.6	25.5	-	0.05
Nitrate	0.30	0.77	3.05	0.46	see[3]	0.03
Nitrite	nd	nd	nd	nd	0.06[4]	0.03
Ammonia[5]	0.03 (0.001)	nd (0.000)	nd (0.000)	0.04 (0.002)	1.2 (0.02)	0.02
Orthophosphate	nd	nd	nd	nd	-	0.05
Total Phosphorus	0.06	0.04	0.04	nd	0.03	0.01
Total Organic Carbon	3.44	3.13	1.47	3.23	-	0.05
BOD5	nd	nd	nd	nd	-	1
Chemical Oxygen Demand	15	13	7	14	-	5
Total Suspended Solids	2	1	1	1		1
Fecal Coliforms (CFU/100ml)	<1	3	<1	3		
Total Coliforms (CFU/100ml)	<2	6	<2	10		

[1] PWQO = Provincial Water Quality Guideline for the Protection of Aquatic Life (- no guideline)
[2] LOQ = Limit of Quantitation
[3] concentrations that stimulate prolific weed growth should be avoided
[4] federal guideline (CCREM)
[5] value in brackets is calculated un-ionized ammonia at pH 8.0 and 20EC

Appendix Table A-3.	Mill Creek Water Quality Monitoring; Oct. 17, 1994 (ESP).					
	SWM1 Hwy 401	SWM4 Galt Ck	SWM3 Pond Ck	DP2	PWQO1	LOQ2
All units are mg/L unless indicated otherwise.						
Temperature (ºC)						
pH (units)	8.6	8.4	8.3	8.5	6.5-8.5	0.01
Conductivity (umhos/cm)	592	765	630	673	-	1
Hardness (mg/L as CaCo3)	293	335	329	313	-	1
Alkalinity (bicarbonate)	229	254	252	238	-	
Alkalinity (carbonate)	3	3	2	2	-	
Alkalinity (Total)	232	257	254	240	-	1
Chloride	21.2	61.1	14.3	37.6	-	0.05
Nitrate					see[3]	0.03
Nitrite					0.06[4]	0.03
Ammonia[5]	nd	nd	0.05	nd	1.2 (0.02)	0.01
Orthophosphate	<0.01	<0.01	<0.01	0.06	-	0.05
Total Phosphorus	0.03	0.07	0.03	0.03	0.03	0.02
Total Organic Carbon	2.1	0.3	nd	1.5	-	0.3
BOD5	nd	nd	nd	nd	-	2
Chemical Oxygen Demand	14	36	nd	12	-	10
Total Suspended Solids	2	2	2	2		1
Fecal Coliforms (CFU/100ml)	15	12	14	10		
Total Coliforms (CFU/100ml)	42	38	40	66		

[1] PWQO = Provincial Water Quality Guideline for the Protection of Aquatic Life (- no guideline)
[2] LOQ = Limit of Quantitation
[3] concentrations that stimulate prolific weed growth should be avoided
[4] federal guideline (CCREM)
[5] value in brackets is calculated un-ionized ammonia at pH 8.0 and 20EC
nd not detected

Appendix Table A-4.	Mill Creek Water Quality Monitoring; May 17, 1995 (Jagger Hims Ltd).					
	SWM1 Hwy 401	SWM4 Galt Ck	SWM3 Pond Ck	DP2	PWQO1	LOQ2
All units are mg/L unless indicated otherwise.						
Temperature (°C)						
pH (units)	8.11	8.06	8.19	8.12	6.5-8.5	0.01
Conductivity (umhos/cm)	514	635	572	556	-	1
Hardness (mg/L as CaCo3)	291	309	249	298	-	1
Alkalinity (bicarbonate)	206	228	149	216	-	0.1
Alkalinity (carbonate)	2.5	2.5	2.2	2.7	-	0.1
Alkalinity (Total)	208	231	151	219	-	1
Chloride	27.2	84.5	86.8	38.4	-	0.05
Nitrate	0.34	0.95	2.87	0.63	see[3]	0.03
Nitrite	nd	nd	nd	nd	0.06[4]	0.03
Ammonia[5]	0.21	0.07	0.01	0.3	1.2 (0.02)	0.01
Orthophosphate	nd	nd	nd	nd	-	0.05
Total Phosphorus	nd	nd	nd	nd	0.03	0.06
Total Organic Carbon	4.9	4.9	nd	3.9	-	0.5
BOD5	2	2	6	2	-	2
Chemical Oxygen Demand	17	15	nd	15	-	10
Total Suspended Solids	nd	nd	nd	nd		5
Fecal Coliforms (CFU/100ml)	89	61	nd	70		1
Total Coliforms (CFU/100ml)	260	160	4	240		2

[1] PWQO = Provincial Water Quality Guideline for the Protection of Aquatic Life (- no guideline)
[2] LOQ = Limit of Quantitation
[3] concentrations that stimulate prolific weed growth should be avoided
[4] federal guideline (CCREM)
[5] value in brackets is calculated un-ionized ammonia at pH 8.0 and 20EC
nd not detected

Appendix Table A-5.	Mill Creek Water Quality Monitoring; Nov. 16, 1995 (ESP).					
	SWM1 Hwy 401	SWM4 Galt Ck	SWM3 Pond Ck	DP2	PWQO1	LOQ2
All units are mg/L unless indicated otherwise.						
Temperature (ºC)						
pH (units)	7.5	7.7	7.7	7.7	6.5-8.5	0.01
Conductivity (umhos/cm)	567	806	604	681	-	1
Hardness (mg/L as CaCo3)	250	263	277	254	-	1
Alkalinity (bicarbonate)	185	191	228	191	-	10
Alkalinity (carbonate)	0	0	0	0	-	
Alkalinity (Total)	185	191	228	191	-	10
Chloride	23.8	103	209	62.4	-	0.11
Nitrate	0.29	0.66	3.15	0.46	see[3]	0.05
Nitrite					0.06[4]	0.04
Ammonia[5]	nd	nd	nd	nd	1.2 (0.02)	0.057
Orthophosphate	nd	nd	nd	nd	-	0.022
Total Phosphorus	nd	nd	nd	nd	0.03	0.022
Total Organic Carbon	13.2	12.7	4.84	12.5	-	1
BOD5	nd	nd	nd	nd	-	2
Chemical Oxygen Demand	33	33	17	31	-	5
Total Suspended Solids	3.2	2.8	nd	2.0		1.4
Fecal Coliforms (CFU/100ml)	20	60	4	28		0
Total Coliforms (CFU/100ml)	300	600	180	200		0

[1] PWQO = Provincial Water Quality Guideline for the Protection of Aquatic Life (- no guideline)
[2] LOQ = Limit of Quantitation
[3] concentrations that stimulate prolific weed growth should be avoided
[4] federal guideline (CCREM)
[5] value in brackets is calculated un-ionized ammonia at pH 8.0 and 20EC
nd not detected

AppendixTableA-6.	Mill Creek Water Quality Monitoring; Nov. 19, 1996 (ESP)					
	SWM1 Hwy 401	SWM4 Galt Ck	SWM3 Pond Ck	SWM2 (boundary)	PWQO1	LOQ2
All units are mg/L unless indicated otherwise.						
Temperature (°C)						
pH (units)	8.2	8.0	8.0	8.1	6.5-8.5	0.01
Conductivity (umhos/cm)	570	670	600	620	-	0.8
Hardness (mg/L as CaCo3)	310	310	310	310	-	10
Alkalinity (bicarbonate)	260	250	260	260	-	10
Alkalinity (carbonate)	nd	nd	nd	nd	-	10
Alkalinity (Total)	260	250	260	260	-	10
Chloride	22	57	16	34	-	0.2
Nitrate	0.65	1.2	3.7	0.90	see[3]	0.05
Nitrite	nd	nd	nd	nd	0.06[4]	0.1
Ammonia[5]	nd	nd	nd	nd	1.2 (0.02)	0.10
Orthophosphate	nd	nd	nd	nd	-	0.3
Total Phosphorus	0.03	0.08	0.08	0.12	0.03	0.02
Total Organic Carbon	20	12	12	10	-	1
BOD5	nd	nd	nd	nd	-	2
Chemical Oxygen Demand	nd	nd	nd	nd	-	5
Total Suspended Solids	2	nd	nd	1.6		1
Fecal Coliforms (CFU/100ml)	10	0	20	10		0
Total Coliforms (CFU/100ml)	470	270	420	400		0

[1] PWQO = Provincial Water Quality Guideline for the Protection of Aquatic Life (- no guideline)
[2] LOQ = Limit of Quantification
[3] concentrations that stimulate prolific weed growth should be avoided
[4] federal guideline (CCREM)
[5] value in brackets is calculated un-ionized ammonia at pH 8.0 and 20□C
nd not detected

Appendix Table A-7.	Mill Creek Water Quality Monitoring; Nov. 6, 1997 (ESP).					
	SWM1 Hwy 401	SWM4 Galt Ck	SWM3 Pond Ck	SWM2 (boundary)	PWQO1	LOQ2
All units are mg/L unless indicated otherwise.						
Temperature (ºC)	7	6.5	6	6		
pH (units)	7.8	7.8	7.7	7.7	6.5-8.5	0.01
Conductivity (umhos/cm)	580	720	610	620	-	0.8
Hardness (mg/L as CaCo3)	340	350	340	320	-	10
Alkalinity (bicarbonate)	220	240	260	230	-	10
Alkalinity (carbonate)	nd	nd	nd	nd	-	10
Alkalinity (Total)	220	240	260	230	-	10
Chloride	25	61	18	36	-	0.2
Nitrate	0.64	1.1	3.8	0.86	see[3]	0.05
Nitrite	nd	nd	nd	nd	0.06[4]	0.1
Ammonia[5]	nd	nd	nd	nd	1.2 (0.02)	0.10
Orthophosphate	nd	nd	nd	nd	-	0.02
Total Phosphorus	nd	nd	nd	nd	0.03	0.02
Total Organic Carbon	9.2	6.6	4.0	9.2	-	0.5
BOD5	nd	nd	nd	nd	-	2
Chemical Oxygen Demand	10	9	nd	19	-	5
Total Suspended Solids	4	2	2	2		1
Fecal Coliforms (CFU/100ml)	40	50	5	30		0
Total Coliforms (CFU/100ml)	80	160	150	100		0

[1] PWQO = Provincial Water Quality Guideline for the Protection of Aquatic Life (- no guideline)
[2] LOQ = Limit of Quantitation
[3] concentrations that stimulate prolific weed growth should be avoided
[4] federal guideline (CCREM)
[5] value in brackets is calculated un-ionized ammonia at pH 8.0 and 20EC
nd not detected

Appendix Table A-8.	Mill Creek Water Quality Monitoring; Nov. 6, 1998.					
	SWM1 Hwy 401	SWM4 Galt Ck	SWM3 Pond Ck	SWM2 (boundary)	PWQO1	LOQ2
All unitsare mg/L unless indicated otherwise.						
Temperature (ºC)	6	4	5	6		
pH (units)	8.3	8.2	7.9	8.2	6.5-8.5	0.01
Conductivity (umhos/cm)	580	630	690	650	-	0.8
Hardness (mg/L as CaCo3)	310	360	370	320	-	10
Alkalinity (bicarbonate)	260	280	270	260	-	10
Alkalinity (carbonate)	nd	nd	nd	Nd	-	10
Alkalinity (Total)	260	280	270	260	-	10
Chloride	23	16	31	39	-	0.2
Nitrate	0.47	5	0.21	1.2	see[3]	0.05
Nitrite	nd	nd	nd	nd	0.06[4]	0.1
Ammonia[5]	nd	nd	nd	nd	1.2 (0.02)	0.10
Orthophosphate	nd	nd	nd	nd	-	0.02
Total Phosphorus	0.07	0.05	0.06	0.06	0.03	0.02
Total Organic Carbon	2.5	0.8	0.69	2.9	-	0.5
BOD5	nd	nd	nd	2	-	2
Chemical Oxygen Demand	nd	nd	nd	7	-	5
Total Suspended Solids	22	6	nd	4		1
Fecal Coliforms (CFU/100ml)	170	nd	<10	70		0
Total Coliforms (CFU/100ml)	>2000	640	1600	2500		0

[1] PWQO = Provincial Water Quality Guideline for the Protection of Aquatic Life (- no guideline)
[2] LOQ = Limit of Quantitation
[3] concentrations that stimulate prolific weed growth should be avoided
[4] federal guideline (CCREM)
[5] value in brackets is calculated un-ionized ammonia at pH 8.0 and 20°C
nd not detected

Appendix Table A-9.	Mill Creek Water Quality Monitoring; Nov. 11, 1999.					
	SWM1 Hwy 401	SWM4 Galt Ck	SWM3 Pond Ck	SWM2 (boundary)	PWQO1	LOQ2
All units are mg/L unless indicated otherwise.						
Temperature (ºC)						
pH (units)	8.10	8.10	7.74	8.12	6.5-8.5	0.01
Conductivity (umhos/cm)	635	634	922	683	-	0.8
Hardness (mg/L as CaCo3)	312	353	395	349	-	10
Alkalinity (bicarbonate)					-	10
Alkalinity (carbonate)					-	10
Alkalinity (Total)	237	284	239	243	-	10
Chloride	32.7	18.8	63.5	45.4	-	0.2
Nitrate	0.5	3.2	0.2	0.7	see[3]	0.05
Nitrite	<0.1	<0.1	<0.1	<0.1	0.06[4]	0.1
Ammonia[5]	<0.05	<0.05	<0.05	<0.05	1.2 (0.02)	0.10
Orthophosphate	0.012	0.009	0.014	0.011	-	0.02
Total Phosphorus	<0.02	<0.02	<0.02	<0.02	0.03	0.02
Total Organic Carbon	4.7	1.9	6.7	4.3	-	0.5
BOD5	<2	<2	<2	<2	-	2
Chemical Oxygen Demand	18.0	<4	19.0	12.0	-	5
Total Suspended Solids	<1	1	5	<1		1
Fecal Coliforms (CFU/100ml)	60	<10	<10	50		0
Total Coliforms (CFU/100ml)	1200	900	300	2200		0

[1] PWQO = Provincial Water Quality Guideline for the Protection of Aquatic Life (- no guideline)
[2] LOQ = Limit of Quantitation
[3] concentrations that stimulate prolific weed growth should be avoided
[4] federal guideline (CCREM)
[5] value in brackets is calculated un-ionized ammonia at pH 8.0 and 20°C
nd not detected

Appendix Table A-10. Mill Creek Water Quality Monitoring; Oct. 31, 2000.						
	SWM1 Hwy 401	SWM4 Galt Ck	SWM3 Pond Ck	SWM2 (boundary)	PWQO1	LOQ2
All units are mg/L unless indicated otherwise.						
Temperature (ºC)						
pH (units)	8.35	8.3	8.31	8.29	6.5-8.5	0.01
Conductivity (umhos/cm)					-	0.8
Hardness (mg/L as CaCo3)	316	359	343	334	-	10
Alkalinity (Total)	252	262	276	253	-	10
Chloride	22	82	16	47	-	0.2
Nitrate	0.4	1.48	4.38	0.84	see[3]	0.05
Nitrite	<0.06	<0.06	<0.06	<0.06	0.06[4]	0.1
Ammonia[5]	0.2	<0.1	<0.1	0.4	1.2 (0.02)	0.10
Orthophosphate	0.012	0.009	0.014	0.011	-	0.02
Total Phosphorus	0.04	<0.03	<0.03	<0.03	0.03	0.02
Total Organic Carbon	4.3	2.5	1.9	3.9	-	0.5
BOD5	2	2	2	2	-	2
Chemical Oxygen Demand	<8	<8	<8	8	-	5
Total Suspended Solids	<3	4	<3	<3		1
Fecal Coliforms (CFU/100ml)	18	8	24	15		0
Total Coliforms (CFU/100ml)	34	31	45	29		0

[1] PWQO = Provincial Water Quality Guideline for the Protection of Aquatic Life (- no guideline)
[2] LOQ = Limit of Quantitation
[3] concentrations that stimulate prolific weed growth should be avoided
[4] federal guideline (CCREM)
[5] value in brackets is calculated un-ionized ammonia at pH 8.0 and 20°C
nd not detected

Appendix Table A-11. Mill Creek Water Quality Monitoring; Nov. 14, 2001.						
	SWM 1 Hwy. 401	SWM 4 Galt Crk.	SWM 3 Pond Crk.	SWM 2 (boundary)	PWQ01	L0Q2
All units are mg/L, unless otherwise indicated.						
pH (units)	8.28	8.06	8.16	8.20	6.5 – 8.5	0.01
Conducivity (μmhos/cm)	611	810	644	665	-	0.2
Hardness (mg/L as CaCo3)	335	384	356	343	-	10
Alkalinity (Total)	235	253	266	241	-	1
Chloride	27.0	80.6	21.4	44.8	-	0.15
Nitrate	0.5	1.5	4.2	0.9	See[3]	0.1
Nitrite	ND	ND	ND	ND	0.06[4]	0.1
Ammonia[5]	ND	ND	ND	ND	1.2 (0.02)	0.05
Orthophosphate	ND	ND	ND	ND	-	0.005
Total Phosphorus	0.12	0.05	0.19	0.04	0.03	0.02
Total Organic Carbon	6.2	2.9	2.1	5.1	-	0.2
BOD5	ND	ND	ND	ND	-	2
Chemical Oxygen Demand	17.4	12.1	10	18.0	-	5
Total Suspended Solids	ND	ND	3	ND		1
Fecal Coliforms (CFU/100ml)	<10	200	<10	200	100	0
Total Coliforms (CFU/100ml)	240	200	180	500		0

[1] PWQO = Provincial Quality Guideline for the Protection of Aquatic Life (- denotes no guideline)
[2] LOQ = Limit of Quantitation
[3] concentrations that stimulate prolific weed growth should be avoided
[4] federal guideline (CCREM)
[5] value in brackets is calculated un-ionized ammonia at pH 8.0 and 20°C
ND = not detected

Appendix Table A-12. Mill Creek Water Quality Monitoring; Nov. 14, 2002.						
	SWM 1 Hwy. 401	SWM 4 Galt Ck.	SWM 3 Pond Ck.	DP2	PWQ01	L0Q2
All units are mg/L, unless otherwise indicated.						
pH (units)	8.15	8.12	8.03	8.12	6.5 – 8.5	0.01
Conducivity (μmhos/cm)	571	804	609	645	-	0.2
Hardness (mg/L as CaCo3)	328	374	355	344	-	N/A
Alkalinity (Total)	250	280	277	259	-	1
Chloride	24.8	95.8	21.5	46.4	-	0.15
Nitrate	0.6	1.6	3.5	1.0	See[3]	0.1
Nitrite	ND	ND	ND	ND	0.06[4]	0.1
Ammonia[5]	ND	ND	ND	ND	1.2 (0.02)[5]	0.05
Orthophosphate	0.005	0.006	0.010	0.005	-	0.005
Total Phosphorus	0.10	ND	ND	ND	0.03	0.02
Total Organic Carbon	7.5	6.0	6.0	7.5	-	0.1
BOD5	4	7	ND	ND	-	1[6]
Chemical Oxygen Demand	13.0	17.0	13.7	15.0	-	4
Total Suspended Solids	ND	ND	ND	ND	-	1
Fecal Coliforms (CFU/100ml)	>200	16	27	>200	100	N/A
Total Coliforms (CFU/100ml)	>200	27	32	>200	-	N/A

[1] PWQO = Provincial Quality Guideline for the Protection of Aquatic Life (- denotes no guideline)
[2] LOQ = Limit of Quantitation
[3] concentrations that stimulate prolific weed growth should be avoided
[4] federal guideline (CCREM)
[5] value in brackets is calculated un-ionized ammonia at pH 8.0 and 20°C
[6] LOQ is 3 for samples DP2 and SWM3
ND = not detected
N/A = not applicable

Appendix Table A-13. Mill Creek Water Quality Monitoring; Nov. 14, 2003.						
	SWM 1 Hwy. 401	SWM 4 Galt Ck.	SWM 3 Pond Ck.	DP2	PWQ01	L0Q2
All units are mg/L, unless otherwise indicated.						
pH (units)	8.19	8.10	8.13	8.15	6.5 – 8.5	0.01
Conducivity (μmhos/cm)	631	767	620	676	-	0.2
Hardness (mg/L as CaCo3)	313	323	340	320	-	N/A
Alkalinity (Total)	243	249	265	244	-	1
Chloride	33.9	81.6	21.9	49.8	-	0.15
Nitrate	0.7	1.4	3.7	1.0	See[3]	0.1
Nitrite	ND	ND	ND	ND	0.06[4]	0.1
Ammonia[5]	0.06	ND	ND	0.06	1.2 (0.02)[5]	0.05
Orthophosphate	0.006	0.009	0.005	0.006	-	0.005
Total Phosphorus	ND	ND	ND	ND	0.03	0.02
Total Organic Carbon	6.0	5.2	1.7	5.4	-	0.1
BOD5	ND	ND	ND	ND	-	1[6]
Chemical Oxygen Demand	21.0	15.0	11.0	15.0	-	4
Total Suspended Solids	1	ND	ND	ND	-	1
Fecal Coliforms (CFU/100ml)	>200	41	4	>200	100	N/A
Total Coliforms (CFU/100ml)	>200	>200	>200	>200	-	N/A

[1] PWQO = Provincial Quality Guideline for the Protection of Aquatic Life (- denotes no guideline)
[2] LOQ = Limit of Quantitation
[3] concentrations that stimulate prolific weed growth should be avoided
[4] federal guideline (CCREM)
[5] value in brackets is calculated un-ionized ammonia at pH 8.0 and 20°C
[6] LOQ is 3 for samples DP2 and SWM3
ND = not detected
N/A = not applicable

Appendix Table A-14. Mill Creek Water Quality Monitoring; Dec. 2, 2004.

	SWM1 Hwy. 401	SWM4 Galt Ck.	SWM3 Pond Ck.	SWM2 (boundary)	PWQ01	L0Q2
All units are mg/L, unless otherwise indicated.						
pH (units)	8.22	8.19	8.24	8.23	6.5 – 8.5	0.01
Conductivity (μmhos/cm)	568	700	577	618	-	0.2
Hardness (mg/L as $CaCO_3$)	313	324	326	319	-	n/a
Alkalinity (Total)	227	232	254	228	-	1
Chloride	33.2	78.8	29.3	48.5	-	0.15
Nitrate	0.8	1.1	2.6	0.8	See[3]	0.1
Nitrite	ND	ND	ND	ND	0.06[4]	0.1
Ammonia	n/a	n/a	n/a	n/a	1.2 (0.02)[5]	0.05
Orthophosphate	ND	0.005	ND	ND	-	0.005
Total Phosphorus	ND	ND	ND	ND	0.03	0.02
Total Organic Carbon	7.8	9.6	5.6	8.3	-	0.1
BOD5	2	ND	2	2	-	1[6]
Chemical Oxygen Demand	25	22	18	26	-	4
Total Suspended Solids	1	1	ND	5	-	1
Fecal Coliforms (CFU/100ml)	>200	10	4	>200	100	n/a
Total Coliforms (CFU/100ml)	>200	>200	>200	>200	-	n/a

[1] PWQO = Provincial Quality Guideline for the Protection of Aquatic Life (- denotes no guideline)
[2] LOQ = Limit of Quantitation (Detection Limit)
[3] concentrations that stimulate prolific weed growth should be avoided
[4] federal guideline (CCREM)
[5] value in brackets is calculated un-ionized ammonia at pH 8.0 and 20°C
[6] LOQ is 2 for sample SWM4
ND = not detected
n/a = not applicable

Appendix Table A-15. Mill Creek Water Quality Monitoring; Nov. 8, 2005.						
	SWM1 Hwy. 401	SWM4 Galt Ck.	SWM3 Pond Ck.	SWM2 (boundary)	PWQ01	L0Q2
All units are mg/L, unless otherwise indicated.						
pH (units)	8.34	8.33	8.30	8.33	6.5 – 8.5	0.01
Conductivity (μmhos/cm)	587	772	592	666	-	2
Hardness (mg/L as $CaCO_3$)	300	330	320	310	-	n/a
Alkalinity (Total)	269	289	296	272	-	1
Chloride	35	86	23	55	-	1
Nitrate	0.3	2.2	3.5	0.8	See[3]	0.1
Nitrite	ND	ND	ND	ND	0.06[4]	0.01
Ammonia	0.05	ND	ND	0.08	1.2 (0.02)[5]	0.05
Orthophosphate	0.010	0.010	0.011	0.010	-	0.005
Total Phosphorus	ND	ND	0.02	ND	0.03	0.02
Total Organic Carbon	4.5	3.7	2.7	4.5	-	0.1
BOD5	ND	ND	ND	ND	-	2
Chemical Oxygen Demand	10	9	23	6	-	4
Total Suspended Solids	ND	2	2	5	-	1
Fecal Coliforms (CFU/100ml)	30	10	<10	20	100	10
Total Coliforms (CFU/100ml)	100	100	200	500	-	10

[1] PWQO = Provincial Quality Guideline for the Protection of Aquatic Life (- denotes no guideline)
[2] LOQ = Limit of Quantitation (Detection Limit)
[3] concentrations that stimulate prolific weed growth should be avoided
[4] federal guideline (CCREM)
[5] value in brackets is calculated un-ionized ammonia at pH 8.0 and 20°C
ND = not detected
n/a = not applicable

Appendix Table A-16. Mill Creek Water Quality Monitoring; Oct 13, 2006.						
	SWM1 Hwy. 401	SWM4 Galt Ck.	SWM3 Pond Ck.	SWM2 (boundary)	PWQ01	L0Q2
All units are mg/L, unless otherwise indicated.						
pH (units)	8.3	8.0	8.2	8.1	6.5 – 8.5	0.01
Conductivity (μmhos/cm)	612	726	592	645	-	2
Hardness (mg/L as $CaCO_3$)	280	300	270	290	-	1
Alkalinity (Total)	236	242	241	233	-	1
Chloride	34	66	28	43	-	1
Nitrate	0.2	1.1	2.4	0.4	See[3]	0.1
Nitrite	ND	ND	0.01	ND	0.06[4]	0.01
Ammonia	0.06	ND	ND	0.05	1.2 (0.02)[5]	0.05
Orthophosphate	ND	ND	ND	ND	-	0.01
Total Phosphorus	ND	ND	ND	ND	0.03	0.002
Total Organic Carbon	10.6	10.6	6.3	10.8	-	0.1
BOD5	ND	ND	ND	ND	-	2
Chemical Oxygen Demand	24	34	19	29	-	4
Total Suspended Solids	3	1	1	1	-	1
Fecal Coliforms (CFU/100ml)	160	360	1000	100	100	10
Total Coliforms (CFU/100ml)	300	360	2100	600	-	10

[1] PWQO = Provincial Quality Guideline for the Protection of Aquatic Life (- denotes no guideline)
[2] LOQ = Limit of Quantitation (Detection Limit)
[3] concentrations that stimulate prolific weed growth should be avoided
[4] federal guideline (CCREM)
[5] value in brackets is calculated un-ionized ammonia at pH 8.0 and 20°C
ND = not detected
n/a = not applicable

Table A-17 Mill Creek Water Quality Monitoring; January 24, 2008 (reported for the 2007 monitoring year).

	SWM1 Hwy. 401	SWM4 Galt Ck.	SWM3 Pond Ck.	SWM2 (boundary)	PWQ01	L0Q2
All units are mg/L, unless otherwise indicated.						
pH (units)	8.07	8.10	8.09	8.05	6.5 – 8.5	0.001
Conductivity (μmhos/cm)	645	798	624	699	-	0.4
Hardness (mg/L as $CaCO_3$)	360	360	350	350	-	10
Alkalinity (Total)	240	260	270	240	-	10
Chloride	43	84	26	57	-	2
Nitrate	0.9	3.9	4.6	1.6	See[3]	0.1
Nitrite	<0.1	<0.1	<0.1	<0.1	0.1[4]	0.1
Ammonia	0.14	<0.05	<0.05	0.09	1.2 (0.02)[5]	0.05
Orthophosphate	<0.003	0.003	<0.003	0.003	-	0.003
Total Phosphorus	0.010	<0.006	0.013	0.016	0.03	0.006
Total Organic Carbon	3	<1	<1	2	-	1
BOD5	<2	<2	<2	<2	-	2
Chemical Oxygen Demand	<10	70	40	<10	-	10
Total Suspended Solids	1	1	3	6	-	1
Fecal Coliforms (CFU/100ml)	3	4	27	4	100	0
Total Coliforms (CFU/100ml)	280	150	190	130	-	10

[1] PWQO = Provincial Quality Guideline for the Protection of Aquatic Life (- denotes no guideline)
[2] LOQ = Limit of Quantitation (Detection Limit)
[3] concentrations that stimulate prolific weed growth should be avoided
[4] federal guideline (CCREM)
[5] value in brackets is calculated un-ionized ammonia at pH 8.0 and 20°C
ND = not detected
n/a = not applicable

Appendix Table A-18 Mill Creek Water Quality Monitoring; October, 2008.						
	SWM1 Hwy. 401	SWM4 Galt Ck.	SWM3 Pond Ck.	SWM2 (boundary)	PWQ01	L0Q2
All units are mg/L, unless otherwise indicated.						
pH (units)	8.1	8.2	8.1	8.2	6.5 – 8.5	0.001
Conductivity (μmhos/cm)	671	812	634	727	-	2
Hardness (mg/L as $CaCO_3$)	300	350	310	330	-	1
Alkalinity (Total)	262	276	271	261	-	1
Chloride	46	81	25	60	-	1
Nitrate	0.4	3.2	4.1	1.1	See[3]	0.1
Nitrite	<0.01	<0.01	<0.01	<0.01	<0.1[4]	0.01
Ammonia	<0.05	<0.05	<0.05	<0.05	1.2 (0.02)[5]	0.05
Orthophosphate	<0.01	<0.01	<0.01	<0.01	-	0.01
Total Phosphorus	0.013	0.010	0.013	0.030	0.03	0.002
Total Organic Carbon	5.6	3.1	2.1	4.2	-	0.1
BOD5	<2	<2	<2	<2	-	2
Chemical Oxygen Demand	11	<4	<4	16	-	4
Total Suspended Solids	1	1	2	1	-	1
Fecal Coliforms (CFU/100ml)	20	<10	10	30	100	10
Total Coliforms (CFU/100ml)	150	480	130	70	-	10

[1] PWQO = Provincial Quality Guideline for the Protection of Aquatic Life (- denotes no guideline)
[2] LOQ = Limit of Quantitation (Detection Limit)
[3] concentrations that stimulate prolific weed growth should be avoided
[4] federal guideline (CCREM)
[5] value in brackets is calculated un-ionized ammonia at pH 8.0 and 20°C
ND = not detected
n/a = not applicable

Appendix Table A-19 Mill Creek Water Quality Monitoring; October, 2009.						
	SWM1 Hwy. 401	SWM4 Galt Ck.	SWM3 Pond Ck.	SWM2 (boundary)	PWQ01	L0Q2
All units are mg/L, unless otherwise indicated.						
pH (units)	8.2	8.2	8.2	8.1	6.5 – 8.5	0.001
Conductivity (μmhos/cm)	614	788	631	670	-	2
Hardness (mg/L as $CaCO_3$)	280	320	300	280	-	1
Alkalinity (Total)	246	273	264	259	-	1
Chloride	41	75	27	52	-	1
Nitrate	0.4	3.7	5.0	1.1	See[3]	0.1
Nitrite	<0.01	<0.01	0.02	<0.01	<0.1[4]	0.01
Ammonia	<0.05	<0.05	<0.05	<0.05	1.2 (0.02)[5]	0.05
Orthophosphate	<0.01	0.01	<0.01	<0.01	-	0.01
Total Phosphorus	0.014	0.018	0.014	0.014	0.03	0.002
Total Organic Carbon	9.0	5.9	2.5	8.1	-	0.1
BOD5	<2	<2	<2	<2	-	2
Chemical Oxygen Demand	13	7	4	10	-	4
Total Suspended Solids	<10	<10	<10	<10	-	1
Fecal Coliforms (CFU/100ml)	80	120	190	150	100	10
Total Coliforms (CFU/100ml)	330	390	370	250	-	10

[1] PWQO = Provincial Quality Guideline for the Protection of Aquatic Life (- denotes no guideline)
[2] LOQ = Limit of Quantitation (Detection Limit)
[3] concentrations that stimulate prolific weed growth should be avoided
[4] federal guideline (CCREM)
[5] value in brackets is calculated un-ionized ammonia at pH 8.0 and 20°C
ND = not detected
n/a = not applicable

Appendix Table A-20 Mill Creek Water Quality Monitoring; November, 2010.						
	SWM1 Hwy. 401	SWM4 Galt Ck.	SWM3 Pond Ck.	SWM2 (boundary)	PWQ01	L0Q2
All units are mg/L, unless otherwise indicated.						
pH (units)	8.28	8.22	8.28	8.26	6.5 – 8.5	
Conductivity (μmhos/cm)	631	773	650	680	-	1
Hardness (mg/L as $CaCO_3$)	270	290	290	270	-	1
Alkalinity (Total)	242	254	264	244	-	1
Chloride	37	76	29	47	-	1
Nitrate	0.4	2.7	4.4	0.9	See[3]	0.1
Nitrite	<0.01	<0.01	<0.01	<0.01	<0.1[4]	0.01
Ammonia	<0.05	<0.05	<0.05	<0.05	1.2 (0.02)[5]	0.05
Orthophosphate	<0.01	<0.01	<0.01	<0.01	-	0.01
Total Phosphorus	<0.02	<0.02	<0.02	<0.02	0.03	0.02
Total Organic Carbon	5.9	6.2	3.4	5.8	-	0.2
BOD5	<2	<2	<2	<2	-	2
Chemical Oxygen Demand	18	17	11	19	-	4
Total Suspended Solids	<10	<10	<10	<10	-	10
Fecal Coliforms (CFU/100ml)	37	8	250	62	100	N/A
Total Coliforms (CFU/100ml)	>2000	130	300	210	-	N/A

[1] PWQO = Provincial Quality Guideline for the Protection of Aquatic Life (- denotes no guideline)
[2] LOQ = Limit of Quantitation (Detection Limit)
[3] concentrations that stimulate prolific weed growth should be avoided
[4] federal guideline (CCREM)
[5] value in brackets is calculated un-ionized ammonia at pH 8.0 and 20°C
ND = not detected
n/a = not applicable

Appendix Table A-21 Mill Creek Water Quality Monitoring; November, 2011.						
	SWM1 Hwy. 401	SWM4 Galt Ck.	SWM3 Pond Ck.	SWM2 (boundary)	PWQ01	L0Q2
All units are mg/L, unless otherwise indicated.						
pH (units)	8.26	8.19	8.23	8.23	6.5 – 8.5	
Conductivity (μmhos/cm)	657	796	648	699	-	1
Hardness (mg/L as $CaCO_3$)	300	320	320	310	-	1
Alkalinity (Total)	234	231	255	233	-	1
Chloride	43	81	29	57	-	1
Nitrate	0.4	2.8	4.3	1.0	See[3]	0.1
Nitrite	<0.01	<0.01	<0.01	<0.01	<0.1[4]	0.01
Ammonia	<0.05	<0.05	<0.05	<0.05	1.2 (0.02)[5]	0.05
Orthophosphate	<0.01	<0.01	<0.01	<0.01	-	0.01
Total Phosphorus	0.03	0.03	0.02	0.03	0.03	0.02
Total Organic Carbon	5.8	5.5	3.5	6.0	-	0.2
BOD5	<2	<2	<2	<2	-	2
Chemical Oxygen Demand	18	15	<4	<4	-	4
Total Suspended Solids	<10	<10	<10	<10	-	10
Fecal Coliforms (CFU/100ml)	25	20	85	22	100	N/A
Total Coliforms (CFU/100ml)	160	200	160	140	-	N/A

[1] PWQO = Provincial Quality Guideline for the Protection of Aquatic Life (- denotes no guideline)
[2] LOQ = Limit of Quantitation (Detection Limit)
[3] concentrations that stimulate prolific weed growth should be avoided
[4] federal guideline (CCREM)
[5] value in brackets is calculated un-ionized ammonia at pH 8.0 and 20°C
ND = not detected
n/a = not applicable

Appendix Table A-22 Mill Creek Water Quality Monitoring; December, 2012.						
	SWM1 Hwy. 401	SWM4 Galt Ck.	SWM3 Pond Ck.	SWM2 (boundary)	PWQ01	L0Q2
All units are mg/L, unless otherwise indicated.						
pH (units)	8.18	8.11	8.17	8.11	6.5 – 8.5	
Conductivity (μmhos/cm)	640	780	670	690	-	1
Hardness (mg/L as $CaCO_3$)	320	330	350	320	-	1
Alkalinity (Total)	240	240	270	240	-	1
Chloride	39	73	28	46	-	1
Nitrate	0.43	2.8	4.6	1.1	See[3]	0.1
Nitrite	<0.01	<0.01	<0.01	<0.01	<0.1[4]	0.01
Ammonia	0.073	<0.05	<0.05	<0.05	1.2 (0.02)[5]	0.05
Orthophosphate	<0.01	<0.01	<0.01	<0.01	-	0.01
Total Phosphorus	0.021	0.005	0.007	0.010	0.03	0.002
Total Organic Carbon	5.7	5.7	2.4	5.7	-	0.2
BOD5	<2	<2	<2	<2	-	2
Chemical Oxygen Demand	13	12	9.6	13	-	4
Total Suspended Solids	<10	<10	<10	<10	-	10
Fecal Coliforms (CFU/100ml)	34	18	4	45	100	N/A
Total Coliforms (CFU/100ml)	200	>2000	130	200	-	N/A

[1] PWQO = Provincial Quality Guideline for the Protection of Aquatic Life (- denotes no guideline)
[2] LOQ = Limit of Quantitation (Detection Limit)
[3] concentrations that stimulate prolific weed growth should be avoided
[4] federal guideline (CCREM)
[5] value in brackets is calculated un-ionized ammonia at pH 8.0 and 20°C
ND = not detected
n/a = not applicable

Appendix Table A-23 Mill Creek Water Quality Monitoring; November, 2013.						
	SWM1 Hwy. 401	SWM4 Galt Ck.	SWM3 Pond Ck.	SWM2 (boundary)	PWQ01	L0Q2
All units are mg/L, unless otherwise indicated.						
pH (units)	8.27	8.26	8.26	8.16	6.5 – 8.5	
Conductivity (μmhos/cm)	679	790	652	739	-	1
Hardness (mg/L as $CaCO_3$)	310	320	310	310	-	1
Alkalinity (Total)	270	270	270	270	-	1
Chloride	40	72	26	49	-	1
Nitrate	0.44	3.0	4.2	0.69	See[3]	0.1
Nitrite	<0.01	<0.01	<0.01	<0.01	<0.1[4]	0.01
Ammonia	0.062	<0.05	<0.05	<0.05	1.2 (0.02)[5]	0.05
Orthophosphate	<0.01	<0.01	<0.01	<0.01	-	0.01
Total Phosphorus	0.002	<0.002	0.006	<0.002	0.03	0.002
Total Organic Carbon	4.9	4.8	2.5	4.7	-	0.2
BOD5	<2	<2	<2	2	-	2
Chemical Oxygen Demand	16	16	4.5	14	-	4
Total Suspended Solids	<10	<10	<10	<10	-	10
Fecal Coliforms (CFU/100ml)	34	52	16	13	100	N/A
Total Coliforms (CFU/100ml)	>2000	>2000	>2000	>2000	-	N/A

[1] PWQO = Provincial Quality Guideline for the Protection of Aquatic Life (- denotes no guideline)
[2] LOQ = Limit of Quantitation (Detection Limit)
[3] concentrations that stimulate prolific weed growth should be avoided
[4] federal guideline (CCREM)
[5] value in brackets is calculated un-ionized ammonia at pH 8.0 and 20°C
ND = not detected
n/a = not applicable

Appendix Table A-24 Mill Creek Water Quality Monitoring; November 26, 2014.						
	SWM1 Hwy. 401	SWM4 Galt Ck.	SWM3 Pond Ck.	SWM2 (boundary)	PWQO[1]	LOQ[2]
All units are mg/L, unless otherwise indicated.						
pH (units)	8.09	8.11	8.18	8.11	6.5 – 8.5	
Conductivity (μmhos/cm)	569	692	633	593	-	1
Hardness (mg/L as $CaCO_3$)	260	280	310	270	-	1
Alkalinity (Total)	220	240	260	230	-	1
Chloride	37	66	31	44	-	1
Nitrate	0.31	1.8	3.4	0.59	See[3]	0.1
Nitrite	<0.01	<0.01	<0.01	<0.01	<0.1[4]	0.01
Ammonia	0.079	0.059	0.059	0.081	1.2 (0.02)[5]	0.05
Orthophosphate	<0.01	<0.01	<0.01	<0.01	-	0.01
Total Phosphorus	0.015	0.015	0.008	0.026	0.03	0.004
Total Organic Carbon	9.2	8.0	4.1	9.1	-	0.2
BOD5	<2	<2	<2	<2	-	2
Chemical Oxygen Demand	21	18	7.1	22	-	4
Total Suspended Solids	<10	<10	<10	<10	-	10
Fecal Coliforms (CFU/100ml)	180	110	4	190	100	N/A
Total Coliforms (CFU/100ml)	>2000	>2000	>2000	>2000	-	N/A

[1] PWQO = Provincial Quality Guideline for the Protection of Aquatic Life (- denotes no guideline)
[2] LOQ = Limit of Quantitation (Detection Limit)
[3] concentrations that stimulate prolific weed growth should be avoided
[4] federal guideline (CCREM)
[5] value in brackets is calculated un-ionized ammonia at pH 8.0 and 20°C
ND = not detected
n/a = not applicable

Appendix Table A-25 Mill Creek Water Quality Monitoring; December 14, 2015.						
	SWM1 Hwy. 401	SWM4 Galt Ck.	SWM3 Pond Ck.	SWM2 (boundary)	PWQO[1]	LOQ[2]
All units are mg/L, unless otherwise indicated.						
pH (units)	8.26	8.22	8.22	8.26	6.5 – 8.5	N/A
Conductivity (μmhos/cm)	688	833	668	747	-	1
Hardness (mg/L as $CaCO_3$)	310	330	330	320	-	1
Alkalinity (Total)	250	260	270	260	-	1
Chloride	46	88	28	66	-	1
Nitrate	0.42	3.69	4.50	1.37	See[3]	0.1
Nitrite	<0.01	<0.01	<0.01	<0.01	<0.1[4]	0.01
Ammonia	<0.050	<0.050	<0.050	<0.050	1.2 (0.02)[5]	0.05
Orthophosphate	<0.01	<0.01	<0.01	0.012	-	0.01
Total Phosphorus	<0.020	<0.020	<0.020	<0.020	0.03	0.020
Total Organic Carbon	3.6	3.2	2.0	3.5	-	0.2
BOD5	<2	<2	<2	<2	-	2
Chemical Oxygen Demand	11	9.3	<4.0	14	-	4
Total Suspended Solids	<10	<10	<10	<10	-	10
Fecal Coliforms (CFU/100ml)	32	2	2	120	100	N/A
Total Coliforms (CFU/100ml)	>2000	49	92	120	-	N/A

[1] PWQO = Provincial Quality Guideline for the Protection of Aquatic Life (- denotes no guideline)
[2] LOQ = Limit of Quantitation (Reportable Detection Limit)
[3] concentrations that stimulate prolific weed growth should be avoided
[4] federal guideline (CCREM)
[5] value in brackets is calculated un-ionized ammonia at pH 8.0 and 20°C
ND = not detected
n/a = not applicable

Appendix Table A-26 Mill Creek Water Quality Monitoring; December 14, 2016.						
	SWM1 Hwy. 401	SWM4 Galt Ck.	SWM3 Pond Ck.	SWM2 (boundary)	PWQO[1]	LOQ[2]
All units are mg/L, unless otherwise indicated.						
pH (units)	8.31	8.27	8.20	8.28	6.5 – 8.5	N/A
Conductivity (μmhos/cm)	744	883	674	802	-	1
Hardness (mg/L as $CaCO_3$)	320	330	320	310	-	1
Alkalinity (Total)	270	270	280	270	-	1
Chloride	62	100	29	81	-	1
Nitrate	0.46	3.89	4.25	1.57	See[3]	0.1
Nitrite	<0.01	<0.01	<0.01	<0.01	<0.1[4]	0.01
Ammonia	<0.050	<0.050	<0.050	<0.050	1.2 (0.02)[5]	0.05
Orthophosphate	<0.01	<0.01	<0.01	<0.01	-	0.01
Total Phosphorus	<0.020	<0.020	<0.020	<0.020	0.03	0.020
Total Organic Carbon	4.4	2.9	2.9	3.9	-	0.2
BOD5	<2	<2	<2	<2	-	2
Chemical Oxygen Demand	4.2	<4.0	12	<4.0	-	4
Total Suspended Solids	<10	<10	<10	<10	-	10
Fecal Coliforms (CFU/100ml)	11	4	0	17	100	N/A
Total Coliforms (CFU/100ml)	140	68	190	100	-	N/A

[1] PWQO = Provincial Quality Guideline for the Protection of Aquatic Life (- denotes no guideline)
[2] LOQ = Limit of Quantitation (Reportable Detection Limit)
[3] concentrations that stimulate prolific weed growth should be avoided
[4] federal guideline (CCREM)
[5] value in brackets is calculated un-ionized ammonia at pH 8.0 and 20°C
n/a = not applicable

Appendix Table A-27 Mill Creek Water Quality Monitoring; September 21, 2017.						
	SWM1 Hwy. 401	SWM4 Galt Ck.	SWM3 Pond Ck.	SWM2 (boundary)	PWQO[1]	LOQ[2]
All units are mg/L, unless otherwise indicated.						
pH (units)	8.29	8.30	8.25	8.31	6.5 – 8.5	N/A
Conductivity (μmhos/cm)	684	857	661	755	-	1
Hardness (mg/L as $CaCO_3$)	330	390	380	350	-	1
Alkalinity (Total)	260	280	280	260	-	1
Chloride	47	86	23	70	-	1
Nitrate	0.26	4.72	4.84	1.55	See[3]	0.1
Nitrite	<0.01	<0.01	0.017	<0.01	<0.1[4]	0.01
Ammonia	<0.050	<0.050	<0.050	<0.050	1.2 (0.02)[5]	0.05
Orthophosphate	<0.01	<0.01	<0.01	<0.01	-	0.01
Total Phosphorus	<0.020	<0.020	<0.020	<0.020	0.03	0.020
Total Organic Carbon	3.2	2.0	1.6	2.8	-	0.2
BOD5	<2	<2	<2	<2	-	2
Chemical Oxygen Demand	10	<4.0	4.6	9.0	-	4
Total Suspended Solids	<10	<10	<10	<10	-	10
Fecal Coliforms (CFU/100ml)	20	40	70	30	100	N/A
Total Coliforms (CFU/100ml)	No Analysis	No Analysis	No Analysis	No Analysis	-	N/A

[1] PWQO = Provincial Quality Guideline for the Protection of Aquatic Life (- denotes no guideline)
[2] LOQ = Limit of Quantitation (Reportable Detection Limit)
[3] concentrations that stimulate prolific weed growth should be avoided
[4] federal guideline (CCREM)
[5] value in brackets is calculated un-ionized ammonia at pH 8.0 and 20°C
n/a = not applicable

Appendix Table A27. Historical Conductivity and Alkalinity Values in Mill Creek

Source	Date	Conductivity (μmhos/cm)	Alkalinity (mg/L)	Location
MNR	1971	--	215	SWM2
	1976	550	226	SWM2
Faun Aquatics (FA)	Aug-1980	560	--	SWM2
	Sep-1980	590	--	SWM2
	Jul-1982	620	--	SWM2
FA/ MOE	1975 – 1988	425 – 652	134 – 270	All stations.
ESP/ESG/CWA	Nov-1993	620	250	DP2
	May-1994	559	233	DP2
	Oct-1994	673	238	DP2
	May-1995	556	219	DP2
	Nov-1995	681	191	DP2
	Nov-1996	620	260	SWM2
	Nov-1997	620	230	SWM2
	Nov-1998	650	260	SWM2
	Nov-1999	683	243	SWM2
	Nov-2000	638	253	DP2
	Nov-2001	665	241	DP2
	Nov-2002	645	259	DP2
	Dec-2003	676	244	SWM2
	Dec-2004	618	228	SWM2
	Nov-2005	666	272	SWM2
GLL	Oct-2006	645	233	SWM2
	Jan-2008	699	240	SWM2
AECOM Canada/ LRG Environmental	Oct- 2008	727	261	SWM2
	Aug-2009	670	259	SWM2
LRG Environmental	Nov-2010	680	244	SWM2
	Nov-2011	699	233	SWM2
	Dec-2012	690	240	SWM2
	Nov-2013	739	270	SWM2
	Nov-2014	593	230	SWM2
	Dec 2015	747	260	SWM2
	Dec 2016	802	270	SWM2
	Sept 2017	755	260	SWM2
	Dec 2018	750	260	SWM2

Sub Appendix B

Annual Electrofishing Results and Population Estimates

Appendix Table B-1. University of Guelph Station - Trout Mark/Recapture Data Summary, 1989 to Present (2017)

Formula N=MC/R

where: N = population estimate M = number of fish marked

C = total number of fish caught on the recapture run

R = number of fish recaptured on the recapture run (*i.e.* number of marked fish)

Note: Fish shorter than 100 mm are classified as young-of-the-year.

Note: U of G Station is 660 meters long, with an area of 3960 square meters

Year	YOY M	YOY C	YOY R	YOY N	YOY per ha.	Adults M	Adults C	Adults R	Adults N	Adults per ha.	Total Population Per ha.
1989	76	72	32	171	432	39	33	26	50	125	557
1990	84	79	51	130	329	50	43	36	60	151	479
1991	78	87	31	219	553	76	73	56	99	250	803
1992	177	157	104	267	675	97	78	45	168	425	1099
1993	402	331	103	1292	3262	104	119	89	139	351	3613
1994	263	273	132	544	1374	192	151	89	326	823	2196
1995	154	85	23	569	1437	104	82	44	194	489	1927
1996					No Survey						
1997[a]	210	164	62	842	2125	131	111	86	256	647	2772
1998	250	296	51	1451	3664	151	148	66	339	855	4519
1999	560	215	39	3087	7796	197	123	75	323	816	8612
2000	154	146	33	681	1721	155	187	83	349	882	2602
2001	121	116	17	826	2085	93	136	45	281	710	2795
2002					No Survey						
2003	89	94	12	697	1761	59	51	18	167	422	2183
2004	168	141	41	578	1459	153	137	67	313	790	2249
2005	143	177	31	816	2062	115	100	43	267	675	2737
2006	168	181	33	921	2327	86	120	38	272	686	3013
2007	209	238	48	1036	2617	204	221	121	373	941	3558
2008					No Survey						
2009	44	130	9	636	1605	54	154	25	333	840	2445
2010	275	290	43	1855	4683	191	175	92	363	917	5601
2011	204	218	40	1112	2808	145	177	81	317	800	3608
2012					No Survey						
2013	135	141	33	577	1457	151	136	81	254	640	2097
2014					No Survey						
2015	156	172	15	1789	4517	121	108	54	242	611	5128
2016					No Survey						
2017	139	152	15	1409	3557	161	159	76	337	851	4407
2018					No Survey						

*Relative to other years, 1993 adults likely over-estimated and YOY under-estimated (fish up to 12 cm assigned as YOY, also some in 13 cm FL range

Estimates in 1998 may under-estimate adults and over-estimate YOY (fish in 9.0 cm FL class counted as 'adults')

[a] GRCA survey: population estimate divided by 0.66 to correct for shorter station length in 1997

Appendix Table B-2. Hanlon By-pass Station - Brown Trout Mark Recapture Data Summary, 1989 to Present (2017)

Formula **N=MC/R**

where: N = population estimate M = number of fish marked

C = total number of fish caught on the recapture run

R = number of fish recaptured on the recapture run (*i.e.* number of marked fish)

Note: Fish shorter than 100 mm are classified as young-of-the-year.

Note: Hanlon By-pass Station is 610 meters long, with an area of 6893 square meters

	YOY	YOY	YOY	YOY	YOY	Adults	Adults	Adults	Adults	Adults	Total
Year	M	C	R	N	per ha.	M	C	R	N	per ha.	Per
1989	9	10	7	13	19	11	9	8	12	18	37
1990	5	9	4	11	16	19	20	17	22	32	49
1991	9	14	3	42	61	31	30	22	42	61	122
1992	data not available			189	274	data not available			52	75	350
1993	201	235	107	441	640	106	133	69	204	296	937
1994	242	200	122	397	576	104	139	98	148	214	790
1995	87	52	18	251	365	71	63	42	107	155	519
1996					No Survey						
1997[a]	158	159	54	612	888	60	64	46	110	159	1047
1998	190	238	65	696	1009	190	233	115	385	558	1568
1999	345	202	90	774	1123	45	39	28	63	91	1214
2000[b]	93	49	17	335	486	84	71	41	182	264	750
2001	80	76	22	276	401	40	41	18	91	132	533
2002					No Survey						
2003	69	114	21	375	543	17	15	5	51	74	617
2004	95	57	19	285	413	64	92	45	131	190	603
2005	134	312	43	972	1411	68	81	44	125	182	1592
2006	249	302	63	1194	1732	85	106	56	161	233	1965
2007	147	164	44	548	795	130	131	77	221	321	1116
2008					No Survey						
2009	171	217	31	1197	1737	98	132	44	294	427	2163
2010[c]	246	226	59	1178	1709	71	96	45	189	275	1983
2011[c]	164	211	53	816	1184	159	149	103	288	417	1601
2012					No Survey						
2013[c]	72	109	13	755	1095	85	88	33	283	411	1506
2014					No Survey						
2015[c]	132	123	33	615	892	88	89	60	163	237	1129
2016					No Survey						
2017[c]	83	81	16	525	762	119	95	61	232	336	1098
2018					No Survey						

*Relative to other years, 1993 adults likely over-estimated and YOY under-estimated (fish up to 12 cm assigned as YOY, also some in 13 cm FL range

Estimates in 1998 may under-estimate adults and over-estimate YOY (fish in 9.0 cm FL class counted as 'adults')

[a] GRCA survey: population estimate divided by 0.76 to correct for shorter station length in 1997

[b] ESG survey: population estimate divided by 0.8 to correct for shorter station length in 2000

[c] LRG survey: population estimate divided by 0.8 to correct for shorter station length since 2010

Appendix Table B-3 Bond Tract - Brown Trout Mark Recapture Data Summary, 1989 to Present (2017)

FormulaN=MC/R

where: N = population estimate M = number of fish marked

C = total number of fish caught on the recapture run

R = number of fish recaptured on the recapture run (*i.e.* number of marked fish)

Note: Fish shorter than 100 mm are classified as young-of-the-year.

Note: Bond Tract is 560 meters long, with an area of 5152 square meters

Year	YOY M	YOY C	YOY R	YOY N (population)	YOY per ha.	Adults M	Adults C	Adults R	Adults N (population)	Adults per ha.	Total Population Per Hectare
1989	6	4	1	24	47	42	43	34	54	105	151
1990	data not available			71	138	data not available			44	85	223
1991	data not available			73	142	40	36	34	42	82	224
1992	21	26	4	137	265	38	40	23	66	128	393
1993	111	84	30	311	603	57	49	34	82	159	762
1994	56	70	27	145	282	54	92	50	99	193	475
1995	32	29	4	232	450	87	73	49	130	252	702
1996											
1997	No survey					No survey					
1998											
1999											
2000	4	4	1	16	31	41	35	14	103	199	230
2001	2	7	0	*		23	24	9	61	119	119
2002	No survey					No survey					
2003	4	0	0	*		10	18	3	60	117	117
2004	32	9	3	96	186	52	24	10	125	242	429
2005	12	21	4	63	122	29	25	18	40	78	200
2006	29	27	7	112	217	43	29	20	62	121	338
2007	31	19	6	98	191	43	43	17	109	211	402
2008	No survey					No survey					
2009	5	0	0	*		13	20	1	260	505	505
2010	18	14	2	126	245	45	40	16	113	218	463
2011	35	25	6	146	283	44	51	21	107	207	490
2012	No survey					No survey					
2013	1	3	0	*	*	51	48	17	144	280	280
2014	No survey					No survey					
2015	13	3	1	39	76	39	29	10	113	220	295
2016	No survey					No survey					
2017	12	10	1	120	233	41	48	15	131	255	488
2018	No Survey					No Survey					

Appendix Table B-4. Annual Total Recapture Rate Summary for Trout Population Survey			
	Recapture Rates (%)		
	University	Hanlon	Bond
1989	50.4	75	72.9
1990	64.9	87.5	N/A
1991	56.5	62.5	N/A
1992	54.4	N/A	45.8
1993	37.9	57.3	38.1
1994	48.6	63.6	70.0
1995	26.0	38.0	44.5
1996		no survey	
1997	43.4	45.9	N/A
1998	29.2	47.4	N/A
1999	15.1	30.3	N/A
2000	37.5	32.8	33.3
2001	29.0	33.3	36.0
2002		no survey	
2003	20.3	30.2	21.4
2004	33.6	40.3	15.5
2005	28.7	43.1	53.7
2006	28.0	35.6	37.5
2007	40.9	43.7	31.1
2008		No survey	
2009	34.7	27.9	5.6
2010	29.0	32.8	28.6
2011	34.7	48.3	34.2
2012		No survey	
2013	39.5	29.3	32.7
2014		No survey	
2015	24.9	42.3	21.2
2016		No survey	
2017	30.3	38.1	30.2
2018		No survey	

Appendix Table B-5. Flow at SWM1 during annual electrofishing surveys (m^3/s)				
	MARK run		RECAP run	
Year	high	low	high	low
1998	0.253	0.202	0.202	0.177
1999	0.063	0.046	0.186	0.129
2000	0.136	0.122	0.205	0.136
2001	0.089	0.108	0.072	0.083
2002	No survey			
2003	0.344	0.095	0.108	0.089

2004	0.221	0.082	0.094	0.085
2005	0.254	0.207	0.224	0.172
2006	0.121	0.112	0.199	0.121
2007	0.074	0.052	0.077	0.06
2008	No survey			
2009	0.913	0.487	0.434	0.353
2010	0.24	0.215	0.314	0.255
2011	0.126	0.115	0.141	0.125
2012	No survey			
2013	0.161	0.138	0.190	0.150
2014	No survey			
2015	0.185	0.155	0.165	0.123
2016	No survey			
2017	0.235	0.204	0.266	0.220
2018	No survey			

Appendix Table B-6. Incidence of brook trout during annual population surveys in Mill Creek; A = adult, yoy = young of the year.

Year	U of G		Hanlon	
	Mark	Recap	Mark	Recap
1998	1A	6A, 3yoy	1A	0
1999	0	0	0	0
2000	1A	1A, 1yoy	0	0
2001	0	0	0	0
2002	No survey			
2003	0	0	0	0
2004	21A, 3yoy	4A, 3yoy	0	0
2005	1A, 1yoy	1A, 5yoy	1A*	1A
2006	1A, 2yoy	1A, 3yoy	0	0
2007	2A, 2yoy	4A (1 recap), 8yoy	2yoy	1yoy
2008	No survey			
2009	1A, 3yoy	3A, 2yoy	2yoy	1A
2010	5A, 6yoy	1A, 4yoy	0	0
2011	2A, 2yoy	2 yoy	0	0
2012	No survey			
2013	2A, 2yoy	1A, 1yoy	0	0
2014	No survey			
2015	2A, 1yoy	3A (2 recap)	1A	1A Rainbow trout
2016	No survey			
2017	2yoy	2A, 1yoy (1 recap – possible tiger trout)	1A, 2yoy	1A (recap)
2016	No survey			

*Recapture from U of G reach the previous day

Sub Appendix C

Redd Survey Dates and Results

Appendix Table C-1. Summary of Mill Creek redd survey dates

	Stream Reach			
	Hanlon By-pass	**University of Guelph**	**Marker**	**Surveyed By:***
1995	23-Oct	23-Oct	-	MZ
	10-Nov	10-Nov		
	11-Dec	11-Dec		
1996	29-Oct	29-Oct	orange flag	MZ, NH
	18-Nov	18-Nov		
	06-Dec	06-Dec		
1997	06-Nov	06-Nov	blue flag	RB, NH
	20-Nov	20-Nov		
	08-Dec	08-Dec		
1998	06-Nov	06-Nov	orange flag	RB, NH
	07-Dec	07-Dec		
	18-Dec	18-Dec		
1999	11-Nov	11-Nov	blue flag	RB, NH
	04-Dec	07-Dec		
	18-Dec	18-Dec		
2000	11-Nov	11-Nov	-	MJ
	02-Dec	02-Dec		
2001	14-Nov	14-Nov	-	NH
	05-Dec	05-Dec		
2002	14-Nov	14-Nov	orange flag	NH, MJ
	27-Nov	27-Nov		
2003	11-Nov	11-Nov	orange flag	MJ, KH
	02-Dec	02-Dec		
2004	09-Nov	09-Nov	orange flag	MJ, KH, RP
	10-Dec	10-Dec		
2005	23-Nov	23-Nov	orange flag	MJ
2006	28-Nov	28-Nov	blue flag	MJ, LW
	11-Dec	11-Dec		
2007	01-Dec	01-Dec	orange flag	MJ
	17-Dec	17-Dec		
2008	25-Nov, 18-Dec	25-Nov, 18-Dec	-	VS, SB
2009	26-Nov	26-Nov	orange flag	MJ, LW
2010	24-Nov	24-Nov	orange flag	MJ, LW
2011	25-Nov	25-Nov	-	LW, KC
2012	7-Dec	7-Dec	-	KM, NB
2013	27-Nov	27-Nov	-	LW, KM
2014	26-Nov	26-Nov	-	LW, KM
2015	8-Dec	8-Dec	-	LW, ME
2016	29-Nov	29-Nov	-	LW, ME
2017	23-Nov	23-Nov	-	LW, NB
2018	7-Dec	7-Dec	-	ME, JB

* NH - Nancy Harttrup
MZ - Mike Zimmer
RB - Rick Baldwin
MJ - Mike Johns
LW – Lisa Wren
VS – Valerie Stevenson
SB – Sarah Burgess
RP - Rob Price
KC/KM – Kelly Clayton/Mason
NB – Nathan Burnett
KH - Kara Hearne
ME – Mitch Ellah

Appendix Table C-2. Redd Count Summary; 1983 to 2018

Year	University of Guelph	Hanlon By-pass
1983	14	0
1984	9	6
1985	10	18
1986	22	19
1987	19	2
1988	36	1
1989	30	4
1990	76	6
1991	48	5
1992	79	22
1993	74	14
1994	34	10
1995	44	9
1996	60	20
1997	54	21
1998	44	20
1999	38	12
2000	49*	9
2001	55	18
2002	66	17
2003	65	22
2004	65	27
2005	70	22
2006	81	62
2007	58	38
2008	98	61
2009	176	99
2010	194	75
2011	146	93
2012	96	50
2013	148	102
2014	113	85
2015	111	87
2016	100	107
2017	93	78
2018	43	20

* redd count in 2000 was incorrectly reported as 46 in this table in the 2001 Monitoring Report.

Harden Environmental Services Ltd.
4622 Nassagaweya-Puslinch Townline Road
R.R. 1, Moffat, Ontario, L0P 1J0
Phone: (519) 826-0099 Fax: (519) 826-9099

Our File: 0004

August 28, 2019

Township of Puslinch
7404 Wellington Road 34
Guelph, ON, N1H 6H9

Attention: Mrs. Nina Lecic
Clerk

Dear Mrs. Lecic;

Re: Mill Creek Pit
Review of 2018 Monitoring Data

We are pleased to provide a review of the 2018 monitoring data. We have reviewed the following documents;

Mill Creek Aggregates Pit Hydrogeology, Appendix B of the Coordinated Monitoring Report, WSP March 29, 2019

Response to 2017 Comments

We have reviewed the response to our comments made in 2018 in regard to the 2017 monitoring data. A response letter from WSP is found in Appendix F of the 2018 report. We remain concerned about decreasing water levels in Pond 3 and the resulting decrease in water levels between Pond 3 and Mill Creek.

2018 Monitoring Report

Our comments on the 2018 report are as follows;

1) The water levels in monitoring wells DP12, DP16, 92-27, 92-28, 92-29, 92-32 and 92-33 have been declining since 2014 and this trend continued in 2018. The water levels are not historically low, but are approaching this level. As seen in the water levels at DP1, groundwater level declines below Mill Creek west of Pond 3 correspond to the declining water levels in Pond 3. Should this trend continue, it may be necessary to review the function of the hydraulic barrier between Pond 4 and Pond 3. Threshold hydraulic gradients have been maintained

or exceeded thus groundwater flow to Mill Creek is being sustained at acceptable levels and are higher than pre-extraction levels.

2) There is a slow but consistent increase in groundwater temperature at 92-32 I and II whereas the temperature at 92-32 III has been stable for several years. The temperature remains below 10 C.

We concur with the minor modifications to the monitoring plan including revising the early warning and threshold values for DP5CR considering it required replacement in 2018 due to vandalism.

Sincerely,

Harden Environmental Services Ltd.

Stan Denhoed, P.Eng., M.Sc.
Senior Hydrogeologist

Courtenay Hoytfox

From: Robert CUMMING <robert.cumming@lafargeholcim.com>
Sent: Thursday, August 22, 2019 8:46 AM
To: Courtenay Hoytfox
Subject: Fwd: July 24th Lafarge Open House

Follow Up Flag: Follow up
Flag Status: Flagged

---------- Forwarded message ---------
From: **Carol SIEMIGINOWSKI** <carol.siemiginowski@lafargeholcim.com>
Date: Fri, Aug 9, 2019 at 6:10 PM
Subject: Re: July 24th Lafarge Open House
To: Nina Lecic <nlecic@puslinch.ca>
CC: Faith Stewart <faith.stewart@lafargeholcim.com>, Robert CUMMING <robert.cumming@lafargeholcim.com>

Hi Nina,

Thank you for your question.

Site plan amendments are regulated by the Ministry of Natural Resources and Forestry (MNRF). It would be up to them to determine if the changes we are proposing be considered a major or minor amendment. If considered major, the MNRF would circulate the request to the municipalities and perhaps suggest further consultation. However, public meetings for site plan amendments are not typically required.

That being said, Lafarge would be happy to sit down with staff to review our application once it is prepared and outline the changes we are proposing to MNRF. If you like, you can send me the appropriate staff contact, and I would be happy to arrange this meeting once Lafarge is ready.

I hope this helps. Any other questions, please let me know.

Carol

Carol Siemiginowski, P.Eng
Land Manager, Southwest Ontario & Atlantic

Lafarge Canada Inc.
6509 Airport Road, Mississauga ON, L4V 1S7
Office: 905-738-2985 | Mobile: 416-688-3480
carol.siemiginowski@lafargeholcim.com
www.buildingbettercities.ca | www.lafargeholcim.com

A member of LafargeHolcim

On Fri, Aug 9, 2019 at 6:09 AM Nina Lecic <nlecic@puslinch.ca> wrote:

> Hi Robert,
>
> I have a question for you based on a request from Council at the last Council Meeting:
>
> - Council directed staff to contact Lafarge and inquire as to whether the site plan conditions have changed and whether a public meeting will be held with respect to those site plan changes.
>
> Can you please advise?
>
> Thank you!
>
> PUSLINCH
> Nina Lecic
> Clerk
> Township of Puslinch
> 7404 Wellington Rd. 34, Puslinch, ON N0B 2J0
> P: 519-763-1226 ext. 207/Fax: 519-763-5846 www.puslinch.ca

Courtenay Hoytfox

From: Parks and Recreation Ontario <pro@prontario.org>
Sent: Thursday, August 15, 2019 3:14 PM
To: Admin
Subject: Assessing the Impact of Bill 108 on Municipal Parks and Recreation

Healthy People | Vibrant Communities | Sustainable Environments

Important information about the Impact of Bill 108 on municipal parks and recreation

To: Head of Council
From: Parks and Recreation Ontario

As you are aware, the Provincial Government, through the *More Homes, More Choice Act, 2019 (Bill 108),* has introduced significant changes to how Ontario's municipalities will plan and fund parks and recreation facilities in their communities. On June 6, 2019, Bill 108, the *More Homes, More Choice Act,* received royal assent. The Province describes this legislation as a plan to increase the amount of housing in Ontario by boosting supply. After careful review, Parks and Recreation Ontario (PRO), through consultation with its membership and key stakeholders, determined this Act could have a significant negative impact on how municipalities deliver parks and recreation facilities in their communities.

From our consultation, we have developed four key recommendations that we will be submitting to the Province as they review and prepare for implementation of the Act. These are:

1. The community benefits approach must meet the funding needs of all municipalities today and into the future;
2. Develop a Community Benefits Charge (CBC) cap and formula that is responsive to community-specific and growth-related needs;
3. Provide clarity on transition for in-progress planning applications; and
4. Ensure sufficient time and capacity for municipalities to transition to new CBC authority.

The issues and recommendations are described in further detail in our submission.

We are sharing recommendations with you as a resource to consider in your discussions with the Provincial Government, your local council, staff and key stakeholders. We are also aware that many of you may be meeting with provincial representatives at the upcoming annual AMO Conference and wanted to ensure that this information was available for these potential meetings. We ask that you please share this information with staff who may be preparing submissions on behalf of your municipality.

We appreciate your attention to this matter and your support to advance PRO's mission to provide every person equitable access to vibrant communities, sustainable environments, and personal health.

About PRO

PRO is a provincial association that works to advance the health, social and environmental benefits of quality recreation. We represent over 6,500 members in municipalities across the province. Our members provide vital services and facilities to more than 85% of Ontarians. In all of PRO's submissions, we use evidence-based practices, resources and collaborative partnerships to ensure sound recommendations that reflect the unique voices of the variety of municipalities across Ontario.

prontario.org | pro@prontario.org

Courtenay Hoytfox

From: Nina Lecic
Sent: Wednesday, August 14, 2019 3:14 PM
To: Courtenay Hoytfox
Subject: FW: Fixing the Housing Affordability Crisis: AMO's Housing Paper Released

From: AMO Communications <Communicate@amo.on.ca>
Sent: Wednesday, August 14, 2019 2:50 PM
To: Nina Lecic <nlecic@puslinch.ca>
Subject: Fixing the Housing Affordability Crisis: AMO's Housing Paper Released

August 14, 2019

Fixing the Housing Affordability Crisis: Municipal Recommendations for Housing in Ontario

Today, AMO released "Fixing the Housing Affordability Crisis: Municipal Recommendations for Housing in Ontario".

Addressing the housing affordability crisis facing our residents throughout Ontario is a key priority for AMO and municipal governments. It is also a priority for the federal and provincial governments. While recent provincial and federal initiatives on housing reflect an interest in tackling these challenges together, AMO has a number of recommendations that focus on outstanding issues that need to be addressed.

Municipal governments are ready to continue working with the provincial and federal orders of government and our non-profit, co-operative, and private sector partners. Our focus is on finding solutions to the housing affordability crisis that make sense for everyday families, local communities and property taxpayers, while focusing especially on housing solutions that will help those most in need.

AMO's housing paper provides ideas aimed at doing just that. It consolidates AMO's outstanding housing recommendations and also provides advice to the federal and provincial governments to make sure the housing initiatives underway make a meaningful difference for those in housing need.

To do so, the paper focuses on five key areas:

- Increasing the Supply of Affordable Housing for Families
- Creating a Financially Stable Model for Community Housing
- Expanding Affordable Housing Options
- Ending Homelessness; and
- Supporting People with their Health Care Needs for Successful Tenancies.

"Fixing the Housing Affordability Crisis: Municipal Recommendations for Housing in Ontario" will guide our work as we continue to engage with our partners in housing in the time ahead.

The paper is a product of the hard work of AMO's Housing and Homelessness Task Force with collaboration from the Planning Task Force. We also thank our partners from the Ministry of Municipal Affairs and Housing, the Ontario Municipal Social Service Association, the Northern Ontario Service Deliverer's Association, the Ontario Non-Profit Housing Association, the Cooperative Housing Federation of Canada – Ontario Region, the Ontario Federation of Indigenous Friendship Centres, and the Housing Services Corporation for their input and advice over the years.

AMO Contact: Michael Jacek, Senior Advisor, mjacek@amo.on.ca, 416-971-9856 ext. 329.

Ministry of Finance
Office of the Minister

Ministère des Finances
Bureau du ministre

Ontario

7th Floor, Frost Building South
7 Queen's Park Crescent
Toronto ON M7A 1Y7
Telephone: 416-314-6331

7e étage, Édifice Frost Sud
7 Queen's Park Crescent
Toronto ON M7A 1Y7
Téléphone: 416-314-6331

August 13, 2019

Dear Head of Council:

I am writing to provide you with an update on the Ontario Cannabis Legalization Implementation Fund (OCLIF).

As you know, OCLIF was announced in 2018 as a $40 million initiative over two years to help municipalities with the implementation costs of recreational cannabis legalization. In early 2019, the government provided municipalities with $30 million in OCLIF funding, and $10 million was set aside to address costs from unforeseen circumstances related to the legalization of recreational cannabis, for which priority would be given to municipalities that did not opt-out of hosting cannabis retail stores.

Ontario's objectives are to protect our youth and communities and to combat the illegal cannabis market. To support these objectives, the government has made an investment of $3.26 million to support enhanced enforcement against illegal cannabis operations. An investment of $3.06 million this year is enabling enhanced enforcement through provincial joint forces cannabis enforcement teams, led by the Ontario Provincial Police, and a targeted investment of $200,000 to the Toronto Police Service is supporting their efforts to combat illegal cannabis operations in the City of Toronto.

This investment directly benefits municipalities. The enforcement teams work on a regional basis and are available to all municipalities and First Nations. This collaborative approach enables law enforcement to efficiently target crime in an organized way that is coordinated and consistent across the province.

The government will distribute the remaining $6.74 million in OCLIF funding this month as follows:

- Funding will be provided on a per household basis to municipalities that did not opt-out of hosting retail stores as of January 22, 2019, adjusted so that each recipient municipality will receive at least $5,000.
- Lower-tier and upper-tier municipalities will receive funding based on 50% of their households. Upper-tier municipalities will receive funding in relation to opt-out decisions made by the lower-tier municipality. If a lower tier municipality opted-

…/cont'd

out, the upper tier municipality will not receive funding on a per household basis in relation to that municipality.

The government is providing this funding now to municipalities in a manner similar to past payments. This means municipalities will have the funds on hand to use for the same implementation costs the fund was designed to support.

The Deputy Minister of Finance will write shortly to the Treasurers of recipient municipalities with details about the administration of this funding and attach each municipality's specific allocation notice. Payments will also be processed at that time.

The province also committed that, if Ontario's portion of the federal excise duty on recreational cannabis over the first two years of legalization exceeds $100 million, the province will provide 50 per cent of the surplus to those municipalities that did not opt out as of January 22, 2019. Provinces receive excise duty from the federal government over time, and it is early in the two year legalization period. The Ministry of Finance will connect with AMO and the City of Toronto on this commitment after the first two years of legalization are completed in 2020.

Municipalities have been important partners in the successful implementation of the federal government's legalization of recreational cannabis. We look forward to continuing to work together in this regard.

Sincerely,

Original signed by

Rod Phillips
Minister of Finance

c: The Honourable Doug Downey, Attorney General
The Honourable Steve Clark, Minister of Municipal Affairs and Housing
Dan Miles, Chief of Staff, Ministry of Finance
Paul Boniferro, Deputy Attorney General
Greg Orencsak, Deputy Minister of Finance
Laurie LeBlanc, Deputy Minister of Municipal Affairs and Housing
Renu Kulendran, Executive Director, Ontario Legalization of Cannabis Secretariat, Ministry of Attorney General
Nicole Stewart, Executive Lead, Cannabis Retail Implementation Project, Ministry of Finance
Kate Manson-Smith, Assistant Deputy Minister, Local Government and Planning Policy Division, Ministry of Municipal Affairs and Housing

Courtenay Hoytfox

From: Jana Burns <janab@wellington.ca>
Sent: Tuesday, August 27, 2019 9:05 AM
To: Admin
Subject: FW: Notice of Motion- Internet Service
Attachments: Notice of Motion- Internet Service.pdf

From: Jana Burns
Sent: August 27, 2019 9:03 AM
To: 'Nina Lecic' <nlecic@puslinch.ca>
Cc: Donna Bryce <donnab@wellington.ca>; Doug Waram <dougw@wellington.ca>
Subject: FW: Notice of Motion- Internet Service

Good morning Nina,

The Notice of Motion speaks to a desire to participate on the SWIFT County Procurement Committee. That Committee has been established by SWIFT and consists of the following: SWIFT Executive Director, SWIFT Technical Manager, SWIFT Operational Manager, SWIFT Finance Manager, and one County representative - the SWIFT Municipal Member. This position is a County appointed position and represents all municipalities for the process.

Let me provide an update on the project and how the evaluation will take place.

The predetermination criteria includes the following weighted items:

1. Premises/households passed
2. Number of fibre km constructed
3. Technology scalable toward symmetric 1GB service
4. ISP contribution portion (at least 1/3)
5. Residential rate for 50/10 service
6. Timeline to complete project
7. Connection sites of public benefit
8. Ability to meet project objective

It will take two months from when the RFP was issued to market, about three weeks ago, for the ISPs to present their proposals to SWIFT. At this point the evaluation process will take place and there will be a focus on proposals that result in the best outcomes (most homes passed and most fibre laid). We will not know the locations and construction timelines until the RFP closes and the ISPs let us know when they are available to build out.

Sharing regular communication once this information is available on our end will assist with your ability to proactively support the future buildout, the next phases, in the community. I've asked SWIFT to provide us with monthly updates that we can share with County Council and our member municipalities.

We are receiving $12.1M on an estimated need of $140M to fiberize the whole community and we anticipate several phases with opportunities to be proactive within the next phases. I believe SWIFT currently has 40 members of record and are hoping that multiple proponents will bid to build the best proposal.

Jana

Jana Burns BA, MSc

Director of Economic Development
County of Wellington
74 Woolwich St.
Guelph, ON. N1H 3T9
T 1.519.837.2600 x2525
C 1.519.830.9969
F 1.519.837.0285

From: Courtenay Hoytfox <choytfox@puslinch.ca>
Sent: Thursday, August 22, 2019 7:12 AM
To: Donna Bryce <donnab@wellington.ca>
Subject: FW: Notice of Motion- Internet Service

Hi Donna, I am following up in Nina's absence on the enclosed correspondence. Do you have an update I can provide to Council with respect to the steering committee?

Thank you,

Kind regards,

PUSLINCH
Courtenay Hoytfox
Development and Legislative Coordinator
Township of Puslinch
7404 Wellington Rd 34, Puslinch, ON N0B 2J0
P: 519-763-1226 ext. 227 F: 519-763-5846 www.puslinch.ca

Begin forwarded message:

> **From:** Nina Lecic <nlecic@puslinch.ca>
> **Date:** August 9, 2019 at 11:13:42 AM EDT
> **To:** Jana Burns <janab@wellington.ca>, Donna Bryce <donnab@wellington.ca>
> **Cc:** John Sepulis <jsepulis@puslinch.ca>, Courtenay Hoytfox <choytfox@puslinch.ca>
> **Subject: Notice of Motion- Internet Service**
>
> Good morning,
>
> Please find enclosed correspondence with respect to internet service in the Township.
>
> Regards,

Township of Puslinch
7404 Wellington Rd 34, Puslinch, ON N0B 2J0
P 519 763-1226 F 519-763-5846
www.puslinch.ca

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Township of Puslinch
7404 Wellington Road 34
Puslinch, ON N0B 2J0
T: (519) 763 – 1226
www.puslinch.ca

August 9, 2019

Jana Burns- Director of Economic Development
Wellington County

SENT VIA E-MAIL: janab@wellington.ca

RE: Notice of Motion- Internet Service

Please be advised that Township of Puslinch Council, at its meeting held on July 17, 2019, considered the aforementioned topic and subsequent to discussion, the following was resolved:

WHEREAS adequate internet service is lacking in most parts of Puslinch;

AND WHEREAS Wellington County, in conjunction with SWIFT, is proceeding with a pilot project for the County for the summer 2019;

AND WHEREAS there a need for a knowledgeable Township representative on the County's Steering Committee when it is convened;

AND WHERAS the provision of any internet services provided by the pilot project in Puslinch will still likely leave the majority of Puslinch underserviced;

THEREFORE BE IT RESOLVED that Council acknowledges the formation of a community led committee to advance the provision of improved internet services for the Township;

AND THAT Council supports the appointment of Glenn James as Puslinch's representative on the Wellington County Steering Committee;

AND THAT Council appoints a member of Council to the community Committee;

And that Councillor Sepulis be appointed as the Council representative for the 2018-2022 Term of Council;

And that this motion be forwarded to Wellington County for their furtherance.

As per the above resolution, please accept a copy of this correspondence for your information and consideration.

Yours very truly,
Nina Lecic
Acting Clerk

CC: Donna Bryce, County Clerk, donnab@wellington.ca

Nina Lecic

From: AMO Communications <Communicate@amo.on.ca>
Sent: Tuesday, August 13, 2019 5:31 PM
To: Nina Lecic
Subject: Ontario Releases Remainder of Municipal Cannabis Funding

August 13, 2019

Ontario Releases Remainder of Municipal Cannabis Funding

Ontario's Minister of Finance, the Honourable Rod Phillips will soon release the final $6.74 million in funds for cannabis legalization to municipal governments. The Minister has written today to Heads of Council of eligible municipal governments and further information on allocations will be provided by the Ministry soon. AMO understands that the funding will be allocated as previously determined based on municipal decisions to allow retail cannabis sales. It is appreciated that the full $40 million base funding for municipal governments will be disbursed shortly, fulfilling a major part of Ontario's approach to sharing cannabis revenues.

The Ontario Cannabis Legalization Implementation Fund (OCLIF) provides $40 million over two years to help municipalities deal with cannabis legalization implementation in their communities and ensure that municipal budgets are not unduly pressured by these activities. OCLIF provides support to municipal governments through up-front funding for items such as enforcement, education and training, front line service demands and other incremental costs of legal recreational cannabis in communities.

OCLIF Distribution Model:

- OCLIF was distributed in two tranches:
  - The first $5,000 prior to municipal governments deciding to allow cannabis retail
  - A second $5,000 OR per household funding if greater than $5,000 if cannabis retail is allowed

- $10 million of the $40 million was held back by the province to deal with any unforeseen circumstances arising from implementation of legalization.

- If the provincial share of the federal cannabis excise tax exceeds $100 million over the two year federal-provincial agreement, the province will share any surplus 50/50 with municipal governments that allow cannabis retail in their communities.

Today's Minister's letter deals with the remainder of the $10 million holdback of the OCLIF funds. AMO understands that the provincial government provided $3.06 million of the held-back funds to the Ontario Provincial Police to aid with cannabis enforcement coordination. AMO expects this OPP funding to help manage any demands for increase to municipal billing from the force for community policing as it has been combined with provincial support for police training. AMO also understands that the City of Toronto has received $200,000 out of the reserve to help with demand for increased enforcement of illegal cannabis retail outlets after legalization.

With the distribution of this final $6.74 million in funding to municipalities, municipal governments can now focus on the amount of Ontario revenue from the federal excise tax for cannabis in the period. As noted, if revenues exceed $100 million over the first two years of legalization surplus funds will be available for distribution to municipal governments that allowed retail. Minister Phillips' letter notes that the provincial government will connect with AMO in 2020 when more information on the federal cannabis excise tax take for the first two years of legalization is known.

As recreational cannabis implementation enters a new and more established phase, AMO is looking forward to working closely with the province on the next federal-provincial cannabis excise tax revenue agreement to represent municipal interests and ensure consideration of long-term revenue sharing opportunities for our members.

AMO Contact: Craig Reid, Senior Advisor, creid@amo.on.ca, 416-971-9856 ext. 334.

Canadian Radiocommunications Information and Notification Service

Service d'information et de notification en radiocommunications canadiennes

Municipal Overview

Ontario Municipalities

2019

Introduction

- CRINS-SINRC is a not-for-profit, member-owned, shared service organization.
- Membership limited to Canadian municipalities and provincial agencies / governments identified as Land Use Authorities (LUAs) for the purposes of IC's Client Procedure Circular (CPC) 2-0-03, Issue 5, or agencies which oversee provincial heads of power which are required to support the *Radiocommunications Act* – i.e. public health, occupational health and safety, environment, and the practice of engineering.
- Conceived in January 2011, launched in January 2012.
- Current membership of 350+ municipal units and agencies, including unincorporated areas, and provincial agencies.

CRINS-SINRC

CRINS-SINRC Mandate

- Serve as expert staff for municipal members to evaluate proposed radiocommunications sites and support planning staff.
- Educate the public on issues pertaining to antenna system and tower siting in our member jurisdictions.
- Manage the public consultation process on behalf of our municipal members.
- Present results of public consultations / municipal input to proponents and Industry Canada.
- Provide oversight of ongoing obligations of proponents on behalf of members when required.

CRINS-SINRC

Law and Regulations

- Radiocommunications are developed under the authority of the Minister of Industry vested in the *Radiocommunications Act.*

  – Mandate: "... *ensuring the orderly establishment or modification of radio stations and the orderly development and efficient operation of radiocommunication in Canada*, [...]" – Section 5 (1).

- Authority includes:
  – **establish technical requirements and technical standards** in relation to radio apparatus, interference-causing equipment, and radio-sensitive equipment, or any class thereof;

  – **plan the allocation and use of the spectrum**;

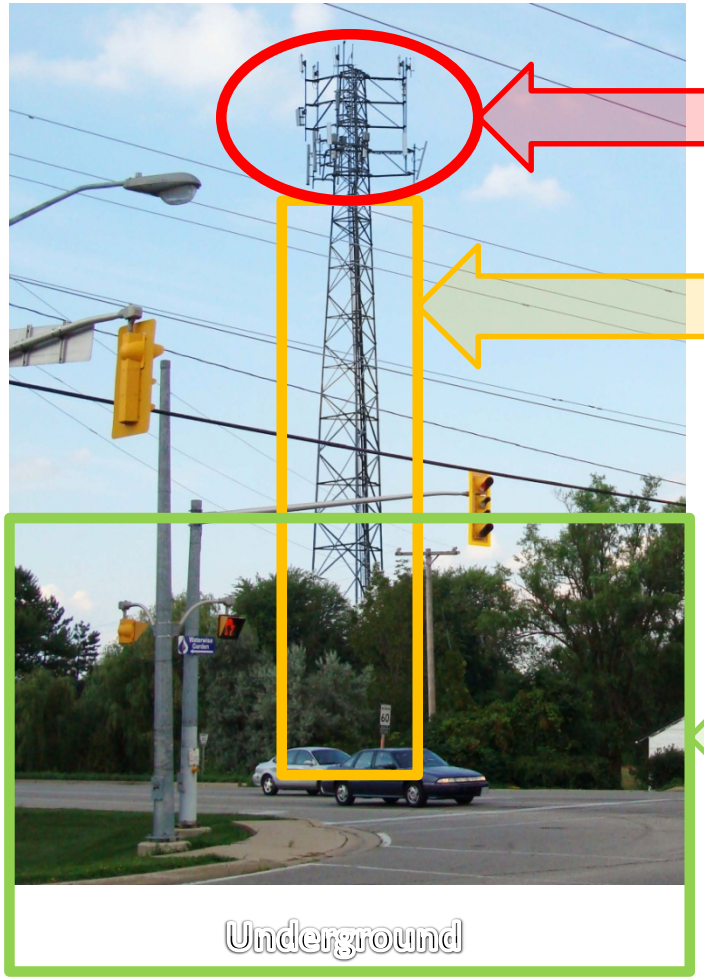
  – **approve each site on which radio apparatus, including antenna systems, may be located, and approve the erection of all masts, towers and other antenna-supporting structures;**

  – **test radio apparatus for compliance with technical standards** established under this Act;

  – require holders of, and applicants for, radio authorizations to **disclose to the Minister such information as the Minister considers appropriate respecting the present and proposed use of the radio apparatus in question and the cost of installing or maintaining it**, including subsequent material changes in such information on an ongoing basis;

CRINS-SINRC

Heads of Power



- *Radiocommunications Act* – Industry Canada
- *Safety Code 6* – Health Canada

- **Provincial Heads of Power**
  - Practice of Professional Engineering
  - Building Code adoption
  - Occupational Health and Safety
  - Public Health
  - Environment
  - First Nations (Land Claims)

- **Devolved Provincial Authority**
  - Land Use Authority (Planning & Development)
  - Conservation and Heritage Authorities

CRINS-SINRC

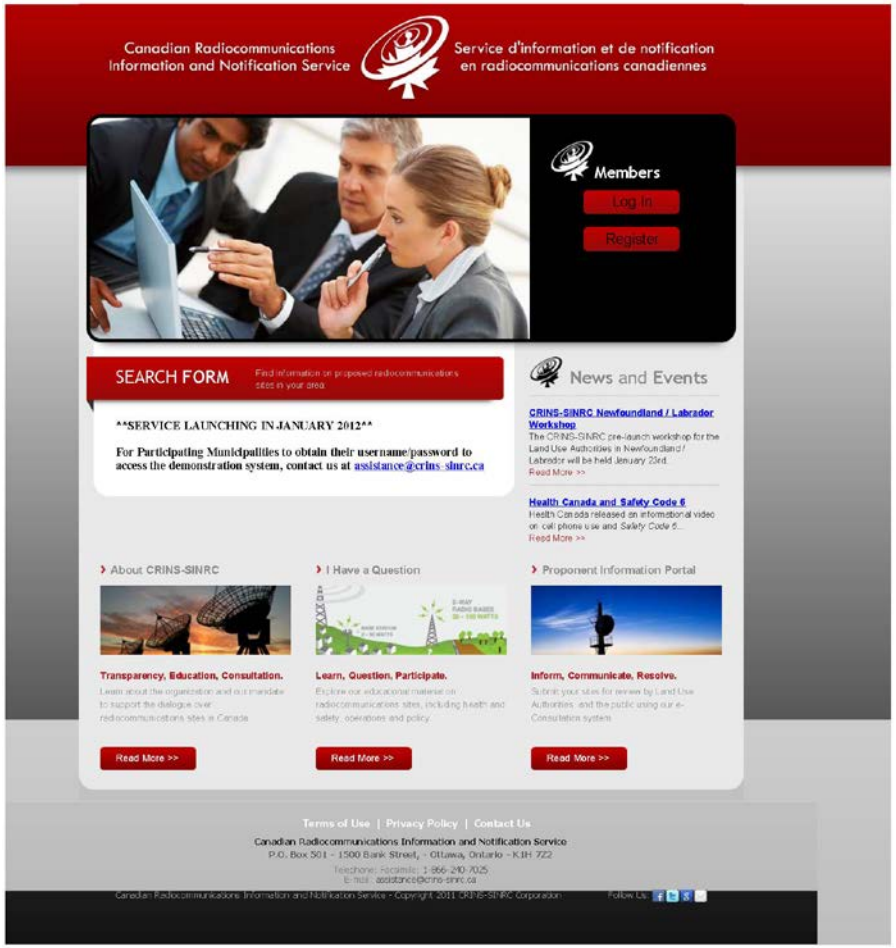
CRINS-SINRC Service Goals

- Bringing together all the stakeholders (proponents, public, LUA).
- Educating the Public on Antenna Siting Issues
- Transparent Disclosure on Proposed Sites
- Engaging in a Constructive Discourse with the Public
- Audit Trail and Statistical Modelling.

CRINS-SINRC

CRINS-SINRC Website

http://www.crins-sinrc.ca/



Using CRINS-SINRC

- How does an LUA become involved?
  - No fees (free) to LUAs who participate
- What do you (LUA) do?
  - Obtain approval from your Planning Committee / Council to participate.
  - Send us a letter from your CAO/Mayor/Warden indicating the decision.
  - Adopt a revised antenna siting protocol which mandates the use of CRINS-SINRC as the conduit for consultation as per IC CPC 2-0-03.

CRINS-SINRC

REPORT FIN-2019-028

TO: Mayor and Members of Council

FROM: Mary Hasan, Director of Finance/Treasurer

MEETING DATE: September 4, 2019

SUBJECT: First Quarter Financial Report – 2019
File: C11 – FIN and F05 – FIN

RECOMMENDATIONS

THAT Report FIN-2019-028 regarding the First Quarter Financial Report – 2019 be received.

Background

Council receives a summary of the Township finances on a quarterly basis.

Purpose

The purpose of this report is to provide Council a summary of the Township finances for the First Quarter of 2019 (January, February, March).

Financial Implications

Discussed throughout the Report and within the Schedules attached to the Report.

Applicable Legislation and Requirements

None

Attachments

Schedule A – Departmental Detail
Schedule B – Expense and Revenue Summary
Schedule C – Other Financial Data
Schedule D – Cheque Registers

Report FIN-2019-028 - First Quarter Financial Report - 2019
Schedule A - Departmental Detail

		Description	Current Qtr Actuals	Quarterly Budget	YTD Actuals	YTD Budget	$ Budget Remaining	2019 Budget	% Remaining
Building									
Building									
Expenditures									
	Building Maintenance								
		Municipal Office Costs Recovered from Building Department	$0	$5,174	$0	$5,047	$20,697	$20,697	100%
	Contract Services/Professional Fees								
		Contract Services	$5,346	$4,794	$5,346	$4,676	$13,829	$19,175	72%
		Professional Fees - Audit	$3,053	$1,500	$3,053	$1,463	$2,947	$6,000	49%
		Professional Fees - Engineering	$33,644	$61,230	$33,644	$59,720	$211,276	$244,920	86%
		Professional Fees-Legal	$2,671	$5,000	$2,671	$4,877	$17,329	$20,000	87%
	Materials and Supplies								
		Advertising	$445	$390	$445	$380	$1,115	$1,560	71%
		Clothing, Safety Allowance	$195	$180	$195	$176	$525	$720	73%
		Signage	$0	$0	$0	$0	$0	$0	N/A
	Office Equipment and Supplies								
		Computer Software & Hardware	$0	$63	$0	$61	$250	$250	100%
		Office Supplies	$745	$1,250	$745	$1,219	$4,255	$5,000	85%
	Professional Development								
		Employee Travel - Accomodations	$0	$375	$0	$366	$1,500	$1,500	100%
		Employee Travel - Meals	$0	$125	$0	$122	$500	$500	100%
		Membership and Subscription Fees	$2,265	$772	$2,265	$753	$824	$3,089	27%
		Professional Development	$624	$3,338	$624	$3,255	$12,726	$13,350	95%
	Salaries, Wages and Benefits								
		FT Benefits	$7,326	$9,709	$7,326	$9,469	$31,509	$38,835	81%
		FT Wages	$40,775	$55,760	$40,775	$54,385	$182,266	$223,041	82%
		Manulife Benefits	$4,205	$7,226	$4,205	$7,048	$24,698	$28,903	85%
		OT Wages	$0	$125	$0	$122	$500	$500	100%
		PT Benefits	$186	$162	$186	$158	$464	$650	71%
		PT Wages	$1,029	$1,744	$1,029	$1,701	$5,947	$6,975	85%

Report FIN-2019-028 - First Quarter Financial Report - 2019
Schedule A - Departmental Detail

	Description	Current Qtr Actuals	Quarterly Budget	YTD Actuals	YTD Budget	$ Budget Remaining	2019 Budget	% Remaining
	WSIB	$1,488	$1,765	$1,488	$1,722	$5,573	$7,061	79%
Utilities								
	Communication(phone, fax, intern)	$859	$838	$859	$817	$2,491	$3,350	74%
	Emergency Management	$322	$317	$322	$309	$947	$1,269	75%
	Fuel	$0	$375	$0	$366	$1,500	$1,500	100%
	Insurance	$0	$4,946	$0	$4,824	$19,784	$19,784	100%
	Postage	$0	$750	$0	$732	$3,000	$3,000	100%
	Service Charges	$832	$1,304	$832	$1,272	$4,384	$5,216	84%
Vehicles and Equipment								
	Mileage	$128	$250	$128	$244	$872	$1,000	87%
	Vehicle Maintenance	$0	$150	$0	$146	$600	$600	100%
	Vehicle Plates	$0	$30	$0	$29	$120	$120	100%
Expenditures Total		**$106,139**	**$169,642**	**$106,139**	**$165,459**	**$572,427**	**$678,567**	**84%**
Revenues								
Permits & Other Development Fees								
	Revision to a Permit	-$1,560	-$1,248	-$1,560	-$1,217	-$3,432	-$4,992	69%
	Transfer of Permit	$0	-$39	$0	-$38	-$156	-$156	100%
Recoveries								
	Other Recoveries	$0	-$125	$0	-$122	-$500	-$500	100%
User Fees, Licenses and Fines								
	Alternative Solution Application	$0	-$125	$0	-$122	-$500	-$500	100%
	Demolition Permits	-$312	-$429	-$312	-$418	-$1,404	-$1,716	82%
	Designated Structures Permit	$0	-$624	$0	-$609	-$2,496	-$2,496	100%
	Farm Building Permits	-$5,360	-$1,750	-$5,360	-$1,707	-$1,640	-$7,000	23%
	Institutional, Commercial & Industrial Building Permits	-$11,121	-$9,500	-$11,121	-$9,266	-$26,880	-$38,000	71%
	Occupancy Permits	-$624	-$1,950	-$624	-$1,902	-$7,176	-$7,800	92%
	Reproduction of Drawings Fees	$0	-$38	$0	-$37	-$150	-$150	100%
	Residential Building Permits	-$70,816	-$82,500	-$70,816	-$80,466	-$259,184	-$330,000	79%
	Sign Permits	$0	-$195	$0	-$190	-$780	-$780	100%

Report FIN-2019-028 - First Quarter Financial Report - 2019
Schedule A - Departmental Detail

	Description	Current Qtr Actuals	Quarterly Budget	YTD Actuals	YTD Budget	$ Budget Remaining	2019 Budget	% Remaining
	Septic System Permit - New	-$2,496	-$8,892	-$2,496	-$8,673	-$33,072	-$35,568	93%
	Septic System Permit - Alter	$0	-$585	$0	-$571	-$2,340	-$2,340	100%
	Re-inspection fees	$0	-$234	$0	-$228	-$936	-$936	100%
	Tent or Marquee Fee	-$260	-$234	-$260	-$228	-$676	-$936	72%
	Online Service Fee	-$150	-$1,250	-$150	-$1,219	-$4,850	-$5,000	97%
Revenues Total		**-$92,699**	**-$109,718**	**-$92,699**	**-$107,012**	**-$346,171**	**-$438,870**	**79%**

Report FIN-2019-028 - First Quarter Financial Report - 2019
Schedule A - Departmental Detail

		Description	Current Qtr Actuals	Quarterly Budget	YTD Actuals	YTD Budget	$ Budget Remaining	2019 Budget	% Remaining
By-law									
By-law									
Expenditures									
	Contract Services/Professional Fees								
		Contract Services	$1,497	$5,090	$1,497	$4,964	$18,863	$20,360	93%
		Livestock Loss	$0	$375	$0	$366	$1,500	$1,500	100%
		Professional Fees - Engineering & Environmental	$814	$4,320	$814	$4,213	$16,466	$17,280	95%
		Professional Fees - Legal	$1,225	$5,000	$1,225	$4,877	$18,775	$20,000	94%
	Materials and Supplies								
		Advertising	$0	$375	$0	$366	$1,500	$1,500	100%
		Signage	$163	$325	$163	$317	$1,137	$1,300	87%
		Dog Tags	$0	$63	$0	$61	$250	$250	100%
	Office Equipment and Supplies								
		Office Supplies	$0	$38	$0	$37	$150	$150	100%
	Professional Development								
		Employee Travel - Accomodations	$0	$63	$0	$61	$250	$250	100%
		Employee Travel - Meals	$0	$13	$0	$12	$50	$50	100%
		Professional Development	$0	$300	$0	$293	$1,200	$1,200	100%
	Salaries, Wages and Benefits								
		PT Wages	$0	$3,168	$0	$3,090	$12,674	$12,674	100%
		WSIB	$0	$94	$0	$92	$377	$377	100%
		PT Wage Related Expenses	$0	$548	$0	$535	$2,193	$2,193	100%
	Vehicles and Equipment								
		Mileage	$0	$38	$0	$37	$150	$150	100%
Expenditures Total			**$3,699**	**$19,809**	**$3,699**	**$19,320**	**$75,536**	**$79,234**	**95%**
Revenues									
	Recoveries								
		Ontario Wildlife Damage Compensation	$0	-$375	$0	-$366	-$1,500	-$1,500	100%
		Other Recoveries	$0	-$125	$0	-$122	-$500	-$500	100%

Report FIN-2019-028 - First Quarter Financial Report - 2019
Schedule A - Departmental Detail

	Description	Current Qtr Actuals	Quarterly Budget	YTD Actuals	YTD Budget	$ Budget Remaining	2019 Budget	% Remaining
User Fees, Licenses and Fines								
	Dog Tags and Kennel Licences	-$7,121	-$2,750	-$7,121	-$2,682	-$3,879	-$11,000	35%
	Engineering, Environmental and Legal Fees Recovered	-$800	-$1,250	-$800	-$1,219	-$4,200	-$5,000	84%
	Fence Viewer's Application	$0	$0	$0	$0	$0	$0	N/A
	Guelph Humane Society Fees	-$394	-$250	-$394	-$244	-$606	-$1,000	61%
	Inspection Permit - LCBO	$0	-$39	$0	-$38	-$156	-$156	100%
	Lottery Licences	-$218	-$125	-$218	-$122	-$282	-$500	56%
	Municipal addressing signs	-$280	-$450	-$280	-$439	-$1,520	-$1,800	84%
	Pool Enclosure Permit	$0	-$914	$0	-$891	-$3,655	-$3,655	100%
	Septic Compliance Letter	$0	-$188	$0	-$183	-$750	-$750	100%
	Sign Permits	$0	-$25	$0	-$24	-$100	-$100	100%
	Site Alteration Agreement	$0	-$125	$0	-$122	-$500	-$500	100%
	Special Occasion Permit Letters	$0	-$38	$0	-$37	-$150	-$150	100%
	Filming Permit Fee	$0	-$125	$0	-$122	-$500	-$500	100%
Revenues Total		**-$8,814**	**-$6,778**	**-$8,814**	**-$6,611**	**-$18,297**	**-$27,111**	**67%**

Report FIN-2019-028 - First Quarter Financial Report - 2019
Schedule A - Departmental Detail

		Description	Current Qtr Actuals	Quarterly Budget	YTD Actuals	YTD Budget	$ Budget Remaining	2019 Budget	% Remaining
Fire and Rescue									
Fire and Rescue									
Expenditures									
	Contract Services/Professional Fees								
		Contract Services	$2,676	$18,874	$2,676	$18,408	$72,819	$75,495	96%
	Materials and Supplies								
		Advertising	$0	$250	$0	$244	$1,000	$1,000	100%
		Clothing, Safety Allowance	$6,894	$4,138	$6,894	$4,035	$9,656	$16,550	58%
		Oxygen & Medical Supplies	$920	$775	$920	$756	$2,180	$3,100	70%
		Public Education	$1,557	$950	$1,557	$927	$2,243	$3,800	59%
	Office Equipment and Supplies								
		Office Supplies	$0	$750	$0	$732	$3,000	$3,000	100%
	Professional Development								
		Employee Travel - Accomodations	$0	$650	$0	$634	$2,600	$2,600	100%
		Employee Travel - Meals	$100	$250	$100	$244	$900	$1,000	90%
		Membership and Subscription Fees	$984	$1,178	$984	$1,149	$3,728	$4,712	79%
		Professional Development	$6,608	$6,026	$6,608	$5,878	$17,497	$24,105	73%
	Salaries, Wages and Benefits								
		Group Benefits	$10,584	$4,308	$10,584	$4,201	$6,647	$17,231	39%
		PT Benefits - Fire Dept	$65,008	$7,992	$65,008	$7,795	-$33,038	$31,970	-103%
		PT Wages - Fire Dept	$99,105	$100,640	$99,105	$98,158	$303,454	$402,559	75%
		WSIB	$3,063	$3,170	$3,063	$3,092	$9,618	$12,681	76%
	Utilities								
		Communication(phone, fax, intern)	$967	$2,075	$967	$2,024	$7,333	$8,300	88%
		Fuel	$0	$3,600	$0	$3,511	$14,400	$14,400	100%
		Insurance	$0	$5,681	$0	$5,540	$22,722	$22,722	100%
	Vehicles and Equipment								
		Equipment Maintenance & Supplies	$7,347	$6,250	$7,347	$6,096	$17,653	$25,000	71%
		Mileage	$413	$1,000	$413	$975	$3,587	$4,000	90%
		Permits	$471	$121	$471	$118	$14	$485	3%
		Vehicle Maintenance	$7,308	$6,500	$7,308	$6,340	$18,693	$26,000	72%

Report FIN-2019-028 - First Quarter Financial Report - 2019
Schedule A - Departmental Detail

	Description	Current Qtr Actuals	Quarterly Budget	YTD Actuals	YTD Budget	$ Budget Remaining	2019 Budget	% Remaining
	Vehicle Plates	$0	$66	$0	$65	$265	$265	100%
Expenditures Total		**$214,004**	**$175,244**	**$214,004**	**$170,923**	**$486,971**	**$700,975**	**69%**
Revenues								
Recoveries								
	Other Recoveries	$0	-$750	$0	-$732	-$3,000	-$3,000	100%
User Fees, Licenses and Fines								
	Boarding up or Barricading	$0	$0	$0	$0	$0	$0	N/A
	Burning Permit Violations	$0	-$349	$0	-$340	-$1,396	-$1,396	100%
	Fire Alarm False Alarm Calls	$0	$0	$0	$0	$0	$0	N/A
	Fire Extinguisher Training	$0	-$125	$0	-$122	-$500	-$500	100%
	Fire Safety Plan Review	$0	-$60	$0	-$59	-$240	-$240	100%
	Fireworks Permits	$0	-$50	$0	-$49	-$200	-$200	100%
	Information/Fire Reports	$0	-$113	$0	-$110	-$450	-$450	100%
	Inspections	$0	$0	$0	$0	$0	$0	N/A
	Key Boxes	$0	-$25	$0	-$24	-$100	-$100	100%
	Motor Vehicle Emergency Responses	-$11,572	-$22,500	-$11,572	-$21,945	-$78,428	-$90,000	87%
	Occupancy Load	$0	$0	$0	$0	$0	$0	N/A
	Open Burning Permit and Inspection	-$6,480	-$3,750	-$6,480	-$3,658	-$8,520	-$15,000	57%
	Post Fire Watch	$0	$0	$0	$0	$0	$0	N/A
	Tent or Marquee Application Fee	$0	-$156	$0	-$152	-$624	-$624	100%
	Water Tank Locks	$0	-$13	$0	-$13	-$53	-$53	100%
Revenues Total		**-$18,052**	**-$27,891**	**-$18,052**	**-$27,203**	**-$93,512**	**-$111,564**	**84%**

Report FIN-2019-028 - First Quarter Financial Report - 2019
Schedule A - Departmental Detail

		Description	Current Qtr Actuals	Quarterly Budget	YTD Actuals	YTD Budget	$ Budget Remaining	2019 Budget	% Remaining
General Government									
Administration									
Expenditures									
	Contract Services/Professional Fees								
		Contract Services	$214	$4,250	$214	$4,145	$16,786	$17,000	99%
		Professional Fees - Engineering & Environmental	$951	$13,910	$951	$13,567	$54,689	$55,640	98%
		Professional Fees - Legal	$7,017	$12,125	$7,017	$11,826	$41,483	$48,500	86%
	Materials and Supplies								
		Advertising	$1,239	$725	$1,239	$707	$1,661	$2,900	57%
		Events and Other	$0	$2,694	$0	$2,627	$10,775	$10,775	100%
		Water Monitoring	$0	$875	$0	$853	$3,500	$3,500	100%
	Office Equipment and Supplies								
		Office Supplies & Equipment	$214	$300	$214	$293	$986	$1,200	82%
	Professional Development								
		Employee Travel - Accom/Parking	$1,058	$300	$1,058	$293	$142	$1,200	12%
		Employee Travel - Air Fare	$0	$125	$0	$122	$500	$500	100%
		Employee Travel - Meals	$25	$50	$25	$49	$175	$200	88%
		Membership and Subscription Fees	$9,427	$2,718	$9,427	$2,651	$1,444	$10,871	13%
		Professional Development	$3,567	$10,211	$3,567	$9,959	$37,276	$40,843	91%
	Salaries, Wages and Benefits								
		FT Benefits	$12,043	$11,156	$12,043	$10,881	$32,583	$44,625	73%
		FT Wages	$58,822	$64,215	$58,822	$62,631	$198,037	$256,859	77%
		Manulife Benefits	$8,253	$7,282	$8,253	$7,103	$20,876	$29,129	72%
		OT Wages	$0	$125	$0	$122	$500	$500	100%
		PT Benefits	$1,074	$481	$1,074	$469	$848	$1,922	44%
		PT Wages	$9,287	$5,157	$9,287	$5,030	$11,343	$20,630	55%
		WSIB	$2,597	$1,804	$2,597	$1,760	$4,620	$7,217	64%
	Utilities								
		Communication (phone, fax, intern)	$383	$459	$383	$448	$1,453	$1,836	79%

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	Description	Current Qtr Actuals	Quarterly Budget	YTD Actuals	YTD Budget	$ Budget Remaining	2019 Budget	% Remaining
	Insurance	$255	$16,240	$255	$15,840	$64,705	$64,960	100%
Vehicles and Equipment								
	Mileage	$367	$500	$367	$488	$1,633	$2,000	82%
Expenditures Total		**$116,792**	**$155,702**	**$116,792**	**$151,863**	**$506,015**	**$622,807**	**81%**
Revenues								
Grants								
	Ontario Cannabis Legalization Imp	-$10,000	-$2,500	-$10,000	-$2,438	$0	-$10,000	0%
Recoveries								
	Engineering and Environmental Fees Recovered	-$935	-$625	-$935	-$610	-$1,565	-$2,500	63%
	Other Recoveries	$0	-$125	$0	-$122	-$500	-$500	100%
	Recoveries from Staff Events	$0	-$300	$0	-$293	-$1,200	-$1,200	100%
	Nestle Agreement	$0	-$125	$0	-$122	-$500	-$500	100%
User Fees, Licenses and Fines								
	Signature of Commissioner and FOI Requests	-$474	-$300	-$474	-$293	-$726	-$1,200	61%
Revenues Total		**-$11,409**	**-$3,975**	**-$11,409**	**-$3,877**	**-$4,491**	**-$15,900**	**28%**

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		Description	Current Qtr Actuals	Quarterly Budget	YTD Actuals	YTD Budget	$ Budget Remaining	2019 Budget	% Remaining
Corporate									
Expenditures									
	Contract Services/Professional Fees								
		Conservation Authorities Levy Payment	$38,598	$41,804	$38,598	$40,773	$128,619	$167,217	77%
	Writeoffs								
		Taxes written off (Twp share only)	$4,895	$6,250	$4,895	$6,096	$20,105	$25,000	80%
Expenditures Total			**$43,492**	**$48,054**	**$43,492**	**$46,869**	**$148,725**	**$192,217**	**77%**
Revenues									
	Grants								
		OMPF	-$103,400	-$95,050	-$103,400	-$92,706	-$276,800	-$380,200	73%
		Donations	$0	$0	$0	$0	$0	$0	N/A
	Payments-in-Lieu of Taxes and Other Levies								
		City of Guelph	$0	-$8,914	$0	-$8,694	-$35,656	-$35,656	100%
		CN Railway	$0	-$329	$0	-$321	-$1,316	-$1,316	100%
		CP Railway	$0	-$1,963	$0	-$1,915	-$7,854	-$7,854	100%
		Grant Guelph Junction Railway	$0	-$1,333	$0	-$1,300	-$5,330	-$5,330	100%
		Greater Toronto Transit	$0	-$2,676	$0	-$2,610	-$10,705	-$10,705	100%
		Host Kilmer (Service Ontario)	$0	-$7,097	$0	-$6,922	-$28,388	-$28,388	100%
		Hydro One	$0	-$2,102	$0	-$2,050	-$8,409	-$8,409	100%
		Mun Tax Assistance	$0	-$5,914	$0	-$5,768	-$23,654	-$23,654	100%
		Ontario Hydro	$0	-$3,037	$0	-$2,962	-$12,147	-$12,147	100%
		Provincial Aggregate Levy	$0	-$57,000	$0	-$55,595	-$228,000	-$228,000	100%
		Puslinch Landfill	$0	-$1,895	$0	-$1,849	-$7,581	-$7,581	100%
		University of Guelph	$0	-$142	$0	-$138	-$567	-$567	100%
	Penalties and Interest								
		Interest - Tax Arrears	-$37,802	-$21,775	-$37,802	-$21,238	-$49,297	-$87,099	57%
		Interest on General	-$17,493	-$17,500	-$17,493	-$17,068	-$52,507	-$70,000	75%
		Penalties - Property Taxes	-$9,940	-$21,869	-$9,940	-$21,329	-$77,534	-$87,475	89%
	Property Taxes								
		Supplemental Billings	-$396	-$15,000	-$396	-$14,630	-$59,604	-$60,000	99%

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	Description	Current Qtr Actuals	Quarterly Budget	YTD Actuals	YTD Budget	$ Budget Remaining	2019 Budget	% Remaining
User Fees, Licenses and Fines								
	Other Revenues	-$125	-$125	-$125	-$122	-$375	-$500	75%
	Sale of Flags	$0	-$6	$0	-$5	-$22	-$22	100%
Revenues Total		**-$169,156**	**-$263,726**	**-$169,156**	**-$257,223**	**-$885,747**	**-$1,054,903**	**84%**

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		Description	Current Qtr Actuals	Quarterly Budget	YTD Actuals	YTD Budget	$ Budget Remaining	2019 Budget	% Remaining
Council									
Expenditures									
	Office Equipment and Supplies								
		Office Supplies & Equipment	$0	$63	$0	$61	$250	$250	100%
	Professional Development								
		Employee Travel - Accom/Parking	$1,070	$1,000	$1,070	$975	$2,930	$4,000	73%
		Employee Travel - Air Fare	$0	$125	$0	$122	$500	$500	100%
		Employee Travel - Meals	$95	$75	$95	$73	$205	$300	68%
		Membership Fees & Subscriptions	$0	$38	$0	$37	$150	$150	100%
		Professional Development	$0	$800	$0	$780	$3,200	$3,200	100%
	Salaries, Wages and Benefits								
		Manulife Benefits	$6,216	$5,824	$6,216	$5,680	$17,078	$23,294	73%
		PT Benefits	$1,283	$1,750	$1,283	$1,707	$5,718	$7,000	82%
		PT Wages	$22,568	$24,824	$22,568	$24,212	$76,728	$99,297	77%
	Vehicles and Equipment								
		Mileage	$112	$250	$112	$244	$888	$1,000	89%
Expenditures Total			**$31,345**	**$34,748**	**$31,345**	**$33,891**	**$107,647**	**$138,992**	**77%**

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		Description	Current Qtr Actuals	Quarterly Budget	YTD Actuals	YTD Budget	$ Budget Remaining	2019 Budget	% Remaining
Elections									
Expenditures									
	Contract Services/Professional Fees								
		Professional Fees - Audit	$0	$388	$0	$378	$1,550	$1,550	100%
		Contract Services	$0	$0	$0	$0	$0	$0	N/A
	Materials and Supplies								
		Advertising	$0	$0	$0	$0	$0	$0	N/A
		Signage	$0	$0	$0	$0	$0	$0	N/A
	Office Equipment and Supplies								
		Office Supplies & Equipment	$0	$0	$0	$0	$0	$0	N/A
	Professional Development								
		Professional Development	$0	$0	$0	$0	$0	$0	N/A
	Salaries, Wages and Benefits								
		Per Diems	$0	$0	$0	$0	$0	$0	N/A
	Utilities								
		Communication (Phone, Fax, Internet)	$0	$0	$0	$0	$0	$0	N/A
		Postage	$0	$0	$0	$0	$0	$0	N/A
Expenditures Total			**$0**	**$388**	**$0**	**$378**	**$1,550**	**$1,550**	**100%**
Revenues									
	Recoveries								
		Election - Other Recoveries	$0	$0	$0	$0	$0	$0	N/A
	User Fees, Licenses and Fines								
		Nomination Fees	$0	$0	$0	$0	$0	$0	N/A
Revenues Total			**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**N/A**

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		Description	Current Qtr Actuals	Quarterly Budget	YTD Actuals	YTD Budget	$ Budget Remaining	2019 Budget	% Remaining
Finance									
Expenditures									
	Community Grants								
		Community Grants	$32,417	$9,388	$32,417	$9,157	$5,137	$37,553	14%
	Contract Services/Professional Fees								
		Contract Services	$12,293	$8,910	$12,293	$8,691	$23,348	$35,641	66%
		Environmental Service - Garbage Bags	$6,359	$4,375	$6,359	$4,267	$11,141	$17,500	64%
		Professional Fees - Audit	$7,123	$3,500	$7,123	$3,414	$6,877	$14,000	49%
	Debt - Penalties and Interest								
		Debt Interest Repayment	$0	$0	$0	$0	$0	$0	N/A
		Principal Repayment	$0	$0	$0	$0	$0	$0	N/A
	Materials and Supplies								
		Advertising	$1,225	$1,918	$1,225	$1,870	$6,445	$7,670	84%
	Office Equipment and Supplies								
		Computer Software & Hardware Operational Upgrades/Support from IT Consultant	$0	$125	$0	$122	$500	$500	100%
		Office Supplies	$1,565	$1,500	$1,565	$1,463	$4,435	$6,000	74%
	Professional Development								
		Employee Travel - Accomodations	$0	$100	$0	$98	$400	$400	100%
		Employee Travel - Meals	$25	$38	$25	$37	$125	$150	83%
		Membership and Subscription Fees	$986	$606	$986	$591	$1,439	$2,425	59%
		Professional Development	$366	$1,689	$366	$1,647	$6,388	$6,754	95%
	Salaries, Wages and Benefits								
		FT Benefits	$12,480	$12,669	$12,480	$12,357	$38,197	$50,676	75%
		FT Wages	$66,298	$71,974	$66,298	$70,199	$221,599	$287,897	77%
		Manulife Benefits	$8,440	$8,427	$8,440	$8,219	$25,268	$33,708	75%
		OT Wages	$0	$125	$0	$122	$500	$500	100%
		WSIB Benefits	$2,487	$2,133	$2,487	$2,081	$6,046	$8,533	71%
	Utilities								
		Bank Service Charges	$1,942	$1,376	$1,942	$1,342	$3,562	$5,504	65%

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	Description	Current Qtr Actuals	Quarterly Budget	YTD Actuals	YTD Budget	$ Budget Remaining	2019 Budget	% Remaining
	Communication (phone, fax, internet)	$645	$1,340	$645	$1,307	$4,715	$5,360	88%
	Emergency Management	$751	$663	$751	$646	$1,899	$2,650	72%
	Postage	$2,825	$2,050	$2,825	$1,999	$5,375	$8,200	66%
Vehicles and Equipment								
	Mileage	$0	$250	$0	$244	$1,000	$1,000	100%
Writeoffs								
	Other written off (non collectible inv's)	$0	$0	$0	$0	$0	$0	N/A
Expenditures Total		**$158,227**	**$133,155**	**$158,227**	**$129,872**	**$374,394**	**$532,621**	**70%**
Revenues								
Recoveries								
	Advertising, Legal, and Realtax Fees Recovered	-$323	-$1,750	-$323	-$1,707	-$6,677	-$7,000	95%
	Other Recoveries	-$4,704	-$625	-$4,704	-$610	$2,204	-$2,500	-88%
User Fees, Licenses and Fines								
	Garbage bags	-$5,430	-$4,375	-$5,430	-$4,267	-$12,070	-$17,500	69%
	NSF Fees	-$40	-$160	-$40	-$156	-$600	-$640	94%
	Tax Certificates	-$1,725	-$2,130	-$1,725	-$2,077	-$6,795	-$8,520	80%
	Online Service Fee	-$150	-$1,250	-$150	-$1,219	-$4,850	-$5,000	97%
Revenues Total		**-$12,372**	**-$10,290**	**-$12,372**	**-$10,036**	**-$28,788**	**-$41,160**	**70%**

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		Description	Current Qtr Actuals	Quarterly Budget	YTD Actuals	YTD Budget	$ Budget Remaining	2019 Budget	% Remaining
Heritage Committee									
Expenditures									
	Office Equipment and Supplies								
		Office Supplies & Equipment	$0	$25	$0	$24	$100	$100	100%
	Professional Development								
		Training	$0	$313	$0	$305	$1,250	$1,250	100%
		Meals	$0	$25	$0	$24	$100	$100	100%
		Accomodations	$0	$250	$0	$244	$1,000	$1,000	100%
	Salaries, Wages and Benefits								
		Per Diems	$0	$466	$0	$455	$1,865	$1,865	100%
	Vehicles and Equipment								
		Mileage	$0	$150	$0	$146	$600	$600	100%
Expenditures Total			**$0**	**$1,229**	**$0**	**$1,198**	**$4,915**	**$4,915**	**100%**

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		Description	Current Qtr Actuals	Quarterly Budget	YTD Actuals	YTD Budget	$ Budget Remaining	2019 Budget	% Remaining
PDAC									
Expenditures									
	Office Equipment and Supplies								
		Office Supplies & Equipment	$0	$13	$0	$12	$50	$50	100%
	Professional Development								
		Training	$0	$375	$0	$366	$1,500	$1,500	100%
	Salaries, Wages and Benefits								
		Per Diems	$0	$1,090	$0	$1,063	$4,360	$4,360	100%
	Vehicles and Equipment								
		Mileage	$0	$38	$0	$37	$150	$150	100%
Expenditures Total			**$0**	**$1,515**	**$0**	**$1,478**	**$6,060**	**$6,060**	**100%**

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Description	Current Qtr Actuals	Quarterly Budget	YTD Actuals	YTD Budget	$ Budget Remaining	2019 Budget	% Remaining
Recreation Committee							
Expenditures							
Salaries, Wages and Benefits							
Per Diems	$0	$637	$0	$621	$2,546	$2,546	100%
Expenditures Total	**$0**	**$637**	**$0**	**$621**	**$2,546**	**$2,546**	**100%**

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		Description	Current Qtr Actuals	Quarterly Budget	YTD Actuals	YTD Budget	$ Budget Remaining	2019 Budget	% Remaining
Municipal									
Expenditure									
	Building Maintenance								
		Cleaning, Maint & supplies for Bldg	$6,020	$6,613	$6,020	$6,450	$20,431	$26,451	77%
		Outdoor Maintenance of Building	$0	$325	$0	$317	$1,300	$1,300	100%
	Contract Services/Professional Fees								
		Contract Services	$164	$955	$164	$931	$3,656	$3,820	96%
		Water Protection	$0	$105	$0	$102	$420	$420	100%
	Office Equipment and Supplies								
		Kitchen Supplies and Equipment	$1,222	$850	$1,222	$829	$2,178	$3,400	64%
	Utilities								
		Heat	$5,966	$3,000	$5,966	$2,926	$6,034	$12,000	50%
		Hydro	$2,601	$5,000	$2,601	$4,877	$17,400	$20,000	87%
		Waste Removal	$275	$400	$275	$390	$1,325	$1,600	83%
Expenditures Total			**$16,248**	**$17,248**	**$16,248**	**$16,822**	**$52,743**	**$68,991**	**76%**
Revenues									
	Recoveries								
		Municipal Office Costs Recovered from Building Department	$0	-$5,174	$0	-$5,047	-$20,697	-$20,697	100%
Revenues Total			**$0**	**-$5,174**	**$0**	**-$5,047**	**-$20,697**	**-$20,697**	**100%**

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	Description	Current Qtr Actuals	Quarterly Budget	YTD Actuals	YTD Budget	$ Budget Remaining	2019 Budget	% Remaining
Parks and Recreation								
Library								
Expenditures								
Utilities								
	Library Rent for Historical society	$1,338	$1,213	$1,338	$1,183	$3,512	$4,850	72%
	Library Water Monitoring	$129	$438	$129	$427	$1,621	$1,750	93%
Expenditures Total		**$1,467**	**$1,650**	**$1,467**	**$1,609**	**$5,133**	**$6,600**	**78%**
Revenues								
Recoveries								
	Library Costs Recovered from County	$0	-$750	$0	-$732	-$3,000	-$3,000	100%
Revenues Total		**$0**	**-$750**	**$0**	**-$732**	**-$3,000**	**-$3,000**	**100%**

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		Description	Current Qtr Actuals	Quarterly Budget	YTD Actuals	YTD Budget	$ Budget Remaining	2019 Budget	% Remaining
ORC									
Expenditures									
	Building Maintenance								
		Bldg-Cleaning, Maint,Supplies Exterior	$92	$2,000	$92	$1,951	$7,908	$8,000	99%
		Bldg-Cleaning, Maint,Supplies Interior	$971	$1,500	$971	$1,463	$5,029	$6,000	84%
	Contract Services/Professional Fees								
		Contract Services	$0	$370	$0	$361	$1,480	$1,480	100%
		Water Protection	$0	$175	$0	$171	$700	$700	100%
	Materials and Supplies								
		Advertising	$0	$125	$0	$122	$500	$500	100%
		Clothing Safety Allowance	$0	$129	$0	$126	$515	$515	100%
		Drink Machine Supplies	$0	$0	$0	$0	$0	$0	N/A
		Signage	$0	$25	$0	$24	$100	$100	100%
	Office Equipment and Supplies								
		Office Supplies	$41	$75	$41	$73	$259	$300	86%
	Professional Development								
		Employee Travel - Meals	$0	$25	$0	$24	$100	$100	100%
		Membership and Subscription Fees	$158	$55	$158	$54	$62	$220	28%
		Professional Development	$0	$250	$0	$244	$1,000	$1,000	100%
	Salaries, Wages and Benefits								
		FT Benefits - ORC	$3,800	$2,718	$3,800	$2,651	$7,074	$10,873	65%
		FT Wages - ORC	$13,872	$15,027	$13,872	$14,656	$46,236	$60,108	77%
		Manulife Benefits	$2,069	$2,070	$2,069	$2,019	$6,211	$8,280	75%
		OT Wages - ORC	$368	$500	$368	$488	$1,632	$2,000	82%
		PT Benefits - ORC	$222	$689	$222	$672	$2,533	$2,754	92%
		PT Wages - ORC	$4,817	$7,390	$4,817	$7,208	$24,743	$29,560	84%
		WSIB	$726	$722	$726	$704	$2,161	$2,888	75%
	Utilities								
		Communication(phone, fax, intern)	$949	$715	$949	$697	$1,911	$2,860	67%
		Heat	$2,502	$1,375	$2,502	$1,341	$2,998	$5,500	55%
		Hydro	$7,483	$7,500	$7,483	$7,315	$22,517	$30,000	75%

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	Description	Current Qtr Actuals	Quarterly Budget	YTD Actuals	YTD Budget	$ Budget Remaining	2019 Budget	% Remaining
	Insurance	$0	$2,161	$0	$2,107	$8,642	$8,642	100%
	Waste Removal	$126	$200	$126	$195	$674	$800	84%
Vehicles and Equipment								
	Equipment Maintenance & Supplies	$1,447	$1,718	$1,447	$1,675	$5,423	$6,870	79%
	Mileage	$0	$25	$0	$24	$100	$100	100%
Expenditures Total		**$39,642**	**$47,537**	**$39,642**	**$46,365**	**$150,508**	**$190,150**	**79%**
Revenues								
Recoveries								
	Other Recoveries	-$386	-$125	-$386	-$122	-$115	-$500	23%
User Fees, Licenses and Fines								
	Arena Summer Rentals	$0	-$3,750	$0	-$3,658	-$15,000	-$15,000	100%
	Gymnasium Rental	-$7,948	-$4,250	-$7,948	-$4,145	-$9,052	-$17,000	53%
	Ice Rental - Non-Prime	$0	$0	$0	$0	$0	$0	N/A
	Ice Rental - Prime	-$20,772	-$4,500	-$20,772	-$4,389	$2,772	-$18,000	-15%
	ORC Drink Machine	$0	$0	$0	$0	$0	$0	N/A
	Rink Board and Ball Diamond Advertising	$0	-$88	$0	-$85	-$350	-$350	100%
Revenues Total		**-$29,105**	**-$12,713**	**-$29,105**	**-$12,399**	**-$21,745**	**-$50,850**	**43%**

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		Description	Current Qtr Actuals	Quarterly Budget	YTD Actuals	YTD Budget	$ Budget Remaining	2019 Budget	% Remaining
Parks									
Expenditures									
	Contract Services/Professional Fees								
		Contract Services	$0	$3,915	$0	$3,818	$15,660	$15,660	100%
		Water Protection	$0	$250	$0	$244	$1,000	$1,000	100%
	Materials and Supplies								
		Advertising	$0	$125	$0	$122	$500	$500	100%
		Maintenance Grounds	$100	$2,500	$100	$2,438	$9,900	$10,000	99%
	Salaries, Wages and Benefits								
		FT Benefits - Parks	$2,196	$2,053	$2,196	$2,002	$6,014	$8,210	73%
		FT Wages - Parks	$10,271	$10,951	$10,271	$10,681	$33,533	$43,804	77%
		Manulife Benefits	$1,898	$1,903	$1,898	$1,857	$5,716	$7,614	75%
		OT Wages - Parks	$3,777	$500	$3,777	$488	-$1,777	$2,000	-89%
		PT Benefits - Parks	$0	$222	$0	$217	$889	$889	100%
		PT Wages - Parks	$0	$2,384	$0	$2,325	$9,536	$9,536	100%
		WSIB	$519	$436	$519	$425	$1,224	$1,743	70%
	Utilities								
		Fuel	$0	$550	$0	$536	$2,200	$2,200	100%
		Hydro	$272	$850	$272	$829	$3,128	$3,400	92%
		Insurance	$0	$1,747	$0	$1,704	$6,986	$6,986	100%
	Vehicles and Equipment								
		Equipment Maintenance and Supplies	$0	$370	$0	$361	$1,480	$1,480	100%
		Mileage	$0	$0	$0	$0	$0	$0	N/A
		Vehicle Maintenance	$0	$125	$0	$122	$500	$500	100%
Expenditures Total			**$19,033**	**$28,880**	**$19,033**	**$28,168**	**$96,488**	**$115,522**	**84%**
Revenues									
	User Fees, Licenses and Fines								
		Aberfoyle/Morriston Ball Park/ Morriston Meadows	$0	-$1,000	$0	-$975	-$4,000	-$4,000	100%
		Horse Paddock Rental	$0	-$50	$0	-$49	-$200	-$200	100%
		Picnic Shelter	$0	-$75	$0	-$73	-$300	-$300	100%
		Sports Facility User Fees	$0	-$200	$0	-$195	-$800	-$800	100%
		Soccer Field Rentals	$0	-$750	$0	-$732	-$3,000	-$3,000	100%

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Schedule A - Departmental Detail

		Description	Current Qtr Actuals	Quarterly Budget	YTD Actuals	YTD Budget	$ Budget Remaining	2019 Budget	% Remaining
Revenues Total			**$0**	**-$2,075**	**$0**	**-$2,024**	**-$8,300**	**-$8,300**	**100%**
PCC									
Expenditures									
	Building Maintenance								
		Bldg-Cleaning, Maint,Supplies Interior	$1,647	$3,468	$1,647	$3,382	$12,223	$13,870	88%
		Outdoor Maintenance of Building	$0	$300	$0	$293	$1,200	$1,200	100%
	Contract Services/Professional Fees								
		Contract Services	$147	$915	$147	$892	$3,513	$3,660	96%
		Water Protection	$785	$1,275	$785	$1,244	$4,315	$5,100	85%
	Materials and Supplies								
		Advertising	$914	$500	$914	$488	$1,086	$2,000	54%
	Office Equipment and Supplies								
		Kitchen Supplies and Equipment	$0	$375	$0	$366	$1,500	$1,500	100%
		Office Supplies	$0	$38	$0	$37	$150	$150	100%
	Professional Development								
		Employee Travel - Accomodations	$0	$113	$0	$110	$450	$450	100%
		Employee Travel - Meals	$0	$38	$0	$37	$150	$150	100%
		Membership and Subscription Fees	$0	$125	$0	$122	$500	$500	100%
		Professional Development	$0	$0	$0	$0	$0	$0	N/A
	Salaries, Wages and Benefits								
		FT Benefits - Recreation	$0	$0	$0	$0	$0	$0	N/A
		FT Wages - Recreation	$0	$0	$0	$0	$0	$0	N/A
		Manulife Benefits - Recreation	$0	$0	$0	$0	$0	$0	N/A
		OT Wages - Recreation	$36	$125	$36	$122	$464	$500	93%
		PT Benefits - Recreation	$396	$1,740	$396	$1,697	$6,565	$6,960	94%
		PT Wages - Recreation	$8,553	$10,300	$8,553	$10,046	$32,645	$41,198	79%
		WSIB	$307	$328	$307	$320	$1,007	$1,313	77%
	Utilities								

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Schedule A - Departmental Detail

	Description	Current Qtr Actuals	Quarterly Budget	YTD Actuals	YTD Budget	$ Budget Remaining	2019 Budget	% Remaining
	Communication(phone, fax, intern)	$766	$700	$766	$683	$2,034	$2,800	73%
	Fuel	$0	$125	$0	$122	$500	$500	100%
	Heat	$1,855	$1,075	$1,855	$1,048	$2,445	$4,300	57%
	Hydro	$1,834	$4,125	$1,834	$4,023	$14,666	$16,500	89%
	Insurance	$0	$2,002	$0	$1,953	$8,008	$8,008	100%
	Waste Removal	$502	$625	$502	$610	$1,998	$2,500	80%
Vehicles and Equipment								
	Mileage	$0	$25	$0	$24	$100	$100	100%
Expenditures Total		**$17,742**	**$28,315**	**$17,742**	**$27,617**	**$95,518**	**$113,260**	**84%**
Revenues								
Grants								
	Recreation Conditional Grants	$0	-$1,292	$0	-$1,260	-$5,167	-$5,167	100%
Recoveries								
	Other Recoveries	-$79	-$100	-$79	-$98	-$321	-$400	80%
User Fees, Licenses and Fines								
	Advertising Sign	$0	-$81	$0	-$79	-$324	-$324	100%
	Alf Hales Room	-$3,612	-$2,000	-$3,612	-$1,951	-$4,388	-$8,000	55%
	Archie MacRobbie Hall - Non-Prime	-$2,811	-$4,000	-$2,811	-$3,901	-$13,189	-$16,000	82%
	Archie MacRobbie Hall - Prime	-$4,403	-$5,700	-$4,403	-$5,559	-$18,397	-$22,800	81%
	Bartenders	-$1,784	-$2,125	-$1,784	-$2,073	-$6,716	-$8,500	79%
	Commercial Rentals	$0	-$195	$0	-$191	-$782	-$782	100%
	Kitchen Facilities	-$1,556	-$795	-$1,556	-$775	-$1,624	-$3,180	51%
	Licensed Events Using Patio	$0	-$57	$0	-$56	-$229	-$229	100%
	Projector Rental Fee	$0	-$25	$0	-$24	-$100	-$100	100%
Revenues Total		**-$14,245**	**-$16,370**	**-$14,245**	**-$15,967**	**-$51,237**	**-$65,481**	**78%**

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Schedule A - Departmental Detail

		Description	Current Qtr Actuals	Quarterly Budget	YTD Actuals	YTD Budget	$ Budget Remaining	2019 Budget	% Remaining
Planning									
Planning									
Expenditures									
	Community Grants								
		CIP Grants	$0	$1,875	$0	$1,829	$7,500	$7,500	100%
	Contract Services/Professional Fees								
		Contract Services	$0	$3,250	$0	$3,170	$13,000	$13,000	100%
		Professional Fees - Engineering & Environmental	$10,308	$14,462	$10,308	$14,106	$47,541	$57,849	82%
		Professional Fees - Legal	$6,317	$6,750	$6,317	$6,584	$20,683	$27,000	77%
		Professional Fees - Water Monitoring	$0	$500	$0	$488	$2,000	$2,000	100%
	Materials and Supplies								
		Advertising	$0	$1,000	$0	$975	$4,000	$4,000	100%
	Office Equipment and Supplies								
		Office Supplies	$113	$25	$113	$24	-$13	$100	-13%
	Professional Development								
		Employee Travel - Accomodations	$0	$88	$0	$85	$350	$350	100%
		Employee Travel - Meals	$0	$25	$0	$24	$100	$100	100%
		Membership and Subscription Fees	$150	$38	$150	$37	$0	$150	0%
		Professional Development	$0	$350	$0	$341	$1,401	$1,401	100%
	Salaries, Wages and Benefits								
		FT Benefits	$3,073	$2,538	$3,073	$2,475	$7,079	$10,152	70%
		FT Wages	$13,112	$14,260	$13,112	$13,908	$43,928	$57,040	77%
		Manulife Benefits	$1,108	$1,098	$1,108	$1,071	$3,286	$4,393	75%
		OT Wages	$0	$125	$0	$122	$500	$500	100%
		WSIB	$491	$453	$491	$442	$1,321	$1,813	73%
	Utilities								
		Communication (phone, fax, Internet)	$0	$50	$0	$49	$200	$200	100%
	Vehicles and Equipment								
		Mileage	$0	$63	$0	$61	$250	$250	100%

Report FIN-2019-028 - First Quarter Financial Report - 2019
Schedule A - Departmental Detail

	Description	Current Qtr Actuals	Quarterly Budget	YTD Actuals	YTD Budget	$ Budget Remaining	2019 Budget	% Remaining
Expenditures Total		**$34,673**	**$46,949**	**$34,673**	**$45,792**	**$153,124**	**$187,797**	**82%**
Revenues								
Grants								
	BR+E Municipal Implementation Fund	$0	$0	$0	$0	$0	$0	N/A
Recoveries								
	Advertising Fees Recovered	$0	$0	$0	$0	$0	$0	N/A
	Engineering, Environmental, and Legal Fees Recovered	-$3,449	-$5,000	-$3,449	-$4,877	-$16,551	-$20,000	83%
User Fees, Licenses and Fines								
	Agreements	$0	-$191	$0	-$187	-$765	-$765	100%
	Consent Review and Clearance	-$1,606	-$503	-$1,606	-$490	-$404	-$2,010	20%
	Minor Variance Application	-$4,034	-$2,471	-$4,034	-$2,410	-$5,850	-$9,884	59%
	Part Lot Control Exemption By-law	$0	$0	$0	$0	$0	$0	N/A
	Site Plan Control	-$20,600	-$5,425	-$20,600	-$5,291	-$1,100	-$21,700	5%
	Telecommunication Tower Proposals	$0	-$133	$0	-$130	-$532	-$532	100%
	Zoning By-law #19/85	$0	$0	$0	$0	$0	$0	N/A
	Zoning By-law Amendment	$0	-$4,050	$0	-$3,950	-$16,200	-$16,200	100%
	Zoning By-law Amendment - Aggregate	$0	$0	$0	$0	$0	$0	N/A
	Zoning Compliance Letter	-$525	-$563	-$525	-$549	-$1,725	-$2,250	77%
	Lifting of Holding Designation Fee (Zoning)	$0	-$147	$0	-$143	-$586	-$586	100%
	Grading Fee - Dwellings	$0	$0	$0	$0	$0	$0	N/A
Revenues Total		**-$30,214**	**-$18,482**	**-$30,214**	**-$18,026**	**-$43,713**	**-$73,927**	**59%**

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Schedule A - Departmental Detail

	Description	Current Qtr Actuals	Quarterly Budget	YTD Actuals	YTD Budget	$ Budget Remaining	2019 Budget	% Remaining
Public Works								
Public Works								
Expenditures								
Contract Services/Professional Fees								
	Contract Services	$4,567	$11,030	$4,567	$10,758	$39,553	$44,120	90%
	Professional Fees - Engineering	$0	$500	$0	$488	$2,000	$2,000	100%
Materials and Supplies								
	Advertising	$0	$250	$0	$244	$1,000	$1,000	100%
	Clothing, Safety Allowance	$0	$263	$0	$256	$1,050	$1,050	100%
	Signage	$975	$2,500	$975	$2,438	$9,025	$10,000	90%
Office Equipment and Supplies								
	Office Supplies	$0	$125	$0	$122	$500	$500	100%
Professional Development								
	Employee Travel - Meals	$0	$25	$0	$24	$100	$100	100%
	Membership and Subscription Fees	$698	$225	$698	$219	$202	$900	22%
	Professional Development	$1,211	$355	$1,211	$346	$209	$1,420	15%
Roads and Related Costs								
	Calcium	$0	$14,700	$0	$14,338	$58,800	$58,800	100%
	Maintenance Gravel	$0	$20,000	$0	$19,507	$80,000	$80,000	100%
	Pavement Markings	$0	$8,875	$0	$8,656	$35,500	$35,500	100%
	Permits	$50	$25	$50	$24	$50	$100	50%
	Railway Maintenance	$0	$1,250	$0	$1,219	$5,000	$5,000	100%
	Road Maintenance supplies	$5,326	$8,850	$5,326	$8,632	$30,074	$35,400	85%
	Shop Overhead	$1,886	$1,850	$1,886	$1,804	$5,514	$7,400	75%
	Sidewalk Repairs	$0	$1,250	$0	$1,219	$5,000	$5,000	100%
	Speed Monitor	$0	$125	$0	$122	$500	$500	100%
	Street Lights: Repairs and Hydro Bills	$9,414	$3,713	$9,414	$3,621	$5,436	$14,850	37%
	Winter Maintenance	$66,229	$50,750	$66,229	$49,499	$136,771	$203,000	67%
	Tree Maintenance Program	$0	$5,000	$0	$4,877	$20,000	$20,000	100%
Salaries, Wages and Benefits								
	FT Benefits	$19,753	$17,356	$19,753	$16,928	$49,669	$69,423	72%
	FT Wages	$91,627	$94,874	$91,627	$92,535	$287,869	$379,496	76%

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Schedule A - Departmental Detail

	Description	Current Qtr Actuals	Quarterly Budget	YTD Actuals	YTD Budget	$ Budget Remaining	2019 Budget	% Remaining
	Manulife Benefits	$11,467	$11,095	$11,467	$10,822	$32,914	$44,381	74%
	OT Wages	$28,204	$7,675	$28,204	$7,486	$2,496	$30,700	8%
	PT/Seasonal Benefits	$2,676	$884	$2,676	$862	$858	$3,534	24%
	Seasonal Wages	$12,798	$4,823	$12,798	$4,704	$6,495	$19,293	34%
	WSIB	$4,838	$3,237	$4,838	$3,157	$8,110	$12,948	63%
Utilities								
	Communication(phone, fax, intern)	$734	$1,046	$734	$1,020	$3,448	$4,182	82%
	Fuel	$33,462	$17,500	$33,462	$17,068	$36,538	$70,000	52%
	Hydro	$147	$250	$147	$244	$853	$1,000	85%
	Insurance	$0	$19,020	$0	$18,551	$76,082	$76,082	100%
	Waste Removal	$0	$375	$0	$366	$1,500	$1,500	100%
Vehicles and Equipment								
	Equipment Maintenance & Supplies	$0	$513	$0	$500	$2,050	$2,050	100%
	Mileage	$0	$25	$0	$24	$100	$100	100%
	Vehicle Maintenance	$32,417	$11,500	$32,417	$11,216	$13,583	$46,000	30%
	Vehicle Plates	$0	$1,814	$0	$1,769	$7,255	$7,255	100%
Expenditures Total		**$328,481**	**$323,646**	**$328,481**	**$315,666**	**$966,103**	**$1,294,584**	**75%**
Revenues								
Recoveries								
	Roads Other Recoveries	$0	-$250	$0	-$244	-$1,000	-$1,000	100%
	Third Party Cost Recovery	$0	$0	$0	$0	$0	$0	N/A
	Third Party Cost Recovery Administration Fee	$0	$0	$0	$0	$0	$0	N/A
User Fees, Licenses and Fines								
	Entrance Permit	-$700	-$1,116	-$700	-$1,089	-$3,765	-$4,465	84%
	Oversize-Overweight Load Permits	$0	$0	$0	$0	$0	$0	N/A
Revenues Total		**-$700**	**-$1,366**	**-$700**	**-$1,333**	**-$4,765**	**-$5,465**	**87%**

Report FIN-2019-028 - First Quarter Financial Report - 2019
Schedule A - Departmental Detail

		Description	Current Qtr Actuals	Quarterly Budget	YTD Actuals	YTD Budget	$ Budget Remaining	2019 Budget	% Remaining
Source Water Protection									
Expenditures									
	Contract Services/Professional Fees								
		Professional Fees	$0	$0	$0	$0	$0	$0	N/A
	Materials and Supplies								
		Public Education Costs	$0	$0	$0	$0	$0	$0	N/A
	Salaries, Wages and Benefits								
		FT Wages/Benefits	-$174	$2,413	-$174	$2,353	$9,824	$9,650	102%
Expenditures Total			**-$174**	**$2,413**	**-$174**	**$2,353**	**$9,824**	**$9,650**	**102%**
Revenues									
	Grants								
		Source Protection Municipal Implementation Fund	$0	$0	$0	$0	$0	$0	N/A
Revenues Total			**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**N/A**
Grand Total			**$744,045**	**$757,452**	**$744,045**	**$738,775**	**$2,285,762**	**$3,029,807**	**75%**

Report FIN-2019-028 - First Quarter Financial Report - 2019
Schedule B - Expense and Revenue Summary

Department	Current Qtr Actuals	Quarterly Budget	YTD Actuals	YTD Budget	$ Budget Remaining	2019 Budget	% Remaining	2018 - First Quarter % Remaining
Expenditures								
Administration	$116,792	$155,702	$116,792	$151,863	$506,015	$622,807	81%	70%
Building	$106,139	$169,642	$106,139	$165,459	$572,427	$678,567	84%	77%
By-law	$3,699	$19,809	$3,699	$19,320	$75,536	$79,234	95%	61%
Corporate	$43,492	$48,054	$43,492	$46,869	$148,725	$192,217	77%	77%
Council	$31,345	$34,748	$31,345	$33,891	$107,647	$138,992	77%	78%
Elections	$0	$388	$0	$378	$1,550	$1,550	100%	80%
Finance	$158,227	$133,155	$158,227	$129,872	$374,394	$532,621	70%	80%
Fire and Rescue	$214,004	$175,244	$214,004	$170,923	$486,971	$700,975	69%	73%
Heritage Committee	$0	$1,229	$0	$1,198	$4,915	$4,915	100%	100%
Library	$1,467	$1,650	$1,467	$1,609	$5,133	$6,600	78%	70%
ORC	$39,642	$47,537	$39,642	$46,365	$150,508	$190,150	79%	72%
Parks	$19,033	$28,880	$19,033	$28,168	$96,488	$115,522	84%	80%
PCC	$17,742	$28,315	$17,742	$27,617	$95,518	$113,260	84%	77%
PDAC	$0	$1,515	$0	$1,478	$6,060	$6,060	100%	100%
Planning	$34,673	$46,949	$34,673	$45,792	$153,124	$187,797	82%	83%
Public Works	$328,481	$323,646	$328,481	$315,666	$966,103	$1,294,584	75%	71%
Recreation Committee	$0	$637	$0	$621	$2,546	$2,546	100%	100%
Source Water Protection	-$174	$2,413	-$174	$2,353	$9,824	$9,650	102%	100%
Municipal Office	$16,248	$17,248	$16,248	$16,822	$52,743	$68,991	76%	75%
Expenditures Total	**$1,130,811**	**$1,236,759**	**$1,130,811**	**$1,206,263**	**$3,816,224**	**$4,947,035**	**77%**	**74%**

Report FIN-2019-028 - First Quarter Financial Report - 2019
Schedule B - Expense and Revenue Summary

Department	Current Qtr Actuals	Quarterly Budget	YTD Actuals	YTD Budget	$ Budget Remaining	2019 Budget	% Remaining	2018 - First Quarter % Remaining
Revenues								
Administration	-$11,409	-$3,975	-$11,409	-$3,877	-$4,491	-$15,900	28%	102%
Building	-$92,699	-$109,718	-$92,699	-$107,012	-$346,171	-$438,870	79%	46%
By-law	-$8,814	-$6,778	-$8,814	-$6,611	-$18,297	-$27,111	67%	68%
Corporate	-$169,156	-$263,726	-$169,156	-$257,223	-$885,747	-$1,054,903	84%	85%
Elections	$0	$0	$0	$0	$0	$0	#DIV/0!	0%
Finance	-$12,372	-$10,290	-$12,372	-$10,036	-$28,788	-$41,160	70%	69%
Fire and Rescue	-$18,052	-$27,891	-$18,052	-$27,203	-$93,512	-$111,564	84%	78%
Library	$0	-$750	$0	-$732	-$3,000	-$3,000	100%	100%
ORC	-$29,105	-$12,713	-$29,105	-$12,399	-$21,745	-$50,850	43%	95%
Parks	$0	-$2,075	$0	-$2,024	-$8,300	-$8,300	100%	100%
PCC	-$14,245	-$16,370	-$14,245	-$15,967	-$51,237	-$65,481	78%	94%
Planning	-$30,214	-$18,482	-$30,214	-$18,026	-$43,713	-$73,927	59%	79%
Public Works	-$700	-$1,366	-$700	-$1,333	-$4,765	-$5,465	87%	54%
Source Water Protection	$0	$0	$0	$0	$0	$0	#DIV/0!	0%
Municipal Office	$0	-$5,174	$0	-$5,047	-$20,697	-$20,697	100%	100%
Revenues Total	**-$386,766**	**-$479,307**	**-$386,766**	**-$467,489**	**-$1,530,463**	**-$1,917,228**	**80%**	**77%**
Grand Total	**$744,045**	**$757,452**	**$744,045**	**$738,775**	**$2,285,762**	**$3,029,807**	**75%**	**73%**

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Schedule C - Other Financial Data

Summary of Property Taxes Billed						
	31-Jan-19	31-Jan-18	**28-Feb-19**	28-Feb-18	**31-Mar-19**	31-Mar-18
Taxes Billed						
Interim Tax Bill						
1st Installment	**$0**	$0	**$6,057,670**	$5,855,881	**$6,057,670**	$5,855,881
2nd Installment	**$0**	$0	**$0**	$0	**$0**	$0
	$0	$0	**$6,057,670**	$5,855,881	**$6,057,670**	$5,855,881
Final Tax Bill						
1st Installment	**$0**	$0	**$0**	$0	**$0**	$0
2nd Installment	**$0**	$0	**$0**	$0	**$0**	$0
	$0	$0	**$0**	$0	**$0**	$0
Total Billed	**$0**	$0	**$6,057,670**	$5,855,881	**$6,057,670**	$5,855,881
In-year Township Tax Adjustments						
Taxes Written Off to Date	**-$4,552**	-$5,442	**-$4,552**	-$5,442	**-$4,895**	-$8,532
Supplemental Billings to Date	**$396**	$0	**$396**	$0	**$396**	$142
Net Taxes Billed to Date	**-$4,156**	-$5,442	**$6,053,514**	$5,850,439	**$6,053,172**	$5,847,491

Summary of Tax Arrears						
2019 Tax Arrears						
Outstanding Taxes	**-$240,129**	$0	**$706,235**	$0	**-$213,206**	$0
Outstanding Interest	**$323**	$0	**$323**	$0	**$4,371**	$0
2018 Tax Arrears						
Outstanding Taxes	**$726,613**	-$252,482	**$637,065**	$577,467	**$583,926**	-$133,486
Outstanding Interest	**$36,481**	$0	**$37,332**	-$1	**$39,420**	$3,394
2017 Tax Arrears						
Outstanding Taxes	**$213,467**	$724,304	**$187,478**	$620,992	**$169,167**	$551,980
Outstanding Interest	**$23,851**	$35,400	**$21,876**	$33,892	**$21,994**	$33,073
2016 Tax Arrears						
Outstanding Taxes	**$65,593**	$212,855	**$63,349**	$184,840	**$59,992**	$140,155
Outstanding Interest	**$10,813**	$26,221	**$11,327**	$22,761	**$11,369**	$16,355
2015 and Prior Tax Arrears						
Outstanding Taxes	**See above**	$38,378	**See above**	$36,125	**See above**	$30,053
Outstanding Interest	**See above**	$8,767	**See above**	$6,698	**See above**	$4,641
Total Outstanding Taxes & Interest	**$837,013**	$793,443	**$1,664,986**	$1,482,774	**$677,034**	$646,165

Bank and Interest Summary						
General Bank Balance	**$2,194,953**	$4,163,015	**$7,792,953**	$9,408,488	**$3,768,809**	$4,707,399
General Interest Earned to Date	**-$8,057**	-$6,552	**-$12,169**	-$11,578	**-$17,493**	-$21,506

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Cheque Number	Cheque Date	Vendor Nbr	Payee	Cheque Amount
023011	01/04/2019	000119	BELL CANADA	354.27
023012	01/04/2019	000182	CAMPUS HARDWARE LIMITED	107.51
023013	01/04/2019	000171	CANADIAN PACIFIC RAILWAY CO.	1,240.00
023014	01/04/2019	000448	GREAT-WEST LIFE ASSURANCE CO.	828.22
023015	01/04/2019	000454	GUELPH JUNCTION RAILWAY CO.	4,745.33
023016	01/04/2019	000155	HDS CANADA INC.	592.27
023017	01/04/2019	000511	HUNTER STEEL SALES	1,151.87
023018	01/04/2019	000514	HYDRO ONE NETWORKS INC	5,482.33
023019	01/04/2019	001436	P & K ICE SERVICES	2,373.00
023020	01/04/2019	002266	PITNEYWORKS	2,282.60
023021	01/04/2019	000822	PRESSURE WASHER SHOP LTD.	836.20
023022	01/04/2019	000830	PUROLATOR COURIER LTD.	42.96
023023	01/04/2019	001210	ROGERS	118.64
023024	01/04/2019	001733	SHRED-IT INTERNATIONAL ULC	148.98
023025	01/04/2019	002140	THOMSON REUTERS CANADA	159.50
023026	01/09/2019	000514	HYDRO ONE NETWORKS INC	1,014.14
023027	01/09/2019	002303	MLS PLANNING CONSULTING	1,135.37
023028	01/09/2019	001147	RECEIVER GENERAL	25,165.63
023029	01/09/2019	000934	SGS CANADA INC	449.74
023030	01/15/2019	000717	MINISTER OF FINANCE	2,942.17
023031	01/17/2019	000514	HYDRO ONE NETWORKS INC	1,698.73
023032	01/17/2019	001132	MILLER THOMSON LLP	1,104.01
023033	01/17/2019	001990	SCRUBCO	1,275.09
023034	01/17/2019	001023	TOWNSHIP OF NORTH DUMFRIES	1,488.00
023035	01/17/2019	001052	VIKING CIVES LTD	540.81
023036	01/17/2019	001113	WORKPLACE SAFETY & INSURANCE	3,782.17
023037	01/17/2019	000078	ASS. ONTARIO ROAD SUPERVISORS	220.35
023038	01/17/2019	000025	ASSOC. OF MUNICIPALITIES OF ON	3,108.57
023039	01/17/2019	000119	BELL CANADA	964.31
023040	01/17/2019	000182	CAMPUS HARDWARE LIMITED	64.92
023041	01/17/2019	002388	DAVIS, TIM	138.00
023042	01/17/2019	001152	FED. OF CDN MUNICIPALITIES	2,585.45
023043	01/17/2019	000514	HYDRO ONE NETWORKS INC	34.43
023044	01/17/2019	001772	MFOA	355.95
023045	01/17/2019	001231	MUN. EMPLOYER PENSION CTR ONT	94.92
023046	01/17/2019	001224	ONT MUNICIPAL MGMT INSTITUTE	60.00
023047	01/17/2019	000771	ONTARIO GOOD ROADS ASSOC.	934.85
023048	01/17/2019	002244	SHORT COOLING SOLUTIONS INC.	698.68
023049	01/17/2019	001079	WELL. CTY ROAD SUPERVISOR ASSOC.	500.00
023050	01/23/2019	000119	BELL CANADA	226.16
023051	01/23/2019	000182	CAMPUS HARDWARE LIMITED	34.95
023052	01/23/2019	002309	CITY-COM COMMUNICATIONS	178.54
023053	01/23/2019	000427	G-FORCE MARKETING	183.99
023054	01/23/2019	000155	HDS CANADA INC.	174.02
023055	01/23/2019	000514	HYDRO ONE NETWORKS INC	485.90
023056	01/23/2019	000661	MANULIFE FINANCIAL	14,787.88
023057	01/23/2019	002389	MONJAZEB, MONIR TAVANAIE	200.00
023058	01/23/2019	001147	RECEIVER GENERAL	16,746.57
023059	01/23/2019	001210	ROGERS	118.64
023060	01/23/2019	000998	TD VISA	2,942.94
023061	01/23/2019	001039	UNION GAS LIMITED	3,473.29
023062	01/30/2019	002391	BOBAT, OMAR	315.00
023063	01/30/2019	002106	BOLTS PLUS	443.31

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023064	01/30/2019	000171	CANADIAN PACIFIC RAILWAY CO.	1,240.00
023065	01/30/2019	000716	CORP. OF THE TOWN OF MILTON	2,983.81
023066	01/30/2019	000448	GREAT-WEST LIFE ASSURANCE CO.	849.39
023067	01/30/2019	002390	HOSPITAL VETERANS JOURNAL	282.50
023068	01/30/2019	000514	HYDRO ONE NETWORKS INC	3,508.46
023069	01/30/2019	001710	OMAA	440.70
023070	01/30/2019	000830	PUROLATOR COURIER LTD.	47.63
023071	01/30/2019	001415	RESURFICE CORP.	437.93
023072	01/30/2019	000905	ROYAL SS TANK & TRUCK LTD	1,205.26
023073	01/30/2019	001733	SHRED-IT INTERNATIONAL ULC	74.49
023074	01/30/2019	001036	TOWNSHIP OF CENTRE WELLINGTON	2,354.95
023075	01/30/2019	000780	WELLING-WATERLOO DIST (OBOA)	60.00
023076	01/30/2019	002176	WRCBOC	100.00
023077	01/31/2019	000214	ST MARYS CEMENT INC.	1,384.41
			Cheque Register Total -	126,100.69

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Cheque Number	Cheque Date	Vendor Nbr	Payee	Cheque Amount
000532	01/07/2019	000023	A.J. STONE CO. LTD.	3,436.17
000533	01/07/2019	000030	ABELL PEST CONTROL INC.	79.10
000534	01/07/2019	001352	AIR LIQUIDE CANADA INC.	604.23
000535	01/07/2019	001416	ALTRUCK INTL. TRUCK CENTRES	6,698.71
000536	01/07/2019	002330	AUBS & MUGG INC.	13,831.20
000537	01/07/2019	002385	BANKS, LYNNE	25.21
000538	01/07/2019	002382	BARNETT, JEFF	57.92
000539	01/07/2019	000148	BOUCHER & JONES INC.	2,916.22
000540	01/07/2019	001074	C-MAX FIRE SOLUTIONS	357.05
000541	01/07/2019	000219	CEDAR SIGNS	2,196.94
000542	01/07/2019	000259	COUNTY OF WELLINGTON	3,280.24
000543	01/07/2019	002223	CRAMPTON, CARISA	68.86
000544	01/07/2019	002335	DASAN LAW OFFICE PROFESSIONAL CORP	318.66
000545	01/07/2019	001518	DONALD CREED	76.17
000546	01/07/2019	000341	ELISABETH COBURN	76.17
000547	01/07/2019	002386	FACEY-CROWTHER, JULIE	55.37
000548	01/07/2019	000399	G & A LOCK SERVICE LTD.	4,045.25
000549	01/07/2019	000409	GAIL J. HUETHER	130.62
000550	01/07/2019	000414	GM BLUEPLAN ENGINEERING LIMITED	5,777.58
000551	01/07/2019	000468	GWS ECOLOGICAL & FORESTRY SERV	1,117.00
000552	01/07/2019	000476	HARDEN ENVIRONMENTAL SERVICES	1,793.67
000553	01/07/2019	001736	HASAN, MARY	76.17
000554	01/07/2019	002246	HOYTFOX, COURTENAY	149.18
000555	01/07/2019	000642	JOHAN LOGHER	76.17
000556	01/07/2019	000584	JOHN KERR	76.17
000557	01/07/2019	001703	KAREN LANDRY	76.17
000558	01/07/2019	001563	KEHOE LAW ENFORCEMENT DIST.	677.47
000559	01/07/2019	002098	LECIC, NINA	76.17
000560	01/07/2019	002387	LIBURD, NATALIE	42.31
000561	01/07/2019	000650	M & L SUPPLY	1,772.87
000562	01/07/2019	002325	M&T PRINTING CROUP LTD.	319.60
000563	01/07/2019	001529	MICHAEL FOWLER	76.17
000564	01/07/2019	000710	MICHAEL'S MOBILE	1,466.48
000565	01/07/2019	000211	MICHELLE CASSAR	76.17
000566	01/07/2019	002379	PHERSON, LEIGH	50.23
000567	01/07/2019	001542	RICHARD HOOVER	76.17
000568	01/07/2019	000225	STRONGCO	943.57
000569	01/07/2019	000988	SWAN DUST CONTROL LTD	348.10
000570	01/07/2019	001076	THE WELLINGTON ADVERTISER	437.31
000571	01/07/2019	001016	TOPECO COFFEE & TEA COMPANY	336.36
000572	01/07/2019	001996	ZIP TELECOM INC.	473.47
000573	01/07/2019	002245	ZMIJA, ANGIE	75.74
000574	01/09/2019	000259	COUNTY OF WELLINGTON	9,944.00
000575	01/09/2019	000414	GM BLUEPLAN ENGINEERING LIMITED	1,388.10
000576	01/09/2019	000225	STRONGCO	119.64
000577	01/09/2019	001043	UPPER GRAND DISTRICT SCH BR-DC	3,134.00
000578	01/09/2019	001068	WASTE CONNECTIONS OF CANADA INC.	482.88
000579	01/09/2019	002345	WELL CATH DIST SCH BRD-DC	634.00
000580	01/21/2019	000030	ABELL PEST CONTROL INC.	70.79
000581	01/21/2019	001847	AIRD & BERLIS LLP	20,443.41
000582	01/21/2019	000060	AMCTO	1,035.08
000583	01/21/2019	001781	BERNARDI HUMAN RESOURCE LAW LLP	653.71
000584	01/21/2019	000148	BOUCHER & JONES INC.	3,529.20

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000585	01/21/2019	000219	CEDAR SIGNS	198.65
000586	01/21/2019	000259	COUNTY OF WELLINGTON	4,000.00
000587	01/21/2019	002335	DASAN LAW OFFICE PROFESSIONAL CORP	4,194.44
000588	01/21/2019	002335	DASON LAW OFFICE PROFESSIONAL CORP	1,325.83
000589	01/21/2019	001819	ESOLUTIONS GROUP	9,221.32
000590	01/21/2019	002386	FACEY-CROWTHER, JULIE	664.77
000591	01/21/2019	000409	GAIL J. HUETHER	126.62
000592	01/21/2019	000476	HARDEN ENVIRONMENTAL SERVICES	361.60
000593	01/21/2019	001703	KAREN LANDRY	254.00
000594	01/21/2019	002299	LBEL INC.	1,092.71
000595	01/21/2019	000734	MRC SYSTEMS INC.	123.68
000596	01/21/2019	001945	ONSERVE	2,598.27
000597	01/21/2019	001622	PEARSON DUNN INSURANCE	2,359.72
000598	01/21/2019	000900	ROYAL CITY AUTOMOTIVE	163.55
000599	01/21/2019	002082	ROYAL CITY JANITORIAL & MAINTENANCE	904.00
000600	01/21/2019	001472	RSM BUILDING CONSULTANTS	19,202.51
000601	01/21/2019	000906	RUBBERLINE PRODUCTS LTD.	247.05
000602	01/21/2019	000932	SENTEX COMMUNICATIONS	214.68
000603	01/21/2019	000988	SWAN DUST CONTROL LTD	155.43
000604	01/21/2019	002320	URBAN & ENVIRONMENTAL MGMT INC	28,335.88
000605	01/21/2019	001266	WATSON & ASSOC. ECONOMISTS LTD	3,753.86
000606	01/29/2019	000764	O.M.E.R.S.	25,897.14
000607	01/30/2019	000030	ABELL PEST CONTROL INC.	79.10
000608	01/30/2019	000045	AIR WAVE HEATING AND COOLING	1,178.23
000609	01/30/2019	001781	BERNARDI HUMAN RESOURCE LAW LLP	4,518.87
000610	01/30/2019	000148	BOUCHER & JONES INC.	800.51
000611	01/30/2019	000219	CEDAR SIGNS	68.82
000612	01/30/2019	000259	COUNTY OF WELLINGTON	49,030.02
000613	01/30/2019	002335	DASON LAW OFFICE PROFESSIONAL CORP	357.36
000614	01/30/2019	001182	G.T. FRENCH PAPER LTD.	1,662.64
000615	01/30/2019	000400	GUELPH BUSINESS MACHINES	463.46
000616	01/30/2019	002120	LANDSCAPE PLANNING LIMITED	1,695.00
000617	01/30/2019	002098	LECIC, NINA	54.50
000618	01/30/2019	002294	REALTERM ENERGY CORP.	136,190.83
000619	01/30/2019	000900	ROYAL CITY AUTOMOTIVE	148.26
000620	01/30/2019	000906	RUBBERLINE PRODUCTS LTD.	1,585.91
000621	01/30/2019	000988	SWAN DUST CONTROL LTD	25.27
000622	01/30/2019	001076	THE WELLINGTON ADVERTISER	1,311.93
000623	01/30/2019	001016	TOPECO COFFEE & TEA COMPANY	361.90
000624	01/30/2019	001052	VIKING CIVES LTD	4,510.62
000625	01/30/2019	001107	WILSON FIRE SECURITY	2,948.12
			Cheque Register Total -	408,466.26

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Cheque Number	Cheque Date	Vendor Nbr	Payee	Cheque Amount
023078	02/04/2019	000124	BELL MOBILITY INC.	649.95
023079	02/04/2019	000171	CANADIAN PACIFIC RAILWAY CO.	1,240.00
023080	02/04/2019	000378	FIRE MARSHAL'S PUB.FIRE SAFETY	330.55
023081	02/04/2019	000155	HDS CANADA INC.	749.36
023082	02/04/2019	002156	HOMEWOOD HEALTH INC.	1,084.80
023083	02/04/2019	000514	HYDRO ONE NETWORKS INC	4,590.86
023084	02/04/2019	001593	INTERGRITY	2,219.32
023085	02/04/2019	001659	OAFTO	150.00
023086	02/04/2019	001415	RESURFICE CORP.	68.37
023087	02/04/2019	000905	ROYAL SS TANK & TRUCK LTD	528.37
023088	02/04/2019	002212	TMC FENCING INC.	2,062.25
023089	02/04/2019	001078	WELL CTY CLERKS & TREASURERS	150.00
023090	02/04/2019	000124	BELL MOBILITY INC.	604.75
023091	02/07/2019	000717	MINISTER OF FINANCE	4,209.14
023092	02/07/2019	001147	RECEIVER GENERAL	49,207.93
023093	02/07/2019	001113	WORKPLACE SAFETY & INSURANCE	6,790.12
023094	02/14/2019	001145	1148362 ONTARIO LTD.	254.25
023095	02/14/2019	000119	BELL CANADA	1,369.46
023096	02/14/2019	002309	CITY-COM COMMUNICATIONS	178.54
023097	02/14/2019	000514	HYDRO ONE NETWORKS INC	2,111.84
023098	02/14/2019	001173	LOCAL AUTHORITY SERVICES LTD.	282.50
023099	02/14/2019	001970	ML CONSULTING	854.56
023100	02/14/2019	001650	PITNEY BOWES	222.09
023101	02/14/2019	000830	PUROLATOR COURIER LTD.	54.10
023102	02/14/2019	001210	ROGERS	355.92
023103	02/21/2019	000119	BELL CANADA	223.92
023104	02/21/2019	000155	HDS CANADA INC.	132.48
023105	02/21/2019	000514	HYDRO ONE NETWORKS INC	654.15
023106	02/21/2019	000998	TD VISA	7,440.19
023107	02/22/2019	000661	MANULIFE FINANCIAL	14,629.00
023108	02/22/2019	001147	RECEIVER GENERAL	18,582.13
			Cheque Register Total -	121,980.90

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Cheque Number	Cheque Date	Vendor Nbr	Payee	Cheque Amount
000626	02/07/2019	001416	ALTRUCK INTL. TRUCK CENTRES	1,438.41
000627	02/07/2019	001781	BERNARDI HUMAN RESOURCE LAW LLP	3,107.50
000628	02/07/2019	000148	BOUCHER & JONES INC.	7,967.09
000629	02/07/2019	002030	BRENNAN'S TIRE SERVICE	847.50
000630	02/07/2019	001074	C-MAX FIRE SOLUTIONS	864.45
000631	02/07/2019	001518	DONALD CREED	156.75
000632	02/07/2019	000650	M & L SUPPLY	672.78
000633	02/07/2019	000282	MICHAEL DAILOUS	76.44
000634	02/07/2019	000764	O.M.E.R.S.	32,744.82
000635	02/07/2019	001945	ONSERVE	259.87
000636	02/07/2019	000778	ONTARIO ASSOC. OF FIRE CHIEFS	576.30
000637	02/07/2019	000836	PUSLINCH PIONEER	184.19
000638	02/07/2019	002082	ROYAL CITY JANITORIAL & MAINTENANCE	904.00
000639	02/07/2019	002119	SANI GEAR	1,657.03
000640	02/07/2019	000988	SWAN DUST CONTROL LTD	348.10
000641	02/07/2019	002304	TELETRON COMMUNICATIONS INC.	33.62
000642	02/07/2019	001025	TRANSIT LUBRICANTS LTD.	999.82
000643	02/07/2019	001052	VIKING CIVES LTD	2,100.35
000644	02/21/2019	001416	ALTRUCK INTL. TRUCK CENTRES	784.44
000645	02/21/2019	000259	COUNTY OF WELLINGTON	258.69
000646	02/21/2019	000389	FRANK COWAN CO. LTD.	255.10
000647	02/21/2019	001182	G.T. FRENCH PAPER LTD.	7.46
000648	02/21/2019	000400	GUELPH BUSINESS MACHINES	553.44
000649	02/21/2019	000463	GUELPH HUMANE SOCIETY	1,496.67
000650	02/21/2019	001703	KAREN LANDRY	182.92
000651	02/21/2019	000836	PUSLINCH PIONEER	207.92
000652	02/21/2019	001472	RSM BUILDING CONSULTANTS	20,820.15
000653	02/21/2019	002014	SEPULIS, JOHN	17.29
000654	02/21/2019	000225	STRONGCO	134.40
000655	02/21/2019	001076	THE WELLINGTON ADVERTISER	1,323.23
000656	02/21/2019	001052	VIKING CIVES LTD	259.90
000657	02/21/2019	001068	WASTE CONNECTIONS OF CANADA INC.	519.62
			Cheque Register Total -	81,760.25

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Cheque Number	Cheque Date	Vendor Nbr	Payee	Cheque Amount
023109	03/05/2019	000037	ACCU PUMPS DISTRIBUTING INC	607.15
023110	03/05/2019	000119	BELL CANADA	388.11
023111	03/05/2019	001222	BRENNEMAN FILING SYSTEMS LTD	129.86
023112	03/05/2019	000182	CAMPUS HARDWARE LIMITED	22.01
023113	03/05/2019	000171	CANADIAN PACIFIC RAILWAY CO.	1,240.00
023114	03/05/2019	001682	GARROD PICKFIELD LLP	397.76
023115	03/05/2019	001958	GILMOUR, GREG	34.50
023116	03/05/2019	000448	GREAT-WEST LIFE ASSURANCE CO.	850.47
023117	03/05/2019	001216	GUELPH BUILDING SUPPLY	16.81
023118	03/05/2019	002258	HAILE, BINIAM	145.02
023119	03/05/2019	000514	HYDRO ONE NETWORKS INC	3,185.76
023120	03/05/2019	001228	RMH SOLUTIONS	294.93
023121	03/05/2019	001210	ROGERS	118.69
023122	03/05/2019	000905	ROYAL SS TANK & TRUCK LTD	3,846.75
023123	03/05/2019	000934	SGS CANADA INC	285.89
023124	03/05/2019	001733	SHRED-IT INTERNATIONAL ULC	79.24
023125	03/05/2019	000214	ST MARYS CEMENT INC.	5,145.25
023126	03/05/2019	001039	UNION GAS LIMITED	4,730.73
023127	03/05/2019	002394	VISUAL ADVANTAGE INC.	1,014.74
023128	03/05/2019	000124	BELL MOBILITY INC.	587.75
023129	03/08/2019	000717	MINISTER OF FINANCE	2,962.78
023130	03/08/2019	001147	RECEIVER GENERAL	28,940.61
023131	03/08/2019	001210	ROGERS	474.56
023132	03/08/2019	001113	WORKPLACE SAFETY & INSURANCE	4,890.96
023133	03/12/2019	001432	BERRN CONSULTING LTD	254.31
023134	03/12/2019	000237	CODE 4 FIRE & RESCUE INC.	1,516.11
023135	03/12/2019	000378	FIRE MARSHAL'S PUB.FIRE SAFETY	730.44
023136	03/12/2019	000155	HDS CANADA INC.	749.36
023137	03/12/2019	001687	OFCAAA	45.00
023138	03/12/2019	000820	PRAXAIR CANADA INC.	159.34
023139	03/12/2019	001235	RECEIVER GENERAL FOR CANADA	471.00
023140	03/12/2019	001787	YORK UNIVERSITY-SCHULICH EXC. EDUC. CTR	4,689.50
023141	03/12/2019	002396	RAGLAN INDUSTRIES INC.	4,226.20
023142	03/14/2019	001145	1148362 ONTARIO LTD.	1,418.15
023143	03/14/2019	002397	6580 WELLINGTON ROAD INC.	3,492.64
023144	03/14/2019	002400	ATCHISON, LAUREN	117.82
023145	03/14/2019	002403	BEDI, KISMAT	146.90
023146	03/14/2019	002399	BLUEWATER CHAPTER OBOA	90.00
023147	03/14/2019	002398	DAVIDSON, MARIE	90.00
023148	03/14/2019	002402	FLETCHER, JAMES	187.90
023149	03/14/2019	000514	HYDRO ONE NETWORKS INC	4,730.74
023150	03/14/2019	001337	IDS	1,280.72
023151	03/14/2019	002401	MITHCELL, COURTNEY	63.28
023152	03/14/2019	002303	MLS PLANNING CONSULTING	974.63
023153	03/14/2019	000830	PUROLATOR COURIER LTD.	88.10
023154	03/14/2019	000214	ST MARYS CEMENT INC.	478.58
023155	03/20/2019	000119	BELL CANADA	954.23
023156	03/20/2019	002405	BURGESS-WHITING, STEPHEN	367.88
023157	03/20/2019	000514	HYDRO ONE NETWORKS INC	1,503.56
023158	03/20/2019	002404	KORNACK, DAVE	183.94
023159	03/20/2019	000661	MANULIFE FINANCIAL	14,239.79
023160	03/20/2019	002406	NOLAN, PAUL	216.20
023161	03/20/2019	002159	REEVES, TODD	366.44

Accounts Payable

TD Canada Trust Cheque Register By Date

03/01/2019 thru 03/31/2019

Cheque Number	Cheque Date	Vendor Nbr	Payee	Cheque Amount
023162	03/20/2019	000998	TD VISA	9,343.52
023163	03/21/2019	001147	RECEIVER GENERAL	17,382.09
023164	03/27/2019	000119	BELL CANADA	223.92
023165	03/27/2019	000175	CITY OF CAMBRDIGE	34,450.00
023166	03/27/2019	000514	HYDRO ONE NETWORKS INC	3,699.03
023167	03/27/2019	001039	UNION GAS LIMITED	3,260.27
			Cheque Register Total -	172,581.92

Accounts Payable

TD Canada Trust-DD Cheque Register By Date

03/01/2019 thru 03/31/2019

Cheque Number	Cheque Date	Vendor Nbr	Payee	Cheque Amount
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000659	03/06/2019	000042	ADVANCE CONSTRUCTION EQUIP LTD	515.53
000660	03/06/2019	001352	AIR LIQUIDE CANADA INC.	88.22
000661	03/06/2019	001416	ALTRUCK INTL. TRUCK CENTRES	493.46
000662	03/06/2019	001340	ASTLEY GILBERT	9.04
000663	03/06/2019	001781	BERNARDI HUMAN RESOURCE LAW LLP	647.49
000664	03/06/2019	000148	BOUCHER & JONES INC.	12,113.00
000665	03/06/2019	002195	BROWN, MONICA	11.30
000666	03/06/2019	000219	CEDAR SIGNS	957.46
000667	03/06/2019	000259	COUNTY OF WELLINGTON	71,295.62
000668	03/06/2019	001762	DAVID GUNSON	10.00
000669	03/06/2019	002393	FASKEN MARTINEAU DUMOULIN LLP	237.30
000670	03/06/2019	001182	G.T. FRENCH PAPER LTD.	570.70
000671	03/06/2019	000414	GM BLUEPLAN ENGINEERING LIMITED	1,573.70
000672	03/06/2019	002392	GOYDA, JESSICA	742.04
000673	03/06/2019	000400	GUELPH BUSINESS MACHINES	888.67
000674	03/06/2019	000468	GWS ECOLOGICAL & FORESTRY SERV	514.15
000675	03/06/2019	002120	LANDSCAPE PLANNING LIMITED	6,480.09
000676	03/06/2019	000626	LETCO LIMITED	2,721.04
000677	03/06/2019	000678	MATTHEW BULMER	651.40
000678	03/06/2019	001132	MILLER THOMSON LLP	2,966.22
000679	03/06/2019	000734	MRC SYSTEMS INC.	123.68
000680	03/06/2019	001945	ONSERVE	2,598.27
000681	03/06/2019	002082	ROYAL CITY JANITORIAL & MAINTENANCE	904.00
000682	03/06/2019	000906	RUBBERLINE PRODUCTS LTD.	591.66
000683	03/06/2019	002244	SHORT COOLING SOLUTIONS INC.	1,100.45
000684	03/06/2019	002211	SPRY, SUSAN	14.50
000685	03/06/2019	000225	STRONGCO	33.10
000686	03/06/2019	000988	SWAN DUST CONTROL LTD	322.83
000687	03/06/2019	001076	THE WELLINGTON ADVERTISER	437.31
000688	03/06/2019	001016	TOPECO COFFEE & TEA COMPANY	163.92
000689	03/06/2019	001052	VIKING CIVES LTD	415.28
000690	03/06/2019	002245	ZMIJA, ANGIE	54.32
000691	03/12/2019	000023	A.J. STONE CO. LTD.	3,356.97
000692	03/12/2019	002155	AON REED STENHOUSE INC.	6,625.80
000693	03/12/2019	000147	BOB BONNEVILLE	34.64
000694	03/12/2019	001074	C-MAX FIRE SOLUTIONS	203.40
000695	03/12/2019	000384	FLEET IMAGE INC.	197.75
000696	03/12/2019	001703	KAREN LANDRY	80.00
000697	03/12/2019	001563	KEHOE LAW ENFORCEMENT DIST.	208.03
000698	03/12/2019	002120	LANDSCAPE PLANNING LIMITED	5,650.00
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000700	03/12/2019	000764	O.M.E.R.S.	21,027.38
000701	03/12/2019	002395	ROOYMANS MERCANTILE INC.	162.49
000702	03/12/2019	000900	ROYAL CITY AUTOMOTIVE	556.91
000703	03/12/2019	002119	SANI GEAR	3,164.22
000704	03/12/2019	000988	SWAN DUST CONTROL LTD	25.27
000705	03/12/2019	002332	WATTERSON, NEIL	21.72
000706	03/18/2019	000030	ABELL PEST CONTROL INC.	70.79
000707	03/18/2019	000031	ABERFOYLE AGRICULTURAL SOCIETY	3,000.00
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000710	03/18/2019	001598	BENNETT CHEV CADILLAC BUICK GMC	1,991.92

Accounts Payable

TD Canada Trust-DD Cheque Register By Date

03/01/2019 thru 03/31/2019

Cheque Number	Cheque Date	Vendor Nbr	Payee	Cheque Amount
000711	03/18/2019	000148	BOUCHER & JONES INC.	4,720.93
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000714	03/18/2019	000399	G & A LOCK SERVICE LTD.	288.15
000715	03/18/2019	001682	GARROD PICKFIELD LLP	2,733.55
000716	03/18/2019	001813	GOMES, LUIS	63.00
000717	03/18/2019	001138	GRAND RIVER CONSERV. FOUNDATION	1,250.00
000718	03/18/2019	000446	GRAND RIVER CONSERVATION AUTH	38,597.66
000719	03/18/2019	000468	GWS ECOLOGICAL & FORESTRY SERV	1,909.70
000720	03/18/2019	000476	HARDEN ENVIRONMENTAL SERVICES	1,446.40
000721	03/18/2019	000710	MICHAEL'S MOBILE	1,783.32
000722	03/18/2019	000734	MRC SYSTEMS INC.	693.20
000723	03/18/2019	001945	ONSERVE	2,598.27
000724	03/18/2019	001254	PUSLINCH LAKE CNSV. ASSOC.	25,000.00
000725	03/18/2019	001472	RSM BUILDING CONSULTANTS	16,540.41
000726	03/18/2019	000906	RUBBERLINE PRODUCTS LTD.	391.39
000727	03/18/2019	002014	SEPULIS, JOHN	11.70
000728	03/18/2019	000983	SUNRISE THERAPEUTIC CENTRE	2,000.00
000729	03/18/2019	001025	TRANSIT LUBRICANTS LTD.	1,594.08
000730	03/18/2019	001043	UPPER GRAND DISTRICT SCH BR-DC	3,134.00
000731	03/18/2019	001052	VIKING CIVES LTD	949.20
000732	03/18/2019	001068	WASTE CONNECTIONS OF CANADA INC.	482.88
000733	03/18/2019	002345	WELL CATH DIST SCH BRD-DC	634.00
000734	03/18/2019	001084	WELLINGTON FARM & HOME SAFETY	500.00
000735	03/18/2019	002290	WHISTLE STOP COOPERATIVE PRESCHOOL	666.50
000736	03/20/2019	002155	AON REED STENHOUSE INC.	285.12
000737	03/20/2019	002330	AUBS & MUGG INC.	1,365.30
000738	03/20/2019	000259	COUNTY OF WELLINGTON	1,756.23
000739	03/20/2019	000263	COX CONSTRUCTION LIMITED	351.43
000740	03/20/2019	002314	FORMOST MEDIA ONE	2,260.30
000741	03/20/2019	000400	GUELPH BUSINESS MACHINES	470.20
000742	03/20/2019	001838	HUBER WINDOW CLEANING	237.30
000743	03/20/2019	000861	REYNER ELECTRIC CONSTRUCTION INC.	631.90
000744	03/27/2019	000388	CONSEIL SCOL DE DIS CATHOLIQUE	8,332.43
000745	03/27/2019	000249	CONSEIL SCOLAIRE VIAMONDE	8,610.76
000746	03/27/2019	000259	COUNTY OF WELLINGTON	3593,812.06
000747	03/27/2019	000414	GM BLUEPLAN ENGINEERING LIMITED	5,130.21
000748	03/27/2019	000764	O.M.E.R.S.	69,588.44
000749	03/27/2019	002277	UPPER GRAND DISTRICT SCH BRD	1218,283.57
000750	03/27/2019	001077	WELLINGTON CATHOLIC DIS SCH BD	266,514.94
			Cheque Register Total -	5,455,127.64

TOWNSHIP OF PUSLINCH

ADDENDUM TO THE FEASIBILITY STUDY FOR WATER AND SEWAGE SERVICING IN THE TOWNSHIP OF PUSLINCH

August 26, 2019

2017-01 / T000866A

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Revision History

Version	Date	Prepared by (Deliverable Lead)	QC Reviewer	Project Manager Sign-off
v01	May 10, 2019	A. Laleva	S. Winchester	
e01	May 27, 2019	A. Laleva	S. Winchester	
e02	June 3, 2019	A. Laleva	S. Winchester	
e03	August 2, 2019	A. Laleva	S. Winchester	
e04	August 26, 2019	A. Laleva	S. Winchester	

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1. Introduction

1.1 Background

In 2018, the Township completed a Feasibility Study for Water and Sewage Servicing in the Township of Puslinch. The Original Study Area for the Feasibility Study included all properties, including both Residential and Employment lands, in an area bounded on the west by Highway 6 North (Hanlon Parkway), to the north by the City of Guelph, to the east by Victoria Road South, and to the south by Highway 401, but also including the community of Morriston, as shown in Figure 1. During the course of the Feasibility Study, significant objections were raised, in particular from the residential property Owners within the Original Study Area.

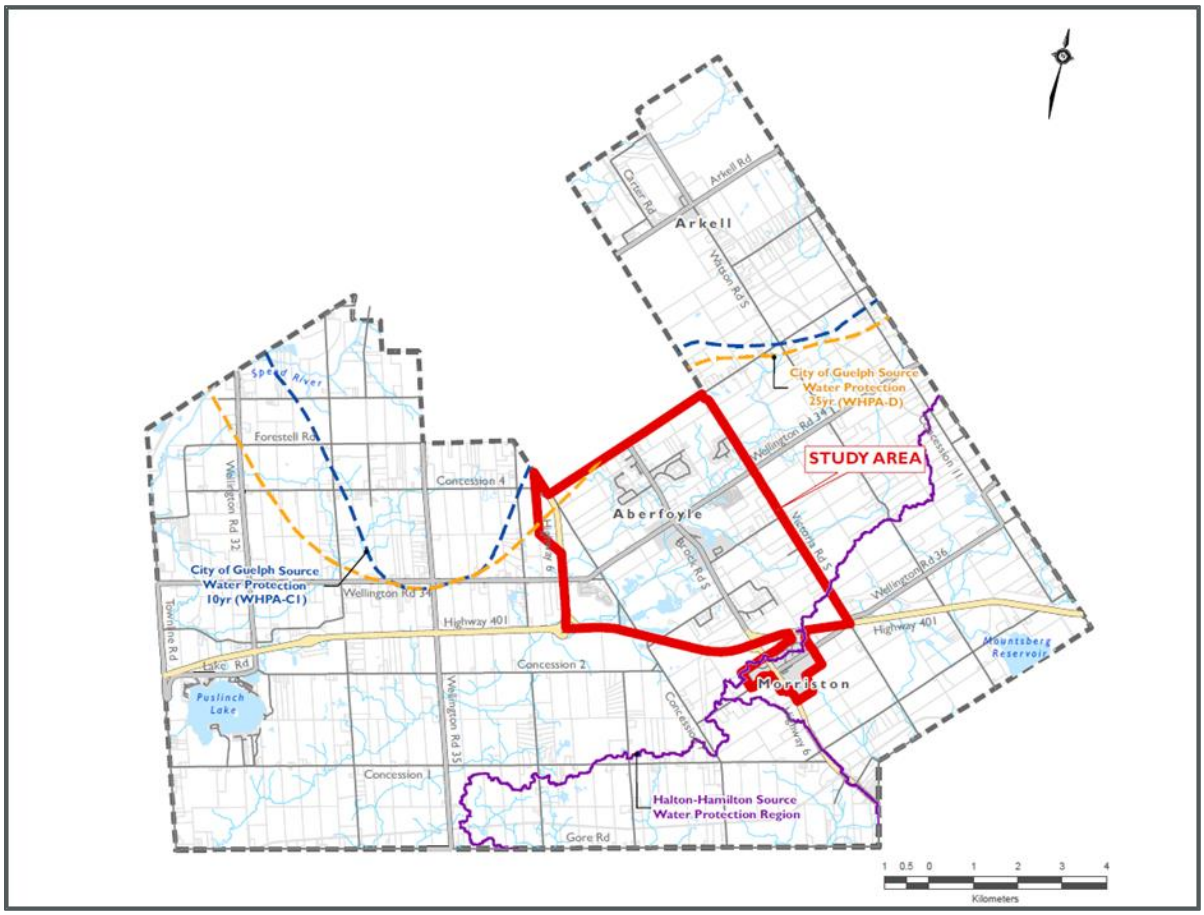


Figure 1: Original Study Area Map

In response to the concerns raised by the residential property owners within the Original Study Area, the Township decided to proceed with undertaking an additional Study, with a reduced Study Area and scope. The Township is now undertaking an Addendum to the Feasibility Study to assess the viability of implementing municipal water and sewage services for commercial and industrial properties bounded on the west by Concession 7 and Sideroad 25 N, to the south by Highway 401 and irregular boundaries (see Figure 2 Scoped Study Area Map).

Currently, water and sewage services in the Township consist of individual on-site wells and septic systems, as well as a few small and private communal water and sewage systems servicing individual developments.

The Township is surrounded by growing urban centres on all four sides with increasing demands for resources and land. The natural setting surrounding the Township and its accessibility to major markets and urban centres make this area an attractive place for development. Realizing this potential and the limitations on opportunities for growth resulting from lack of servicing, the need to assess the viability of implementing municipal water and sewage services to support the development of employment lands within the Township was identified.

1.2 Purpose of this Report

This Addendum to the original Feasibility Study Report (*Feasibility Study for Municipal Water and Sewage Servicing in the Township of Puslinch*, dated May 8, 2018) describes the key activities that have been undertaken as part of this assignment and the preliminary results of the additional study, including:

- A description of the scoped project Scoped Study Area; including current land use designations, employment projections, plans for future growth and development; and overview of existing key users;
- Development of preliminary estimates of future water demands and sewage flows for the Scoped Study Area based on analysis of existing available information and general design criteria, as recommended by the Ministry of the Environment, Conservation and Parks (MECP) for drinking water and sewage systems;
- Development of high-level water and sewage servicing options, including major infrastructure requirements and estimates of probable cost associated with each option;
- Results of high-level assessment of water and sewage servicing options, including key advantages and disadvantages for each servicing option considered in the study;
- A review of potential cost recovery tools available to fund the capital works associated with the servicing options and a preliminary assessment of the upfront and annual costs of each option.

2. Addendum Project Scoped Study Area

2.1 Overview

The Township of Puslinch is located in south-central Ontario in Wellington County, generally southeast of the City of Guelph. The Township, along with six other lower tier municipalities, make up the County of Wellington.

A potential servicing area has been delineated to comprise Water and Wastewater Services for the Industrial and Commercial users along brock road in Aberfoyle and between Aberfoyle and Highway 401, as shown below in Figure 2.

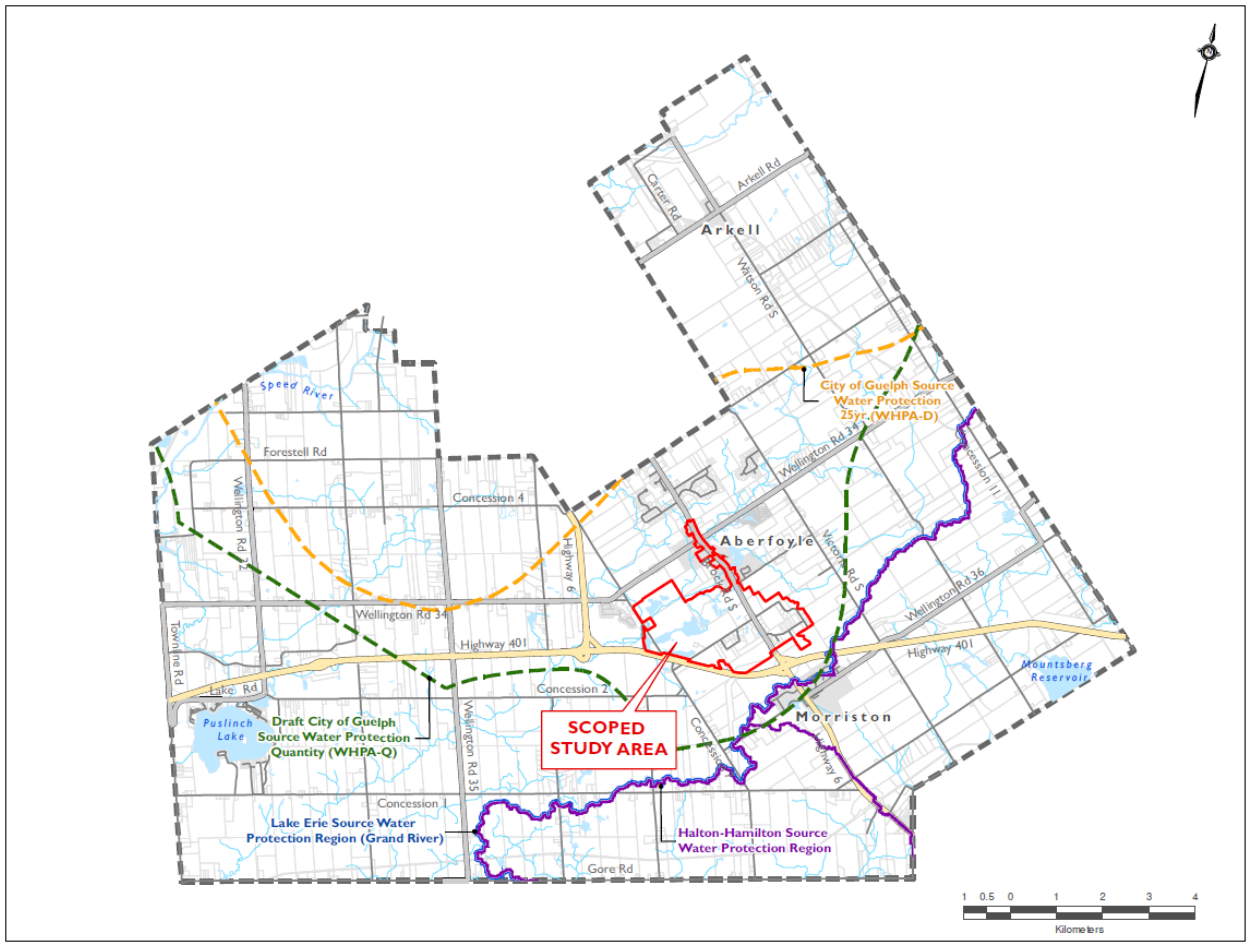


Figure 2: Scoped Study Area Map

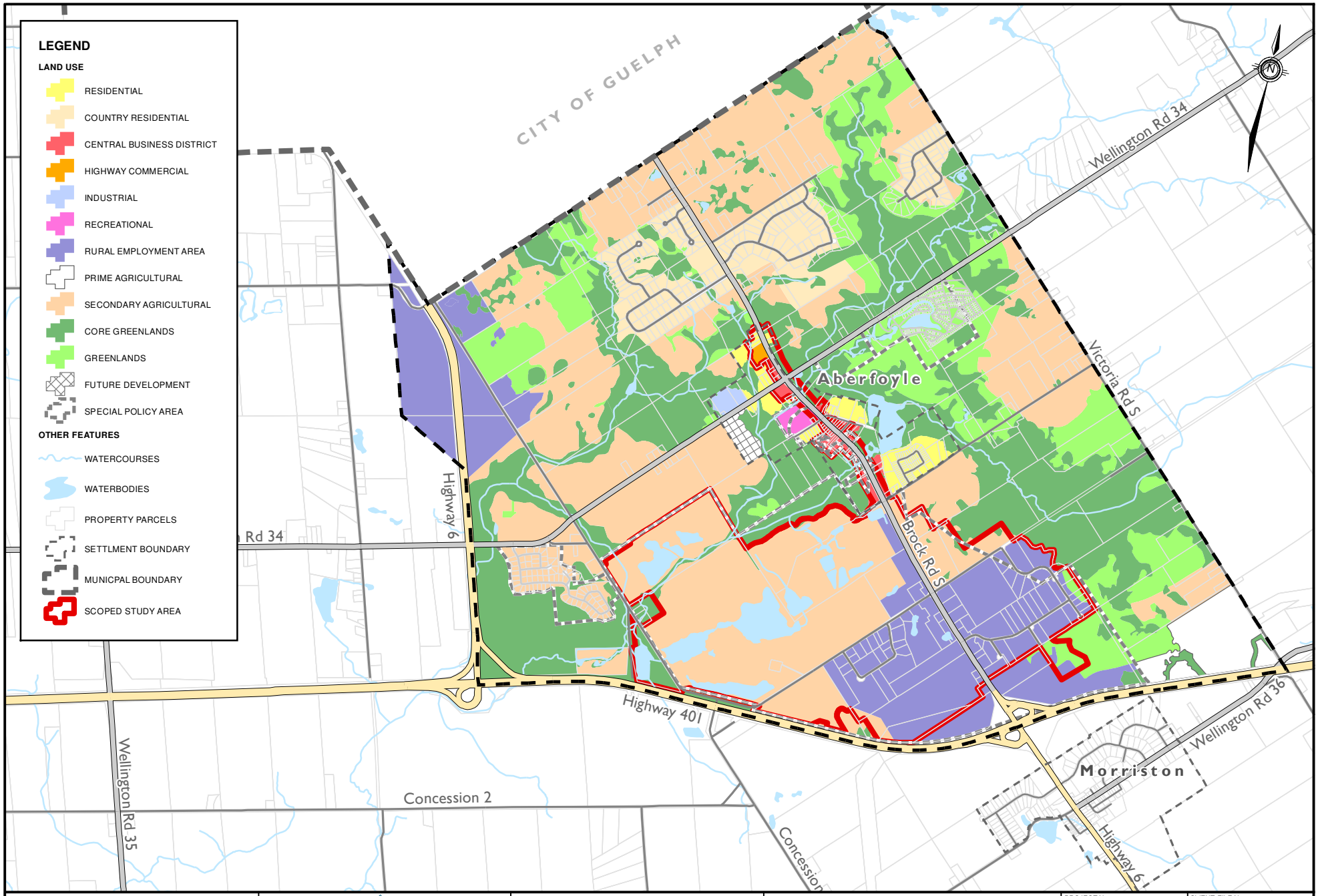
2.2 Commercial and Industrial Land Uses

The County of Wellington provides Planning Services for all growth and development related issues for the Township of Puslinch. The County has developed the County Official Plan (OP), which is used to guide all land use, growth strategies and servicing decisions for the Township. Existing land use designations within the Scoped Study Area are graphically presented in Figure 3.

The Scoped Study Area contains the highest concentrations of employment lands in the Township. In general, the land uses are varied due to historic development patterns and influences of the nearby City of Guelph and major transportation corridors of Highway 401, Highway 6 north and south and Brock Road (the busiest County road in Wellington).

Aberfoyle's designated central business district is along Brock Road and is one focus of the potential servicing area. There is also a highway commercial parcel north of Wellington Road 34.

A major focus of the Scoped Study Area includes the rural employment area and Puslinch economic development area (PA7-1) designations north of Highway 401 and east and west of Brock Road South. With consideration to expand Go Transit access, this is the predominant location for business and industry in the Township.



CIMA+

CLIENT

TOWNSHIP OF PUSLINCH

SCALE

200 100 0 200 400 600 800 1,000

meters

1:40,000

PROJECT NAME:

FEASIBILITY STUDY FOR WATER AND SEWAGE SERVICING IN THE TOWNSHIP OF PUSLINCH

SHEET TITLE:

LAND USES

PROJECT No: T000866A		CLIENT FILE No: ---
DRAFTER: S, ELLIOTT	DESIGNER ---	DRAWING No: 2
APPROVER S. RODRIGUEZ	APPROVER ---	
DATE: 5/24/2019		SHEET No: 1 of 1

2.3 Source Water Protection Areas

The City of Guelph Wellhead Protection Areas extend into the Scoped Study Area (see Figure 2). The City of Guelph Wellhead Protection Areas (WHPA), corresponding to the 25-year time of travel, extend into the northwest portions of the Scoped Study Area. The WHPA's do not impact the employment lands under consideration as part of this Study.

Under the Guelph/Guelph-Eramosa Tier 3 Wellhead Protection Study, a draft Protection Area for Water Quantity (WHPA-Q) has been identified. The WHPA-Q covers the majority of the Scoped Study Area. Although policies are not in place yet, it is anticipated that there will be requirements on any new or renewed PTTW in the area, including any new municipal wells for the Township or City in the WHPA-Q.

In the event that the Township proceeds to develop a municipal Water system for the Scoped Study Area and develops new supply wells, new Well Head Protection Areas for Quality (A through D) will need to be created.

2.4 Population and Planning Projections

Projected growth within the Scoped Study Area has been set out in the County's Official Plan (OP).

According to the County OP, the majority of growth within the County will be directed to urban centers that offer municipal water and sewer servicing and, to a limited extent, to those urban centres and hamlets that offer partial, private communal, or individual on-site services. While there is anticipated residential growth in Aberfoyle and the surrounding areas, for the purpose of this addendum, the Scoped Study Area will only account for the projected water and sewage demands resulting from existing and planned development of employment lands.

For the purposes of this Study, it has been assumed that all Employment Growth identified within the County Official Plan will occur within the Aberfoyle service area. This assumption is considered to be reasonable since fully serviced employments lands would typically be more attractive to development, and that potential development of Employment Lands outside of the serviced area would likely be discouraged by the Township. Employment projections for the Scoped Study Area are shown in Table 1 below.

Table 1: Projected Employment Growth – Township of Puslinch

	Projected Growth / Planning Period[1]		
	2016	2036	2041
Total Employment	4,020	5,160	5,630

1. Projected Employment Growth as per Wellington County Official Plan May 6, 1999 (Last Revision June 1, 2018). Includes 'no fixed place of work' employment.

2.5 Employment Projections

Based on the information provided by the County of Wellington, the 2016 employment population within the Scoped Study Area was estimated to be 2,224 persons, representing approximately 55% of the total employment population within the Township. For the purposes of this Feasibility Study, and based on discussions with staff from the County of Wellington, the following assumptions have been made:

- The 2016 industrial employment within the Scoped Study Area of 2,224 persons were employed by the major water users known to exist in the Scoped Study Area. As such, water demands from the 2016 employment population, have been captured in the water demands provided by the large users.
- As identified above, the projected employment growth of approximately 1,610 jobs by 2041 has been assumed to occur wholly within the Scoped Study Area. For the purposes of this Study, it is assumed that the Township will direct all development of Employment lands to the Aberfoyle service area. This projected employment growth within the scoped study area will include primary, work at home, industrial, commercial, institutional and no-fixed-place-of-work job types.

The assumptions noted above are considered conservative but adequate for the level of detail required in the Feasibility Study. Actual employment numbers within the existing users will need to be verified, should the project proceed beyond the Feasibility Study stage.

3. Existing Water and Sewage Services

Municipal servicing is currently not available in the Township. Water and sewage services in the Scoped Study Area currently consist of individual on-site wells, septic systems and a few on-site small and private communal water and sewage systems. The Township has an active role in monitoring the operation and efficiency of these private systems; however, all aspects of operation, monitoring, maintenance and repairs associated with private systems, are ultimately, the responsibility of the systems' owner.

Permits to Take Water (PTTW) issued by the Ontario Ministry of Environment, Conservation and Parks (MECP) require that each permit holder measure and record volumes and rates of water taken each day. Such records shall be submitted every year to the Ministry's Water Taking Reporting System (WTRS).

3.1 Industrial and Commercial Uses

As part of the original Study in 2018, all major industrial and commercial users within the Scoped Study Area were contacted directly and requested to provide the most up-to-date water and sewage usage data, including the latest water volumes reported to the Ministry's WTRS. The following section of this report presents a summary of water usage/consumption for each of the major large users within the Scoped Study Area, as per available operating records and

data provided to CIMA+ for 2015 and/or 2016. Large users are not required to monitor or measure sewage flows, and thus this information was not readily available. Sewage information that was provided to CIMA+, when measured and recorded by the user, has been included in the corresponding section for each major user.

The major industrial and commercial large water users within the Scoped Study Area, along with their permitted water takings, are listed below in Table 2. A brief overview of each of the large users and their reported water demands/consumptions are summarized in the following sections.

Table 2: Major Industrial and Commercial Users

ID	User Name	Usage Type	PTTW #	Max. Taking as per PTTW (L/s)	
				L/s	m^3/d
1	Royal Canin Canada Company	Food processing	3782-AB6MMX	2.8	240
2	Con-Cast Pipe Inc.	Concrete pipe manufacturer	8724-9GFPQE	5.2	450
3	Maple Leaf Foods – Morguard Brock McLean Limited	Distribution centre	7431-96LRQ6	7.6	654
4	Nestle Canada Inc.	Water Bottling	1381-95ATPY	41.7	3,600
5	Dufferin Aggregates – CRH Canada Group Inc.	Aggregate extraction	7510-A34KZH	94.7	8,183
6	Capital Paving Inc.	Aggregate producers	4373-8TXQK3	212.6	18,371
7	CBM Aggregates – St. Mary's Cement	Aggregate extraction	5550-9V7HXS	272.8	23,568
			7028-7LTNV9	272.8	23,568
Total Industrial and Commercial Max. Permitted Taking =				910	78,634

3.1.1 Royal Canin Canada Company

Royal Canin is a pet food manufacturer located within the rural employment designated area, north of Highway 401 and east of Brock Road South. This facility uses water and generates both process and sanitary sewage. Their reported water usage is summarized in Table 3 below.

Table 3: Royal Canin Canada – Water Usage

Water Source	Reported Average Water Taking[1]		Max. PTTW Taking	Actual Taken / PTTW
	m^3/d	L/s	L/s	%
Well PW-1	93.8	1.1	2.8	39%

1. Two-year average usage based on reported 2015 and 2016 data.

Royal Canin uses separate sewage treatment systems for its process and domestic sewage. The amended ECA #1042-A3QQRY, allows a discharge of 30 m^3/d of treated process and domestic flows for subsurface disposal. The process sewage treatment system consists of a 40 m^3 equalization tank and a dissolved air flotation unit. A membrane bioreactor (rated treatment capacity of 75 m^3/d) is approved to be incorporated into the existing process sewage treatment system, as well as a UV disinfection unit and osmosis unit for reuse of water for operations. The domestic sewage treatment system consists of a pump station, a sequencing batch reactor (SBR) (rated treatment capacity of 30 m^3/d), and a sand filter (the filter is approved to be replaced with a drum filter). Both treated process and domestic sewage discharges to a shallow buried trench system that is laid out in two beds.

The average process and domestic sewage discharged for subsurface disposal by this facility are summarized in Table 4 below.

Table 4: Royal Canin Canada – Sewage Generation

Sewage Source	Reported Average Sewage Generation[1]		System Rated Capacity	Actual Generation / Rated Capacity
	m^3/d	L/s	m^3/d	%
Process and domestic sewage to buried trench	42	0.54	30	140%

1. One-year average sewage generation based on 2016 data.

3.1.2 Con-Cast Pipe Inc.

Con-Cast Pipe Inc. is a precast concrete products manufacturer. The manufacturing facility is located within the rural employment designated area, north of Highway 401 and west of Brock Road South. Their footprint comprises a dry cast facility of approximately 120,000 square foot and a wet cast facility of approximately 30,000 square foot. Their report water usage is summarized in Table 5 below.

Table 5: Con-Cast Pipe Inc. – Water Usage

Water Source	Reported Average Water Taking[1]		Max. PTTW Taking	Actual Taken / PTTW
	m^3/d	L/s	L/s	%
Well WSW 1	245.3	2.8	5.2	55%
Well WSW 2				

1. Two-year average usage based on reported 2015 and 2016 data.

Con-Cast Pipe Inc. is allowed under Amended ECA #3621-6HRKGC to treat and dispose of process sewage at an average flow of 5.66 m^3/d from its pre-cast concrete manufacturing facility. The treated process sewage is discharged to one of two on-site infiltration ponds. Based on information provided by Con-Cast Pipe Inc., process sewage flows are not monitored.

3.1.3 Maple Leaf Foods – Morguard Brock McLean Limited

Maple Leaf Foods has a distribution centre within the Township that distributes the company's prepared meats throughout central and eastern Ontario. Schenker Canada operates the distribution centre on behalf of Maple Leaf Foods. Based on information received from Schenker Canada, the water is used for the cooling tower/condenser and the sprinkler; however, their water use is restricted based on the capacity of their septic bed. Their reported water usage is summarized in Table 6 below.

Table 6: Maple Leaf Foods – Water Usage

Water Source	Reported Average Water Taking[1]		Max. PTTW Taking	Actual Taken / PTTW
	m^3/d	L/s	L/s	%
TW1	21.6	0.2	7.6	3%
TW2				

1. Two-year average usage based on reported 2015 and 2016 data.

In terms of sewage generation, Maple Leaf Foods is allowed under Amended ECA #7567-94EK2F to treat and dispose of 17 m^3/d of treated domestic sewage. The sewage treatment system consists of two septic tanks (total capacity of 25 m^3), a tertiary treatment septic tank (rated treatment capacity of 17 m^3/d), and a polisher tank. The treated sewage is discharged to a raised stone and sand bed for subsurface disposal. The average domestic sewage generated by this facility are summarized in Table 7 below. Process sewage is not produced on-site as part of their operations.

Table 7: Maple Leaf Foods – Sewage Generation

Sewage Source	Reported Average Sewage Generation[1]		System Rated Capacity	Actual Generation / Rated Capacity
	m^3/d	L/s	m^3/d	%
Domestic sewage to septic system	14.3	0.17	17	90%

1. Two-year average sewage generation based on 2015 and 2016 data.

3.1.4 Nestle Canada Inc.

Nestle Canada Inc. operates a water bottling facility, located within the rural employment designated area, south of Aberfoyle. Their reported water usage is summarized in Table 8.

Table 8: Nestle Canada Inc. – Water Usage

Water Source	Reported Average Water Taking[1]		Max. PTTW Taking[2]	Actual Taken / PTTW
	m^3/d	L/s	L/s	%
TW3-80	2,117.7	24.5	41.7	59%
TW2-11[3]	-	-	-	-

1. Two-year average usage based on reported 2015 and 2016 data.
2. As per PTTW, the total taking of 3,600 m3/d must not be exceeded for the combination of the water sources.
3. Well TW2-11 is to be used for miscellaneous purposes only (such as supplying water for firefighting purposes). As per information provided, no water was taken from Well TW2-11 in 2015 or 2016. Nestle Canada Inc. has recommended that the well be decommissioned.

Nestle Canada Inc. operates under two separate approvals for its process and domestic sewage. Amended ECA #2766-8Z6QHV allows Nestle Waters to treat and dispose process sewage and stormwater at an approximate peak flow of 1,444 m^3/week. The process sewage treatment system consists of a wet well/pump station, two aerated ponds, and six storage ponds. The treated process sewage discharges to Aberfoyle Creek, which is a tributary of Mill Creek and part of the Grand River watershed. Certificate of Approval (C of A) #3152-55LQ59 permits the treatment and disposal of 15.9m^3/d of domestic sewage. The approved domestic sewage treatment system consists of pumping chambers, three septic tanks (total capacity of 41 m^3), four tertiary treatment septic tanks (total rated treatment capacity of 20 m^3/d), and a dosing chamber. The treated domestic sewage is approved to discharge to a leaching bed and a shallow buried trench.

Based on information provided by Nestle Canada Inc., process and domestic sewage flows are not monitored.

3.1.5 Dufferin Aggregates – CRH Canada Group Inc.

Dufferin Aggregate (a division of CRH Canada Group Inc.) is an aggregate extraction business and operates three extraction pits within the Township of Puslinch. Out of the three pits, only one (Aberfoyle Pit No.1) is within the rural employment designated area, at 125 Brock Road. Their washing operation consists of a closed-loop washing system where the wash water from

the wash plant is re-circulated through a settling pond system. Make-up water is periodically taken from the source pond to top-up the amount of water entering the wash plant to compensate from any loss water due to evaporation, infiltration or water adhering to aggregate products.

PTTW #5153-A49MT9 was also registered for this site as per MECP online records. In communication with CRH Canada Group Inc., it was clarified that this PTTW was for a concrete plant that was on the same site; however, the plant is no longer onsite, and water has not been taken from this source since 2010. Their reported water usage for the active wells is summarized in Table 9 below.

Table 9: Dufferin Aggregates – Water Usage

Water Source	Reported Average Water Taking[1]		Max. PTTW Taking[2]	Actual Taken / PTTW
	m^3/d	L/s	L/s	%
Pond 5	8.64	0.10	94.7	0.1%
Make Up Pond 6	126.1	1.46	94.7	2%
Total	134.8	1.56	94.7	2%

1. Average usage based on reported 2016 data.
2. As per PTTW, the total taking amount may increase from 8,182 m3/d (94.7 L/s) to 12,274 m3/d (142 L/s) for any four months between April and November, and no water shall be taken in January and December. Water must also not be taken from one of the ponds for more than 10 consecutive days in February and March. At all times, water is not permitted to be taken from both ponds simultaneously.

3.1.6 Capital Paving

Capital Paving is a civil construction company specializing in transportation. The head office location in Puslinch has an asphalt and concrete plant, and an aggregate pit on-site. They have four sources for water taking to supply their plant operations, aggregate washing, and office use. According to communication with Capital Paving, there are plans to build a full wash plant on site in the near future, which will increase the water demands for aggregate washing. Their reported water usage is summarized in Table 10 below.

Table 10: Capital Paving – Water Usage

Water Source	Reported Average Water Taking[1]		Max. PTTW Taking[2]	Actual Taken / PTTW
	m^3/d	L/s	L/s	%
Pond B: Aggregate washing	166.1	1.92	196	1%
Well A: Office Use	2.4	0.03	1.3	2%
Well B: Asphalt Plant	51.7	0.60	6.0	10%
Well C: Concrete Plant	60.6	0.70	0.70	10%
Total	280.9	3.3	213	2%

1. Average usage based on reported 2015 and 2016 data.

3.1.7 CBM Aggregates – St. Mary's Cement

CBM Aggregates (a division of St. Mary's Cement) is an aggregate extraction business and operates multiple extraction pits within the Township. The pits that have a wash plant on-site are the Aberfoyle and McNally pits, which operate under separate PTTWs to authorize aggregate washing in a closed loop system. Their reported water usage is summarized in Table 11 below.

Table 11: CBM Aggregates – Water Usage

Water Source	Reported Average Water Taking[1]		Max. PTTW Taking[2]	Actual Taken / PTTW
	m^3/d	L/s	L/s	%
Aberfoyle Main (North) Pit Pond	14,411	166.8	272.8	61%
McNally Supply Pond	13,726	158.9	272.8	58%
Total	28,137	325.7	545.6	60%

1. Average usage based on reported 2015 and 2016 data.

3.2 Summary of Large Users Demands and Flows

3.2.1 Existing Water Demands

A summary of the water demands/usage that have been established for the large users, based on available 2015-2016 operating/recorded data, is presented in Table 12.

As shown below in Table 12, the majority of large industrial and commercial users, have current water demands in their systems below 60% of their permitted maximum water taking. A more representative assessment would involve a comparison between the maximum demands experienced by each system against the maximum permitted taking; however, in the absence of maximum day demand data, the average recorded flows have been compared relative to the maximum allowable water takings to provide a general indication of the current water demands for each user.

Table 12: Summary of Existing Water Demands / Usage – Large Industrial and Commercial Users

Large User Name	Average Water Taking[1]		Max. PTTW Taking	Actual Taken / PTTW
	m^3/d	L/s	L/s	%
Royal Canin Canada Company	93.8	1.1	2.8	39%
Con-Cast Pipe Inc.	245.3	2.8	5.2	55%
Maple Leaf Foods – Morguard Brock McLean Limited	21.6	0.2	7.6	3%
Nestle Canada Inc.	2,117.7	24.5	41.7	59%
Dufferin Aggregates – CRH Canada Group Inc.	134.8	1.56	94.7	2%
Capital Paving Inc.	280.9	3.3	213	2%

Large User Name	Average Water Taking[1]		Max. PTTW Taking	Actual Taken / PTTW
	m^3/d	L/s	L/s	%
CBM Aggregates – St. Mary's Cement	28,137	325.7	545.6	60%
Total Large Industrial / Commercial Users =	**31,030**	**359.1**	**910.1**	**39%**

A review of Table 12 indicates that Con-Cast Pipe Inc., Nestle Canada and CBM Aggregates – St. Mary's Cement, are the users with the largest volumes of water usage, relative to their existing permitted water taking capacity. Although Con-Cast Pipe Inc. uses a high percentage of their permitted maximum taking capacity, the water demands for this system are very small compared to the amount of water used on an average daily basis by Nestle Canada Inc. and CBM Aggregates – St. Mary's Cement.

It should be noted that the average water taking by the large users is primarily for process water and is not necessarily indicative of the anticipated water demands for domestic purposes. Only domestic demands will be considered for further review under this Study.

3.2.2 Existing Sewage Flows

Based on information received directly from the majority of the large users, tracking of sewage generation is not required and thus, this information is generally not available. Sewage flow data was received from two users within the Scoped Study Area but considering the different nature of the activities that occur onsite, the data are considered specific to each user and is not deemed to be representative of the current sewage generation for the majority of the users in the Scoped Study Area. As such, these data have been omitted from further review.

For the purpose of the feasibility study, sewage flow generation has been calculated with consideration to the nature of the business and design guidelines provided by the MECP. Calculated sewage flows for the Scoped Study Area are presented in Section 4 of this report.

4. Water Demand and Sewage Flow Analysis

Establishing water distribution, sewage collection, and supply and treatment capacity design flows are integral to capital planning and are key drivers for establishing future needs and timelines for project implementation. This section describes the proposed preliminary design parameters, in terms of water demands and sewage flows, for municipal water and sewage servicing in the Scoped Study Area and the rationale for its development.

4.1 Water System

There are two major components to development of a new Municipal Water System; namely, the Water Supply System and the Water Distribution System.

4.1.1 Water Supply Design Basis

Water treatment systems are generally designed on the basis of projected flows for a 20-year period. A larger design period may be selected for larger systems, in cases where construction cost is an overriding factor or to satisfy the ultimate requirements of the official plan.

The drinking water system, including water supply sources, water treatment plant and treated water storage are typically designed to satisfy the projected maximum day water demand of the service area. As such, establishing the design average and maximum day demands for the system is a critical step in the planning of water systems.

In order to establish the water demands for the Scoped Study Area, a 25-year planning period which corresponds to the year 2041, has been assumed. Projected water demands have been calculated assuming the projected employment growth in the Puslinch service area, as established in the County's Official Plan. In terms of industrial and commercial water demands, maximum day demands for the service area have been projected based on current water usages for each of the large users and a design maximum day factor representative of the mix of industrial and commercial users in the Scoped Study Area.

The basis for calculating the design average and maximum day water demands for the Scoped Study Area are tabulated in Table 13.

Table 13: Water Design Basis

Criteria	Value	Units	Comments
Unit per Capita Consumption Rate	360	L/cap/d	Assumed (mid-point from MECP range of 270-450 L/cap/day).
Industrial/Commercial Max. Day Factor	3.0	-	Based on MECP suggested range between 2 and 4 for industrial uses.

4.1.2 Water Distribution Design Basis

The Water Distribution system should be designed to meet the MECP Design Guidelines. In particular, the system shall:

- Be capable of maintaining system pressures between 350 to 480 kPa (50 to 70 psi) under normal operating conditions.
- The maximum system pressure in the distribution system should not exceed 700 kPa (100 psi).
- System pressures shall not drop below 140 kPa (20 psi) under Maximum Day plus Fire Flow conditions.
- Provision of Fire Protection through the municipal water distribution system is a municipal decision. If the Township decides to provide fire protection via the municipal water system, the minimum fire flows should be established with consideration given to the latest Fire Underwriter's Survey document "Water Supply

for Public Fire Protection" and/or the MECP's fire flows guidelines, whichever is judged more appropriate.

4.1.3 Preliminary Projected Water Demands

Preliminary projected water demands for the Scoped Study Area, based on the information available to-date, including employment, industrial and commercial uses are summarized in Tables 14 and 15 respectively. Existing water demands for each user are also included in the tables, where available, for comparative purposes.

Table 14: Preliminary Projected Employment Water Demands[1]

Area	Employment[1]		2016 Existing Avg Day Demands	2041 Future Avg Day Demands[2]	2041 Future Max. Day Demands[3]
	2016	2041	L/s	L/s	L/s
Scoped Study Area	1,796	3,406	7.5	14.2	28.4

1. Preliminary projected employment water demands shown in Table 14 reflect total employment count for the Scoped Study Area with the exception of industrial employment count records for 2016. Water demands for 2016 industrial employment have been captured and accounted for in the water demands received from the large users. For example; total 2016 employment as per OP is 4,020, out of which 2,224 corresponds to industrial employment. Since demands for industrial employment has been assumed under demands gathered from existing users, total 2016 employment numbers for Scoped Study Area is 1,796 (4,020 – 2,224). Total forecasted 2041 employment as per OP is 5,630, under the same assumption of industrial employment demands already captured, total 2041 employment numbers for Scoped Study Area is 3,408 (5,630 – 2,224).
2. Future average day demands assume a unit consumption rate of 360 L/employment/day.
3. Future max. day demands assume a max. day factor of 2.0.

Table 15: Preliminary Projected Industrial and Commercial Water Demands

Industrial / Commercial User	PTTW Capacity		2041 Future Avg. Day Demands[1]	2041 Future Max. Day Demands[2]
	m^3/d	L/s	L/s	L/s
Royal Canin Canada Company	240	2.8	1.1	2.8
Con-Cast Pipe Inc.	450	5.2	2.8	5.2
Maple Leaf Foods – Morguard Brock McLean Limited	654	7.6	0.2	0.7
Nestle Canada Inc.	3,600	41.7	24.5	41.7
Dufferin Aggregates – CRH Canada Group Inc.	8,183	94.7	1.6	4.7
Capital Paving Inc.	18,371	212.6	3.3	9.8
CBM Aggregates – St. Mary's Cement	47,136	545.6	325.7	545.6
Total Existing Large Users =	**78,634**	**910.1**	**359.1**	**610.4**
Total Large Users (excluding Nestle Canada Inc. & St. Mary's Cement) =	**27,898**	**323**	**9.0**	**23.2**

1. Future average day demands for large users assume the current water usages reported for 2015 and 2016.
2. Future maximum day demands assume a maximum day factor of 3.0. However, if the calculated maximum day demands for a user would exceed their existing PTTW taking capacity, the current PTTW rate would prevail and is shown in the table.

4.1.4 Considerations

Considering the financial stability of the Township for the provision of municipal services and the implementation feasibility of a municipal water system for the Scoped Study Area, the following was considered:

- Based on the nature and the character of their businesses, it would not be viable to provide municipal water services to Nestle Canada Inc. for bottling purposes, or to St. Mary's Cement for process and cooling water. It is assumed that these two large users will continue to use the sources that are currently permitted.
- Provision of municipal water services should account for all projected employment and most ICI uses within the Scoped Study Area. Municipal water servicing should also account for provision of municipal potable water to Nestle Canada Inc. and St. Mary's Cement for domestic purposes for the staff at these facilities.
- All other existing large users, considered in this study, would connect to the municipal system. Existing average day water demands recorded for the period 2015-2016 from large users will be maintained to the 2041 planning period. Maximum day demands will increase based on the assumed max. day factor of 3.0, or to the current Permit to Take Water (PTTW) rate, whichever rate is lower.

Subject to the above noted considerations, the preliminary projected water demands for the Scoped Study Area are summarized in Table 16. Detailed calculations are provided in Appendix A for further reference.

Table 16: Preliminary Proposed System Water Demands

Service Type	Design Average Day Demand		Design Maximum Day Demand	
	m^3/d	L/s	m^3/d	L/s
Industrial / Commercial / Recreational (excluding large users) [1]	1,226	14.2	2,452	28.4
Industrial / Commercial / Recreational (large users excluding Nestle and St. Mary's) [2]	116	1.3	300	3.5
Allowance for Domestic Use at Nestle Canada Inc. and St. Mary's Cement [3]	51	0.6	152	1.8
Total Proposed System Demands =	**1,393**	**16.1**	**2,904**	**33.6**

1. The average day demand was found by combining the future employment population of various Industrial/ Commercial/ Recreational users while excluding the large users found in Table 15. A consideration was also made for the recommended design rate of 360 L/cap/d by the MECP.
2. Given that the average water takings reported for the large users in Table 12 is mostly for process water, an assumption has been made that only 15% allowance of their existing average daily taking by the PTTW rate, will contribute to domestic use.
3. An allowance for domestic uses at Nestle Canada Inc. and St. Mary's Cement has been included in the calculations. The allowance is approximately 1% of their existing PTTW rate.

Key considerations for sizing the different water system components include:

- Water supply may be from either a surface water or groundwater source. Given the lack of a significant surface water source within the Scoped Study Area and given the evidence of significant groundwater resources in the area, it is anticipated that a groundwater supply system would be proposed for any water servicing solution within the Township.
- The supply source for the new system should be able to meet the projected maximum design day demands. Multiple groundwater supply wells may be required to satisfy the projected maximum day demands.
- Treatment processes should be able to meet the projected maximum design day demands, with Peak Hour Demands, with Emergency and/or Fire demands provided from storage.
- Provision of Fire Protection through the Municipal water distribution system is a Municipal decision. Should the Township decide to provide fire protection via the municipal water system, the minimum fire flows should be established with consideration given to the latest Fire Underwriter's Survey document "Water Supply for Public Fire Protection" and/or the MECP's fire flows guidelines, whichever is judged more appropriate.
- The distribution system should be designed to maintain system pressures between 40 psi and 100 psi for a full range of demand scenarios. If the Township decides to provide Fire protection through the municipal system, the system should be sized to convey Maximum Day Demands plus Fire Flows while maintaining a minimum pressure of 20 psi throughout the system. The system should also be designed to minimize dead-end mains and excessive residence times which may lead to water quality issues. Watermain sizing would have a direct impact on the cost of the system, operation and maintenance requirements in addition to water quality considerations.

4.2 Sewage Design Basis

Sewage treatment facilities are typically designed for average day flows, while sewage conveyance systems are designed and rated to deliver peak sewage flows to the treatment facilities. Similar to the rationale used to develop the water design basis, a 25-year planning period which corresponds to the year 2041, has been assumed to calculate sewage generation in the Scoped Study Area.

The basis for calculating the design average and peak sewage flows for the Scoped Study Area are summarized in Table 17.

Table 17: Sewage Design Basis

Criteria	Value	Units	Comments
Unit per Capita Sewage Generation Rate	360	L/cap/day	Consistent with unit water consumption rate.
Peak Infiltration / Inflow Rate for Industrial / Commercial Areas	10,110	L/ha/day	Assumed based on the low end of MECP Guidelines as new system should have low I&I contribution.
Population densities for Industrial / Commercial	83	person/ha	Assuming 30 m3/ha/d (low end of MOECC Guideline) and 360 L/cap/d, this would equate to approx. 83 ppha.
Peak Factor	varies	-	Calculated for each drainage area based on Harmon Formula

4.2.1 Preliminary Projected Sewage Flows

Preliminary projected sewage flows for the Scoped Study Area for all industrial and commercial users are summarized in Table 18.

Table 18: Projected Industrial and Commercial Sewage Flows

Industrial / Commercial Areas	Drainage Area		Equivalent ICI Population	2041 Future Avg. Day Flows[1] (for treatment)	2041 Future Peak Day Flows[2,3] (for sewer capacity)
	Total	Contributing			
	Ha	Ha	People	L/s	L/s
Within Aberfoyle	2,435[4]	67.8	5,630	23.5	82.9

1. Includes all employment categories, including industrial
2. Future average day flows for large users assume a unit generation rate of 360 L/cap/cay.
3. Future peak day flows assume an I&I rate of 10,110 L/ha/d and peak factor calculated based on Harmon Formula.
4. Includes existing gravel extraction areas that are excluded from current infiltration allowance calculations

Sewage design flows for the Scoped Study Area are summarized in Table 19. The design flows noted in Table 19 do not account for process sewage generated by the large industries. Detailed calculations are provided in Appendix A for further reference.

Table 19: Proposed Sewage Design Flows

Servicing Category	Design Average Day Flow (for Treatment)		Design Peak Day Flow (for Sewer Capacity)	
	m^3/d	L/s	m^3/d	L/s
Industrial / Commercial / Recreational	2,027	23.5	6,479.4	82.9

4.3 Summary of Preliminary Projected Water Demands and Sewage Flows

The preliminary projected water demands and sewage flows for municipal servicing in the Scoped Study Area are summarized in Table 20.

Table 20: Summary of Preliminary Projected Water Demands and Sewage Flows

	Proposed Average Day Demands		Proposed Max. Day Demands	
	m^3/d	L/s	m^3/d	L/s
Preliminary System Water Demands	1,393	16.1	2,905	33.6
Preliminary System Sewage Flows	2,027	23.5	6,479	82.9

The preliminary water and wastewater demands are based on the projected employment population and exclude allowances for process water currently consumed by the large users. It is assumed that the large users will continue to source their individual process water demands from their current sources.

The preliminary projected sewage flow rates are significantly higher than the projected water demands for the scoped study area, as a result of the allowances for extraneous flows as recommended in the MECP guidelines. A review of the contributing area for the extraneous flow allowance should be completed during any further study for implementation of a communal sewage collection and treatment system.

The results of the analysis of water demands and sewage flows for the Scoped Study Area are preliminary in nature and a summary of the information obtained to-date, as part of the Addendum to the Feasibility Study.

5. High-level Water Servicing Options – Development and Assessment

As part of the Feasibility Study, potential servicing options for water servicing were developed based on the general criteria established in Section 4. The Servicing Options were developed assuming that municipal water services were provided to all industrial and commercial properties within the Potential Servicing Area. Each option was then assessed on a high-level, in terms of key advantages, disadvantages and estimated probable costs.

This section provides a description of the high-level water servicing options considered in this study. Two alternative options have been reviewed to determine the potential cost implications of each. The options selected consist of Option 1 – Intra-Municipal Water Servicing, and Option 2 – Inter-Municipal Water Servicing. Major infrastructure / process requirements, general schematics and preliminary capital, operating and life cycle costs for each option are also presented.

5.1 General Description

5.1.1 Option 1 – Intra-Municipal Water Servicing

The Intra-Municipal Water Servicing alternative consists on providing the required water supply and treatment capacity through a new water supply system owned and operated by the

Township. For the purposes of this Feasibility Study, it has been assumed that the new water supply system will be developed within the future well supply field areas identified in the City of Guelph Water and Wastewater Master Plan. However, should the Township decide to proceed with further consideration for a municipal drinking water system, alternative supply locations should be considered.

As part of Option 1, it is assumed that all existing individual on-site wells supplying industrial and commercial businesses within the Scoped Study Area, are expected to be decommissioned. Further consideration can be given to maintaining existing small private communal water systems during the Class EA stage; however, for the purpose of establishing high-level servicing options, it has been assumed that existing systems would no longer be in service. All small users and large users within the Scoped Study Area, with the exception of Nestle Canada Inc. and St. Mary's Cement, will be supplied by the new Municipal Water System. Nestle Canada Inc. and St. Mary's Cement will be provided with municipal water services for domestic uses only.

A hydrogeological investigation, including well drilling, well and aquifer testing, water quality characterization and groundwater modelling would be necessary to confirm the location and the production capacity of the new groundwater supply well(s) and any potential effects on existing natural heritage features within the area.

A new treatment facility would be required to provide the necessary treatment. A complete water quality characterization would be needed to confirm treatment requirements; however, for the purpose of option development and estimation of probable cost, it has been assumed that the water is of good quality, necessitating only treatment for disinfection.

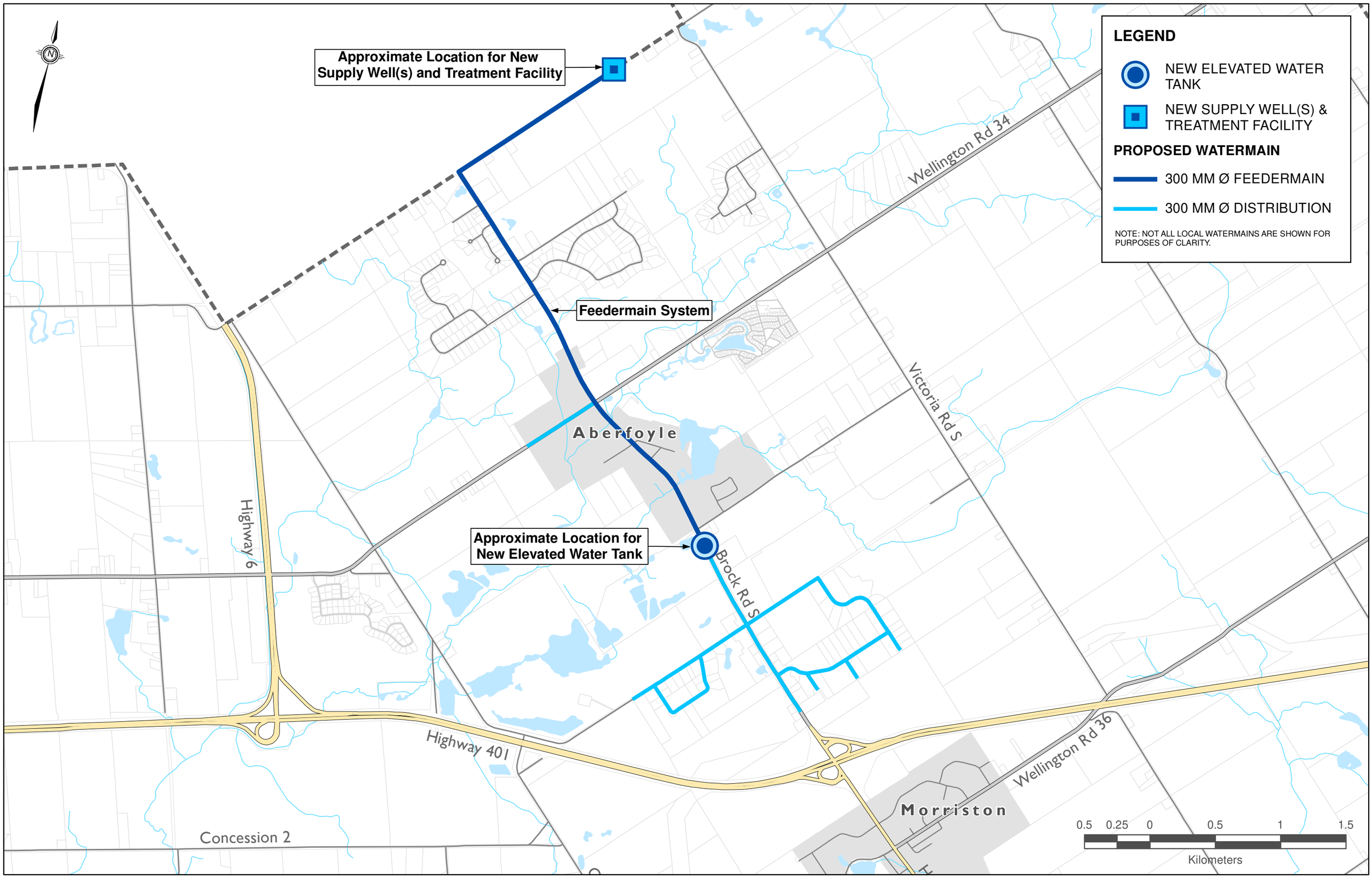
A new storage facility will be provided as part of Option 1 in order to meet the required water storage requirements for equalization, emergency and fire flows. The storage facility may take the form of an in-ground reservoir, an elevated tank, or a combination of the two. For the purposes of this Study, we have assumed that the necessary storage will be provided by a new elevated tank in the Aberfoyle urban center, as this approach provides more operational flexibility, and would permit the Township to size their treatment system and pumping capacity based on Maximum Day Demands instead of Peak Hour Demands or Fire Flow conditions.

A description of the main infrastructure and process requirements for Option 1 – Intra-Municipal Water Servicing is provided in Table 21. A general schematic of the major components of Option 1 is shown in Figure 4.

Land acquisition would be anticipated for construction of the new treatment facility and the new elevated tank. All other linear infrastructure associated with Option 1 is expected to be constructed within existing road right-of-ways, with the exception of the Highway 401 crossing.

Table 21: Water Servicing Option 1 – Infrastructure / Process Requirements

Area	Option Requirements
Supply	• A new groundwater supply source will be developed to provide a maximum day demand of 33.6 L/s (2.90 MLD).
Treatment	• A new water treatment facility will be built to provide the required treatment requirements. It is assumed that the water is of good water quality and treatment will consist of only disinfection through chlorination. • The new treatment system would be designed to provide a minimum treatment capacity of 2.90 MLD.
Pumping	• The new supply well(s) will be equipped with well pumps with enough capacity to overcome system pressure and pump to the new elevated tower.
Storage	• A new elevated water tank will be built to provide for required storage requirements. The new tank will have a minimum capacity of 2,500 m3.
Distribution	• Approximately 4.9 km of 300 mm diameter watermain connecting the new supply wells/treatment facility to the new elevated water tank. • Approximately 5.8 km of local distribution system consisting of 300 mm diameter watermains.


Approximate Location for New Supply Well(s) and Treatment Facility
Feedermain System
Approximate Location for New Elevated Water Tank
LEGEND
NEW ELEVATED WATER TANK
NEW SUPPLY WELL(S) & TREATMENT FACILITY
PROPOSED WATERMAIN
300 MM Ø FEEDERMAIN
300 MM Ø DISTRIBUTION
NOTE: NOT ALL LOCAL WATERMAINS ARE SHOWN FOR PURPOSES OF CLARITY.
Wellington Rd 34
Victoria Rd S
Brock Rd S
Wellington Rd 36
Aberfoyle
Morriston
Highway 6
Highway 401
Concession 2
0.5 0.25 0 0.5 1 1.5
Kilometers

5.1.2 Option 2 – Inter-Municipal Water Servicing

The Inter-Municipal Water Servicing alternative consists of securing the required water supply and treatment capacity through the existing water supply system in the City of Guelph. Preliminary discussions with staff from the City of Guelph have indicated that the City would be open to negotiations for establishing an Inter-Municipal Servicing arrangement. Through further consultation with the City, the City indicated that they do not have excess water supply capacity to support external servicing requests. The Township acknowledged that the City may not have available capacity to allocate to the Township of Puslinch, and further recognized that if capacity was available, allocation of that capacity would not be without cost. Correspondence associated with preliminary consultation with the City of Guelph is included in Appendix B for further reference.

The Township Council would need to submit a formal request to the City of Guelph to initiate formal consideration of this Option. All water supply, treatment and distribution systems in the City of Guelph would remain under the City's ownership.

Similar to Option 1, all existing individual on-site wells supplying industrial and commercial businesses within the Scoped Study Area, are expected to be decommissioned. All small users and large users within the Scoped Study Area, with the exception of Nestle Canada Inc. and St. Mary's Cement, will be supplied by the new Intra-Municipal Water System. Nestle Canada Inc. and St. Mary's Cement will be provided municipal water services for domestic uses only.

A new elevated water tank in the Aberfoyle urban center will be provided as part of Option 2 in order to meet the required water storage requirements for equalization, emergency and fire flows. A new metering facility will be required at the boundary between the City of Guelph System and the Township system. The metering facility may be combined with a pressure control station/re-chlorination system (either boosting or reduction) and may be required to control system pressures from the City of Guelph distribution system to meet the Township system requirements.

A description of the main infrastructure and process requirements for Option 2 – Inter-Municipal Water Servicing is provided in Table 22. A general schematic of the major components of Option 2 is shown in Figure 5.

Land acquisition would be anticipated for construction of the new pressure control station and the new elevated water tank. All other linear infrastructure associated with Option 2 is expected to occur with the existing road right-of-ways.

Table 22: Water Servicing Option 2 – Infrastructure / Process Requirements

Area	Option Requirements
Supply	• A direct connection to the City of Guelph distribution system, Pressure Zone 3. City of Guelph Water System should be able to provide a maximum day demand of 33.6 L/s (2,904 m^3/d).
Treatment	• Not required within the Township.
Facilities	• A new metering facility with a potential pressure control station will be required to accommodate maximum day flows of 33.6 L/s (2,904 m^3/d) to the new elevated tower in the Township. A new pressure control station may be required to control system pressures in the Township.
Storage	• A new elevated water tank will be built to provide for required storage requirements. The new tank will have a capacity of 2,500 m^3
Distribution	• Approximately 2.3 km of 300 mm diameter watermain extension in Guelph to the Puslinch border, and a metering facility at the municipal boundary. • Approximately 3.2 km of 300 mm diameter watermain from the metering facility to the new to the new elevated water tank. • Approximately 5.7 km of local distribution system consisting of 300 mm diameter watermains.

Approximate Connection Point to Guelph Distribution System (Pressure Zone 3)

Approximate Location for Metering/Pressure Control Station

Feedermain System

Approximate Location for New Elevated Water Tank

LEGEND

- NEW ELEVATED WATER TANK
- NEW BOOSTER PUMPING STATION
- PROPOSED CONNECTION POINT TO GUELPH SYSTEM

PROPOSED WATERMAIN

- 400 MM Ø FEEDERMAIN
- 300 MM Ø DISTRIBUTION

NOTE: NOT ALL LOCAL WATERMAINS ARE SHOWN FOR PURPOSES OF CLARITY.

Aberfoyle

Morriston

Wellington Rd 34

Victoria Rd S

Brock Rd S

Highway 6

Highway 401

0.5 0.25 0 0.5 1 1.5

Kilometers

5.2 Estimates of Probable Cost – Water Servicing Options

Estimates of probable capital, operating and maintenance costs and life cycle costs have been developed. Capital costs include development of new supply, treatment and storage facilities, major process and treatment equipment such as pumps, piping and valves, instrumentation, treatment equipment, standby power supply and watermain installation. Operating and maintenance costs accounted for include power, chemical usage, regulatory requirements and other replacement and labour costs. Life cycle costs have been calculated based on a 20-year life expectancy.

The following general assumptions were made when developing the costs for the servicing options:

- Cost estimates are based on 2019 construction costs. Inflation and escalation to account for actual expected prices at the time of construction cannot be accounted for at this time.
- Estimates of probable capital costs have been developed on a conceptual level and based on prices and data in CIMA's possession, as well as previous experience from projects of similar nature and scope. The accuracy of conceptual estimates developed at this point, are assumed to be around +/- 30%.
- There is capital expenditure associated with the replacement of major pumping and treatment equipment every 30 years for water facilities.
- All taxes (including the 13% HST) have been excluded.
- The cost to decommission existing private groundwater wells and small communal water systems within the Scoped Study Area has not been accounted for in Water Servicing Options 1 and 2. Should this project proceed to the next phases (i.e., completion of a Class Environmental Assessment Study), an inventory of existing groundwater wells within the Scoped Study Area should be completed and the cost for decommissioning existing wells and private communal water systems should be added to CIMA's preliminary estimates.
- Capital costs associated with any required upgrades needed in the City of Guelph Water System to accommodate the inter-municipal connection and servicing, or any Capital Contributions to secure Supply capacity from Guelph are unknown at this point and have not been accounted for in the estimate for Option 2. The required capital costs would need to be identified through further negotiations between the Township and the City, as well as the mechanisms to pay for these upgrades. Similarly, a portion of the operation and maintenance (O&M) costs for Option 2 should be covered under a Bulk Water Rate that the Township would pay to the City, also to be established through further negotiations between the two parties.

Completion of Class Environmental Assessment (Class EA) studies as well as additional amendments to existing master plans, servicing studies, secondary plans, approved draft plans,

etc., have not been accounted for and should be included in the Capital Upgrade Costs, through consultation and negotiations between the Township and the City.

Life cycle costs have been estimated based on:

- A 20-year amortization period
- An inflation rate of 2% and an interest rate of 6% to give a market/discount rate of 4%

Estimates for probable capital, operating and life cycle costs for the water servicing options are summarized Table 23. Detailed costs calculations are included in Appendix C.

Table 23: Water Servicing Options – Probable Cost Estimates

Servicing Alternative	Capital Cost ($ millions)	Annual Operating & Maintenance Cost	NPV 20-Year Life Cycle Cost [1] ($ millions)
Option 1 – Intra-Municipal Water Servicing	$22.9	$504,000	$28.8
Option 2 – Inter-Municipal Water Servicing	$19.9	$95,400	$20.3

1. Net Present Value (NPV) represents the value of the project in today's dollars. Calculated NPV for Option 2 gets reduced over time as a result of the lower O&M costs which represent cash outflows. Higher cash outflows, as in Option 1, results in a higher NPV.

5.3 High-level Assessment

This section presents the results of the high-level assessment completed for the water servicing options considered in the Feasibility Study. Key advantages and disadvantages are summarized in Table 24.

Table 24: Water Servicing Options – High-Level Assessment Results

Servicing Option	Advantages	Disadvantages
Option 1 – Intra-Municipal Servicing	• Option provides the Township with complete control of the operation and maintenance of the water supply system. • Complete independent system from supply, to treatment and distribution. Township can provide desired level of robustness and flexibility to the system. • Provision of municipal water servicing (coupled with wastewater servicing) in the area will provide an invitation for developers to invest in the Township and promote growth in accordance with the County Official Plan – population and employment.	• Option results in highest capital, O&M and life cycle costs. • Option requires the largest amount of new infrastructure. • Establishment of new quality WHPAs around the new municipal wells and associated Source Protection Plans for quality significant drinking water threats (i.e. fuel, chemicals, septic systems, etc.). This could lead to some restrictions on existing industries including risk management plans or amended provincial approvals and even an expanded septic inspection program.
Option 2 – Inter-Municipal Servicing	• Option results in lower capital, O&M and life cycle costs when compared to Option 1. • Option provides the Township with some control of the operation and maintenance of the water supply system – through a servicing agreement between the Township and the City. • Option is able to optimize the use of some of the existing infrastructure (in City of Guelph) and reduces the need for new infrastructure. • Water supply is dependant on City of Guelph supply but provision of an elevated tower in the Township would provide adequate level of robustness and flexibility to the system. • City of Guelph has a proven track record of providing adequate level of water servicing to its residents, which create trust to potential future serviced areas in the Township. • Option supports affordable and sustainable development between two municipalities. • It may provide an opportunity for the two municipalities (City of Guelph and Township) to partner for funding opportunities and share existing resources.	• It most likely requires an amendment the City of Guelph Official Plan to allow the extension of the City's urban services for areas outside of the City's urban boundaries. This process may be long. • Amendments to existing Secondary Plans and approve Draft Plans may be required. • City of Guelph Water Servicing Master Plan would need to integrate servicing to the area in Township. • Upgrades to existing water servicing infrastructure in Guelph Pressure Zone 3 may be required, directly or indirectly, to accommodate the inter-municipal transfer. • An inter-municipal agreement will be required to establish an inter-municipal services scheme. • The cost of any Capital Contribution and/or Capital Upgrades to secure supply from the City of Guelph is unknown at this time and may represent a significant impact to the overall project cost.

Servicing Option	Advantages	Disadvantages
	• This coordinated approach to service delivery can result in efficiencies in infrastructure costs, water conservation, and allow for additional funds to be allocated to improved treatment and program delivery. • Provision of municipal water servicing (coupled with wastewater servicing) will provide an invitation for developers to invest in the areas and promote growth in accordance with the County Official Plan – population and employment.	
Common to Both Options	• Depending on individual user rates, there could be possible reductions in cumulative water takings by removing private PTTW as they attach to the municipal system. • Theoretically it would be easier to manage and monitor the single municipal system for water quality and quantity compared to many private takers, ultimately contributing to efficiency. • The burden to obtain the private updated PTTWs and comply with any changes in condition would be removed from the individual users and responsibility will be placed on the Township. • Competitive increase in the Township for economic development. • Municipal water and sewage servicing encourages developers to invest and promote growth in the Township	• The Township will hold responsibility for the increased PTTW conditions related to the water quantity requirements in compliance to the WHPA-Q. • Increased cost for the Township for enforcement of the new source protection requirements under the Clean Water Act.

6. High-level Sewage Servicing Options – Development and Assessment

6.1 General Description

Similar to the Water servicing options, potential servicing options for sewage servicing were developed based on the general criteria established in Section 4. The Servicing Options were developed assuming that municipal sewage services were provided to all industrial and commercial properties within the Scoped Study Area. Each option was then assessed on a high-level, in terms of key advantages, disadvantages and estimated probable costs.

This section provides a description of the high-level sewage servicing options considered in this study. Two alternative options have been reviewed to determine the potential cost implications of each. The options selected consist of Option 1 – Intra-Municipal Sewage Servicing, and Option 2 – Inter-Municipal Sewage Servicing. Major infrastructure / process requirements, general schematics and preliminary capital, operating and life cycle costs for each option are also presented.

6.1.1 Option 1 – Intra-Municipal Sewage Servicing

The Intra-Municipal Sewage Servicing alternative considers the development of a stand-alone system for wastewater collection, treatment and disposal. The system would be owned and operated by the Township.

On a preliminary basis, the system would consist of a conventional gravity collection system with a pumping station and forcemain system as required to accommodate ground elevation variations. A new treatment facility would be required, with discharge to a surface water course.

If the Township decides to proceed with further consideration of municipal sewage servicing, the Township will need to consider a full range of Alternative servicing schemes, including the “Do Nothing” Alternative and maintenance of the status quo. However, if the provision of municipal servicing is selected as the Preferred Alternative, then a full range of design alternatives will be considered including surface and sub-surface disposal. Other surface receivers should also be explored in the next stages, including but not limited to the Speed River. For the purpose of this Study, discharge to Mill Creek was selected given its proximity to the service area; however, discharge to this or any other surface receiver will be subject to the findings of an Assimilative Capacity Study.

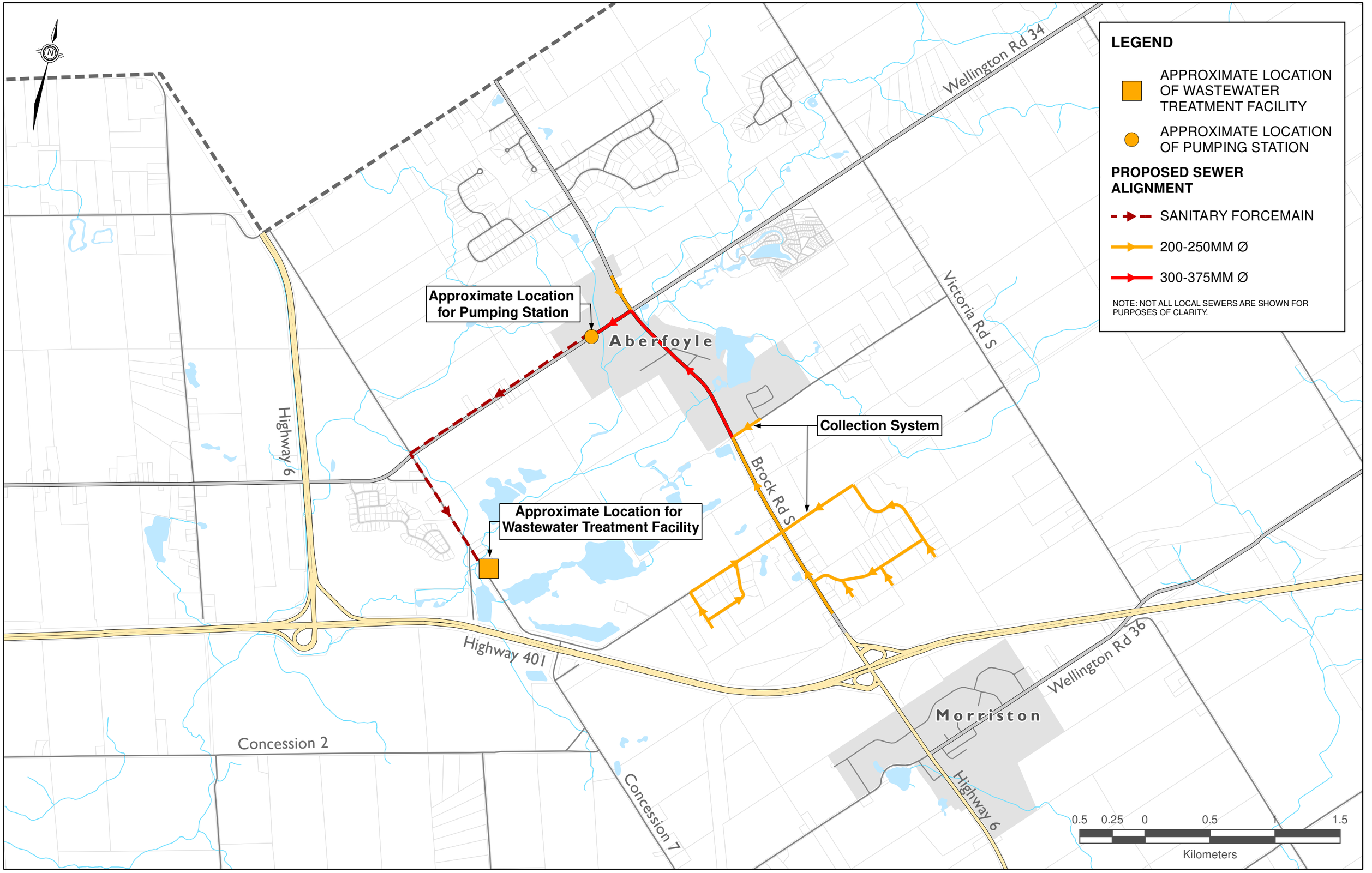
A communal sewage system would allow a stand-alone collection and treatment for the Scoped Study Area, that would be owned, operated and maintained by the Township. This option includes a conventional gravity sanitary collection system installed at standard depths of three (3) metres to five (5) below existing ground surface. However, in order to service the urban area of Aberfoyle, a pumping station and forcemain would be required to convey the wastewater to the site of the treatment facility.

As shown in Figure 6, a pumping station would be required for the collection and conveyance of Aberfolyle’s industrial and commercial sector and the surrounding area. The existing industrial/commercial lands north of Highway 401, and the areas east of Highway 6 could be serviced by gravity sewer to a waste water treatment facility generally located near Concession Road 7 and Mill Creek area.

A description of the main infrastructure is summarized for Option 1 – Intra-Municipal Sewage Servicing in Table 25 below. A general schematic of the major components of Option 1 is shown in Figure 6.

Table 25: Sewage Servicing Option 1 – Infrastructure / Process Requirements

Area	Option Requirements
Collection	• A new conventional gravity collection system would be required in the Aberfoyle urban center and surrounding areas in order to collect wastewater from the individual properties. The sewer system would range in size from 200 mm diameter up to 375 mm diameter.
Pumping	• One central pumping station would be required to convey the wastewater in Aberfolyle's industrial and commercial sector to the Treatment facility. The pumping station would be designed to convey the Peak Projected flow of 82.9 L/s. Local pumping station(s) may be required due to local topographic constraints. • Provision of stand-by power and overflow storage would need to be considered during detailed design.
Treatment	• A wastewater treatment facility would need to be constructed to provide the required treatment capacity. It is anticipated that construction of the facility would be staged to accommodate current populations plus anticipated growth over the design period, with provisions for expansion beyond the current planning horizon. A new treatment plant would need to be designed for a capacity of 6,479 m^3/day.
Effluent Discharge	• For the purpose of this study, it has been assumed that treated effluent may be discharged to Mill Creek. An Assimilative Capacity Study will be required to determine if Mill Creek can be used for this disposal of treated effluent, and to establish design parameters and effluent criteria and loading limits from this facility.


LEGEND
APPROXIMATE LOCATION OF WASTEWATER TREATMENT FACILITY
APPROXIMATE LOCATION OF PUMPING STATION
PROPOSED SEWER ALIGNMENT
SANITARY FORCEMAIN
200-250MM Ø
300-375MM Ø
NOTE: NOT ALL LOCAL SEWERS ARE SHOWN FOR PURPOSES OF CLARITY.
Approximate Location for Pumping Station
Approximate Location for Wastewater Treatment Facility
Collection System
Aberfoyle
Morriston
Wellington Rd 34
Victoria Rd S
Brock Rd S
Wellington Rd 36
Highway 6
Highway 401
Concession 2
Concession 7
0.5 0.25 0 0.5 1 1.5
Kilometers

6.1.2 Option 2 – Inter-Municipal Sewage Servicing

The Inter-Municipal Sewage Servicing alternative consists of collection and conveyance of wastewater through a sanitary sewer network, a pumping station and forcemain, with an outlet to the Guelph collection system for ultimate treatment and disposal.

Option 2 will rely on the Guelph system for treatment, and therefore will require an inter-municipal servicing agreement. Preliminary discussions with staff from the City of Guelph have indicated that the City would be open to discussions necessary to establish an inter-municipal servicing agreement; however, no terms and/or conditions have been identified. Through further consultation with the City, the City indicated that they do not have excess sewage treatment capacity to support external servicing requests. The Township acknowledged that the City may not have available treatment capacity to allocate to the Township of Puslinch, and further recognized that if capacity was available, allocation of that capacity would not be without cost. Correspondence associated with preliminary consultation with the City of Guelph is included in Appendix B for further reference.

The Township Council would need to submit a formal request to the City of Guelph to initiate formal consideration of this Option.

The preliminary sewer alignment and location of the pumping station is similar to Option 1, in order to convey the wastewater flows to the Guelph system. In addition, a flow monitoring facility would be required at the discharge location to measure flows for billing purposes.

As with Option 1, this system includes sanitary sewer installed at standard depths of three (3) to five (5) metres below existing surface. Figure 7 provides an approximate location for a pumping station to service the industrial/commercial area surrounding Aberfoyle. The pumping station will have an associated forcemain system which will discharge to the gravity system prior to being pumped into Guelph.

A description of the main infrastructure is summarized for Option 2 – Inter-Municipal Sewage Servicing in Table 26 below. A general schematic of the major components of Option 2 is shown in Figure 7.

Table 26: Sewage Servicing Option 2 – Infrastructure / Process Requirements

Area	Option Requirements
Collection	• A new gravity sewer system would be required in the Aberfoyle urban center and surrounding areas in order to collect the wastewater. The sewer system would range in size from 200 mm diameter up to 375 mm diameter.
Pumping	• One pumping station would be required to convey the wastewater in Aberfolyle's industrial and commercial sector. The pumping station would be designed to convey the Peak Design Flow (82.9 L/s) to the Guelph System. Local pumping station(s) may be required due to topographic constraints.

As part of Option 2, all existing individual on-site septic tanks, and communal wastewater systems within the Scoped Study Area are expected to be decommissioned, and costs for decommissioning will be responsibility of the business property owners or through another mechanism, to be determined by the Township.

Approximate Connection Point to Guelph Collection System

Flows Directed to Guelph WWTF

Approximate Location for Pumping Station

Collection System

Aberfoyle

Morriston

Wellington Rd 34

Victoria Rd S

Brock Rd S

Wellington Rd 36

Highway 6

Highway 401

Concession 2

Concession 7

LEGEND

APPROXIMATE LOCATION OF PUMPING STATION

PROPOSED CONNECTION POINT TO GUELPH SYSTEM

PROPOSED SEWER ALIGNMENT

SANITARY FORCEMAIN

200-250MM Ø

300-375MM Ø

NOTE: NOT ALL LOCAL SEWERS ARE SHOWN FOR PURPOSES OF CLARITY.

0.5 0.25 0 0.5 1 1.5

Kilometers

6.2 Estimates of Probable Cost – Sewage Servicing Options

Estimates of probable capital, operating and maintenance costs and life cycle costs have been developed. Capital costs include an allowance for property acquisition and the pumping station; and for Option 1, a treatment facility. Major process and treatment equipment such as pumps, piping and valves, instrumentation, treatment equipment, standby power supply are assumed to be included. Operating and maintenance costs accounted for include power, chemical usage, regulatory requirements and other replacement and labour costs. Life cycle costs have been calculated based on a 20-year life expectancy.

The following general assumptions were made when developing the costs for the servicing options:

- Cost estimates are based on 2019 construction costs. Inflation and escalation to account for actual expected prices at the time of construction cannot be accounted for at this time.
- Estimates of probable capital costs have been developed on a conceptual level and based on prices and data in CIMA's possession, as well as previous experience from projects of similar nature and scope. The accuracy of conceptual estimates developed at this point, are assumed to be +/- 30%.
- There is capital expenditure associated with the replacement of major pumping and treatment equipment every 30 years for wastewater facilities.
- The cost to decommission existing private septic systems within the Scoped Study Area has not been accounted for in Sewage Servicing Options 1 and 2.
- Capital costs associated with any required upgrades needed in the City of Guelph collection and treatment system to accommodate the inter-municipal Option, are unknown at this point and have not been accounted for. The required capital costs would need to be identified through further negotiations between the Township and the City, as well as the mechanisms to pay for these upgrades. Similarly, a portion of the City of Guelph's operation and maintenance (O&M) costs would need to be reviewed and negotiated for Option 2.
- Completion of a Class Environmental Assessment (Class EA) study as well as additional amendments to existing master plans, servicing studies, secondary plans, approved draft plans, etc., have not been accounted for and should be included in the Capital Upgrade Costs, through consultation and negotiation between the Township and the City.

Life cycle costs have been estimated based on:

- A 20-year amortization period
- An inflation rate of 2% and an interest rate of 6% to give a market/discount rate of 4%

Estimates for probable capital, operating and life cycle costs for the sewage servicing options are summarized Table 27.

Table 27: Sewage Servicing Options – Probable Cost Estimates

Servicing Alternative	Capital Cost ($ millions)	Annual Operating & Maintenance Cost	NPV1. - 20-Year Life Cycle Cost ($ millions)
Option 1 – Intra-Municipal Sewage Servicing	$ 29.0	$ 714,000	$ 38.9
Option 2 – Inter-Municipal Sewage Servicing	$ 11.7	$ 164,000	$ 13.9

1. Net Present Value (NPV) represents the value of the project in today's dollars. Higher cash outflows, as in Option 1, results in a higher NPV.

6.3 High-level Assessment

This section presents the results of the high-level assessment completed for the sewage servicing options considered in the Feasibility. Key advantages and disadvantages are summarized in Table 28.

Table 28: Sewage Servicing Options – High-Level Assessment Results

Servicing Option	Advantages	Disadvantages
Option 1 – Intra-Municipal Servicing	• Provides the Township with complete control of the operation and maintenance of the wastewater collection and treatment system. • Complete independent system from collection, treatment and discharge/disposal. Township can provide desired level of robustness and flexibility to the system. • Provision of municipal sewage servicing (coupled with water servicing) in the area will provide an invitation for developers to invest in the Township and promote growth in accordance with the County Official Plan – population and employment.	• Results in highest capital, O&M and life cycle costs. • Option requires the largest amount of new infrastructure. • Assimilative capacity of Mill Creek may limit capacity of treatment plant. • An alternative effluent discharge location or method of disposal may be required.
Option 2 – Inter-Municipal Servicing	• Option results in lowest capital, O&M and life cycle costs. • Option provides the Township with control of the collection system and operation and maintenance, which is a lower complexity operations requirement. • Operations costs for wastewater treatment will be fixed by Agreement	• It will most likely require an amendment the City of Guelph Official Plan to allow the extension of the City's services for areas outside of the City's urban boundaries. • City of Guelph Wastewater Servicing Master Plan would

Servicing Option	Advantages	Disadvantages
	with the City of Guelph and funded through rates established in the Agreement. • May be able to optimize the existing infrastructure (in City of Guelph) and reduce the need for new infrastructure. • It may provide an opportunity for the two municipalities (City of Guelph and Township) to partner for funding opportunities and share existing resources. • The coordinated approach to service delivery can result in efficiencies in infrastructure costs, water conservation, and allow for additional funds to be allocated to improved treatment and program delivery. • Provision of municipal sewage servicing (coupled with water servicing) will provide an invitation for developers to invest in the areas and promote growth in accordance with the County Official Plan – population and employment.	need to integrate servicing to the area in Township. • Upgrades to existing wastewater infrastructure in Guelph may be required, directly or indirectly, to accommodate the inter-municipal servicing. • An inter-municipal agreement will be required to establish an inter-municipal services scheme. • The cost of any Capital Contribution and/or Capital Upgrades to secure treatment and disposal from the City of Guelph is unknown at this time and may represent a significant impact to the overall project cost.

7. Overview of Cost Recovery and Funding Opportunities

As part of this Study, potential servicing options for provision of municipal water and sewage services in the Scoped Study Area have been explored, as described in Sections 5 and 6 of this report. However, affordability and issues such as how proposed servicing would be financed, and the potential cost burden on existing businesses and potential future development will need to be established.

A review of different approaches or tools, available to municipalities in Ontario to fund water and sewer servicing has been undertaken to identify ‘order of magnitude’ cost implications. This section provides a summary of the cost recovery tools that are available to fund the capital works considered under this Feasibility Study.

The estimates of probable costs identified in Sections 5.2 and 6.2 of this report are Preliminary and subject to refinement, should the Project proceed through to a Class EA Study and implementation. A detailed Financial Plan/Cost Recovery plan would be required as part of the Municipal Class EA Study.

7.1 Capital Connection Charges

Costs related to construction may be recovered through Capital Connection Charges, which can be levied under the Municipal Act, for existing businesses benefiting from municipal servicing. Capital Connection Charges are one-time fees imposed on new customers connecting to the municipal system(s) as a condition of service, in addition to any actual cost incurred to physically connect to the system(s). Benefiting owners may be allowed to spread payments over a period of time, typically between 10 to 30 years, depending on the magnitude of the Project and the municipality's debt financing capacity.

Capital Connection Charges may be levied in different ways. Costs may be allocated based on property frontage, property area, or by the number of benefiting units. In addition, different rates may be applied based on land use (i.e. industrial/commercial). These types of charges can be levied against all lands – developed and undeveloped. If Connection Charges are only imposed on developed lands, area-specific Development Charges should be enacted to recover monies from future benefitting lands.

Development Charges would be used to recover of the growth-related portion of the costs. A background study would need to be undertaken in accordance with the Municipal Act, in addition to completion of a public meeting process and passage of the appropriate by-law. Upon Council's direction, a separate background study and by-law will need to be prepared.

The Township does not currently use Capital Connection Charges to fund municipal servicing infrastructure, as existing services in the Scoped Study Area are provided through private and/or communal systems developed as part of the subdivision approval process. However, Capital Connection Charges is a tool commonly used by municipalities in Ontario to recover capital construction costs associated with the establishment or extension of municipal infrastructure to existing developed properties.

7.2 Development Charges

Development charges are fees levied against new development to help cover the initial capital cost of infrastructure required to service growth. Under the Development Charges Act, Municipalities in Ontario are able to recover certain costs associated with non-residential growth.

Municipalities undertake a range of studies to identify servicing needs to accommodate growing populations within the municipalities' boundaries, and use this information to develop their Background Study, Development Charge Bylaw and Development Charge rates.

The Township's current Development Charge By-law (054/14) does not recover any costs associated with provision of municipal water and Wastewater servicing within the Township or within the Scoped Study Area subject to this Feasibility Study. Should the Township proceed with the provision of water and sewage servicing, the Township will need to update their

Development Charge Background Study and consider adopting area-specific development charges for new development within the Scoped Study Area.

7.3 Water and Sewage User Rates

Water and sewer user rates fund the actual operating and routine maintenance costs for the water and wastewater systems, as well as provide funding for future maintenance and ultimate replacement of the infrastructure. Uniform utility rates per Class of users are levied against all users of the system.

In order to define the Water and Sewage Rates, the Township will need to undertake a Rate Study to identify annual operating and maintenance costs as well as the required contributions to the Township's Water and Wastewater reserves.

7.4 Federal and Provincial Grants

Grant funding from senior levels of government are available to assist municipalities in funding capital projects. The Government of Canada will invest more than $180 billion over 12 years in public transit projects, green infrastructure, social infrastructure, trade and transportation routes, and Canada's rural and northern communities. The Ontario Government is committed to making the largest infrastructure investment in the Province's history – about $190 billion over 13 years which started in 2014-2015.

Grant funding programs available to local governments for infrastructure projects have their own unique requirements, cost-sharing arrangements, eligibility requirements, and application procedures and deadlines.

Funding Opportunities on a Federal Level include:

- Municipalities for Climate Innovation Program (MCIP): eligible for projects addressing Climate Change Mitigation or Adaption. Applications for the 5-year (2017-2022) funding program will be accepted on a continuous basis.

Funding Opportunities on a Federal / Provincial Bi-Lateral Level include:

- Clean Water and Wastewater Fund (CWWF): Funding is available up to 75% of eligible costs per eligible project (50% federal; 25% provincial). The program targets projects that will contribute to the rehabilitation of both water treatment and distribution infrastructure and existing wastewater and storm water treatment systems; collection and conveyance infrastructure; and initiatives that improve asset management, system optimization, and planning for future upgrades to water and wastewater systems. Phase 1 Round is now closed (Projects to be completed by March 2019). Phase 2 Round is scheduled to be announced in spring 2019.

Funding Opportunities on a Provincial Level include:

- Ontario Community Infrastructure Fund (OCIF) which provides steady, long-term funding for small, rural and northern communities to develop and renew their infrastructure. The total fund is increasing to $300 million per year by 2018-19. This funding includes a Formula-based and a Top-up Application Component. By 2019, the formula-based component will increase to a total allocation of $200 million annually. Communities will not need to apply for the funding but will need to provide planning and reporting documents to the government to receive the grants. Eligible communities with critical infrastructure projects may submit proposals to the new top-up component to bring their total OCIF funding up to $2 million over 2 years.

A clear and up-to-date understanding of grant funding available to local governments for infrastructure projects and the unique requirements and application process for each program is needed in order to take full advantage of the needed infrastructure dollars available from federal and provincial funds.

7.5 Preliminary Cost Recovery Estimates

To provide a rough order of magnitude for cost recovery estimates, it has been assumed that capital costs will be evenly distributed amongst the total number of benefiting units within the Scoped Study Area, including commercial, industrial and institutional, on an equivalent basis. A total of 128 commercial / industrial lots, or equivalent benefiting units, have been accounted for within the project Scoped Study Area. This preliminary assumption does not distinguish between the usage of the system amongst different users, nor does this assessment consider differences in property size or frontage. A financing annual rate of 4.0% has also been used in the preliminary calculations.

Two cost recovery scenarios have been assumed to provide a preliminary cost estimate, which include:

7.5.1 Scenario A – No Funding

This scenario assumes that all capital costs associated with the servicing options will be recovered entirely by all 128 benefiting units within the Scoped Study Area. A servicing cost per unit is calculated by dividing the capital cost of the option by the total number of units (128). Options are available for benefiting property owners to pay this amount upfront, or to finance the servicing costs over a period of time in an effort to reduce the annual costs. For preliminary calculation purposes, annual payments have been spread over 10, 15 and a 20-year time period.

Preliminary cost recovery estimates under Scenario A – No Funding, for the water and sewage servicing options, outlined in Sections 5.1 and 6.1, are summarized in Tables 29 and 30. Detailed calculations for cost recovery estimates are included in Appendix D.

Table 29: Cost Recovery Estimates for Water Servicing: Scenario A – No Funding

	Option 1 – Intra-Municipal Water Servicing	Option 2 – Inter-Municipal Water Servicing
Capital Cost ($ Millions)	$ 22.9 M	$ 19.9 M
Total Benefiting Units	128	128
Servicing Cost Per Unit (128 connections)	$ 179,184	$ 156,068
Annual Interest Rate	4.0%	4.0%
Estimated Annual Cost Per Unit:		
10-Year Period	$ 21,770	$ 18,961
15-Year Period	$ 15,905	$ 13,853
20-Year Period	$ 13,030	$ 11,349

Table 30: Cost Recovery Estimates for Sewage Servicing: Scenario A – No Funding

	Option 1 – Intra-Municipal Sewage Servicing	Option 2 – Inter-Municipal Sewage Servicing
Capital Cost ($ Millions)	$ 29.0 M	$ 11.7 M
Total Benefiting Units	128	128
Servicing Cost Per Unit (128 connections)	$ 226,848	$ 91,274
Annual Interest Rate	4.0%	4.0%
Estimated Annual Cost Per Unit:		
10-Year Period	$ 27,561	$ 11,089
15-Year Period	$ 20,136	$ 8,102
20-Year Period	$ 16,496	$ 6,637

7.5.2 Scenario B – Funding

This scenario assumes that 2/3 of the capital costs associated with the servicing options will be funded through government funds, while the remaining 1/3 of the capital costs will be recovered through all 128 benefiting units within the Scoped Study Area. A servicing cost per unit is calculated by dividing the remaining 1/3 capital cost of the option by the total number of units (128). Annual payments have been spread over 10, 15 and a 20-year time period.

Preliminary cost recovery estimates under Scenario B – 2/3 Funding, for the water and sewage servicing options, outlined in Sections 5.1 and 6.1, are summarized in Tables 31 and 32. Detailed calculations for cost recovery estimates are included in Appendix D.

Table 31: Cost Recovery Estimates for Water Servicing: Scenario B – 2/3 Funding

	Option 1 – Intra-Municipal Water Servicing	Option 2 – Inter-Municipal Water Servicing
Capital Cost ($ Millions)	$ 22.9 M	$ 19.9 M
Subsidized Cost ($ Millions)	$ 7,645,167	$ 19,976,700
Total Benefiting Units	128	128
Servicing Cost Per Unit (128 connections)	$ 59,728	$ 52,023
Annual Interest Rate	4.0%	4.0%
Estimated Annual Cost Per Unit:		
10-Year Period	$ 7,257	$ 6,320
15-Year Period	$ 5,302	$ 4,618
20-Year Period	$ 4,343	$ 3,783

Table 32: Cost Recovery Estimates for Sewage Servicing: Scenario B – 2/3 Funding

	Option 1 – Intra-Municipal Sewage Servicing	Option 2 – Inter-Municipal Sewage Servicing
Capital Cost ($ Millions)	$ 29.0 M	$ 11.7 M
Subsidized Cost ($ Millions)	$ 9,678,860	$ 3,894,360
Total Benefiting Units	128	128
Servicing Cost Per Unit (128 connections)	$ 75,616	$ 30,425
Annual Interest Rate	4.0%	4.0%
Estimated Annual Cost Per Unit:		
10-Year Period	$ 9,187	$ 3,696
15-Year Period	$ 6,712	$ 2,701
20-Year Period	$ 5,499	$ 2,212

7.5.3 System Connection Costs

In addition to the above noted costs, industrial and commercial businesses would be required to construct private water services and sanitary building drains to connect to the municipal services on the road right-of-way.

Extension of water and wastewater services on private property is controlled under the Building Code Act. Each property connecting to the municipal system would need to obtain a plumbing permit prior to undertaking the work. This cost of extending provides water and sanitary services will vary based upon a number of factors, including:

- Proximity of the connection from the building to the connection to the street
- Restoration requirements (i.e. turf areas, driveways, walkway, landscaping, etc.)

- Competitive pricing including the reputation, experience and quality of work of the contractor
- Any other improvements, such as the removal of existing groundwater wells, septic systems, which may be made at the same time the work is being done.
- Neighbours collectively retaining the same contractor to undertake the works at the same time.

For a typical industrial/commercial property, completion of the private water service and sanitary service will typically cost in the order of $10,000 - $15,000 per property; however, the actual costs will be subject to the building locations to be serviced on their respective properties.

As noted earlier in this report, the Feasibility Study has assumed that all existing private groundwater wells within the Scoped Study Area will be decommissioned and disconnected from the individual plumbing system to prevent cross connections with the municipal system. Well decommissioning is regulated under the Ontario Water Resources Act and must be completed in accordance with O. Reg. 903.

Consistent with the Act, private property owners that are required to decommission their well should use a licensed well contractor. The County of Wellington through its Rural Water Quality Program provides financial assistance to qualified landowners that apply best management practices that improve and protect ground and surface water quality; which include well decommissioning. The program is administered by the Grand River Conservation Authority. A formal application would need to be completed and is to be evaluated by a committee on the basis of the potential to improve and protect water quality. Grant rates for well decommissioning cover 100 per cent of the cost, up to a maximum of $2,500. More information is available at https://www.grandriver.ca/en/our-watershed/Wellington.aspx.

7.5.4 Typical Usage Charges

Estimated preliminary user charges have been developed for a typical user consuming 10 m^3 of drinking water and generating 10 m^3 of wastewater daily (or 300 m^3 monthly), on a monthly cost basis, as seen in Table 33. However, the preliminary user charge identified below does not include life cycle costs, nor does the estimated user costs for the Inter-Municipal Servicing Options include bulk water supply and wastewater treatment charges that may be imposed by the City of Guelph. Final user charges would be established following completion of a Rate Study to be undertaken following completion of construction.

Table 33 Estimated Preliminary User Charges

	Water Servicing		Wastewater Servicing	
	Option 1	Option 2[1.]	Option 1	Option 2[1.]
Monthly Cost	$297	$56	$289	$66

1. **User Rates identified for Option 2 – Inter-Municipal Servicing do not include Bulk Water Rates or Wastewater Rates which would be imposed by the City of Guelph. The Bulk Water Rate and Wastewater disposal rate to be negotiated between the Township and the City as part of the Servicing Agreement(s).**

8. Public Communication and Consultation

Public communication and consultation initiatives will be implemented in the Feasibility Study with the objective of gathering preliminary input from the users within the Scoped Study Area on the general intent of the study as well as the preliminary results of the key activities completed as part of the study.

8.1 Public Information Centre

A Public Information Centre (PIC) was held on June 24, 2019 at the Puslinch Community Centre, in Puslinch, from 6:30 p.m. to approximately 8:30 p.m. Information packages were available for al attendees, along with a questionnaire. Following the PIC, a copy of the questionnaire was distributed to all businesses and industrial property Owners within the Study area. A summary of the responses from the questionnaire is included in Appendix E.

At the PIC, a formal presentation was provided, which covered the following topics:

- Need for the Feasibility Study
- Limits of the Scoped Study Area
- Purpose of PIC
- Preliminary growth projections
- High-level water and sewage servicing options considered in the study
- Results of a preliminary assessment of high-level water and sewage servicing options
- Next steps in the study.

9. Summary and Recommendations

Population and employment growth within the Scoped Study Area have been established consistently with the projections set out in the County's Official Plan. The majority of growth will be directed to urban centres that offer municipal water and sewer servicing and, to a limited extent, to the surrounding areas that offers partial, private communal or individual on-site services. Growth will also be directed, to a lesser extent, to secondary agricultural areas, provided that the planning policies for these areas are met.

An analysis of the water demands was undertaken with a reasonable amount of background data for existing water demands within the Scoped Study Area. Reasonable water demand rates for existing users were then developed and used to estimate preliminary water use projections based on the population projections outlined within the County's Official Plan. MECP Design Guidelines for Drinking Water Systems, 2008, were also used to validate and supplement any missing information.

For sewage flows, there was no background data available. As such, theoretical numbers based on MECP Design Guidelines for Sewage Works, 2008, were assumed. Potential Industrial/Commercial/Institutional growth areas were identified and a theoretical population density (typical for many GTA and southwestern Ontario areas) was applied to such areas. Sewage flow projections also include an allowance for infiltration into the collection system. For the purpose of this study, we assumed full development of the potential Employment land areas within the 20-year horizon.

Two potential high-level water and sewage servicing options for the Scoped Study Area were identified to include Option 1 – Intra-Municipal Water or Sewage Servicing, and Option 2 – Inter-Municipal Water or Sewage Servicing. Option 2 for water and sewage servicing, consists of reliance on the Guelph water and sewage system for treatment and disposal (in the case of sewage servicing), and therefore will require the appropriate inter-municipal servicing agreements. Preliminary discussions with staff from the City of Guelph have indicated that the City would be open to discussions necessary to establish an inter-municipal servicing agreement; however, no terms and/or conditions have been identified at this stage. The Township Council would need to submit a formal request to the City of Guelph to initiate formal consideration of this Option. There are more servicing design options that should be considered (i.e. alternative locations and routing for facilities); however, the basic options and assessments outlined in this report remain valid.

On a preliminary basis and from an economic impact perspective, it appears that the Inter-Municipal servicing options for both water and sewage servicing would be preferred. However, recent correspondence from the City of Guelph indicates that there is limited available capacity in the Guelph systems to provide servicing to the Township, and that significant Capital Upgrades would be required. The initial assessment would have to be re-visited once formal discussions and negotiations proceed with the City of Guelph, and once the impacts of any Capital Contributions, Capital Upgrades, and user rates are identified.

Preliminary cost recovery estimates have been calculated based on high-level estimates of probable capital costs for the servicing options and two different cost recovery scenarios explored as part of this Feasibility Study, which include no funding and a funding mechanism through government funds.

On a preliminary basis, it appears that implementation of any of the servicing options without any government funds would create a financial burden on the benefitting property owners. In addition, industrial and commercial businesses would be required to cover system connection costs as well, which are unknown at this point. In the end, the selected cost recovery option should be based on consultation between property owners and the municipality and is influenced by the length of time required to fully fund the infrastructure works.

Various funding opportunities from both federal and provincial levels of government are available and should be explored in the future to provide a more accurate estimate of the costs.

A

Appendix A

Water Demand and Sewage Flow Analysis – Design Calculations

Project Title:	**Puslinch Water and Sewage Feasibility Study**		
Client:	Township of Puslinch		
Project No.:	T000866A		
Task:	Option Development - Water		
Prepared By:	Alexandra Laleva	**Date:**	18-Apr-19
Reviewed by:	Stuart Winchester	**Date:**	2-May-19
Revision No. :		**Revision Date:**	

ESTIMATE WATER DEMANDS FOR WHOLE STUDY AREA

Design Criteria

Description	Value	Units	Comments
MECP Residential Unit Rate	270-450	L/cap/day	MECP suggested range
Calculated for Ex. Communual Systems	353.0	L/cap/day	Calculated for Meadows of Aberfoyle
	294.4	L/cap/day	Calculated for Mini Lakes
Recommended Design Rate	360.0	L/cap/day	Assumed (mid-point from MECP range of 270-450 L/cap/day)
Residential Max. Day Factor	2.00	-	Based on future residential and employment population of 5,632 as per adjacent numbers and MECP Guidelines
Safety factor for ICI future conditions	1.00		Assumed
Industrial/Commercial Max. Day Factor	3.00	-	Assumed based on MECP range between 2 and 4 for industrial uses.

Employment Forecast[1]

Employment Breakdown	2016	2041	Comments
Primary	116	114	55% of the Total employment in 2016
Work at Home	477	560	
Industrial	2224	3360	
Commercial / Population Related	653	866	
Institutional	138	182	
NFPOW	412	548	
Total =	**4020**	**5630**	Total employment projections consistent with County's OP numbers.

Notes:
1. As per breakdown provided by County of Wellington. Source: Watson & Associates Economists Ltd. Wellington County 2014 Growth Analysis Final Report.

Employment Water Demands - Existing and Future (Assumes all employment except for industrial employment numbers)

			Existing (2016) Employment Water Demands		Future (2041) Employment Water Demands			
Employment Population within Study Area	Year		Ave.		Ave.		Max.	
	2016	2041	m^3/d	L/s	m^3/d	L/s	m^3/d	L/s
Employment[1]	1796	3406	646.6	7.48	1226.2	14.19	2452.3	28.38
Total for Study Area =	**1,796**	**3,406**	**646.6**	**7.5**	**1226.2**	**14.2**	**2,452**	**28.4**
Total Employment Population Increase =	**1,610**							

Notes:
1. It has been assumed that the existing 2224 employment numbers in 2016 have been captured within the water demands receieved from ex. large users.

Employment Water Demands - Existing and Future (Assumes all employment including industrial employment numbers)

			Existing (2016) Employment Water Demands		Future (2041) Employment Water Demands			
Employment Population within Study Area	Year		Ave.		Ave.		Max.	
	2016	2041	m^3/d	L/s	m^3/d	L/s	m^3/d	L/s
Employment[1]	4020	5630	1447.2	16.75	2026.8	23.46	4053.6	46.92
Total for Study Area =	**4,020**	**5,630**	**1447.2**	**16.8**	**2026.8**	**23.5**	**4,054**	**46.9**
Total Employment Population Increase =	**1,610**							

Notes:
1. Assumes all employment categories including industrial

Industrial and Commercial Water Demands - Existing and Future

				Existing (2016) ICI Water Demands[1]		Future (2041) ICI Water Demands[2]				Ex. Ave. Usage / PTTW
Large Industrial/Commercial Users	PTTW Capacity			Ave.		Ave.		Max.		
	L/d	m^3/d	L/s	m^3/d	L/s	m^3/d	L/s	m^3/d	L/s	%
Royal Canin Canada Company	240,000	240	2.8	93.8	1.1	93.8	1.1	240.0	2.8	39%
Con-Cast Pipe Inc.	450,000	450	5.2	245.3	2.8	245.3	2.8	450.0	5.2	55%
Morguard Brock McLean Limited - Maple Leaf Foods	653,760	654	7.6	21.6	0.2	21.6	0.2	64.8	0.7	3%
Nestle Canada Inc.	3,600,000	3,600	41.7	2,117.7	24.5	2,117.7	24.5	3,600.0	41.7	59%
CRH Canada Group Inc. - Dufferin Aggregates	8,182,800	8,183	94.7	134.6	1.6	134.6	1.6	403.8	4.7	2%
Capital Paving Inc.	18,371,400	18,371	212.6	280.9	3.3	280.9	3.3	842.6	9.8	2%
St. Marys Cement Inc. (Canada)	47,136,000	47,136	545.6	28,136.5	325.7	28,136.5	325.7	47,136.0	545.6	60%
Total for Study Area =	**78,633,960**	**78,634**	**910.1**	**31,030**	**359.1**	**31,030.3**	**359.1**	**52,737.1**	**610.4**	**39%**
Total Excluding Nestle & St. Marys	**27,897,960**	**27,898**	**323**			**776.1**	**9.0**	**2,001.1**	**23.2**	

Notes:
1. Calculated as the 2-year average between data provided from ex. large users for period between 2015 and 2016.
2. It has been assumed that future water demands from large users will remain consistent with actual demands.

WATER DEMANDS SUMMARY - 2041

	Scenario I (Only Domestic Use for Residential)				Scenario II (Only Domestic Use for Residential + Total Employment)			
Service Area	Ave. Day Demands		Max. Day Demands		Ave. Day Demands		Max. Day Demands	
	m^3/d	L/s	m^3/d	L/s	m^3/d	L/s	m^3/d	L/s
Industrial / Commercial / Recreational	0.0	0.0	0.0	0.0	2,026.8	23.5	4,053.6	46.9
Total =	**0**	**0.0**	**0.0**	**0.0**	**2,027**	**23.5**	**4,053.6**	**46.9**
				150 mm pipe				300 mm pipe

	Scenario III (Domestic, and Industrial Uses based on current demands)				Scenario IV (Domestic and Industrial Uses based on PTWW capacity)				Scenario V (Domestic and Industrial Uses - Excluding Nestle and St. Marys Cement)			
Service Area	Ave. Day Demands		Max. Day Demands		Ave. Day Demands		Max. Day Demands		Ave. Day Demands		Max. Day Demands	
	m^3/d	L/s	m^3/d	L/s	m^3/d	L/s	m^3/d	L/s	m^3/d	L/s	m^3/d	L/s
Industrial / Commercial / Recreational	32,256.4	373.3	55,189.4	638.8	48,937.0	566.4	81,086.3	938.5	2,002.3	23.2	4,453.4	51.5
Total =	**32,256**	**373.3**	**55,189**	**638.8**	**48,937**	**566.4**	**81,086**	**938.5**	**2,002**	**23.2**	**4,453**	**51.5**
			600 mm pipe					min. 900 mm pipe				

RECOMMENDED SCENARIO:

Provide servicing to entire service area for domestic and ICI purposes. Nestle and St. Mary's Cement to be excluded; however, a 0.1% allocation of total PTTW flows have been assumed for domestic purposes in both Nestle and St. Marys.

Industry Name	PTTW Capacity		0.1% Allocation for Domestic	
	m3/d	L/s	m3/d	L/s
Nestle Canada Inc.	3,600	41.7	3.60	0.04
St. Marys Cement Inc. (Canada)	47,136	545.6	47.14	0.55

RECOMMENDED SCENARIO:

Provide servicing to entire service area for domestic and ICI purposes. The use of process water for the large industrial users to be excluded; however, a 15% allocation of total PTTW flows have been assumed for domestic purposes for large Industrial/ Commerical/ Recretational users (excluding Nestle and St. Mary's).

Industry Name	PTTW Capacity		15% Allocation for Domestic	
	m3/d	L/s	m3/d	L/s
Industrial / Commercial / Recreational (large users excluding Nestle and St. Mary's)	776	9.0	116.42	1.35

Service Type	Scenario V (Domestic and Industrial Uses - Excluding Nestle and St. Marys Cement)					
	Ave. Day Demands		Max. Day Demands		Peak Hour Demands	
	m^3/d	L/s	m^3/d	L/s	m^3/d	L/s
Industrial / Commercial / Recreational (outside large users)	1,226.2	14.2	2,452.3	28.4	3,678.5	42.6
Industrial / Commercial / Recreational (large users excluding Nestle and St. Marys)	116.4	1.3	300.2	3.5	349.2	4.0
Allowance for Domestic Use at Nestle and St. Marys	50.7	0.6	152.2	1.8	152.2	1.8
Total =	**1,393**	**16.1**	**2,905**	**33.6**	**4,180**	**48.4**

Project Title:	**Puslinch Water and Sewage Feasibility Study**		
Client:	Township of Puslinch		
Project No.:	T000866A		
Task:	Option Development - Water Option 1A - Intra-Municipal Servicing		
Prepared By:	Alexandra Laleva	**Date:**	18-Apr-19
Reviewed by:	Stuart Winchester	**Date:**	2-May-19
Revision No. :		**Revision Date:**	

Option 1A - Intra-Municipal Servicing

Key Components:

Water supply - Assumes one new groundwater well

One common treatment facility providing treatment for well water. Assume good water quality requiring treament for disinfection only.

Storage facility - assumes one elevated water tower. To be located south of Aberfoyle and close to ex. industrial/employment area.

Distribution system - Assumes connection to Guelph distribution system around southern boundary for pressure Zone 3.

1. System Design Demands

Design Demands	Units		Comments
	m3/d	L/s	
Average Day Demands	1,393.3	16.1	
Max. Day Demands	2,904.7	33.6	
Peak Hour Demands	4,179.9	48.4	
Calculated Max. Day Factor	2.1		
Peak Hour Factor	3.0		

2. Well Supply

Criteria	Value	Units	Comments
Required Supply Demand (System Max. Day Demands)	33.6	L/s	
No. wells (assumed)	1.0		Assumes two wells, based on capacity
Well Capacity (each)	33.6	L/s	
No. of well pumps	1.0		
Capacity of well pump (each)	33.6	L/s	

2. Treatment Facility - Provision of disinfection only assumed

Criteria	Value	Units	Comments
Required Treatment Demand (System Max. Day Demands)	33.6	L/s	
No. chlorine contact chambers (assumed)	1.0		Assumes only one contact chamber providing full treatment capacity
Tratment capacity of contact chamber	33.6	L/s	

3. Storage Facility - Storage through an Elevated Water Tower

3.a Storage Calculations based on Risk Analysis for Emergency Storage (no fire protection)

Criteria	Value	Units	Comments
Emergency Storage Volume			Emergency storage volume equivalent to 2 x full day's demand
System Ave. Day Demands	16	L/s	
	1,393	m3/d	
Calculated Emergency Volume	2,787	m3	

3.b Storage Calculations based on MECP Guidelines (fire protection provided)

Criteria	Value	Units	Comments
Minimum Required Storage Volume			Fire Storage + Equalization Storage (25% of Max. Day) + Emergency Storage (25% of Fire + Equalization Storage)
System Max . Day Demands	2,905	m3/d	
Fire Storage	1,145	m3	Fire storage based on ultimate euiqvalent population of 5632 people. Based on fire flow of 159 L/s for 3 hours as per MOE guidelines Table 8-1 (value interpolated)
Equalization Storage	726	m3	
Emergency Storage	467.7	m3	
Minimum Required Storage Volume as per MOECC	2,339	m3	Separate chlorine contact chambers will provide the required disinfection requirements
	2.3	ML	

4. Distribution System

4.a Distribution main from treatment facility to Elevated Tower

Criteria	Value	Units	Comments
System Max . Day Demands	34	L/s	
Assumed Watermain Diameter	300	mm	
	12	inches	
Calculated Velocity	0.48	m/s	Velocity should be lower than 1.5 m/s

From Elevated Tower to Business Areas

Criteria	Value	Units	Comments
System Peak Hour Demands	48	L/s	
System Max . Day Demands	34	L/s	
System Max . Day + Fire Demands	193	L/s	Assumes fire flow of 159 L/s for 3 hours as per MOE guidelines Table 8-1 (value interpolated) . Greatest value between max. day + fire & Peak hour
Assumed Watermain Diameter	300	mm	
	12	inches	
Calculated Velocity	2.73	m/s	Velocity should be lower than 1.5 m/s

From Guelph/treatment facility to New Elevated Tower in Aberfyole

Criteria	Value		Units		Comments
Set watermain diameter of	mm	400	300	200	Note that future watermains in south Guelph expected to be 400 mm diameter
	m	0.40	0.30	0.20	
Length of distribution watermain	m	5,400	5,400	5,400	Approx. distance from current upper boundary of Guelph Zone 3 @ Clair Road West to proposed location of new ET in Aberfoyle.
Pipeline Area	m2	0.126	0.071	0.031	
Pipeline Volume	m3	678.6	381.7	169.6	
System Ultimate Average Daily Flow	L/s	16.1	16.1	16.1	
System Ultimate Max. Daily Flow	L/s	33.6	33.6	33.6	
System Ultimate Peak Hour Flow	L/s	48.4	48.4	48.4	
System Max. day + Fire Flow	L/s	192.6	192.6	192.6	
Velocity under Average Flows	m/s	0.1	0.2	0.5	Chose 300 mm mainly to be consistent with fire flows
Velocity under Max. Flows	m/s	0.3	0.5	1.1	
Velocity under Peak Hour Flows	m/s	0.4	0.7	1.5	
Velocity under Max. day + Fire flows	m/s	1.53	2.73	6.13	
Retention Time under Ultimate Average Flows	hrs	11.7	6.6	2.9	
Retention Time under Max. Flows	hrs	5.6	3.2	1.4	

From New Elevated Tower in Aberfyole to Industrial and Commercial areas

Criteria	Value	Units			Comments
Set watermain diameter of	mm	500	400	300	
	m	0.50	0.40	0.30	
Length of distribution watermain	m	6,300	6,300	6,300	Approx. length for major industrial/employment area south of Aberfoyle
Pipeline Area	m2	0.196	0.126	0.071	
Pipeline Volume	m3	1237.0	791.7	445.3	
System Ultimate Average Daily Flow	L/s	16.1	16.1	16.1	
System Ultimate Max. Daily Flow	L/s	33.6	33.6	33.6	
System Ultimate Peak Hour Flow	L/s	48.4	48.4	48.4	
System Max. day + Fire Flow	L/s	192.6	192.6	192.6	
Velocity under Average Flows	m/s	0.08	0.13	0.23	
Velocity under Max. Flows	m/s	0.17	0.27	0.48	
Velocity under Peak Hour Flows	m/s	0.25	0.38	0.68	
Velocity under Max. day + Fire flows	m/s	1.0	1.5	2.7	Chose 300 mm to satisfy max. day + fire flow conditions in major industrial/employment area
Retention Time under Ultimate Average Flows	hrs	21.3	13.6	7.7	
Retention Time under Max. Flows	hrs	10.2	6.5	3.7	

Project Title:	**Puslinch Water and Sewage Feasibility Study**		
Client:	Township of Puslinch		
Project No.:	T000866A		
Task:	Option Development - Wastewater		
Prepared By:	A. Laleva	**Date:**	29-Apr-19
Reviewed by:	S. Winchester	**Date:**	10-May-19
Revision No. :		**Revision Date:**	

ESTIMATE WATER DEMANDS FOR WHOLE STUDY AREA

Design Criteria

Description	Value	Units	Comments
Water Unit Consumption Rate	360.0	L/cap/day	Assumed
Wastewater Flow Rate	360.0	L/cap/day	Assumed to be consistent with water consumption - Very conservative
Peak Infiltration / Inflow Rate for Industrial / Commercial Areas	10,110	L/ha/day	Low end of MECP Guidelines, new system should have low I&I contribution
Population densities for Industrial / Commercial	83	person/ha	Assuming 30 m3/ha/d (low end of MOECC Guideline) and 360 L/cap/d, this would equeate to approx. 83 ppha.
Peak Factor	varies	-	Calculated for each area based on Harmon Formula

Industrial and Commercial Wastewater Flows - Existing (2016)

Large Industrial/Commercial/Recreational Users	Drainage Area		Equivalent ICI Population	Calculated Peak Factor	Existing ICI Wastewater Flows			
					Average Flow (for Treatment)		Peak Flows (for Sewer Capacity)	
	Total	Contributing						
	Ha	Ha	people		m^3/d	L/s	m^3/d	L/s
Within Aberfoyle	2,435	48.4	4,020	3.33	1,447.2	16.75	4,821.2	83.82
Total for Study Area =	**2,435**	48.4	4,020	3.3	1,447	16.7	4,821	83.8

Notes:

1. Includes all employment categories including industrial.
2. Future average day flows for large users assume a unit generation rate of 360 L/cap/cay.
3. Future peak day flows assume an I&I rate of 10,110 L/ha/d and peak factor calculated based on Harmon Formula.
4. Includes existing gravel extraction areas that are excluded from current infiltration allowance calculations

Industrial and Commercial Wastewater Flows - Future (2041)

Large Industrial/Commercial/Recreational Users	Drainage Area		Equivalent ICI Population	Calculated Peak Factor	Future ICI Wastewater Flows			
					Average Flow (for Treatment)		Peak Flows (for Sewer Capacity)	
	Total	Contributing						
	Ha	Ha	people		m^3/d	L/s	m^3/d	L/s
Within Aberfoyle	2,435	67.8	5,630	3.20	2,026.8	23.46	6,479.4	82.93
Total for Study Area =	**2,435**	2,435	5,630	3.2	2,027	23.5	6,479	82.9

Notes:

1. Includes all employment categories including industrial.
2. Future average day flows for large users assume a unit generation rate of 360 L/cap/cay.
3. Future peak day flows assume an I&I rate of 10,110 L/ha/d and peak factor calculated based on Harmon Formula.
4. Includes existing gravel extraction areas that are excluded from current infiltration allowance calculations

ICI FLOWS SUMMARY - 2041

Service Area	Average Flow (for Treatment)		Peak Flows (for Sewer Capacity)	
	m^3/d	L/s	m^3/d	m^3/d
Industrial / Commercial / Recreational	2,027	23.5	6,479.4	82.9

B

Appendix B

Probable Costs Estimates – Detailed Calculations

CIMA+

Project Title:	**Puslinch Water and Sewage Feasibility Study**
Client:	Township of Puslinch
Project No.:	T000866A
Task:	Water Servcing Option Development - Option 1 Probable Cost
Prepared By:	Alexandra Laleva **Date:** 18-Apr-19
Reviewed by:	S. Winchester **Date:** 2-May-19
Revision No. :	1 **Revision Date:**

CAPITAL AND OPERATION & MAINTENANCE COST

Option 1A - Intra-Municipal System

System Description	Quantity	Unit	Material		Labour		Total Material & Labour	Sub Total Cost	Comments
			Unit Cost	Total Material Cost	% of Material	Total Labour Cost			
Supply and Treatment									
Preliminary Studies and Approvals - hydrogeological study and testing	1	LS	$ 500,000	$ 500,000	50%	$ 250,000	$ 750,000		
Construction of new production wells (assumed 2), equipped with well pumps	1	LS	$ 150,000	$ 150,000	50%	$ 75,000	$ 225,000		
New treatment facility (assumes 15mx10m footprint)	150	m2	$ 2,000	$ 300,000	50%	$ 150,000	$ 450,000		
Piping, valves and fittings	1	LS	$ 50,000	$ 50,000	50%	$ 25,000	$ 75,000		
Instrumentation	1	LS	$ 35,000	$ 35,000	30%	$ 10,500	$ 45,500		
Sodium Hypoclorite System - disinfection	1	each	$ 50,000	$ 50,000	30%	$ 15,000	$ 65,000		
Electrical (standby diesel generator, service entrance, control panels, motor starters, controls and automation)	1	LS	$ 450,000	$ 450,000	50%	$ 225,000	$ 675,000		
Mechanical (HVAC system, lighting)	1	LS	$ 75,000	$ 75,000	50%	$ 37,500	$ 112,500		
Site Works (includes site grading, excavation, trenching, backfilling)	1	LS	$ 250,000	$ 250,000	50%	$ 125,000	$ 375,000		
Contact Chambers for disinfection	1	LS	$ 250,000	$ 250,000	50%	$ 125,000	$ 375,000		
Other site works (watermains, driveway, fences, gates, sodding, etc.)	1	LS	$ 100,000	$ 100,000	50%	$ 50,000	$ 150,000		
Power upgrades to 3 phase	1	LS	$ 75,000	$ 75,000	50%	$ 37,500	$ 112,500		
Property acquisition - treatment facility	1.0	acres	$ 300,000	$ 300,000		$ -	$ 300,000		*Assumed $300,000/acre as per info provide by real state agent in Puslinch.*
Property acquisition - storage facility	1.00	acres	$ 300,000	$ 300,000		$ -	$ 300,000		*Assumed $300,000/acre as per info provide by real state agent in Puslinch.*
Sub-total Capital Cost for New Well Pump =								**$ 4,010,500**	
Storage and Distribution System									
New Elevated water tower (2,500 m3)	1	LS	$ 3,500,000	$ 3,500,000	incl		$ 3,500,000		*Provided by M. Elliott*
300 mm diameter watermain	11,700	m	$ 710	$ 8,307,000	incl		$ 8,307,000		Measured from GIS
Sub-total Capital Cost for Connecting Watermain =								**$ 11,807,000**	
SUB-TOTAL CAPITAL COST IN CURRENT YEAR (2018) =								**$ 15,817,500**	
Contingency (20%) =								**$ 3,163,500**	
Engineering and Construction (15%) =								**$ 2,372,700**	
Contractor Overhead (10%) =								**$ 1,581,800**	
TOTAL CAPITAL COST IN CURRENT YEAR (2018) =								**$ 22,935,500**	

OPERATION AND MAINTENANCE COST

Area	Item	QTY	Unit	Unit Cost ($)	Annual Cost	Subtotal	Comments
Pumping Cost	Well Pumps Annual Electrical Cost	$ 1	LS	$ 15,000	$ 10,000		
					Sub-Total Well Pumps =	**$ 10,000**	
Chemical Systems	NaOCl at new well pump facility for primary disinfection	$ 1	LS	$ 5,000	$ 5,000		
					Sub-Total Chemical Systems =	**$ 5,000**	
Miscellaneous O&M	Equipment maintenance, contracts and agreements	1	LS	$ 30,000	$ 30,000		
	Pumps parts and replacement, materials, for new facility	1	LS	$ 15,000	$ 15,000		
					Sub-Total Regulatory Requirements =	**$ 45,000**	
Labour	Labour	1	LS	$ 350,000	$ 350,000		Assumed that Town will retain an Operating Agency to operate the system on their behalf. High-level cost provided by OCWA in email on February 20, 2018.
					Sub-Total Regulatory Requirements =	**$ 350,000**	
Regulatory Requirements	Lab and reporting	1	LS	$ 10,000	$ 10,000		
					Sub-Total Regulatory Requirements =	**$ 10,000**	
TOTAL O&M COST IN CURRENT YEAR (2018) =						**$ 420,000**	
Contingency (20%) =						**$ 84,000**	
TOTAL O&M COST IN CURRENT YEAR (2018) =						**$ 504,000**	

Project Title:	**Puslinch Water and Sewage Feasibility Study**
Client:	Township of Puslinch
Project No.:	T000866A
Task:	Water Servcing Option Development - Option 1 Probable Cost
Prepared By:	Alexandra Laleva **Date:** 18-Apr-19
Reviewed by:	S. Winchester **Date:** 2-May-19
Revision No. :	2 **Revision Date:**

LIFE CYCLE COST

Option 1A - Intra-Municipal System

Economic Factors

Interest rate (%)	6%
Inflation rate (%)	2.0%
Project Start Year (Year n)	2020
Planning Period (yrs)	20

Cost in Year n = Cost in Current Year x (1+inflation Rate)^(Year n - Current Year)

Present Value = Cost /((1+Interest Rate)^(Year n - Current Year))

20-Year NPV

Year	Capital Cost	NPV Capital Cost	Operating Cost	NPV Operating Cost	Capital and Operating NPV
2018	$22,935,500		$504,000		
2019	$0		$0		
2020	$23,862,094	$21,237,179	$524,362	$466,680	$21,703,859
2021	$0	$0	$534,849	$449,069	$449,069
2022	$0	$0	$545,546	$432,123	$432,123
2023	$0	$0	$556,457	$415,817	$415,817
2024	$0	$0	$567,586	$400,126	$400,126
2025	$0	$0	$578,938	$385,027	$385,027
2026	$0	$0	$590,516	$370,497	$370,497
2027	$0	$0	$602,327	$356,516	$356,516
2028	$0	$0	$614,373	$343,063	$343,063
2029	$0	$0	$626,661	$330,117	$330,117
2030	$862,404	$428,589	$639,194	$317,660	$746,248
2031	$0	$0	$651,978	$305,673	$305,673
2032	$0	$0	$665,017	$294,138	$294,138
2033	$0	$0	$678,318	$283,038	$283,038
2034	$0	$0	$691,884	$272,358	$272,358
2035	$0	$0	$705,722	$262,080	$262,080
2036	$0	$0	$719,836	$252,190	$252,190
2037	$0	$0	$734,233	$242,674	$242,674
2038	$0	$0	$748,917	$233,516	$233,516
2039	$0	$0	$763,896	$224,704	$224,704
2040	$1,051,266	$291,732	$779,174	$216,225	$507,956
	Sub-Total NPV value =	$21,957,499		$6,853,289	
	Total NPV value (20 years) =		**$28,810,800**		**$28,810,800**

Capital Cost Breakdown Every 10 Years :

Well Pump House	Cost every 10 years	Comments
Building envelope, disinfection system, media regeneration, equipment =	$100,000	Assumed
Well rehabilitation (2 wells) =	$80,000	Assumed
Elevated Tank (inspection, coating, etc.) =	$500,000	
Total Capital Cost New Well Pump House / 10 years	**$680,000**	

Total Additional Capital Cost / 10 years = **$680,000**

Project Title:	**Puslinch Water and Sewage Feasibility Study**		
Client:	Township of Puslinch		
Project No.:	T000866A		
Task:	Water Servcing Option Development - Option 2 Probable Cost		
Prepared By:	Alexandra Laleva	**Date:**	18-Apr-19
Reviewed by:	S. Winchester	**Date:**	2-May-19
Revision No. :	1	**Revision Date:**	

CAPITAL AND OPERATION & MAINTENANCE COST

Option 1B - Inter-Municipal System

System Description	Quantity	Unit	Material		Labour		Total Material & Labour	Sub Total Cost	Comments
			Unit Cost	Total Material Cost	% of Material	Total Labour Cost			
Supply									
Connection to ex. Guelph distribution system, including metering facility	1	LS	$ 250,000	$ 250,000	50%	$ 125,000	$ 375,000		
Pressure Control Station	1	LS	$ 1,000,000	$ 1,000,000	50%	$ 500,000	$ 1,500,000		*Assumed by S.Rodriguez*
Property acquisition - Pressure Control station	0.5	acres	$ 300,000	$ 150,000		$ -	$ 150,000		*Assumed $300,000/acre as per info provide by real state agent in Puslinch.*
Property acquisition - storage facility	1.0	acres	$ 300,000	$ 300,000		$ -	$ 300,000		*Assumed $300,000/acre as per info provide by real state agent in Puslinch.*
Sub-total Capital Cost for New Well Pump =								**$ 2,325,000**	
Storage and Distribution									
New Elevated water tower (2,500 m3)	1	LS	$ 3,500,000	$ 3,500,000	incl		$ 3,500,000		*Provided by M. Elliott*
300 mm diameter watermain	11,200	m	$ 710	$ 7,952,000	incl		$ 7,952,000		*Assumes installation in shoulder of road*
Sub-total Capital Cost for Connecting Watermain =								**$ 11,452,000**	
SUB-TOTAL CAPITAL COST IN CURRENT YEAR (2018) =								**$ 13,777,000**	
Contingency (20%) =								**$ 2,755,400**	
Engineering and Construction (15%) =								**$ 2,066,600**	
Contractor Overhead (10%) =								**$ 1,377,700**	
TOTAL CAPITAL COST IN CURRENT YEAR (2018) =								**$ 19,976,700**	

OPERATION AND MAINTENANCE COST

Area	Item	QTY	Unit	Unit Cost ($)	Annual Cost	Subtotal	Comments
Pumping Cost	Well Pumps Annual Electrical Cost	$ 1	LS	$ 15,000	$ 10,000		
	Sub-Total Well Pumps =					**$ 10,000**	
Chemical Systems	NaOCl at new well pump facility for primary disinfection	$ 1	LS	$ 2,000	$ 2,000		In case they want to do re-chlorination at the storage facility
	Sub-Total Chemical Systems =					**$ 2,000**	
Miscellaneous O&M	Equipment maintenance, contracts and agreements	1	LS	$ 10,000	$ 10,000		
	Pumps parts and replacement, materials, for new facility	1	LS	$ 5,000	$ 5,000		
	Sub-Total Regulatory Requirements =					**$ 15,000**	
Labour	Labour	1	LS		$ 50,000		Assumed
	Sub-Total Regulatory Requirements =					**$ 50,000**	
Regulatory Requirements	Lab and reporting	1	LS	$ 2,500	$ 2,500		
	Sub-Total Regulatory Requirements =					**$ 2,500**	
TOTAL O&M COST IN CURRENT YEAR (2018) =						**$ 79,500**	
Contingency (20%) =						**$ 15,900**	
TOTAL O&M COST IN CURRENT YEAR (2018) =						**$ 95,400**	

Project Title:	**Puslinch Water and Sewage Feasibility Study**		
Client:	Township of Puslinch		
Project No.:	T000866A		
Task:	Water Servcing Option Development - Option 2 Probable Cost		
Prepared By:	Alexandra Laleva	**Date:**	18-Apr-19
Reviewed by:	S. Winchester	**Date:**	8-May-19
Revision No. :	2	**Revision Date:**	13-May-19

LIFE CYCLE COST

Option 1B - Inter-Municipal System

Economic Factors

Interest rate (%)	6%
Inflation rate (%)	2.0%
Project Start Year (Year n)	2020
Planning Period (yrs)	20

Cost in Year n = Cost in Current Year x (1+inflation Rate)^(Year n - Current Year)

Present Value = Cost /((1+Interest Rate)^(Year n - Current Year))

20-Year NPV

Year	Capital Cost	NPV Capital Cost	Operating Cost	NPV Operating Cost	Capital and Operating NPV
2018	$19,976,700		$95,400		
2019	$0		$0		
2020	$20,783,759	$18,497,471	$99,254	$88,336	$18,585,807
2021	$0	$0	$101,239	$85,002	$85,002
2022	$0	$0	$103,264	$81,795	$81,795
2023	$0	$0	$105,329	$78,708	$78,708
2024	$0	$0	$107,436	$75,738	$75,738
2025	$0	$0	$109,585	$72,880	$72,880
2026	$0	$0	$111,776	$70,130	$70,130
2027	$0	$0	$114,012	$67,483	$67,483
2028	$0	$0	$116,292	$64,937	$64,937
2029	$0	$0	$118,618	$62,486	$62,486
2030	$697,533	$346,653	$120,990	$60,128	$406,781
2031	$0	$0	$123,410	$57,859	$57,859
2032	$0	$0	$125,878	$55,676	$55,676
2033	$0	$0	$128,396	$53,575	$53,575
2034	$0	$0	$130,964	$51,553	$51,553
2035	$0	$0	$133,583	$49,608	$49,608
2036	$0	$0	$136,255	$47,736	$47,736
2037	$0	$0	$138,980	$45,935	$45,935
2038	$0	$0	$141,759	$44,201	$44,201
2039	$0	$0	$144,595	$42,533	$42,533
2040	$850,289	$235,959	$147,486	$40,928	$276,888
	Sub-Total NPV value =	$19,080,083		$1,297,230	
	Total NPV value (20 years) =		**$20,377,400**		**$20,377,400**

Capital Cost Breakdown Every 10 Years :		
Well Pump House	Cost every 10 years	Comments
PS building envelope, equipment =	$50,000	Assumed
Elevated Tank (inspection, coating, etc.) =	$500,000	
Total Capital Cost New Well Pump House / 10 years	**$550,000**	

Total Additional Capital Cost / 10 years = $550,000

CIMA +
101 Frederick Street, Suite 900
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Statement of Probable Costs (+/- 35%)

Wastewater Servicing Option 1

CIMA Project No: T000866A
Date: 10/05/2019

1.0 Construction			
1.10	Gravity Sanitary Sewer	$	5,290,000.00
1.20	Pumping Station	$	1,266,000.00
1.30	Forcemains	$	1,365,000.00
1.40	Wastewater Treatment	$	13,120,000.00
Sub-total		$	21,041,000.00
Contingency Allowance (@20%)			$4,208,200.00
Sub-Total - Construction		$	25,249,200.00
Engineeering (@ 15%)			$3,787,380.00
Sub-Total - Project		**$**	**29,036,580.00**
2.0 Operating and Maintenance			
2.10	Gravity Sanitary Sewer	$	50,000.00
2.20	Pumping Station	$	75,000.00
2.30	Forcemains	$	39,000.00
2.40	Wastewater Treatment	$	550,000.00
	Annual Operating and Maintenance Costs	**$**	**714,000.00**
3.0 20 Year Life Cycle Costs			
3.10	Net Present Value - Construction	$	29,036,580.00
3.20	Net Present Value - Operating and Maintenance	$	9,829,495.20
	Net Present Value - Option 1	**$**	**38,866,075.20**

Date: Friday, May 10, 2019 Prepared By: A. Laleva
Date: Monday, May 13, 2019 Checked By: S. Wincehster, P.Eng.

Puslinch Water and Wastewater Feasibility Study

PRELIMINARY COST ESTIMATE for WASTEWATER SERVICING

PROBABLE COST BREAKDOWN

SECTION 1 - Gravity Sewer System

Item No.	Description	Est. Quantity	Unit	Unit Price	Total Price
1.00	Gravity Sanitary Sewer	8,510			$5,287,500.00
a)	200mm dia. to 250mm dia.	6,940	Lm	$500.00	$3,470,000.00
b)	300mm dia. To 375mm dia.	1,570	Lm	$750.00	$1,177,500.00
1.01	200mm dia. Service Connections	128	ea.	$5,000.00	$640,000.00

TOTAL SECTION 1
(Transfer to Summary Sheet)

$5,290,000.00

SECTION 2 - Pump Station

Item No.	Description	Est. Quantity	Unit	Unit Price	Total Price
2.00	**Pumping Station (Aberfoyle) Peak flow for 2041 = 83.0 L/s**	**1**	**LS**	**-**	**$1,266,000.00**
a)	Site acquisition	1	LS	$200,000.00	$200,000.00
b)	Inlet chamber	1	LS	$15,000.00	$15,000.00
c)	Wet/dry-well	1	LS	$525,000.00	$525,000.00
d)	Pumps	3	LS	$4,500.00	$13,500.00
e)	Structure	1	LS	$250,000.00	$250,000.00
f)	Piping	30	Lm	$750.00	$22,500.00
g)	Electrical/Mechanical/SCADA	1	LS	$150,000.00	$150,000.00
h)	Civil site works	1	LS	$90,000.00	$90,000.00
i)	Operation and Maintenance Cost	1	LS	$25,000.00	$25,000.00

TOTAL SECTION 2
(Transfer to Summary Sheet)

$1,266,000.00

SECTION 3 - Sanitary Forcemain

Item No.	Description	Est. Quantity	Unit	Unit Price	Total Price
3.00	Sanitary Forcemain				
a)	250mm Ø including all appurtenances	2730	m	$500.00	$1,365,000.00

TOTAL SECTION 3
(Transfer to Summary Sheet)

$1,365,000.00

SECTION 4 - Wastewater Treatment

Item No.	Description	Est. Quantity	Unit	Unit Price	Total Price
4.00	6500m3/day WWTP	6,500	m3	$1,930.00	$12,545,000.00
a)	Site Acquisition	1	LS	$500,000.00	$500,000.00
b)	Division 1 - General Requirements	1	LS		$620,000.00
c)	Division 2 - Site Works	1	LS		$1,130,000.00
d)	Division 3 - Concrete	1	LS		$3,340,000.00
e)	Division 4 - Masonry	1	LS		$510,000.00
f)	Division 5 - Metals	1	LS		$640,000.00
g)	Division 6 - Wood and Plastics	1	LS		$60,000.00
h)	Division 7 - Thermal and Moisture Protection	1	LS		$260,000.00
i)	Division 8 - Doors and Windows	1	LS		$180,000.00
j)	Division 9 - Finishes	1	LS		$130,000.00
k)	Division 10 - Specialties	1	LS		$20,000.00
l)	Division 11 - Equipment	1	LS		$3,570,000.00
m)	Division 12 - Special Construction	1	LS		$30,000.00
n)	Division 13 - Control and Instrumentation	1	LS		$390,000.00
o)	Division 14 - Conveying and Hoisting Equipment	1	LS		$20,000.00
p)	Division 15 - Mechanical	1	LS		$580,000.00
q)	Division 16 - Electrical	1	LS		$1,140,000.00
r)	Operation and Maintenance Cost	1	Yr	$550,000.00	$550,000.00

TOTAL SECTION 4
(Transfer to Summary Sheet)

$13,120,000.00

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101 Frederick Street, Suite 900
Kitchener, ON, N2H 6R2
Telephone:519-772-2299

Statement of Probable Costs (+/- 35%)

Wastewater Servicing Option 2

CIMA Project No: T000866A
Date: 10/05/2019

1.0 Construction			
1.10	Gravity Sanitary Sewer	$	5,290,000.00
1.20	Pumping Stations	$	1,566,000.00
1.30	Forcemains	$	1,610,000.00
Sub-total		$	8,466,000.00
Contingency Allowance (@20%)			$1,693,200.00
Sub-Total - Construction		$	10,159,200.00
Engineeering (@ 15%)			$1,523,880.00
Sub-Total - Construction		**$**	**11,683,080.00**
2.0 Operating and Maintenance			
2.10	Gravity Sanitary Sewer	$	50,000.00
2.20	Pumping Stations	$	75,000.00
2.30	Forcemains	$	39,000.00
	Annual Operating and Maintenance Costs	**$**	**164,000.00**
3.0 20 Year Life Cycle Costs			
3.10	Net Present Value - Construction	$	11,683,080.00
3.20	Net Present Value - Operating and Maintenance	$	2,257,755.20
	Net Present Value - Option 2	**$**	**13,940,835.20**

Date: Friday, May 10, 2019 Prepared By: A. Laleva
Date: Monday, May 13, 2019 Checked By: S. Wincehster, P.Eng.

Puslinch Water and Wastewater Feasibility Study

PRELIMINARY COST ESTIMATE for WASTEWATER SERVICING

PROBABLE COST BREAKDOWN

SECTION 1 - Gravity Sewer System

Item No.	Description	Est. Quantity	Unit	Unit Price	Total Price
1.00	Gravity Sanitary Sewer	8,510			$5,287,500.00
a)	200mm dia. To 250mm dia.	6,940	Lm	$500.00	$3,470,000.00
b)	300mm dia. To 375mm dia.	1,570	Lm	$750.00	$1,177,500.00
1.03	200mm dia. Service Connections	128	ea.	$5,000.00	$640,000.00

TOTAL SECTION 1
(Transfer to Summary Sheet) **$5,290,000.00**

SECTION 2 - Pump Station

Item No.	Description	Est. Quantity	Unit	Unit Price	Total Price
2.00	**Pumping Station (Aberfoyle) Peak flow for 2041 = 83.0 L/s**	**1**	**LS**	**-**	**$1,566,000.00**
a)	Site acquisition	1	LS	$200,000.00	$200,000.00
b)	Inlet chaimber	1	LS	$15,000.00	$15,000.00
c)	Wet/dry-well	1	LS	$525,000.00	$525,000.00
d)	Pumps	3	LS	$4,500.00	$13,500.00
e)	Structure	1	LS	$250,000.00	$250,000.00
f)	Piping	30	Lm	$750.00	$22,500.00
g)	Electrical/Mechanical/SCADA	1	LS	$150,000.00	$150,000.00
h)	Civil site works	1	LS	$90,000.00	$90,000.00
i)	Emergency Storage	1	LS	$300,000.00	$300,000.00
j)	Operation and Maintenance Cost	1	LS	$30,000.00	$30,000.00

TOTAL SECTION 2
(Transfer to Summary Sheet) **$1,566,000.00**

SECTION 3 - Sanitary Forcemain

Item No.	Description	Est. Quantity	Unit	Unit Price	Total Price
3.00	Sanitary Forcemain				
	250mm Ø including all appurtenances	3220	m	$500.00	$1,610,000.00

TOTAL SECTION 3
(Transfer to Summary Sheet) **$1,610,000.00**

WATER SERVICING INFRASTRUCTURE AVERAGE UNIT PRICES (2019 - Southwestern Region)

A) Watermain Installation with Minimum Restoration (Top Soil and Seed only) (FOR INSTALLATION IN DITCHES)

	Nom. Pipe Size	Outer Diameter	Depth to Invert	Minimum Trench Width	Excavation		Bedding		Pipe		Backfill		Restoration Allowance	**Subtotal Unit Cost**	Appurtenance Allowance	**Subtotal Unit Cost**	Dewatering Allowance	**Subtotal Unit Cost**	Conting @20%	Eng. @15%	**TOTAL (excl. HST)**
					Vol.	Cost	Vol.	Cost	Cost	Installation	Vol.	Cost									
	(mm)	(m)	(m)	(m)	(m^3)	($/m)	(m^3)	($/m)	($/m)	($/m)	(m^3)	($/m)	($/m)	**($/m)**	($/m)	**($/m)**	($/m)	**($/m)**	($/m)	($/m)	**($/m)**
PVC	100	0.14	2.4	0.74	2.8	16.80	0.44	19.70	24.80	2.48	2.80	14.00	40.00	**117.78**	59.00	**176.78**	10	**186.78**	37.40	33.60	**260.00**
	150	0.20	2.4	0.80	3.10	18.60	0.52	23.40	38.25	3.83	2.85	14.30	40.00	**138.38**	59.00	**197.38**	10	**207.38**	41.50	31.11	**280.00**
	200	0.26	2.4	0.86	3.4	20.40	0.61	27.50	63.00	6.30	2.90	14.50	40.00	**171.70**	64.00	**235.70**	10	**245.70**	49.10	36.86	**340.00**
	250	0.33	2.4	0.93	3.7	22.20	0.73	32.70	91.00	9.10	2.95	14.80	40.00	**209.80**	67.00	**276.80**	10	**286.80**	57.40	43.02	**390.00**
	300	0.38	2.4	0.98	4.0	24.00	0.81	36.70	124.50	12.45	3.00	15.00	40.00	**252.65**	80.00	**332.65**	15	**347.65**	69.50	52.15	**470.00**
	350	0.45	2.4	1.05	4.4	26.40	0.94	42.60	279.00	27.90	3.00	15.00	40.00	**430.90**	85.00	**515.90**	15	**530.90**	106.20	79.64	**720.00**
	400	0.50	2.4	1.10	4.5	27.00	1.04	47.10	312.00	31.20	3.05	15.30	40.00	**472.60**	103.00	**575.60**	15	**590.60**	118.10	88.59	**800.00**
	450	0.55	2.4	1.15	4.6	27.60	1.15	51.80	385.00	38.50	3.05	15.30	40.00	**558.20**	123.00	**681.20**	15	**696.20**	139.20	104.43	**940.00**
	500	0.60	2.4	1.20	4.9	29.40	1.26	56.70	450.00	45.00	3.05	15.30	40.00	**636.40**	134.00	**770.40**	20	**790.40**	158.10	118.56	**1,070.00**
	600	0.73	2.4	1.33	5.8	34.80	1.57	70.70	719.00	71.90	3.05	15.30	40.00	**951.70**	174.00	**1,125.70**	20	**1,145.70**	229.10	171.86	**1,550.00**
CPP	750	0.90	2.4	1.50	7.0	42.00	2.02	91.20	850.00	85.00	3.00	15.00	40.00	**1,123.20**	150.00	**1,273.20**	20	**1,293.20**	258.60	193.98	**1,750.00**
	900	1.10	3.0	1.70	8.7	52.20	2.63	118.60	1,000.00	100.00	3.35	16.80	40.00	**1,327.60**	180.00	**1,507.60**	20	**1,527.60**	305.50	229.14	**2,070.00**

B) Watermain Installation with Granular Road Restoration

	Nom. Pipe Size	Outer Diameter	Depth to Invert	Minimum Trench Width	Excavation		Bedding		Pipe		Backfill		Restoration Allowance	**Subtotal Unit Cost**	Appurtenance Allowance	**Subtotal Unit Cost**	Dewatering Allowance	**Subtotal Unit Cost**	Conting @20%	Eng. @15%	**TOTAL (excl. HST)**
					Vol.	Cost	Vol.	Cost	Cost	Installation	Vol.	Cost									
	(mm)	(m)	(m)	(m)	(m^3)	($/m)	(m^3)	($/m)	($/m)	($/m)	(m^3)	($/m)	($/m)	**($/m)**	($/m)	**($/m)**	($/m)	**($/m)**	($/m)	($/m)	**($/m)**
PVC	100	0.14	2.4	0.74	2.8	16.80	0.44	19.70	24.80	2.48	2.80	14.00	72.00	**149.78**	59.00	**208.78**	10	**218.78**	43.80	39.40	**310.00**
	150	0.20	2.4	0.80	3.10	18.60	0.52	23.40	38.25	3.83	2.85	14.30	72.00	**170.38**	59.00	**229.38**	10	**239.38**	47.90	35.91	**330.00**
	200	0.26	2.4	0.86	3.4	20.40	0.61	27.50	63.00	6.30	2.90	14.50	72.00	**203.70**	64.00	**267.70**	10	**277.70**	55.50	41.66	**380.00**
	250	0.33	2.4	0.93	3.7	22.20	0.73	32.70	91.00	9.10	2.95	14.80	72.00	**241.80**	67.00	**308.80**	10	**318.80**	63.80	47.82	**440.00**
	300	0.38	2.4	0.98	4.0	24.00	0.81	36.70	124.50	12.45	3.00	15.00	72.00	**284.65**	80.00	**364.65**	15	**379.65**	75.90	56.95	**520.00**
	350	0.45	2.4	1.05	4.4	26.40	0.94	42.60	279.00	27.90	3.00	15.00	72.00	**462.90**	105.00	**567.90**	15	**582.90**	116.60	87.44	**790.00**
	400	0.50	2.4	1.10	4.5	27.00	1.04	47.10	312.00	31.20	3.05	15.30	72.00	**504.60**	123.00	**627.60**	15	**642.60**	128.50	96.39	**870.00**
	450	0.55	2.4	1.15	4.6	27.60	1.15	51.80	385.00	38.50	3.05	15.30	72.00	**590.20**	153.00	**743.20**	15	**758.20**	151.60	113.73	**1,030.00**
	500	0.60	2.4	1.20	4.9	29.40	1.26	56.70	450.00	45.00	3.05	15.30	72.00	**668.40**	164.00	**832.40**	20	**852.40**	170.50	127.86	**1,160.00**
	600	0.73	2.4	1.33	5.8	34.80	1.57	70.70	719.00	71.90	3.05	15.30	72.00	**983.70**	194.00	**1,177.70**	20	**1,197.70**	239.50	179.66	**1,620.00**
CPP	750	0.90	2.4	1.50	7.0	42.00	2.02	91.20	850.00	85.00	3.00	15.00	72.00	**1,155.20**	150.00	**1,305.20**	20	**1,325.20**	265.00	198.78	**1,790.00**
	900	1.10	3.0	1.70	8.7	52.20	2.63	118.60	1,000.00	100.00	3.35	16.80	72.00	**1,359.60**	180.00	**1,539.60**	20	**1,559.60**	311.90	233.94	**2,110.00**

C) Watermain Installation with with Road Restoration (Assumes 1 Lane restored, along with Curb & Gutter, and Sidewalk one side)

	Nom. Pipe Size	Outer Diameter	Depth to Invert	Minimum Trench Width	Excavation		Bedding		Pipe		Backfill		Restoration Allowance	**Subtotal Unit Cost**	Appurtenance Allowance	**Subtotal Unit Cost**	Dewatering Allowance	**Subtotal Unit Cost**	Conting @20%	Eng. @15%	**TOTAL (excl. HST)**
					Vol.	Cost	Vol.	Cost	Cost	Installation	Vol.	Cost									
	(mm)	(m)	(m)	(m)	(m^3)	($/m)	(m^3)	($/m)	($/m)	($/m)	(m^3)	($/m)	($/m)	**($/m)**	($/m)	**($/m)**	($/m)	**($/m)**	($/m)	($/m)	**($/m)**
PVC	100	0.14	2.4	0.74	2.8	16.80	0.44	19.70	24.80	2.48	2.80	14.00	214.12	**291.90**	59.00	**350.90**	10	**360.90**	72.20	65.00	**500.00**
	150	0.20	2.4	0.80	3.1	18.60	0.52	23.40	38.25	3.83	2.85	14.30	214.12	**312.50**	59.00	**371.50**	10	**381.50**	76.30	57.22	**520.00**
	200	0.26	2.4	0.86	3.4	20.40	0.61	27.50	63.00	6.30	2.90	14.50	214.12	**345.82**	64.00	**409.82**	10	**419.82**	84.00	62.97	**570.00**
	250	0.33	2.4	0.93	3.7	22.20	0.73	32.70	91.00	9.10	2.95	14.80	214.12	**383.92**	67.00	**450.92**	10	**460.92**	92.20	69.14	**630.00**
	300	0.38	2.4	0.98	4.0	24.00	0.81	36.70	124.50	12.45	3.00	15.00	214.12	**426.77**	80.00	**506.77**	15	**521.77**	104.40	78.27	**710.00**
	350	0.45	2.4	1.05	4.4	26.40	0.94	42.60	279.00	27.90	3.00	15.00	214.12	**605.02**	105.00	**710.02**	15	**725.02**	145.00	108.75	**980.00**
	400	0.50	2.4	1.10	4.5	27.00	1.04	47.10	312.00	31.20	3.05	15.30	214.12	**646.72**	123.00	**769.72**	15	**784.72**	156.90	117.71	**1,060.00**
	450	0.55	2.4	1.15	4.6	27.60	1.15	51.80	385.00	38.50	3.05	15.30	214.12	**732.32**	153.00	**885.32**	15	**900.32**	180.10	135.05	**1,220.00**
	500	0.60	2.4	1.20	4.9	29.40	1.26	56.70	450.00	45.00	3.05	15.30	214.12	**810.52**	164.00	**974.52**	20	**994.52**	198.90	149.18	**1,350.00**
	600	0.73	2.4	1.33	5.8	34.80	1.57	70.70	719.00	71.90	3.05	15.30	214.12	**1,125.82**	194.00	**1,319.82**	20	**1,339.82**	268.00	200.97	**1,810.00**
CPP	750	0.90	2.4	1.50	7	42.00	2.02	91.20	850.00	85.00	3.00	15.00	214.12	**1,297.32**	150.00	**1,447.32**	20	**1,467.32**	293.50	220.10	**1,990.00**
	900	1.10	3.0	1.70	8.7	52.20	2.63	118.60	1,000.00	100.00	3.35	16.80	214.12	**1,501.72**	180.00	**1,681.72**	20	**1,701.72**	340.30	255.26	**2,300.00**

Notes

1) Cost of excavation: $6/m3
2) Cost of bedding/pipe surrounding: $45/m3 includes supply and place
3) PVC Pipe (up to 600 mm) Cost provided by IPEX on 30 Oct 17
4) Pipe Installation Allowance based on 10% of pipe cost
5) Backfill trench $5/m3 based on replacement of native material and compaction
6) Includes costs for mainline valves and hydrant sets. No hydrants connected to 750mm and larger mains. Service connections and special appurtenances excluded
7) Restoration for route along existing road allowance (Cost varies with type of restoration). Minimum 4.0m width of restoration (2.0m trench plus 1.0 m each side)
8) Includes allowance for dewatering
9) PVC DR18 (100mm to 600mm)

Prepared By: D. Prashad Date:
Checked By: S. Winchester Date: 30-Nov-17

WASTEWATER SERVICING INFRASTRUCTURE - Average Unit Prices (Southwestern Ontarion Region) for 2019

Nom. Pipe Size	Depth to Invert	Shoring System Cost	Outer pipe Diameter	Excavation		Granular Bed. Surr.		Backfill		Pipe		MH Allowance	**Subtotal**	Dewatering Allowance	**TOTAL (excluding restoration)**	Road Restoration	**TOTAL (including restoration)**
				Vol.	Cost	Vol.	Cost	Vol.	Cost	Cost	Installation Allowance						
(mm)	(m)	($/m)	(m)	(m3)	($/m)	(m3)	($/m)	(m3)	($/m)	($/m)	($/m)	($/m)	**($/m)**	($/m)	**($/m)**	($/m)	**($/m)**
200	5	10.00	0.213	6.2	37.20	0.6	27.00	5.6	28.00	55.65	5.57	94.00	**257.42**	20.00	**280**	214	**494**
250	5	10.00	0.267	6.2	37.2	0.7	31.5	5.5	27.5	85.30	8.53	94.00	**294.03**	20.00	**320**	214	**534**
300	5	10.00	0.318	6.2	37.20	0.8	36.00	5.4	27.00	120.25	12.03	94.00	**336.48**	20.00	**360**	214	**574**
375	5	10.00	0.389	6.2	37.20	0.9	40.50	5.3	26.50	162.45	16.25	94.00	**386.90**	20.00	**410**	214	**624**
450	5	10.00	0.622	7.3	43.80	1.2	54.00	6.1	30.50	101.30	30.39	94.00	**363.99**	20.00	**390**	214	**604**
525	5	10.00	0.711	7.8	46.80	1.4	63.00	6.4	32.00	129.00	38.70	135.00	**454.50**	20.00	**480**	214	**694**
600	5	10.00	0.800	8.2	49.20	1.5	67.50	6.7	33.50	170.90	51.27	135.00	**517.37**	20.00	**540**	214	**754**
675	5	15.00	0.889	8.7	52.20	1.6	72.00	7.1	35.50	259.60	77.88	135.00	**647.18**	20.00	**670**	271	**941**
750	5	15.00	0.978	9.2	55.20	1.8	81.00	7.4	37.00	343.50	103.05	135.00	**769.75**	20.00	**790**	271	**1,061**
825	5	15.00	1.067	9.6	57.60	1.9	85.50	7.7	38.50	443.40	133.02	172.00	**945.02**	20.00	**970**	271	**1,241**
900	5	15.00	1.156	10.4	62.40	2.1	94.50	8.3	41.50	478.40	143.52	172.00	**1,007.32**	20.00	**1,030**	271	**1,301**
975	5	20.00	1.245	10.8	64.80	2.2	99.00	8.6	43.00	549.70	164.91	172.00	**1,113.41**	20.00	**1,140**	271	**1,411**
1050	5	20.00	1.334	11.3	67.80	2.4	108.00	8.9	44.50	632.00	189.60	303.00	**1,364.90**	20.00	**1,390**	271	**1,661**
1200	5	20.00	1.511	12.2	73.20	2.7	121.50	9.5	47.50	791.50	237.45	303.00	**1,594.15**	20.00	**1,620**	271	**1,891**
200	7	10.00	0.213	8.6	51.60	0.6	27.00	8.0	40.00	55.65	5.57	150.00	**339.82**	20.00	**360**	214	**574**
250	7	10.00	0.267	8.6	51.60	0.7	31.5	7.9	39.50	85.30	8.53	150.00	**376.43**	20.00	**400.00**	214	614
300	7	15.00	0.318	8.6	51.60	0.8	36.00	7.8	39.00	120.25	12.03	150.00	**423.88**	20.00	**450**	214	**664**
375	7	15.00	0.389	8.6	51.60	0.9	40.50	7.7	38.50	162.45	16.25	150.00	**474.30**	20.00	**500**	214	**714**
450	7	15.00	0.622	10.2	61.20	1.2	54.00	9.0	45.00	101.30	30.39	150.00	**456.89**	20.00	**480**	214	**694**
525	7	15.00	0.711	10.8	64.80	1.4	63.00	9.4	47.00	129.00	38.70	189.00	**546.50**	20.00	**570**	214	**784**
600	7	20.00	0.800	11.4	68.40	1.5	67.50	9.9	49.50	170.90	51.27	189.00	**616.57**	20.00	**640**	214	**854**
675	7	20.00	0.889	12.1	72.60	1.6	72.00	10.5	52.50	259.60	77.88	189.00	**743.58**	20.00	**770**	271	**1,041**
750	7	20.00	0.978	12.7	76.20	1.8	81.00	10.9	54.50	343.50	103.05	189.00	**867.25**	20.00	**890**	271	**1,161**
825	7	20.00	1.067	13.3	79.80	1.9	85.50	11.4	57.00	443.40	133.02	226.00	**1,044.72**	20.00	**1,070**	271	**1,341**
900	7	30.00	1.156	14.3	85.80	2.1	94.50	12.2	61.00	478.40	143.52	226.00	**1,119.22**	20.00	**1,140**	271	**1,411**
975	7	30.00	1.245	14.9	89.40	2.2	99.00	12.7	63.50	549.70	164.91	226.00	**1,222.51**	20.00	**1,250**	271	**1,521**
1050	7	40.00	1.334	15.6	93.60	2.4	108.00	13.2	66.00	632.00	189.60	356.00	**1,485.20**	20.00	**1,510**	271	**1,781**
1200	7	40.00	1.511	16.9	101.40	2.7	121.50	14.2	71.00	791.50	237.45	356.00	**1,718.85**	20.00	**1,740**	271	**2,011**

Notes

1) Cost of excavation $6/m^3
2) For 200mm to 375 mm sewer pipe, supply cost taken from Royal Pipe Products (PVC) 2018 Price
   Installation Cost 10% of pipe supply cost
3) For sewer pipe 450mm dia and larger, supply cost taken from M-Con Products 2017 Price list for 1
   Installation Cost 30% of pipe cost for concrete pipe
4) Backfill trench $5/m3 based on replacement of native material and compaction
5) Cost of granular bedding $45/m^3
6) Manhole Spacing 100 m
7) Service Laterals excluded from this estimate,
8) Restoration cost for sewers 600mm dia and smaller includes 300mm subbase, 150mm base, 60mm binder, and 40mm binder
9) Restoration cost for sewers larger than 600mm dia includes 450mm subbase, 150mm base, 100mm binder, and 40mm surface
10) Engineering and HST not included

Prepared By: S. Mayirou Date: 9/1/2018
Checked By: S. Winchester Date: 15/01/18

MH	Dia	Depth	List Price[1]	Additional Items[2]	Sub-Total _ Supply Cost	Installation @ 100%	Total Cost per Installed	Cost per m
	1200	5	$3,834.00	$862.80	$4,696.80	$4,696.80	$9,400.00	$94.00
	1500	5	$5,630.00	$1,112.80	$6,742.80	$6,742.80	$13,500.00	$135.00
	1800	5	$7,128.00	$1,462.80	$8,590.80	$8,590.80	$17,200.00	$172.00
	2400	5	$13,265.00	$1,862.80	$15,127.80	$15,127.80	$30,300.00	$303.00
	1200	7	$6,593.00	$862.80	$7,455.80	$7,455.80	$15,000.00	$150.00
	1500	7	$8,293.00	$1,112.80	$9,405.80	$9,405.80	$18,900.00	$189.00
	1800	7	$9,791.00	$1,462.80	$11,253.80	$11,253.80	$22,600.00	$226.00
	2400	7	$15,927.00	$1,862.80	$17,789.80	$17,789.80	$35,600.00	$356.00

Note:

1 Based on 2017 List Price from M-Con Products. Safety Landing included for MH depths > 5.0 m

2 Allowance for castings, grade rings, benching, flexible connectors

Flexible Connectors

300	$312.30
375	$375.30
450	$474.80
525	$560.50
600	$664.40
675	Not listed
750	Not listed
825	Not listed
900	Not listed
975	Not listed
1050	Not listed
1200	Not listed

Excavation Quantities for Sewers laid at Different Depths

For Depth to Invert = 5.0 m

Nom. Pipe Size	Outer Pipe Dia.	Depth To Invert	Bottom Trench			Middle Trench			Top Trench				Total Area
			Width	Depth	Area	Width	Depth	Area	Bottom Width	Top Width	Depth	Area	
mm	m	m	m	m	m2	m	m	m2	m	m	m	m2	m2
200	0.260	5	1.010	1	1.0	1.510	3	4.5	1.510	3.510	1	2.5	**8.1**
250	0.318	5	1.068	1	1.1	1.568	3	4.7	1.568	3.568	1	2.6	**8.3**
300	0.445	5	1.195	1	1.2	1.695	3	5.1	1.695	3.695	1	2.7	**9.0**
375	0.520	5	1.270	1	1.3	1.770	3	5.3	1.770	3.770	1	2.8	**9.4**
450	0.580	5	1.330	1	1.3	1.830	3	5.5	1.830	3.830	1	2.8	**9.7**
525	0.665	5	1.415	1	1.4	1.915	3	5.7	1.915	3.915	1	2.9	**10.1**
600	0.755	5	1.505	1	1.5	2.005	3	6.0	2.005	4.005	1	3.0	**10.5**
675	0.880	5	1.630	1	1.6	2.130	3	6.4	2.130	4.130	1	3.1	**11.2**
750	0.970	5	1.720	1	1.7	2.220	3	6.7	2.220	4.220	1	3.2	**11.6**
825	1.055	5	1.805	1	1.8	2.305	3	6.9	2.305	4.305	1	3.3	**12.0**

For Depth to Invert = 7.0 m

Nom. Pipe Size	Outer Pipe Dia.	Depth To Invert	Bottom Trench			Middle Trench			Top Trench				Total Area
			Width	Depth	Area	Width	Depth	Area	Bottom Width	Top Width	Depth	Area	
mm	m	m	m	m	m2	m	m	m2	m	m	m	m2	m2
250	0.318	7	1.068	1	1.1	1.568	5	7.8	1.568	3.568	1	2.6	**11.5**
300	0.445	7	1.195	1	1.2	1.695	5	8.5	1.695	3.695	1	2.7	**12.4**
375	0.520	7	1.270	1	1.3	1.770	5	8.9	1.770	3.770	1	2.8	**12.9**
450	0.580	7	1.330	1	1.3	1.830	5	9.2	1.830	3.830	1	2.8	**13.3**
525	0.665	7	1.415	1	1.4	1.915	5	9.6	1.915	3.915	1	2.9	**13.9**
600	0.755	7	1.505	1	1.5	2.005	5	10.0	2.005	4.005	1	3.0	**14.5**
675	0.880	7	1.630	1	1.6	2.130	5	10.7	2.130	4.130	1	3.1	**15.4**
750	0.970	7	1.720	1	1.7	2.220	5	11.1	2.220	4.220	1	3.2	**16.0**
825	1.055	7	1.805	1	1.8	2.305	5	11.5	2.305	4.305	1	3.3	**16.6**

For Depth to Invert = 9.0 m

Nom. Pipe Size	Outer Pipe Dia.	Depth To Invert	Bottom Trench			Middle Trench			Top Trench				Total Area
			Width	Depth	Area	Width	Depth	Area	Bottom Width	Top Width	Depth	Area	
mm	m	m	m	m	m2	m	m	m2	m	m	m	m2	m2
250	0.318	9	1.068	1	1.1	1.568	6	9.4	1.568	5.568	2	7.1	**17.6**
300	0.445	9	1.195	1	1.2	1.695	6	10.2	1.695	5.695	2	7.4	**18.8**
375	0.520	9	1.270	1	1.3	1.770	6	10.6	1.770	5.770	2	7.5	**19.4**
450	0.580	9	1.330	1	1.3	1.830	6	11.0	1.830	5.830	2	7.7	**20.0**
525	0.665	9	1.415	1	1.4	1.915	6	11.5	1.915	5.915	2	7.8	**20.7**
600	0.755	9	1.505	1	1.5	2.005	6	12.0	2.005	6.005	2	8.0	**21.5**
675	0.880	9	1.630	1	1.6	2.130	6	12.8	2.130	6.130	2	8.3	**22.7**
750	0.970	9	1.720	1	1.7	2.220	6	13.3	2.220	6.220	2	8.4	**23.5**
825	1.055	9	1.805	1	1.8	2.305	6	13.8	2.305	6.305	2	8.6	**24.2**

RESTORATION UNIT COST FOR SEWERS

Nom. Pipe Size	Outer Pipe Dia.	Depth To Invert	Surface Area of Trench	Topsoil+ Seed Cost @ $7.5/m^2	Topsoil+ Sod Cost @ $10.00/m^2	Granular Restoration Base & Sub-base		Asphalt including Granular Base	
						Local Street @ $18.0/m^2	Collector Street @ $23.4/m^2	Local Street @ $41.0/m^2	Collector Street @ $55.3/m^2
mm	m	m	m^2/m	$/m	$/m	$/m	$/m	$/m	$/m
300	0.445	5	4.0	30.2	40.0	72.0	93.6	214.1	271.0
375	0.533	5	4.0	30.2	40.0	72.0	93.6	214.1	271.0
450	0.622	5	4.0	30.2	40.0	72.0	93.6	214.1	271.0
525	0.711	5	4.0	30.2	40.0	72.0	93.6	214.1	271.0
600	0.800	5	4.0	30.2	40.0	72.0	93.6	214.1	271.0
675	0.889	5	4.0	30.2	40.0	72.0	93.6	214.1	271.0
750	0.978	5	4.0	30.2	40.0	72.0	93.6	214.1	271.0
825	1.067	5	4.0	30.2	40.0	72.0	93.6	214.1	271.0
900	1.156	5	4.0	30.2	40.0	72.0	93.6	214.1	271.0
975	1.245	5	4.0	30.2	40.0	72.0	93.6	214.1	271.0
105	1.334	5	4.0	30.2	40.0	72.0	93.6	214.1	271.0
1200	1.511	5	4.0	30.2	40.0	72.0	93.6	214.1	271.0

UNIT COST FOR DIFFERENT LAYERS

Item	Local Street		Collector Street		Remarks	
		$/m^2		$/m^2		
Subbase	300 mm "B"	10.8	450 mm "B"	16.2	"B" @ $15/tonne (2.4 t/m^3)	
Base	150 mm "A"	7.2	150 mm "A"	7.2	"A" @ $20/tonne (2.4 t/m^3)	
Subtotal		**18.0**		**23.4**		
Binder	60 HL4	13.2	100 HL4	22.1	"HL4" @ $90/tonne (2.45 t/m^3)	
Surface	40 HL3	9.8	40 HL3	9.8	"HL3" @ $100/tonne (2.45 t/m^3)	
Total		**41.0**		**55.3**		
Curb (one side)		50.0		50.0		

C

Appendix C

Preliminary Cost Recovery Estimates – Detailed Calculations

Project Title:	**Water and Sewage Feasibility Study**
Client:	Township of Puslinch
Project No.:	T000866A
Task:	Cost Recovery Calculations
Prepared By:	A. Laleva **Date:** 16-May-19
Reviewed by:	S. Winchester **Date:** 20-May-19
Revision No. :	**Revision Date:**

	PRELIMINARY COST RECOVERY OPTIONS							
	WATER SERVICING				WASTEWATER SERVICING			
	OPTION 1		OPTION 2		OPTION 1		OPTION 2	
ASSUME NO FUNDING								
CAPITAL COST	$22,935,500		$19,976,700		$29,036,580		$11,683,080	
Servicing Cost Per Unit (128 connections)	$179,184		$156,068		$226,848		$91,274	
	Monthly Cost	Annual Cost	Monthly Cost	Annual Cost	Monthly Cost	Annual Cost	Monthly Cost	Annual Cost
Estimated Cost - 10 Year Payback (4.0%)	$1,814	$21,770	$1,580	$18,961	$2,297	$27,561	$924	$11,089
Estimated Cost - 15 Year Payback (4.0%)	$1,325	$15,905	$1,154	$13,853	$1,678	$20,136	$675	$8,102
Estimated Cost - 20 Year Payback (4.0%)	$1,086	$13,030	$946	$11,349	$1,375	$16,496	$553	$6,637
ASSUME 2/3 FUNDING								
CAPITAL COST	$22,935,500		$19,976,700		$29,036,580		$11,683,080	
SUBSIDIZED COST	$7,645,167		$6,658,900		$9,678,860		$3,894,360	
Servicing Cost Per Unit (128 connections)	$59,728		$52,023		$75,616		$30,425	
	Monthly Cost	Annual Cost	Monthly Cost	Annual Cost	Monthly Cost	Annual Cost	Monthly Cost	Annual Cost
Estimated Cost - 10 Year Payback (4.0%)	$605	$7,257	$527	$6,320	$766	$9,187	$308	$3,696
Estimated Cost - 15 Year Payback (4.0%)	$442	$5,302	$385	$4,618	$559	$6,712	$225	$2,701
Estimated Cost - 20 Year Payback (4.0%)	$362	$4,343	$315	$3,783	$458	$5,499	$184	$2,212

Note: Payback amouts exclude Administration Fees (if any) charged by the Township to administer the loans

Calculate Discount FactorS

For 10 Year Cost Recovery

	A =	((i*(1+i)^n) / ((1+i)^n -1))	Capital Recovery Factor (Eq'n 3.18, Engineering Economic Analysis)
where	i =	interest rate per period	
	i_a =	4.0 %	Assumed Annual Interest Rate
	=	0.333333 %	
	=	0.003333	
	n =	120	Number of Monthly PaymentPayments
	A =	0.010125	
	D =	98.77017	Discount Factor (=1/A)

For 15 Year Cost Recovery

	A =	((i*(1+i)^n) / ((1+i)^n -1))	
where	i =	interest rate per period	
	i_a =	4.0 %	Assumed Annual Interest Rate
	=	0.333333 %	
	=	0.003333	
	n =	180	Number of Monthly PaymentPayments
	A =	0.007397	
	D =	135.1921	Discount Factor (=1/A)

For 20 Year Cost Recovery

	A =	((i*(1+i)^n) / ((1+i)^n -1))	
where	i =	interest rate per period	
	i_a =	4.0 %	Assumed Annual Interest Rate
	=	0.333333 %	
	=	0.003333	
	n =	240	Number of Monthly PaymentPayments
	A =	0.00606	
	D =	165.0219	Discount Factor (=1/A)

TOWNSHIP OF PUSLINCH
Water Servicing - Option W1

Estimated Capital Cost:	$22,935,500
Number of Benefitting Properties:	128
Cost per Connection:	$179,183.59

Capital Cost Recovery Factor - A = 0.010124514
Monthly Cost -P = $1,814.15

Loan Amount	Interest Rate	Term in Years	Monthly Payment
$179,184.00	4.00%	10	**$1,814.15**

Month	Starting Balance	Interest	Principal	Ending Balance	Total Interest
1	$179,184.00	$597.28	$1,216.87	$177,967.13	$597.28
2	$177,967.13	$593.22	$1,220.93	$176,746.20	$1,190.50
3	$176,746.20	$589.15	$1,225.00	$175,521.21	$1,779.66
4	$175,521.21	$585.07	$1,229.08	$174,292.12	$2,364.73
5	$174,292.12	$580.97	$1,233.18	$173,058.95	$2,945.70
6	$173,058.95	$576.86	$1,237.29	$171,821.66	$3,522.57
7	$171,821.66	$572.74	$1,241.41	$170,580.25	$4,095.30
8	$170,580.25	$568.60	$1,245.55	$169,334.70	$4,663.91
9	$169,334.70	$564.45	$1,249.70	$168,085.00	$5,228.35
10	$168,085.00	$560.28	$1,253.87	$166,831.13	$5,788.64
11	$166,831.13	$556.10	$1,258.05	$165,573.08	$6,344.74
12	$165,573.08	$551.91	$1,262.24	$164,310.84	$6,896.65
13	$164,310.84	$547.70	$1,266.45	$163,044.39	$7,444.35
14	$163,044.39	$543.48	$1,270.67	$161,773.72	$7,987.84
15	$161,773.72	$539.25	$1,274.91	$160,498.82	$8,527.08
16	$160,498.82	$535.00	$1,279.15	$159,219.66	$9,062.08
17	$159,219.66	$530.73	$1,283.42	$157,936.24	$9,592.81
18	$157,936.24	$526.45	$1,287.70	$156,648.55	$10,119.26
19	$156,648.55	$522.16	$1,291.99	$155,356.56	$10,641.43
20	$155,356.56	$517.86	$1,296.30	$154,060.26	$11,159.28
21	$154,060.26	$513.53	$1,300.62	$152,759.65	$11,672.81
22	$152,759.65	$509.20	$1,304.95	$151,454.69	$12,182.01
23	$151,454.69	$504.85	$1,309.30	$150,145.39	$12,686.86
24	$150,145.39	$500.48	$1,313.67	$148,831.73	$13,187.35
25	$148,831.73	$496.11	$1,318.05	$147,513.68	$13,683.45
26	$147,513.68	$491.71	$1,322.44	$146,191.24	$14,175.17
27	$146,191.24	$487.30	$1,326.85	$144,864.40	$14,662.47
28	$144,864.40	$482.88	$1,331.27	$143,533.13	$15,145.35
29	$143,533.13	$478.44	$1,335.71	$142,197.42	$15,623.79
30	$142,197.42	$473.99	$1,340.16	$140,857.26	$16,097.79
31	$140,857.26	$469.52	$1,344.63	$139,512.63	$16,567.31
32	$139,512.63	$465.04	$1,349.11	$138,163.52	$17,032.35
33	$138,163.52	$460.55	$1,353.61	$136,809.92	$17,492.90
34	$136,809.92	$456.03	$1,358.12	$135,451.80	$17,948.93
35	$135,451.80	$451.51	$1,362.64	$134,089.16	$18,400.44
36	$134,089.16	$446.96	$1,367.19	$132,721.97	$18,847.40
37	$132,721.97	$442.41	$1,371.74	$131,350.22	$19,289.81
38	$131,350.22	$437.83	$1,376.32	$129,973.91	$19,727.64
39	$129,973.91	$433.25	$1,380.90	$128,593.00	$20,160.89
40	$128,593.00	$428.64	$1,385.51	$127,207.50	$20,589.53
41	$127,207.50	$424.02	$1,390.13	$125,817.37	$21,013.56
42	$125,817.37	$419.39	$1,394.76	$124,422.61	$21,432.95
43	$124,422.61	$414.74	$1,399.41	$123,023.20	$21,847.69
44	$123,023.20	$410.08	$1,404.07	$121,619.13	$22,257.77
45	$121,619.13	$405.40	$1,408.75	$120,210.37	$22,663.16
46	$120,210.37	$400.70	$1,413.45	$118,796.92	$23,063.86
47	$118,796.92	$395.99	$1,418.16	$117,378.76	$23,459.85
48	$117,378.76	$391.26	$1,422.89	$115,955.87	$23,851.12
49	$115,955.87	$386.52	$1,427.63	$114,528.24	$24,237.64
50	$114,528.24	$381.76	$1,432.39	$113,095.85	$24,619.40
51	$113,095.85	$376.99	$1,437.16	$111,658.69	$24,996.38
52	$111,658.69	$372.20	$1,441.96	$110,216.73	$25,368.58
53	$110,216.73	$367.39	$1,446.76	$108,769.97	$25,735.97
54	$108,769.97	$362.57	$1,451.58	$107,318.39	$26,098.53
55	$107,318.39	$357.73	$1,456.42	$105,861.96	$26,456.26
56	$105,861.96	$352.87	$1,461.28	$104,400.69	$26,809.14
57	$104,400.69	$348.00	$1,466.15	$102,934.54	$27,157.14
58	$102,934.54	$343.12	$1,471.04	$101,463.50	$27,500.25
59	$101,463.50	$338.21	$1,475.94	$99,987.56	$27,838.46
60	$99,987.56	$333.29	$1,480.86	$98,506.70	$28,171.76
61	$98,506.70	$328.36	$1,485.80	$97,020.91	$28,500.11

TOWNSHIP OF PUSLINCH
Water Servicing - Option W1

Estimated Capital Cost:	$22,935,500
Number of Benefitting Properties:	128
Cost per Connection:	$179,183.59

Capital Cost Recovery Factor - A =	0.010124514
Monthly Cost -P =	$1,814.15

Loan Amount	Interest Rate	Term in Years	Monthly Payment
$179,184.00	4.00%	10	**$1,814.15**

Month	Starting Balance	Interest	Principal	Ending Balance	Total Interest
62	$97,020.91	$323.40	$1,490.75	$95,530.16	$28,823.52
63	$95,530.16	$318.43	$1,495.72	$94,034.44	$29,141.95
64	$94,034.44	$313.45	$1,500.70	$92,533.74	$29,455.40
65	$92,533.74	$308.45	$1,505.71	$91,028.04	$29,763.84
66	$91,028.04	$303.43	$1,510.72	$89,517.31	$30,067.27
67	$89,517.31	$298.39	$1,515.76	$88,001.55	$30,365.66
68	$88,001.55	$293.34	$1,520.81	$86,480.74	$30,659.00
69	$86,480.74	$288.27	$1,525.88	$84,954.86	$30,947.27
70	$84,954.86	$283.18	$1,530.97	$83,423.89	$31,230.45
71	$83,423.89	$278.08	$1,536.07	$81,887.82	$31,508.53
72	$81,887.82	$272.96	$1,541.19	$80,346.63	$31,781.49
73	$80,346.63	$267.82	$1,546.33	$78,800.30	$32,049.31
74	$78,800.30	$262.67	$1,551.48	$77,248.82	$32,311.98
75	$77,248.82	$257.50	$1,556.65	$75,692.16	$32,569.48
76	$75,692.16	$252.31	$1,561.84	$74,130.32	$32,821.78
77	$74,130.32	$247.10	$1,567.05	$72,563.27	$33,068.88
78	$72,563.27	$241.88	$1,572.27	$70,990.99	$33,310.76
79	$70,990.99	$236.64	$1,577.51	$69,413.48	$33,547.40
80	$69,413.48	$231.38	$1,582.77	$67,830.71	$33,778.78
81	$67,830.71	$226.10	$1,588.05	$66,242.66	$34,004.88
82	$66,242.66	$220.81	$1,593.34	$64,649.32	$34,225.69
83	$64,649.32	$215.50	$1,598.65	$63,050.66	$34,441.19
84	$63,050.66	$210.17	$1,603.98	$61,446.68	$34,651.36
85	$61,446.68	$204.82	$1,609.33	$59,837.35	$34,856.18
86	$59,837.35	$199.46	$1,614.69	$58,222.66	$35,055.64
87	$58,222.66	$194.08	$1,620.08	$56,602.58	$35,249.71
88	$56,602.58	$188.68	$1,625.48	$54,977.11	$35,438.39
89	$54,977.11	$183.26	$1,630.89	$53,346.21	$35,621.64
90	$53,346.21	$177.82	$1,636.33	$51,709.88	$35,799.46
91	$51,709.88	$172.37	$1,641.78	$50,068.10	$35,971.83
92	$50,068.10	$166.89	$1,647.26	$48,420.84	$36,138.72
93	$48,420.84	$161.40	$1,652.75	$46,768.09	$36,300.13
94	$46,768.09	$155.89	$1,658.26	$45,109.84	$36,456.02
95	$45,109.84	$150.37	$1,663.78	$43,446.05	$36,606.39
96	$43,446.05	$144.82	$1,669.33	$41,776.72	$36,751.21
97	$41,776.72	$139.26	$1,674.90	$40,101.83	$36,890.46
98	$40,101.83	$133.67	$1,680.48	$38,421.35	$37,024.13
99	$38,421.35	$128.07	$1,686.08	$36,735.27	$37,152.21
100	$36,735.27	$122.45	$1,691.70	$35,043.57	$37,274.66
101	$35,043.57	$116.81	$1,697.34	$33,346.23	$37,391.47
102	$33,346.23	$111.15	$1,703.00	$31,643.23	$37,502.62
103	$31,643.23	$105.48	$1,708.67	$29,934.56	$37,608.10
104	$29,934.56	$99.78	$1,714.37	$28,220.19	$37,707.88
105	$28,220.19	$94.07	$1,720.08	$26,500.11	$37,801.95
106	$26,500.11	$88.33	$1,725.82	$24,774.29	$37,890.28
107	$24,774.29	$82.58	$1,731.57	$23,042.72	$37,972.86
108	$23,042.72	$76.81	$1,737.34	$21,305.38	$38,049.67
109	$21,305.38	$71.02	$1,743.13	$19,562.24	$38,120.69
110	$19,562.24	$65.21	$1,748.94	$17,813.30	$38,185.90
111	$17,813.30	$59.38	$1,754.77	$16,058.53	$38,245.28
112	$16,058.53	$53.53	$1,760.62	$14,297.91	$38,298.80
113	$14,297.91	$47.66	$1,766.49	$12,531.41	$38,346.46
114	$12,531.41	$41.77	$1,772.38	$10,759.04	$38,388.24
115	$10,759.04	$35.86	$1,778.29	$8,980.75	$38,424.10
116	$8,980.75	$29.94	$1,784.22	$7,196.53	$38,454.04
117	$7,196.53	$23.99	$1,790.16	$5,406.37	$38,478.02
118	$5,406.37	$18.02	$1,796.13	$3,610.24	$38,496.04
119	$3,610.24	$12.03	$1,802.12	$1,808.12	$38,508.08
120	$1,808.12	$6.03	$1,808.12	$0.00	$38,514.11

TOWNSHIP OF PUSLINCH
Water Servicing - Option W1

Estimated Capital Cost:	$22,935,500
Number of Benefitting Properties:	128
Cost per Connection:	$179,183.59

Capital Cost Recovery Factor - A = 0.007396879
Monthly Cost -P = $1,325.40

Loan Amount	Interest Rate	Term in Years	Monthly Payment
$179,184.00	4.00%	15	**$1,325.40**

Month	StartingBalance	Interest	Principal	EndingBalance	TotalInterest
1	$179,184.00	$597.28	$728.12	$178,455.88	$597.28
2	$178,455.88	$594.85	$730.55	$177,725.33	$1,192.13
3	$177,725.33	$592.42	$732.98	$176,992.34	$1,784.55
4	$176,992.34	$589.97	$735.43	$176,256.92	$2,374.53
5	$176,256.92	$587.52	$737.88	$175,519.04	$2,962.05
6	$175,519.04	$585.06	$740.34	$174,778.70	$3,547.11
7	$174,778.70	$582.60	$742.81	$174,035.89	$4,129.71
8	$174,035.89	$580.12	$745.28	$173,290.61	$4,709.83
9	$173,290.61	$577.64	$747.77	$172,542.84	$5,287.46
10	$172,542.84	$575.14	$750.26	$171,792.58	$5,862.61
11	$171,792.58	$572.64	$752.76	$171,039.82	$6,435.25
12	$171,039.82	$570.13	$755.27	$170,284.55	$7,005.38
13	$170,284.55	$567.62	$757.79	$169,526.76	$7,572.99
14	$169,526.76	$565.09	$760.31	$168,766.45	$8,138.08
15	$168,766.45	$562.55	$762.85	$168,003.60	$8,700.64
16	$168,003.60	$560.01	$765.39	$167,238.21	$9,260.65
17	$167,238.21	$557.46	$767.94	$166,470.27	$9,818.11
18	$166,470.27	$554.90	$770.50	$165,699.77	$10,373.01
19	$165,699.77	$552.33	$773.07	$164,926.70	$10,925.35
20	$164,926.70	$549.76	$775.65	$164,151.05	$11,475.10
21	$164,151.05	$547.17	$778.23	$163,372.82	$12,022.27
22	$163,372.82	$544.58	$780.83	$162,591.99	$12,566.85
23	$162,591.99	$541.97	$783.43	$161,808.56	$13,108.82
24	$161,808.56	$539.36	$786.04	$161,022.52	$13,648.18
25	$161,022.52	$536.74	$788.66	$160,233.86	$14,184.92
26	$160,233.86	$534.11	$791.29	$159,442.57	$14,719.04
27	$159,442.57	$531.48	$793.93	$158,648.65	$15,250.51
28	$158,648.65	$528.83	$796.57	$157,852.07	$15,779.34
29	$157,852.07	$526.17	$799.23	$157,052.84	$16,305.51
30	$157,052.84	$523.51	$801.89	$156,250.95	$16,829.02
31	$156,250.95	$520.84	$804.57	$155,446.39	$17,349.86
32	$155,446.39	$518.15	$807.25	$154,639.14	$17,868.02
33	$154,639.14	$515.46	$809.94	$153,829.20	$18,383.48
34	$153,829.20	$512.76	$812.64	$153,016.56	$18,896.24
35	$153,016.56	$510.06	$815.35	$152,201.21	$19,406.30
36	$152,201.21	$507.34	$818.07	$151,383.15	$19,913.64
37	$151,383.15	$504.61	$820.79	$150,562.36	$20,418.25
38	$150,562.36	$501.87	$823.53	$149,738.83	$20,920.12
39	$149,738.83	$499.13	$826.27	$148,912.56	$21,419.25
40	$148,912.56	$496.38	$829.03	$148,083.53	$21,915.63
41	$148,083.53	$493.61	$831.79	$147,251.74	$22,409.24
42	$147,251.74	$490.84	$834.56	$146,417.17	$22,900.08
43	$146,417.17	$488.06	$837.35	$145,579.83	$23,388.13
44	$145,579.83	$485.27	$840.14	$144,739.69	$23,873.40
45	$144,739.69	$482.47	$842.94	$143,896.76	$24,355.87
46	$143,896.76	$479.66	$845.75	$143,051.01	$24,835.52
47	$143,051.01	$476.84	$848.57	$142,202.44	$25,312.36
48	$142,202.44	$474.01	$851.39	$141,351.05	$25,786.37
49	$141,351.05	$471.17	$854.23	$140,496.82	$26,257.54
50	$140,496.82	$468.32	$857.08	$139,639.74	$26,725.86
51	$139,639.74	$465.47	$859.94	$138,779.80	$27,191.32
52	$138,779.80	$462.60	$862.80	$137,917.00	$27,653.92
53	$137,917.00	$459.72	$865.68	$137,051.32	$28,113.65
54	$137,051.32	$456.84	$868.56	$136,182.75	$28,570.48
55	$136,182.75	$453.94	$871.46	$135,311.29	$29,024.43
56	$135,311.29	$451.04	$874.36	$134,436.93	$29,475.47
57	$134,436.93	$448.12	$877.28	$133,559.65	$29,923.59
58	$133,559.65	$445.20	$880.20	$132,679.45	$30,368.79
59	$132,679.45	$442.26	$883.14	$131,796.31	$30,811.05
60	$131,796.31	$439.32	$886.08	$130,910.23	$31,250.37
61	$130,910.23	$436.37	$889.03	$130,021.19	$31,686.74

TOWNSHIP OF PUSLINCH
Water Servicing - Option W1

Estimated Capital Cost:	$22,935,500
Number of Benefitting Properties:	128
Cost per Connection:	$179,183.59

Capital Cost Recovery Factor - A = 0.007396879
Monthly Cost -P = $1,325.40

Loan Amount	Interest Rate	Term in Years	Monthly Payment
$179,184.00	4.00%	15	**$1,325.40**

Month	StartingBalance	Interest	Principal	EndingBalance	TotalInterest
62	$130,021.19	$433.40	$892.00	$129,129.19	$32,120.14
63	$129,129.19	$430.43	$894.97	$128,234.22	$32,550.57
64	$128,234.22	$427.45	$897.96	$127,336.27	$32,978.02
65	$127,336.27	$424.45	$900.95	$126,435.32	$33,402.48
66	$126,435.32	$421.45	$903.95	$125,531.37	$33,823.93
67	$125,531.37	$418.44	$906.96	$124,624.40	$34,242.37
68	$124,624.40	$415.41	$909.99	$123,714.42	$34,657.78
69	$123,714.42	$412.38	$913.02	$122,801.40	$35,070.16
70	$122,801.40	$409.34	$916.06	$121,885.33	$35,479.50
71	$121,885.33	$406.28	$919.12	$120,966.21	$35,885.78
72	$120,966.21	$403.22	$922.18	$120,044.03	$36,289.00
73	$120,044.03	$400.15	$925.26	$119,118.78	$36,689.15
74	$119,118.78	$397.06	$928.34	$118,190.44	$37,086.21
75	$118,190.44	$393.97	$931.43	$117,259.00	$37,480.18
76	$117,259.00	$390.86	$934.54	$116,324.46	$37,871.05
77	$116,324.46	$387.75	$937.65	$115,386.81	$38,258.79
78	$115,386.81	$384.62	$940.78	$114,446.03	$38,643.42
79	$114,446.03	$381.49	$943.92	$113,502.11	$39,024.90
80	$113,502.11	$378.34	$947.06	$112,555.05	$39,403.24
81	$112,555.05	$375.18	$950.22	$111,604.83	$39,778.43
82	$111,604.83	$372.02	$953.39	$110,651.45	$40,150.44
83	$110,651.45	$368.84	$956.56	$109,694.88	$40,519.28
84	$109,694.88	$365.65	$959.75	$108,735.13	$40,884.93
85	$108,735.13	$362.45	$962.95	$107,772.18	$41,247.38
86	$107,772.18	$359.24	$966.16	$106,806.01	$41,606.62
87	$106,806.01	$356.02	$969.38	$105,836.63	$41,962.64
88	$105,836.63	$352.79	$972.61	$104,864.02	$42,315.43
89	$104,864.02	$349.55	$975.86	$103,888.16	$42,664.98
90	$103,888.16	$346.29	$979.11	$102,909.05	$43,011.27
91	$102,909.05	$343.03	$982.37	$101,926.68	$43,354.30
92	$101,926.68	$339.76	$985.65	$100,941.04	$43,694.06
93	$100,941.04	$336.47	$988.93	$99,952.10	$44,030.53
94	$99,952.10	$333.17	$992.23	$98,959.87	$44,363.70
95	$98,959.87	$329.87	$995.54	$97,964.34	$44,693.57
96	$97,964.34	$326.55	$998.85	$96,965.48	$45,020.11
97	$96,965.48	$323.22	$1,002.18	$95,963.30	$45,343.33
98	$95,963.30	$319.88	$1,005.52	$94,957.77	$45,663.21
99	$94,957.77	$316.53	$1,008.88	$93,948.90	$45,979.74
100	$93,948.90	$313.16	$1,012.24	$92,936.66	$46,292.90
101	$92,936.66	$309.79	$1,015.61	$91,921.04	$46,602.69
102	$91,921.04	$306.40	$1,019.00	$90,902.05	$46,909.09
103	$90,902.05	$303.01	$1,022.40	$89,879.65	$47,212.10
104	$89,879.65	$299.60	$1,025.80	$88,853.85	$47,511.70
105	$88,853.85	$296.18	$1,029.22	$87,824.62	$47,807.88
106	$87,824.62	$292.75	$1,032.65	$86,791.97	$48,100.63
107	$86,791.97	$289.31	$1,036.10	$85,755.87	$48,389.93
108	$85,755.87	$285.85	$1,039.55	$84,716.32	$48,675.79
109	$84,716.32	$282.39	$1,043.01	$83,673.31	$48,958.17
110	$83,673.31	$278.91	$1,046.49	$82,626.82	$49,237.08
111	$82,626.82	$275.42	$1,049.98	$81,576.84	$49,512.51
112	$81,576.84	$271.92	$1,053.48	$80,523.36	$49,784.43
113	$80,523.36	$268.41	$1,056.99	$79,466.37	$50,052.84
114	$79,466.37	$264.89	$1,060.51	$78,405.85	$50,317.73
115	$78,405.85	$261.35	$1,064.05	$77,341.80	$50,579.08
116	$77,341.80	$257.81	$1,067.60	$76,274.21	$50,836.89
117	$76,274.21	$254.25	$1,071.16	$75,203.05	$51,091.14
118	$75,203.05	$250.68	$1,074.73	$74,128.33	$51,341.81
119	$74,128.33	$247.09	$1,078.31	$73,050.02	$51,588.91
120	$73,050.02	$243.50	$1,081.90	$71,968.12	$51,832.41
121	$71,968.12	$239.89	$1,085.51	$70,882.61	$52,072.30
122	$70,882.61	$236.28	$1,089.13	$69,793.48	$52,308.58

TOWNSHIP OF PUSLINCH
Water Servicing - Option W1

Estimated Capital Cost:	$22,935,500
Number of Benefitting Properties:	128
Cost per Connection:	$179,183.59

Capital Cost Recovery Factor - A = 0.007396879
Monthly Cost -P = $1,325.40

Loan Amount	Interest Rate	Term in Years	Monthly Payment
$179,184.00	4.00%	15	**$1,325.40**

Month	StartingBalance	Interest	Principal	EndingBalance	TotalInterest
123	$69,793.48	$232.64	$1,092.76	$68,700.72	$52,541.22
124	$68,700.72	$229.00	$1,096.40	$67,604.32	$52,770.22
125	$67,604.32	$225.35	$1,100.05	$66,504.27	$52,995.57
126	$66,504.27	$221.68	$1,103.72	$65,400.55	$53,217.25
127	$65,400.55	$218.00	$1,107.40	$64,293.15	$53,435.25
128	$64,293.15	$214.31	$1,111.09	$63,182.06	$53,649.56
129	$63,182.06	$210.61	$1,114.80	$62,067.26	$53,860.17
130	$62,067.26	$206.89	$1,118.51	$60,948.75	$54,067.06
131	$60,948.75	$203.16	$1,122.24	$59,826.51	$54,270.22
132	$59,826.51	$199.42	$1,125.98	$58,700.53	$54,469.65
133	$58,700.53	$195.67	$1,129.73	$57,570.79	$54,665.31
134	$57,570.79	$191.90	$1,133.50	$56,437.29	$54,857.22
135	$56,437.29	$188.12	$1,137.28	$55,300.02	$55,045.34
136	$55,300.02	$184.33	$1,141.07	$54,158.95	$55,229.67
137	$54,158.95	$180.53	$1,144.87	$53,014.07	$55,410.20
138	$53,014.07	$176.71	$1,148.69	$51,865.38	$55,586.92
139	$51,865.38	$172.88	$1,152.52	$50,712.87	$55,759.80
140	$50,712.87	$169.04	$1,156.36	$49,556.51	$55,928.85
141	$49,556.51	$165.19	$1,160.21	$48,396.29	$56,094.03
142	$48,396.29	$161.32	$1,164.08	$47,232.21	$56,255.35
143	$47,232.21	$157.44	$1,167.96	$46,064.25	$56,412.80
144	$46,064.25	$153.55	$1,171.85	$44,892.40	$56,566.34
145	$44,892.40	$149.64	$1,175.76	$43,716.63	$56,715.98
146	$43,716.63	$145.72	$1,179.68	$42,536.95	$56,861.71
147	$42,536.95	$141.79	$1,183.61	$41,353.34	$57,003.50
148	$41,353.34	$137.84	$1,187.56	$40,165.78	$57,141.34
149	$40,165.78	$133.89	$1,191.52	$38,974.27	$57,275.23
150	$38,974.27	$129.91	$1,195.49	$37,778.78	$57,405.14
151	$37,778.78	$125.93	$1,199.47	$36,579.31	$57,531.07
152	$36,579.31	$121.93	$1,203.47	$35,375.83	$57,653.00
153	$35,375.83	$117.92	$1,207.48	$34,168.35	$57,770.92
154	$34,168.35	$113.89	$1,211.51	$32,956.84	$57,884.82
155	$32,956.84	$109.86	$1,215.55	$31,741.30	$57,994.67
156	$31,741.30	$105.80	$1,219.60	$30,521.70	$58,100.48
157	$30,521.70	$101.74	$1,223.66	$29,298.04	$58,202.21
158	$29,298.04	$97.66	$1,227.74	$28,070.29	$58,299.87
159	$28,070.29	$93.57	$1,231.83	$26,838.46	$58,393.44
160	$26,838.46	$89.46	$1,235.94	$25,602.52	$58,482.90
161	$25,602.52	$85.34	$1,240.06	$24,362.46	$58,568.25
162	$24,362.46	$81.21	$1,244.19	$23,118.26	$58,649.45
163	$23,118.26	$77.06	$1,248.34	$21,869.92	$58,726.51
164	$21,869.92	$72.90	$1,252.50	$20,617.42	$58,799.41
165	$20,617.42	$68.72	$1,256.68	$19,360.74	$58,868.14
166	$19,360.74	$64.54	$1,260.87	$18,099.87	$58,932.67
167	$18,099.87	$60.33	$1,265.07	$16,834.80	$58,993.01
168	$16,834.80	$56.12	$1,269.29	$15,565.52	$59,049.12
169	$15,565.52	$51.89	$1,273.52	$14,292.00	$59,101.01
170	$14,292.00	$47.64	$1,277.76	$13,014.24	$59,148.65
171	$13,014.24	$43.38	$1,282.02	$11,732.22	$59,192.03
172	$11,732.22	$39.11	$1,286.30	$10,445.92	$59,231.14
173	$10,445.92	$34.82	$1,290.58	$9,155.34	$59,265.96
174	$9,155.34	$30.52	$1,294.88	$7,860.45	$59,296.47
175	$7,860.45	$26.20	$1,299.20	$6,561.25	$59,322.68
176	$6,561.25	$21.87	$1,303.53	$5,257.72	$59,344.55
177	$5,257.72	$17.53	$1,307.88	$3,949.85	$59,362.07
178	$3,949.85	$13.17	$1,312.24	$2,637.61	$59,375.24
179	$2,637.61	$8.79	$1,316.61	$1,321.00	$59,384.03
180	$1,321.00	$4.40	$1,321.00	$0.00	$59,388.43

TOWNSHIP OF PUSLINCH
Water Servicing - Option W1

Estimated Capital Cost:	$22,935,500
Number of Benefitting Properties:	128
Cost per Connection:	$179,183.59

Capital Cost Recovery Factor - A =	0.006059803
Monthly Cost -P =	$1,085.82

Loan Amount	Interest Rate	Term in Years	Monthly Payment
$179,184.00	4.00%	20	**$1,085.82**

Month	Starting Balance	Interest	Principal	Ending Balance	Total Interest
1	$179,184.00	$597.28	$488.54	$178,695.46	$597.28
2	$178,695.46	$595.65	$490.17	$178,205.29	$1,192.93
3	$178,205.29	$594.02	$491.80	$177,713.49	$1,786.95
4	$177,713.49	$592.38	$493.44	$177,220.05	$2,379.33
5	$177,220.05	$590.73	$495.09	$176,724.96	$2,970.06
6	$176,724.96	$589.08	$496.74	$176,228.23	$3,559.14
7	$176,228.23	$587.43	$498.39	$175,729.83	$4,146.57
8	$175,729.83	$585.77	$500.05	$175,229.78	$4,732.34
9	$175,229.78	$584.10	$501.72	$174,728.06	$5,316.44
10	$174,728.06	$582.43	$503.39	$174,224.67	$5,898.86
11	$174,224.67	$580.75	$505.07	$173,719.59	$6,479.61
12	$173,719.59	$579.07	$506.75	$173,212.84	$7,058.68
13	$173,212.84	$577.38	$508.44	$172,704.40	$7,636.05
14	$172,704.40	$575.68	$510.14	$172,194.26	$8,211.74
15	$172,194.26	$573.98	$511.84	$171,682.42	$8,785.72
16	$171,682.42	$572.27	$513.55	$171,168.87	$9,357.99
17	$171,168.87	$570.56	$515.26	$170,653.62	$9,928.55
18	$170,653.62	$568.85	$516.97	$170,136.64	$10,497.40
19	$170,136.64	$567.12	$518.70	$169,617.95	$11,064.52
20	$169,617.95	$565.39	$520.43	$169,097.52	$11,629.91
21	$169,097.52	$563.66	$522.16	$168,575.36	$12,193.57
22	$168,575.36	$561.92	$523.90	$168,051.46	$12,755.49
23	$168,051.46	$560.17	$525.65	$167,525.81	$13,315.66
24	$167,525.81	$558.42	$527.40	$166,998.41	$13,874.08
25	$166,998.41	$556.66	$529.16	$166,469.25	$14,430.74
26	$166,469.25	$554.90	$530.92	$165,938.33	$14,985.64
27	$165,938.33	$553.13	$532.69	$165,405.63	$15,538.77
28	$165,405.63	$551.35	$534.47	$164,871.17	$16,090.12
29	$164,871.17	$549.57	$536.25	$164,334.92	$16,639.69
30	$164,334.92	$547.78	$538.04	$163,796.88	$17,187.47
31	$163,796.88	$545.99	$539.83	$163,257.05	$17,733.46
32	$163,257.05	$544.19	$541.63	$162,715.42	$18,277.65
33	$162,715.42	$542.38	$543.44	$162,171.99	$18,820.04
34	$162,171.99	$540.57	$545.25	$161,626.74	$19,360.61
35	$161,626.74	$538.76	$547.06	$161,079.67	$19,899.37
36	$161,079.67	$536.93	$548.89	$160,530.79	$20,436.30
37	$160,530.79	$535.10	$550.72	$159,980.07	$20,971.40
38	$159,980.07	$533.27	$552.55	$159,427.52	$21,504.67
39	$159,427.52	$531.43	$554.39	$158,873.12	$22,036.09
40	$158,873.12	$529.58	$556.24	$158,316.88	$22,565.67
41	$158,316.88	$527.72	$558.10	$157,758.78	$23,093.39
42	$157,758.78	$525.86	$559.96	$157,198.83	$23,619.26
43	$157,198.83	$524.00	$561.82	$156,637.00	$24,143.25
44	$156,637.00	$522.12	$563.70	$156,073.31	$24,665.38
45	$156,073.31	$520.24	$565.58	$155,507.73	$25,185.62
46	$155,507.73	$518.36	$567.46	$154,940.27	$25,703.98
47	$154,940.27	$516.47	$569.35	$154,370.92	$26,220.45
48	$154,370.92	$514.57	$571.25	$153,799.67	$26,735.02
49	$153,799.67	$512.67	$573.15	$153,226.51	$27,247.68
50	$153,226.51	$510.76	$575.06	$152,651.45	$27,758.44
51	$152,651.45	$508.84	$576.98	$152,074.47	$28,267.28
52	$152,074.47	$506.91	$578.90	$151,495.56	$28,774.19
53	$151,495.56	$504.99	$580.83	$150,914.73	$29,279.18
54	$150,914.73	$503.05	$582.77	$150,331.96	$29,782.23
55	$150,331.96	$501.11	$584.71	$149,747.24	$30,283.33
56	$149,747.24	$499.16	$586.66	$149,160.58	$30,782.49
57	$149,160.58	$497.20	$588.62	$148,571.96	$31,279.69
58	$148,571.96	$495.24	$590.58	$147,981.38	$31,774.93
59	$147,981.38	$493.27	$592.55	$147,388.83	$32,268.20
60	$147,388.83	$491.30	$594.52	$146,794.31	$32,759.50
61	$146,794.31	$489.31	$596.51	$146,197.81	$33,248.81

TOWNSHIP OF PUSLINCH
Water Servicing - Option W1

Estimated Capital Cost:	$22,935,500
Number of Benefitting Properties:	128
Cost per Connection:	$179,183.59

Capital Cost Recovery Factor - A =	0.006059803
Monthly Cost -P =	$1,085.82

Loan Amount	Interest Rate	Term in Years	Monthly Payment
$179,184.00	4.00%	20	**$1,085.82**

Month	Starting Balance	Interest	Principal	Ending Balance	Total Interest
62	$146,197.81	$487.33	$598.49	$145,599.31	$33,736.14
63	$145,599.31	$485.33	$600.49	$144,998.82	$34,221.47
64	$144,998.82	$483.33	$602.49	$144,396.33	$34,704.80
65	$144,396.33	$481.32	$604.50	$143,791.83	$35,186.12
66	$143,791.83	$479.31	$606.51	$143,185.32	$35,665.43
67	$143,185.32	$477.28	$608.54	$142,576.78	$36,142.71
68	$142,576.78	$475.26	$610.56	$141,966.22	$36,617.97
69	$141,966.22	$473.22	$612.60	$141,353.62	$37,091.19
70	$141,353.62	$471.18	$614.64	$140,738.98	$37,562.37
71	$140,738.98	$469.13	$616.69	$140,122.29	$38,031.50
72	$140,122.29	$467.07	$618.75	$139,503.55	$38,498.57
73	$139,503.55	$465.01	$620.81	$138,882.74	$38,963.58
74	$138,882.74	$462.94	$622.88	$138,259.86	$39,426.52
75	$138,259.86	$460.87	$624.95	$137,634.91	$39,887.39
76	$137,634.91	$458.78	$627.04	$137,007.87	$40,346.17
77	$137,007.87	$456.69	$629.13	$136,378.74	$40,802.87
78	$136,378.74	$454.60	$631.22	$135,747.52	$41,257.46
79	$135,747.52	$452.49	$633.33	$135,114.19	$41,709.95
80	$135,114.19	$450.38	$635.44	$134,478.75	$42,160.34
81	$134,478.75	$448.26	$637.56	$133,841.19	$42,608.60
82	$133,841.19	$446.14	$639.68	$133,201.51	$43,054.74
83	$133,201.51	$444.01	$641.81	$132,559.70	$43,498.74
84	$132,559.70	$441.87	$643.95	$131,915.74	$43,940.61
85	$131,915.74	$439.72	$646.10	$131,269.64	$44,380.32
86	$131,269.64	$437.57	$648.25	$130,621.39	$44,817.89
87	$130,621.39	$435.40	$650.42	$129,970.97	$45,253.29
88	$129,970.97	$433.24	$652.58	$129,318.39	$45,686.53
89	$129,318.39	$431.06	$654.76	$128,663.63	$46,117.59
90	$128,663.63	$428.88	$656.94	$128,006.69	$46,546.47
91	$128,006.69	$426.69	$659.13	$127,347.56	$46,973.16
92	$127,347.56	$424.49	$661.33	$126,686.23	$47,397.65
93	$126,686.23	$422.29	$663.53	$126,022.70	$47,819.94
94	$126,022.70	$420.08	$665.74	$125,356.95	$48,240.02
95	$125,356.95	$417.86	$667.96	$124,688.99	$48,657.87
96	$124,688.99	$415.63	$670.19	$124,018.80	$49,073.50
97	$124,018.80	$413.40	$672.42	$123,346.38	$49,486.90
98	$123,346.38	$411.15	$674.67	$122,671.71	$49,898.05
99	$122,671.71	$408.91	$676.91	$121,994.80	$50,306.96
100	$121,994.80	$406.65	$679.17	$121,315.63	$50,713.61
101	$121,315.63	$404.39	$681.43	$120,634.19	$51,117.99
102	$120,634.19	$402.11	$683.71	$119,950.49	$51,520.11
103	$119,950.49	$399.83	$685.98	$119,264.50	$51,919.94
104	$119,264.50	$397.55	$688.27	$118,576.23	$52,317.49
105	$118,576.23	$395.25	$690.57	$117,885.67	$52,712.74
106	$117,885.67	$392.95	$692.87	$117,192.80	$53,105.70
107	$117,192.80	$390.64	$695.18	$116,497.62	$53,496.34
108	$116,497.62	$388.33	$697.49	$115,800.13	$53,884.66
109	$115,800.13	$386.00	$699.82	$115,100.31	$54,270.67
110	$115,100.31	$383.67	$702.15	$114,398.16	$54,654.33
111	$114,398.16	$381.33	$704.49	$113,693.66	$55,035.66
112	$113,693.66	$378.98	$706.84	$112,986.82	$55,414.64
113	$112,986.82	$376.62	$709.20	$112,277.63	$55,791.26
114	$112,277.63	$374.26	$711.56	$111,566.06	$56,165.52
115	$111,566.06	$371.89	$713.93	$110,852.13	$56,537.41
116	$110,852.13	$369.51	$716.31	$110,135.82	$56,906.91
117	$110,135.82	$367.12	$718.70	$109,417.12	$57,274.03
118	$109,417.12	$364.72	$721.10	$108,696.02	$57,638.76
119	$108,696.02	$362.32	$723.50	$107,972.52	$58,001.08
120	$107,972.52	$359.91	$725.91	$107,246.61	$58,360.99
121	$107,246.61	$357.49	$728.33	$106,518.28	$58,718.47
122	$106,518.28	$355.06	$730.76	$105,787.52	$59,073.54

TOWNSHIP OF PUSLINCH
Water Servicing - Option W1

Estimated Capital Cost:	$22,935,500
Number of Benefitting Properties:	128
Cost per Connection:	$179,183.59

Capital Cost Recovery Factor - A =	0.006059803
Monthly Cost -P =	$1,085.82

Loan Amount	Interest Rate	Term in Years	Monthly Payment
$179,184.00	4.00%	20	**$1,085.82**

Month	Starting Balance	Interest	Principal	Ending Balance	Total Interest
123	$105,787.52	$352.63	$733.19	$105,054.33	$59,426.16
124	$105,054.33	$350.18	$735.64	$104,318.69	$59,776.34
125	$104,318.69	$347.73	$738.09	$103,580.60	$60,124.07
126	$103,580.60	$345.27	$740.55	$102,840.05	$60,469.34
127	$102,840.05	$342.80	$743.02	$102,097.03	$60,812.14
128	$102,097.03	$340.32	$745.50	$101,351.53	$61,152.46
129	$101,351.53	$337.84	$747.98	$100,603.55	$61,490.30
130	$100,603.55	$335.35	$750.47	$99,853.07	$61,825.65
131	$99,853.07	$332.84	$752.98	$99,100.10	$62,158.49
132	$99,100.10	$330.33	$755.49	$98,344.61	$62,488.82
133	$98,344.61	$327.82	$758.00	$97,586.61	$62,816.64
134	$97,586.61	$325.29	$760.53	$96,826.08	$63,141.93
135	$96,826.08	$322.75	$763.07	$96,063.01	$63,464.68
136	$96,063.01	$320.21	$765.61	$95,297.40	$63,784.89
137	$95,297.40	$317.66	$768.16	$94,529.24	$64,102.55
138	$94,529.24	$315.10	$770.72	$93,758.52	$64,417.65
139	$93,758.52	$312.53	$773.29	$92,985.22	$64,730.18
140	$92,985.22	$309.95	$775.87	$92,209.36	$65,040.13
141	$92,209.36	$307.36	$778.46	$91,430.90	$65,347.49
142	$91,430.90	$304.77	$781.05	$90,649.85	$65,652.26
143	$90,649.85	$302.17	$783.65	$89,866.20	$65,954.43
144	$89,866.20	$299.55	$786.27	$89,079.93	$66,253.98
145	$89,079.93	$296.93	$788.89	$88,291.04	$66,550.91
146	$88,291.04	$294.30	$791.52	$87,499.53	$66,845.22
147	$87,499.53	$291.67	$794.15	$86,705.37	$67,136.88
148	$86,705.37	$289.02	$796.80	$85,908.57	$67,425.90
149	$85,908.57	$286.36	$799.46	$85,109.11	$67,712.26
150	$85,109.11	$283.70	$802.12	$84,306.99	$67,995.96
151	$84,306.99	$281.02	$804.80	$83,502.19	$68,276.98
152	$83,502.19	$278.34	$807.48	$82,694.71	$68,555.32
153	$82,694.71	$275.65	$810.17	$81,884.54	$68,830.97
154	$81,884.54	$272.95	$812.87	$81,071.67	$69,103.92
155	$81,071.67	$270.24	$815.58	$80,256.09	$69,374.16
156	$80,256.09	$267.52	$818.30	$79,437.79	$69,641.68
157	$79,437.79	$264.79	$821.03	$78,616.76	$69,906.47
158	$78,616.76	$262.06	$823.76	$77,793.00	$70,168.53
159	$77,793.00	$259.31	$826.51	$76,966.49	$70,427.84
160	$76,966.49	$256.55	$829.26	$76,137.23	$70,684.39
161	$76,137.23	$253.79	$832.03	$75,305.20	$70,938.18
162	$75,305.20	$251.02	$834.80	$74,470.39	$71,189.20
163	$74,470.39	$248.23	$837.59	$73,632.81	$71,437.44
164	$73,632.81	$245.44	$840.38	$72,792.43	$71,682.88
165	$72,792.43	$242.64	$843.18	$71,949.25	$71,925.52
166	$71,949.25	$239.83	$845.99	$71,103.27	$72,165.35
167	$71,103.27	$237.01	$848.81	$70,254.46	$72,402.36
168	$70,254.46	$234.18	$851.64	$69,402.82	$72,636.54
169	$69,402.82	$231.34	$854.48	$68,548.34	$72,867.89
170	$68,548.34	$228.49	$857.33	$67,691.02	$73,096.38
171	$67,691.02	$225.64	$860.18	$66,830.83	$73,322.02
172	$66,830.83	$222.77	$863.05	$65,967.78	$73,544.79
173	$65,967.78	$219.89	$865.93	$65,101.85	$73,764.68
174	$65,101.85	$217.01	$868.81	$64,233.04	$73,981.69
175	$64,233.04	$214.11	$871.71	$63,361.33	$74,195.80
176	$63,361.33	$211.20	$874.62	$62,486.72	$74,407.00
177	$62,486.72	$208.29	$877.53	$61,609.19	$74,615.29
178	$61,609.19	$205.36	$880.46	$60,728.73	$74,820.65
179	$60,728.73	$202.43	$883.39	$59,845.34	$75,023.08
180	$59,845.34	$199.48	$886.34	$58,959.00	$75,222.57
181	$58,959.00	$196.53	$889.29	$58,069.71	$75,419.10
182	$58,069.71	$193.57	$892.25	$57,177.46	$75,612.66
183	$57,177.46	$190.59	$895.23	$56,282.23	$75,803.25

TOWNSHIP OF PUSLINCH
Water Servicing - Option W1

Estimated Capital Cost:	$22,935,500
Number of Benefitting Properties:	128
Cost per Connection:	$179,183.59

Capital Cost Recovery Factor - A =	0.006059803
Monthly Cost -P =	$1,085.82

Loan Amount	Interest Rate	Term in Years	Monthly Payment
$179,184.00	4.00%	20	**$1,085.82**

Month	Starting Balance	Interest	Principal	Ending Balance	Total Interest
184	$56,282.23	$187.61	$898.21	$55,384.02	$75,990.86
185	$55,384.02	$184.61	$901.21	$54,482.81	$76,175.47
186	$54,482.81	$181.61	$904.21	$53,578.60	$76,357.08
187	$53,578.60	$178.60	$907.22	$52,671.38	$76,535.68
188	$52,671.38	$175.57	$910.25	$51,761.13	$76,711.25
189	$51,761.13	$172.54	$913.28	$50,847.85	$76,883.79
190	$50,847.85	$169.49	$916.33	$49,931.52	$77,053.28
191	$49,931.52	$166.44	$919.38	$49,012.14	$77,219.72
192	$49,012.14	$163.37	$922.45	$48,089.69	$77,383.09
193	$48,089.69	$160.30	$925.52	$47,164.17	$77,543.39
194	$47,164.17	$157.21	$928.61	$46,235.57	$77,700.61
195	$46,235.57	$154.12	$931.70	$45,303.86	$77,854.72
196	$45,303.86	$151.01	$934.81	$44,369.06	$78,005.74
197	$44,369.06	$147.90	$937.92	$43,431.13	$78,153.63
198	$43,431.13	$144.77	$941.05	$42,490.09	$78,298.40
199	$42,490.09	$141.63	$944.19	$41,545.90	$78,440.04
200	$41,545.90	$138.49	$947.33	$40,598.57	$78,578.52
201	$40,598.57	$135.33	$950.49	$39,648.07	$78,713.85
202	$39,648.07	$132.16	$953.66	$38,694.41	$78,846.01
203	$38,694.41	$128.98	$956.84	$37,737.58	$78,974.99
204	$37,737.58	$125.79	$960.03	$36,777.55	$79,100.79
205	$36,777.55	$122.59	$963.23	$35,814.32	$79,223.38
206	$35,814.32	$119.38	$966.44	$34,847.88	$79,342.76
207	$34,847.88	$116.16	$969.66	$33,878.22	$79,458.92
208	$33,878.22	$112.93	$972.89	$32,905.33	$79,571.85
209	$32,905.33	$109.68	$976.14	$31,929.19	$79,681.53
210	$31,929.19	$106.43	$979.39	$30,949.80	$79,787.96
211	$30,949.80	$103.17	$982.65	$29,967.15	$79,891.13
212	$29,967.15	$99.89	$985.93	$28,981.22	$79,991.02
213	$28,981.22	$96.60	$989.22	$27,992.01	$80,087.62
214	$27,992.01	$93.31	$992.51	$26,999.49	$80,180.93
215	$26,999.49	$90.00	$995.82	$26,003.67	$80,270.93
216	$26,003.67	$86.68	$999.14	$25,004.53	$80,357.61
217	$25,004.53	$83.35	$1,002.47	$24,002.06	$80,440.95
218	$24,002.06	$80.01	$1,005.81	$22,996.25	$80,520.96
219	$22,996.25	$76.65	$1,009.17	$21,987.08	$80,597.62
220	$21,987.08	$73.29	$1,012.53	$20,974.55	$80,670.91
221	$20,974.55	$69.92	$1,015.90	$19,958.65	$80,740.82
222	$19,958.65	$66.53	$1,019.29	$18,939.36	$80,807.35
223	$18,939.36	$63.13	$1,022.69	$17,916.67	$80,870.48
224	$17,916.67	$59.72	$1,026.10	$16,890.57	$80,930.20
225	$16,890.57	$56.30	$1,029.52	$15,861.05	$80,986.50
226	$15,861.05	$52.87	$1,032.95	$14,828.10	$81,039.38
227	$14,828.10	$49.43	$1,036.39	$13,791.71	$81,088.80
228	$13,791.71	$45.97	$1,039.85	$12,751.86	$81,134.77
229	$12,751.86	$42.51	$1,043.31	$11,708.55	$81,177.28
230	$11,708.55	$39.03	$1,046.79	$10,661.76	$81,216.31
231	$10,661.76	$35.54	$1,050.28	$9,611.48	$81,251.85
232	$9,611.48	$32.04	$1,053.78	$8,557.69	$81,283.89
233	$8,557.69	$28.53	$1,057.29	$7,500.40	$81,312.41
234	$7,500.40	$25.00	$1,060.82	$6,439.58	$81,337.41
235	$6,439.58	$21.47	$1,064.35	$5,375.23	$81,358.88
236	$5,375.23	$17.92	$1,067.90	$4,307.33	$81,376.80
237	$4,307.33	$14.36	$1,071.46	$3,235.86	$81,391.15
238	$3,235.86	$10.79	$1,075.03	$2,160.83	$81,401.94
239	$2,160.83	$7.20	$1,078.62	$1,082.21	$81,409.14
240	$1,082.21	$3.61	$1,082.21	$0.00	$81,412.75

TOWNSHIP OF PUSLINCH
Water Servicing - Option W2

Estimated Capital Cost:	$19,976,700
Number of Benefitting Properties:	128
Cost per Connection:	$156,067.97

Capital Cost Recovery Factor - A =	0.010124514
Monthly Cost -P =	$1,580.11

Loan Amount	Interest Rate	Term in Years	Monthly Payment
$156,068.00	4.00%	10	**$1,580.11**

Month	Starting Balance	Interest	Principal	Ending Balance	Total Interest
1	$156,068.00	$520.23	$1,059.89	$155,008.11	$520.23
2	$155,008.11	$516.69	$1,063.42	$153,944.70	$1,036.92
3	$153,944.70	$513.15	$1,066.96	$152,877.73	$1,550.07
4	$152,877.73	$509.59	$1,070.52	$151,807.21	$2,059.66
5	$151,807.21	$506.02	$1,074.09	$150,733.12	$2,565.69
6	$150,733.12	$502.44	$1,077.67	$149,655.45	$3,068.13
7	$149,655.45	$498.85	$1,081.26	$148,574.19	$3,566.98
8	$148,574.19	$495.25	$1,084.87	$147,489.33	$4,062.23
9	$147,489.33	$491.63	$1,088.48	$146,400.85	$4,553.86
10	$146,400.85	$488.00	$1,092.11	$145,308.74	$5,041.86
11	$145,308.74	$484.36	$1,095.75	$144,212.99	$5,526.22
12	$144,212.99	$480.71	$1,099.40	$143,113.58	$6,006.93
13	$143,113.58	$477.05	$1,103.07	$142,010.52	$6,483.98
14	$142,010.52	$473.37	$1,106.74	$140,903.77	$6,957.35
15	$140,903.77	$469.68	$1,110.43	$139,793.34	$7,427.03
16	$139,793.34	$465.98	$1,114.13	$138,679.20	$7,893.01
17	$138,679.20	$462.26	$1,117.85	$137,561.35	$8,355.27
18	$137,561.35	$458.54	$1,121.57	$136,439.78	$8,813.81
19	$136,439.78	$454.80	$1,125.31	$135,314.47	$9,268.61
20	$135,314.47	$451.05	$1,129.06	$134,185.40	$9,719.65
21	$134,185.40	$447.28	$1,132.83	$133,052.57	$10,166.94
22	$133,052.57	$443.51	$1,136.60	$131,915.97	$10,610.45
23	$131,915.97	$439.72	$1,140.39	$130,775.58	$11,050.17
24	$130,775.58	$435.92	$1,144.19	$129,631.38	$11,486.09
25	$129,631.38	$432.10	$1,148.01	$128,483.38	$11,918.19
26	$128,483.38	$428.28	$1,151.83	$127,331.54	$12,346.47
27	$127,331.54	$424.44	$1,155.67	$126,175.87	$12,770.91
28	$126,175.87	$420.59	$1,159.53	$125,016.34	$13,191.49
29	$125,016.34	$416.72	$1,163.39	$123,852.95	$13,608.21
30	$123,852.95	$412.84	$1,167.27	$122,685.68	$14,021.06
31	$122,685.68	$408.95	$1,171.16	$121,514.52	$14,430.01
32	$121,514.52	$405.05	$1,175.06	$120,339.45	$14,835.06
33	$120,339.45	$401.13	$1,178.98	$119,160.47	$15,236.19
34	$119,160.47	$397.20	$1,182.91	$117,977.56	$15,633.39
35	$117,977.56	$393.26	$1,186.85	$116,790.71	$16,026.65
36	$116,790.71	$389.30	$1,190.81	$115,599.90	$16,415.95
37	$115,599.90	$385.33	$1,194.78	$114,405.12	$16,801.29
38	$114,405.12	$381.35	$1,198.76	$113,206.36	$17,182.64
39	$113,206.36	$377.35	$1,202.76	$112,003.60	$17,559.99
40	$112,003.60	$373.35	$1,206.77	$110,796.83	$17,933.34
41	$110,796.83	$369.32	$1,210.79	$109,586.04	$18,302.66
42	$109,586.04	$365.29	$1,214.83	$108,371.22	$18,667.95
43	$108,371.22	$361.24	$1,218.88	$107,152.34	$19,029.18
44	$107,152.34	$357.17	$1,222.94	$105,929.40	$19,386.36
45	$105,929.40	$353.10	$1,227.01	$104,702.39	$19,739.46
46	$104,702.39	$349.01	$1,231.10	$103,471.28	$20,088.46
47	$103,471.28	$344.90	$1,235.21	$102,236.07	$20,433.37
48	$102,236.07	$340.79	$1,239.33	$100,996.75	$20,774.15
49	$100,996.75	$336.66	$1,243.46	$99,753.29	$21,110.81
50	$99,753.29	$332.51	$1,247.60	$98,505.69	$21,443.32
51	$98,505.69	$328.35	$1,251.76	$97,253.93	$21,771.67
52	$97,253.93	$324.18	$1,255.93	$95,998.00	$22,095.85
53	$95,998.00	$319.99	$1,260.12	$94,737.88	$22,415.85
54	$94,737.88	$315.79	$1,264.32	$93,473.56	$22,731.64
55	$93,473.56	$311.58	$1,268.53	$92,205.02	$23,043.22
56	$92,205.02	$307.35	$1,272.76	$90,932.26	$23,350.57
57	$90,932.26	$303.11	$1,277.01	$89,655.26	$23,653.68
58	$89,655.26	$298.85	$1,281.26	$88,373.99	$23,952.53
59	$88,373.99	$294.58	$1,285.53	$87,088.46	$24,247.11
60	$87,088.46	$290.29	$1,289.82	$85,798.64	$24,537.40

TOWNSHIP OF PUSLINCH
Water Servicing - Option W2

Estimated Capital Cost:	$19,976,700
Number of Benefitting Properties:	128
Cost per Connection:	$156,067.97

Capital Cost Recovery Factor - A =	0.010124514
Monthly Cost -P =	$1,580.11

Loan Amount	Interest Rate	Term in Years	Monthly Payment
$156,068.00	4.00%	10	**$1,580.11**

Month	Starting Balance	Interest	Principal	Ending Balance	Total Interest
61	$85,798.64	$286.00	$1,294.12	$84,504.53	$24,823.40
62	$84,504.53	$281.68	$1,298.43	$83,206.10	$25,105.08
63	$83,206.10	$277.35	$1,302.76	$81,903.34	$25,382.43
64	$81,903.34	$273.01	$1,307.10	$80,596.24	$25,655.44
65	$80,596.24	$268.65	$1,311.46	$79,284.78	$25,924.10
66	$79,284.78	$264.28	$1,315.83	$77,968.95	$26,188.38
67	$77,968.95	$259.90	$1,320.22	$76,648.73	$26,448.28
68	$76,648.73	$255.50	$1,324.62	$75,324.11	$26,703.77
69	$75,324.11	$251.08	$1,329.03	$73,995.08	$26,954.85
70	$73,995.08	$246.65	$1,333.46	$72,661.62	$27,201.50
71	$72,661.62	$242.21	$1,337.91	$71,323.71	$27,443.71
72	$71,323.71	$237.75	$1,342.37	$69,981.35	$27,681.45
73	$69,981.35	$233.27	$1,346.84	$68,634.50	$27,914.73
74	$68,634.50	$228.78	$1,351.33	$67,283.17	$28,143.51
75	$67,283.17	$224.28	$1,355.84	$65,927.34	$28,367.78
76	$65,927.34	$219.76	$1,360.35	$64,566.98	$28,587.54
77	$64,566.98	$215.22	$1,364.89	$63,202.09	$28,802.77
78	$63,202.09	$210.67	$1,369.44	$61,832.65	$29,013.44
79	$61,832.65	$206.11	$1,374.00	$60,458.65	$29,219.55
80	$60,458.65	$201.53	$1,378.58	$59,080.07	$29,421.08
81	$59,080.07	$196.93	$1,383.18	$57,696.89	$29,618.01
82	$57,696.89	$192.32	$1,387.79	$56,309.10	$29,810.33
83	$56,309.10	$187.70	$1,392.42	$54,916.68	$29,998.03
84	$54,916.68	$183.06	$1,397.06	$53,519.63	$30,181.09
85	$53,519.63	$178.40	$1,401.71	$52,117.91	$30,359.48
86	$52,117.91	$173.73	$1,406.39	$50,711.53	$30,533.21
87	$50,711.53	$169.04	$1,411.07	$49,300.45	$30,702.25
88	$49,300.45	$164.33	$1,415.78	$47,884.67	$30,866.58
89	$47,884.67	$159.62	$1,420.50	$46,464.18	$31,026.20
90	$46,464.18	$154.88	$1,425.23	$45,038.94	$31,181.08
91	$45,038.94	$150.13	$1,429.98	$43,608.96	$31,331.21
92	$43,608.96	$145.36	$1,434.75	$42,174.21	$31,476.57
93	$42,174.21	$140.58	$1,439.53	$40,734.68	$31,617.15
94	$40,734.68	$135.78	$1,444.33	$39,290.35	$31,752.94
95	$39,290.35	$130.97	$1,449.14	$37,841.21	$31,883.90
96	$37,841.21	$126.14	$1,453.98	$36,387.23	$32,010.04
97	$36,387.23	$121.29	$1,458.82	$34,928.41	$32,131.33
98	$34,928.41	$116.43	$1,463.68	$33,464.72	$32,247.76
99	$33,464.72	$111.55	$1,468.56	$31,996.16	$32,359.31
100	$31,996.16	$106.65	$1,473.46	$30,522.70	$32,465.96
101	$30,522.70	$101.74	$1,478.37	$29,044.33	$32,567.71
102	$29,044.33	$96.81	$1,483.30	$27,561.03	$32,664.52
103	$27,561.03	$91.87	$1,488.24	$26,072.79	$32,756.39
104	$26,072.79	$86.91	$1,493.20	$24,579.59	$32,843.30
105	$24,579.59	$81.93	$1,498.18	$23,081.41	$32,925.23
106	$23,081.41	$76.94	$1,503.17	$21,578.23	$33,002.17
107	$21,578.23	$71.93	$1,508.19	$20,070.05	$33,074.10
108	$20,070.05	$66.90	$1,513.21	$18,556.83	$33,141.00
109	$18,556.83	$61.86	$1,518.26	$17,038.58	$33,202.85
110	$17,038.58	$56.80	$1,523.32	$15,515.26	$33,259.65
111	$15,515.26	$51.72	$1,528.40	$13,986.86	$33,311.37
112	$13,986.86	$46.62	$1,533.49	$12,453.38	$33,357.99
113	$12,453.38	$41.51	$1,538.60	$10,914.77	$33,399.50
114	$10,914.77	$36.38	$1,543.73	$9,371.04	$33,435.88
115	$9,371.04	$31.24	$1,548.88	$7,822.17	$33,467.12
116	$7,822.17	$26.07	$1,554.04	$6,268.13	$33,493.19
117	$6,268.13	$20.89	$1,559.22	$4,708.91	$33,514.09
118	$4,708.91	$15.70	$1,564.42	$3,144.49	$33,529.78
119	$3,144.49	$10.48	$1,569.63	$1,574.86	$33,540.27
120	$1,574.86	$5.25	$1,574.86	$0.00	$33,545.51

TOWNSHIP OF PUSLINCH
Water Servicing - Option W2

Estimated Capital Cost:	$19,976,700
Number of Benefitting Properties:	128
Cost per Connection:	$156,067.97

Capital Cost Recovery Factor - A =	0.007396879
Monthly Cost -P =	$1,154.42

Loan Amount	Interest Rate	Term in Years	Monthly Payment
$156,068.00	4.00%	15	**$1,154.42**

Month	StartingBalance	Interest	Principal	EndingBalance	TotalInterest
1	$156,068.00	$520.23	$634.19	$155,433.81	$520.23
2	$155,433.81	$518.11	$636.30	$154,797.51	$1,038.34
3	$154,797.51	$515.99	$638.42	$154,159.08	$1,554.33
4	$154,159.08	$513.86	$640.55	$153,518.53	$2,068.19
5	$153,518.53	$511.73	$642.69	$152,875.84	$2,579.92
6	$152,875.84	$509.59	$644.83	$152,231.01	$3,089.51
7	$152,231.01	$507.44	$646.98	$151,584.03	$3,596.95
8	$151,584.03	$505.28	$649.14	$150,934.90	$4,102.23
9	$150,934.90	$503.12	$651.30	$150,283.60	$4,605.34
10	$150,283.60	$500.95	$653.47	$149,630.13	$5,106.29
11	$149,630.13	$498.77	$655.65	$148,974.48	$5,605.05
12	$148,974.48	$496.58	$657.83	$148,316.64	$6,101.64
13	$148,316.64	$494.39	$660.03	$147,656.62	$6,596.03
14	$147,656.62	$492.19	$662.23	$146,994.39	$7,088.21
15	$146,994.39	$489.98	$664.43	$146,329.95	$7,578.20
16	$146,329.95	$487.77	$666.65	$145,663.30	$8,065.96
17	$145,663.30	$485.54	$668.87	$144,994.43	$8,551.51
18	$144,994.43	$483.31	$671.10	$144,323.33	$9,034.82
19	$144,323.33	$481.08	$673.34	$143,649.99	$9,515.90
20	$143,649.99	$478.83	$675.58	$142,974.41	$9,994.73
21	$142,974.41	$476.58	$677.83	$142,296.57	$10,471.31
22	$142,296.57	$474.32	$680.09	$141,616.48	$10,945.64
23	$141,616.48	$472.05	$682.36	$140,934.12	$11,417.69
24	$140,934.12	$469.78	$684.64	$140,249.48	$11,887.47
25	$140,249.48	$467.50	$686.92	$139,562.56	$12,354.97
26	$139,562.56	$465.21	$689.21	$138,873.36	$12,820.18
27	$138,873.36	$462.91	$691.50	$138,181.85	$13,283.09
28	$138,181.85	$460.61	$693.81	$137,488.04	$13,743.69
29	$137,488.04	$458.29	$696.12	$136,791.92	$14,201.99
30	$136,791.92	$455.97	$698.44	$136,093.48	$14,657.96
31	$136,093.48	$453.64	$700.77	$135,392.71	$15,111.61
32	$135,392.71	$451.31	$703.11	$134,689.60	$15,562.92
33	$134,689.60	$448.97	$705.45	$133,984.15	$16,011.88
34	$133,984.15	$446.61	$707.80	$133,276.35	$16,458.49
35	$133,276.35	$444.25	$710.16	$132,566.18	$16,902.75
36	$132,566.18	$441.89	$712.53	$131,853.65	$17,344.64
37	$131,853.65	$439.51	$714.90	$131,138.75	$17,784.15
38	$131,138.75	$437.13	$717.29	$130,421.46	$18,221.28
39	$130,421.46	$434.74	$719.68	$129,701.79	$18,656.02
40	$129,701.79	$432.34	$722.08	$128,979.71	$19,088.35
41	$128,979.71	$429.93	$724.48	$128,255.23	$19,518.29
42	$128,255.23	$427.52	$726.90	$127,528.33	$19,945.80
43	$127,528.33	$425.09	$729.32	$126,799.00	$20,370.90
44	$126,799.00	$422.66	$731.75	$126,067.25	$20,793.56
45	$126,067.25	$420.22	$734.19	$125,333.06	$21,213.79
46	$125,333.06	$417.78	$736.64	$124,596.42	$21,631.56
47	$124,596.42	$415.32	$739.09	$123,857.33	$22,046.88
48	$123,857.33	$412.86	$741.56	$123,115.77	$22,459.74
49	$123,115.77	$410.39	$744.03	$122,371.74	$22,870.13
50	$122,371.74	$407.91	$746.51	$121,625.23	$23,278.03
51	$121,625.23	$405.42	$749.00	$120,876.23	$23,683.45
52	$120,876.23	$402.92	$751.50	$120,124.73	$24,086.37
53	$120,124.73	$400.42	$754.00	$119,370.73	$24,486.79
54	$119,370.73	$397.90	$756.51	$118,614.22	$24,884.69
55	$118,614.22	$395.38	$759.04	$117,855.18	$25,280.07
56	$117,855.18	$392.85	$761.57	$117,093.62	$25,672.92
57	$117,093.62	$390.31	$764.10	$116,329.51	$26,063.23
58	$116,329.51	$387.77	$766.65	$115,562.86	$26,451.00
59	$115,562.86	$385.21	$769.21	$114,793.66	$26,836.21
60	$114,793.66	$382.65	$771.77	$114,021.89	$27,218.85
61	$114,021.89	$380.07	$774.34	$113,247.54	$27,598.93

TOWNSHIP OF PUSLINCH
Water Servicing - Option W2

Estimated Capital Cost:	$19,976,700
Number of Benefitting Properties:	128
Cost per Connection:	$156,067.97

Capital Cost Recovery Factor - A = 0.007396879
Monthly Cost -P = $1,154.42

Loan Amount	Interest Rate	Term in Years	Monthly Payment
$156,068.00	4.00%	15	**$1,154.42**

Month	StartingBalance	Interest	Principal	EndingBalance	TotalInterest
62	$113,247.54	$377.49	$776.92	$112,470.62	$27,976.42
63	$112,470.62	$374.90	$779.51	$111,691.10	$28,351.32
64	$111,691.10	$372.30	$782.11	$110,908.99	$28,723.62
65	$110,908.99	$369.70	$784.72	$110,124.27	$29,093.32
66	$110,124.27	$367.08	$787.34	$109,336.94	$29,460.40
67	$109,336.94	$364.46	$789.96	$108,546.98	$29,824.86
68	$108,546.98	$361.82	$792.59	$107,754.38	$30,186.68
69	$107,754.38	$359.18	$795.23	$106,959.15	$30,545.86
70	$106,959.15	$356.53	$797.89	$106,161.26	$30,902.39
71	$106,161.26	$353.87	$800.55	$105,360.72	$31,256.26
72	$105,360.72	$351.20	$803.21	$104,557.50	$31,607.47
73	$104,557.50	$348.53	$805.89	$103,751.61	$31,955.99
74	$103,751.61	$345.84	$808.58	$102,943.04	$32,301.83
75	$102,943.04	$343.14	$811.27	$102,131.76	$32,644.97
76	$102,131.76	$340.44	$813.98	$101,317.79	$32,985.41
77	$101,317.79	$337.73	$816.69	$100,501.10	$33,323.14
78	$100,501.10	$335.00	$819.41	$99,681.68	$33,658.14
79	$99,681.68	$332.27	$822.14	$98,859.54	$33,990.42
80	$98,859.54	$329.53	$824.88	$98,034.65	$34,319.95
81	$98,034.65	$326.78	$827.63	$97,207.02	$34,646.73
82	$97,207.02	$324.02	$830.39	$96,376.63	$34,970.75
83	$96,376.63	$321.26	$833.16	$95,543.47	$35,292.01
84	$95,543.47	$318.48	$835.94	$94,707.53	$35,610.49
85	$94,707.53	$315.69	$838.72	$93,868.81	$35,926.18
86	$93,868.81	$312.90	$841.52	$93,027.29	$36,239.07
87	$93,027.29	$310.09	$844.33	$92,182.96	$36,549.17
88	$92,182.96	$307.28	$847.14	$91,335.82	$36,856.44
89	$91,335.82	$304.45	$849.96	$90,485.86	$37,160.89
90	$90,485.86	$301.62	$852.80	$89,633.06	$37,462.51
91	$89,633.06	$298.78	$855.64	$88,777.42	$37,761.29
92	$88,777.42	$295.92	$858.49	$87,918.93	$38,057.22
93	$87,918.93	$293.06	$861.35	$87,057.58	$38,350.28
94	$87,057.58	$290.19	$864.22	$86,193.35	$38,640.47
95	$86,193.35	$287.31	$867.10	$85,326.25	$38,927.78
96	$85,326.25	$284.42	$870.00	$84,456.25	$39,212.20
97	$84,456.25	$281.52	$872.90	$83,583.36	$39,493.72
98	$83,583.36	$278.61	$875.80	$82,707.55	$39,772.33
99	$82,707.55	$275.69	$878.72	$81,828.83	$40,048.03
100	$81,828.83	$272.76	$881.65	$80,947.17	$40,320.79
101	$80,947.17	$269.82	$884.59	$80,062.58	$40,590.61
102	$80,062.58	$266.88	$887.54	$79,175.04	$40,857.49
103	$79,175.04	$263.92	$890.50	$78,284.54	$41,121.41
104	$78,284.54	$260.95	$893.47	$77,391.07	$41,382.35
105	$77,391.07	$257.97	$896.45	$76,494.63	$41,640.32
106	$76,494.63	$254.98	$899.43	$75,595.19	$41,895.31
107	$75,595.19	$251.98	$902.43	$74,692.76	$42,147.29
108	$74,692.76	$248.98	$905.44	$73,787.32	$42,396.27
109	$73,787.32	$245.96	$908.46	$72,878.86	$42,642.22
110	$72,878.86	$242.93	$911.49	$71,967.38	$42,885.15
111	$71,967.38	$239.89	$914.52	$71,052.85	$43,125.04
112	$71,052.85	$236.84	$917.57	$70,135.28	$43,361.89
113	$70,135.28	$233.78	$920.63	$69,214.65	$43,595.67
114	$69,214.65	$230.72	$923.70	$68,290.95	$43,826.39
115	$68,290.95	$227.64	$926.78	$67,364.17	$44,054.02
116	$67,364.17	$224.55	$929.87	$66,434.30	$44,278.57
117	$66,434.30	$221.45	$932.97	$65,501.33	$44,500.02
118	$65,501.33	$218.34	$936.08	$64,565.25	$44,718.36
119	$64,565.25	$215.22	$939.20	$63,626.05	$44,933.57
120	$63,626.05	$212.09	$942.33	$62,683.72	$45,145.66
121	$62,683.72	$208.95	$945.47	$61,738.25	$45,354.61
122	$61,738.25	$205.79	$948.62	$60,789.63	$45,560.40

TOWNSHIP OF PUSLINCH
Water Servicing - Option W2

Estimated Capital Cost:	$19,976,700
Number of Benefitting Properties:	128
Cost per Connection:	$156,067.97

Capital Cost Recovery Factor - A =	0.007396879
Monthly Cost -P =	$1,154.42

Loan Amount	Interest Rate	Term in Years	Monthly Payment
$156,068.00	4.00%	15	**$1,154.42**

Month	StartingBalance	Interest	Principal	EndingBalance	TotalInterest
123	$60,789.63	$202.63	$951.78	$59,837.85	$45,763.03
124	$59,837.85	$199.46	$954.96	$58,882.89	$45,962.49
125	$58,882.89	$196.28	$958.14	$57,924.75	$46,158.77
126	$57,924.75	$193.08	$961.33	$56,963.42	$46,351.85
127	$56,963.42	$189.88	$964.54	$55,998.88	$46,541.73
128	$55,998.88	$186.66	$967.75	$55,031.12	$46,728.39
129	$55,031.12	$183.44	$970.98	$54,060.15	$46,911.83
130	$54,060.15	$180.20	$974.22	$53,085.93	$47,092.03
131	$53,085.93	$176.95	$977.46	$52,108.47	$47,268.98
132	$52,108.47	$173.69	$980.72	$51,127.75	$47,442.68
133	$51,127.75	$170.43	$983.99	$50,143.75	$47,613.10
134	$50,143.75	$167.15	$987.27	$49,156.48	$47,780.25
135	$49,156.48	$163.85	$990.56	$48,165.92	$47,944.10
136	$48,165.92	$160.55	$993.86	$47,172.06	$48,104.66
137	$47,172.06	$157.24	$997.18	$46,174.88	$48,261.90
138	$46,174.88	$153.92	$1,000.50	$45,174.38	$48,415.81
139	$45,174.38	$150.58	$1,003.83	$44,170.55	$48,566.39
140	$44,170.55	$147.24	$1,007.18	$43,163.37	$48,713.63
141	$43,163.37	$143.88	$1,010.54	$42,152.83	$48,857.51
142	$42,152.83	$140.51	$1,013.91	$41,138.92	$48,998.02
143	$41,138.92	$137.13	$1,017.29	$40,121.64	$49,135.15
144	$40,121.64	$133.74	$1,020.68	$39,100.96	$49,268.89
145	$39,100.96	$130.34	$1,024.08	$38,076.88	$49,399.22
146	$38,076.88	$126.92	$1,027.49	$37,049.39	$49,526.15
147	$37,049.39	$123.50	$1,030.92	$36,018.47	$49,649.64
148	$36,018.47	$120.06	$1,034.35	$34,984.11	$49,769.70
149	$34,984.11	$116.61	$1,037.80	$33,946.31	$49,886.32
150	$33,946.31	$113.15	$1,041.26	$32,905.05	$49,999.47
151	$32,905.05	$109.68	$1,044.73	$31,860.32	$50,109.16
152	$31,860.32	$106.20	$1,048.22	$30,812.10	$50,215.36
153	$30,812.10	$102.71	$1,051.71	$29,760.39	$50,318.06
154	$29,760.39	$99.20	$1,055.21	$28,705.18	$50,417.27
155	$28,705.18	$95.68	$1,058.73	$27,646.45	$50,512.95
156	$27,646.45	$92.15	$1,062.26	$26,584.18	$50,605.10
157	$26,584.18	$88.61	$1,065.80	$25,518.38	$50,693.72
158	$25,518.38	$85.06	$1,069.35	$24,449.03	$50,778.78
159	$24,449.03	$81.50	$1,072.92	$23,376.11	$50,860.28
160	$23,376.11	$77.92	$1,076.50	$22,299.61	$50,938.20
161	$22,299.61	$74.33	$1,080.08	$21,219.53	$51,012.53
162	$21,219.53	$70.73	$1,083.68	$20,135.84	$51,083.26
163	$20,135.84	$67.12	$1,087.30	$19,048.55	$51,150.38
164	$19,048.55	$63.50	$1,090.92	$17,957.63	$51,213.88
165	$17,957.63	$59.86	$1,094.56	$16,863.07	$51,273.73
166	$16,863.07	$56.21	$1,098.21	$15,764.86	$51,329.94
167	$15,764.86	$52.55	$1,101.87	$14,663.00	$51,382.49
168	$14,663.00	$48.88	$1,105.54	$13,557.46	$51,431.37
169	$13,557.46	$45.19	$1,109.22	$12,448.23	$51,476.56
170	$12,448.23	$41.49	$1,112.92	$11,335.31	$51,518.06
171	$11,335.31	$37.78	$1,116.63	$10,218.68	$51,555.84
172	$10,218.68	$34.06	$1,120.35	$9,098.32	$51,589.90
173	$9,098.32	$30.33	$1,124.09	$7,974.24	$51,620.23
174	$7,974.24	$26.58	$1,127.84	$6,846.40	$51,646.81
175	$6,846.40	$22.82	$1,131.59	$5,714.81	$51,669.63
176	$5,714.81	$19.05	$1,135.37	$4,579.44	$51,688.68
177	$4,579.44	$15.26	$1,139.15	$3,440.29	$51,703.95
178	$3,440.29	$11.47	$1,142.95	$2,297.34	$51,715.41
179	$2,297.34	$7.66	$1,146.76	$1,150.58	$51,723.07
180	$1,150.58	$3.84	$1,150.58	$0.00	$51,726.91

TOWNSHIP OF PUSLINCH
Water Servicing - Option W2

Estimated Capital Cost:	$19,976,700
Number of Benefitting Properties:	128
Cost per Connection:	$156,067.97

Capital Cost Recovery Factor - A =	0.006059803
Monthly Cost -P =	$945.74

Loan Amount	Interest Rate	Term in Years	Monthly Payment
$156,068.00	4.00%	20	**$945.74**

Month	StartingBalance	Interest	Principal	EndingBalance	TotalInterest
1	$156,068.00	$520.23	$425.51	$155,642.49	$520.23
2	$155,642.49	$518.81	$426.93	$155,215.55	$1,039.03
3	$155,215.55	$517.39	$428.36	$154,787.20	$1,556.42
4	$154,787.20	$515.96	$429.78	$154,357.41	$2,072.38
5	$154,357.41	$514.52	$431.22	$153,926.20	$2,586.90
6	$153,926.20	$513.09	$432.65	$153,493.54	$3,099.99
7	$153,493.54	$511.65	$434.10	$153,059.44	$3,611.63
8	$153,059.44	$510.20	$435.54	$152,623.90	$4,121.83
9	$152,623.90	$508.75	$437.00	$152,186.91	$4,630.58
10	$152,186.91	$507.29	$438.45	$151,748.45	$5,137.87
11	$151,748.45	$505.83	$439.91	$151,308.54	$5,643.70
12	$151,308.54	$504.36	$441.38	$150,867.16	$6,148.06
13	$150,867.16	$502.89	$442.85	$150,424.31	$6,650.95
14	$150,424.31	$501.41	$444.33	$149,979.98	$7,152.36
15	$149,979.98	$499.93	$445.81	$149,534.18	$7,652.30
16	$149,534.18	$498.45	$447.29	$149,086.88	$8,150.74
17	$149,086.88	$496.96	$448.79	$148,638.10	$8,647.70
18	$148,638.10	$495.46	$450.28	$148,187.82	$9,143.16
19	$148,187.82	$493.96	$451.78	$147,736.03	$9,637.12
20	$147,736.03	$492.45	$453.29	$147,282.75	$10,129.57
21	$147,282.75	$490.94	$454.80	$146,827.95	$10,620.52
22	$146,827.95	$489.43	$456.31	$146,371.63	$11,109.94
23	$146,371.63	$487.91	$457.84	$145,913.80	$11,597.85
24	$145,913.80	$486.38	$459.36	$145,454.43	$12,084.23
25	$145,454.43	$484.85	$460.89	$144,993.54	$12,569.08
26	$144,993.54	$483.31	$462.43	$144,531.11	$13,052.39
27	$144,531.11	$481.77	$463.97	$144,067.14	$13,534.16
28	$144,067.14	$480.22	$465.52	$143,601.62	$14,014.38
29	$143,601.62	$478.67	$467.07	$143,134.55	$14,493.05
30	$143,134.55	$477.12	$468.63	$142,665.93	$14,970.17
31	$142,665.93	$475.55	$470.19	$142,195.74	$15,445.72
32	$142,195.74	$473.99	$471.76	$141,723.98	$15,919.71
33	$141,723.98	$472.41	$473.33	$141,250.66	$16,392.12
34	$141,250.66	$470.84	$474.91	$140,775.75	$16,862.96
35	$140,775.75	$469.25	$476.49	$140,299.26	$17,332.21
36	$140,299.26	$467.66	$478.08	$139,821.18	$17,799.87
37	$139,821.18	$466.07	$479.67	$139,341.51	$18,265.94
38	$139,341.51	$464.47	$481.27	$138,860.24	$18,730.42
39	$138,860.24	$462.87	$482.87	$138,377.37	$19,193.28
40	$138,377.37	$461.26	$484.48	$137,892.89	$19,654.54
41	$137,892.89	$459.64	$486.10	$137,406.79	$20,114.18
42	$137,406.79	$458.02	$487.72	$136,919.07	$20,572.21
43	$136,919.07	$456.40	$489.34	$136,429.72	$21,028.60
44	$136,429.72	$454.77	$490.98	$135,938.75	$21,483.37
45	$135,938.75	$453.13	$492.61	$135,446.14	$21,936.50
46	$135,446.14	$451.49	$494.25	$134,951.88	$22,387.99
47	$134,951.88	$449.84	$495.90	$134,455.98	$22,837.82
48	$134,455.98	$448.19	$497.55	$133,958.43	$23,286.01
49	$133,958.43	$446.53	$499.21	$133,459.21	$23,732.54
50	$133,459.21	$444.86	$500.88	$132,958.33	$24,177.40
51	$132,958.33	$443.19	$502.55	$132,455.79	$24,620.60
52	$132,455.79	$441.52	$504.22	$131,951.57	$25,062.12
53	$131,951.57	$439.84	$505.90	$131,445.66	$25,501.96
54	$131,445.66	$438.15	$507.59	$130,938.07	$25,940.11
55	$130,938.07	$436.46	$509.28	$130,428.79	$26,376.57
56	$130,428.79	$434.76	$510.98	$129,917.81	$26,811.33
57	$129,917.81	$433.06	$512.68	$129,405.13	$27,244.39
58	$129,405.13	$431.35	$514.39	$128,890.74	$27,675.74
59	$128,890.74	$429.64	$516.11	$128,374.64	$28,105.38
60	$128,374.64	$427.92	$517.83	$127,856.81	$28,533.29
61	$127,856.81	$426.19	$519.55	$127,337.26	$28,959.48

TOWNSHIP OF PUSLINCH
Water Servicing - Option W2

Estimated Capital Cost:	$19,976,700
Number of Benefitting Properties:	128
Cost per Connection:	$156,067.97

Capital Cost Recovery Factor - A =	0.006059803
Monthly Cost -P =	$945.74

Loan Amount	Interest Rate	Term in Years	Monthly Payment
$156,068.00	4.00%	20	**$945.74**

Month	StartingBalance	Interest	Principal	EndingBalance	TotalInterest
62	$127,337.26	$424.46	$521.28	$126,815.97	$29,383.94
63	$126,815.97	$422.72	$523.02	$126,292.95	$29,806.66
64	$126,292.95	$420.98	$524.76	$125,768.19	$30,227.64
65	$125,768.19	$419.23	$526.51	$125,241.67	$30,646.86
66	$125,241.67	$417.47	$528.27	$124,713.40	$31,064.33
67	$124,713.40	$415.71	$530.03	$124,183.37	$31,480.05
68	$124,183.37	$413.94	$531.80	$123,651.58	$31,893.99
69	$123,651.58	$412.17	$533.57	$123,118.01	$32,306.16
70	$123,118.01	$410.39	$535.35	$122,582.66	$32,716.56
71	$122,582.66	$408.61	$537.13	$122,045.53	$33,125.17
72	$122,045.53	$406.82	$538.92	$121,506.60	$33,531.98
73	$121,506.60	$405.02	$540.72	$120,965.88	$33,937.01
74	$120,965.88	$403.22	$542.52	$120,423.36	$34,340.23
75	$120,423.36	$401.41	$544.33	$119,879.03	$34,741.64
76	$119,879.03	$399.60	$546.14	$119,332.89	$35,141.23
77	$119,332.89	$397.78	$547.97	$118,784.92	$35,539.01
78	$118,784.92	$395.95	$549.79	$118,235.13	$35,934.96
79	$118,235.13	$394.12	$551.62	$117,683.51	$36,329.08
80	$117,683.51	$392.28	$553.46	$117,130.04	$36,721.35
81	$117,130.04	$390.43	$555.31	$116,574.74	$37,111.79
82	$116,574.74	$388.58	$557.16	$116,017.58	$37,500.37
83	$116,017.58	$386.73	$559.02	$115,458.56	$37,887.10
84	$115,458.56	$384.86	$560.88	$114,897.68	$38,271.96
85	$114,897.68	$382.99	$562.75	$114,334.93	$38,654.95
86	$114,334.93	$381.12	$564.62	$113,770.31	$39,036.07
87	$113,770.31	$379.23	$566.51	$113,203.80	$39,415.30
88	$113,203.80	$377.35	$568.40	$112,635.41	$39,792.65
89	$112,635.41	$375.45	$570.29	$112,065.12	$40,168.10
90	$112,065.12	$373.55	$572.19	$111,492.92	$40,541.65
91	$111,492.92	$371.64	$574.10	$110,918.83	$40,913.29
92	$110,918.83	$369.73	$576.01	$110,342.81	$41,283.02
93	$110,342.81	$367.81	$577.93	$109,764.88	$41,650.83
94	$109,764.88	$365.88	$579.86	$109,185.02	$42,016.71
95	$109,185.02	$363.95	$581.79	$108,603.23	$42,380.66
96	$108,603.23	$362.01	$583.73	$108,019.50	$42,742.67
97	$108,019.50	$360.07	$585.68	$107,433.83	$43,102.74
98	$107,433.83	$358.11	$587.63	$106,846.20	$43,460.85
99	$106,846.20	$356.15	$589.59	$106,256.61	$43,817.01
100	$106,256.61	$354.19	$591.55	$105,665.06	$44,171.19
101	$105,665.06	$352.22	$593.52	$105,071.53	$44,523.41
102	$105,071.53	$350.24	$595.50	$104,476.03	$44,873.65
103	$104,476.03	$348.25	$597.49	$103,878.54	$45,221.90
104	$103,878.54	$346.26	$599.48	$103,279.06	$45,568.17
105	$103,279.06	$344.26	$601.48	$102,677.58	$45,912.43
106	$102,677.58	$342.26	$603.48	$102,074.10	$46,254.69
107	$102,074.10	$340.25	$605.49	$101,468.61	$46,594.93
108	$101,468.61	$338.23	$607.51	$100,861.09	$46,933.16
109	$100,861.09	$336.20	$609.54	$100,251.56	$47,269.37
110	$100,251.56	$334.17	$611.57	$99,639.99	$47,603.54
111	$99,639.99	$332.13	$613.61	$99,026.38	$47,935.67
112	$99,026.38	$330.09	$615.65	$98,410.73	$48,265.76
113	$98,410.73	$328.04	$617.71	$97,793.02	$48,593.80
114	$97,793.02	$325.98	$619.76	$97,173.25	$48,919.77
115	$97,173.25	$323.91	$621.83	$96,551.42	$49,243.68
116	$96,551.42	$321.84	$623.90	$95,927.52	$49,565.52
117	$95,927.52	$319.76	$625.98	$95,301.54	$49,885.28
118	$95,301.54	$317.67	$628.07	$94,673.47	$50,202.95
119	$94,673.47	$315.58	$630.16	$94,043.31	$50,518.53
120	$94,043.31	$313.48	$632.26	$93,411.04	$50,832.01
121	$93,411.04	$311.37	$634.37	$92,776.67	$51,143.38
122	$92,776.67	$309.26	$636.49	$92,140.18	$51,452.63

TOWNSHIP OF PUSLINCH
Water Servicing - Option W2

Estimated Capital Cost:	$19,976,700
Number of Benefitting Properties:	128
Cost per Connection:	$156,067.97

Capital Cost Recovery Factor - A =	0.006059803
Monthly Cost -P =	$945.74

Loan Amount	Interest Rate	Term in Years	Monthly Payment
$156,068.00	4.00%	20	**$945.74**

Month	StartingBalance	Interest	Principal	EndingBalance	TotalInterest
123	$92,140.18	$307.13	$638.61	$91,501.58	$51,759.77
124	$91,501.58	$305.01	$640.74	$90,860.84	$52,064.77
125	$90,860.84	$302.87	$642.87	$90,217.97	$52,367.64
126	$90,217.97	$300.73	$645.01	$89,572.95	$52,668.37
127	$89,572.95	$298.58	$647.16	$88,925.79	$52,966.94
128	$88,925.79	$296.42	$649.32	$88,276.47	$53,263.36
129	$88,276.47	$294.25	$651.49	$87,624.98	$53,557.62
130	$87,624.98	$292.08	$653.66	$86,971.32	$53,849.70
131	$86,971.32	$289.90	$655.84	$86,315.49	$54,139.61
132	$86,315.49	$287.72	$658.02	$85,657.46	$54,427.32
133	$85,657.46	$285.52	$660.22	$84,997.25	$54,712.85
134	$84,997.25	$283.32	$662.42	$84,334.83	$54,996.17
135	$84,334.83	$281.12	$664.63	$83,670.20	$55,277.29
136	$83,670.20	$278.90	$666.84	$83,003.36	$55,556.19
137	$83,003.36	$276.68	$669.06	$82,334.30	$55,832.87
138	$82,334.30	$274.45	$671.29	$81,663.01	$56,107.32
139	$81,663.01	$272.21	$673.53	$80,989.47	$56,379.53
140	$80,989.47	$269.96	$675.78	$80,313.70	$56,649.49
141	$80,313.70	$267.71	$678.03	$79,635.67	$56,917.20
142	$79,635.67	$265.45	$680.29	$78,955.38	$57,182.66
143	$78,955.38	$263.18	$682.56	$78,272.82	$57,445.84
144	$78,272.82	$260.91	$684.83	$77,587.99	$57,706.75
145	$77,587.99	$258.63	$687.11	$76,900.88	$57,965.38
146	$76,900.88	$256.34	$689.41	$76,211.47	$58,221.71
147	$76,211.47	$254.04	$691.70	$75,519.77	$58,475.75
148	$75,519.77	$251.73	$694.01	$74,825.76	$58,727.48
149	$74,825.76	$249.42	$696.32	$74,129.44	$58,976.90
150	$74,129.44	$247.10	$698.64	$73,430.79	$59,224.00
151	$73,430.79	$244.77	$700.97	$72,729.82	$59,468.77
152	$72,729.82	$242.43	$703.31	$72,026.51	$59,711.20
153	$72,026.51	$240.09	$705.65	$71,320.86	$59,951.29
154	$71,320.86	$237.74	$708.01	$70,612.85	$60,189.03
155	$70,612.85	$235.38	$710.37	$69,902.49	$60,424.40
156	$69,902.49	$233.01	$712.73	$69,189.76	$60,657.41
157	$69,189.76	$230.63	$715.11	$68,474.65	$60,888.04
158	$68,474.65	$228.25	$717.49	$67,757.15	$61,116.29
159	$67,757.15	$225.86	$719.88	$67,037.27	$61,342.15
160	$67,037.27	$223.46	$722.28	$66,314.99	$61,565.61
161	$66,314.99	$221.05	$724.69	$65,590.30	$61,786.66
162	$65,590.30	$218.63	$727.11	$64,863.19	$62,005.29
163	$64,863.19	$216.21	$729.53	$64,133.66	$62,221.50
164	$64,133.66	$213.78	$731.96	$63,401.70	$62,435.28
165	$63,401.70	$211.34	$734.40	$62,667.29	$62,646.62
166	$62,667.29	$208.89	$736.85	$61,930.44	$62,855.51
167	$61,930.44	$206.43	$739.31	$61,191.14	$63,061.95
168	$61,191.14	$203.97	$741.77	$60,449.36	$63,265.92
169	$60,449.36	$201.50	$744.24	$59,705.12	$63,467.41
170	$59,705.12	$199.02	$746.72	$58,958.40	$63,666.43
171	$58,958.40	$196.53	$749.21	$58,209.18	$63,862.96
172	$58,209.18	$194.03	$751.71	$57,457.47	$64,056.99
173	$57,457.47	$191.52	$754.22	$56,703.26	$64,248.52
174	$56,703.26	$189.01	$756.73	$55,946.53	$64,437.53
175	$55,946.53	$186.49	$759.25	$55,187.27	$64,624.01
176	$55,187.27	$183.96	$761.78	$54,425.49	$64,807.97
177	$54,425.49	$181.42	$764.32	$53,661.17	$64,989.39
178	$53,661.17	$178.87	$766.87	$52,894.30	$65,168.26
179	$52,894.30	$176.31	$769.43	$52,124.87	$65,344.58
180	$52,124.87	$173.75	$771.99	$51,352.88	$65,518.32
181	$51,352.88	$171.18	$774.57	$50,578.31	$65,689.50
182	$50,578.31	$168.59	$777.15	$49,801.16	$65,858.10
183	$49,801.16	$166.00	$779.74	$49,021.43	$66,024.10

TOWNSHIP OF PUSLINCH
Water Servicing - Option W2

Estimated Capital Cost:	$19,976,700
Number of Benefitting Properties:	128
Cost per Connection:	$156,067.97

Capital Cost Recovery Factor - A =	0.006059803
Monthly Cost -P =	$945.74

Loan Amount	Interest Rate	Term in Years	Monthly Payment
$156,068.00	4.00%	20	**$945.74**

Month	StartingBalance	Interest	Principal	EndingBalance	TotalInterest
184	$49,021.43	$163.40	$782.34	$48,239.09	$66,187.50
185	$48,239.09	$160.80	$784.94	$47,454.15	$66,348.30
186	$47,454.15	$158.18	$787.56	$46,666.58	$66,506.48
187	$46,666.58	$155.56	$790.19	$45,876.40	$66,662.04
188	$45,876.40	$152.92	$792.82	$45,083.58	$66,814.96
189	$45,083.58	$150.28	$795.46	$44,288.12	$66,965.24
190	$44,288.12	$147.63	$798.11	$43,490.00	$67,112.86
191	$43,490.00	$144.97	$800.77	$42,689.23	$67,257.83
192	$42,689.23	$142.30	$803.44	$41,885.78	$67,400.13
193	$41,885.78	$139.62	$806.12	$41,079.66	$67,539.75
194	$41,079.66	$136.93	$808.81	$40,270.85	$67,676.68
195	$40,270.85	$134.24	$811.51	$39,459.35	$67,810.92
196	$39,459.35	$131.53	$814.21	$38,645.14	$67,942.45
197	$38,645.14	$128.82	$816.92	$37,828.21	$68,071.26
198	$37,828.21	$126.09	$819.65	$37,008.56	$68,197.36
199	$37,008.56	$123.36	$822.38	$36,186.19	$68,320.72
200	$36,186.19	$120.62	$825.12	$35,361.06	$68,441.34
201	$35,361.06	$117.87	$827.87	$34,533.19	$68,559.21
202	$34,533.19	$115.11	$830.63	$33,702.56	$68,674.32
203	$33,702.56	$112.34	$833.40	$32,869.16	$68,786.66
204	$32,869.16	$109.56	$836.18	$32,032.99	$68,896.23
205	$32,032.99	$106.78	$838.96	$31,194.02	$69,003.00
206	$31,194.02	$103.98	$841.76	$30,352.26	$69,106.98
207	$30,352.26	$101.17	$844.57	$29,507.69	$69,208.16
208	$29,507.69	$98.36	$847.38	$28,660.31	$69,306.52
209	$28,660.31	$95.53	$850.21	$27,810.10	$69,402.05
210	$27,810.10	$92.70	$853.04	$26,957.06	$69,494.75
211	$26,957.06	$89.86	$855.88	$26,101.18	$69,584.61
212	$26,101.18	$87.00	$858.74	$25,242.44	$69,671.61
213	$25,242.44	$84.14	$861.60	$24,380.84	$69,755.75
214	$24,380.84	$81.27	$864.47	$23,516.37	$69,837.02
215	$23,516.37	$78.39	$867.35	$22,649.01	$69,915.41
216	$22,649.01	$75.50	$870.24	$21,778.77	$69,990.91
217	$21,778.77	$72.60	$873.15	$20,905.62	$70,063.50
218	$20,905.62	$69.69	$876.06	$20,029.57	$70,133.19
219	$20,029.57	$66.77	$878.98	$19,150.59	$70,199.95
220	$19,150.59	$63.84	$881.91	$18,268.69	$70,263.79
221	$18,268.69	$60.90	$884.85	$17,383.84	$70,324.69
222	$17,383.84	$57.95	$887.80	$16,496.05	$70,382.63
223	$16,496.05	$54.99	$890.75	$15,605.29	$70,437.62
224	$15,605.29	$52.02	$893.72	$14,711.57	$70,489.64
225	$14,711.57	$49.04	$896.70	$13,814.86	$70,538.67
226	$13,814.86	$46.05	$899.69	$12,915.17	$70,584.72
227	$12,915.17	$43.05	$902.69	$12,012.48	$70,627.77
228	$12,012.48	$40.04	$905.70	$11,106.78	$70,667.82
229	$11,106.78	$37.02	$908.72	$10,198.06	$70,704.84
230	$10,198.06	$33.99	$911.75	$9,286.31	$70,738.83
231	$9,286.31	$30.95	$914.79	$8,371.53	$70,769.79
232	$8,371.53	$27.91	$917.84	$7,453.69	$70,797.69
233	$7,453.69	$24.85	$920.90	$6,532.80	$70,822.54
234	$6,532.80	$21.78	$923.97	$5,608.83	$70,844.31
235	$5,608.83	$18.70	$927.05	$4,681.79	$70,863.01
236	$4,681.79	$15.61	$930.14	$3,751.65	$70,878.62
237	$3,751.65	$12.51	$933.24	$2,818.41	$70,891.12
238	$2,818.41	$9.39	$936.35	$1,882.07	$70,900.52
239	$1,882.07	$6.27	$939.47	$942.60	$70,906.79
240	$942.60	$3.14	$942.60	$0.00	$70,909.93

TOWNSHIP OF PUSLINCH
Wastewater Servicing - Option WW1

Estimated Capital Cost:	$29,036,580
Number of Benefitting Properties:	128
Cost per Connection:	$226,848.28

Capital Cost Recovery Factor - A = 0.010124514
Monthly Cost -P = $2,296.73

Loan Amount	Interest Rate	Term in Years	Monthly Payment
$226,848.00	4.00%	10	**$2,296.73**

Month	StartingBalance	Interest	Principal	EndingBalance	TotalInterest
1	$226,848.00	$756.16	$1,540.57	$225,307.43	$756.16
2	$225,307.43	$751.02	$1,545.70	$223,761.73	$1,507.18
3	$223,761.73	$745.87	$1,550.85	$222,210.88	$2,253.06
4	$222,210.88	$740.70	$1,556.02	$220,654.86	$2,993.76
5	$220,654.86	$735.52	$1,561.21	$219,093.65	$3,729.28
6	$219,093.65	$730.31	$1,566.41	$217,527.23	$4,459.59
7	$217,527.23	$725.09	$1,571.63	$215,955.60	$5,184.68
8	$215,955.60	$719.85	$1,576.87	$214,378.73	$5,904.53
9	$214,378.73	$714.60	$1,582.13	$212,796.60	$6,619.13
10	$212,796.60	$709.32	$1,587.40	$211,209.19	$7,328.45
11	$211,209.19	$704.03	$1,592.70	$209,616.50	$8,032.48
12	$209,616.50	$698.72	$1,598.00	$208,018.49	$8,731.20
13	$208,018.49	$693.39	$1,603.33	$206,415.16	$9,424.60
14	$206,415.16	$688.05	$1,608.68	$204,806.49	$10,112.65
15	$204,806.49	$682.69	$1,614.04	$203,192.45	$10,795.34
16	$203,192.45	$677.31	$1,619.42	$201,573.03	$11,472.64
17	$201,573.03	$671.91	$1,624.82	$199,948.22	$12,144.55
18	$199,948.22	$666.49	$1,630.23	$198,317.98	$12,811.05
19	$198,317.98	$661.06	$1,635.67	$196,682.32	$13,472.11
20	$196,682.32	$655.61	$1,641.12	$195,041.20	$14,127.72
21	$195,041.20	$650.14	$1,646.59	$193,394.61	$14,777.85
22	$193,394.61	$644.65	$1,652.08	$191,742.54	$15,422.50
23	$191,742.54	$639.14	$1,657.58	$190,084.95	$16,061.64
24	$190,084.95	$633.62	$1,663.11	$188,421.84	$16,695.26
25	$188,421.84	$628.07	$1,668.65	$186,753.19	$17,323.33
26	$186,753.19	$622.51	$1,674.22	$185,078.97	$17,945.84
27	$185,078.97	$616.93	$1,679.80	$183,399.18	$18,562.77
28	$183,399.18	$611.33	$1,685.40	$181,713.78	$19,174.10
29	$181,713.78	$605.71	$1,691.01	$180,022.77	$19,779.82
30	$180,022.77	$600.08	$1,696.65	$178,326.12	$20,379.89
31	$178,326.12	$594.42	$1,702.31	$176,623.82	$20,974.31
32	$176,623.82	$588.75	$1,707.98	$174,915.84	$21,563.06
33	$174,915.84	$583.05	$1,713.67	$173,202.16	$22,146.11
34	$173,202.16	$577.34	$1,719.39	$171,482.78	$22,723.45
35	$171,482.78	$571.61	$1,725.12	$169,757.66	$23,295.06
36	$169,757.66	$565.86	$1,730.87	$168,026.79	$23,860.92
37	$168,026.79	$560.09	$1,736.64	$166,290.16	$24,421.01
38	$166,290.16	$554.30	$1,742.43	$164,547.73	$24,975.31
39	$164,547.73	$548.49	$1,748.23	$162,799.50	$25,523.80
40	$162,799.50	$542.66	$1,754.06	$161,045.44	$26,066.47
41	$161,045.44	$536.82	$1,759.91	$159,285.53	$26,603.29
42	$159,285.53	$530.95	$1,765.77	$157,519.76	$27,134.24
43	$157,519.76	$525.07	$1,771.66	$155,748.10	$27,659.30
44	$155,748.10	$519.16	$1,777.57	$153,970.53	$28,178.46
45	$153,970.53	$513.24	$1,783.49	$152,187.04	$28,691.70
46	$152,187.04	$507.29	$1,789.44	$150,397.61	$29,198.99
47	$150,397.61	$501.33	$1,795.40	$148,602.21	$29,700.31
48	$148,602.21	$495.34	$1,801.39	$146,800.82	$30,195.65
49	$146,800.82	$489.34	$1,807.39	$144,993.43	$30,684.99
50	$144,993.43	$483.31	$1,813.41	$143,180.02	$31,168.30
51	$143,180.02	$477.27	$1,819.46	$141,360.56	$31,645.57
52	$141,360.56	$471.20	$1,825.52	$139,535.03	$32,116.77
53	$139,535.03	$465.12	$1,831.61	$137,703.42	$32,581.89
54	$137,703.42	$459.01	$1,837.71	$135,865.71	$33,040.90
55	$135,865.71	$452.89	$1,843.84	$134,021.87	$33,493.78
56	$134,021.87	$446.74	$1,849.99	$132,171.88	$33,940.52
57	$132,171.88	$440.57	$1,856.15	$130,315.73	$34,381.10
58	$130,315.73	$434.39	$1,862.34	$128,453.39	$34,815.48
59	$128,453.39	$428.18	$1,868.55	$126,584.84	$35,243.66
60	$126,584.84	$421.95	$1,874.78	$124,710.07	$35,665.61
61	$124,710.07	$415.70	$1,881.03	$122,829.04	$36,081.31

TOWNSHIP OF PUSLINCH
Wastewater Servicing - Option WW1

Estimated Capital Cost:	$29,036,580
Number of Benefitting Properties:	128
Cost per Connection:	$226,848.28

Capital Cost Recovery Factor - A =	0.010124514
Monthly Cost -P =	$2,296.73

Loan Amount	Interest Rate	Term in Years	Monthly Payment
$226,848.00	4.00%	10	**$2,296.73**

Month	StartingBalance	Interest	Principal	EndingBalance	TotalInterest
62	$122,829.04	$409.43	$1,887.30	$120,941.75	$36,490.74
63	$120,941.75	$403.14	$1,893.59	$119,048.16	$36,893.88
64	$119,048.16	$396.83	$1,899.90	$117,148.26	$37,290.71
65	$117,148.26	$390.49	$1,906.23	$115,242.03	$37,681.20
66	$115,242.03	$384.14	$1,912.59	$113,329.44	$38,065.34
67	$113,329.44	$377.76	$1,918.96	$111,410.48	$38,443.11
68	$111,410.48	$371.37	$1,925.36	$109,485.13	$38,814.47
69	$109,485.13	$364.95	$1,931.78	$107,553.35	$39,179.42
70	$107,553.35	$358.51	$1,938.21	$105,615.14	$39,537.94
71	$105,615.14	$352.05	$1,944.68	$103,670.46	$39,889.99
72	$103,670.46	$345.57	$1,951.16	$101,719.30	$40,235.55
73	$101,719.30	$339.06	$1,957.66	$99,761.64	$40,574.62
74	$99,761.64	$332.54	$1,964.19	$97,797.46	$40,907.16
75	$97,797.46	$325.99	$1,970.73	$95,826.72	$41,233.15
76	$95,826.72	$319.42	$1,977.30	$93,849.42	$41,552.57
77	$93,849.42	$312.83	$1,983.89	$91,865.52	$41,865.40
78	$91,865.52	$306.22	$1,990.51	$89,875.02	$42,171.62
79	$89,875.02	$299.58	$1,997.14	$87,877.87	$42,471.20
80	$87,877.87	$292.93	$2,003.80	$85,874.07	$42,764.13
81	$85,874.07	$286.25	$2,010.48	$83,863.60	$43,050.38
82	$83,863.60	$279.55	$2,017.18	$81,846.42	$43,329.92
83	$81,846.42	$272.82	$2,023.90	$79,822.51	$43,602.74
84	$79,822.51	$266.08	$2,030.65	$77,791.86	$43,868.82
85	$77,791.86	$259.31	$2,037.42	$75,754.44	$44,128.13
86	$75,754.44	$252.51	$2,044.21	$73,710.23	$44,380.64
87	$73,710.23	$245.70	$2,051.02	$71,659.20	$44,626.34
88	$71,659.20	$238.86	$2,057.86	$69,601.34	$44,865.21
89	$69,601.34	$232.00	$2,064.72	$67,536.62	$45,097.21
90	$67,536.62	$225.12	$2,071.60	$65,465.02	$45,322.33
91	$65,465.02	$218.22	$2,078.51	$63,386.51	$45,540.55
92	$63,386.51	$211.29	$2,085.44	$61,301.07	$45,751.84
93	$61,301.07	$204.34	$2,092.39	$59,208.68	$45,956.17
94	$59,208.68	$197.36	$2,099.36	$57,109.32	$46,153.54
95	$57,109.32	$190.36	$2,106.36	$55,002.96	$46,343.90
96	$55,002.96	$183.34	$2,113.38	$52,889.58	$46,527.24
97	$52,889.58	$176.30	$2,120.43	$50,769.15	$46,703.54
98	$50,769.15	$169.23	$2,127.50	$48,641.65	$46,872.77
99	$48,641.65	$162.14	$2,134.59	$46,507.07	$47,034.91
100	$46,507.07	$155.02	$2,141.70	$44,365.36	$47,189.94
101	$44,365.36	$147.88	$2,148.84	$42,216.52	$47,337.82
102	$42,216.52	$140.72	$2,156.00	$40,060.52	$47,478.54
103	$40,060.52	$133.54	$2,163.19	$37,897.33	$47,612.08
104	$37,897.33	$126.32	$2,170.40	$35,726.93	$47,738.40
105	$35,726.93	$119.09	$2,177.64	$33,549.29	$47,857.49
106	$33,549.29	$111.83	$2,184.89	$31,364.40	$47,969.32
107	$31,364.40	$104.55	$2,192.18	$29,172.22	$48,073.87
108	$29,172.22	$97.24	$2,199.48	$26,972.73	$48,171.11
109	$26,972.73	$89.91	$2,206.82	$24,765.92	$48,261.02
110	$24,765.92	$82.55	$2,214.17	$22,551.74	$48,343.57
111	$22,551.74	$75.17	$2,221.55	$20,330.19	$48,418.75
112	$20,330.19	$67.77	$2,228.96	$18,101.23	$48,486.51
113	$18,101.23	$60.34	$2,236.39	$15,864.84	$48,546.85
114	$15,864.84	$52.88	$2,243.84	$13,621.00	$48,599.73
115	$13,621.00	$45.40	$2,251.32	$11,369.68	$48,645.14
116	$11,369.68	$37.90	$2,258.83	$9,110.85	$48,683.04
117	$9,110.85	$30.37	$2,266.36	$6,844.50	$48,713.40
118	$6,844.50	$22.81	$2,273.91	$4,570.59	$48,736.22
119	$4,570.59	$15.24	$2,281.49	$2,289.10	$48,751.45
120	$2,289.10	$7.63	$2,289.10	$0.00	$48,759.09

TOWNSHIP OF PUSLINCH
Wastewater Servicing - Option WW1

Estimated Capital Cost:	$29,036,580
Number of Benefitting Properties:	128
Cost per Connection:	$226,848.28

Capital Cost Recovery Factor - A = 0.007396879
Monthly Cost -P = $1,677.97

Loan Amount	Interest Rate	Term in Years	Monthly Payment
$226,848.00	4.00%	15	**$1,677.97**

Month	StartingBalance	Interest	Principal	EndingBalance	TotalInterest
1	$226,848.00	$756.16	$921.81	$225,926.19	$756.16
2	$225,926.19	$753.09	$924.88	$225,001.31	$1,509.25
3	$225,001.31	$750.00	$927.96	$224,073.35	$2,259.25
4	$224,073.35	$746.91	$931.06	$223,142.29	$3,006.16
5	$223,142.29	$743.81	$934.16	$222,208.13	$3,749.97
6	$222,208.13	$740.69	$937.27	$221,270.86	$4,490.66
7	$221,270.86	$737.57	$940.40	$220,330.46	$5,228.23
8	$220,330.46	$734.43	$943.53	$219,386.93	$5,962.67
9	$219,386.93	$731.29	$946.68	$218,440.25	$6,693.96
10	$218,440.25	$728.13	$949.83	$217,490.42	$7,422.09
11	$217,490.42	$724.97	$953.00	$216,537.42	$8,147.06
12	$216,537.42	$721.79	$956.18	$215,581.24	$8,868.85
13	$215,581.24	$718.60	$959.36	$214,621.88	$9,587.46
14	$214,621.88	$715.41	$962.56	$213,659.32	$10,302.86
15	$213,659.32	$712.20	$965.77	$212,693.55	$11,015.06
16	$212,693.55	$708.98	$968.99	$211,724.56	$11,724.04
17	$211,724.56	$705.75	$972.22	$210,752.34	$12,429.79
18	$210,752.34	$702.51	$975.46	$209,776.88	$13,132.30
19	$209,776.88	$699.26	$978.71	$208,798.17	$13,831.55
20	$208,798.17	$695.99	$981.97	$207,816.20	$14,527.55
21	$207,816.20	$692.72	$985.25	$206,830.95	$15,220.27
22	$206,830.95	$689.44	$988.53	$205,842.42	$15,909.70
23	$205,842.42	$686.14	$991.83	$204,850.60	$16,595.84
24	$204,850.60	$682.84	$995.13	$203,855.46	$17,278.68
25	$203,855.46	$679.52	$998.45	$202,857.02	$17,958.20
26	$202,857.02	$676.19	$1,001.78	$201,855.24	$18,634.39
27	$201,855.24	$672.85	$1,005.12	$200,850.12	$19,307.24
28	$200,850.12	$669.50	$1,008.47	$199,841.66	$19,976.74
29	$199,841.66	$666.14	$1,011.83	$198,829.83	$20,642.88
30	$198,829.83	$662.77	$1,015.20	$197,814.63	$21,305.64
31	$197,814.63	$659.38	$1,018.59	$196,796.04	$21,965.03
32	$196,796.04	$655.99	$1,021.98	$195,774.06	$22,621.01
33	$195,774.06	$652.58	$1,025.39	$194,748.67	$23,273.59
34	$194,748.67	$649.16	$1,028.81	$193,719.87	$23,922.75
35	$193,719.87	$645.73	$1,032.23	$192,687.63	$24,568.49
36	$192,687.63	$642.29	$1,035.68	$191,651.96	$25,210.78
37	$191,651.96	$638.84	$1,039.13	$190,612.83	$25,849.62
38	$190,612.83	$635.38	$1,042.59	$189,570.24	$26,485.00
39	$189,570.24	$631.90	$1,046.07	$188,524.17	$27,116.90
40	$188,524.17	$628.41	$1,049.55	$187,474.62	$27,745.31
41	$187,474.62	$624.92	$1,053.05	$186,421.57	$28,370.23
42	$186,421.57	$621.41	$1,056.56	$185,365.01	$28,991.63
43	$185,365.01	$617.88	$1,060.08	$184,304.92	$29,609.51
44	$184,304.92	$614.35	$1,063.62	$183,241.30	$30,223.86
45	$183,241.30	$610.80	$1,067.16	$182,174.14	$30,834.67
46	$182,174.14	$607.25	$1,070.72	$181,103.42	$31,441.92
47	$181,103.42	$603.68	$1,074.29	$180,029.13	$32,045.59
48	$180,029.13	$600.10	$1,077.87	$178,951.26	$32,645.69
49	$178,951.26	$596.50	$1,081.46	$177,869.80	$33,242.20
50	$177,869.80	$592.90	$1,085.07	$176,784.73	$33,835.09
51	$176,784.73	$589.28	$1,088.68	$175,696.05	$34,424.38
52	$175,696.05	$585.65	$1,092.31	$174,603.73	$35,010.03
53	$174,603.73	$582.01	$1,095.95	$173,507.78	$35,592.04
54	$173,507.78	$578.36	$1,099.61	$172,408.17	$36,170.40
55	$172,408.17	$574.69	$1,103.27	$171,304.90	$36,745.10
56	$171,304.90	$571.02	$1,106.95	$170,197.95	$37,316.11
57	$170,197.95	$567.33	$1,110.64	$169,087.30	$37,883.44
58	$169,087.30	$563.62	$1,114.34	$167,972.96	$38,447.06
59	$167,972.96	$559.91	$1,118.06	$166,854.90	$39,006.97
60	$166,854.90	$556.18	$1,121.78	$165,733.12	$39,563.16
61	$165,733.12	$552.44	$1,125.52	$164,607.60	$40,115.60

TOWNSHIP OF PUSLINCH
Wastewater Servicing - Option WW1

Estimated Capital Cost:	$29,036,580
Number of Benefitting Properties:	128
Cost per Connection:	$226,848.28

Capital Cost Recovery Factor - A = 0.007396879
Monthly Cost -P = $1,677.97

Loan Amount	Interest Rate	Term in Years	Monthly Payment
$226,848.00	4.00%	15	**$1,677.97**

Month	StartingBalance	Interest	Principal	EndingBalance	TotalInterest
62	$164,607.60	$548.69	$1,129.28	$163,478.32	$40,664.29
63	$163,478.32	$544.93	$1,133.04	$162,345.28	$41,209.22
64	$162,345.28	$541.15	$1,136.82	$161,208.47	$41,750.37
65	$161,208.47	$537.36	$1,140.61	$160,067.86	$42,287.73
66	$160,067.86	$533.56	$1,144.41	$158,923.45	$42,821.29
67	$158,923.45	$529.74	$1,148.22	$157,775.23	$43,351.04
68	$157,775.23	$525.92	$1,152.05	$156,623.18	$43,876.95
69	$156,623.18	$522.08	$1,155.89	$155,467.29	$44,399.03
70	$155,467.29	$518.22	$1,159.74	$154,307.55	$44,917.26
71	$154,307.55	$514.36	$1,163.61	$153,143.94	$45,431.61
72	$153,143.94	$510.48	$1,167.49	$151,976.45	$45,942.09
73	$151,976.45	$506.59	$1,171.38	$150,805.07	$46,448.68
74	$150,805.07	$502.68	$1,175.28	$149,629.79	$46,951.37
75	$149,629.79	$498.77	$1,179.20	$148,450.59	$47,450.13
76	$148,450.59	$494.84	$1,183.13	$147,267.45	$47,944.97
77	$147,267.45	$490.89	$1,187.08	$146,080.38	$48,435.86
78	$146,080.38	$486.93	$1,191.03	$144,889.35	$48,922.79
79	$144,889.35	$482.96	$1,195.00	$143,694.34	$49,405.76
80	$143,694.34	$478.98	$1,198.99	$142,495.36	$49,884.74
81	$142,495.36	$474.98	$1,202.98	$141,292.37	$50,359.72
82	$141,292.37	$470.97	$1,206.99	$140,085.38	$50,830.70
83	$140,085.38	$466.95	$1,211.02	$138,874.37	$51,297.65
84	$138,874.37	$462.91	$1,215.05	$137,659.31	$51,760.56
85	$137,659.31	$458.86	$1,219.10	$136,440.21	$52,219.43
86	$136,440.21	$454.80	$1,223.17	$135,217.04	$52,674.23
87	$135,217.04	$450.72	$1,227.24	$133,989.80	$53,124.95
88	$133,989.80	$446.63	$1,231.33	$132,758.47	$53,571.58
89	$132,758.47	$442.53	$1,235.44	$131,523.03	$54,014.11
90	$131,523.03	$438.41	$1,239.56	$130,283.47	$54,452.52
91	$130,283.47	$434.28	$1,243.69	$129,039.78	$54,886.80
92	$129,039.78	$430.13	$1,247.83	$127,791.95	$55,316.93
93	$127,791.95	$425.97	$1,251.99	$126,539.95	$55,742.91
94	$126,539.95	$421.80	$1,256.17	$125,283.78	$56,164.71
95	$125,283.78	$417.61	$1,260.35	$124,023.43	$56,582.32
96	$124,023.43	$413.41	$1,264.56	$122,758.87	$56,995.73
97	$122,758.87	$409.20	$1,268.77	$121,490.10	$57,404.93
98	$121,490.10	$404.97	$1,273.00	$120,217.10	$57,809.89
99	$120,217.10	$400.72	$1,277.24	$118,939.86	$58,210.62
100	$118,939.86	$396.47	$1,281.50	$117,658.36	$58,607.08
101	$117,658.36	$392.19	$1,285.77	$116,372.58	$58,999.28
102	$116,372.58	$387.91	$1,290.06	$115,082.53	$59,387.19
103	$115,082.53	$383.61	$1,294.36	$113,788.17	$59,770.80
104	$113,788.17	$379.29	$1,298.67	$112,489.49	$60,150.09
105	$112,489.49	$374.96	$1,303.00	$111,186.49	$60,525.05
106	$111,186.49	$370.62	$1,307.35	$109,879.15	$60,895.68
107	$109,879.15	$366.26	$1,311.70	$108,567.44	$61,261.94
108	$108,567.44	$361.89	$1,316.08	$107,251.37	$61,623.83
109	$107,251.37	$357.50	$1,320.46	$105,930.90	$61,981.34
110	$105,930.90	$353.10	$1,324.86	$104,606.04	$62,334.44
111	$104,606.04	$348.69	$1,329.28	$103,276.76	$62,683.13
112	$103,276.76	$344.26	$1,333.71	$101,943.05	$63,027.38
113	$101,943.05	$339.81	$1,338.16	$100,604.89	$63,367.19
114	$100,604.89	$335.35	$1,342.62	$99,262.27	$63,702.54
115	$99,262.27	$330.87	$1,347.09	$97,915.18	$64,033.42
116	$97,915.18	$326.38	$1,351.58	$96,563.60	$64,359.80
117	$96,563.60	$321.88	$1,356.09	$95,207.51	$64,681.68
118	$95,207.51	$317.36	$1,360.61	$93,846.90	$64,999.04
119	$93,846.90	$312.82	$1,365.14	$92,481.75	$65,311.86
120	$92,481.75	$308.27	$1,369.69	$91,112.06	$65,620.13
121	$91,112.06	$303.71	$1,374.26	$89,737.80	$65,923.84
122	$89,737.80	$299.13	$1,378.84	$88,358.96	$66,222.96

TOWNSHIP OF PUSLINCH
Wastewater Servicing - Option WW1

Estimated Capital Cost:	$29,036,580
Number of Benefitting Properties:	128
Cost per Connection:	$226,848.28

Capital Cost Recovery Factor - A =	0.007396879
Monthly Cost -P =	$1,677.97

Loan Amount	Interest Rate	Term in Years	Monthly Payment
$226,848.00	4.00%	15	**$1,677.97**

Month	StartingBalance	Interest	Principal	EndingBalance	TotalInterest
123	$88,358.96	$294.53	$1,383.44	$86,975.52	$66,517.49
124	$86,975.52	$289.92	$1,388.05	$85,587.47	$66,807.41
125	$85,587.47	$285.29	$1,392.68	$84,194.80	$67,092.70
126	$84,194.80	$280.65	$1,397.32	$82,797.48	$67,373.35
127	$82,797.48	$275.99	$1,401.98	$81,395.50	$67,649.35
128	$81,395.50	$271.32	$1,406.65	$79,988.85	$67,920.66
129	$79,988.85	$266.63	$1,411.34	$78,577.52	$68,187.29
130	$78,577.52	$261.93	$1,416.04	$77,161.47	$68,449.22
131	$77,161.47	$257.20	$1,420.76	$75,740.71	$68,706.42
132	$75,740.71	$252.47	$1,425.50	$74,315.21	$68,958.89
133	$74,315.21	$247.72	$1,430.25	$72,884.96	$69,206.61
134	$72,884.96	$242.95	$1,435.02	$71,449.95	$69,449.56
135	$71,449.95	$238.17	$1,439.80	$70,010.15	$69,687.73
136	$70,010.15	$233.37	$1,444.60	$68,565.55	$69,921.09
137	$68,565.55	$228.55	$1,449.42	$67,116.13	$70,149.65
138	$67,116.13	$223.72	$1,454.25	$65,661.88	$70,373.37
139	$65,661.88	$218.87	$1,459.09	$64,202.79	$70,592.24
140	$64,202.79	$214.01	$1,463.96	$62,738.83	$70,806.25
141	$62,738.83	$209.13	$1,468.84	$61,269.99	$71,015.38
142	$61,269.99	$204.23	$1,473.73	$59,796.26	$71,219.61
143	$59,796.26	$199.32	$1,478.65	$58,317.61	$71,418.93
144	$58,317.61	$194.39	$1,483.58	$56,834.04	$71,613.32
145	$56,834.04	$189.45	$1,488.52	$55,345.52	$71,802.77
146	$55,345.52	$184.49	$1,493.48	$53,852.03	$71,987.26
147	$53,852.03	$179.51	$1,498.46	$52,353.57	$72,166.76
148	$52,353.57	$174.51	$1,503.46	$50,850.12	$72,341.27
149	$50,850.12	$169.50	$1,508.47	$49,341.65	$72,510.77
150	$49,341.65	$164.47	$1,513.50	$47,828.16	$72,675.25
151	$47,828.16	$159.43	$1,518.54	$46,309.62	$72,834.67
152	$46,309.62	$154.37	$1,523.60	$44,786.01	$72,989.04
153	$44,786.01	$149.29	$1,528.68	$43,257.33	$73,138.33
154	$43,257.33	$144.19	$1,533.78	$41,723.56	$73,282.52
155	$41,723.56	$139.08	$1,538.89	$40,184.67	$73,421.60
156	$40,184.67	$133.95	$1,544.02	$38,640.65	$73,555.54
157	$38,640.65	$128.80	$1,549.17	$37,091.49	$73,684.35
158	$37,091.49	$123.64	$1,554.33	$35,537.16	$73,807.98
159	$35,537.16	$118.46	$1,559.51	$33,977.65	$73,926.44
160	$33,977.65	$113.26	$1,564.71	$32,412.94	$74,039.70
161	$32,412.94	$108.04	$1,569.92	$30,843.01	$74,147.74
162	$30,843.01	$102.81	$1,575.16	$29,267.86	$74,250.55
163	$29,267.86	$97.56	$1,580.41	$27,687.45	$74,348.11
164	$27,687.45	$92.29	$1,585.68	$26,101.77	$74,440.41
165	$26,101.77	$87.01	$1,590.96	$24,510.81	$74,527.41
166	$24,510.81	$81.70	$1,596.26	$22,914.55	$74,609.11
167	$22,914.55	$76.38	$1,601.59	$21,312.96	$74,685.50
168	$21,312.96	$71.04	$1,606.92	$19,706.04	$74,756.54
169	$19,706.04	$65.69	$1,612.28	$18,093.76	$74,822.23
170	$18,093.76	$60.31	$1,617.65	$16,476.10	$74,882.54
171	$16,476.10	$54.92	$1,623.05	$14,853.06	$74,937.46
172	$14,853.06	$49.51	$1,628.46	$13,224.60	$74,986.97
173	$13,224.60	$44.08	$1,633.89	$11,590.71	$75,031.05
174	$11,590.71	$38.64	$1,639.33	$9,951.38	$75,069.69
175	$9,951.38	$33.17	$1,644.80	$8,306.59	$75,102.86
176	$8,306.59	$27.69	$1,650.28	$6,656.31	$75,130.55
177	$6,656.31	$22.19	$1,655.78	$5,000.53	$75,152.73
178	$5,000.53	$16.67	$1,661.30	$3,339.23	$75,169.40
179	$3,339.23	$11.13	$1,666.84	$1,672.39	$75,180.53
180	$1,672.39	$5.57	$1,672.39	$0.00	$75,186.11

TOWNSHIP OF PUSLINCH
Wastewater Servicing - Option WW1

Estimated Capital Cost:	$29,036,580
Number of Benefitting Properties:	128
Cost per Connection:	$226,848.28

Capital Cost Recovery Factor - A = 0.006059803
Monthly Cost -P = $1,374.65

Loan Amount	Interest Rate	Term in Years	Monthly Payment
$226,848.00	4.00%	20	**$1,374.65**

Month	StartingBalance	Interest	Principal	EndingBalance	TotalInterest
1	$226,848.00	$756.16	$618.49	$226,229.51	$756.16
2	$226,229.51	$754.10	$620.56	$225,608.95	$1,510.26
3	$225,608.95	$752.03	$622.62	$224,986.33	$2,262.29
4	$224,986.33	$749.95	$624.70	$224,361.63	$3,012.24
5	$224,361.63	$747.87	$626.78	$223,734.84	$3,760.11
6	$223,734.84	$745.78	$628.87	$223,105.97	$4,505.90
7	$223,105.97	$743.69	$630.97	$222,475.00	$5,249.58
8	$222,475.00	$741.58	$633.07	$221,841.93	$5,991.17
9	$221,841.93	$739.47	$635.18	$221,206.75	$6,730.64
10	$221,206.75	$737.36	$637.30	$220,569.45	$7,468.00
11	$220,569.45	$735.23	$639.42	$219,930.03	$8,203.23
12	$219,930.03	$733.10	$641.55	$219,288.48	$8,936.33
13	$219,288.48	$730.96	$643.69	$218,644.78	$9,667.29
14	$218,644.78	$728.82	$645.84	$217,998.95	$10,396.11
15	$217,998.95	$726.66	$647.99	$217,350.95	$11,122.77
16	$217,350.95	$724.50	$650.15	$216,700.80	$11,847.27
17	$216,700.80	$722.34	$652.32	$216,048.49	$12,569.61
18	$216,048.49	$720.16	$654.49	$215,393.99	$13,289.77
19	$215,393.99	$717.98	$656.67	$214,737.32	$14,007.75
20	$214,737.32	$715.79	$658.86	$214,078.46	$14,723.54
21	$214,078.46	$713.59	$661.06	$213,417.40	$15,437.14
22	$213,417.40	$711.39	$663.26	$212,754.13	$16,148.53
23	$212,754.13	$709.18	$665.47	$212,088.66	$16,857.71
24	$212,088.66	$706.96	$667.69	$211,420.97	$17,564.67
25	$211,420.97	$704.74	$669.92	$210,751.05	$18,269.41
26	$210,751.05	$702.50	$672.15	$210,078.90	$18,971.91
27	$210,078.90	$700.26	$674.39	$209,404.51	$19,672.17
28	$209,404.51	$698.02	$676.64	$208,727.87	$20,370.19
29	$208,727.87	$695.76	$678.89	$208,048.97	$21,065.95
30	$208,048.97	$693.50	$681.16	$207,367.82	$21,759.44
31	$207,367.82	$691.23	$683.43	$206,684.39	$22,450.67
32	$206,684.39	$688.95	$685.71	$205,998.68	$23,139.62
33	$205,998.68	$686.66	$687.99	$205,310.69	$23,826.28
34	$205,310.69	$684.37	$690.29	$204,620.40	$24,510.65
35	$204,620.40	$682.07	$692.59	$203,927.82	$25,192.72
36	$203,927.82	$679.76	$694.89	$203,232.92	$25,872.48
37	$203,232.92	$677.44	$697.21	$202,535.71	$26,549.92
38	$202,535.71	$675.12	$699.54	$201,836.18	$27,225.04
39	$201,836.18	$672.79	$701.87	$201,134.31	$27,897.83
40	$201,134.31	$670.45	$704.21	$200,430.10	$28,568.27
41	$200,430.10	$668.10	$706.55	$199,723.55	$29,236.37
42	$199,723.55	$665.75	$708.91	$199,014.64	$29,902.12
43	$199,014.64	$663.38	$711.27	$198,303.37	$30,565.50
44	$198,303.37	$661.01	$713.64	$197,589.72	$31,226.51
45	$197,589.72	$658.63	$716.02	$196,873.70	$31,885.14
46	$196,873.70	$656.25	$718.41	$196,155.29	$32,541.39
47	$196,155.29	$653.85	$720.80	$195,434.49	$33,195.24
48	$195,434.49	$651.45	$723.21	$194,711.29	$33,846.69
49	$194,711.29	$649.04	$725.62	$193,985.67	$34,495.73
50	$193,985.67	$646.62	$728.04	$193,257.63	$35,142.35
51	$193,257.63	$644.19	$730.46	$192,527.17	$35,786.54
52	$192,527.17	$641.76	$732.90	$191,794.27	$36,428.30
53	$191,794.27	$639.31	$735.34	$191,058.93	$37,067.61
54	$191,058.93	$636.86	$737.79	$190,321.14	$37,704.47
55	$190,321.14	$634.40	$740.25	$189,580.89	$38,338.88
56	$189,580.89	$631.94	$742.72	$188,838.17	$38,970.81
57	$188,838.17	$629.46	$745.19	$188,092.98	$39,600.27
58	$188,092.98	$626.98	$747.68	$187,345.30	$40,227.25
59	$187,345.30	$624.48	$750.17	$186,595.13	$40,851.73
60	$186,595.13	$621.98	$752.67	$185,842.46	$41,473.72
61	$185,842.46	$619.47	$755.18	$185,087.28	$42,093.19

TOWNSHIP OF PUSLINCH
Wastewater Servicing - Option WW1

Estimated Capital Cost:	$29,036,580
Number of Benefitting Properties:	128
Cost per Connection:	$226,848.28

Capital Cost Recovery Factor - A = 0.006059803
Monthly Cost -P = $1,374.65

Loan Amount	Interest Rate	Term in Years	Monthly Payment
$226,848.00	4.00%	20	**$1,374.65**

Month	StartingBalance	Interest	Principal	EndingBalance	TotalInterest
62	$185,087.28	$616.96	$757.70	$184,329.59	$42,710.15
63	$184,329.59	$614.43	$760.22	$183,569.36	$43,324.58
64	$183,569.36	$611.90	$762.76	$182,806.61	$43,936.48
65	$182,806.61	$609.36	$765.30	$182,041.31	$44,545.84
66	$182,041.31	$606.80	$767.85	$181,273.46	$45,152.64
67	$181,273.46	$604.24	$770.41	$180,503.05	$45,756.89
68	$180,503.05	$601.68	$772.98	$179,730.07	$46,358.56
69	$179,730.07	$599.10	$775.55	$178,954.52	$46,957.66
70	$178,954.52	$596.52	$778.14	$178,176.38	$47,554.18
71	$178,176.38	$593.92	$780.73	$177,395.65	$48,148.10
72	$177,395.65	$591.32	$783.34	$176,612.31	$48,739.42
73	$176,612.31	$588.71	$785.95	$175,826.36	$49,328.13
74	$175,826.36	$586.09	$788.57	$175,037.80	$49,914.21
75	$175,037.80	$583.46	$791.19	$174,246.60	$50,497.67
76	$174,246.60	$580.82	$793.83	$173,452.77	$51,078.49
77	$173,452.77	$578.18	$796.48	$172,656.29	$51,656.67
78	$172,656.29	$575.52	$799.13	$171,857.16	$52,232.19
79	$171,857.16	$572.86	$801.80	$171,055.36	$52,805.05
80	$171,055.36	$570.18	$804.47	$170,250.89	$53,375.23
81	$170,250.89	$567.50	$807.15	$169,443.74	$53,942.74
82	$169,443.74	$564.81	$809.84	$168,633.90	$54,507.55
83	$168,633.90	$562.11	$812.54	$167,821.36	$55,069.66
84	$167,821.36	$559.40	$815.25	$167,006.11	$55,629.07
85	$167,006.11	$556.69	$817.97	$166,188.14	$56,185.75
86	$166,188.14	$553.96	$820.69	$165,367.45	$56,739.71
87	$165,367.45	$551.22	$823.43	$164,544.02	$57,290.94
88	$164,544.02	$548.48	$826.17	$163,717.84	$57,839.42
89	$163,717.84	$545.73	$828.93	$162,888.92	$58,385.14
90	$162,888.92	$542.96	$831.69	$162,057.22	$58,928.11
91	$162,057.22	$540.19	$834.46	$161,222.76	$59,468.30
92	$161,222.76	$537.41	$837.25	$160,385.52	$60,005.71
93	$160,385.52	$534.62	$840.04	$159,545.48	$60,540.33
94	$159,545.48	$531.82	$842.84	$158,702.64	$61,072.14
95	$158,702.64	$529.01	$845.65	$157,857.00	$61,601.15
96	$157,857.00	$526.19	$848.46	$157,008.53	$62,127.34
97	$157,008.53	$523.36	$851.29	$156,157.24	$62,650.70
98	$156,157.24	$520.52	$854.13	$155,303.11	$63,171.23
99	$155,303.11	$517.68	$856.98	$154,446.13	$63,688.91
100	$154,446.13	$514.82	$859.83	$153,586.30	$64,203.73
101	$153,586.30	$511.95	$862.70	$152,723.60	$64,715.68
102	$152,723.60	$509.08	$865.58	$151,858.02	$65,224.76
103	$151,858.02	$506.19	$868.46	$150,989.56	$65,730.95
104	$150,989.56	$503.30	$871.36	$150,118.21	$66,234.25
105	$150,118.21	$500.39	$874.26	$149,243.95	$66,734.65
106	$149,243.95	$497.48	$877.17	$148,366.77	$67,232.13
107	$148,366.77	$494.56	$880.10	$147,486.68	$67,726.68
108	$147,486.68	$491.62	$883.03	$146,603.64	$68,218.30
109	$146,603.64	$488.68	$885.98	$145,717.67	$68,706.98
110	$145,717.67	$485.73	$888.93	$144,828.74	$69,192.71
111	$144,828.74	$482.76	$891.89	$143,936.85	$69,675.47
112	$143,936.85	$479.79	$894.86	$143,041.98	$70,155.26
113	$143,041.98	$476.81	$897.85	$142,144.14	$70,632.07
114	$142,144.14	$473.81	$900.84	$141,243.29	$71,105.88
115	$141,243.29	$470.81	$903.84	$140,339.45	$71,576.69
116	$140,339.45	$467.80	$906.86	$139,432.60	$72,044.49
117	$139,432.60	$464.78	$909.88	$138,522.72	$72,509.26
118	$138,522.72	$461.74	$912.91	$137,609.80	$72,971.01
119	$137,609.80	$458.70	$915.95	$136,693.85	$73,429.71
120	$136,693.85	$455.65	$919.01	$135,774.84	$73,885.35
121	$135,774.84	$452.58	$922.07	$134,852.77	$74,337.94
122	$134,852.77	$449.51	$925.15	$133,927.62	$74,787.44

TOWNSHIP OF PUSLINCH
Wastewater Servicing - Option WW1

Estimated Capital Cost:	$29,036,580
Number of Benefitting Properties:	128
Cost per Connection:	$226,848.28

Capital Cost Recovery Factor - A =	0.006059803
Monthly Cost -P =	$1,374.65

Loan Amount	Interest Rate	Term in Years	Monthly Payment
$226,848.00	4.00%	20	**$1,374.65**

Month	StartingBalance	Interest	Principal	EndingBalance	TotalInterest
123	$133,927.62	$446.43	$928.23	$132,999.40	$75,233.87
124	$132,999.40	$443.33	$931.32	$132,068.07	$75,677.20
125	$132,068.07	$440.23	$934.43	$131,133.65	$76,117.43
126	$131,133.65	$437.11	$937.54	$130,196.10	$76,554.54
127	$130,196.10	$433.99	$940.67	$129,255.44	$76,988.53
128	$129,255.44	$430.85	$943.80	$128,311.63	$77,419.38
129	$128,311.63	$427.71	$946.95	$127,364.68	$77,847.08
130	$127,364.68	$424.55	$950.11	$126,414.58	$78,271.63
131	$126,414.58	$421.38	$953.27	$125,461.31	$78,693.01
132	$125,461.31	$418.20	$956.45	$124,504.86	$79,111.22
133	$124,504.86	$415.02	$959.64	$123,545.22	$79,526.24
134	$123,545.22	$411.82	$962.84	$122,582.38	$79,938.05
135	$122,582.38	$408.61	$966.05	$121,616.34	$80,346.66
136	$121,616.34	$405.39	$969.27	$120,647.07	$80,752.05
137	$120,647.07	$402.16	$972.50	$119,674.57	$81,154.21
138	$119,674.57	$398.92	$975.74	$118,698.83	$81,553.12
139	$118,698.83	$395.66	$978.99	$117,719.84	$81,948.78
140	$117,719.84	$392.40	$982.25	$116,737.59	$82,341.18
141	$116,737.59	$389.13	$985.53	$115,752.06	$82,730.31
142	$115,752.06	$385.84	$988.81	$114,763.24	$83,116.15
143	$114,763.24	$382.54	$992.11	$113,771.13	$83,498.69
144	$113,771.13	$379.24	$995.42	$112,775.72	$83,877.93
145	$112,775.72	$375.92	$998.74	$111,776.98	$84,253.85
146	$111,776.98	$372.59	$1,002.06	$110,774.92	$84,626.44
147	$110,774.92	$369.25	$1,005.40	$109,769.51	$84,995.69
148	$109,769.51	$365.90	$1,008.76	$108,760.76	$85,361.59
149	$108,760.76	$362.54	$1,012.12	$107,748.64	$85,724.12
150	$107,748.64	$359.16	$1,015.49	$106,733.15	$86,083.28
151	$106,733.15	$355.78	$1,018.88	$105,714.27	$86,439.06
152	$105,714.27	$352.38	$1,022.27	$104,692.00	$86,791.44
153	$104,692.00	$348.97	$1,025.68	$103,666.31	$87,140.42
154	$103,666.31	$345.55	$1,029.10	$102,637.21	$87,485.97
155	$102,637.21	$342.12	$1,032.53	$101,604.68	$87,828.09
156	$101,604.68	$338.68	$1,035.97	$100,568.71	$88,166.78
157	$100,568.71	$335.23	$1,039.43	$99,529.29	$88,502.01
158	$99,529.29	$331.76	$1,042.89	$98,486.40	$88,833.77
159	$98,486.40	$328.29	$1,046.37	$97,440.03	$89,162.06
160	$97,440.03	$324.80	$1,049.85	$96,390.18	$89,486.86
161	$96,390.18	$321.30	$1,053.35	$95,336.82	$89,808.16
162	$95,336.82	$317.79	$1,056.86	$94,279.96	$90,125.95
163	$94,279.96	$314.27	$1,060.39	$93,219.57	$90,440.21
164	$93,219.57	$310.73	$1,063.92	$92,155.65	$90,750.95
165	$92,155.65	$307.19	$1,067.47	$91,088.18	$91,058.13
166	$91,088.18	$303.63	$1,071.03	$90,017.15	$91,361.76
167	$90,017.15	$300.06	$1,074.60	$88,942.56	$91,661.82
168	$88,942.56	$296.48	$1,078.18	$87,864.38	$91,958.29
169	$87,864.38	$292.88	$1,081.77	$86,782.60	$92,251.17
170	$86,782.60	$289.28	$1,085.38	$85,697.22	$92,540.45
171	$85,697.22	$285.66	$1,089.00	$84,608.23	$92,826.11
172	$84,608.23	$282.03	$1,092.63	$83,515.60	$93,108.13
173	$83,515.60	$278.39	$1,096.27	$82,419.33	$93,386.52
174	$82,419.33	$274.73	$1,099.92	$81,319.41	$93,661.25
175	$81,319.41	$271.06	$1,103.59	$80,215.82	$93,932.31
176	$80,215.82	$267.39	$1,107.27	$79,108.55	$94,199.70
177	$79,108.55	$263.70	$1,110.96	$77,997.59	$94,463.40
178	$77,997.59	$259.99	$1,114.66	$76,882.93	$94,723.39
179	$76,882.93	$256.28	$1,118.38	$75,764.55	$94,979.66
180	$75,764.55	$252.55	$1,122.11	$74,642.45	$95,232.21
181	$74,642.45	$248.81	$1,125.85	$73,516.60	$95,481.02
182	$73,516.60	$245.06	$1,129.60	$72,387.00	$95,726.08
183	$72,387.00	$241.29	$1,133.36	$71,253.64	$95,967.37

TOWNSHIP OF PUSLINCH
Wastewater Servicing - Option WW1

Estimated Capital Cost:	$29,036,580
Number of Benefitting Properties:	128
Cost per Connection:	$226,848.28

Capital Cost Recovery Factor - A =	0.006059803
Monthly Cost -P =	$1,374.65

Loan Amount	Interest Rate	Term in Years	Monthly Payment
$226,848.00	4.00%	20	**$1,374.65**

Month	StartingBalance	Interest	Principal	EndingBalance	TotalInterest
184	$71,253.64	$237.51	$1,137.14	$70,116.49	$96,204.88
185	$70,116.49	$233.72	$1,140.93	$68,975.56	$96,438.60
186	$68,975.56	$229.92	$1,144.74	$67,830.83	$96,668.52
187	$67,830.83	$226.10	$1,148.55	$66,682.27	$96,894.62
188	$66,682.27	$222.27	$1,152.38	$65,529.89	$97,116.90
189	$65,529.89	$218.43	$1,156.22	$64,373.67	$97,335.33
190	$64,373.67	$214.58	$1,160.08	$63,213.60	$97,549.91
191	$63,213.60	$210.71	$1,163.94	$62,049.66	$97,760.62
192	$62,049.66	$206.83	$1,167.82	$60,881.83	$97,967.45
193	$60,881.83	$202.94	$1,171.71	$59,710.12	$98,170.39
194	$59,710.12	$199.03	$1,175.62	$58,534.50	$98,369.42
195	$58,534.50	$195.11	$1,179.54	$57,354.96	$98,564.54
196	$57,354.96	$191.18	$1,183.47	$56,171.49	$98,755.72
197	$56,171.49	$187.24	$1,187.42	$54,984.07	$98,942.96
198	$54,984.07	$183.28	$1,191.37	$53,792.70	$99,126.24
199	$53,792.70	$179.31	$1,195.35	$52,597.35	$99,305.55
200	$52,597.35	$175.32	$1,199.33	$51,398.02	$99,480.87
201	$51,398.02	$171.33	$1,203.33	$50,194.70	$99,652.20
202	$50,194.70	$167.32	$1,207.34	$48,987.36	$99,819.52
203	$48,987.36	$163.29	$1,211.36	$47,775.99	$99,982.81
204	$47,775.99	$159.25	$1,215.40	$46,560.59	$100,142.06
205	$46,560.59	$155.20	$1,219.45	$45,341.14	$100,297.26
206	$45,341.14	$151.14	$1,223.52	$44,117.62	$100,448.40
207	$44,117.62	$147.06	$1,227.60	$42,890.03	$100,595.46
208	$42,890.03	$142.97	$1,231.69	$41,658.34	$100,738.43
209	$41,658.34	$138.86	$1,235.79	$40,422.55	$100,877.29
210	$40,422.55	$134.74	$1,239.91	$39,182.64	$101,012.03
211	$39,182.64	$130.61	$1,244.05	$37,938.59	$101,142.64
212	$37,938.59	$126.46	$1,248.19	$36,690.40	$101,269.10
213	$36,690.40	$122.30	$1,252.35	$35,438.04	$101,391.40
214	$35,438.04	$118.13	$1,256.53	$34,181.52	$101,509.53
215	$34,181.52	$113.94	$1,260.72	$32,920.80	$101,623.47
216	$32,920.80	$109.74	$1,264.92	$31,655.88	$101,733.20
217	$31,655.88	$105.52	$1,269.13	$30,386.75	$101,838.72
218	$30,386.75	$101.29	$1,273.37	$29,113.38	$101,940.01
219	$29,113.38	$97.04	$1,277.61	$27,835.77	$102,037.06
220	$27,835.77	$92.79	$1,281.87	$26,553.91	$102,129.84
221	$26,553.91	$88.51	$1,286.14	$25,267.76	$102,218.35
222	$25,267.76	$84.23	$1,290.43	$23,977.34	$102,302.58
223	$23,977.34	$79.92	$1,294.73	$22,682.61	$102,382.51
224	$22,682.61	$75.61	$1,299.05	$21,383.56	$102,458.11
225	$21,383.56	$71.28	$1,303.38	$20,080.18	$102,529.39
226	$20,080.18	$66.93	$1,307.72	$18,772.46	$102,596.33
227	$18,772.46	$62.57	$1,312.08	$17,460.38	$102,658.90
228	$17,460.38	$58.20	$1,316.45	$16,143.93	$102,717.10
229	$16,143.93	$53.81	$1,320.84	$14,823.09	$102,770.92
230	$14,823.09	$49.41	$1,325.24	$13,497.85	$102,820.33
231	$13,497.85	$44.99	$1,329.66	$12,168.19	$102,865.32
232	$12,168.19	$40.56	$1,334.09	$10,834.09	$102,905.88
233	$10,834.09	$36.11	$1,338.54	$9,495.55	$102,941.99
234	$9,495.55	$31.65	$1,343.00	$8,152.55	$102,973.64
235	$8,152.55	$27.18	$1,347.48	$6,805.07	$103,000.82
236	$6,805.07	$22.68	$1,351.97	$5,453.10	$103,023.50
237	$5,453.10	$18.18	$1,356.48	$4,096.62	$103,041.68
238	$4,096.62	$13.66	$1,361.00	$2,735.62	$103,055.34
239	$2,735.62	$9.12	$1,365.54	$1,370.09	$103,064.45
240	$1,370.09	$4.57	$1,370.09	$0.00	$103,069.02

TOWNSHIP OF PUSLINCH
Wastewater Servicing - Option WW2

Estimated Capital Cost:	$11,683,080
Number of Benefitting Properties:	128
Cost per Connection:	$91,274.06

Capital Cost Recovery Factor - A = 0.010124514
Monthly Cost -P = $924.10

Loan Amount	Interest Rate	Term in Years	Monthly Payment
$91,274.00	4.00%	10	**$924.10**

Month	Starting Balance	Interest	Principal	Ending Balance	Total Interest
1	$91,274.00	$304.25	$619.86	$90,654.14	$304.25
2	$90,654.14	$302.18	$621.92	$90,032.22	$606.43
3	$90,032.22	$300.11	$624.00	$89,408.22	$906.53
4	$89,408.22	$298.03	$626.08	$88,782.14	$1,204.56
5	$88,782.14	$295.94	$628.16	$88,153.98	$1,500.50
6	$88,153.98	$293.85	$630.26	$87,523.72	$1,794.35
7	$87,523.72	$291.75	$632.36	$86,891.36	$2,086.09
8	$86,891.36	$289.64	$634.47	$86,256.89	$2,375.73
9	$86,256.89	$287.52	$636.58	$85,620.31	$2,663.26
10	$85,620.31	$285.40	$638.70	$84,981.61	$2,948.66
11	$84,981.61	$283.27	$640.83	$84,340.78	$3,231.93
12	$84,340.78	$281.14	$642.97	$83,697.81	$3,513.06
13	$83,697.81	$278.99	$645.11	$83,052.69	$3,792.06
14	$83,052.69	$276.84	$647.26	$82,405.43	$4,068.90
15	$82,405.43	$274.68	$649.42	$81,756.01	$4,343.58
16	$81,756.01	$272.52	$651.58	$81,104.43	$4,616.10
17	$81,104.43	$270.35	$653.76	$80,450.67	$4,886.45
18	$80,450.67	$268.17	$655.94	$79,794.73	$5,154.62
19	$79,794.73	$265.98	$658.12	$79,136.61	$5,420.60
20	$79,136.61	$263.79	$660.32	$78,476.30	$5,684.39
21	$78,476.30	$261.59	$662.52	$77,813.78	$5,945.98
22	$77,813.78	$259.38	$664.73	$77,149.05	$6,205.36
23	$77,149.05	$257.16	$666.94	$76,482.11	$6,462.52
24	$76,482.11	$254.94	$669.16	$75,812.95	$6,717.46
25	$75,812.95	$252.71	$671.40	$75,141.55	$6,970.17
26	$75,141.55	$250.47	$673.63	$74,467.92	$7,220.64
27	$74,467.92	$248.23	$675.88	$73,792.04	$7,468.87
28	$73,792.04	$245.97	$678.13	$73,113.91	$7,714.84
29	$73,113.91	$243.71	$680.39	$72,433.52	$7,958.56
30	$72,433.52	$241.45	$682.66	$71,750.86	$8,200.00
31	$71,750.86	$239.17	$684.94	$71,065.92	$8,439.17
32	$71,065.92	$236.89	$687.22	$70,378.70	$8,676.06
33	$70,378.70	$234.60	$689.51	$69,689.19	$8,910.65
34	$69,689.19	$232.30	$691.81	$68,997.39	$9,142.95
35	$68,997.39	$229.99	$694.11	$68,303.27	$9,372.94
36	$68,303.27	$227.68	$696.43	$67,606.85	$9,600.62
37	$67,606.85	$225.36	$698.75	$66,908.10	$9,825.98
38	$66,908.10	$223.03	$701.08	$66,207.02	$10,049.00
39	$66,207.02	$220.69	$703.41	$65,503.60	$10,269.69
40	$65,503.60	$218.35	$705.76	$64,797.84	$10,488.04
41	$64,797.84	$215.99	$708.11	$64,089.73	$10,704.03
42	$64,089.73	$213.63	$710.47	$63,379.26	$10,917.66
43	$63,379.26	$211.26	$712.84	$62,666.42	$11,128.93
44	$62,666.42	$208.89	$715.22	$61,951.20	$11,337.82
45	$61,951.20	$206.50	$717.60	$61,233.60	$11,544.32
46	$61,233.60	$204.11	$719.99	$60,513.61	$11,748.43
47	$60,513.61	$201.71	$722.39	$59,791.22	$11,950.14
48	$59,791.22	$199.30	$724.80	$59,066.41	$12,149.45
49	$59,066.41	$196.89	$727.22	$58,339.20	$12,346.34
50	$58,339.20	$194.46	$729.64	$57,609.56	$12,540.80
51	$57,609.56	$192.03	$732.07	$56,877.48	$12,732.83
52	$56,877.48	$189.59	$734.51	$56,142.97	$12,922.42
53	$56,142.97	$187.14	$736.96	$55,406.01	$13,109.57
54	$55,406.01	$184.69	$739.42	$54,666.59	$13,294.25
55	$54,666.59	$182.22	$741.88	$53,924.71	$13,476.48
56	$53,924.71	$179.75	$744.36	$53,180.35	$13,656.23
57	$53,180.35	$177.27	$746.84	$52,433.52	$13,833.49
58	$52,433.52	$174.78	$749.33	$51,684.19	$14,008.27
59	$51,684.19	$172.28	$751.82	$50,932.36	$14,180.55
60	$50,932.36	$169.77	$754.33	$50,178.03	$14,350.33
61	$50,178.03	$167.26	$756.84	$49,421.19	$14,517.59

TOWNSHIP OF PUSLINCH
Wastewater Servicing - Option WW2

Estimated Capital Cost:	$11,683,080
Number of Benefitting Properties:	128
Cost per Connection:	$91,274.06

Capital Cost Recovery Factor - A = 0.010124514
Monthly Cost -P = $924.10

Loan Amount	Interest Rate	Term in Years	Monthly Payment
$91,274.00	4.00%	10	**$924.10**

Month	Starting Balance	Interest	Principal	Ending Balance	Total Interest
62	$49,421.19	$164.74	$759.37	$48,661.82	$14,682.32
63	$48,661.82	$162.21	$761.90	$47,899.92	$14,844.53
64	$47,899.92	$159.67	$764.44	$47,135.48	$15,004.20
65	$47,135.48	$157.12	$766.99	$46,368.50	$15,161.31
66	$46,368.50	$154.56	$769.54	$45,598.95	$15,315.88
67	$45,598.95	$152.00	$772.11	$44,826.85	$15,467.87
68	$44,826.85	$149.42	$774.68	$44,052.16	$15,617.30
69	$44,052.16	$146.84	$777.26	$43,274.90	$15,764.14
70	$43,274.90	$144.25	$779.86	$42,495.04	$15,908.39
71	$42,495.04	$141.65	$782.45	$41,712.59	$16,050.04
72	$41,712.59	$139.04	$785.06	$40,927.53	$16,189.08
73	$40,927.53	$136.43	$787.68	$40,139.85	$16,325.50
74	$40,139.85	$133.80	$790.31	$39,349.54	$16,459.30
75	$39,349.54	$131.17	$792.94	$38,556.60	$16,590.47
76	$38,556.60	$128.52	$795.58	$37,761.02	$16,718.99
77	$37,761.02	$125.87	$798.23	$36,962.78	$16,844.86
78	$36,962.78	$123.21	$800.90	$36,161.89	$16,968.07
79	$36,161.89	$120.54	$803.57	$35,358.32	$17,088.61
80	$35,358.32	$117.86	$806.24	$34,552.08	$17,206.47
81	$34,552.08	$115.17	$808.93	$33,743.15	$17,321.64
82	$33,743.15	$112.48	$811.63	$32,931.52	$17,434.12
83	$32,931.52	$109.77	$814.33	$32,117.19	$17,543.89
84	$32,117.19	$107.06	$817.05	$31,300.14	$17,650.95
85	$31,300.14	$104.33	$819.77	$30,480.37	$17,755.28
86	$30,480.37	$101.60	$822.50	$29,657.87	$17,856.88
87	$29,657.87	$98.86	$825.25	$28,832.62	$17,955.74
88	$28,832.62	$96.11	$828.00	$28,004.62	$18,051.85
89	$28,004.62	$93.35	$830.76	$27,173.87	$18,145.20
90	$27,173.87	$90.58	$833.53	$26,340.34	$18,235.78
91	$26,340.34	$87.80	$836.30	$25,504.04	$18,323.58
92	$25,504.04	$85.01	$839.09	$24,664.95	$18,408.60
93	$24,664.95	$82.22	$841.89	$23,823.06	$18,490.81
94	$23,823.06	$79.41	$844.69	$22,978.36	$18,570.22
95	$22,978.36	$76.59	$847.51	$22,130.85	$18,646.82
96	$22,130.85	$73.77	$850.34	$21,280.52	$18,720.59
97	$21,280.52	$70.94	$853.17	$20,427.35	$18,791.52
98	$20,427.35	$68.09	$856.01	$19,571.34	$18,859.61
99	$19,571.34	$65.24	$858.87	$18,712.47	$18,924.85
100	$18,712.47	$62.37	$861.73	$17,850.74	$18,987.23
101	$17,850.74	$59.50	$864.60	$16,986.14	$19,046.73
102	$16,986.14	$56.62	$867.48	$16,118.65	$19,103.35
103	$16,118.65	$53.73	$870.38	$15,248.28	$19,157.08
104	$15,248.28	$50.83	$873.28	$14,375.00	$19,207.90
105	$14,375.00	$47.92	$876.19	$13,498.81	$19,255.82
106	$13,498.81	$45.00	$879.11	$12,619.70	$19,300.82
107	$12,619.70	$42.07	$882.04	$11,737.66	$19,342.88
108	$11,737.66	$39.13	$884.98	$10,852.68	$19,382.01
109	$10,852.68	$36.18	$887.93	$9,964.75	$19,418.18
110	$9,964.75	$33.22	$890.89	$9,073.86	$19,451.40
111	$9,073.86	$30.25	$893.86	$8,180.01	$19,481.65
112	$8,180.01	$27.27	$896.84	$7,283.17	$19,508.91
113	$7,283.17	$24.28	$899.83	$6,383.34	$19,533.19
114	$6,383.34	$21.28	$902.83	$5,480.51	$19,554.47
115	$5,480.51	$18.27	$905.84	$4,574.68	$19,572.74
116	$4,574.68	$15.25	$908.86	$3,665.82	$19,587.99
117	$3,665.82	$12.22	$911.89	$2,753.93	$19,600.20
118	$2,753.93	$9.18	$914.93	$1,839.01	$19,609.38
119	$1,839.01	$6.13	$917.97	$921.03	$19,615.51
120	$921.03	$3.07	$921.03	$0.00	$19,618.58

TOWNSHIP OF PUSLINCH
Wastewater Servicing - Option WW2

Estimated Capital Cost:	$11,683,080
Number of Benefitting Properties:	128
Cost per Connection:	$91,274.06

Capital Cost Recovery Factor - A = 0.007396879
Monthly Cost -P = $675.14

Loan Amount	Interest Rate	Term in Years	Monthly Payment
$91,274.00	4.00%	15	**$675.14**

Month	StartingBalance	Interest	Principal	EndingBalance	Total Interest
1	$91,274.00	$304.25	$370.90	$90,903.10	$304.25
2	$90,903.10	$303.01	$372.13	$90,530.97	$607.26
3	$90,530.97	$301.77	$373.37	$90,157.60	$909.03
4	$90,157.60	$300.53	$374.62	$89,782.98	$1,209.55
5	$89,782.98	$299.28	$375.87	$89,407.12	$1,508.83
6	$89,407.12	$298.02	$377.12	$89,030.00	$1,806.85
7	$89,030.00	$296.77	$378.38	$88,651.62	$2,103.62
8	$88,651.62	$295.51	$379.64	$88,271.98	$2,399.12
9	$88,271.98	$294.24	$380.90	$87,891.08	$2,693.36
10	$87,891.08	$292.97	$382.17	$87,508.91	$2,986.33
11	$87,508.91	$291.70	$383.45	$87,125.46	$3,278.03
12	$87,125.46	$290.42	$384.72	$86,740.74	$3,568.45
13	$86,740.74	$289.14	$386.01	$86,354.73	$3,857.59
14	$86,354.73	$287.85	$387.29	$85,967.44	$4,145.43
15	$85,967.44	$286.56	$388.58	$85,578.85	$4,431.99
16	$85,578.85	$285.26	$389.88	$85,188.97	$4,717.26
17	$85,188.97	$283.96	$391.18	$84,797.79	$5,001.22
18	$84,797.79	$282.66	$392.48	$84,405.31	$5,283.88
19	$84,405.31	$281.35	$393.79	$84,011.52	$5,565.23
20	$84,011.52	$280.04	$395.10	$83,616.41	$5,845.27
21	$83,616.41	$278.72	$396.42	$83,219.99	$6,123.99
22	$83,219.99	$277.40	$397.74	$82,822.25	$6,401.39
23	$82,822.25	$276.07	$399.07	$82,423.18	$6,677.46
24	$82,423.18	$274.74	$400.40	$82,022.78	$6,952.21
25	$82,022.78	$273.41	$401.73	$81,621.05	$7,225.62
26	$81,621.05	$272.07	$403.07	$81,217.97	$7,497.69
27	$81,217.97	$270.73	$404.42	$80,813.56	$7,768.41
28	$80,813.56	$269.38	$405.76	$80,407.79	$8,037.79
29	$80,407.79	$268.03	$407.12	$80,000.68	$8,305.82
30	$80,000.68	$266.67	$408.47	$79,592.20	$8,572.49
31	$79,592.20	$265.31	$409.84	$79,182.37	$8,837.79
32	$79,182.37	$263.94	$411.20	$78,771.17	$9,101.73
33	$78,771.17	$262.57	$412.57	$78,358.59	$9,364.31
34	$78,358.59	$261.20	$413.95	$77,944.65	$9,625.50
35	$77,944.65	$259.82	$415.33	$77,529.32	$9,885.32
36	$77,529.32	$258.43	$416.71	$77,112.61	$10,143.75
37	$77,112.61	$257.04	$418.10	$76,694.51	$10,400.79
38	$76,694.51	$255.65	$419.49	$76,275.01	$10,656.44
39	$76,275.01	$254.25	$420.89	$75,854.12	$10,910.69
40	$75,854.12	$252.85	$422.30	$75,431.82	$11,163.53
41	$75,431.82	$251.44	$423.70	$75,008.12	$11,414.97
42	$75,008.12	$250.03	$425.12	$74,583.01	$11,665.00
43	$74,583.01	$248.61	$426.53	$74,156.47	$11,913.61
44	$74,156.47	$247.19	$427.95	$73,728.52	$12,160.80
45	$73,728.52	$245.76	$429.38	$73,299.14	$12,406.56
46	$73,299.14	$244.33	$430.81	$72,868.32	$12,650.89
47	$72,868.32	$242.89	$432.25	$72,436.08	$12,893.79
48	$72,436.08	$241.45	$433.69	$72,002.39	$13,135.24
49	$72,002.39	$240.01	$435.13	$71,567.25	$13,375.25
50	$71,567.25	$238.56	$436.59	$71,130.67	$13,613.80
51	$71,130.67	$237.10	$438.04	$70,692.63	$13,850.91
52	$70,692.63	$235.64	$439.50	$70,253.13	$14,086.55
53	$70,253.13	$234.18	$440.97	$69,812.16	$14,320.73
54	$69,812.16	$232.71	$442.44	$69,369.72	$14,553.43
55	$69,369.72	$231.23	$443.91	$68,925.81	$14,784.67
56	$68,925.81	$229.75	$445.39	$68,480.42	$15,014.42
57	$68,480.42	$228.27	$446.87	$68,033.55	$15,242.69
58	$68,033.55	$226.78	$448.36	$67,585.19	$15,469.47
59	$67,585.19	$225.28	$449.86	$67,135.33	$15,694.75
60	$67,135.33	$223.78	$451.36	$66,683.97	$15,918.53
61	$66,683.97	$222.28	$452.86	$66,231.11	$16,140.81

TOWNSHIP OF PUSLINCH
Wastewater Servicing - Option WW2

Estimated Capital Cost:	$11,683,080
Number of Benefitting Properties:	128
Cost per Connection:	$91,274.06

Capital Cost Recovery Factor - A = 0.007396879
Monthly Cost -P = $675.14

Loan Amount	Interest Rate	Term in Years	Monthly Payment
$91,274.00	4.00%	15	**$675.14**

Month	StartingBalance	Interest	Principal	EndingBalance	Total Interest
62	$66,231.11	$220.77	$454.37	$65,776.73	$16,361.58
63	$65,776.73	$219.26	$455.89	$65,320.85	$16,580.84
64	$65,320.85	$217.74	$457.41	$64,863.44	$16,798.58
65	$64,863.44	$216.21	$458.93	$64,404.51	$17,014.79
66	$64,404.51	$214.68	$460.46	$63,944.05	$17,229.47
67	$63,944.05	$213.15	$462.00	$63,482.05	$17,442.62
68	$63,482.05	$211.61	$463.54	$63,018.52	$17,654.22
69	$63,018.52	$210.06	$465.08	$62,553.43	$17,864.28
70	$62,553.43	$208.51	$466.63	$62,086.80	$18,072.80
71	$62,086.80	$206.96	$468.19	$61,618.62	$18,279.75
72	$61,618.62	$205.40	$469.75	$61,148.87	$18,485.15
73	$61,148.87	$203.83	$471.31	$60,677.56	$18,688.98
74	$60,677.56	$202.26	$472.88	$60,204.67	$18,891.24
75	$60,204.67	$200.68	$474.46	$59,730.21	$19,091.92
76	$59,730.21	$199.10	$476.04	$59,254.17	$19,291.02
77	$59,254.17	$197.51	$477.63	$58,776.54	$19,488.53
78	$58,776.54	$195.92	$479.22	$58,297.32	$19,684.45
79	$58,297.32	$194.32	$480.82	$57,816.50	$19,878.78
80	$57,816.50	$192.72	$482.42	$57,334.08	$20,071.50
81	$57,334.08	$191.11	$484.03	$56,850.05	$20,262.61
82	$56,850.05	$189.50	$485.64	$56,364.41	$20,452.11
83	$56,364.41	$187.88	$487.26	$55,877.15	$20,640.00
84	$55,877.15	$186.26	$488.89	$55,388.26	$20,826.25
85	$55,388.26	$184.63	$490.52	$54,897.75	$21,010.88
86	$54,897.75	$182.99	$492.15	$54,405.60	$21,193.87
87	$54,405.60	$181.35	$493.79	$53,911.80	$21,375.22
88	$53,911.80	$179.71	$495.44	$53,416.37	$21,554.93
89	$53,416.37	$178.05	$497.09	$52,919.28	$21,732.98
90	$52,919.28	$176.40	$498.75	$52,420.53	$21,909.38
91	$52,420.53	$174.74	$500.41	$51,920.13	$22,084.12
92	$51,920.13	$173.07	$502.08	$51,418.05	$22,257.18
93	$51,418.05	$171.39	$503.75	$50,914.30	$22,428.58
94	$50,914.30	$169.71	$505.43	$50,408.87	$22,598.29
95	$50,408.87	$168.03	$507.11	$49,901.76	$22,766.32
96	$49,901.76	$166.34	$508.80	$49,392.96	$22,932.66
97	$49,392.96	$164.64	$510.50	$48,882.46	$23,097.30
98	$48,882.46	$162.94	$512.20	$48,370.26	$23,260.25
99	$48,370.26	$161.23	$513.91	$47,856.35	$23,421.48
100	$47,856.35	$159.52	$515.62	$47,340.73	$23,581.00
101	$47,340.73	$157.80	$517.34	$46,823.39	$23,738.80
102	$46,823.39	$156.08	$519.06	$46,304.32	$23,894.88
103	$46,304.32	$154.35	$520.80	$45,783.53	$24,049.23
104	$45,783.53	$152.61	$522.53	$45,260.99	$24,201.84
105	$45,260.99	$150.87	$524.27	$44,736.72	$24,352.71
106	$44,736.72	$149.12	$526.02	$44,210.70	$24,501.83
107	$44,210.70	$147.37	$527.77	$43,682.93	$24,649.20
108	$43,682.93	$145.61	$529.53	$43,153.39	$24,794.81
109	$43,153.39	$143.84	$531.30	$42,622.10	$24,938.66
110	$42,622.10	$142.07	$533.07	$42,089.03	$25,080.73
111	$42,089.03	$140.30	$534.85	$41,554.18	$25,221.03
112	$41,554.18	$138.51	$536.63	$41,017.55	$25,359.54
113	$41,017.55	$136.73	$538.42	$40,479.13	$25,496.27
114	$40,479.13	$134.93	$540.21	$39,938.92	$25,631.20
115	$39,938.92	$133.13	$542.01	$39,396.91	$25,764.33
116	$39,396.91	$131.32	$543.82	$38,853.09	$25,895.65
117	$38,853.09	$129.51	$545.63	$38,307.46	$26,025.16
118	$38,307.46	$127.69	$547.45	$37,760.01	$26,152.85
119	$37,760.01	$125.87	$549.28	$37,210.73	$26,278.72
120	$37,210.73	$124.04	$551.11	$36,659.62	$26,402.75
121	$36,659.62	$122.20	$552.94	$36,106.68	$26,524.95
122	$36,106.68	$120.36	$554.79	$35,551.89	$26,645.31

TOWNSHIP OF PUSLINCH
Wastewater Servicing - Option WW2

Estimated Capital Cost:	$11,683,080
Number of Benefitting Properties:	128
Cost per Connection:	$91,274.06

Capital Cost Recovery Factor - A = 0.007396879
Monthly Cost -P = $675.14

Loan Amount	Interest Rate	Term in Years	Monthly Payment
$91,274.00	4.00%	15	**$675.14**

Month	StartingBalance	Interest	Principal	EndingBalance	Total Interest
123	$35,551.89	$118.51	$556.64	$34,995.26	$26,763.81
124	$34,995.26	$116.65	$558.49	$34,436.76	$26,880.47
125	$34,436.76	$114.79	$560.35	$33,876.41	$26,995.25
126	$33,876.41	$112.92	$562.22	$33,314.19	$27,108.18
127	$33,314.19	$111.05	$564.10	$32,750.09	$27,219.22
128	$32,750.09	$109.17	$565.98	$32,184.12	$27,328.39
129	$32,184.12	$107.28	$567.86	$31,616.26	$27,435.67
130	$31,616.26	$105.39	$569.76	$31,046.50	$27,541.06
131	$31,046.50	$103.49	$571.65	$30,474.85	$27,644.55
132	$30,474.85	$101.58	$573.56	$29,901.29	$27,746.13
133	$29,901.29	$99.67	$575.47	$29,325.81	$27,845.80
134	$29,325.81	$97.75	$577.39	$28,748.42	$27,943.55
135	$28,748.42	$95.83	$579.31	$28,169.11	$28,039.38
136	$28,169.11	$93.90	$581.25	$27,587.86	$28,133.28
137	$27,587.86	$91.96	$583.18	$27,004.68	$28,225.24
138	$27,004.68	$90.02	$585.13	$26,419.55	$28,315.25
139	$26,419.55	$88.07	$587.08	$25,832.48	$28,403.32
140	$25,832.48	$86.11	$589.03	$25,243.44	$28,489.43
141	$25,243.44	$84.14	$591.00	$24,652.44	$28,573.57
142	$24,652.44	$82.17	$592.97	$24,059.47	$28,655.75
143	$24,059.47	$80.20	$594.94	$23,464.53	$28,735.94
144	$23,464.53	$78.22	$596.93	$22,867.60	$28,814.16
145	$22,867.60	$76.23	$598.92	$22,268.69	$28,890.39
146	$22,268.69	$74.23	$600.91	$21,667.77	$28,964.61
147	$21,667.77	$72.23	$602.92	$21,064.85	$29,036.84
148	$21,064.85	$70.22	$604.93	$20,459.93	$29,107.06
149	$20,459.93	$68.20	$606.94	$19,852.98	$29,175.26
150	$19,852.98	$66.18	$608.97	$19,244.02	$29,241.43
151	$19,244.02	$64.15	$611.00	$18,633.02	$29,305.58
152	$18,633.02	$62.11	$613.03	$18,019.99	$29,367.69
153	$18,019.99	$60.07	$615.08	$17,404.91	$29,427.76
154	$17,404.91	$58.02	$617.13	$16,787.79	$29,485.77
155	$16,787.79	$55.96	$619.18	$16,168.60	$29,541.73
156	$16,168.60	$53.90	$621.25	$15,547.36	$29,595.63
157	$15,547.36	$51.82	$623.32	$14,924.04	$29,647.45
158	$14,924.04	$49.75	$625.40	$14,298.64	$29,697.20
159	$14,298.64	$47.66	$627.48	$13,671.16	$29,744.86
160	$13,671.16	$45.57	$629.57	$13,041.59	$29,790.43
161	$13,041.59	$43.47	$631.67	$12,409.92	$29,833.90
162	$12,409.92	$41.37	$633.78	$11,776.14	$29,875.27
163	$11,776.14	$39.25	$635.89	$11,140.25	$29,914.52
164	$11,140.25	$37.13	$638.01	$10,502.25	$29,951.66
165	$10,502.25	$35.01	$640.14	$9,862.11	$29,986.66
166	$9,862.11	$32.87	$642.27	$9,219.84	$30,019.54
167	$9,219.84	$30.73	$644.41	$8,575.43	$30,050.27
168	$8,575.43	$28.58	$646.56	$7,928.87	$30,078.86
169	$7,928.87	$26.43	$648.71	$7,280.16	$30,105.29
170	$7,280.16	$24.27	$650.88	$6,629.28	$30,129.55
171	$6,629.28	$22.10	$653.05	$5,976.24	$30,151.65
172	$5,976.24	$19.92	$655.22	$5,321.02	$30,171.57
173	$5,321.02	$17.74	$657.41	$4,663.61	$30,189.31
174	$4,663.61	$15.55	$659.60	$4,004.01	$30,204.85
175	$4,004.01	$13.35	$661.80	$3,342.22	$30,218.20
176	$3,342.22	$11.14	$664.00	$2,678.22	$30,229.34
177	$2,678.22	$8.93	$666.22	$2,012.00	$30,238.27
178	$2,012.00	$6.71	$668.44	$1,343.56	$30,244.97
179	$1,343.56	$4.48	$670.66	$672.90	$30,249.45
180	$672.90	$2.24	$672.90	$0.00	$30,251.70

TOWNSHIP OF PUSLINCH
Wastewater Servicing - Option WW2

Estimated Capital Cost:	$11,683,080
Number of Benefitting Properties:	128
Cost per Connection:	$91,274.06

Capital Cost Recovery Factor - A = 0.006059803
Monthly Cost -P = $553.10

Loan Amount	Interest Rate	Term in Years	Monthly Payment
$91,274.00	4.00%	20	**$553.10**

Month	Starting Balance	Interest	Principal	Ending Balance	Total Interest
1	$91,274.00	$304.25	$248.86	$91,025.14	$304.25
2	$91,025.14	$303.42	$249.69	$90,775.46	$607.66
3	$90,775.46	$302.58	$250.52	$90,524.94	$910.25
4	$90,524.94	$301.75	$251.35	$90,273.59	$1,212.00
5	$90,273.59	$300.91	$252.19	$90,021.40	$1,512.91
6	$90,021.40	$300.07	$253.03	$89,768.37	$1,812.98
7	$89,768.37	$299.23	$253.87	$89,514.49	$2,112.21
8	$89,514.49	$298.38	$254.72	$89,259.77	$2,410.59
9	$89,259.77	$297.53	$255.57	$89,004.20	$2,708.12
10	$89,004.20	$296.68	$256.42	$88,747.78	$3,004.80
11	$88,747.78	$295.83	$257.28	$88,490.50	$3,300.63
12	$88,490.50	$294.97	$258.13	$88,232.37	$3,595.60
13	$88,232.37	$294.11	$258.99	$87,973.37	$3,889.71
14	$87,973.37	$293.24	$259.86	$87,713.52	$4,182.95
15	$87,713.52	$292.38	$260.72	$87,452.79	$4,475.33
16	$87,452.79	$291.51	$261.59	$87,191.20	$4,766.84
17	$87,191.20	$290.64	$262.47	$86,928.73	$5,057.48
18	$86,928.73	$289.76	$263.34	$86,665.39	$5,347.24
19	$86,665.39	$288.88	$264.22	$86,401.18	$5,636.12
20	$86,401.18	$288.00	$265.10	$86,136.08	$5,924.13
21	$86,136.08	$287.12	$265.98	$85,870.10	$6,211.25
22	$85,870.10	$286.23	$266.87	$85,603.23	$6,497.48
23	$85,603.23	$285.34	$267.76	$85,335.47	$6,782.83
24	$85,335.47	$284.45	$268.65	$85,066.82	$7,067.28
25	$85,066.82	$283.56	$269.55	$84,797.27	$7,350.83
26	$84,797.27	$282.66	$270.44	$84,526.83	$7,633.49
27	$84,526.83	$281.76	$271.35	$84,255.48	$7,915.25
28	$84,255.48	$280.85	$272.25	$83,983.23	$8,196.10
29	$83,983.23	$279.94	$273.16	$83,710.07	$8,476.04
30	$83,710.07	$279.03	$274.07	$83,436.00	$8,755.08
31	$83,436.00	$278.12	$274.98	$83,161.02	$9,033.20
32	$83,161.02	$277.20	$275.90	$82,885.12	$9,310.40
33	$82,885.12	$276.28	$276.82	$82,608.30	$9,586.68
34	$82,608.30	$275.36	$277.74	$82,330.56	$9,862.04
35	$82,330.56	$274.44	$278.67	$82,051.89	$10,136.48
36	$82,051.89	$273.51	$279.60	$81,772.30	$10,409.99
37	$81,772.30	$272.57	$280.53	$81,491.77	$10,682.56
38	$81,491.77	$271.64	$281.46	$81,210.30	$10,954.20
39	$81,210.30	$270.70	$282.40	$80,927.90	$11,224.90
40	$80,927.90	$269.76	$283.34	$80,644.56	$11,494.66
41	$80,644.56	$268.82	$284.29	$80,360.27	$11,763.47
42	$80,360.27	$267.87	$285.23	$80,075.04	$12,031.34
43	$80,075.04	$266.92	$286.19	$79,788.85	$12,298.26
44	$79,788.85	$265.96	$287.14	$79,501.71	$12,564.22
45	$79,501.71	$265.01	$288.10	$79,213.62	$12,829.23
46	$79,213.62	$264.05	$289.06	$78,924.56	$13,093.27
47	$78,924.56	$263.08	$290.02	$78,634.54	$13,356.36
48	$78,634.54	$262.12	$290.99	$78,343.55	$13,618.47
49	$78,343.55	$261.15	$291.96	$78,051.59	$13,879.62
50	$78,051.59	$260.17	$292.93	$77,758.66	$14,139.79
51	$77,758.66	$259.20	$293.91	$77,464.76	$14,398.98
52	$77,464.76	$258.22	$294.89	$77,169.87	$14,657.20
53	$77,169.87	$257.23	$295.87	$76,874.00	$14,914.43
54	$76,874.00	$256.25	$296.86	$76,577.14	$15,170.68
55	$76,577.14	$255.26	$297.85	$76,279.30	$15,425.94
56	$76,279.30	$254.26	$298.84	$75,980.46	$15,680.20
57	$75,980.46	$253.27	$299.83	$75,680.63	$15,933.47
58	$75,680.63	$252.27	$300.83	$75,379.79	$16,185.74
59	$75,379.79	$251.27	$301.84	$75,077.96	$16,437.00
60	$75,077.96	$250.26	$302.84	$74,775.11	$16,687.26
61	$74,775.11	$249.25	$303.85	$74,471.26	$16,936.51

TOWNSHIP OF PUSLINCH
Wastewater Servicing - Option WW2

Estimated Capital Cost:	$11,683,080
Number of Benefitting Properties:	128
Cost per Connection:	$91,274.06

Capital Cost Recovery Factor - A = 0.006059803
Monthly Cost -P = $553.10

Loan Amount	Interest Rate	Term in Years	Monthly Payment
$91,274.00	4.00%	20	**$553.10**

Month	Starting Balance	Interest	Principal	Ending Balance	Total Interest
62	$74,471.26	$248.24	$304.86	$74,166.40	$17,184.75
63	$74,166.40	$247.22	$305.88	$73,860.52	$17,431.97
64	$73,860.52	$246.20	$306.90	$73,553.61	$17,678.17
65	$73,553.61	$245.18	$307.92	$73,245.69	$17,923.35
66	$73,245.69	$244.15	$308.95	$72,936.74	$18,167.50
67	$72,936.74	$243.12	$309.98	$72,626.76	$18,410.63
68	$72,626.76	$242.09	$311.01	$72,315.75	$18,652.72
69	$72,315.75	$241.05	$312.05	$72,003.70	$18,893.77
70	$72,003.70	$240.01	$313.09	$71,690.61	$19,133.78
71	$71,690.61	$238.97	$314.13	$71,376.47	$19,372.75
72	$71,376.47	$237.92	$315.18	$71,061.29	$19,610.67
73	$71,061.29	$236.87	$316.23	$70,745.06	$19,847.54
74	$70,745.06	$235.82	$317.29	$70,427.78	$20,083.36
75	$70,427.78	$234.76	$318.34	$70,109.43	$20,318.12
76	$70,109.43	$233.70	$319.40	$69,790.03	$20,551.82
77	$69,790.03	$232.63	$320.47	$69,469.56	$20,784.45
78	$69,469.56	$231.57	$321.54	$69,148.02	$21,016.02
79	$69,148.02	$230.49	$322.61	$68,825.41	$21,246.51
80	$68,825.41	$229.42	$323.68	$68,501.73	$21,475.93
81	$68,501.73	$228.34	$324.76	$68,176.96	$21,704.27
82	$68,176.96	$227.26	$325.85	$67,851.12	$21,931.52
83	$67,851.12	$226.17	$326.93	$67,524.19	$22,157.69
84	$67,524.19	$225.08	$328.02	$67,196.16	$22,382.77
85	$67,196.16	$223.99	$329.12	$66,867.05	$22,606.76
86	$66,867.05	$222.89	$330.21	$66,536.84	$22,829.65
87	$66,536.84	$221.79	$331.31	$66,205.52	$23,051.44
88	$66,205.52	$220.69	$332.42	$65,873.11	$23,272.13
89	$65,873.11	$219.58	$333.53	$65,539.58	$23,491.70
90	$65,539.58	$218.47	$334.64	$65,204.94	$23,710.17
91	$65,204.94	$217.35	$335.75	$64,869.19	$23,927.52
92	$64,869.19	$216.23	$336.87	$64,532.32	$24,143.75
93	$64,532.32	$215.11	$337.99	$64,194.32	$24,358.86
94	$64,194.32	$213.98	$339.12	$63,855.20	$24,572.84
95	$63,855.20	$212.85	$340.25	$63,514.95	$24,785.69
96	$63,514.95	$211.72	$341.39	$63,173.57	$24,997.40
97	$63,173.57	$210.58	$342.52	$62,831.04	$25,207.98
98	$62,831.04	$209.44	$343.67	$62,487.38	$25,417.42
99	$62,487.38	$208.29	$344.81	$62,142.56	$25,625.71
100	$62,142.56	$207.14	$345.96	$61,796.60	$25,832.85
101	$61,796.60	$205.99	$347.11	$61,449.49	$26,038.84
102	$61,449.49	$204.83	$348.27	$61,101.22	$26,243.67
103	$61,101.22	$203.67	$349.43	$60,751.79	$26,447.34
104	$60,751.79	$202.51	$350.60	$60,401.19	$26,649.85
105	$60,401.19	$201.34	$351.77	$60,049.43	$26,851.19
106	$60,049.43	$200.16	$352.94	$59,696.49	$27,051.35
107	$59,696.49	$198.99	$354.11	$59,342.37	$27,250.34
108	$59,342.37	$197.81	$355.29	$58,987.08	$27,448.15
109	$58,987.08	$196.62	$356.48	$58,630.60	$27,644.77
110	$58,630.60	$195.44	$357.67	$58,272.93	$27,840.21
111	$58,272.93	$194.24	$358.86	$57,914.07	$28,034.45
112	$57,914.07	$193.05	$360.06	$57,554.02	$28,227.50
113	$57,554.02	$191.85	$361.26	$57,192.76	$28,419.34
114	$57,192.76	$190.64	$362.46	$56,830.30	$28,609.99
115	$56,830.30	$189.43	$363.67	$56,466.63	$28,799.42
116	$56,466.63	$188.22	$364.88	$56,101.75	$28,987.64
117	$56,101.75	$187.01	$366.10	$55,735.66	$29,174.65
118	$55,735.66	$185.79	$367.32	$55,368.34	$29,360.43
119	$55,368.34	$184.56	$368.54	$54,999.80	$29,544.99
120	$54,999.80	$183.33	$369.77	$54,630.03	$29,728.33
121	$54,630.03	$182.10	$371.00	$54,259.03	$29,910.43
122	$54,259.03	$180.86	$372.24	$53,886.79	$30,091.29

TOWNSHIP OF PUSLINCH
Wastewater Servicing - Option WW2

Estimated Capital Cost:	$11,683,080
Number of Benefitting Properties:	128
Cost per Connection:	$91,274.06

Capital Cost Recovery Factor - A = 0.006059803
Monthly Cost -P = $553.10

Loan Amount	Interest Rate	Term in Years	Monthly Payment
$91,274.00	4.00%	20	**$553.10**

Month	Starting Balance	Interest	Principal	Ending Balance	Total Interest
123	$53,886.79	$179.62	$373.48	$53,513.31	$30,270.91
124	$53,513.31	$178.38	$374.72	$53,138.58	$30,449.29
125	$53,138.58	$177.13	$375.97	$52,762.61	$30,626.42
126	$52,762.61	$175.88	$377.23	$52,385.38	$30,802.30
127	$52,385.38	$174.62	$378.48	$52,006.90	$30,976.91
128	$52,006.90	$173.36	$379.75	$51,627.15	$31,150.27
129	$51,627.15	$172.09	$381.01	$51,246.14	$31,322.36
130	$51,246.14	$170.82	$382.28	$50,863.86	$31,493.18
131	$50,863.86	$169.55	$383.56	$50,480.30	$31,662.73
132	$50,480.30	$168.27	$384.83	$50,095.47	$31,830.99
133	$50,095.47	$166.98	$386.12	$49,709.35	$31,997.98
134	$49,709.35	$165.70	$387.40	$49,321.94	$32,163.68
135	$49,321.94	$164.41	$388.70	$48,933.25	$32,328.08
136	$48,933.25	$163.11	$389.99	$48,543.26	$32,491.19
137	$48,543.26	$161.81	$391.29	$48,151.96	$32,653.01
138	$48,151.96	$160.51	$392.60	$47,759.37	$32,813.51
139	$47,759.37	$159.20	$393.90	$47,365.46	$32,972.71
140	$47,365.46	$157.88	$395.22	$46,970.25	$33,130.59
141	$46,970.25	$156.57	$396.53	$46,573.71	$33,287.16
142	$46,573.71	$155.25	$397.86	$46,175.85	$33,442.41
143	$46,175.85	$153.92	$399.18	$45,776.67	$33,596.33
144	$45,776.67	$152.59	$400.51	$45,376.16	$33,748.92
145	$45,376.16	$151.25	$401.85	$44,974.31	$33,900.17
146	$44,974.31	$149.91	$403.19	$44,571.12	$34,050.08
147	$44,571.12	$148.57	$404.53	$44,166.59	$34,198.65
148	$44,166.59	$147.22	$405.88	$43,760.71	$34,345.88
149	$43,760.71	$145.87	$407.23	$43,353.48	$34,491.75
150	$43,353.48	$144.51	$408.59	$42,944.88	$34,636.26
151	$42,944.88	$143.15	$409.95	$42,534.93	$34,779.41
152	$42,534.93	$141.78	$411.32	$42,123.61	$34,921.19
153	$42,123.61	$140.41	$412.69	$41,710.92	$35,061.60
154	$41,710.92	$139.04	$414.07	$41,296.86	$35,200.64
155	$41,296.86	$137.66	$415.45	$40,881.41	$35,338.29
156	$40,881.41	$136.27	$416.83	$40,464.58	$35,474.57
157	$40,464.58	$134.88	$418.22	$40,046.36	$35,609.45
158	$40,046.36	$133.49	$419.61	$39,626.74	$35,742.94
159	$39,626.74	$132.09	$421.01	$39,205.73	$35,875.03
160	$39,205.73	$130.69	$422.42	$38,783.31	$36,005.71
161	$38,783.31	$129.28	$423.82	$38,359.49	$36,134.99
162	$38,359.49	$127.86	$425.24	$37,934.25	$36,262.85
163	$37,934.25	$126.45	$426.65	$37,507.60	$36,389.30
164	$37,507.60	$125.03	$428.08	$37,079.52	$36,514.33
165	$37,079.52	$123.60	$429.50	$36,650.01	$36,637.92
166	$36,650.01	$122.17	$430.94	$36,219.08	$36,760.09
167	$36,219.08	$120.73	$432.37	$35,786.71	$36,880.82
168	$35,786.71	$119.29	$433.81	$35,352.89	$37,000.11
169	$35,352.89	$117.84	$435.26	$34,917.63	$37,117.95
170	$34,917.63	$116.39	$436.71	$34,480.92	$37,234.35
171	$34,480.92	$114.94	$438.17	$34,042.76	$37,349.28
172	$34,042.76	$113.48	$439.63	$33,603.13	$37,462.76
173	$33,603.13	$112.01	$441.09	$33,162.04	$37,574.77
174	$33,162.04	$110.54	$442.56	$32,719.48	$37,685.31
175	$32,719.48	$109.06	$444.04	$32,275.44	$37,794.37
176	$32,275.44	$107.58	$445.52	$31,829.92	$37,901.96
177	$31,829.92	$106.10	$447.00	$31,382.92	$38,008.06
178	$31,382.92	$104.61	$448.49	$30,934.43	$38,112.67
179	$30,934.43	$103.11	$449.99	$30,484.44	$38,215.78
180	$30,484.44	$101.61	$451.49	$30,032.95	$38,317.40
181	$30,032.95	$100.11	$452.99	$29,579.96	$38,417.51
182	$29,579.96	$98.60	$454.50	$29,125.45	$38,516.11
183	$29,125.45	$97.08	$456.02	$28,669.44	$38,613.19

TOWNSHIP OF PUSLINCH
Wastewater Servicing - Option WW2

Estimated Capital Cost:	$11,683,080
Number of Benefitting Properties:	128
Cost per Connection:	$91,274.06

Capital Cost Recovery Factor - A = 0.006059803
Monthly Cost -P = $553.10

Loan Amount	Interest Rate	Term in Years	Monthly Payment
$91,274.00	4.00%	20	**$553.10**

Month	Starting Balance	Interest	Principal	Ending Balance	Total Interest
184	$28,669.44	$95.56	$457.54	$28,211.90	$38,708.76
185	$28,211.90	$94.04	$459.06	$27,752.84	$38,802.80
186	$27,752.84	$92.51	$460.59	$27,292.24	$38,895.31
187	$27,292.24	$90.97	$462.13	$26,830.12	$38,986.28
188	$26,830.12	$89.43	$463.67	$26,366.45	$39,075.71
189	$26,366.45	$87.89	$465.21	$25,901.23	$39,163.60
190	$25,901.23	$86.34	$466.77	$25,434.47	$39,249.94
191	$25,434.47	$84.78	$468.32	$24,966.15	$39,334.72
192	$24,966.15	$83.22	$469.88	$24,496.26	$39,417.94
193	$24,496.26	$81.65	$471.45	$24,024.82	$39,499.60
194	$24,024.82	$80.08	$473.02	$23,551.80	$39,579.68
195	$23,551.80	$78.51	$474.60	$23,077.20	$39,658.18
196	$23,077.20	$76.92	$476.18	$22,601.02	$39,735.11
197	$22,601.02	$75.34	$477.77	$22,123.26	$39,810.45
198	$22,123.26	$73.74	$479.36	$21,643.90	$39,884.19
199	$21,643.90	$72.15	$480.96	$21,162.94	$39,956.34
200	$21,162.94	$70.54	$482.56	$20,680.38	$40,026.88
201	$20,680.38	$68.93	$484.17	$20,196.21	$40,095.81
202	$20,196.21	$67.32	$485.78	$19,710.43	$40,163.13
203	$19,710.43	$65.70	$487.40	$19,223.03	$40,228.84
204	$19,223.03	$64.08	$489.03	$18,734.01	$40,292.91
205	$18,734.01	$62.45	$490.66	$18,243.35	$40,355.36
206	$18,243.35	$60.81	$492.29	$17,751.06	$40,416.17
207	$17,751.06	$59.17	$493.93	$17,257.13	$40,475.34
208	$17,257.13	$57.52	$495.58	$16,761.55	$40,532.86
209	$16,761.55	$55.87	$497.23	$16,264.32	$40,588.74
210	$16,264.32	$54.21	$498.89	$15,765.43	$40,642.95
211	$15,765.43	$52.55	$500.55	$15,264.88	$40,695.50
212	$15,264.88	$50.88	$502.22	$14,762.66	$40,746.38
213	$14,762.66	$49.21	$503.89	$14,258.76	$40,795.59
214	$14,258.76	$47.53	$505.57	$13,753.19	$40,843.12
215	$13,753.19	$45.84	$507.26	$13,245.93	$40,888.97
216	$13,245.93	$44.15	$508.95	$12,736.98	$40,933.12
217	$12,736.98	$42.46	$510.65	$12,226.34	$40,975.58
218	$12,226.34	$40.75	$512.35	$11,713.99	$41,016.33
219	$11,713.99	$39.05	$514.06	$11,199.93	$41,055.38
220	$11,199.93	$37.33	$515.77	$10,684.16	$41,092.71
221	$10,684.16	$35.61	$517.49	$10,166.68	$41,128.32
222	$10,166.68	$33.89	$519.21	$9,647.46	$41,162.21
223	$9,647.46	$32.16	$520.94	$9,126.52	$41,194.37
224	$9,126.52	$30.42	$522.68	$8,603.84	$41,224.79
225	$8,603.84	$28.68	$524.42	$8,079.41	$41,253.47
226	$8,079.41	$26.93	$526.17	$7,553.24	$41,280.40
227	$7,553.24	$25.18	$527.93	$7,025.32	$41,305.58
228	$7,025.32	$23.42	$529.68	$6,495.63	$41,329.00
229	$6,495.63	$21.65	$531.45	$5,964.18	$41,350.65
230	$5,964.18	$19.88	$533.22	$5,430.96	$41,370.53
231	$5,430.96	$18.10	$535.00	$4,895.96	$41,388.64
232	$4,895.96	$16.32	$536.78	$4,359.18	$41,404.96
233	$4,359.18	$14.53	$538.57	$3,820.61	$41,419.49
234	$3,820.61	$12.74	$540.37	$3,280.24	$41,432.22
235	$3,280.24	$10.93	$542.17	$2,738.07	$41,443.16
236	$2,738.07	$9.13	$543.98	$2,194.10	$41,452.28
237	$2,194.10	$7.31	$545.79	$1,648.31	$41,459.60
238	$1,648.31	$5.49	$547.61	$1,100.70	$41,465.09
239	$1,100.70	$3.67	$549.43	$551.26	$41,468.76
240	$551.26	$1.84	$551.26	$0.00	$41,470.60

						D (Discount Factor) =	98.77017486
Loan Amount	**Interest Rate**	**Term in Years**	**Monthly Payment**			P = A/D	$604.72
$59,728.00	4.00%	10	**$604.72**				

Month	StartingBalance	Interest	Principal	EndingBalance	TotalInterest
1	$59,728.00	$199.09	$405.62	$59,322.38	$199.09
2	$59,322.38	$197.74	$406.98	$58,915.40	$396.83
3	$58,915.40	$196.38	$408.33	$58,507.07	$593.22
4	$58,507.07	$195.02	$409.69	$58,097.37	$788.24
5	$58,097.37	$193.66	$411.06	$57,686.32	$981.90
6	$57,686.32	$192.29	$412.43	$57,273.89	$1,174.19
7	$57,273.89	$190.91	$413.80	$56,860.08	$1,365.10
8	$56,860.08	$189.53	$415.18	$56,444.90	$1,554.64
9	$56,444.90	$188.15	$416.57	$56,028.33	$1,742.78
10	$56,028.33	$186.76	$417.96	$55,610.38	$1,929.55
11	$55,610.38	$185.37	$419.35	$55,191.03	$2,114.91
12	$55,191.03	$183.97	$420.75	$54,770.28	$2,298.88
13	$54,770.28	$182.57	$422.15	$54,348.13	$2,481.45
14	$54,348.13	$181.16	$423.56	$53,924.57	$2,662.61
15	$53,924.57	$179.75	$424.97	$53,499.61	$2,842.36
16	$53,499.61	$178.33	$426.38	$53,073.22	$3,020.69
17	$53,073.22	$176.91	$427.81	$52,645.41	$3,197.60
18	$52,645.41	$175.48	$429.23	$52,216.18	$3,373.09
19	$52,216.18	$174.05	$430.66	$51,785.52	$3,547.14
20	$51,785.52	$172.62	$432.10	$51,353.42	$3,719.76
21	$51,353.42	$171.18	$433.54	$50,919.88	$3,890.94
22	$50,919.88	$169.73	$434.98	$50,484.90	$4,060.67
23	$50,484.90	$168.28	$436.43	$50,048.46	$4,228.95
24	$50,048.46	$166.83	$437.89	$49,610.58	$4,395.78
25	$49,610.58	$165.37	$439.35	$49,171.23	$4,561.15
26	$49,171.23	$163.90	$440.81	$48,730.41	$4,725.06
27	$48,730.41	$162.43	$442.28	$48,288.13	$4,887.49
28	$48,288.13	$160.96	$443.76	$47,844.38	$5,048.45
29	$47,844.38	$159.48	$445.24	$47,399.14	$5,207.93
30	$47,399.14	$158.00	$446.72	$46,952.42	$5,365.93
31	$46,952.42	$156.51	$448.21	$46,504.21	$5,522.44
32	$46,504.21	$155.01	$449.70	$46,054.51	$5,677.45
33	$46,054.51	$153.52	$451.20	$45,603.31	$5,830.97
34	$45,603.31	$152.01	$452.71	$45,150.60	$5,982.98
35	$45,150.60	$150.50	$454.21	$44,696.39	$6,133.48
36	$44,696.39	$148.99	$455.73	$44,240.66	$6,282.47
37	$44,240.66	$147.47	$457.25	$43,783.41	$6,429.94
38	$43,783.41	$145.94	$458.77	$43,324.64	$6,575.88
39	$43,324.64	$144.42	$460.30	$42,864.33	$6,720.30
40	$42,864.33	$142.88	$461.84	$42,402.50	$6,863.18
41	$42,402.50	$141.34	$463.38	$41,939.12	$7,004.52
42	$41,939.12	$139.80	$464.92	$41,474.20	$7,144.32
43	$41,474.20	$138.25	$466.47	$41,007.73	$7,282.56
44	$41,007.73	$136.69	$468.02	$40,539.71	$7,419.26
45	$40,539.71	$135.13	$469.58	$40,070.12	$7,554.39
46	$40,070.12	$133.57	$471.15	$39,598.97	$7,687.95
47	$39,598.97	$132.00	$472.72	$39,126.25	$7,819.95
48	$39,126.25	$130.42	$474.30	$38,651.96	$7,950.37
49	$38,651.96	$128.84	$475.88	$38,176.08	$8,079.21
50	$38,176.08	$127.25	$477.46	$37,698.62	$8,206.47
51	$37,698.62	$125.66	$479.05	$37,219.56	$8,332.13
52	$37,219.56	$124.07	$480.65	$36,738.91	$8,456.19
53	$36,738.91	$122.46	$482.25	$36,256.66	$8,578.66
54	$36,256.66	$120.86	$483.86	$35,772.80	$8,699.51
55	$35,772.80	$119.24	$485.47	$35,287.32	$8,818.75
56	$35,287.32	$117.62	$487.09	$34,800.23	$8,936.38
57	$34,800.23	$116.00	$488.72	$34,311.51	$9,052.38
58	$34,311.51	$114.37	$490.35	$33,821.17	$9,166.75
59	$33,821.17	$112.74	$491.98	$33,329.19	$9,279.49
60	$33,329.19	$111.10	$493.62	$32,835.57	$9,390.59
61	$32,835.57	$109.45	$495.27	$32,340.30	$9,500.04
62	$32,340.30	$107.80	$496.92	$31,843.39	$9,607.84
63	$31,843.39	$106.14	$498.57	$31,344.81	$9,713.98
64	$31,344.81	$104.48	$500.23	$30,844.58	$9,818.47
65	$30,844.58	$102.82	$501.90	$30,342.68	$9,921.28
66	$30,342.68	$101.14	$503.57	$29,839.10	$10,022.42
67	$29,839.10	$99.46	$505.25	$29,333.85	$10,121.89
68	$29,333.85	$97.78	$506.94	$28,826.91	$10,219.67
69	$28,826.91	$96.09	$508.63	$28,318.29	$10,315.76

D (Discount Factor) = 98.77017486

P = A/D $604.72

Loan Amount	Interest Rate	Term in Years	Monthly Payment
$59,728.00	4.00%	10	**$604.72**

Month	StartingBalance	Interest	Principal	EndingBalance	TotalInterest
70	$28,318.29	$94.39	$510.32	$27,807.96	$10,410.15
71	$27,807.96	$92.69	$512.02	$27,295.94	$10,502.84
72	$27,295.94	$90.99	$513.73	$26,782.21	$10,593.83
73	$26,782.21	$89.27	$515.44	$26,266.77	$10,683.10
74	$26,266.77	$87.56	$517.16	$25,749.61	$10,770.66
75	$25,749.61	$85.83	$518.88	$25,230.72	$10,856.49
76	$25,230.72	$84.10	$520.61	$24,710.11	$10,940.59
77	$24,710.11	$82.37	$522.35	$24,187.76	$11,022.96
78	$24,187.76	$80.63	$524.09	$23,663.66	$11,103.59
79	$23,663.66	$78.88	$525.84	$23,137.83	$11,182.47
80	$23,137.83	$77.13	$527.59	$22,610.24	$11,259.59
81	$22,610.24	$75.37	$529.35	$22,080.89	$11,334.96
82	$22,080.89	$73.60	$531.11	$21,549.77	$11,408.56
83	$21,549.77	$71.83	$532.88	$21,016.89	$11,480.40
84	$21,016.89	$70.06	$534.66	$20,482.23	$11,550.45
85	$20,482.23	$68.27	$536.44	$19,945.78	$11,618.73
86	$19,945.78	$66.49	$538.23	$19,407.55	$11,685.21
87	$19,407.55	$64.69	$540.03	$18,867.53	$11,749.90
88	$18,867.53	$62.89	$541.83	$18,325.70	$11,812.80
89	$18,325.70	$61.09	$543.63	$17,782.07	$11,873.88
90	$17,782.07	$59.27	$545.44	$17,236.63	$11,933.15
91	$17,236.63	$57.46	$547.26	$16,689.37	$11,990.61
92	$16,689.37	$55.63	$549.09	$16,140.28	$12,046.24
93	$16,140.28	$53.80	$550.92	$15,589.36	$12,100.04
94	$15,589.36	$51.96	$552.75	$15,036.61	$12,152.01
95	$15,036.61	$50.12	$554.59	$14,482.02	$12,202.13
96	$14,482.02	$48.27	$556.44	$13,925.57	$12,250.40
97	$13,925.57	$46.42	$558.30	$13,367.28	$12,296.82
98	$13,367.28	$44.56	$560.16	$12,807.12	$12,341.38
99	$12,807.12	$42.69	$562.03	$12,245.09	$12,384.07
100	$12,245.09	$40.82	$563.90	$11,681.19	$12,424.89
101	$11,681.19	$38.94	$565.78	$11,115.41	$12,463.82
102	$11,115.41	$37.05	$567.67	$10,547.74	$12,500.87
103	$10,547.74	$35.16	$569.56	$9,978.19	$12,536.03
104	$9,978.19	$33.26	$571.46	$9,406.73	$12,569.29
105	$9,406.73	$31.36	$573.36	$8,833.37	$12,600.65
106	$8,833.37	$29.44	$575.27	$8,258.10	$12,630.09
107	$8,258.10	$27.53	$577.19	$7,680.91	$12,657.62
108	$7,680.91	$25.60	$579.11	$7,101.79	$12,683.22
109	$7,101.79	$23.67	$581.04	$6,520.75	$12,706.90
110	$6,520.75	$21.74	$582.98	$5,937.77	$12,728.63
111	$5,937.77	$19.79	$584.92	$5,352.84	$12,748.43
112	$5,352.84	$17.84	$586.87	$4,765.97	$12,766.27
113	$4,765.97	$15.89	$588.83	$4,177.14	$12,782.15
114	$4,177.14	$13.92	$590.79	$3,586.35	$12,796.08
115	$3,586.35	$11.95	$592.76	$2,993.58	$12,808.03
116	$2,993.58	$9.98	$594.74	$2,398.84	$12,818.01
117	$2,398.84	$8.00	$596.72	$1,802.12	$12,826.01
118	$1,802.12	$6.01	$598.71	$1,203.41	$12,832.01
119	$1,203.41	$4.01	$600.71	$602.71	$12,836.03
120	$602.71	$2.01	$602.71	$0.00	$12,838.04

						D (Discount Factor) =	135.1921487
						P = A/D	$441.80
Loan Amount	**Interest Rate**	**Term in Years**	**Monthly Payment**				
$59,728.00	4.00%	15	**$441.80**				
Month	**StartingBalance**	**Interest**	**Principal**	**EndingBalance**	**TotalInterest**		
1	$59,728.00	$199.09	$242.71	$59,485.29	$199.09		
2	$59,485.29	$198.28	$243.52	$59,241.78	$397.38		
3	$59,241.78	$197.47	$244.33	$58,997.45	$594.85		
4	$58,997.45	$196.66	$245.14	$58,752.31	$791.51		
5	$58,752.31	$195.84	$245.96	$58,506.35	$987.35		
6	$58,506.35	$195.02	$246.78	$58,259.57	$1,182.37		
7	$58,259.57	$194.20	$247.60	$58,011.96	$1,376.57		
8	$58,011.96	$193.37	$248.43	$57,763.54	$1,569.94		
9	$57,763.54	$192.55	$249.26	$57,514.28	$1,762.49		
10	$57,514.28	$191.71	$250.09	$57,264.19	$1,954.20		
11	$57,264.19	$190.88	$250.92	$57,013.27	$2,145.08		
12	$57,013.27	$190.04	$251.76	$56,761.52	$2,335.13		
13	$56,761.52	$189.21	$252.60	$56,508.92	$2,524.33		
14	$56,508.92	$188.36	$253.44	$56,255.48	$2,712.69		
15	$56,255.48	$187.52	$254.28	$56,001.20	$2,900.21		
16	$56,001.20	$186.67	$255.13	$55,746.07	$3,086.88		
17	$55,746.07	$185.82	$255.98	$55,490.09	$3,272.70		
18	$55,490.09	$184.97	$256.83	$55,233.26	$3,457.67		
19	$55,233.26	$184.11	$257.69	$54,975.57	$3,641.78		
20	$54,975.57	$183.25	$258.55	$54,717.02	$3,825.03		
21	$54,717.02	$182.39	$259.41	$54,457.61	$4,007.42		
22	$54,457.61	$181.53	$260.28	$54,197.33	$4,188.95		
23	$54,197.33	$180.66	$261.14	$53,936.19	$4,369.61		
24	$53,936.19	$179.79	$262.01	$53,674.17	$4,549.39		
25	$53,674.17	$178.91	$262.89	$53,411.29	$4,728.31		
26	$53,411.29	$178.04	$263.76	$53,147.52	$4,906.35		
27	$53,147.52	$177.16	$264.64	$52,882.88	$5,083.50		
28	$52,882.88	$176.28	$265.52	$52,617.36	$5,259.78		
29	$52,617.36	$175.39	$266.41	$52,350.95	$5,435.17		
30	$52,350.95	$174.50	$267.30	$52,083.65	$5,609.67		
31	$52,083.65	$173.61	$268.19	$51,815.46	$5,783.29		
32	$51,815.46	$172.72	$269.08	$51,546.38	$5,956.01		
33	$51,546.38	$171.82	$269.98	$51,276.40	$6,127.83		
34	$51,276.40	$170.92	$270.88	$51,005.52	$6,298.75		
35	$51,005.52	$170.02	$271.78	$50,733.74	$6,468.77		
36	$50,733.74	$169.11	$272.69	$50,461.05	$6,637.88		
37	$50,461.05	$168.20	$273.60	$50,187.45	$6,806.08		
38	$50,187.45	$167.29	$274.51	$49,912.94	$6,973.37		
39	$49,912.94	$166.38	$275.42	$49,637.52	$7,139.75		
40	$49,637.52	$165.46	$276.34	$49,361.18	$7,305.21		
41	$49,361.18	$164.54	$277.26	$49,083.91	$7,469.75		
42	$49,083.91	$163.61	$278.19	$48,805.72	$7,633.36		
43	$48,805.72	$162.69	$279.12	$48,526.61	$7,796.04		
44	$48,526.61	$161.76	$280.05	$48,246.56	$7,957.80		
45	$48,246.56	$160.82	$280.98	$47,965.59	$8,118.62		
46	$47,965.59	$159.89	$281.92	$47,683.67	$8,278.51		
47	$47,683.67	$158.95	$282.86	$47,400.81	$8,437.45		
48	$47,400.81	$158.00	$283.80	$47,117.02	$8,595.46		
49	$47,117.02	$157.06	$284.74	$46,832.27	$8,752.51		
50	$46,832.27	$156.11	$285.69	$46,546.58	$8,908.62		
51	$46,546.58	$155.16	$286.65	$46,259.93	$9,063.77		
52	$46,259.93	$154.20	$287.60	$45,972.33	$9,217.97		
53	$45,972.33	$153.24	$288.56	$45,683.77	$9,371.22		
54	$45,683.77	$152.28	$289.52	$45,394.25	$9,523.49		
55	$45,394.25	$151.31	$290.49	$45,103.76	$9,674.81		
56	$45,103.76	$150.35	$291.45	$44,812.31	$9,825.16		
57	$44,812.31	$149.37	$292.43	$44,519.88	$9,974.53		
58	$44,519.88	$148.40	$293.40	$44,226.48	$10,122.93		
59	$44,226.48	$147.42	$294.38	$43,932.10	$10,270.35		
60	$43,932.10	$146.44	$295.36	$43,636.74	$10,416.79		
61	$43,636.74	$145.46	$296.34	$43,340.40	$10,562.25		
62	$43,340.40	$144.47	$297.33	$43,043.06	$10,706.71		
63	$43,043.06	$143.48	$298.32	$42,744.74	$10,850.19		
64	$42,744.74	$142.48	$299.32	$42,445.42	$10,992.67		
65	$42,445.42	$141.48	$300.32	$42,145.11	$11,134.16		
66	$42,145.11	$140.48	$301.32	$41,843.79	$11,274.64		
67	$41,843.79	$139.48	$302.32	$41,541.47	$11,414.12		
68	$41,541.47	$138.47	$303.33	$41,238.14	$11,552.59		
69	$41,238.14	$137.46	$304.34	$40,933.80	$11,690.05		

D (Discount Factor) = 135.1921487

P = A/D $441.80

Loan Amount	Interest Rate	Term in Years	Monthly Payment
$59,728.00	4.00%	15	**$441.80**

Month	StartingBalance	Interest	Principal	EndingBalance	TotalInterest
70	$40,933.80	$136.45	$305.35	$40,628.44	$11,826.50
71	$40,628.44	$135.43	$306.37	$40,322.07	$11,961.93
72	$40,322.07	$134.41	$307.39	$40,014.68	$12,096.33
73	$40,014.68	$133.38	$308.42	$39,706.26	$12,229.72
74	$39,706.26	$132.35	$309.45	$39,396.81	$12,362.07
75	$39,396.81	$131.32	$310.48	$39,086.33	$12,493.39
76	$39,086.33	$130.29	$311.51	$38,774.82	$12,623.68
77	$38,774.82	$129.25	$312.55	$38,462.27	$12,752.93
78	$38,462.27	$128.21	$313.59	$38,148.68	$12,881.14
79	$38,148.68	$127.16	$314.64	$37,834.04	$13,008.30
80	$37,834.04	$126.11	$315.69	$37,518.35	$13,134.41
81	$37,518.35	$125.06	$316.74	$37,201.61	$13,259.48
82	$37,201.61	$124.01	$317.80	$36,883.82	$13,383.48
83	$36,883.82	$122.95	$318.85	$36,564.96	$13,506.43
84	$36,564.96	$121.88	$319.92	$36,245.04	$13,628.31
85	$36,245.04	$120.82	$320.98	$35,924.06	$13,749.13
86	$35,924.06	$119.75	$322.05	$35,602.00	$13,868.87
87	$35,602.00	$118.67	$323.13	$35,278.88	$13,987.55
88	$35,278.88	$117.60	$324.20	$34,954.67	$14,105.14
89	$34,954.67	$116.52	$325.29	$34,629.39	$14,221.66
90	$34,629.39	$115.43	$326.37	$34,303.02	$14,337.09
91	$34,303.02	$114.34	$327.46	$33,975.56	$14,451.43
92	$33,975.56	$113.25	$328.55	$33,647.01	$14,564.69
93	$33,647.01	$112.16	$329.64	$33,317.37	$14,676.84
94	$33,317.37	$111.06	$330.74	$32,986.62	$14,787.90
95	$32,986.62	$109.96	$331.85	$32,654.78	$14,897.86
96	$32,654.78	$108.85	$332.95	$32,321.83	$15,006.70
97	$32,321.83	$107.74	$334.06	$31,987.77	$15,114.44
98	$31,987.77	$106.63	$335.17	$31,652.59	$15,221.07
99	$31,652.59	$105.51	$336.29	$31,316.30	$15,326.58
100	$31,316.30	$104.39	$337.41	$30,978.89	$15,430.97
101	$30,978.89	$103.26	$338.54	$30,640.35	$15,534.23
102	$30,640.35	$102.13	$339.67	$30,300.68	$15,636.36
103	$30,300.68	$101.00	$340.80	$29,959.88	$15,737.37
104	$29,959.88	$99.87	$341.93	$29,617.95	$15,837.23
105	$29,617.95	$98.73	$343.07	$29,274.87	$15,935.96
106	$29,274.87	$97.58	$344.22	$28,930.66	$16,033.54
107	$28,930.66	$96.44	$345.37	$28,585.29	$16,129.98
108	$28,585.29	$95.28	$346.52	$28,238.77	$16,225.26
109	$28,238.77	$94.13	$347.67	$27,891.10	$16,319.39
110	$27,891.10	$92.97	$348.83	$27,542.27	$16,412.36
111	$27,542.27	$91.81	$349.99	$27,192.28	$16,504.17
112	$27,192.28	$90.64	$351.16	$26,841.12	$16,594.81
113	$26,841.12	$89.47	$352.33	$26,488.79	$16,684.28
114	$26,488.79	$88.30	$353.50	$26,135.28	$16,772.58
115	$26,135.28	$87.12	$354.68	$25,780.60	$16,859.69
116	$25,780.60	$85.94	$355.87	$25,424.74	$16,945.63
117	$25,424.74	$84.75	$357.05	$25,067.68	$17,030.38
118	$25,067.68	$83.56	$358.24	$24,709.44	$17,113.94
119	$24,709.44	$82.36	$359.44	$24,350.01	$17,196.30
120	$24,350.01	$81.17	$360.63	$23,989.37	$17,277.47
121	$23,989.37	$79.96	$361.84	$23,627.54	$17,357.43
122	$23,627.54	$78.76	$363.04	$23,264.49	$17,436.19
123	$23,264.49	$77.55	$364.25	$22,900.24	$17,513.74
124	$22,900.24	$76.33	$365.47	$22,534.77	$17,590.07
125	$22,534.77	$75.12	$366.68	$22,168.09	$17,665.19
126	$22,168.09	$73.89	$367.91	$21,800.18	$17,739.08
127	$21,800.18	$72.67	$369.13	$21,431.05	$17,811.75
128	$21,431.05	$71.44	$370.36	$21,060.69	$17,883.19
129	$21,060.69	$70.20	$371.60	$20,689.09	$17,953.39
130	$20,689.09	$68.96	$372.84	$20,316.25	$18,022.35
131	$20,316.25	$67.72	$374.08	$19,942.17	$18,090.07
132	$19,942.17	$66.47	$375.33	$19,566.84	$18,156.55
133	$19,566.84	$65.22	$376.58	$19,190.26	$18,221.77
134	$19,190.26	$63.97	$377.83	$18,812.43	$18,285.74
135	$18,812.43	$62.71	$379.09	$18,433.34	$18,348.45
136	$18,433.34	$61.44	$380.36	$18,052.98	$18,409.89
137	$18,052.98	$60.18	$381.62	$17,671.36	$18,470.07
138	$17,671.36	$58.90	$382.90	$17,288.46	$18,528.97
139	$17,288.46	$57.63	$384.17	$16,904.29	$18,586.60
140	$16,904.29	$56.35	$385.45	$16,518.84	$18,642.95
141	$16,518.84	$55.06	$386.74	$16,132.10	$18,698.01
142	$16,132.10	$53.77	$388.03	$15,744.07	$18,751.78
143	$15,744.07	$52.48	$389.32	$15,354.75	$18,804.27

Loan Amount	Interest Rate	Term in Years	Monthly Payment
$59,728.00	4.00%	15	**$441.80**

D (Discount Factor) = 135.1921487
P = A/D $441.80

Month	StartingBalance	Interest	Principal	EndingBalance	TotalInterest
144	$15,354.75	$51.18	$390.62	$14,964.13	$18,855.45
145	$14,964.13	$49.88	$391.92	$14,572.21	$18,905.33
146	$14,572.21	$48.57	$393.23	$14,178.98	$18,953.90
147	$14,178.98	$47.26	$394.54	$13,784.45	$19,001.17
148	$13,784.45	$45.95	$395.85	$13,388.59	$19,047.11
149	$13,388.59	$44.63	$397.17	$12,991.42	$19,091.74
150	$12,991.42	$43.30	$398.50	$12,592.93	$19,135.05
151	$12,592.93	$41.98	$399.82	$12,193.10	$19,177.02
152	$12,193.10	$40.64	$401.16	$11,791.94	$19,217.67
153	$11,791.94	$39.31	$402.49	$11,389.45	$19,256.97
154	$11,389.45	$37.96	$403.84	$10,985.61	$19,294.94
155	$10,985.61	$36.62	$405.18	$10,580.43	$19,331.56
156	$10,580.43	$35.27	$406.53	$10,173.90	$19,366.83
157	$10,173.90	$33.91	$407.89	$9,766.01	$19,400.74
158	$9,766.01	$32.55	$409.25	$9,356.76	$19,433.29
159	$9,356.76	$31.19	$410.61	$8,946.15	$19,464.48
160	$8,946.15	$29.82	$411.98	$8,534.17	$19,494.30
161	$8,534.17	$28.45	$413.35	$8,120.82	$19,522.75
162	$8,120.82	$27.07	$414.73	$7,706.09	$19,549.82
163	$7,706.09	$25.69	$416.11	$7,289.97	$19,575.50
164	$7,289.97	$24.30	$417.50	$6,872.47	$19,599.80
165	$6,872.47	$22.91	$418.89	$6,453.58	$19,622.71
166	$6,453.58	$21.51	$420.29	$6,033.29	$19,644.22
167	$6,033.29	$20.11	$421.69	$5,611.60	$19,664.34
168	$5,611.60	$18.71	$423.10	$5,188.51	$19,683.04
169	$5,188.51	$17.30	$424.51	$4,764.00	$19,700.34
170	$4,764.00	$15.88	$425.92	$4,338.08	$19,716.22
171	$4,338.08	$14.46	$427.34	$3,910.74	$19,730.68
172	$3,910.74	$13.04	$428.77	$3,481.97	$19,743.71
173	$3,481.97	$11.61	$430.19	$3,051.78	$19,755.32
174	$3,051.78	$10.17	$431.63	$2,620.15	$19,765.49
175	$2,620.15	$8.73	$433.07	$2,187.08	$19,774.23
176	$2,187.08	$7.29	$434.51	$1,752.57	$19,781.52
177	$1,752.57	$5.84	$435.96	$1,316.62	$19,787.36
178	$1,316.62	$4.39	$437.41	$879.20	$19,791.75
179	$879.20	$2.93	$438.87	$440.33	$19,794.68
180	$440.33	$1.47	$440.33	$0.00	$19,796.14

Loan Amount	Interest Rate	Term in Years	Monthly Payment
$59,728.00	4.00%	20	**$361.94**

D (Discount Factor) = 165.0218582

P = A/D $361.94

Month	StartingBalance	Interest	Principal	EndingBalance	TotalInterest
1	$59,728.00	$199.09	$162.85	$59,565.15	$199.09
2	$59,565.15	$198.55	$163.39	$59,401.76	$397.64
3	$59,401.76	$198.01	$163.93	$59,237.83	$595.65
4	$59,237.83	$197.46	$164.48	$59,073.35	$793.11
5	$59,073.35	$196.91	$165.03	$58,908.32	$990.02
6	$58,908.32	$196.36	$165.58	$58,742.74	$1,186.38
7	$58,742.74	$195.81	$166.13	$58,576.61	$1,382.19
8	$58,576.61	$195.26	$166.68	$58,409.93	$1,577.45
9	$58,409.93	$194.70	$167.24	$58,242.69	$1,772.15
10	$58,242.69	$194.14	$167.80	$58,074.89	$1,966.29
11	$58,074.89	$193.58	$168.36	$57,906.53	$2,159.87
12	$57,906.53	$193.02	$168.92	$57,737.61	$2,352.89
13	$57,737.61	$192.46	$169.48	$57,568.13	$2,545.35
14	$57,568.13	$191.89	$170.05	$57,398.09	$2,737.25
15	$57,398.09	$191.33	$170.61	$57,227.47	$2,928.57
16	$57,227.47	$190.76	$171.18	$57,056.29	$3,119.33
17	$57,056.29	$190.19	$171.75	$56,884.54	$3,309.52
18	$56,884.54	$189.62	$172.32	$56,712.21	$3,499.13
19	$56,712.21	$189.04	$172.90	$56,539.32	$3,688.17
20	$56,539.32	$188.46	$173.48	$56,365.84	$3,876.64
21	$56,365.84	$187.89	$174.05	$56,191.79	$4,064.52
22	$56,191.79	$187.31	$174.63	$56,017.15	$4,251.83
23	$56,017.15	$186.72	$175.22	$55,841.94	$4,438.55
24	$55,841.94	$186.14	$175.80	$55,666.14	$4,624.69
25	$55,666.14	$185.55	$176.39	$55,489.75	$4,810.25
26	$55,489.75	$184.97	$176.97	$55,312.78	$4,995.21
27	$55,312.78	$184.38	$177.56	$55,135.21	$5,179.59
28	$55,135.21	$183.78	$178.16	$54,957.06	$5,363.37
29	$54,957.06	$183.19	$178.75	$54,778.31	$5,546.56
30	$54,778.31	$182.59	$179.35	$54,598.96	$5,729.16
31	$54,598.96	$182.00	$179.94	$54,419.02	$5,911.15
32	$54,419.02	$181.40	$180.54	$54,238.47	$6,092.55
33	$54,238.47	$180.79	$181.15	$54,057.33	$6,273.35
34	$54,057.33	$180.19	$181.75	$53,875.58	$6,453.54
35	$53,875.58	$179.59	$182.35	$53,693.22	$6,633.12
36	$53,693.22	$178.98	$182.96	$53,510.26	$6,812.10
37	$53,510.26	$178.37	$183.57	$53,326.69	$6,990.47
38	$53,326.69	$177.76	$184.18	$53,142.51	$7,168.22
39	$53,142.51	$177.14	$184.80	$52,957.71	$7,345.36
40	$52,957.71	$176.53	$185.41	$52,772.29	$7,521.89
41	$52,772.29	$175.91	$186.03	$52,586.26	$7,697.80
42	$52,586.26	$175.29	$186.65	$52,399.61	$7,873.09
43	$52,399.61	$174.67	$187.27	$52,212.33	$8,047.75
44	$52,212.33	$174.04	$187.90	$52,024.44	$8,221.79
45	$52,024.44	$173.41	$188.53	$51,835.91	$8,395.21
46	$51,835.91	$172.79	$189.15	$51,646.76	$8,567.99
47	$51,646.76	$172.16	$189.78	$51,456.97	$8,740.15
48	$51,456.97	$171.52	$190.42	$51,266.56	$8,911.67
49	$51,266.56	$170.89	$191.05	$51,075.50	$9,082.56
50	$51,075.50	$170.25	$191.69	$50,883.82	$9,252.81
51	$50,883.82	$169.61	$192.33	$50,691.49	$9,422.43
52	$50,691.49	$168.97	$192.97	$50,498.52	$9,591.40
53	$50,498.52	$168.33	$193.61	$50,304.91	$9,759.73
54	$50,304.91	$167.68	$194.26	$50,110.65	$9,927.41
55	$50,110.65	$167.04	$194.90	$49,915.75	$10,094.44
56	$49,915.75	$166.39	$195.55	$49,720.19	$10,260.83
57	$49,720.19	$165.73	$196.21	$49,523.99	$10,426.56
58	$49,523.99	$165.08	$196.86	$49,327.13	$10,591.64
59	$49,327.13	$164.42	$197.52	$49,129.61	$10,756.07
60	$49,129.61	$163.77	$198.17	$48,931.44	$10,919.83
61	$48,931.44	$163.10	$198.84	$48,732.60	$11,082.94
62	$48,732.60	$162.44	$199.50	$48,533.10	$11,245.38
63	$48,533.10	$161.78	$200.16	$48,332.94	$11,407.16
64	$48,332.94	$161.11	$200.83	$48,132.11	$11,568.27
65	$48,132.11	$160.44	$201.50	$47,930.61	$11,728.71
66	$47,930.61	$159.77	$202.17	$47,728.44	$11,888.48
67	$47,728.44	$159.09	$202.85	$47,525.59	$12,047.57
68	$47,525.59	$158.42	$203.52	$47,322.07	$12,205.99
69	$47,322.07	$157.74	$204.20	$47,117.87	$12,363.73

				D (Discount Factor) =	165.0218582
				P = A/D	$361.94
Loan Amount	**Interest Rate**	**Term in Years**	**Monthly Payment**		
$59,728.00	4.00%	20	**$361.94**		

Month	StartingBalance	Interest	Principal	EndingBalance	TotalInterest
70	$47,117.87	$157.06	$204.88	$46,912.99	$12,520.79
71	$46,912.99	$156.38	$205.56	$46,707.43	$12,677.17
72	$46,707.43	$155.69	$206.25	$46,501.18	$12,832.86
73	$46,501.18	$155.00	$206.94	$46,294.25	$12,987.86
74	$46,294.25	$154.31	$207.63	$46,086.62	$13,142.17
75	$46,086.62	$153.62	$208.32	$45,878.30	$13,295.80
76	$45,878.30	$152.93	$209.01	$45,669.29	$13,448.72
77	$45,669.29	$152.23	$209.71	$45,459.58	$13,600.96
78	$45,459.58	$151.53	$210.41	$45,249.17	$13,752.49
79	$45,249.17	$150.83	$211.11	$45,038.06	$13,903.32
80	$45,038.06	$150.13	$211.81	$44,826.25	$14,053.45
81	$44,826.25	$149.42	$212.52	$44,613.73	$14,202.87
82	$44,613.73	$148.71	$213.23	$44,400.50	$14,351.58
83	$44,400.50	$148.00	$213.94	$44,186.57	$14,499.58
84	$44,186.57	$147.29	$214.65	$43,971.91	$14,646.87
85	$43,971.91	$146.57	$215.37	$43,756.55	$14,793.44
86	$43,756.55	$145.86	$216.08	$43,540.46	$14,939.30
87	$43,540.46	$145.13	$216.81	$43,323.66	$15,084.43
88	$43,323.66	$144.41	$217.53	$43,106.13	$15,228.84
89	$43,106.13	$143.69	$218.25	$42,887.88	$15,372.53
90	$42,887.88	$142.96	$218.98	$42,668.90	$15,515.49
91	$42,668.90	$142.23	$219.71	$42,449.19	$15,657.72
92	$42,449.19	$141.50	$220.44	$42,228.74	$15,799.22
93	$42,228.74	$140.76	$221.18	$42,007.57	$15,939.98
94	$42,007.57	$140.03	$221.91	$41,785.65	$16,080.01
95	$41,785.65	$139.29	$222.65	$41,563.00	$16,219.29
96	$41,563.00	$138.54	$223.40	$41,339.60	$16,357.83
97	$41,339.60	$137.80	$224.14	$41,115.46	$16,495.63
98	$41,115.46	$137.05	$224.89	$40,890.57	$16,632.68
99	$40,890.57	$136.30	$225.64	$40,664.93	$16,768.99
100	$40,664.93	$135.55	$226.39	$40,438.54	$16,904.54
101	$40,438.54	$134.80	$227.14	$40,211.40	$17,039.33
102	$40,211.40	$134.04	$227.90	$39,983.50	$17,173.37
103	$39,983.50	$133.28	$228.66	$39,754.83	$17,306.65
104	$39,754.83	$132.52	$229.42	$39,525.41	$17,439.16
105	$39,525.41	$131.75	$230.19	$39,295.22	$17,570.91
106	$39,295.22	$130.98	$230.96	$39,064.27	$17,701.90
107	$39,064.27	$130.21	$231.73	$38,832.54	$17,832.11
108	$38,832.54	$129.44	$232.50	$38,600.04	$17,961.55
109	$38,600.04	$128.67	$233.27	$38,366.77	$18,090.22
110	$38,366.77	$127.89	$234.05	$38,132.72	$18,218.11
111	$38,132.72	$127.11	$234.83	$37,897.89	$18,345.22
112	$37,897.89	$126.33	$235.61	$37,662.27	$18,471.55
113	$37,662.27	$125.54	$236.40	$37,425.88	$18,597.09
114	$37,425.88	$124.75	$237.19	$37,188.69	$18,721.84
115	$37,188.69	$123.96	$237.98	$36,950.71	$18,845.80
116	$36,950.71	$123.17	$238.77	$36,711.94	$18,968.97
117	$36,711.94	$122.37	$239.57	$36,472.37	$19,091.34
118	$36,472.37	$121.57	$240.37	$36,232.01	$19,212.92
119	$36,232.01	$120.77	$241.17	$35,990.84	$19,333.69
120	$35,990.84	$119.97	$241.97	$35,748.87	$19,453.66
121	$35,748.87	$119.16	$242.78	$35,506.09	$19,572.82
122	$35,506.09	$118.35	$243.59	$35,262.51	$19,691.18
123	$35,262.51	$117.54	$244.40	$35,018.11	$19,808.72
124	$35,018.11	$116.73	$245.21	$34,772.90	$19,925.45
125	$34,772.90	$115.91	$246.03	$34,526.87	$20,041.36
126	$34,526.87	$115.09	$246.85	$34,280.02	$20,156.45
127	$34,280.02	$114.27	$247.67	$34,032.34	$20,270.71
128	$34,032.34	$113.44	$248.50	$33,783.84	$20,384.15
129	$33,783.84	$112.61	$249.33	$33,534.52	$20,496.77
130	$33,534.52	$111.78	$250.16	$33,284.36	$20,608.55
131	$33,284.36	$110.95	$250.99	$33,033.37	$20,719.50
132	$33,033.37	$110.11	$251.83	$32,781.54	$20,829.61
133	$32,781.54	$109.27	$252.67	$32,528.87	$20,938.88
134	$32,528.87	$108.43	$253.51	$32,275.36	$21,047.31
135	$32,275.36	$107.58	$254.36	$32,021.00	$21,154.89
136	$32,021.00	$106.74	$255.20	$31,765.80	$21,261.63
137	$31,765.80	$105.89	$256.05	$31,509.75	$21,367.52
138	$31,509.75	$105.03	$256.91	$31,252.84	$21,472.55
139	$31,252.84	$104.18	$257.76	$30,995.07	$21,576.73
140	$30,995.07	$103.32	$258.62	$30,736.45	$21,680.04
141	$30,736.45	$102.45	$259.49	$30,476.97	$21,782.50
142	$30,476.97	$101.59	$260.35	$30,216.62	$21,884.09
143	$30,216.62	$100.72	$261.22	$29,955.40	$21,984.81

				D (Discount Factor) =	165.0218582
				P = A/D	$361.94
Loan Amount	**Interest Rate**	**Term in Years**	**Monthly Payment**		
$59,728.00	4.00%	20	**$361.94**		

Month	StartingBalance	Interest	Principal	EndingBalance	TotalInterest
144	$29,955.40	$99.85	$262.09	$29,693.31	$22,084.66
145	$29,693.31	$98.98	$262.96	$29,430.35	$22,183.64
146	$29,430.35	$98.10	$263.84	$29,166.51	$22,281.74
147	$29,166.51	$97.22	$264.72	$28,901.79	$22,378.96
148	$28,901.79	$96.34	$265.60	$28,636.19	$22,475.30
149	$28,636.19	$95.45	$266.49	$28,369.70	$22,570.75
150	$28,369.70	$94.57	$267.37	$28,102.33	$22,665.32
151	$28,102.33	$93.67	$268.27	$27,834.06	$22,758.99
152	$27,834.06	$92.78	$269.16	$27,564.90	$22,851.77
153	$27,564.90	$91.88	$270.06	$27,294.85	$22,943.66
154	$27,294.85	$90.98	$270.96	$27,023.89	$23,034.64
155	$27,023.89	$90.08	$271.86	$26,752.03	$23,124.72
156	$26,752.03	$89.17	$272.77	$26,479.26	$23,213.89
157	$26,479.26	$88.26	$273.68	$26,205.59	$23,302.16
158	$26,205.59	$87.35	$274.59	$25,931.00	$23,389.51
159	$25,931.00	$86.44	$275.50	$25,655.50	$23,475.95
160	$25,655.50	$85.52	$276.42	$25,379.08	$23,561.46
161	$25,379.08	$84.60	$277.34	$25,101.73	$23,646.06
162	$25,101.73	$83.67	$278.27	$24,823.46	$23,729.73
163	$24,823.46	$82.74	$279.20	$24,544.27	$23,812.48
164	$24,544.27	$81.81	$280.13	$24,264.14	$23,894.29
165	$24,264.14	$80.88	$281.06	$23,983.08	$23,975.17
166	$23,983.08	$79.94	$282.00	$23,701.09	$24,055.12
167	$23,701.09	$79.00	$282.94	$23,418.15	$24,134.12
168	$23,418.15	$78.06	$283.88	$23,134.27	$24,212.18
169	$23,134.27	$77.11	$284.83	$22,849.45	$24,289.30
170	$22,849.45	$76.16	$285.78	$22,563.67	$24,365.46
171	$22,563.67	$75.21	$286.73	$22,276.94	$24,440.67
172	$22,276.94	$74.26	$287.68	$21,989.26	$24,514.93
173	$21,989.26	$73.30	$288.64	$21,700.62	$24,588.23
174	$21,700.62	$72.34	$289.60	$21,411.01	$24,660.56
175	$21,411.01	$71.37	$290.57	$21,120.44	$24,731.93
176	$21,120.44	$70.40	$291.54	$20,828.91	$24,802.33
177	$20,828.91	$69.43	$292.51	$20,536.40	$24,871.76
178	$20,536.40	$68.45	$293.49	$20,242.91	$24,940.22
179	$20,242.91	$67.48	$294.46	$19,948.45	$25,007.69
180	$19,948.45	$66.49	$295.45	$19,653.00	$25,074.19
181	$19,653.00	$65.51	$296.43	$19,356.57	$25,139.70
182	$19,356.57	$64.52	$297.42	$19,059.15	$25,204.22
183	$19,059.15	$63.53	$298.41	$18,760.74	$25,267.75
184	$18,760.74	$62.54	$299.40	$18,461.34	$25,330.29
185	$18,461.34	$61.54	$300.40	$18,160.94	$25,391.82
186	$18,160.94	$60.54	$301.40	$17,859.53	$25,452.36
187	$17,859.53	$59.53	$302.41	$17,557.13	$25,511.89
188	$17,557.13	$58.52	$303.42	$17,253.71	$25,570.42
189	$17,253.71	$57.51	$304.43	$16,949.28	$25,627.93
190	$16,949.28	$56.50	$305.44	$16,643.84	$25,684.43
191	$16,643.84	$55.48	$306.46	$16,337.38	$25,739.91
192	$16,337.38	$54.46	$307.48	$16,029.90	$25,794.36
193	$16,029.90	$53.43	$308.51	$15,721.39	$25,847.80
194	$15,721.39	$52.40	$309.54	$15,411.86	$25,900.20
195	$15,411.86	$51.37	$310.57	$15,101.29	$25,951.57
196	$15,101.29	$50.34	$311.60	$14,789.69	$26,001.91
197	$14,789.69	$49.30	$312.64	$14,477.04	$26,051.21
198	$14,477.04	$48.26	$313.68	$14,163.36	$26,099.47
199	$14,163.36	$47.21	$314.73	$13,848.63	$26,146.68
200	$13,848.63	$46.16	$315.78	$13,532.86	$26,192.84
201	$13,532.86	$45.11	$316.83	$13,216.02	$26,237.95
202	$13,216.02	$44.05	$317.89	$12,898.14	$26,282.00
203	$12,898.14	$42.99	$318.95	$12,579.19	$26,325.00
204	$12,579.19	$41.93	$320.01	$12,259.18	$26,366.93
205	$12,259.18	$40.86	$321.08	$11,938.11	$26,407.79
206	$11,938.11	$39.79	$322.15	$11,615.96	$26,447.59
207	$11,615.96	$38.72	$323.22	$11,292.74	$26,486.31
208	$11,292.74	$37.64	$324.30	$10,968.44	$26,523.95
209	$10,968.44	$36.56	$325.38	$10,643.06	$26,560.51
210	$10,643.06	$35.48	$326.46	$10,316.60	$26,595.99
211	$10,316.60	$34.39	$327.55	$9,989.05	$26,630.38
212	$9,989.05	$33.30	$328.64	$9,660.41	$26,663.67
213	$9,660.41	$32.20	$329.74	$9,330.67	$26,695.87
214	$9,330.67	$31.10	$330.84	$8,999.83	$26,726.98
215	$8,999.83	$30.00	$331.94	$8,667.89	$26,756.98
216	$8,667.89	$28.89	$333.05	$8,334.84	$26,785.87
217	$8,334.84	$27.78	$334.16	$8,000.69	$26,813.65

Loan Amount	Interest Rate	Term in Years	Monthly Payment
$59,728.00	4.00%	20	**$361.94**

D (Discount Factor) = 165.0218582

P = A/D $361.94

Month	StartingBalance	Interest	Principal	EndingBalance	TotalInterest
218	$8,000.69	$26.67	$335.27	$7,665.42	$26,840.32
219	$7,665.42	$25.55	$336.39	$7,329.03	$26,865.87
220	$7,329.03	$24.43	$337.51	$6,991.52	$26,890.30
221	$6,991.52	$23.31	$338.63	$6,652.88	$26,913.61
222	$6,652.88	$22.18	$339.76	$6,313.12	$26,935.78
223	$6,313.12	$21.04	$340.90	$5,972.22	$26,956.83
224	$5,972.22	$19.91	$342.03	$5,630.19	$26,976.73
225	$5,630.19	$18.77	$343.17	$5,287.02	$26,995.50
226	$5,287.02	$17.62	$344.32	$4,942.70	$27,013.13
227	$4,942.70	$16.48	$345.46	$4,597.24	$27,029.60
228	$4,597.24	$15.32	$346.62	$4,250.62	$27,044.92
229	$4,250.62	$14.17	$347.77	$3,902.85	$27,059.09
230	$3,902.85	$13.01	$348.93	$3,553.92	$27,072.10
231	$3,553.92	$11.85	$350.09	$3,203.83	$27,083.95
232	$3,203.83	$10.68	$351.26	$2,852.56	$27,094.63
233	$2,852.56	$9.51	$352.43	$2,500.13	$27,104.14
234	$2,500.13	$8.33	$353.61	$2,146.53	$27,112.47
235	$2,146.53	$7.16	$354.78	$1,791.74	$27,119.63
236	$1,791.74	$5.97	$355.97	$1,435.78	$27,125.60
237	$1,435.78	$4.79	$357.15	$1,078.62	$27,130.38
238	$1,078.62	$3.60	$358.34	$720.28	$27,133.98
239	$720.28	$2.40	$359.54	$360.74	$27,136.38
240	$360.74	$1.20	$360.74	$0.00	$27,137.58

				D (Discount Factor) =	98.77017486
				P = A/D	$526.71
Loan Amount	**Interest Rate**	**Term in Years**	**Monthly Payment**		
$52,023.00	4.00%	10	**$526.71**		

Month	Starting Balance	Interest	Principal	Ending Balance	Total Interest
1	$52,023.00	$173.41	$353.30	$51,669.70	$173.41
2	$51,669.70	$172.23	$354.48	$51,315.23	$345.64
3	$51,315.23	$171.05	$355.66	$50,959.57	$516.69
4	$50,959.57	$169.87	$356.84	$50,602.73	$686.56
5	$50,602.73	$168.68	$358.03	$50,244.70	$855.23
6	$50,244.70	$167.48	$359.23	$49,885.47	$1,022.72
7	$49,885.47	$166.28	$360.42	$49,525.05	$1,189.00
8	$49,525.05	$165.08	$361.62	$49,163.42	$1,354.08
9	$49,163.42	$163.88	$362.83	$48,800.59	$1,517.96
10	$48,800.59	$162.67	$364.04	$48,436.56	$1,680.63
11	$48,436.56	$161.46	$365.25	$48,071.30	$1,842.09
12	$48,071.30	$160.24	$366.47	$47,704.83	$2,002.32
13	$47,704.83	$159.02	$367.69	$47,337.14	$2,161.34
14	$47,337.14	$157.79	$368.92	$46,968.22	$2,319.13
15	$46,968.22	$156.56	$370.15	$46,598.08	$2,475.69
16	$46,598.08	$155.33	$371.38	$46,226.70	$2,631.02
17	$46,226.70	$154.09	$372.62	$45,854.08	$2,785.11
18	$45,854.08	$152.85	$373.86	$45,480.22	$2,937.95
19	$45,480.22	$151.60	$375.11	$45,105.11	$3,089.56
20	$45,105.11	$150.35	$376.36	$44,728.75	$3,239.91
21	$44,728.75	$149.10	$377.61	$44,351.14	$3,389.00
22	$44,351.14	$147.84	$378.87	$43,972.27	$3,536.84
23	$43,972.27	$146.57	$380.13	$43,592.14	$3,683.41
24	$43,592.14	$145.31	$381.40	$43,210.74	$3,828.72
25	$43,210.74	$144.04	$382.67	$42,828.07	$3,972.76
26	$42,828.07	$142.76	$383.95	$42,444.12	$4,115.52
27	$42,444.12	$141.48	$385.23	$42,058.89	$4,257.00
28	$42,058.89	$140.20	$386.51	$41,672.38	$4,397.19
29	$41,672.38	$138.91	$387.80	$41,284.58	$4,536.10
30	$41,284.58	$137.62	$389.09	$40,895.49	$4,673.72
31	$40,895.49	$136.32	$390.39	$40,505.10	$4,810.03
32	$40,505.10	$135.02	$391.69	$40,113.41	$4,945.05
33	$40,113.41	$133.71	$393.00	$39,720.41	$5,078.76
34	$39,720.41	$132.40	$394.31	$39,326.11	$5,211.16
35	$39,326.11	$131.09	$395.62	$38,930.49	$5,342.25
36	$38,930.49	$129.77	$396.94	$38,533.55	$5,472.02
37	$38,533.55	$128.45	$398.26	$38,135.28	$5,600.46
38	$38,135.28	$127.12	$399.59	$37,735.69	$5,727.58
39	$37,735.69	$125.79	$400.92	$37,334.77	$5,853.37
40	$37,334.77	$124.45	$402.26	$36,932.51	$5,977.82
41	$36,932.51	$123.11	$403.60	$36,528.91	$6,100.93
42	$36,528.91	$121.76	$404.94	$36,123.97	$6,222.69
43	$36,123.97	$120.41	$406.29	$35,717.68	$6,343.10
44	$35,717.68	$119.06	$407.65	$35,310.03	$6,462.16
45	$35,310.03	$117.70	$409.01	$34,901.02	$6,579.86
46	$34,901.02	$116.34	$410.37	$34,490.65	$6,696.20
47	$34,490.65	$114.97	$411.74	$34,078.91	$6,811.17
48	$34,078.91	$113.60	$413.11	$33,665.80	$6,924.76
49	$33,665.80	$112.22	$414.49	$33,251.31	$7,036.98
50	$33,251.31	$110.84	$415.87	$32,835.44	$7,147.82
51	$32,835.44	$109.45	$417.26	$32,418.18	$7,257.27
52	$32,418.18	$108.06	$418.65	$31,999.54	$7,365.33
53	$31,999.54	$106.67	$420.04	$31,579.49	$7,472.00
54	$31,579.49	$105.26	$421.44	$31,158.05	$7,577.26
55	$31,158.05	$103.86	$422.85	$30,735.20	$7,681.12
56	$30,735.20	$102.45	$424.26	$30,310.95	$7,783.57
57	$30,310.95	$101.04	$425.67	$29,885.28	$7,884.61
58	$29,885.28	$99.62	$427.09	$29,458.19	$7,984.23
59	$29,458.19	$98.19	$428.51	$29,029.67	$8,082.42
60	$29,029.67	$96.77	$429.94	$28,599.73	$8,179.19
61	$28,599.73	$95.33	$431.38	$28,168.36	$8,274.52
62	$28,168.36	$93.89	$432.81	$27,735.54	$8,368.41
63	$27,735.54	$92.45	$434.26	$27,301.29	$8,460.87
64	$27,301.29	$91.00	$435.70	$26,865.58	$8,551.87
65	$26,865.58	$89.55	$437.16	$26,428.43	$8,641.42
66	$26,428.43	$88.09	$438.61	$25,989.82	$8,729.52
67	$25,989.82	$86.63	$440.07	$25,549.74	$8,816.15
68	$25,549.74	$85.17	$441.54	$25,108.20	$8,901.31
69	$25,108.20	$83.69	$443.01	$24,665.19	$8,985.01

				D (Discount Factor) =	98.77017486
				P = A/D	$526.71
Loan Amount	**Interest Rate**	**Term in Years**	**Monthly Payment**		
$52,023.00	4.00%	10	**$526.71**		

Month	Starting Balance	Interest	Principal	Ending Balance	Total Interest
70	$24,665.19	$82.22	$444.49	$24,220.70	$9,067.23
71	$24,220.70	$80.74	$445.97	$23,774.72	$9,147.96
72	$23,774.72	$79.25	$447.46	$23,327.26	$9,227.21
73	$23,327.26	$77.76	$448.95	$22,878.31	$9,304.97
74	$22,878.31	$76.26	$450.45	$22,427.87	$9,381.23
75	$22,427.87	$74.76	$451.95	$21,975.92	$9,455.99
76	$21,975.92	$73.25	$453.45	$21,522.47	$9,529.24
77	$21,522.47	$71.74	$454.97	$21,067.50	$9,600.98
78	$21,067.50	$70.22	$456.48	$20,611.02	$9,671.21
79	$20,611.02	$68.70	$458.00	$20,153.01	$9,739.91
80	$20,153.01	$67.18	$459.53	$19,693.48	$9,807.09
81	$19,693.48	$65.64	$461.06	$19,232.42	$9,872.73
82	$19,232.42	$64.11	$462.60	$18,769.82	$9,936.84
83	$18,769.82	$62.57	$464.14	$18,305.68	$9,999.41
84	$18,305.68	$61.02	$465.69	$17,839.99	$10,060.43
85	$17,839.99	$59.47	$467.24	$17,372.75	$10,119.89
86	$17,372.75	$57.91	$468.80	$16,903.95	$10,177.80
87	$16,903.95	$56.35	$470.36	$16,433.59	$10,234.15
88	$16,433.59	$54.78	$471.93	$15,961.66	$10,288.93
89	$15,961.66	$53.21	$473.50	$15,488.16	$10,342.13
90	$15,488.16	$51.63	$475.08	$15,013.08	$10,393.76
91	$15,013.08	$50.04	$476.66	$14,536.41	$10,443.80
92	$14,536.41	$48.45	$478.25	$14,058.16	$10,492.26
93	$14,058.16	$46.86	$479.85	$13,578.31	$10,539.12
94	$13,578.31	$45.26	$481.45	$13,096.87	$10,584.38
95	$13,096.87	$43.66	$483.05	$12,613.82	$10,628.04
96	$12,613.82	$42.05	$484.66	$12,129.15	$10,670.08
97	$12,129.15	$40.43	$486.28	$11,642.88	$10,710.51
98	$11,642.88	$38.81	$487.90	$11,154.98	$10,749.32
99	$11,154.98	$37.18	$489.52	$10,665.45	$10,786.51
100	$10,665.45	$35.55	$491.16	$10,174.30	$10,822.06
101	$10,174.30	$33.91	$492.79	$9,681.51	$10,855.97
102	$9,681.51	$32.27	$494.44	$9,187.07	$10,888.24
103	$9,187.07	$30.62	$496.08	$8,690.99	$10,918.87
104	$8,690.99	$28.97	$497.74	$8,193.25	$10,947.84
105	$8,193.25	$27.31	$499.40	$7,693.85	$10,975.15
106	$7,693.85	$25.65	$501.06	$7,192.79	$11,000.79
107	$7,192.79	$23.98	$502.73	$6,690.06	$11,024.77
108	$6,690.06	$22.30	$504.41	$6,185.65	$11,047.07
109	$6,185.65	$20.62	$506.09	$5,679.56	$11,067.69
110	$5,679.56	$18.93	$507.78	$5,171.79	$11,086.62
111	$5,171.79	$17.24	$509.47	$4,662.32	$11,103.86
112	$4,662.32	$15.54	$511.17	$4,151.15	$11,119.40
113	$4,151.15	$13.84	$512.87	$3,638.28	$11,133.24
114	$3,638.28	$12.13	$514.58	$3,123.70	$11,145.37
115	$3,123.70	$10.41	$516.30	$2,607.41	$11,155.78
116	$2,607.41	$8.69	$518.02	$2,089.39	$11,164.47
117	$2,089.39	$6.96	$519.74	$1,569.65	$11,171.43
118	$1,569.65	$5.23	$521.48	$1,048.17	$11,176.67
119	$1,048.17	$3.49	$523.21	$524.96	$11,180.16
120	$524.96	$1.75	$524.96	$0.00	$11,181.91

				D (Discount Factor) =	135.1921487
				P = A/D	$384.81
Loan Amount	**Interest Rate**	**Term in Years**	**Monthly Payment**		
$52,023.00	4.00%	15	**$384.81**		

Month	Starting Balance	Interest	Principal	Ending Balance	Total Interest
1	$52,023.00	$173.41	$211.40	$51,811.60	$173.41
2	$51,811.60	$172.71	$212.10	$51,599.50	$346.12
3	$51,599.50	$172.00	$212.81	$51,386.69	$518.11
4	$51,386.69	$171.29	$213.52	$51,173.17	$689.40
5	$51,173.17	$170.58	$214.23	$50,958.94	$859.98
6	$50,958.94	$169.86	$214.94	$50,744.00	$1,029.84
7	$50,744.00	$169.15	$215.66	$50,528.33	$1,198.99
8	$50,528.33	$168.43	$216.38	$50,311.95	$1,367.42
9	$50,311.95	$167.71	$217.10	$50,094.85	$1,535.12
10	$50,094.85	$166.98	$217.83	$49,877.03	$1,702.11
11	$49,877.03	$166.26	$218.55	$49,658.48	$1,868.36
12	$49,658.48	$165.53	$219.28	$49,439.20	$2,033.89
13	$49,439.20	$164.80	$220.01	$49,219.19	$2,198.69
14	$49,219.19	$164.06	$220.74	$48,998.44	$2,362.75
15	$48,998.44	$163.33	$221.48	$48,776.96	$2,526.08
16	$48,776.96	$162.59	$222.22	$48,554.75	$2,688.67
17	$48,554.75	$161.85	$222.96	$48,331.79	$2,850.52
18	$48,331.79	$161.11	$223.70	$48,108.08	$3,011.63
19	$48,108.08	$160.36	$224.45	$47,883.64	$3,171.99
20	$47,883.64	$159.61	$225.20	$47,658.44	$3,331.60
21	$47,658.44	$158.86	$225.95	$47,432.50	$3,490.46
22	$47,432.50	$158.11	$226.70	$47,205.80	$3,648.57
23	$47,205.80	$157.35	$227.46	$46,978.34	$3,805.92
24	$46,978.34	$156.59	$228.21	$46,750.13	$3,962.52
25	$46,750.13	$155.83	$228.97	$46,521.15	$4,118.35
26	$46,521.15	$155.07	$229.74	$46,291.42	$4,273.42
27	$46,291.42	$154.30	$230.50	$46,060.91	$4,427.72
28	$46,060.91	$153.54	$231.27	$45,829.64	$4,581.26
29	$45,829.64	$152.77	$232.04	$45,597.60	$4,734.03
30	$45,597.60	$151.99	$232.82	$45,364.78	$4,886.02
31	$45,364.78	$151.22	$233.59	$45,131.19	$5,037.23
32	$45,131.19	$150.44	$234.37	$44,896.82	$5,187.67
33	$44,896.82	$149.66	$235.15	$44,661.67	$5,337.33
34	$44,661.67	$148.87	$235.94	$44,425.73	$5,486.20
35	$44,425.73	$148.09	$236.72	$44,189.01	$5,634.29
36	$44,189.01	$147.30	$237.51	$43,951.50	$5,781.58
37	$43,951.50	$146.50	$238.30	$43,713.20	$5,928.09
38	$43,713.20	$145.71	$239.10	$43,474.10	$6,073.80
39	$43,474.10	$144.91	$239.89	$43,234.21	$6,218.71
40	$43,234.21	$144.11	$240.69	$42,993.51	$6,362.83
41	$42,993.51	$143.31	$241.50	$42,752.02	$6,506.14
42	$42,752.02	$142.51	$242.30	$42,509.71	$6,648.64
43	$42,509.71	$141.70	$243.11	$42,266.61	$6,790.34
44	$42,266.61	$140.89	$243.92	$42,022.69	$6,931.23
45	$42,022.69	$140.08	$244.73	$41,777.95	$7,071.31
46	$41,777.95	$139.26	$245.55	$41,532.41	$7,210.57
47	$41,532.41	$138.44	$246.37	$41,286.04	$7,349.01
48	$41,286.04	$137.62	$247.19	$41,038.85	$7,486.63
49	$41,038.85	$136.80	$248.01	$40,790.84	$7,623.43
50	$40,790.84	$135.97	$248.84	$40,542.00	$7,759.39
51	$40,542.00	$135.14	$249.67	$40,292.33	$7,894.53
52	$40,292.33	$134.31	$250.50	$40,041.83	$8,028.84
53	$40,041.83	$133.47	$251.34	$39,790.50	$8,162.32
54	$39,790.50	$132.63	$252.17	$39,538.33	$8,294.95
55	$39,538.33	$131.79	$253.01	$39,285.31	$8,426.74
56	$39,285.31	$130.95	$253.86	$39,031.46	$8,557.70
57	$39,031.46	$130.10	$254.70	$38,776.75	$8,687.80
58	$38,776.75	$129.26	$255.55	$38,521.20	$8,817.06
59	$38,521.20	$128.40	$256.40	$38,264.80	$8,945.46
60	$38,264.80	$127.55	$257.26	$38,007.54	$9,073.01
61	$38,007.54	$126.69	$258.12	$37,749.42	$9,199.70
62	$37,749.42	$125.83	$258.98	$37,490.45	$9,325.53
63	$37,490.45	$124.97	$259.84	$37,230.61	$9,450.50
64	$37,230.61	$124.10	$260.71	$36,969.90	$9,574.60
65	$36,969.90	$123.23	$261.57	$36,708.33	$9,697.84
66	$36,708.33	$122.36	$262.45	$36,445.88	$9,820.20
67	$36,445.88	$121.49	$263.32	$36,182.56	$9,941.68
68	$36,182.56	$120.61	$264.20	$35,918.36	$10,062.29
69	$35,918.36	$119.73	$265.08	$35,653.28	$10,182.02

				D (Discount Factor) =	135.1921487
				P = A/D	$384.81
Loan Amount	**Interest Rate**	**Term in Years**	**Monthly Payment**		
$52,023.00	4.00%	15	**$384.81**		

Month	Starting Balance	Interest	Principal	Ending Balance	Total Interest
70	$35,653.28	$118.84	$265.96	$35,387.31	$10,300.86
71	$35,387.31	$117.96	$266.85	$35,120.46	$10,418.82
72	$35,120.46	$117.07	$267.74	$34,852.72	$10,535.89
73	$34,852.72	$116.18	$268.63	$34,584.09	$10,652.07
74	$34,584.09	$115.28	$269.53	$34,314.57	$10,767.35
75	$34,314.57	$114.38	$270.43	$34,044.14	$10,881.73
76	$34,044.14	$113.48	$271.33	$33,772.81	$10,995.21
77	$33,772.81	$112.58	$272.23	$33,500.58	$11,107.78
78	$33,500.58	$111.67	$273.14	$33,227.44	$11,219.45
79	$33,227.44	$110.76	$274.05	$32,953.39	$11,330.21
80	$32,953.39	$109.84	$274.96	$32,678.43	$11,440.06
81	$32,678.43	$108.93	$275.88	$32,402.55	$11,548.98
82	$32,402.55	$108.01	$276.80	$32,125.75	$11,656.99
83	$32,125.75	$107.09	$277.72	$31,848.03	$11,764.08
84	$31,848.03	$106.16	$278.65	$31,569.38	$11,870.24
85	$31,569.38	$105.23	$279.58	$31,289.80	$11,975.47
86	$31,289.80	$104.30	$280.51	$31,009.29	$12,079.77
87	$31,009.29	$103.36	$281.44	$30,727.85	$12,183.13
88	$30,727.85	$102.43	$282.38	$30,445.47	$12,285.56
89	$30,445.47	$101.48	$283.32	$30,162.15	$12,387.04
90	$30,162.15	$100.54	$284.27	$29,877.88	$12,487.58
91	$29,877.88	$99.59	$285.21	$29,592.66	$12,587.18
92	$29,592.66	$98.64	$286.17	$29,306.50	$12,685.82
93	$29,306.50	$97.69	$287.12	$29,019.38	$12,783.51
94	$29,019.38	$96.73	$288.08	$28,731.30	$12,880.24
95	$28,731.30	$95.77	$289.04	$28,442.26	$12,976.01
96	$28,442.26	$94.81	$290.00	$28,152.26	$13,070.82
97	$28,152.26	$93.84	$290.97	$27,861.30	$13,164.66
98	$27,861.30	$92.87	$291.94	$27,569.36	$13,257.53
99	$27,569.36	$91.90	$292.91	$27,276.45	$13,349.43
100	$27,276.45	$90.92	$293.89	$26,982.56	$13,440.35
101	$26,982.56	$89.94	$294.87	$26,687.70	$13,530.29
102	$26,687.70	$88.96	$295.85	$26,391.85	$13,619.25
103	$26,391.85	$87.97	$296.84	$26,095.01	$13,707.22
104	$26,095.01	$86.98	$297.82	$25,797.19	$13,794.21
105	$25,797.19	$85.99	$298.82	$25,498.37	$13,880.20
106	$25,498.37	$84.99	$299.81	$25,198.56	$13,965.19
107	$25,198.56	$84.00	$300.81	$24,897.75	$14,049.19
108	$24,897.75	$82.99	$301.82	$24,595.93	$14,132.18
109	$24,595.93	$81.99	$302.82	$24,293.11	$14,214.17
110	$24,293.11	$80.98	$303.83	$23,989.28	$14,295.14
111	$23,989.28	$79.96	$304.84	$23,684.44	$14,375.11
112	$23,684.44	$78.95	$305.86	$23,378.58	$14,454.06
113	$23,378.58	$77.93	$306.88	$23,071.70	$14,531.98
114	$23,071.70	$76.91	$307.90	$22,763.79	$14,608.89
115	$22,763.79	$75.88	$308.93	$22,454.87	$14,684.77
116	$22,454.87	$74.85	$309.96	$22,144.91	$14,759.62
117	$22,144.91	$73.82	$310.99	$21,833.92	$14,833.43
118	$21,833.92	$72.78	$312.03	$21,521.89	$14,906.21
119	$21,521.89	$71.74	$313.07	$21,208.82	$14,977.95
120	$21,208.82	$70.70	$314.11	$20,894.71	$15,048.65
121	$20,894.71	$69.65	$315.16	$20,579.55	$15,118.30
122	$20,579.55	$68.60	$316.21	$20,263.34	$15,186.90
123	$20,263.34	$67.54	$317.26	$19,946.08	$15,254.44
124	$19,946.08	$66.49	$318.32	$19,627.76	$15,320.93
125	$19,627.76	$65.43	$319.38	$19,308.37	$15,386.35
126	$19,308.37	$64.36	$320.45	$18,987.93	$15,450.72
127	$18,987.93	$63.29	$321.51	$18,666.41	$15,514.01
128	$18,666.41	$62.22	$322.59	$18,343.83	$15,576.23
129	$18,343.83	$61.15	$323.66	$18,020.16	$15,637.38
130	$18,020.16	$60.07	$324.74	$17,695.42	$15,697.44
131	$17,695.42	$58.98	$325.82	$17,369.60	$15,756.43
132	$17,369.60	$57.90	$326.91	$17,042.69	$15,814.33
133	$17,042.69	$56.81	$328.00	$16,714.69	$15,871.14
134	$16,714.69	$55.72	$329.09	$16,385.60	$15,926.85
135	$16,385.60	$54.62	$330.19	$16,055.41	$15,981.47
136	$16,055.41	$53.52	$331.29	$15,724.12	$16,034.99
137	$15,724.12	$52.41	$332.39	$15,391.73	$16,087.40
138	$15,391.73	$51.31	$333.50	$15,058.22	$16,138.71
139	$15,058.22	$50.19	$334.61	$14,723.61	$16,188.90
140	$14,723.61	$49.08	$335.73	$14,387.88	$16,237.98
141	$14,387.88	$47.96	$336.85	$14,051.03	$16,285.94
142	$14,051.03	$46.84	$337.97	$13,713.06	$16,332.78
143	$13,713.06	$45.71	$339.10	$13,373.96	$16,378.49

						D (Discount Factor) =	135.1921487
Loan Amount	**Interest Rate**	**Term in Years**	**Monthly Payment**			P = A/D	$384.81
$52,023.00	4.00%	15	**$384.81**				

Month	Starting Balance	Interest	Principal	Ending Balance	Total Interest
144	$13,373.96	$44.58	$340.23	$13,033.74	$16,423.07
145	$13,033.74	$43.45	$341.36	$12,692.37	$16,466.51
146	$12,692.37	$42.31	$342.50	$12,349.87	$16,508.82
147	$12,349.87	$41.17	$343.64	$12,006.23	$16,549.99
148	$12,006.23	$40.02	$344.79	$11,661.45	$16,590.01
149	$11,661.45	$38.87	$345.94	$11,315.51	$16,628.88
150	$11,315.51	$37.72	$347.09	$10,968.42	$16,666.60
151	$10,968.42	$36.56	$348.25	$10,620.17	$16,703.16
152	$10,620.17	$35.40	$349.41	$10,270.77	$16,738.56
153	$10,270.77	$34.24	$350.57	$9,920.19	$16,772.80
154	$9,920.19	$33.07	$351.74	$9,568.45	$16,805.86
155	$9,568.45	$31.89	$352.91	$9,215.54	$16,837.76
156	$9,215.54	$30.72	$354.09	$8,861.45	$16,868.48
157	$8,861.45	$29.54	$355.27	$8,506.18	$16,898.01
158	$8,506.18	$28.35	$356.45	$8,149.73	$16,926.37
159	$8,149.73	$27.17	$357.64	$7,792.09	$16,953.53
160	$7,792.09	$25.97	$358.83	$7,433.25	$16,979.51
161	$7,433.25	$24.78	$360.03	$7,073.22	$17,004.29
162	$7,073.22	$23.58	$361.23	$6,711.99	$17,027.86
163	$6,711.99	$22.37	$362.43	$6,349.56	$17,050.24
164	$6,349.56	$21.17	$363.64	$5,985.91	$17,071.40
165	$5,985.91	$19.95	$364.85	$5,621.06	$17,091.35
166	$5,621.06	$18.74	$366.07	$5,254.99	$17,110.09
167	$5,254.99	$17.52	$367.29	$4,887.70	$17,127.61
168	$4,887.70	$16.29	$368.52	$4,519.18	$17,143.90
169	$4,519.18	$15.06	$369.74	$4,149.44	$17,158.96
170	$4,149.44	$13.83	$370.98	$3,778.46	$17,172.80
171	$3,778.46	$12.59	$372.21	$3,406.25	$17,185.39
172	$3,406.25	$11.35	$373.45	$3,032.79	$17,196.74
173	$3,032.79	$10.11	$374.70	$2,658.10	$17,206.85
174	$2,658.10	$8.86	$375.95	$2,282.15	$17,215.71
175	$2,282.15	$7.61	$377.20	$1,904.95	$17,223.32
176	$1,904.95	$6.35	$378.46	$1,526.49	$17,229.67
177	$1,526.49	$5.09	$379.72	$1,146.77	$17,234.76
178	$1,146.77	$3.82	$380.99	$765.78	$17,238.58
179	$765.78	$2.55	$382.26	$383.53	$17,241.13
180	$383.53	$1.28	$383.53	$0.00	$17,242.41

						D (Discount Factor) =	165.0218582
Loan Amount	**Interest Rate**	**Term in Years**	**Monthly Payment**			P = A/D	$315.25
$52,023.00	4.00%	20	**$315.25**				

Month	StartingBalance	Interest	Principal	EndingBalance	TotalInterest
1	$52,023.00	$173.41	$141.84	$51,881.16	$173.41
2	$51,881.16	$172.94	$142.31	$51,738.85	$346.35
3	$51,738.85	$172.46	$142.79	$51,596.06	$518.81
4	$51,596.06	$171.99	$143.26	$51,452.80	$690.80
5	$51,452.80	$171.51	$143.74	$51,309.06	$862.31
6	$51,309.06	$171.03	$144.22	$51,164.84	$1,033.34
7	$51,164.84	$170.55	$144.70	$51,020.14	$1,203.89
8	$51,020.14	$170.07	$145.18	$50,874.96	$1,373.95
9	$50,874.96	$169.58	$145.67	$50,729.29	$1,543.54
10	$50,729.29	$169.10	$146.15	$50,583.14	$1,712.63
11	$50,583.14	$168.61	$146.64	$50,436.50	$1,881.24
12	$50,436.50	$168.12	$147.13	$50,289.38	$2,049.37
13	$50,289.38	$167.63	$147.62	$50,141.76	$2,217.00
14	$50,141.76	$167.14	$148.11	$49,993.65	$2,384.14
15	$49,993.65	$166.65	$148.60	$49,845.04	$2,550.78
16	$49,845.04	$166.15	$149.10	$49,695.95	$2,716.93
17	$49,695.95	$165.65	$149.60	$49,546.35	$2,882.59
18	$49,546.35	$165.15	$150.09	$49,396.26	$3,047.74
19	$49,396.26	$164.65	$150.59	$49,245.66	$3,212.39
20	$49,245.66	$164.15	$151.10	$49,094.56	$3,376.55
21	$49,094.56	$163.65	$151.60	$48,942.96	$3,540.19
22	$48,942.96	$163.14	$152.11	$48,790.86	$3,703.34
23	$48,790.86	$162.64	$152.61	$48,638.24	$3,865.97
24	$48,638.24	$162.13	$153.12	$48,485.12	$4,028.10
25	$48,485.12	$161.62	$153.63	$48,331.49	$4,189.72
26	$48,331.49	$161.10	$154.14	$48,177.35	$4,350.82
27	$48,177.35	$160.59	$154.66	$48,022.69	$4,511.41
28	$48,022.69	$160.08	$155.17	$47,867.51	$4,671.49
29	$47,867.51	$159.56	$155.69	$47,711.82	$4,831.05
30	$47,711.82	$159.04	$156.21	$47,555.61	$4,990.09
31	$47,555.61	$158.52	$156.73	$47,398.88	$5,148.61
32	$47,398.88	$158.00	$157.25	$47,241.63	$5,306.60
33	$47,241.63	$157.47	$157.78	$47,083.85	$5,464.08
34	$47,083.85	$156.95	$158.30	$46,925.55	$5,621.02
35	$46,925.55	$156.42	$158.83	$46,766.72	$5,777.44
36	$46,766.72	$155.89	$159.36	$46,607.36	$5,933.33
37	$46,607.36	$155.36	$159.89	$46,447.47	$6,088.69
38	$46,447.47	$154.82	$160.42	$46,287.04	$6,243.51
39	$46,287.04	$154.29	$160.96	$46,126.09	$6,397.80
40	$46,126.09	$153.75	$161.50	$45,964.59	$6,551.56
41	$45,964.59	$153.22	$162.03	$45,802.56	$6,704.77
42	$45,802.56	$152.68	$162.57	$45,639.98	$6,857.45
43	$45,639.98	$152.13	$163.12	$45,476.87	$7,009.58
44	$45,476.87	$151.59	$163.66	$45,313.21	$7,161.17
45	$45,313.21	$151.04	$164.21	$45,149.00	$7,312.21
46	$45,149.00	$150.50	$164.75	$44,984.25	$7,462.71
47	$44,984.25	$149.95	$165.30	$44,818.95	$7,612.66
48	$44,818.95	$149.40	$165.85	$44,653.09	$7,762.05
49	$44,653.09	$148.84	$166.41	$44,486.69	$7,910.90
50	$44,486.69	$148.29	$166.96	$44,319.73	$8,059.19
51	$44,319.73	$147.73	$167.52	$44,152.21	$8,206.92
52	$44,152.21	$147.17	$168.08	$43,984.14	$8,354.09
53	$43,984.14	$146.61	$168.64	$43,815.50	$8,500.71
54	$43,815.50	$146.05	$169.20	$43,646.30	$8,646.76
55	$43,646.30	$145.49	$169.76	$43,476.54	$8,792.25
56	$43,476.54	$144.92	$170.33	$43,306.22	$8,937.17
57	$43,306.22	$144.35	$170.90	$43,135.32	$9,081.52
58	$43,135.32	$143.78	$171.46	$42,963.86	$9,225.31
59	$42,963.86	$143.21	$172.04	$42,791.82	$9,368.52
60	$42,791.82	$142.64	$172.61	$42,619.21	$9,511.16
61	$42,619.21	$142.06	$173.19	$42,446.02	$9,653.22
62	$42,446.02	$141.49	$173.76	$42,272.26	$9,794.71
63	$42,272.26	$140.91	$174.34	$42,097.92	$9,935.62
64	$42,097.92	$140.33	$174.92	$41,923.00	$10,075.94
65	$41,923.00	$139.74	$175.51	$41,747.49	$10,215.69
66	$41,747.49	$139.16	$176.09	$41,571.40	$10,354.84
67	$41,571.40	$138.57	$176.68	$41,394.72	$10,493.42
68	$41,394.72	$137.98	$177.27	$41,217.46	$10,631.40
69	$41,217.46	$137.39	$177.86	$41,039.60	$10,768.79

				D (Discount Factor) =	165.0218582
				P = A/D	$315.25
Loan Amount	**Interest Rate**	**Term in Years**	**Monthly Payment**		
$52,023.00	4.00%	20	**$315.25**		

Month	StartingBalance	Interest	Principal	EndingBalance	TotalInterest
70	$41,039.60	$136.80	$178.45	$40,861.15	$10,905.59
71	$40,861.15	$136.20	$179.05	$40,682.10	$11,041.79
72	$40,682.10	$135.61	$179.64	$40,502.46	$11,177.40
73	$40,502.46	$135.01	$180.24	$40,322.22	$11,312.41
74	$40,322.22	$134.41	$180.84	$40,141.38	$11,446.82
75	$40,141.38	$133.80	$181.44	$39,959.93	$11,580.62
76	$39,959.93	$133.20	$182.05	$39,777.88	$11,713.82
77	$39,777.88	$132.59	$182.66	$39,595.23	$11,846.41
78	$39,595.23	$131.98	$183.27	$39,411.96	$11,978.40
79	$39,411.96	$131.37	$183.88	$39,228.09	$12,109.77
80	$39,228.09	$130.76	$184.49	$39,043.60	$12,240.53
81	$39,043.60	$130.15	$185.10	$38,858.49	$12,370.68
82	$38,858.49	$129.53	$185.72	$38,672.77	$12,500.20
83	$38,672.77	$128.91	$186.34	$38,486.43	$12,629.11
84	$38,486.43	$128.29	$186.96	$38,299.47	$12,757.40
85	$38,299.47	$127.66	$187.58	$38,111.89	$12,885.07
86	$38,111.89	$127.04	$188.21	$37,923.68	$13,012.11
87	$37,923.68	$126.41	$188.84	$37,734.84	$13,138.52
88	$37,734.84	$125.78	$189.47	$37,545.38	$13,264.30
89	$37,545.38	$125.15	$190.10	$37,355.28	$13,389.45
90	$37,355.28	$124.52	$190.73	$37,164.55	$13,513.97
91	$37,164.55	$123.88	$191.37	$36,973.18	$13,637.85
92	$36,973.18	$123.24	$192.01	$36,781.17	$13,761.10
93	$36,781.17	$122.60	$192.65	$36,588.53	$13,883.70
94	$36,588.53	$121.96	$193.29	$36,395.24	$14,005.66
95	$36,395.24	$121.32	$193.93	$36,201.31	$14,126.98
96	$36,201.31	$120.67	$194.58	$36,006.73	$14,247.65
97	$36,006.73	$120.02	$195.23	$35,811.50	$14,367.67
98	$35,811.50	$119.37	$195.88	$35,615.63	$14,487.04
99	$35,615.63	$118.72	$196.53	$35,419.10	$14,605.76
100	$35,419.10	$118.06	$197.19	$35,221.91	$14,723.83
101	$35,221.91	$117.41	$197.84	$35,024.07	$14,841.23
102	$35,024.07	$116.75	$198.50	$34,825.57	$14,957.98
103	$34,825.57	$116.09	$199.16	$34,626.40	$15,074.06
104	$34,626.40	$115.42	$199.83	$34,426.57	$15,189.49
105	$34,426.57	$114.76	$200.49	$34,226.08	$15,304.24
106	$34,226.08	$114.09	$201.16	$34,024.92	$15,418.33
107	$34,024.92	$113.42	$201.83	$33,823.09	$15,531.74
108	$33,823.09	$112.74	$202.51	$33,620.58	$15,644.49
109	$33,620.58	$112.07	$203.18	$33,417.40	$15,756.56
110	$33,417.40	$111.39	$203.86	$33,213.54	$15,867.95
111	$33,213.54	$110.71	$204.54	$33,009.00	$15,978.66
112	$33,009.00	$110.03	$205.22	$32,803.79	$16,088.69
113	$32,803.79	$109.35	$205.90	$32,597.88	$16,198.04
114	$32,597.88	$108.66	$206.59	$32,391.29	$16,306.70
115	$32,391.29	$107.97	$207.28	$32,184.01	$16,414.67
116	$32,184.01	$107.28	$207.97	$31,976.05	$16,521.95
117	$31,976.05	$106.59	$208.66	$31,767.38	$16,628.53
118	$31,767.38	$105.89	$209.36	$31,558.02	$16,734.42
119	$31,558.02	$105.19	$210.06	$31,347.97	$16,839.62
120	$31,347.97	$104.49	$210.76	$31,137.21	$16,944.11
121	$31,137.21	$103.79	$211.46	$30,925.75	$17,047.90
122	$30,925.75	$103.09	$212.16	$30,713.59	$17,150.99
123	$30,713.59	$102.38	$212.87	$30,500.72	$17,253.37
124	$30,500.72	$101.67	$213.58	$30,287.14	$17,355.04
125	$30,287.14	$100.96	$214.29	$30,072.85	$17,455.99
126	$30,072.85	$100.24	$215.01	$29,857.84	$17,556.24
127	$29,857.84	$99.53	$215.72	$29,642.12	$17,655.76
128	$29,642.12	$98.81	$216.44	$29,425.68	$17,754.57
129	$29,425.68	$98.09	$217.16	$29,208.51	$17,852.65
130	$29,208.51	$97.36	$217.89	$28,990.63	$17,950.02
131	$28,990.63	$96.64	$218.61	$28,772.01	$18,046.65
132	$28,772.01	$95.91	$219.34	$28,552.67	$18,142.56
133	$28,552.67	$95.18	$220.07	$28,332.60	$18,237.73
134	$28,332.60	$94.44	$220.81	$28,111.79	$18,332.18
135	$28,111.79	$93.71	$221.54	$27,890.25	$18,425.88
136	$27,890.25	$92.97	$222.28	$27,667.96	$18,518.85
137	$27,667.96	$92.23	$223.02	$27,444.94	$18,611.08
138	$27,444.94	$91.48	$223.77	$27,221.18	$18,702.56
139	$27,221.18	$90.74	$224.51	$26,996.66	$18,793.30
140	$26,996.66	$89.99	$225.26	$26,771.40	$18,883.28
141	$26,771.40	$89.24	$226.01	$26,545.39	$18,972.52
142	$26,545.39	$88.48	$226.76	$26,318.63	$19,061.01
143	$26,318.63	$87.73	$227.52	$26,091.11	$19,148.74

D (Discount Factor) = 165.0218582

P = A/D $315.25

Loan Amount	Interest Rate	Term in Years	Monthly Payment
$52,023.00	4.00%	20	**$315.25**

Month	StartingBalance	Interest	Principal	EndingBalance	TotalInterest
144	$26,091.11	$86.97	$228.28	$25,862.83	$19,235.71
145	$25,862.83	$86.21	$229.04	$25,633.79	$19,321.92
146	$25,633.79	$85.45	$229.80	$25,403.99	$19,407.36
147	$25,403.99	$84.68	$230.57	$25,173.42	$19,492.04
148	$25,173.42	$83.91	$231.34	$24,942.08	$19,575.95
149	$24,942.08	$83.14	$232.11	$24,709.97	$19,659.09
150	$24,709.97	$82.37	$232.88	$24,477.09	$19,741.46
151	$24,477.09	$81.59	$233.66	$24,243.43	$19,823.05
152	$24,243.43	$80.81	$234.44	$24,008.99	$19,903.86
153	$24,008.99	$80.03	$235.22	$23,773.77	$19,983.89
154	$23,773.77	$79.25	$236.00	$23,537.77	$20,063.14
155	$23,537.77	$78.46	$236.79	$23,300.98	$20,141.60
156	$23,300.98	$77.67	$237.58	$23,063.40	$20,219.27
157	$23,063.40	$76.88	$238.37	$22,825.03	$20,296.14
158	$22,825.03	$76.08	$239.17	$22,585.86	$20,372.23
159	$22,585.86	$75.29	$239.96	$22,345.90	$20,447.51
160	$22,345.90	$74.49	$240.76	$22,105.14	$20,522.00
161	$22,105.14	$73.68	$241.57	$21,863.57	$20,595.68
162	$21,863.57	$72.88	$242.37	$21,621.20	$20,668.56
163	$21,621.20	$72.07	$243.18	$21,378.02	$20,740.63
164	$21,378.02	$71.26	$243.99	$21,134.03	$20,811.89
165	$21,134.03	$70.45	$244.80	$20,889.23	$20,882.34
166	$20,889.23	$69.63	$245.62	$20,643.61	$20,951.97
167	$20,643.61	$68.81	$246.44	$20,397.18	$21,020.78
168	$20,397.18	$67.99	$247.26	$20,149.92	$21,088.77
169	$20,149.92	$67.17	$248.08	$19,901.83	$21,155.94
170	$19,901.83	$66.34	$248.91	$19,652.92	$21,222.28
171	$19,652.92	$65.51	$249.74	$19,403.19	$21,287.79
172	$19,403.19	$64.68	$250.57	$19,152.61	$21,352.47
173	$19,152.61	$63.84	$251.41	$18,901.21	$21,416.31
174	$18,901.21	$63.00	$252.25	$18,648.96	$21,479.31
175	$18,648.96	$62.16	$253.09	$18,395.88	$21,541.48
176	$18,395.88	$61.32	$253.93	$18,141.95	$21,602.80
177	$18,141.95	$60.47	$254.78	$17,887.17	$21,663.27
178	$17,887.17	$59.62	$255.63	$17,631.54	$21,722.89
179	$17,631.54	$58.77	$256.48	$17,375.07	$21,781.66
180	$17,375.07	$57.92	$257.33	$17,117.74	$21,839.58
181	$17,117.74	$57.06	$258.19	$16,859.55	$21,896.64
182	$16,859.55	$56.20	$259.05	$16,600.49	$21,952.84
183	$16,600.49	$55.33	$259.91	$16,340.58	$22,008.17
184	$16,340.58	$54.47	$260.78	$16,079.80	$22,062.64
185	$16,079.80	$53.60	$261.65	$15,818.15	$22,116.24
186	$15,818.15	$52.73	$262.52	$15,555.63	$22,168.97
187	$15,555.63	$51.85	$263.40	$15,292.23	$22,220.82
188	$15,292.23	$50.97	$264.28	$15,027.96	$22,271.80
189	$15,027.96	$50.09	$265.16	$14,762.80	$22,321.89
190	$14,762.80	$49.21	$266.04	$14,496.76	$22,371.10
191	$14,496.76	$48.32	$266.93	$14,229.83	$22,419.42
192	$14,229.83	$47.43	$267.82	$13,962.02	$22,466.85
193	$13,962.02	$46.54	$268.71	$13,693.31	$22,513.39
194	$13,693.31	$45.64	$269.60	$13,423.70	$22,559.04
195	$13,423.70	$44.75	$270.50	$13,153.20	$22,603.78
196	$13,153.20	$43.84	$271.41	$12,881.79	$22,647.63
197	$12,881.79	$42.94	$272.31	$12,609.48	$22,690.57
198	$12,609.48	$42.03	$273.22	$12,336.27	$22,732.60
199	$12,336.27	$41.12	$274.13	$12,062.14	$22,773.72
200	$12,062.14	$40.21	$275.04	$11,787.10	$22,813.93
201	$11,787.10	$39.29	$275.96	$11,511.14	$22,853.22
202	$11,511.14	$38.37	$276.88	$11,234.26	$22,891.59
203	$11,234.26	$37.45	$277.80	$10,956.46	$22,929.03
204	$10,956.46	$36.52	$278.73	$10,677.73	$22,965.56
205	$10,677.73	$35.59	$279.66	$10,398.07	$23,001.15
206	$10,398.07	$34.66	$280.59	$10,117.48	$23,035.81
207	$10,117.48	$33.72	$281.52	$9,835.96	$23,069.53
208	$9,835.96	$32.79	$282.46	$9,553.50	$23,102.32
209	$9,553.50	$31.84	$283.40	$9,270.09	$23,134.17
210	$9,270.09	$30.90	$284.35	$8,985.74	$23,165.07
211	$8,985.74	$29.95	$285.30	$8,700.45	$23,195.02
212	$8,700.45	$29.00	$286.25	$8,414.20	$23,224.02
213	$8,414.20	$28.05	$287.20	$8,127.00	$23,252.07
214	$8,127.00	$27.09	$288.16	$7,838.84	$23,279.16
215	$7,838.84	$26.13	$289.12	$7,549.72	$23,305.29
216	$7,549.72	$25.17	$290.08	$7,259.64	$23,330.45
217	$7,259.64	$24.20	$291.05	$6,968.59	$23,354.65

Loan Amount	Interest Rate	Term in Years	Monthly Payment
$52,023.00	4.00%	20	**$315.25**

D (Discount Factor) = 165.0218582

P = A/D $315.25

Month	StartingBalance	Interest	Principal	EndingBalance	TotalInterest
218	$6,968.59	$23.23	$292.02	$6,676.57	$23,377.88
219	$6,676.57	$22.26	$292.99	$6,383.57	$23,400.13
220	$6,383.57	$21.28	$293.97	$6,089.60	$23,421.41
221	$6,089.60	$20.30	$294.95	$5,794.65	$23,441.71
222	$5,794.65	$19.32	$295.93	$5,498.72	$23,461.03
223	$5,498.72	$18.33	$296.92	$5,201.80	$23,479.36
224	$5,201.80	$17.34	$297.91	$4,903.89	$23,496.70
225	$4,903.89	$16.35	$298.90	$4,604.98	$23,513.04
226	$4,604.98	$15.35	$299.90	$4,305.08	$23,528.39
227	$4,305.08	$14.35	$300.90	$4,004.19	$23,542.74
228	$4,004.19	$13.35	$301.90	$3,702.28	$23,556.09
229	$3,702.28	$12.34	$302.91	$3,399.38	$23,568.43
230	$3,399.38	$11.33	$303.92	$3,095.46	$23,579.76
231	$3,095.46	$10.32	$304.93	$2,790.53	$23,590.08
232	$2,790.53	$9.30	$305.95	$2,484.58	$23,599.38
233	$2,484.58	$8.28	$306.97	$2,177.61	$23,607.66
234	$2,177.61	$7.26	$307.99	$1,869.62	$23,614.92
235	$1,869.62	$6.23	$309.02	$1,560.61	$23,621.15
236	$1,560.61	$5.20	$310.05	$1,250.56	$23,626.36
237	$1,250.56	$4.17	$311.08	$939.48	$23,630.53
238	$939.48	$3.13	$312.12	$627.36	$23,633.66
239	$627.36	$2.09	$313.16	$314.20	$23,635.75
240	$314.20	$1.05	$314.20	$0.00	$23,636.80

						D (Discount Factor) =	98.77017486
						P = A/D	$765.58
Loan Amount	**Interest Rate**	**Term in Years**	**Monthly Payment**				
$75,616.00	4.00%	10	**$765.58**				

Month	**StartingBalance**	**Interest**	**Principal**	**EndingBalance**	**TotalInterest**
1	$75,616.00	$252.05	$513.52	$75,102.48	$252.05
2	$75,102.48	$250.34	$515.23	$74,587.24	$502.39
3	$74,587.24	$248.62	$516.95	$74,070.29	$751.02
4	$74,070.29	$246.90	$518.67	$73,551.62	$997.92
5	$73,551.62	$245.17	$520.40	$73,031.22	$1,243.09
6	$73,031.22	$243.44	$522.14	$72,509.08	$1,486.53
7	$72,509.08	$241.70	$523.88	$71,985.20	$1,728.23
8	$71,985.20	$239.95	$525.62	$71,459.58	$1,968.18
9	$71,459.58	$238.20	$527.38	$70,932.20	$2,206.38
10	$70,932.20	$236.44	$529.13	$70,403.06	$2,442.82
11	$70,403.06	$234.68	$530.90	$69,872.17	$2,677.49
12	$69,872.17	$232.91	$532.67	$69,339.50	$2,910.40
13	$69,339.50	$231.13	$534.44	$68,805.05	$3,141.53
14	$68,805.05	$229.35	$536.23	$68,268.83	$3,370.88
15	$68,268.83	$227.56	$538.01	$67,730.82	$3,598.45
16	$67,730.82	$225.77	$539.81	$67,191.01	$3,824.21
17	$67,191.01	$223.97	$541.61	$66,649.41	$4,048.18
18	$66,649.41	$222.16	$543.41	$66,105.99	$4,270.35
19	$66,105.99	$220.35	$545.22	$65,560.77	$4,490.70
20	$65,560.77	$218.54	$547.04	$65,013.73	$4,709.24
21	$65,013.73	$216.71	$548.86	$64,464.87	$4,925.95
22	$64,464.87	$214.88	$550.69	$63,914.18	$5,140.83
23	$63,914.18	$213.05	$552.53	$63,361.65	$5,353.88
24	$63,361.65	$211.21	$554.37	$62,807.28	$5,565.09
25	$62,807.28	$209.36	$556.22	$62,251.06	$5,774.44
26	$62,251.06	$207.50	$558.07	$61,692.99	$5,981.95
27	$61,692.99	$205.64	$559.93	$61,133.06	$6,187.59
28	$61,133.06	$203.78	$561.80	$60,571.26	$6,391.37
29	$60,571.26	$201.90	$563.67	$60,007.59	$6,593.27
30	$60,007.59	$200.03	$565.55	$59,442.04	$6,793.30
31	$59,442.04	$198.14	$567.44	$58,874.61	$6,991.44
32	$58,874.61	$196.25	$569.33	$58,305.28	$7,187.69
33	$58,305.28	$194.35	$571.22	$57,734.05	$7,382.04
34	$57,734.05	$192.45	$573.13	$57,160.93	$7,574.48
35	$57,160.93	$190.54	$575.04	$56,585.89	$7,765.02
36	$56,585.89	$188.62	$576.96	$56,008.93	$7,953.64
37	$56,008.93	$186.70	$578.88	$55,430.05	$8,140.34
38	$55,430.05	$184.77	$580.81	$54,849.24	$8,325.10
39	$54,849.24	$182.83	$582.74	$54,266.50	$8,507.93
40	$54,266.50	$180.89	$584.69	$53,681.81	$8,688.82
41	$53,681.81	$178.94	$586.64	$53,095.18	$8,867.76
42	$53,095.18	$176.98	$588.59	$52,506.59	$9,044.75
43	$52,506.59	$175.02	$590.55	$51,916.03	$9,219.77
44	$51,916.03	$173.05	$592.52	$51,323.51	$9,392.82
45	$51,323.51	$171.08	$594.50	$50,729.01	$9,563.90
46	$50,729.01	$169.10	$596.48	$50,132.54	$9,733.00
47	$50,132.54	$167.11	$598.47	$49,534.07	$9,900.10
48	$49,534.07	$165.11	$600.46	$48,933.61	$10,065.22
49	$48,933.61	$163.11	$602.46	$48,331.14	$10,228.33
50	$48,331.14	$161.10	$604.47	$47,726.67	$10,389.43
51	$47,726.67	$159.09	$606.49	$47,120.19	$10,548.52
52	$47,120.19	$157.07	$608.51	$46,511.68	$10,705.59
53	$46,511.68	$155.04	$610.54	$45,901.14	$10,860.63
54	$45,901.14	$153.00	$612.57	$45,288.57	$11,013.63
55	$45,288.57	$150.96	$614.61	$44,673.96	$11,164.59
56	$44,673.96	$148.91	$616.66	$44,057.29	$11,313.51
57	$44,057.29	$146.86	$618.72	$43,438.58	$11,460.37
58	$43,438.58	$144.80	$620.78	$42,817.80	$11,605.16
59	$42,817.80	$142.73	$622.85	$42,194.95	$11,747.89
60	$42,194.95	$140.65	$624.93	$41,570.02	$11,888.54
61	$41,570.02	$138.57	$627.01	$40,943.01	$12,027.10
62	$40,943.01	$136.48	$629.10	$40,313.92	$12,163.58
63	$40,313.92	$134.38	$631.20	$39,682.72	$12,297.96
64	$39,682.72	$132.28	$633.30	$39,049.42	$12,430.24
65	$39,049.42	$130.16	$635.41	$38,414.01	$12,560.40
66	$38,414.01	$128.05	$637.53	$37,776.48	$12,688.45
67	$37,776.48	$125.92	$639.65	$37,136.83	$12,814.37
68	$37,136.83	$123.79	$641.79	$36,495.04	$12,938.16
69	$36,495.04	$121.65	$643.93	$35,851.12	$13,059.81

D (Discount Factor) = 98.77017486

P = A/D $765.58

Loan Amount	Interest Rate	Term in Years	Monthly Payment
$75,616.00	4.00%	10	**$765.58**

Month	StartingBalance	Interest	Principal	EndingBalance	TotalInterest
70	$35,851.12	$119.50	$646.07	$35,205.05	$13,179.31
71	$35,205.05	$117.35	$648.23	$34,556.82	$13,296.66
72	$34,556.82	$115.19	$650.39	$33,906.43	$13,411.85
73	$33,906.43	$113.02	$652.55	$33,253.88	$13,524.87
74	$33,253.88	$110.85	$654.73	$32,599.15	$13,635.72
75	$32,599.15	$108.66	$656.91	$31,942.24	$13,744.38
76	$31,942.24	$106.47	$659.10	$31,283.14	$13,850.86
77	$31,283.14	$104.28	$661.30	$30,621.84	$13,955.13
78	$30,621.84	$102.07	$663.50	$29,958.34	$14,057.21
79	$29,958.34	$99.86	$665.71	$29,292.62	$14,157.07
80	$29,292.62	$97.64	$667.93	$28,624.69	$14,254.71
81	$28,624.69	$95.42	$670.16	$27,954.53	$14,350.13
82	$27,954.53	$93.18	$672.39	$27,282.14	$14,443.31
83	$27,282.14	$90.94	$674.63	$26,607.50	$14,534.25
84	$26,607.50	$88.69	$676.88	$25,930.62	$14,622.94
85	$25,930.62	$86.44	$679.14	$25,251.48	$14,709.38
86	$25,251.48	$84.17	$681.40	$24,570.08	$14,793.55
87	$24,570.08	$81.90	$683.67	$23,886.40	$14,875.45
88	$23,886.40	$79.62	$685.95	$23,200.45	$14,955.07
89	$23,200.45	$77.33	$688.24	$22,512.21	$15,032.40
90	$22,512.21	$75.04	$690.53	$21,821.67	$15,107.44
91	$21,821.67	$72.74	$692.84	$21,128.84	$15,180.18
92	$21,128.84	$70.43	$695.15	$20,433.69	$15,250.61
93	$20,433.69	$68.11	$697.46	$19,736.23	$15,318.72
94	$19,736.23	$65.79	$699.79	$19,036.44	$15,384.51
95	$19,036.44	$63.45	$702.12	$18,334.32	$15,447.97
96	$18,334.32	$61.11	$704.46	$17,629.86	$15,509.08
97	$17,629.86	$58.77	$706.81	$16,923.05	$15,567.85
98	$16,923.05	$56.41	$709.17	$16,213.88	$15,624.26
99	$16,213.88	$54.05	$711.53	$15,502.36	$15,678.30
100	$15,502.36	$51.67	$713.90	$14,788.45	$15,729.98
101	$14,788.45	$49.29	$716.28	$14,072.17	$15,779.27
102	$14,072.17	$46.91	$718.67	$13,353.51	$15,826.18
103	$13,353.51	$44.51	$721.06	$12,632.44	$15,870.69
104	$12,632.44	$42.11	$723.47	$11,908.98	$15,912.80
105	$11,908.98	$39.70	$725.88	$11,183.10	$15,952.50
106	$11,183.10	$37.28	$728.30	$10,454.80	$15,989.77
107	$10,454.80	$34.85	$730.73	$9,724.07	$16,024.62
108	$9,724.07	$32.41	$733.16	$8,990.91	$16,057.04
109	$8,990.91	$29.97	$735.61	$8,255.31	$16,087.01
110	$8,255.31	$27.52	$738.06	$7,517.25	$16,114.52
111	$7,517.25	$25.06	$740.52	$6,776.73	$16,139.58
112	$6,776.73	$22.59	$742.99	$6,033.74	$16,162.17
113	$6,033.74	$20.11	$745.46	$5,288.28	$16,182.28
114	$5,288.28	$17.63	$747.95	$4,540.33	$16,199.91
115	$4,540.33	$15.13	$750.44	$3,789.89	$16,215.05
116	$3,789.89	$12.63	$752.94	$3,036.95	$16,227.68
117	$3,036.95	$10.12	$755.45	$2,281.50	$16,237.80
118	$2,281.50	$7.60	$757.97	$1,523.53	$16,245.41
119	$1,523.53	$5.08	$760.50	$763.03	$16,250.48
120	$763.03	$2.54	$763.03	$0.00	$16,253.03

						D (Discount Factor) =	135.1921487
Loan Amount	**Interest Rate**	**Term in Years**	**Monthly Payment**			P = A/D	$559.32
$75,616.00	4.00%	15	**$559.32**				

Month	StartingBalance	Interest	Principal	EndingBalance	TotalInterest
1	$75,616.00	$252.05	$307.27	$75,308.73	$252.05
2	$75,308.73	$251.03	$308.29	$75,000.44	$503.08
3	$75,000.44	$250.00	$309.32	$74,691.12	$753.08
4	$74,691.12	$248.97	$310.35	$74,380.76	$1,002.05
5	$74,380.76	$247.94	$311.39	$74,069.38	$1,249.99
6	$74,069.38	$246.90	$312.42	$73,756.95	$1,496.89
7	$73,756.95	$245.86	$313.47	$73,443.49	$1,742.74
8	$73,443.49	$244.81	$314.51	$73,128.98	$1,987.56
9	$73,128.98	$243.76	$315.56	$72,813.42	$2,231.32
10	$72,813.42	$242.71	$316.61	$72,496.81	$2,474.03
11	$72,496.81	$241.66	$317.67	$72,179.14	$2,715.69
12	$72,179.14	$240.60	$318.73	$71,860.41	$2,956.28
13	$71,860.41	$239.53	$319.79	$71,540.63	$3,195.82
14	$71,540.63	$238.47	$320.85	$71,219.77	$3,434.29
15	$71,219.77	$237.40	$321.92	$70,897.85	$3,671.69
16	$70,897.85	$236.33	$323.00	$70,574.85	$3,908.01
17	$70,574.85	$235.25	$324.07	$70,250.78	$4,143.26
18	$70,250.78	$234.17	$325.15	$69,925.63	$4,377.43
19	$69,925.63	$233.09	$326.24	$69,599.39	$4,610.52
20	$69,599.39	$232.00	$327.32	$69,272.07	$4,842.52
21	$69,272.07	$230.91	$328.42	$68,943.65	$5,073.42
22	$68,943.65	$229.81	$329.51	$68,614.14	$5,303.23
23	$68,614.14	$228.71	$330.61	$68,283.53	$5,531.95
24	$68,283.53	$227.61	$331.71	$67,951.82	$5,759.56
25	$67,951.82	$226.51	$332.82	$67,619.01	$5,986.07
26	$67,619.01	$225.40	$333.93	$67,285.08	$6,211.46
27	$67,285.08	$224.28	$335.04	$66,950.04	$6,435.75
28	$66,950.04	$223.17	$336.16	$66,613.89	$6,658.91
29	$66,613.89	$222.05	$337.28	$66,276.61	$6,880.96
30	$66,276.61	$220.92	$338.40	$65,938.21	$7,101.88
31	$65,938.21	$219.79	$339.53	$65,598.68	$7,321.68
32	$65,598.68	$218.66	$340.66	$65,258.02	$7,540.34
33	$65,258.02	$217.53	$341.80	$64,916.22	$7,757.86
34	$64,916.22	$216.39	$342.94	$64,573.29	$7,974.25
35	$64,573.29	$215.24	$344.08	$64,229.21	$8,189.50
36	$64,229.21	$214.10	$345.23	$63,883.99	$8,403.59
37	$63,883.99	$212.95	$346.38	$63,537.61	$8,616.54
38	$63,537.61	$211.79	$347.53	$63,190.08	$8,828.33
39	$63,190.08	$210.63	$348.69	$62,841.39	$9,038.97
40	$62,841.39	$209.47	$349.85	$62,491.54	$9,248.44
41	$62,491.54	$208.31	$351.02	$62,140.52	$9,456.74
42	$62,140.52	$207.14	$352.19	$61,788.34	$9,663.88
43	$61,788.34	$205.96	$353.36	$61,434.97	$9,869.84
44	$61,434.97	$204.78	$354.54	$61,080.43	$10,074.62
45	$61,080.43	$203.60	$355.72	$60,724.71	$10,278.22
46	$60,724.71	$202.42	$356.91	$60,367.81	$10,480.64
47	$60,367.81	$201.23	$358.10	$60,009.71	$10,681.86
48	$60,009.71	$200.03	$359.29	$59,650.42	$10,881.90
49	$59,650.42	$198.83	$360.49	$59,289.93	$11,080.73
50	$59,289.93	$197.63	$361.69	$58,928.24	$11,278.36
51	$58,928.24	$196.43	$362.89	$58,565.35	$11,474.79
52	$58,565.35	$195.22	$364.10	$58,201.24	$11,670.01
53	$58,201.24	$194.00	$365.32	$57,835.93	$11,864.01
54	$57,835.93	$192.79	$366.54	$57,469.39	$12,056.80
55	$57,469.39	$191.56	$367.76	$57,101.63	$12,248.37
56	$57,101.63	$190.34	$368.98	$56,732.65	$12,438.70
57	$56,732.65	$189.11	$370.21	$56,362.43	$12,627.81
58	$56,362.43	$187.87	$371.45	$55,990.99	$12,815.69
59	$55,990.99	$186.64	$372.69	$55,618.30	$13,002.32
60	$55,618.30	$185.39	$373.93	$55,244.37	$13,187.72
61	$55,244.37	$184.15	$375.17	$54,869.20	$13,371.87
62	$54,869.20	$182.90	$376.43	$54,492.77	$13,554.76
63	$54,492.77	$181.64	$377.68	$54,115.09	$13,736.41
64	$54,115.09	$180.38	$378.94	$53,736.16	$13,916.79
65	$53,736.16	$179.12	$380.20	$53,355.95	$14,095.91
66	$53,355.95	$177.85	$381.47	$52,974.48	$14,273.76
67	$52,974.48	$176.58	$382.74	$52,591.74	$14,450.35
68	$52,591.74	$175.31	$384.02	$52,207.73	$14,625.65
69	$52,207.73	$174.03	$385.30	$51,822.43	$14,799.68

				D (Discount Factor) =	135.1921487
				P = A/D	$559.32
Loan Amount	**Interest Rate**	**Term in Years**	**Monthly Payment**		
$75,616.00	4.00%	15	**$559.32**		

Month	StartingBalance	Interest	Principal	EndingBalance	TotalInterest
70	$51,822.43	$172.74	$386.58	$51,435.85	$14,972.42
71	$51,435.85	$171.45	$387.87	$51,047.98	$15,143.87
72	$51,047.98	$170.16	$389.16	$50,658.82	$15,314.03
73	$50,658.82	$168.86	$390.46	$50,268.36	$15,482.89
74	$50,268.36	$167.56	$391.76	$49,876.60	$15,650.46
75	$49,876.60	$166.26	$393.07	$49,483.53	$15,816.71
76	$49,483.53	$164.95	$394.38	$49,089.15	$15,981.66
77	$49,089.15	$163.63	$395.69	$48,693.46	$16,145.29
78	$48,693.46	$162.31	$397.01	$48,296.45	$16,307.60
79	$48,296.45	$160.99	$398.33	$47,898.11	$16,468.59
80	$47,898.11	$159.66	$399.66	$47,498.45	$16,628.25
81	$47,498.45	$158.33	$400.99	$47,097.46	$16,786.57
82	$47,097.46	$156.99	$402.33	$46,695.13	$16,943.57
83	$46,695.13	$155.65	$403.67	$46,291.46	$17,099.22
84	$46,291.46	$154.30	$405.02	$45,886.44	$17,253.52
85	$45,886.44	$152.95	$406.37	$45,480.07	$17,406.48
86	$45,480.07	$151.60	$407.72	$45,072.35	$17,558.08
87	$45,072.35	$150.24	$409.08	$44,663.27	$17,708.32
88	$44,663.27	$148.88	$410.44	$44,252.82	$17,857.19
89	$44,252.82	$147.51	$411.81	$43,841.01	$18,004.70
90	$43,841.01	$146.14	$413.19	$43,427.82	$18,150.84
91	$43,427.82	$144.76	$414.56	$43,013.26	$18,295.60
92	$43,013.26	$143.38	$415.94	$42,597.32	$18,438.98
93	$42,597.32	$141.99	$417.33	$42,179.98	$18,580.97
94	$42,179.98	$140.60	$418.72	$41,761.26	$18,721.57
95	$41,761.26	$139.20	$420.12	$41,341.14	$18,860.77
96	$41,341.14	$137.80	$421.52	$40,919.62	$18,998.58
97	$40,919.62	$136.40	$422.92	$40,496.70	$19,134.98
98	$40,496.70	$134.99	$424.33	$40,072.37	$19,269.96
99	$40,072.37	$133.57	$425.75	$39,646.62	$19,403.54
100	$39,646.62	$132.16	$427.17	$39,219.45	$19,535.69
101	$39,219.45	$130.73	$428.59	$38,790.86	$19,666.43
102	$38,790.86	$129.30	$430.02	$38,360.84	$19,795.73
103	$38,360.84	$127.87	$431.45	$37,929.39	$19,923.60
104	$37,929.39	$126.43	$432.89	$37,496.50	$20,050.03
105	$37,496.50	$124.99	$434.33	$37,062.16	$20,175.02
106	$37,062.16	$123.54	$435.78	$36,626.38	$20,298.56
107	$36,626.38	$122.09	$437.23	$36,189.15	$20,420.65
108	$36,189.15	$120.63	$438.69	$35,750.46	$20,541.28
109	$35,750.46	$119.17	$440.15	$35,310.30	$20,660.45
110	$35,310.30	$117.70	$441.62	$34,868.68	$20,778.15
111	$34,868.68	$116.23	$443.09	$34,425.59	$20,894.38
112	$34,425.59	$114.75	$444.57	$33,981.02	$21,009.13
113	$33,981.02	$113.27	$446.05	$33,534.96	$21,122.40
114	$33,534.96	$111.78	$447.54	$33,087.42	$21,234.18
115	$33,087.42	$110.29	$449.03	$32,638.39	$21,344.47
116	$32,638.39	$108.79	$450.53	$32,187.87	$21,453.27
117	$32,187.87	$107.29	$452.03	$31,735.84	$21,560.56
118	$31,735.84	$105.79	$453.54	$31,282.30	$21,666.35
119	$31,282.30	$104.27	$455.05	$30,827.25	$21,770.62
120	$30,827.25	$102.76	$456.56	$30,370.69	$21,873.38
121	$30,370.69	$101.24	$458.09	$29,912.60	$21,974.61
122	$29,912.60	$99.71	$459.61	$29,452.99	$22,074.32
123	$29,452.99	$98.18	$461.15	$28,991.84	$22,172.50
124	$28,991.84	$96.64	$462.68	$28,529.16	$22,269.14
125	$28,529.16	$95.10	$464.23	$28,064.93	$22,364.23
126	$28,064.93	$93.55	$465.77	$27,599.16	$22,457.78
127	$27,599.16	$92.00	$467.33	$27,131.83	$22,549.78
128	$27,131.83	$90.44	$468.88	$26,662.95	$22,640.22
129	$26,662.95	$88.88	$470.45	$26,192.51	$22,729.10
130	$26,192.51	$87.31	$472.01	$25,720.49	$22,816.41
131	$25,720.49	$85.73	$473.59	$25,246.90	$22,902.14
132	$25,246.90	$84.16	$475.17	$24,771.74	$22,986.30
133	$24,771.74	$82.57	$476.75	$24,294.99	$23,068.87
134	$24,294.99	$80.98	$478.34	$23,816.65	$23,149.85
135	$23,816.65	$79.39	$479.93	$23,336.72	$23,229.24
136	$23,336.72	$77.79	$481.53	$22,855.18	$23,307.03
137	$22,855.18	$76.18	$483.14	$22,372.04	$23,383.22
138	$22,372.04	$74.57	$484.75	$21,887.29	$23,457.79
139	$21,887.29	$72.96	$486.36	$21,400.93	$23,530.75
140	$21,400.93	$71.34	$487.99	$20,912.94	$23,602.08
141	$20,912.94	$69.71	$489.61	$20,423.33	$23,671.79
142	$20,423.33	$68.08	$491.24	$19,932.09	$23,739.87
143	$19,932.09	$66.44	$492.88	$19,439.20	$23,806.31

						D (Discount Factor) =	135.1921487
Loan Amount	**Interest Rate**	**Term in Years**	**Monthly Payment**			P = A/D	$559.32
$75,616.00	4.00%	15	**$559.32**				

Month	StartingBalance	Interest	Principal	EndingBalance	TotalInterest
144	$19,439.20	$64.80	$494.53	$18,944.68	$23,871.11
145	$18,944.68	$63.15	$496.17	$18,448.51	$23,934.26
146	$18,448.51	$61.50	$497.83	$17,950.68	$23,995.75
147	$17,950.68	$59.84	$499.49	$17,451.19	$24,055.59
148	$17,451.19	$58.17	$501.15	$16,950.04	$24,113.76
149	$16,950.04	$56.50	$502.82	$16,447.22	$24,170.26
150	$16,447.22	$54.82	$504.50	$15,942.72	$24,225.08
151	$15,942.72	$53.14	$506.18	$15,436.54	$24,278.22
152	$15,436.54	$51.46	$507.87	$14,928.67	$24,329.68
153	$14,928.67	$49.76	$509.56	$14,419.11	$24,379.44
154	$14,419.11	$48.06	$511.26	$13,907.85	$24,427.51
155	$13,907.85	$46.36	$512.96	$13,394.89	$24,473.87
156	$13,394.89	$44.65	$514.67	$12,880.22	$24,518.51
157	$12,880.22	$42.93	$516.39	$12,363.83	$24,561.45
158	$12,363.83	$41.21	$518.11	$11,845.72	$24,602.66
159	$11,845.72	$39.49	$519.84	$11,325.88	$24,642.15
160	$11,325.88	$37.75	$521.57	$10,804.31	$24,679.90
161	$10,804.31	$36.01	$523.31	$10,281.00	$24,715.91
162	$10,281.00	$34.27	$525.05	$9,755.95	$24,750.18
163	$9,755.95	$32.52	$526.80	$9,229.15	$24,782.70
164	$9,229.15	$30.76	$528.56	$8,700.59	$24,813.47
165	$8,700.59	$29.00	$530.32	$8,170.27	$24,842.47
166	$8,170.27	$27.23	$532.09	$7,638.18	$24,869.70
167	$7,638.18	$25.46	$533.86	$7,104.32	$24,895.17
168	$7,104.32	$23.68	$535.64	$6,568.68	$24,918.85
169	$6,568.68	$21.90	$537.43	$6,031.25	$24,940.74
170	$6,031.25	$20.10	$539.22	$5,492.03	$24,960.85
171	$5,492.03	$18.31	$541.02	$4,951.02	$24,979.15
172	$4,951.02	$16.50	$542.82	$4,408.20	$24,995.66
173	$4,408.20	$14.69	$544.63	$3,863.57	$25,010.35
174	$3,863.57	$12.88	$546.44	$3,317.13	$25,023.23
175	$3,317.13	$11.06	$548.27	$2,768.86	$25,034.29
176	$2,768.86	$9.23	$550.09	$2,218.77	$25,043.52
177	$2,218.77	$7.40	$551.93	$1,666.84	$25,050.91
178	$1,666.84	$5.56	$553.77	$1,113.08	$25,056.47
179	$1,113.08	$3.71	$555.61	$557.46	$25,060.18
180	$557.46	$1.86	$557.46	$0.00	$25,062.04

						D (Discount Factor) =	165.0218582
Loan Amount	**Interest Rate**	**Term in Years**	**Monthly Payment**			P = A/D	$458.22
$75,616.00	4.00%	20	**$458.22**				

Month	**StartingBalance**	**Interest**	**Principal**	**EndingBalance**	**TotalInterest**
1	$75,616.00	$252.05	$206.16	$75,409.84	$252.05
2	$75,409.84	$251.37	$206.85	$75,202.98	$503.42
3	$75,202.98	$250.68	$207.54	$74,995.44	$754.10
4	$74,995.44	$249.98	$208.23	$74,787.21	$1,004.08
5	$74,787.21	$249.29	$208.93	$74,578.28	$1,253.37
6	$74,578.28	$248.59	$209.62	$74,368.66	$1,501.97
7	$74,368.66	$247.90	$210.32	$74,158.33	$1,749.86
8	$74,158.33	$247.19	$211.02	$73,947.31	$1,997.06
9	$73,947.31	$246.49	$211.73	$73,735.58	$2,243.55
10	$73,735.58	$245.79	$212.43	$73,523.15	$2,489.33
11	$73,523.15	$245.08	$213.14	$73,310.01	$2,734.41
12	$73,310.01	$244.37	$213.85	$73,096.16	$2,978.78
13	$73,096.16	$243.65	$214.56	$72,881.59	$3,222.43
14	$72,881.59	$242.94	$215.28	$72,666.32	$3,465.37
15	$72,666.32	$242.22	$216.00	$72,450.32	$3,707.59
16	$72,450.32	$241.50	$216.72	$72,233.60	$3,949.09
17	$72,233.60	$240.78	$217.44	$72,016.16	$4,189.87
18	$72,016.16	$240.05	$218.16	$71,798.00	$4,429.92
19	$71,798.00	$239.33	$218.89	$71,579.11	$4,669.25
20	$71,579.11	$238.60	$219.62	$71,359.49	$4,907.85
21	$71,359.49	$237.86	$220.35	$71,139.13	$5,145.71
22	$71,139.13	$237.13	$221.09	$70,918.04	$5,382.84
23	$70,918.04	$236.39	$221.82	$70,696.22	$5,619.24
24	$70,696.22	$235.65	$222.56	$70,473.66	$5,854.89
25	$70,473.66	$234.91	$223.31	$70,250.35	$6,089.80
26	$70,250.35	$234.17	$224.05	$70,026.30	$6,323.97
27	$70,026.30	$233.42	$224.80	$69,801.50	$6,557.39
28	$69,801.50	$232.67	$225.55	$69,575.96	$6,790.06
29	$69,575.96	$231.92	$226.30	$69,349.66	$7,021.98
30	$69,349.66	$231.17	$227.05	$69,122.61	$7,253.15
31	$69,122.61	$230.41	$227.81	$68,894.80	$7,483.56
32	$68,894.80	$229.65	$228.57	$68,666.23	$7,713.21
33	$68,666.23	$228.89	$229.33	$68,436.90	$7,942.09
34	$68,436.90	$228.12	$230.10	$68,206.80	$8,170.22
35	$68,206.80	$227.36	$230.86	$67,975.94	$8,397.57
36	$67,975.94	$226.59	$231.63	$67,744.31	$8,624.16
37	$67,744.31	$225.81	$232.40	$67,511.90	$8,849.97
38	$67,511.90	$225.04	$233.18	$67,278.73	$9,075.01
39	$67,278.73	$224.26	$233.96	$67,044.77	$9,299.28
40	$67,044.77	$223.48	$234.74	$66,810.03	$9,522.76
41	$66,810.03	$222.70	$235.52	$66,574.52	$9,745.46
42	$66,574.52	$221.92	$236.30	$66,338.21	$9,967.37
43	$66,338.21	$221.13	$237.09	$66,101.12	$10,188.50
44	$66,101.12	$220.34	$237.88	$65,863.24	$10,408.84
45	$65,863.24	$219.54	$238.67	$65,624.57	$10,628.38
46	$65,624.57	$218.75	$239.47	$65,385.10	$10,847.13
47	$65,385.10	$217.95	$240.27	$65,144.83	$11,065.08
48	$65,144.83	$217.15	$241.07	$64,903.76	$11,282.23
49	$64,903.76	$216.35	$241.87	$64,661.89	$11,498.58
50	$64,661.89	$215.54	$242.68	$64,419.21	$11,714.12
51	$64,419.21	$214.73	$243.49	$64,175.72	$11,928.85
52	$64,175.72	$213.92	$244.30	$63,931.42	$12,142.77
53	$63,931.42	$213.10	$245.11	$63,686.31	$12,355.87
54	$63,686.31	$212.29	$245.93	$63,440.38	$12,568.16
55	$63,440.38	$211.47	$246.75	$63,193.63	$12,779.63
56	$63,193.63	$210.65	$247.57	$62,946.06	$12,990.27
57	$62,946.06	$209.82	$248.40	$62,697.66	$13,200.09
58	$62,697.66	$208.99	$249.23	$62,448.43	$13,409.08
59	$62,448.43	$208.16	$250.06	$62,198.38	$13,617.24
60	$62,198.38	$207.33	$250.89	$61,947.49	$13,824.57
61	$61,947.49	$206.49	$251.73	$61,695.76	$14,031.06
62	$61,695.76	$205.65	$252.57	$61,443.20	$14,236.72
63	$61,443.20	$204.81	$253.41	$61,189.79	$14,441.53
64	$61,189.79	$203.97	$254.25	$60,935.54	$14,645.49
65	$60,935.54	$203.12	$255.10	$60,680.44	$14,848.61
66	$60,680.44	$202.27	$255.95	$60,424.49	$15,050.88
67	$60,424.49	$201.41	$256.80	$60,167.68	$15,252.30
68	$60,167.68	$200.56	$257.66	$59,910.02	$15,452.85
69	$59,910.02	$199.70	$258.52	$59,651.51	$15,652.55

				D (Discount Factor) =	165.0218582
				P = A/D	$458.22
Loan Amount	**Interest Rate**	**Term in Years**	**Monthly Payment**		
$75,616.00	4.00%	20	**$458.22**		

Month	StartingBalance	Interest	Principal	EndingBalance	TotalInterest
70	$59,651.51	$198.84	$259.38	$59,392.13	$15,851.39
71	$59,392.13	$197.97	$260.24	$59,131.88	$16,049.37
72	$59,131.88	$197.11	$261.11	$58,870.77	$16,246.47
73	$58,870.77	$196.24	$261.98	$58,608.79	$16,442.71
74	$58,608.79	$195.36	$262.86	$58,345.93	$16,638.07
75	$58,345.93	$194.49	$263.73	$58,082.20	$16,832.56
76	$58,082.20	$193.61	$264.61	$57,817.59	$17,026.16
77	$57,817.59	$192.73	$265.49	$57,552.10	$17,218.89
78	$57,552.10	$191.84	$266.38	$57,285.72	$17,410.73
79	$57,285.72	$190.95	$267.27	$57,018.45	$17,601.68
80	$57,018.45	$190.06	$268.16	$56,750.30	$17,791.74
81	$56,750.30	$189.17	$269.05	$56,481.25	$17,980.91
82	$56,481.25	$188.27	$269.95	$56,211.30	$18,169.18
83	$56,211.30	$187.37	$270.85	$55,940.45	$18,356.55
84	$55,940.45	$186.47	$271.75	$55,668.70	$18,543.02
85	$55,668.70	$185.56	$272.66	$55,396.05	$18,728.58
86	$55,396.05	$184.65	$273.56	$55,122.48	$18,913.24
87	$55,122.48	$183.74	$274.48	$54,848.01	$19,096.98
88	$54,848.01	$182.83	$275.39	$54,572.61	$19,279.81
89	$54,572.61	$181.91	$276.31	$54,296.31	$19,461.71
90	$54,296.31	$180.99	$277.23	$54,019.07	$19,642.70
91	$54,019.07	$180.06	$278.15	$53,740.92	$19,822.77
92	$53,740.92	$179.14	$279.08	$53,461.84	$20,001.90
93	$53,461.84	$178.21	$280.01	$53,181.83	$20,180.11
94	$53,181.83	$177.27	$280.95	$52,900.88	$20,357.38
95	$52,900.88	$176.34	$281.88	$52,619.00	$20,533.72
96	$52,619.00	$175.40	$282.82	$52,336.18	$20,709.11
97	$52,336.18	$174.45	$283.76	$52,052.41	$20,883.57
98	$52,052.41	$173.51	$284.71	$51,767.70	$21,057.08
99	$51,767.70	$172.56	$285.66	$51,482.04	$21,229.64
100	$51,482.04	$171.61	$286.61	$51,195.43	$21,401.24
101	$51,195.43	$170.65	$287.57	$50,907.87	$21,571.89
102	$50,907.87	$169.69	$288.53	$50,619.34	$21,741.59
103	$50,619.34	$168.73	$289.49	$50,329.85	$21,910.32
104	$50,329.85	$167.77	$290.45	$50,039.40	$22,078.08
105	$50,039.40	$166.80	$291.42	$49,747.98	$22,244.88
106	$49,747.98	$165.83	$292.39	$49,455.59	$22,410.71
107	$49,455.59	$164.85	$293.37	$49,162.23	$22,575.56
108	$49,162.23	$163.87	$294.34	$48,867.88	$22,739.43
109	$48,867.88	$162.89	$295.33	$48,572.56	$22,902.33
110	$48,572.56	$161.91	$296.31	$48,276.25	$23,064.24
111	$48,276.25	$160.92	$297.30	$47,978.95	$23,225.16
112	$47,978.95	$159.93	$298.29	$47,680.66	$23,385.09
113	$47,680.66	$158.94	$299.28	$47,381.38	$23,544.02
114	$47,381.38	$157.94	$300.28	$47,081.10	$23,701.96
115	$47,081.10	$156.94	$301.28	$46,779.82	$23,858.90
116	$46,779.82	$155.93	$302.29	$46,477.53	$24,014.83
117	$46,477.53	$154.93	$303.29	$46,174.24	$24,169.75
118	$46,174.24	$153.91	$304.30	$45,869.93	$24,323.67
119	$45,869.93	$152.90	$305.32	$45,564.62	$24,476.57
120	$45,564.62	$151.88	$306.34	$45,258.28	$24,628.45
121	$45,258.28	$150.86	$307.36	$44,950.92	$24,779.31
122	$44,950.92	$149.84	$308.38	$44,642.54	$24,929.15
123	$44,642.54	$148.81	$309.41	$44,333.13	$25,077.96
124	$44,333.13	$147.78	$310.44	$44,022.69	$25,225.73
125	$44,022.69	$146.74	$311.48	$43,711.22	$25,372.48
126	$43,711.22	$145.70	$312.51	$43,398.70	$25,518.18
127	$43,398.70	$144.66	$313.56	$43,085.15	$25,662.84
128	$43,085.15	$143.62	$314.60	$42,770.54	$25,806.46
129	$42,770.54	$142.57	$315.65	$42,454.89	$25,949.03
130	$42,454.89	$141.52	$316.70	$42,138.19	$26,090.54
131	$42,138.19	$140.46	$317.76	$41,820.44	$26,231.00
132	$41,820.44	$139.40	$318.82	$41,501.62	$26,370.41
133	$41,501.62	$138.34	$319.88	$41,181.74	$26,508.75
134	$41,181.74	$137.27	$320.95	$40,860.79	$26,646.02
135	$40,860.79	$136.20	$322.02	$40,538.78	$26,782.22
136	$40,538.78	$135.13	$323.09	$40,215.69	$26,917.35
137	$40,215.69	$134.05	$324.17	$39,891.52	$27,051.40
138	$39,891.52	$132.97	$325.25	$39,566.28	$27,184.37
139	$39,566.28	$131.89	$326.33	$39,239.95	$27,316.26
140	$39,239.95	$130.80	$327.42	$38,912.53	$27,447.06
141	$38,912.53	$129.71	$328.51	$38,584.02	$27,576.77
142	$38,584.02	$128.61	$329.60	$38,254.41	$27,705.38
143	$38,254.41	$127.51	$330.70	$37,923.71	$27,832.90

				D (Discount Factor) =	165.0218582
				P = A/D	$458.22
Loan Amount	**Interest Rate**	**Term in Years**	**Monthly Payment**		
$75,616.00	4.00%	20	**$458.22**		

Month	StartingBalance	Interest	Principal	EndingBalance	TotalInterest
144	$37,923.71	$126.41	$331.81	$37,591.91	$27,959.31
145	$37,591.91	$125.31	$332.91	$37,258.99	$28,084.62
146	$37,258.99	$124.20	$334.02	$36,924.97	$28,208.81
147	$36,924.97	$123.08	$335.13	$36,589.84	$28,331.90
148	$36,589.84	$121.97	$336.25	$36,253.59	$28,453.86
149	$36,253.59	$120.85	$337.37	$35,916.21	$28,574.71
150	$35,916.21	$119.72	$338.50	$35,577.72	$28,694.43
151	$35,577.72	$118.59	$339.63	$35,238.09	$28,813.02
152	$35,238.09	$117.46	$340.76	$34,897.33	$28,930.48
153	$34,897.33	$116.32	$341.89	$34,555.44	$29,046.81
154	$34,555.44	$115.18	$343.03	$34,212.40	$29,161.99
155	$34,212.40	$114.04	$344.18	$33,868.23	$29,276.03
156	$33,868.23	$112.89	$345.32	$33,522.90	$29,388.93
157	$33,522.90	$111.74	$346.48	$33,176.43	$29,500.67
158	$33,176.43	$110.59	$347.63	$32,828.80	$29,611.26
159	$32,828.80	$109.43	$348.79	$32,480.01	$29,720.69
160	$32,480.01	$108.27	$349.95	$32,130.06	$29,828.95
161	$32,130.06	$107.10	$351.12	$31,778.94	$29,936.05
162	$31,778.94	$105.93	$352.29	$31,426.65	$30,041.98
163	$31,426.65	$104.76	$353.46	$31,073.19	$30,146.74
164	$31,073.19	$103.58	$354.64	$30,718.55	$30,250.32
165	$30,718.55	$102.40	$355.82	$30,362.73	$30,352.71
166	$30,362.73	$101.21	$357.01	$30,005.72	$30,453.92
167	$30,005.72	$100.02	$358.20	$29,647.52	$30,553.94
168	$29,647.52	$98.83	$359.39	$29,288.13	$30,652.76
169	$29,288.13	$97.63	$360.59	$28,927.53	$30,750.39
170	$28,927.53	$96.43	$361.79	$28,565.74	$30,846.82
171	$28,565.74	$95.22	$363.00	$28,202.74	$30,942.04
172	$28,202.74	$94.01	$364.21	$27,838.53	$31,036.04
173	$27,838.53	$92.80	$365.42	$27,473.11	$31,128.84
174	$27,473.11	$91.58	$366.64	$27,106.47	$31,220.42
175	$27,106.47	$90.35	$367.86	$26,738.61	$31,310.77
176	$26,738.61	$89.13	$369.09	$26,369.52	$31,399.90
177	$26,369.52	$87.90	$370.32	$25,999.20	$31,487.80
178	$25,999.20	$86.66	$371.55	$25,627.64	$31,574.46
179	$25,627.64	$85.43	$372.79	$25,254.85	$31,659.89
180	$25,254.85	$84.18	$374.04	$24,880.82	$31,744.07
181	$24,880.82	$82.94	$375.28	$24,505.53	$31,827.01
182	$24,505.53	$81.69	$376.53	$24,129.00	$31,908.69
183	$24,129.00	$80.43	$377.79	$23,751.21	$31,989.12
184	$23,751.21	$79.17	$379.05	$23,372.16	$32,068.29
185	$23,372.16	$77.91	$380.31	$22,991.85	$32,146.20
186	$22,991.85	$76.64	$381.58	$22,610.28	$32,222.84
187	$22,610.28	$75.37	$382.85	$22,227.42	$32,298.21
188	$22,227.42	$74.09	$384.13	$21,843.30	$32,372.30
189	$21,843.30	$72.81	$385.41	$21,457.89	$32,445.11
190	$21,457.89	$71.53	$386.69	$21,071.20	$32,516.64
191	$21,071.20	$70.24	$387.98	$20,683.22	$32,586.87
192	$20,683.22	$68.94	$389.27	$20,293.94	$32,655.82
193	$20,293.94	$67.65	$390.57	$19,903.37	$32,723.46
194	$19,903.37	$66.34	$391.87	$19,511.50	$32,789.81
195	$19,511.50	$65.04	$393.18	$19,118.32	$32,854.85
196	$19,118.32	$63.73	$394.49	$18,723.83	$32,918.57
197	$18,723.83	$62.41	$395.81	$18,328.02	$32,980.99
198	$18,328.02	$61.09	$397.12	$17,930.90	$33,042.08
199	$17,930.90	$59.77	$398.45	$17,532.45	$33,101.85
200	$17,532.45	$58.44	$399.78	$17,132.67	$33,160.29
201	$17,132.67	$57.11	$401.11	$16,731.57	$33,217.40
202	$16,731.57	$55.77	$402.45	$16,329.12	$33,273.17
203	$16,329.12	$54.43	$403.79	$15,925.33	$33,327.60
204	$15,925.33	$53.08	$405.13	$15,520.20	$33,380.69
205	$15,520.20	$51.73	$406.48	$15,113.71	$33,432.42
206	$15,113.71	$50.38	$407.84	$14,705.87	$33,482.80
207	$14,705.87	$49.02	$409.20	$14,296.68	$33,531.82
208	$14,296.68	$47.66	$410.56	$13,886.11	$33,579.48
209	$13,886.11	$46.29	$411.93	$13,474.18	$33,625.76
210	$13,474.18	$44.91	$413.30	$13,060.88	$33,670.68
211	$13,060.88	$43.54	$414.68	$12,646.20	$33,714.21
212	$12,646.20	$42.15	$416.06	$12,230.13	$33,756.37
213	$12,230.13	$40.77	$417.45	$11,812.68	$33,797.13
214	$11,812.68	$39.38	$418.84	$11,393.84	$33,836.51
215	$11,393.84	$37.98	$420.24	$10,973.60	$33,874.49
216	$10,973.60	$36.58	$421.64	$10,551.96	$33,911.07
217	$10,551.96	$35.17	$423.04	$10,128.92	$33,946.24

Loan Amount	Interest Rate	Term in Years	Monthly Payment
$75,616.00	4.00%	20	**$458.22**

D (Discount Factor) = 165.0218582
P = A/D $458.22

Month	StartingBalance	Interest	Principal	EndingBalance	TotalInterest
218	$10,128.92	$33.76	$424.46	$9,704.46	$33,980.00
219	$9,704.46	$32.35	$425.87	$9,278.59	$34,012.35
220	$9,278.59	$30.93	$427.29	$8,851.30	$34,043.28
221	$8,851.30	$29.50	$428.71	$8,422.59	$34,072.78
222	$8,422.59	$28.08	$430.14	$7,992.45	$34,100.86
223	$7,992.45	$26.64	$431.58	$7,560.87	$34,127.50
224	$7,560.87	$25.20	$433.02	$7,127.85	$34,152.70
225	$7,127.85	$23.76	$434.46	$6,693.39	$34,176.46
226	$6,693.39	$22.31	$435.91	$6,257.49	$34,198.78
227	$6,257.49	$20.86	$437.36	$5,820.13	$34,219.63
228	$5,820.13	$19.40	$438.82	$5,381.31	$34,239.03
229	$5,381.31	$17.94	$440.28	$4,941.03	$34,256.97
230	$4,941.03	$16.47	$441.75	$4,499.28	$34,273.44
231	$4,499.28	$15.00	$443.22	$4,056.06	$34,288.44
232	$4,056.06	$13.52	$444.70	$3,611.36	$34,301.96
233	$3,611.36	$12.04	$446.18	$3,165.18	$34,314.00
234	$3,165.18	$10.55	$447.67	$2,717.52	$34,324.55
235	$2,717.52	$9.06	$449.16	$2,268.36	$34,333.61
236	$2,268.36	$7.56	$450.66	$1,817.70	$34,341.17
237	$1,817.70	$6.06	$452.16	$1,365.54	$34,347.23
238	$1,365.54	$4.55	$453.67	$911.87	$34,351.78
239	$911.87	$3.04	$455.18	$456.70	$34,354.82
240	$456.70	$1.52	$456.70	$0.00	$34,356.34

						D (Discount Factor) =	98.77017486
Loan Amount	**Interest Rate**	**Term in Years**	**Monthly Payment**			P = A/D	$308.04
$30,425.00	4.00%	10	**$308.04**				

Month	**StartingBalance**	**Interest**	**Principal**	**EndingBalance**	**TotalInterest**
1	$30,425.00	$101.42	$206.62	$30,218.38	$101.42
2	$30,218.38	$100.73	$207.31	$30,011.07	$202.14
3	$30,011.07	$100.04	$208.00	$29,803.07	$302.18
4	$29,803.07	$99.34	$208.69	$29,594.37	$401.53
5	$29,594.37	$98.65	$209.39	$29,384.98	$500.17
6	$29,384.98	$97.95	$210.09	$29,174.89	$598.12
7	$29,174.89	$97.25	$210.79	$28,964.10	$695.37
8	$28,964.10	$96.55	$211.49	$28,752.61	$791.92
9	$28,752.61	$95.84	$212.20	$28,540.42	$887.76
10	$28,540.42	$95.13	$212.90	$28,327.51	$982.90
11	$28,327.51	$94.43	$213.61	$28,113.90	$1,077.32
12	$28,113.90	$93.71	$214.33	$27,899.57	$1,171.03
13	$27,899.57	$93.00	$215.04	$27,684.53	$1,264.03
14	$27,684.53	$92.28	$215.76	$27,468.78	$1,356.31
15	$27,468.78	$91.56	$216.48	$27,252.30	$1,447.88
16	$27,252.30	$90.84	$217.20	$27,035.10	$1,538.72
17	$27,035.10	$90.12	$217.92	$26,817.18	$1,628.84
18	$26,817.18	$89.39	$218.65	$26,598.54	$1,718.23
19	$26,598.54	$88.66	$219.38	$26,379.16	$1,806.89
20	$26,379.16	$87.93	$220.11	$26,159.05	$1,894.82
21	$26,159.05	$87.20	$220.84	$25,938.21	$1,982.02
22	$25,938.21	$86.46	$221.58	$25,716.63	$2,068.48
23	$25,716.63	$85.72	$222.32	$25,494.32	$2,154.20
24	$25,494.32	$84.98	$223.06	$25,271.26	$2,239.18
25	$25,271.26	$84.24	$223.80	$25,047.46	$2,323.42
26	$25,047.46	$83.49	$224.55	$24,822.91	$2,406.91
27	$24,822.91	$82.74	$225.30	$24,597.62	$2,489.65
28	$24,597.62	$81.99	$226.05	$24,371.57	$2,571.64
29	$24,371.57	$81.24	$226.80	$24,144.77	$2,652.88
30	$24,144.77	$80.48	$227.56	$23,917.21	$2,733.36
31	$23,917.21	$79.72	$228.31	$23,688.90	$2,813.09
32	$23,688.90	$78.96	$229.08	$23,459.82	$2,892.05
33	$23,459.82	$78.20	$229.84	$23,229.99	$2,970.25
34	$23,229.99	$77.43	$230.61	$22,999.38	$3,047.68
35	$22,999.38	$76.66	$231.37	$22,768.01	$3,124.35
36	$22,768.01	$75.89	$232.14	$22,535.86	$3,200.24
37	$22,535.86	$75.12	$232.92	$22,302.94	$3,275.36
38	$22,302.94	$74.34	$233.70	$22,069.25	$3,349.70
39	$22,069.25	$73.56	$234.47	$21,834.77	$3,423.27
40	$21,834.77	$72.78	$235.26	$21,599.52	$3,496.05
41	$21,599.52	$72.00	$236.04	$21,363.48	$3,568.05
42	$21,363.48	$71.21	$236.83	$21,126.65	$3,639.26
43	$21,126.65	$70.42	$237.62	$20,889.04	$3,709.68
44	$20,889.04	$69.63	$238.41	$20,650.63	$3,779.31
45	$20,650.63	$68.84	$239.20	$20,411.42	$3,848.15
46	$20,411.42	$68.04	$240.00	$20,171.42	$3,916.19
47	$20,171.42	$67.24	$240.80	$19,930.62	$3,983.43
48	$19,930.62	$66.44	$241.60	$19,689.02	$4,049.86
49	$19,689.02	$65.63	$242.41	$19,446.61	$4,115.49
50	$19,446.61	$64.82	$243.22	$19,203.40	$4,180.31
51	$19,203.40	$64.01	$244.03	$18,959.37	$4,244.32
52	$18,959.37	$63.20	$244.84	$18,714.53	$4,307.52
53	$18,714.53	$62.38	$245.66	$18,468.87	$4,369.90
54	$18,468.87	$61.56	$246.48	$18,222.40	$4,431.47
55	$18,222.40	$60.74	$247.30	$17,975.10	$4,492.21
56	$17,975.10	$59.92	$248.12	$17,726.98	$4,552.12
57	$17,726.98	$59.09	$248.95	$17,478.03	$4,611.21
58	$17,478.03	$58.26	$249.78	$17,228.25	$4,669.47
59	$17,228.25	$57.43	$250.61	$16,977.64	$4,726.90
60	$16,977.64	$56.59	$251.45	$16,726.19	$4,783.49
61	$16,726.19	$55.75	$252.28	$16,473.91	$4,839.25
62	$16,473.91	$54.91	$253.13	$16,220.79	$4,894.16
63	$16,220.79	$54.07	$253.97	$15,966.82	$4,948.23
64	$15,966.82	$53.22	$254.82	$15,712.00	$5,001.45
65	$15,712.00	$52.37	$255.66	$15,456.34	$5,053.83
66	$15,456.34	$51.52	$256.52	$15,199.82	$5,105.35
67	$15,199.82	$50.67	$257.37	$14,942.45	$5,156.01
68	$14,942.45	$49.81	$258.23	$14,684.22	$5,205.82
69	$14,684.22	$48.95	$259.09	$14,425.12	$5,254.77

						D (Discount Factor) =	98.77017486
Loan Amount	**Interest Rate**	**Term in Years**	**Monthly Payment**			P = A/D	$308.04
$30,425.00	4.00%	10	**$308.04**				

Month	StartingBalance	Interest	Principal	EndingBalance	TotalInterest
70	$14,425.12	$48.08	$259.95	$14,165.17	$5,302.85
71	$14,165.17	$47.22	$260.82	$13,904.35	$5,350.07
72	$13,904.35	$46.35	$261.69	$13,642.66	$5,396.42
73	$13,642.66	$45.48	$262.56	$13,380.10	$5,441.89
74	$13,380.10	$44.60	$263.44	$13,116.66	$5,486.49
75	$13,116.66	$43.72	$264.32	$12,852.34	$5,530.22
76	$12,852.34	$42.84	$265.20	$12,587.14	$5,573.06
77	$12,587.14	$41.96	$266.08	$12,321.06	$5,615.01
78	$12,321.06	$41.07	$266.97	$12,054.10	$5,656.09
79	$12,054.10	$40.18	$267.86	$11,786.24	$5,696.27
80	$11,786.24	$39.29	$268.75	$11,517.49	$5,735.55
81	$11,517.49	$38.39	$269.65	$11,247.84	$5,773.94
82	$11,247.84	$37.49	$270.55	$10,977.29	$5,811.44
83	$10,977.29	$36.59	$271.45	$10,705.85	$5,848.03
84	$10,705.85	$35.69	$272.35	$10,433.49	$5,883.71
85	$10,433.49	$34.78	$273.26	$10,160.23	$5,918.49
86	$10,160.23	$33.87	$274.17	$9,886.06	$5,952.36
87	$9,886.06	$32.95	$275.08	$9,610.98	$5,985.31
88	$9,610.98	$32.04	$276.00	$9,334.98	$6,017.35
89	$9,334.98	$31.12	$276.92	$9,058.06	$6,048.47
90	$9,058.06	$30.19	$277.84	$8,780.21	$6,078.66
91	$8,780.21	$29.27	$278.77	$8,501.44	$6,107.93
92	$8,501.44	$28.34	$279.70	$8,221.74	$6,136.27
93	$8,221.74	$27.41	$280.63	$7,941.11	$6,163.67
94	$7,941.11	$26.47	$281.57	$7,659.54	$6,190.14
95	$7,659.54	$25.53	$282.51	$7,377.03	$6,215.67
96	$7,377.03	$24.59	$283.45	$7,093.58	$6,240.26
97	$7,093.58	$23.65	$284.39	$6,809.19	$6,263.91
98	$6,809.19	$22.70	$285.34	$6,523.85	$6,286.61
99	$6,523.85	$21.75	$286.29	$6,237.56	$6,308.35
100	$6,237.56	$20.79	$287.25	$5,950.31	$6,329.14
101	$5,950.31	$19.83	$288.20	$5,662.11	$6,348.98
102	$5,662.11	$18.87	$289.16	$5,372.94	$6,367.85
103	$5,372.94	$17.91	$290.13	$5,082.81	$6,385.76
104	$5,082.81	$16.94	$291.10	$4,791.72	$6,402.71
105	$4,791.72	$15.97	$292.07	$4,499.65	$6,418.68
106	$4,499.65	$15.00	$293.04	$4,206.61	$6,433.68
107	$4,206.61	$14.02	$294.02	$3,912.60	$6,447.70
108	$3,912.60	$13.04	$295.00	$3,617.60	$6,460.74
109	$3,617.60	$12.06	$295.98	$3,321.62	$6,472.80
110	$3,321.62	$11.07	$296.97	$3,024.65	$6,483.87
111	$3,024.65	$10.08	$297.96	$2,726.70	$6,493.95
112	$2,726.70	$9.09	$298.95	$2,427.75	$6,503.04
113	$2,427.75	$8.09	$299.95	$2,127.80	$6,511.13
114	$2,127.80	$7.09	$300.95	$1,826.86	$6,518.23
115	$1,826.86	$6.09	$301.95	$1,524.91	$6,524.32
116	$1,524.91	$5.08	$302.96	$1,221.95	$6,529.40
117	$1,221.95	$4.07	$303.97	$917.99	$6,533.47
118	$917.99	$3.06	$304.98	$613.01	$6,536.53
119	$613.01	$2.04	$305.99	$307.01	$6,538.58
120	$307.01	$1.02	$307.01	$0.00	$6,539.60

						D (Discount Factor) =	135.1921487
Loan Amount	**Interest Rate**	**Term in Years**	**Monthly Payment**			P = A/D	$225.05
$30,425.00	4.00%	15	**$225.05**				

Month	StartingBalance	Interest	Principal	EndingBalance	TotalInterest
1	$30,425.00	$101.42	$123.63	$30,301.37	$101.42
2	$30,301.37	$101.00	$124.05	$30,177.32	$202.42
3	$30,177.32	$100.59	$124.46	$30,052.86	$303.01
4	$30,052.86	$100.18	$124.87	$29,927.99	$403.19
5	$29,927.99	$99.76	$125.29	$29,802.70	$502.95
6	$29,802.70	$99.34	$125.71	$29,676.99	$602.29
7	$29,676.99	$98.92	$126.13	$29,550.86	$701.21
8	$29,550.86	$98.50	$126.55	$29,424.32	$799.72
9	$29,424.32	$98.08	$126.97	$29,297.35	$897.80
10	$29,297.35	$97.66	$127.39	$29,169.96	$995.46
11	$29,169.96	$97.23	$127.82	$29,042.14	$1,092.69
12	$29,042.14	$96.81	$128.24	$28,913.90	$1,189.50
13	$28,913.90	$96.38	$128.67	$28,785.23	$1,285.88
14	$28,785.23	$95.95	$129.10	$28,656.13	$1,381.83
15	$28,656.13	$95.52	$129.53	$28,526.60	$1,477.35
16	$28,526.60	$95.09	$129.96	$28,396.63	$1,572.44
17	$28,396.63	$94.66	$130.39	$28,266.24	$1,667.09
18	$28,266.24	$94.22	$130.83	$28,135.41	$1,761.31
19	$28,135.41	$93.78	$131.27	$28,004.15	$1,855.10
20	$28,004.15	$93.35	$131.70	$27,872.44	$1,948.44
21	$27,872.44	$92.91	$132.14	$27,740.30	$2,041.35
22	$27,740.30	$92.47	$132.58	$27,607.72	$2,133.82
23	$27,607.72	$92.03	$133.02	$27,474.69	$2,225.85
24	$27,474.69	$91.58	$133.47	$27,341.23	$2,317.43
25	$27,341.23	$91.14	$133.91	$27,207.31	$2,408.57
26	$27,207.31	$90.69	$134.36	$27,072.95	$2,499.26
27	$27,072.95	$90.24	$134.81	$26,938.15	$2,589.50
28	$26,938.15	$89.79	$135.26	$26,802.89	$2,679.29
29	$26,802.89	$89.34	$135.71	$26,667.18	$2,768.64
30	$26,667.18	$88.89	$136.16	$26,531.03	$2,857.53
31	$26,531.03	$88.44	$136.61	$26,394.41	$2,945.96
32	$26,394.41	$87.98	$137.07	$26,257.34	$3,033.94
33	$26,257.34	$87.52	$137.53	$26,119.82	$3,121.47
34	$26,119.82	$87.07	$137.98	$25,981.83	$3,208.54
35	$25,981.83	$86.61	$138.44	$25,843.39	$3,295.14
36	$25,843.39	$86.14	$138.91	$25,704.48	$3,381.29
37	$25,704.48	$85.68	$139.37	$25,565.12	$3,466.97
38	$25,565.12	$85.22	$139.83	$25,425.28	$3,552.18
39	$25,425.28	$84.75	$140.30	$25,284.98	$3,636.94
40	$25,284.98	$84.28	$140.77	$25,144.22	$3,721.22
41	$25,144.22	$83.81	$141.24	$25,002.98	$3,805.03
42	$25,002.98	$83.34	$141.71	$24,861.27	$3,888.38
43	$24,861.27	$82.87	$142.18	$24,719.09	$3,971.25
44	$24,719.09	$82.40	$142.65	$24,576.44	$4,053.64
45	$24,576.44	$81.92	$143.13	$24,433.31	$4,135.57
46	$24,433.31	$81.44	$143.61	$24,289.71	$4,217.01
47	$24,289.71	$80.97	$144.08	$24,145.62	$4,297.98
48	$24,145.62	$80.49	$144.56	$24,001.06	$4,378.46
49	$24,001.06	$80.00	$145.05	$23,856.01	$4,458.46
50	$23,856.01	$79.52	$145.53	$23,710.48	$4,537.98
51	$23,710.48	$79.03	$146.02	$23,564.47	$4,617.02
52	$23,564.47	$78.55	$146.50	$23,417.97	$4,695.57
53	$23,417.97	$78.06	$146.99	$23,270.98	$4,773.63
54	$23,270.98	$77.57	$147.48	$23,123.49	$4,851.20
55	$23,123.49	$77.08	$147.97	$22,975.52	$4,928.28
56	$22,975.52	$76.59	$148.46	$22,827.06	$5,004.86
57	$22,827.06	$76.09	$148.96	$22,678.10	$5,080.95
58	$22,678.10	$75.59	$149.46	$22,528.64	$5,156.54
59	$22,528.64	$75.10	$149.95	$22,378.69	$5,231.64
60	$22,378.69	$74.60	$150.45	$22,228.23	$5,306.24
61	$22,228.23	$74.09	$150.96	$22,077.28	$5,380.33
62	$22,077.28	$73.59	$151.46	$21,925.82	$5,453.92
63	$21,925.82	$73.09	$151.96	$21,773.85	$5,527.01
64	$21,773.85	$72.58	$152.47	$21,621.38	$5,599.59
65	$21,621.38	$72.07	$152.98	$21,468.40	$5,671.66
66	$21,468.40	$71.56	$153.49	$21,314.92	$5,743.22
67	$21,314.92	$71.05	$154.00	$21,160.92	$5,814.27
68	$21,160.92	$70.54	$154.51	$21,006.40	$5,884.81
69	$21,006.40	$70.02	$155.03	$20,851.37	$5,954.83

				D (Discount Factor) =	135.1921487
Loan Amount	**Interest Rate**	**Term in Years**	**Monthly Payment**	P = A/D	$225.05
$30,425.00	4.00%	15	**$225.05**		

Month	StartingBalance	Interest	Principal	EndingBalance	TotalInterest
70	$20,851.37	$69.50	$155.55	$20,695.83	$6,024.33
71	$20,695.83	$68.99	$156.06	$20,539.76	$6,093.32
72	$20,539.76	$68.47	$156.58	$20,383.18	$6,161.78
73	$20,383.18	$67.94	$157.11	$20,226.07	$6,229.73
74	$20,226.07	$67.42	$157.63	$20,068.44	$6,297.15
75	$20,068.44	$66.89	$158.16	$19,910.29	$6,364.04
76	$19,910.29	$66.37	$158.68	$19,751.61	$6,430.41
77	$19,751.61	$65.84	$159.21	$19,592.39	$6,496.25
78	$19,592.39	$65.31	$159.74	$19,432.65	$6,561.56
79	$19,432.65	$64.78	$160.27	$19,272.38	$6,626.33
80	$19,272.38	$64.24	$160.81	$19,111.57	$6,690.57
81	$19,111.57	$63.71	$161.34	$18,950.22	$6,754.28
82	$18,950.22	$63.17	$161.88	$18,788.34	$6,817.45
83	$18,788.34	$62.63	$162.42	$18,625.92	$6,880.07
84	$18,625.92	$62.09	$162.96	$18,462.96	$6,942.16
85	$18,462.96	$61.54	$163.51	$18,299.45	$7,003.70
86	$18,299.45	$61.00	$164.05	$18,135.40	$7,064.70
87	$18,135.40	$60.45	$164.60	$17,970.80	$7,125.15
88	$17,970.80	$59.90	$165.15	$17,805.65	$7,185.06
89	$17,805.65	$59.35	$165.70	$17,639.95	$7,244.41
90	$17,639.95	$58.80	$166.25	$17,473.70	$7,303.21
91	$17,473.70	$58.25	$166.80	$17,306.90	$7,361.45
92	$17,306.90	$57.69	$167.36	$17,139.54	$7,419.14
93	$17,139.54	$57.13	$167.92	$16,971.62	$7,476.27
94	$16,971.62	$56.57	$168.48	$16,803.14	$7,532.85
95	$16,803.14	$56.01	$169.04	$16,634.10	$7,588.86
96	$16,634.10	$55.45	$169.60	$16,464.50	$7,644.30
97	$16,464.50	$54.88	$170.17	$16,294.33	$7,699.19
98	$16,294.33	$54.31	$170.74	$16,123.60	$7,753.50
99	$16,123.60	$53.75	$171.30	$15,952.29	$7,807.25
100	$15,952.29	$53.17	$171.88	$15,780.41	$7,860.42
101	$15,780.41	$52.60	$172.45	$15,607.97	$7,913.02
102	$15,607.97	$52.03	$173.02	$15,434.94	$7,965.05
103	$15,434.94	$51.45	$173.60	$15,261.34	$8,016.50
104	$15,261.34	$50.87	$174.18	$15,087.16	$8,067.37
105	$15,087.16	$50.29	$174.76	$14,912.40	$8,117.66
106	$14,912.40	$49.71	$175.34	$14,737.06	$8,167.37
107	$14,737.06	$49.12	$175.93	$14,561.14	$8,216.49
108	$14,561.14	$48.54	$176.51	$14,384.62	$8,265.03
109	$14,384.62	$47.95	$177.10	$14,207.52	$8,312.98
110	$14,207.52	$47.36	$177.69	$14,029.83	$8,360.34
111	$14,029.83	$46.77	$178.28	$13,851.55	$8,407.10
112	$13,851.55	$46.17	$178.88	$13,672.67	$8,453.27
113	$13,672.67	$45.58	$179.47	$13,493.19	$8,498.85
114	$13,493.19	$44.98	$180.07	$13,313.12	$8,543.83
115	$13,313.12	$44.38	$180.67	$13,132.45	$8,588.20
116	$13,132.45	$43.77	$181.28	$12,951.17	$8,631.98
117	$12,951.17	$43.17	$181.88	$12,769.29	$8,675.15
118	$12,769.29	$42.56	$182.49	$12,586.81	$8,717.71
119	$12,586.81	$41.96	$183.09	$12,403.71	$8,759.67
120	$12,403.71	$41.35	$183.70	$12,220.01	$8,801.01
121	$12,220.01	$40.73	$184.32	$12,035.69	$8,841.75
122	$12,035.69	$40.12	$184.93	$11,850.76	$8,881.87
123	$11,850.76	$39.50	$185.55	$11,665.21	$8,921.37
124	$11,665.21	$38.88	$186.17	$11,479.05	$8,960.25
125	$11,479.05	$38.26	$186.79	$11,292.26	$8,998.52
126	$11,292.26	$37.64	$187.41	$11,104.85	$9,036.16
127	$11,104.85	$37.02	$188.03	$10,916.82	$9,073.17
128	$10,916.82	$36.39	$188.66	$10,728.16	$9,109.56
129	$10,728.16	$35.76	$189.29	$10,538.87	$9,145.32
130	$10,538.87	$35.13	$189.92	$10,348.95	$9,180.45
131	$10,348.95	$34.50	$190.55	$10,158.39	$9,214.95
132	$10,158.39	$33.86	$191.19	$9,967.20	$9,248.81
133	$9,967.20	$33.22	$191.83	$9,775.38	$9,282.04
134	$9,775.38	$32.58	$192.47	$9,582.91	$9,314.62
135	$9,582.91	$31.94	$193.11	$9,389.81	$9,346.56
136	$9,389.81	$31.30	$193.75	$9,196.06	$9,377.86
137	$9,196.06	$30.65	$194.40	$9,001.66	$9,408.52
138	$9,001.66	$30.01	$195.04	$8,806.61	$9,438.52
139	$8,806.61	$29.36	$195.69	$8,610.92	$9,467.88
140	$8,610.92	$28.70	$196.35	$8,414.57	$9,496.58
141	$8,414.57	$28.05	$197.00	$8,217.57	$9,524.63
142	$8,217.57	$27.39	$197.66	$8,019.91	$9,552.02
143	$8,019.91	$26.73	$198.32	$7,821.60	$9,578.75

						D (Discount Factor) =	135.1921487
Loan Amount	**Interest Rate**	**Term in Years**	**Monthly Payment**			P = A/D	$225.05
$30,425.00	4.00%	15	**$225.05**				

Month	StartingBalance	Interest	Principal	EndingBalance	TotalInterest
144	$7,821.60	$26.07	$198.98	$7,622.62	$9,604.83
145	$7,622.62	$25.41	$199.64	$7,422.98	$9,630.23
146	$7,422.98	$24.74	$200.31	$7,222.67	$9,654.98
147	$7,222.67	$24.08	$200.97	$7,021.70	$9,679.05
148	$7,021.70	$23.41	$201.64	$6,820.05	$9,702.46
149	$6,820.05	$22.73	$202.32	$6,617.73	$9,725.19
150	$6,617.73	$22.06	$202.99	$6,414.74	$9,747.25
151	$6,414.74	$21.38	$203.67	$6,211.08	$9,768.63
152	$6,211.08	$20.70	$204.35	$6,006.73	$9,789.34
153	$6,006.73	$20.02	$205.03	$5,801.70	$9,809.36
154	$5,801.70	$19.34	$205.71	$5,595.99	$9,828.70
155	$5,595.99	$18.65	$206.40	$5,389.59	$9,847.35
156	$5,389.59	$17.97	$207.08	$5,182.51	$9,865.32
157	$5,182.51	$17.28	$207.78	$4,974.73	$9,882.59
158	$4,974.73	$16.58	$208.47	$4,766.27	$9,899.17
159	$4,766.27	$15.89	$209.16	$4,557.10	$9,915.06
160	$4,557.10	$15.19	$209.86	$4,347.24	$9,930.25
161	$4,347.24	$14.49	$210.56	$4,136.68	$9,944.74
162	$4,136.68	$13.79	$211.26	$3,925.42	$9,958.53
163	$3,925.42	$13.08	$211.97	$3,713.46	$9,971.62
164	$3,713.46	$12.38	$212.67	$3,500.79	$9,984.00
165	$3,500.79	$11.67	$213.38	$3,287.41	$9,995.66
166	$3,287.41	$10.96	$214.09	$3,073.31	$10,006.62
167	$3,073.31	$10.24	$214.81	$2,858.51	$10,016.87
168	$2,858.51	$9.53	$215.52	$2,642.99	$10,026.40
169	$2,642.99	$8.81	$216.24	$2,426.75	$10,035.21
170	$2,426.75	$8.09	$216.96	$2,209.79	$10,043.29
171	$2,209.79	$7.37	$217.68	$1,992.10	$10,050.66
172	$1,992.10	$6.64	$218.41	$1,773.69	$10,057.30
173	$1,773.69	$5.91	$219.14	$1,554.55	$10,063.21
174	$1,554.55	$5.18	$219.87	$1,334.69	$10,068.39
175	$1,334.69	$4.45	$220.60	$1,114.08	$10,072.84
176	$1,114.08	$3.71	$221.34	$892.75	$10,076.56
177	$892.75	$2.98	$222.07	$670.67	$10,079.53
178	$670.67	$2.24	$222.81	$447.86	$10,081.77
179	$447.86	$1.49	$223.56	$224.30	$10,083.26
180	$224.30	$0.75	$224.30	$0.00	$10,084.01

						D (Discount Factor) =	165.0218582
Loan Amount	**Interest Rate**	**Term in Years**	**Monthly Payment**			P = A/D	$184.37
$30,425.00	4.00%	20	**$184.37**				

Month	**StartingBalance**	**Interest**	**Principal**	**EndingBalance**	**TotalInterest**
1	$30,425.00	$101.42	$82.95	$30,342.05	$101.42
2	$30,342.05	$101.14	$83.23	$30,258.82	$202.56
3	$30,258.82	$100.86	$83.51	$30,175.31	$303.42
4	$30,175.31	$100.58	$83.79	$30,091.53	$404.00
5	$30,091.53	$100.31	$84.06	$30,007.46	$504.31
6	$30,007.46	$100.02	$84.34	$29,923.12	$604.33
7	$29,923.12	$99.74	$84.63	$29,838.49	$704.08
8	$29,838.49	$99.46	$84.91	$29,753.58	$803.54
9	$29,753.58	$99.18	$85.19	$29,668.39	$902.72
10	$29,668.39	$98.89	$85.47	$29,582.92	$1,001.61
11	$29,582.92	$98.61	$85.76	$29,497.16	$1,100.22
12	$29,497.16	$98.32	$86.05	$29,411.11	$1,198.55
13	$29,411.11	$98.04	$86.33	$29,324.78	$1,296.58
14	$29,324.78	$97.75	$86.62	$29,238.16	$1,394.33
15	$29,238.16	$97.46	$86.91	$29,151.25	$1,491.79
16	$29,151.25	$97.17	$87.20	$29,064.05	$1,588.96
17	$29,064.05	$96.88	$87.49	$28,976.56	$1,685.84
18	$28,976.56	$96.59	$87.78	$28,888.78	$1,782.43
19	$28,888.78	$96.30	$88.07	$28,800.71	$1,878.73
20	$28,800.71	$96.00	$88.37	$28,712.34	$1,974.73
21	$28,712.34	$95.71	$88.66	$28,623.68	$2,070.44
22	$28,623.68	$95.41	$88.96	$28,534.72	$2,165.85
23	$28,534.72	$95.12	$89.25	$28,445.47	$2,260.97
24	$28,445.47	$94.82	$89.55	$28,355.92	$2,355.78
25	$28,355.92	$94.52	$89.85	$28,266.07	$2,450.30
26	$28,266.07	$94.22	$90.15	$28,175.92	$2,544.52
27	$28,175.92	$93.92	$90.45	$28,085.47	$2,638.44
28	$28,085.47	$93.62	$90.75	$27,994.72	$2,732.06
29	$27,994.72	$93.32	$91.05	$27,903.66	$2,825.38
30	$27,903.66	$93.01	$91.36	$27,812.31	$2,918.39
31	$27,812.31	$92.71	$91.66	$27,720.64	$3,011.10
32	$27,720.64	$92.40	$91.97	$27,628.68	$3,103.50
33	$27,628.68	$92.10	$92.27	$27,536.40	$3,195.60
34	$27,536.40	$91.79	$92.58	$27,443.82	$3,287.38
35	$27,443.82	$91.48	$92.89	$27,350.93	$3,378.86
36	$27,350.93	$91.17	$93.20	$27,257.73	$3,470.03
37	$27,257.73	$90.86	$93.51	$27,164.22	$3,560.89
38	$27,164.22	$90.55	$93.82	$27,070.40	$3,651.44
39	$27,070.40	$90.23	$94.13	$26,976.26	$3,741.67
40	$26,976.26	$89.92	$94.45	$26,881.81	$3,831.60
41	$26,881.81	$89.61	$94.76	$26,787.05	$3,921.20
42	$26,787.05	$89.29	$95.08	$26,691.97	$4,010.49
43	$26,691.97	$88.97	$95.40	$26,596.58	$4,099.46
44	$26,596.58	$88.66	$95.71	$26,500.86	$4,188.12
45	$26,500.86	$88.34	$96.03	$26,404.83	$4,276.46
46	$26,404.83	$88.02	$96.35	$26,308.47	$4,364.47
47	$26,308.47	$87.69	$96.67	$26,211.80	$4,452.17
48	$26,211.80	$87.37	$97.00	$26,114.80	$4,539.54
49	$26,114.80	$87.05	$97.32	$26,017.48	$4,626.59
50	$26,017.48	$86.72	$97.64	$25,919.84	$4,713.31
51	$25,919.84	$86.40	$97.97	$25,821.87	$4,799.71
52	$25,821.87	$86.07	$98.30	$25,723.57	$4,885.79
53	$25,723.57	$85.75	$98.62	$25,624.95	$4,971.53
54	$25,624.95	$85.42	$98.95	$25,525.99	$5,056.95
55	$25,525.99	$85.09	$99.28	$25,426.71	$5,142.03
56	$25,426.71	$84.76	$99.61	$25,327.10	$5,226.79
57	$25,327.10	$84.42	$99.95	$25,227.15	$5,311.21
58	$25,227.15	$84.09	$100.28	$25,126.87	$5,395.30
59	$25,126.87	$83.76	$100.61	$25,026.26	$5,479.06
60	$25,026.26	$83.42	$100.95	$24,925.31	$5,562.48
61	$24,925.31	$83.08	$101.29	$24,824.03	$5,645.57
62	$24,824.03	$82.75	$101.62	$24,722.40	$5,728.31
63	$24,722.40	$82.41	$101.96	$24,620.44	$5,810.72
64	$24,620.44	$82.07	$102.30	$24,518.14	$5,892.79
65	$24,518.14	$81.73	$102.64	$24,415.50	$5,974.52
66	$24,415.50	$81.38	$102.98	$24,312.51	$6,055.90
67	$24,312.51	$81.04	$103.33	$24,209.19	$6,136.94
68	$24,209.19	$80.70	$103.67	$24,105.51	$6,217.64
69	$24,105.51	$80.35	$104.02	$24,001.50	$6,297.99

				D (Discount Factor) =	165.0218582
				P = A/D	$184.37
Loan Amount	**Interest Rate**	**Term in Years**	**Monthly Payment**		
$30,425.00	4.00%	20	**$184.37**		

Month	StartingBalance	Interest	Principal	EndingBalance	TotalInterest
70	$24,001.50	$80.00	$104.36	$23,897.13	$6,378.00
71	$23,897.13	$79.66	$104.71	$23,792.42	$6,457.65
72	$23,792.42	$79.31	$105.06	$23,687.36	$6,536.96
73	$23,687.36	$78.96	$105.41	$23,581.95	$6,615.92
74	$23,581.95	$78.61	$105.76	$23,476.18	$6,694.53
75	$23,476.18	$78.25	$106.12	$23,370.07	$6,772.78
76	$23,370.07	$77.90	$106.47	$23,263.60	$6,850.68
77	$23,263.60	$77.55	$106.82	$23,156.77	$6,928.23
78	$23,156.77	$77.19	$107.18	$23,049.59	$7,005.42
79	$23,049.59	$76.83	$107.54	$22,942.06	$7,082.25
80	$22,942.06	$76.47	$107.90	$22,834.16	$7,158.72
81	$22,834.16	$76.11	$108.26	$22,725.90	$7,234.83
82	$22,725.90	$75.75	$108.62	$22,617.29	$7,310.59
83	$22,617.29	$75.39	$108.98	$22,508.31	$7,385.98
84	$22,508.31	$75.03	$109.34	$22,398.97	$7,461.01
85	$22,398.97	$74.66	$109.71	$22,289.26	$7,535.67
86	$22,289.26	$74.30	$110.07	$22,179.19	$7,609.97
87	$22,179.19	$73.93	$110.44	$22,068.75	$7,683.90
88	$22,068.75	$73.56	$110.81	$21,957.94	$7,757.46
89	$21,957.94	$73.19	$111.18	$21,846.77	$7,830.65
90	$21,846.77	$72.82	$111.55	$21,735.22	$7,903.48
91	$21,735.22	$72.45	$111.92	$21,623.30	$7,975.93
92	$21,623.30	$72.08	$112.29	$21,511.01	$8,048.00
93	$21,511.01	$71.70	$112.67	$21,398.34	$8,119.71
94	$21,398.34	$71.33	$113.04	$21,285.30	$8,191.04
95	$21,285.30	$70.95	$113.42	$21,171.88	$8,261.99
96	$21,171.88	$70.57	$113.80	$21,058.09	$8,332.56
97	$21,058.09	$70.19	$114.18	$20,943.91	$8,402.75
98	$20,943.91	$69.81	$114.56	$20,829.35	$8,472.57
99	$20,829.35	$69.43	$114.94	$20,714.42	$8,542.00
100	$20,714.42	$69.05	$115.32	$20,599.09	$8,611.05
101	$20,599.09	$68.66	$115.71	$20,483.39	$8,679.71
102	$20,483.39	$68.28	$116.09	$20,367.30	$8,747.99
103	$20,367.30	$67.89	$116.48	$20,250.82	$8,815.88
104	$20,250.82	$67.50	$116.87	$20,133.95	$8,883.38
105	$20,133.95	$67.11	$117.26	$20,016.69	$8,950.49
106	$20,016.69	$66.72	$117.65	$19,899.05	$9,017.22
107	$19,899.05	$66.33	$118.04	$19,781.01	$9,083.55
108	$19,781.01	$65.94	$118.43	$19,662.58	$9,149.48
109	$19,662.58	$65.54	$118.83	$19,543.75	$9,215.02
110	$19,543.75	$65.15	$119.22	$19,424.52	$9,280.17
111	$19,424.52	$64.75	$119.62	$19,304.90	$9,344.92
112	$19,304.90	$64.35	$120.02	$19,184.88	$9,409.27
113	$19,184.88	$63.95	$120.42	$19,064.46	$9,473.22
114	$19,064.46	$63.55	$120.82	$18,943.64	$9,536.77
115	$18,943.64	$63.15	$121.22	$18,822.42	$9,599.91
116	$18,822.42	$62.74	$121.63	$18,700.79	$9,662.65
117	$18,700.79	$62.34	$122.03	$18,578.76	$9,724.99
118	$18,578.76	$61.93	$122.44	$18,456.32	$9,786.92
119	$18,456.32	$61.52	$122.85	$18,333.47	$9,848.44
120	$18,333.47	$61.11	$123.26	$18,210.21	$9,909.55
121	$18,210.21	$60.70	$123.67	$18,086.54	$9,970.25
122	$18,086.54	$60.29	$124.08	$17,962.46	$10,030.54
123	$17,962.46	$59.87	$124.49	$17,837.96	$10,090.42
124	$17,837.96	$59.46	$124.91	$17,713.06	$10,149.87
125	$17,713.06	$59.04	$125.33	$17,587.73	$10,208.92
126	$17,587.73	$58.63	$125.74	$17,461.99	$10,267.54
127	$17,461.99	$58.21	$126.16	$17,335.82	$10,325.75
128	$17,335.82	$57.79	$126.58	$17,209.24	$10,383.54
129	$17,209.24	$57.36	$127.01	$17,082.23	$10,440.90
130	$17,082.23	$56.94	$127.43	$16,954.80	$10,497.84
131	$16,954.80	$56.52	$127.85	$16,826.95	$10,554.36
132	$16,826.95	$56.09	$128.28	$16,698.67	$10,610.45
133	$16,698.67	$55.66	$128.71	$16,569.96	$10,666.11
134	$16,569.96	$55.23	$129.14	$16,440.83	$10,721.34
135	$16,440.83	$54.80	$129.57	$16,311.26	$10,776.15
136	$16,311.26	$54.37	$130.00	$16,181.26	$10,830.52
137	$16,181.26	$53.94	$130.43	$16,050.83	$10,884.45
138	$16,050.83	$53.50	$130.87	$15,919.96	$10,937.96
139	$15,919.96	$53.07	$131.30	$15,788.66	$10,991.02
140	$15,788.66	$52.63	$131.74	$15,656.92	$11,043.65
141	$15,656.92	$52.19	$132.18	$15,524.74	$11,095.84
142	$15,524.74	$51.75	$132.62	$15,392.12	$11,147.59
143	$15,392.12	$51.31	$133.06	$15,259.06	$11,198.90

				D (Discount Factor) =	165.0218582
				P = A/D	$184.37
Loan Amount	**Interest Rate**	**Term in Years**	**Monthly Payment**		
$30,425.00	4.00%	20	**$184.37**		

Month	StartingBalance	Interest	Principal	EndingBalance	TotalInterest
144	$15,259.06	$50.86	$133.51	$15,125.55	$11,249.76
145	$15,125.55	$50.42	$133.95	$14,991.60	$11,300.18
146	$14,991.60	$49.97	$134.40	$14,857.20	$11,350.15
147	$14,857.20	$49.52	$134.85	$14,722.36	$11,399.68
148	$14,722.36	$49.07	$135.29	$14,587.06	$11,448.75
149	$14,587.06	$48.62	$135.75	$14,451.32	$11,497.37
150	$14,451.32	$48.17	$136.20	$14,315.12	$11,545.55
151	$14,315.12	$47.72	$136.65	$14,178.47	$11,593.26
152	$14,178.47	$47.26	$137.11	$14,041.36	$11,640.52
153	$14,041.36	$46.80	$137.56	$13,903.79	$11,687.33
154	$13,903.79	$46.35	$138.02	$13,765.77	$11,733.67
155	$13,765.77	$45.89	$138.48	$13,627.29	$11,779.56
156	$13,627.29	$45.42	$138.95	$13,488.34	$11,824.98
157	$13,488.34	$44.96	$139.41	$13,348.93	$11,869.95
158	$13,348.93	$44.50	$139.87	$13,209.06	$11,914.44
159	$13,209.06	$44.03	$140.34	$13,068.72	$11,958.47
160	$13,068.72	$43.56	$140.81	$12,927.91	$12,002.04
161	$12,927.91	$43.09	$141.28	$12,786.64	$12,045.13
162	$12,786.64	$42.62	$141.75	$12,644.89	$12,087.75
163	$12,644.89	$42.15	$142.22	$12,502.67	$12,129.90
164	$12,502.67	$41.68	$142.69	$12,359.97	$12,171.58
165	$12,359.97	$41.20	$143.17	$12,216.81	$12,212.78
166	$12,216.81	$40.72	$143.65	$12,073.16	$12,253.50
167	$12,073.16	$40.24	$144.13	$11,929.03	$12,293.74
168	$11,929.03	$39.76	$144.61	$11,784.43	$12,333.51
169	$11,784.43	$39.28	$145.09	$11,639.34	$12,372.79
170	$11,639.34	$38.80	$145.57	$11,493.77	$12,411.58
171	$11,493.77	$38.31	$146.06	$11,347.71	$12,449.90
172	$11,347.71	$37.83	$146.54	$11,201.17	$12,487.72
173	$11,201.17	$37.34	$147.03	$11,054.13	$12,525.06
174	$11,054.13	$36.85	$147.52	$10,906.61	$12,561.91
175	$10,906.61	$36.36	$148.01	$10,758.60	$12,598.26
176	$10,758.60	$35.86	$148.51	$10,610.09	$12,634.12
177	$10,610.09	$35.37	$149.00	$10,461.09	$12,669.49
178	$10,461.09	$34.87	$149.50	$10,311.59	$12,704.36
179	$10,311.59	$34.37	$150.00	$10,161.59	$12,738.73
180	$10,161.59	$33.87	$150.50	$10,011.09	$12,772.61
181	$10,011.09	$33.37	$151.00	$9,860.09	$12,805.98
182	$9,860.09	$32.87	$151.50	$9,708.59	$12,838.84
183	$9,708.59	$32.36	$152.01	$9,556.58	$12,871.21
184	$9,556.58	$31.86	$152.51	$9,404.07	$12,903.06
185	$9,404.07	$31.35	$153.02	$9,251.05	$12,934.41
186	$9,251.05	$30.84	$153.53	$9,097.51	$12,965.24
187	$9,097.51	$30.33	$154.04	$8,943.47	$12,995.57
188	$8,943.47	$29.81	$154.56	$8,788.91	$13,025.38
189	$8,788.91	$29.30	$155.07	$8,633.84	$13,054.68
190	$8,633.84	$28.78	$155.59	$8,478.25	$13,083.46
191	$8,478.25	$28.26	$156.11	$8,322.14	$13,111.72
192	$8,322.14	$27.74	$156.63	$8,165.51	$13,139.46
193	$8,165.51	$27.22	$157.15	$8,008.36	$13,166.68
194	$8,008.36	$26.69	$157.67	$7,850.68	$13,193.37
195	$7,850.68	$26.17	$158.20	$7,692.48	$13,219.54
196	$7,692.48	$25.64	$158.73	$7,533.76	$13,245.18
197	$7,533.76	$25.11	$159.26	$7,374.50	$13,270.29
198	$7,374.50	$24.58	$159.79	$7,214.71	$13,294.88
199	$7,214.71	$24.05	$160.32	$7,054.39	$13,318.92
200	$7,054.39	$23.51	$160.85	$6,893.54	$13,342.44
201	$6,893.54	$22.98	$161.39	$6,732.14	$13,365.42
202	$6,732.14	$22.44	$161.93	$6,570.22	$13,387.86
203	$6,570.22	$21.90	$162.47	$6,407.75	$13,409.76
204	$6,407.75	$21.36	$163.01	$6,244.74	$13,431.12
205	$6,244.74	$20.82	$163.55	$6,081.18	$13,451.93
206	$6,081.18	$20.27	$164.10	$5,917.08	$13,472.20
207	$5,917.08	$19.72	$164.65	$5,752.44	$13,491.93
208	$5,752.44	$19.17	$165.19	$5,587.24	$13,511.10
209	$5,587.24	$18.62	$165.75	$5,421.50	$13,529.73
210	$5,421.50	$18.07	$166.30	$5,255.20	$13,547.80
211	$5,255.20	$17.52	$166.85	$5,088.35	$13,565.32
212	$5,088.35	$16.96	$167.41	$4,920.94	$13,582.28
213	$4,920.94	$16.40	$167.97	$4,752.97	$13,598.68
214	$4,752.97	$15.84	$168.53	$4,584.45	$13,614.52
215	$4,584.45	$15.28	$169.09	$4,415.36	$13,629.80
216	$4,415.36	$14.72	$169.65	$4,245.71	$13,644.52
217	$4,245.71	$14.15	$170.22	$4,075.49	$13,658.68

Loan Amount	Interest Rate	Term in Years	Monthly Payment
$30,425.00	4.00%	20	**$184.37**

D (Discount Factor) = 165.0218582
P = A/D $184.37

Month	StartingBalance	Interest	Principal	EndingBalance	TotalInterest
218	$4,075.49	$13.58	$170.78	$3,904.71	$13,672.26
219	$3,904.71	$13.02	$171.35	$3,733.35	$13,685.28
220	$3,733.35	$12.44	$171.93	$3,561.43	$13,697.72
221	$3,561.43	$11.87	$172.50	$3,388.93	$13,709.59
222	$3,388.93	$11.30	$173.07	$3,215.86	$13,720.89
223	$3,215.86	$10.72	$173.65	$3,042.21	$13,731.61
224	$3,042.21	$10.14	$174.23	$2,867.98	$13,741.75
225	$2,867.98	$9.56	$174.81	$2,693.17	$13,751.31
226	$2,693.17	$8.98	$175.39	$2,517.78	$13,760.29
227	$2,517.78	$8.39	$175.98	$2,341.80	$13,768.68
228	$2,341.80	$7.81	$176.56	$2,165.23	$13,776.48
229	$2,165.23	$7.22	$177.15	$1,988.08	$13,783.70
230	$1,988.08	$6.63	$177.74	$1,810.34	$13,790.33
231	$1,810.34	$6.03	$178.34	$1,632.00	$13,796.36
232	$1,632.00	$5.44	$178.93	$1,453.08	$13,801.80
233	$1,453.08	$4.84	$179.53	$1,273.55	$13,806.65
234	$1,273.55	$4.25	$180.12	$1,093.43	$13,810.89
235	$1,093.43	$3.64	$180.72	$912.70	$13,814.54
236	$912.70	$3.04	$181.33	$731.37	$13,817.58
237	$731.37	$2.44	$181.93	$549.44	$13,820.02
238	$549.44	$1.83	$182.54	$366.90	$13,821.85
239	$366.90	$1.22	$183.15	$183.76	$13,823.07
240	$183.76	$0.61	$183.76	$0.00	$13,823.68

D

Appendix D

Public Information Centre Information

Feasibility Study for Municipal Water and Sewage Servicing

Public Information Centre

Location: Puslinch Community Centre
23 Brock Road South, Puslinch
6:30 p.m. to 8:30 p.m.

June 24 2019

CIMA+

TOWNSHIP OF
PUSLINCH
EST. 1850

Public Information Centre Summary

Introduction and Meeting Purpose

Background Info and Projections

Water Servicing Options

Sewage Servicing Options

Next Steps

Feasibility Study Details

- In 2018, the Township began undertaking a Feasibility Study to assess the viability of implementing municipal water and sewage servicing.
  - A reduced scoped study area is now being looked at
    - Taking into account industrial and commercial areas (excluding residential)

Development Opportunities

- The Township is an attractive place for development
  - Go Transit access, close proximity to Guelph, natural setting, major markets
- Surrounded by growing urban centres on all four sides with increasing demands for resources and land
  - Lack of municipal servicing limits opportunities for growth
  - Current servicing consist of individual on-site wells, septic systems as well as few private communal water and sewage systems

Purpose of this Meeting

- This meeting will provide Scoped Study Area users with the opportunity to:
  - Understand why the Township is undertaking this additional study and the new scope
  - Review the high-level water and sewage servicing options being considered
  - Review the key advantages and disadvantages identified for each servicing option
  - Review and discuss the study with Township staff and their consultants, and any questions you may have related to the study
- The Feasibility Study will provide the basis for proceeding (or not proceeding) with a Municipal Class EA Study that will be necessary before implementing any drinking water or sewage servicing solution

Major Industrial and Commercial Users

- The Scoped Study Area contains the highest concentrations of employment lands in the Township

- Including; food processing, concrete pipe manufacturer, water bottling and aggregate extraction
    - Royal Canin
    - Nestle
    - Capital Paving
    - Maple Leaf Foods
    - Con-Cast Pipe
    - Dufferin Aggregates

Projected Employment Growth

Type	Projected Growth / Planning Period		
	2016	2036	2041
I&C – Total Employment[1]	4,020	5,160	5,630

Notes:
1. Projected Employment Growth as per Wellington County Official Plan May 6, 1999 (Last Revision September 1, 2016). Includes 'no fixed place of work' employment.

Type	Average Day Demands (m^3/d)	Max. Day Demands (m^3/d)
I&C Large Users[1]	31,000	52,704

Notes:
1. Includes a portion of existing employment. Employment numbers for study area to be confirmed with County of Wellington. Includes current water demands for large users – significantly < than ex. permitted capacity

Summary

Preliminary Projected Water Demands and Sewage Flows

Type	Average Day Demands (m^3/d)	Max. Day Demands (m^3/d)
Water Demands	1,393	2,905
Sewage Flows	2,027	6,479
The preliminary water and wastewater demands are based on the projected employment population and exclude allowances for process water currently consumed by the large users. It is assumed that the large users will continue to source their individual process water demands from their current sources.		

High-level servicing options developed for consideration:

Intra-Municipal Servicing

- *Provided by the Township*
- New municipal water system
  - New well(s), Treatment facility, Storage, Pumping, Distribution
- New municipal sewage system
  - New pumping station, Treatment system, Conveyance system

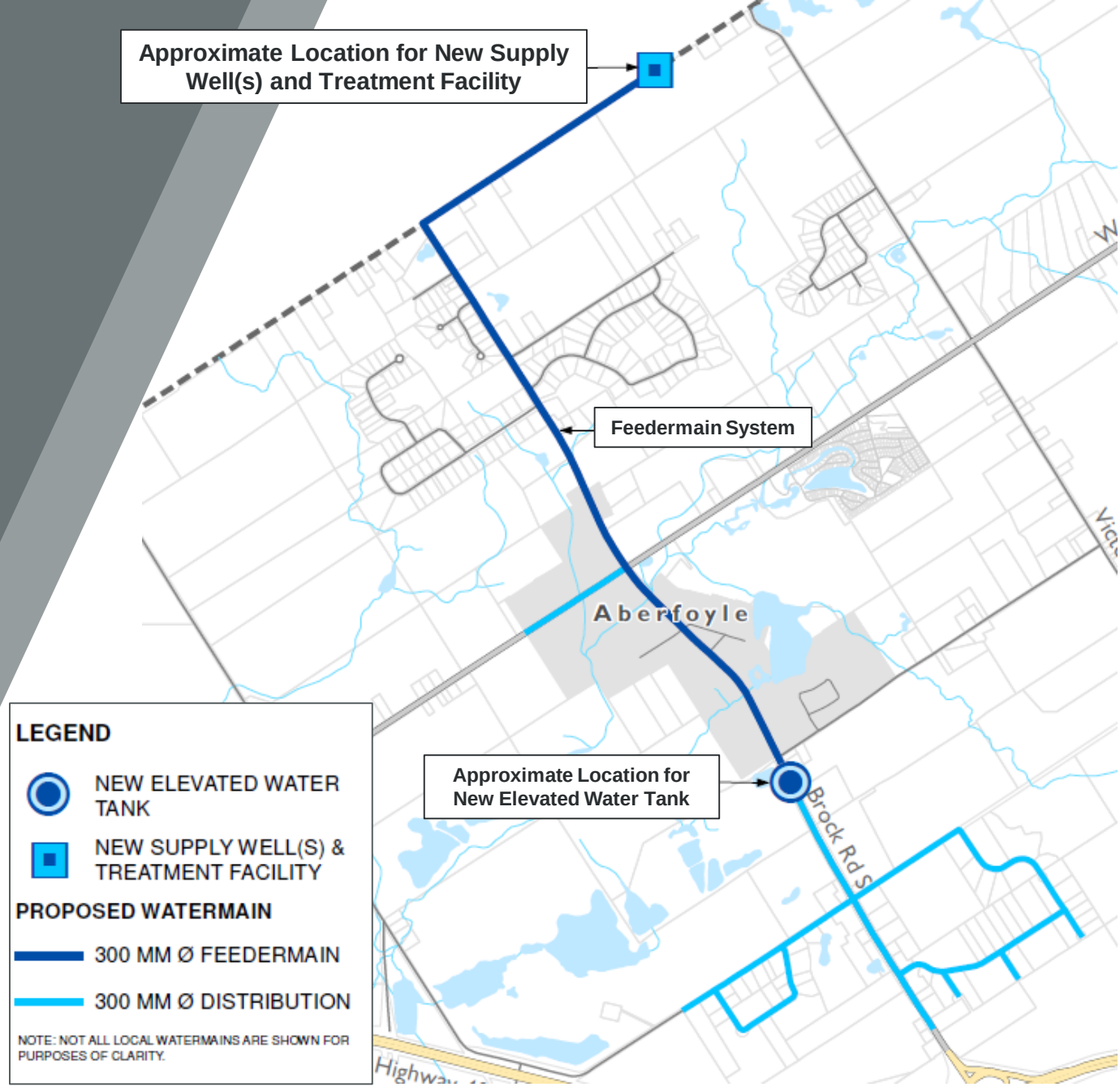
Inter-Municipal Servicing

- *Provided jointly by the Township and City of Guelph*
- Connection to City of Guelph Water supply and distribution system
- Connection to City of Guelph sewage collection and treatment system

Option 1: Water Servicing Intra-Municipal

- Major components:
  - New groundwater supply source
  - New water treatment facility
  - New distribution system
  - New storage facility
  - Note: location of well subject to further review during subsequent EA Study

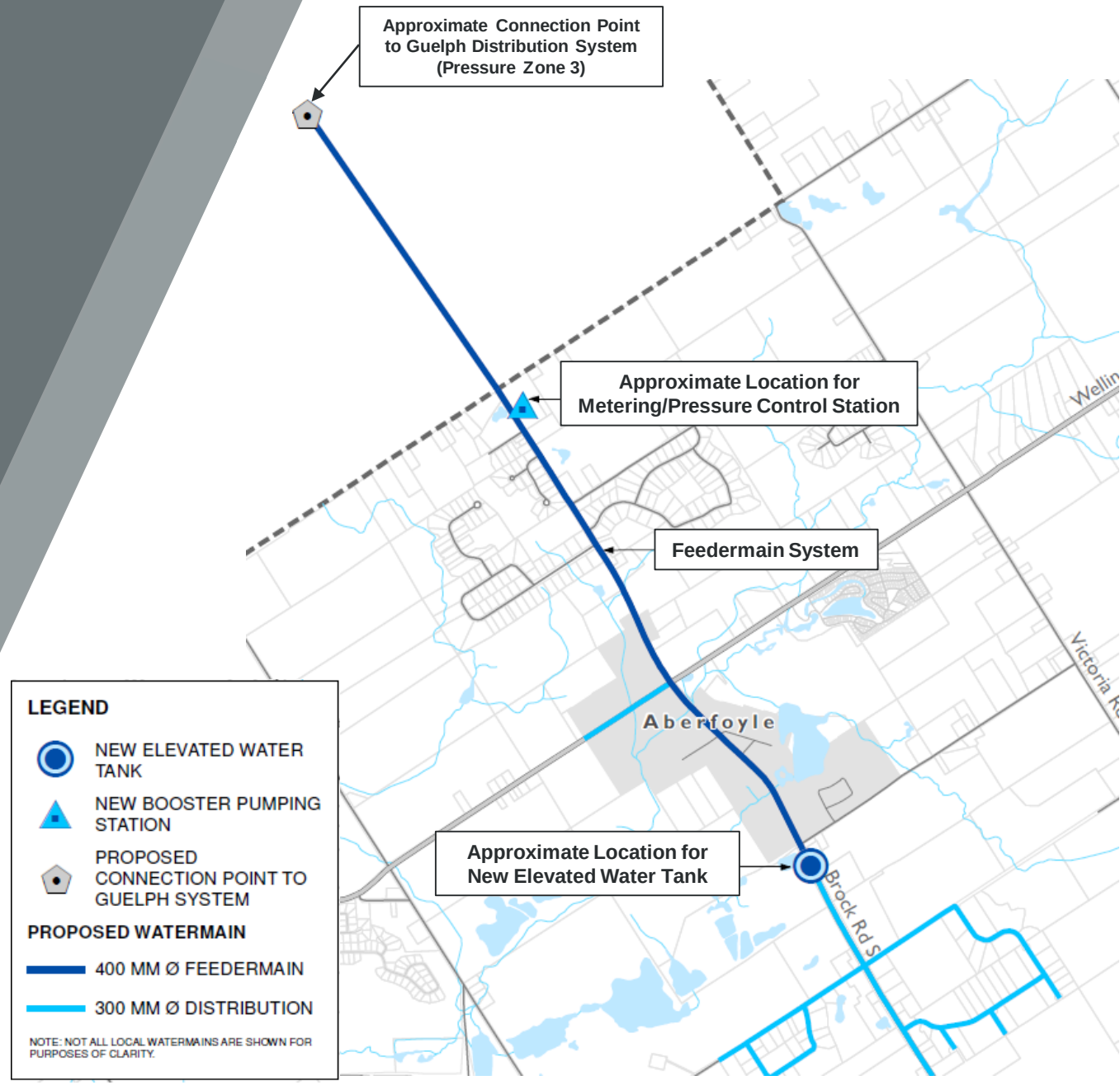
- High-level estimated construction cost:
  - $23 million



TOWNSHIP OF PUSLINCH EST. 1850

Option 2: Water Servicing Inter-Municipal

- Major components:
  - Connect directly to CofG distribution system
  - New metering facility and potential pressure control station
  - New storage facility
  - New distribution system
- High-level estimated construction cost:
  - $20 million
  - Note: estimate does not include any costs to upgrade Guelph infrastructure



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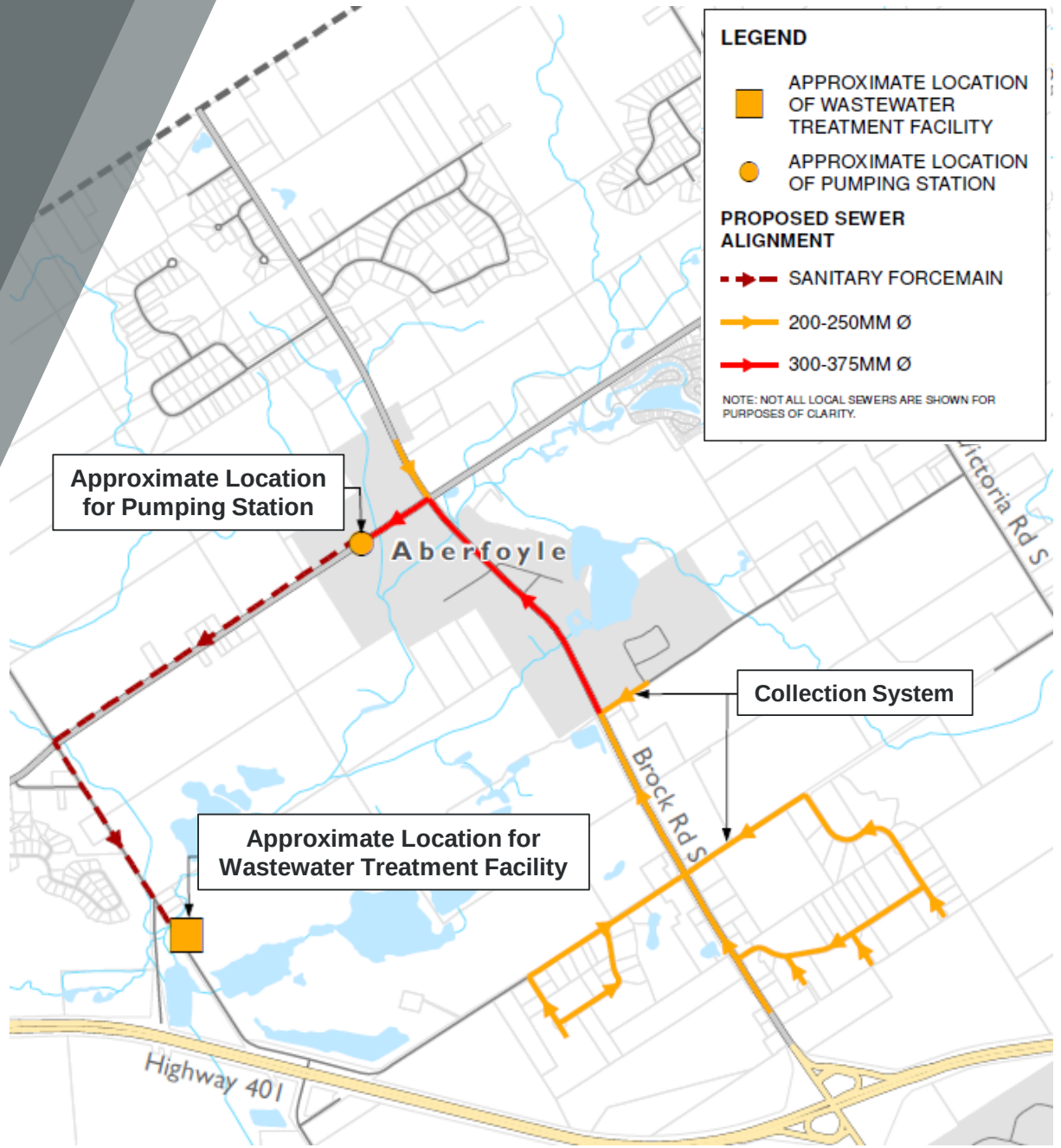
Preliminary Assessment of High-Level Water Servicing Options

Option	Key Advantages	Key Disadvantages
1A: Intra-Municipal	• Independent system – greater local control	• Higher capital, O&M and Life Cycle Cost • Requires larger amount of new infrastructure
1B: Inter-Municipal	• Lower capital, O&M and Life Cycle Cost • Optimizes use of existing infrastructure • Guelph has a proven track record of providing high quality drinking water • Economy of scale may be realized with Joint Supply system • May improve opportunities for funding assistance with joint Projects • Bulk water rates may be set, thereby establishing more predictable O&M costs	• Upgrades to infrastructure in the City may be required – cost unknown at this time and may be significant • Bulk water supply rates are unknown at this time • Need for an inter-municipal servicing agreement (Guelph & Puslinch)
Common to both Options	• Easier to manage and monitor the single system for water quality and quantity • Burden to obtain private updated PPTW and comply with changes in condition would be removed from individual users and placed on the township • Bulk water rates may be set, thereby establishing more predictable O&M costs • Municipal water and sewage servicing encourages developers to invest and promote growth in the Township	• Township will hold responsibility for the increased PPTW conditions in compliance to the WHPA-Q • Increased costs for township with new source protection requirements • Cost of extending private water service and connection to existing plumbing is in addition to the estimated costs • Existing private and communal wells to be decommissioned • Amendments to Official Plan and Secondary Plans may be required

Option 1: Sewage Servicing Intra-Municipal

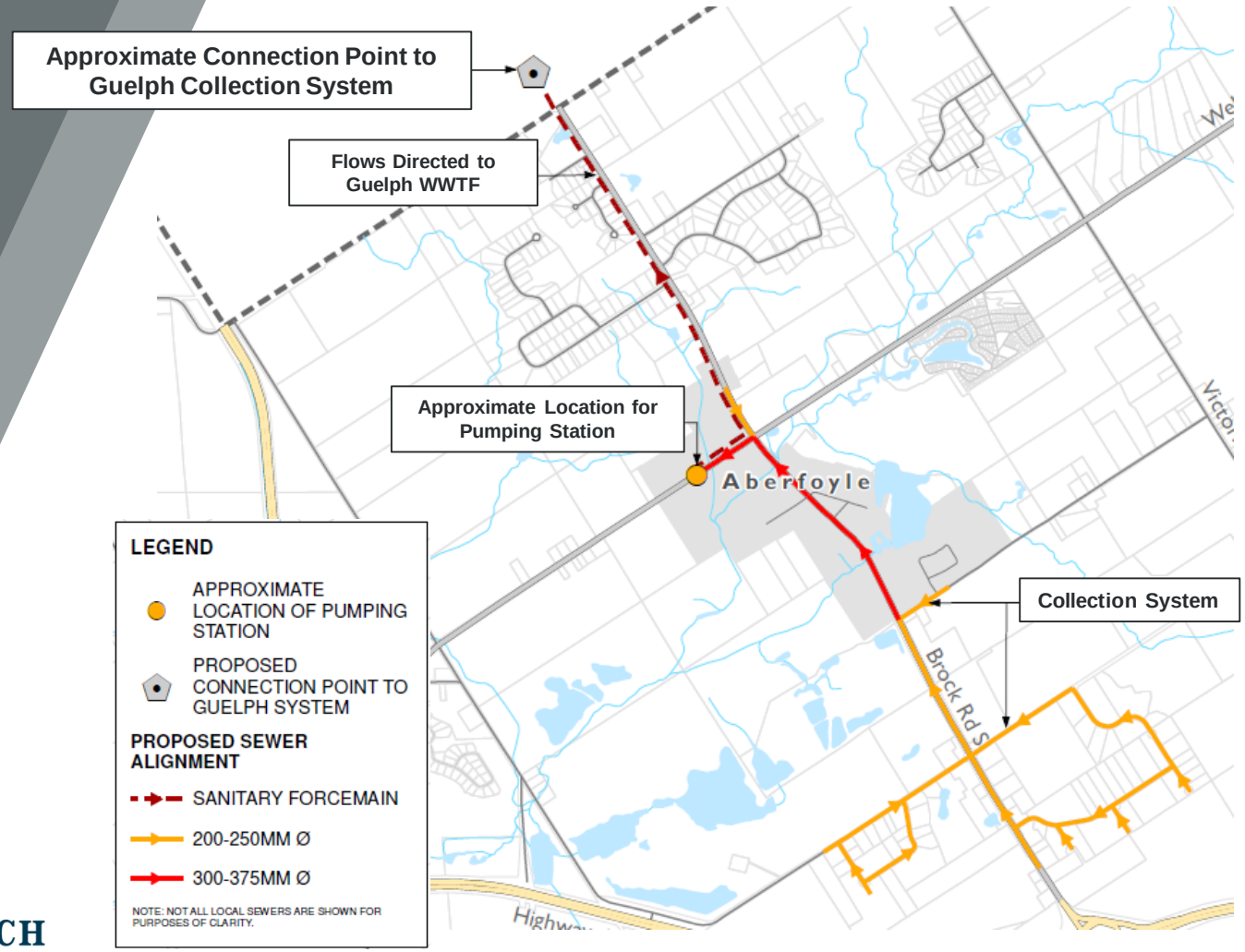
- Major components:
  - New gravity collection system
  - New pumping station
  - New wastewater treatment facility
  - Effluent discharge to Mill Creek (will be subject to an Assimilative Capacity Study)
- High-level estimated construction cost:
  - $29 million



TOWNSHIP OF PUSLINCH EST. 1850

Option 2: Sewage Servicing Inter-Municipal

- Major components:
  - New gravity collection system
  - New pumping station
  - Discharge into the Guelph collection system for further treatment and disposal
- High-level estimated construction cost:
  - $12 million
  - Note: does not include costs to upgrade Guelph Infrastructure



TOWNSHIP OF PUSLINCH EST. 1850

Preliminary Assessment of High-Level Sewage Servicing Options

Option	Key Advantages	Key Disadvantages
1A: Intra-Municipal	• Independent system – greater local control	• Higher capital, O&M and Life Cycle Cost • Requires larger amount of new infrastructure • Assimilative capacity of receiving stream may be a limiting factor – alternate discharge location or higher quality effluent may be needed – cost implication
1B: Inter-Municipal	• Lower capital, O&M and Life Cycle Costs • Lower operational requirements for the collection system • Economy of scale may be realized with Joint Wastewater Treatment system • Provides an opportunity for Joint Funding applications • Known wastewater rates will assist in establishing predictable O&M budgets	• Upgrades to infrastructure in the City may be required – cost unknown at this time and may be significant • Need for an inter-municipal Servicing Agreement (Guelph & Puslinch)
Common to both Options	• Municipal sewage servicing encourages developers to invest and promote growth in the Township • Amendments to Official Plans, Secondary Plans, Approved Draft Plans may be required	

Typical Usage Charges

For a user consuming 10 m^3 of drinking water and generating 10 m^3 of wastewater daily, the ***Estimated Preliminary User Charges*** would be.

	WATER SERVICING		WASTEWATER SERVICING	
	OPTION 1	**OPTION 2**	**OPTION 1**	**OPTION 2**
MONTHLY COST	$297	$56	$289	$66

- The Preliminary User Charge estimated above does not include Life Cycle Costs. Final user charges would be established following completion of a Rate Study to be undertaken following completion of construction.
- User Rates identified for Option 2 – Inter-Municipal Servicing do not include Bulk Water Rates or Wastewater Rates which would be imposed by the City of Guelph. The Bulk Water Rate and Wastewater disposal rate to be negotiated between the Township and the City as part of the Servicing Agreement(s).

Project Timeline

Target Completion Date	Task
May 31, 2019	Notice and Draft Addendum Report circulated to Township, Agencies and Businesses
June 24, 2019	Public Meeting / Workshop
July 12, 2019	Last Date for Comments by businesses
August 2, 2019	Final Addendum Feasibility Study Report provided to Township
September 4, 2019	Final Addendum Feasibility Study Report provided to Council for Information
September 18, 2019	Presentation to Council
TBD	Council Approval of Decision (ie., to proceed with Class EA Study or to not proceed further with study)
2019 - 2021	Class EA Study Completion (subject to Council approval and budget allocation)
Dates are preliminary and subject to change	

Questions?

Project Contacts

For more information about this project, or to view the Public Information Centre displays online, please visit our website:
http://www.puslinch.ca/en/living-here/feasibility-study-for-municipal-water-and-sewage-servicing-.asp

Should you have any questions or concerns about this study, please contact:

Patrick Moyle, Acting CAO/Clerk
Township of Puslinch
Klandry@puslinch.ca
T 519 763-1226, 214
7404 Wellington Rd 34 Puslinch, ON N0B 2J0

TOWNSHIP OF
PUSLINCH
EST. 1850

Stuart Winchester, P.Eng.
Partner / Director, Municipal Infrastructure
Stuart.Winchester@cima.ca
T 519 772-2299, 6202 **C** 519 998-1725
900–101 Frederick Street, Kitchener, ON N2H 6R2

E

Appendix E

Response to PIC Comments

August 28, 2019

Attention: **Industrial and Commercial Survey Respondents**

RE: **TOWNSHIP OF PUSLINCH**
ADDENDUM TO THE WATER AND WASTEWATER SERVICING FEASIBILITY STUDY

Dear Respondent:

Thank you for submission of your comments related to the Addendum for Water and Wastewater Servicing Feasibility in the Township of Puslinch. Input from the public is a critical component of the Feasibility Study process and will greatly assist Council in making decisions related to the provision of municipal water and wastewater servicing in the Township.

Municipal Servicing Questionnaire – Survey Results

In total, the Township distributed approximately 128 copies of the questionnaire, which included industrial and commercial users within the scoped study area.

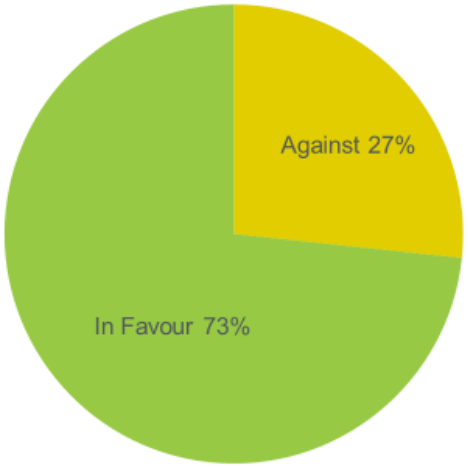
A total of 24 completed questionnaires were received from the industrial and commercial users, which represent a response rate of 19%. Pie charts, depicting graphically the responses obtained, are attached to this summary sheet for reference. The following summarizes the questionnaire results.

- Industrial Users
    - 10 Questionnaires were received from industrial users
    - 60% (6 of 10) in favour of municipal water and wastewater servicing
- Commercial Users
    - 15 Questionnaires were received from commercial users
    - 78% (11 of 15) in favour of municipal water and wastewater servicing
- Combined
    - 25 Questionnaires were received from industrial and commercial users
    - 68% (17 of 25) in favour of municipal water and wastewater servicing

PIC Survey Response Summary - Commercial Interest

Number of Surveys: 15

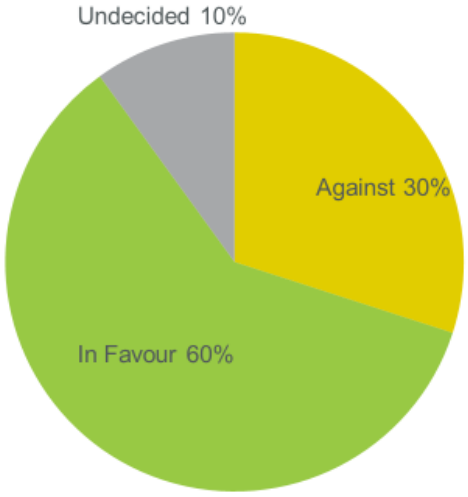
- Against: 4
- In Favour: 11

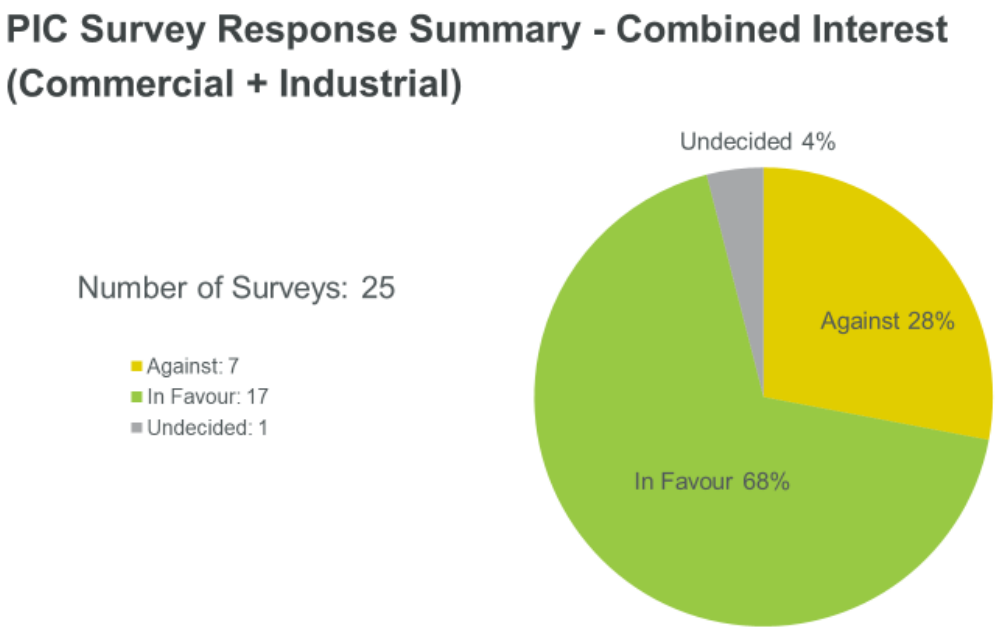


PIC Survey Response Summary - Industrial Interest

Number of Surveys: 10

- Against: 3
- In Favour: 6
- Undecided: 1





Municipal Servicing Questionnaire – Frequently Asked Questions

The responses included a range of questions related to the Study and to request additional information. A number of respondents asked similar questions, and we have taken the opportunity to summarize these questions and to provide a single response.

Q1 – What is the anticipated cost/charge to connect and to operate monthly on the municipal water/sewage network?

A1 – The current Study has been undertaken to establish the feasibility of providing municipal water and wastewater services, and high-level estimates have been developed as part of the Study in order to assist in assessing the feasibility of provision of these services. If Council decides to proceed with further consideration of providing municipal water and sewage servicing, then the Township will need to proceed with an Environmental Assessment as required under the Provincial Environmental Assessment Act. This Study will complete an extensive review of potential environmental impacts, potential servicing alternatives, and alternative servicing technologies to provide these services. This assessment will include an assessment of the impact to the economic environment, in order to establish a Preferred Servicing Plan.

The Environmental Assessment process will include the development of a Cost Recovery Plan, which will consider how the costs of constructing the water and sewage works will be funded and may include consideration of funding assistance from senior levels of government. At this time, a cost recovery plan has not been developed as part of the water and sewage servicing feasibility Study.

Preliminary usage charge estimates have been provided within the Feasibility Study; however, it should be noted that these estimates are high-level estimates only. If the Township decides to proceed with further Study, the Township will need to undertake a Rate Study in order to establish the necessary funding levels in order to ensure that the long-term operation and maintenance of the water and sewage facilities is sustainable.

Q2 – What is the projected timeline for the Project? When can we anticipate water/sewage services?

A2 – The Addendum to the Feasibility Study report is scheduled to be provided to the Township in early August 2019 and results will be presented to Council in September 2019. Council will consider the results of the public meeting and public input to this Study and will decide whether to proceed with further study or not.

Should Council decide to proceed with further study, an Environmental Assessment (EA) will need to be completed. Initial studies may be undertaken to help inform the EA Study, including but not limited to an Assimilative Capacity Study for any potential receiving stream; a detailed Hydrogeological Study to establish potential groundwater source locations or to consider sub-surface disposal locations may be undertaken. Depending on the findings of these studies, as well as the responses from the Ministry of Environment, Conservation and Parks (MECP), these studies typically take 1 to 2 years or more.

Following completion of the initial Studies, the Township could proceed with the EA Study. The duration of an EA Study for water and wastewater servicing will be highly dependent on the level of support or opposition to the Project, and typically will take 1+ years to complete in the absence of any significant opposition.

Following Approval of the EA Study, the Township could then proceed to implement the Works, which includes proceeding with the detailed design, technical approvals, and construction. For a Project of this type, completion of the works would typically take approximately 1 year for design and approvals, and 2 years for construction and commissioning.

Q3 – Why is the study originally being done and for a second time with the scoped-study area?

A3 – The Feasibility Study was originally initiated to address a recommendation from the Community Based Strategic Plan and the Business Retention and Expansion Study, completed for the Township by the County in 2016. This Study identified municipal servicing as one of the key drivers for businesses in the area to justify potential expansion of their businesses.

The initial Study considered providing municipal water and wastewater services to all properties within an area bounded to the west by the Hanlon Expressway, to the south by Highway 401 (plus the community of Morriston) to the east by Victoria Avenue, and to the north by the City of Guelph. This Study area included a significant number of estate residential properties that are currently adequately serviced with private systems, and who strenuously objected to municipal servicing. However, a number of businesses within this Study area expressed support for the provision of services. As a result, Council decided to extend the Study to consider the option of providing services to the industrial and commercial properties within the Aberfoyle service area only, as there was the potential for cost savings with a more compact service area.

Q4 – Why is money being spent on this study and why is the study requiring a long time period to complete?

A4 – During the Public Information Centre (PIC) meeting, the Mayor indicated that the cost of the feasibility study is about 90% covered by grants and funding from other levels of government. The feasibility study is to provide information for Council to consider as the basis for proceeding, (or not proceeding) with any further studies and Public Consultation that will be necessary before implementing any municipal water or sewage servicing solution in the Township.

A feasibility study is intended to identify new opportunities, provide valuable information and justification to undertake or cancel a project, before more significant costs are incurred. At this stage, the feasibility study provides Council with the ability to consider options within a scoped Study Area while providing for the opportunity to gain feedback from the public, before committing to the expense of further investigations.

Q5 – As an individual business that is not prepared to incur more costs, how will businesses afford this?

A5 – As noted above, if the Township decides to proceed and to complete an EA for Water and Wastewater Servicing, the Township will need to develop a cost recovery plan for the Works. The cost recovery plan could include consideration of funding assistance, connection charges, debt financing, or other sources of funding to ensure that the project is affordable. All businesses impacted by the Study would have further opportunity to provide input to the EA Study and Cost Recovery Plan prior to the Township adopting the recommendations of the Study.

Q6 – As a property owner, we have spent a considerable amount of money to construct a technologically advanced private disposal system and to secure a sufficient well. What would be the benefit of connecting my property to the municipal system?

A6 – The Township recognizes that private owners have invested in their individual water supply and private disposal systems, and sometimes these investments have been significant. However, the Township does not have the ability to monitor the water quality nor the effluent quality from these private systems. Each of these individual private supply and disposal systems are subject to failure, if they are not properly maintained.

If a public system is implemented, then the Township would have the ability to monitor the quality of the drinking water supplied to all businesses in the service area and will have the ability to monitor the effluent quality of the treated wastewater to ensure that all Provincial regulations and objectives are met. In addition, the municipal system would be subject to an independent third-party inspection to ensure that the systems are operated and maintained according to the requirements of the MECP.

Q7 – What about other viable options, particularly not discharging water to Mill Creek?

A7 – If the Township decides to proceed with further consideration of municipal water and sewage servicing, the Township will need to complete an EA Study. This Study will need to consider a full range of Alternative servicing schemes, including the “Do Nothing” alternative which would mean that all properties remain on private systems. However, if the provision of municipal servicing is

selected as the Preferred Alternative, then a full range of servicing design alternatives would then need to be considered, including the location and methods of disposing of the final effluent.

Q8 – What would be the additional costs if Inter-municipal option(s) was selected with the City of Guelph?

A8 – The costs to connect to the City of Guelph system would be established through the negotiation of a Water Servicing Agreement and/or a Sewage Servicing Agreement. These Agreement(s) would document the costs to connect to the system, any capital contributions required for the use of the available capacity in the Guelph System or any costs to upgrade the Guelph System, as well as the ongoing user costs.

These negotiations have not been undertaken to date and, as such, the Township cannot confirm what these costs would be.

Q9 – Can residential owners have a voluntary choice for municipal servicing?

A9 – At this time, the Township was proceeding with consideration of the feasibility of providing water and sewage servicing for industrial and commercial users within the Aberfoyle service area only. If the Township decides to proceed with implementation of the Works, consideration could be given to providing individual residential Owners the opportunity to connect to the system. However, the costs for individual properties would need to be established within the overall Cost Recovery Plan, and each individual property Owner who connects would be required to pay his/her fair share of the cost of the system.

Q10 - Will only major water user property owners' benefit?

A10 – The Addendum to the Feasibility Study has considered the provision of water and sewage services to all industrial and commercial users within the Study area; however, consideration has only been given to the provision of sufficient water supplies for domestic consumption at the businesses. Large users in the service area would need to maintain their own supplies for process water.

Private disposal systems require ongoing maintenance and operation and may be subject to failure if maintenance is neglected. Currently, there are no procedures in place that require ongoing monitoring of private disposal systems to ensure that they are functioning as designed. Provision of a municipal sewage system will ensure that all wastewater generated within the area is treated to a high-quality effluent, and that the effluent quality is monitored as required by the MECP.

We trust the above is in order; however, should you have any questions or require any additional information, please do not hesitate to contact the undersigned.

Sincerely,

CIMA Canada Inc.

Stuart Winchester, P.Eng.
Partner, Director, Municipal Infrastructure
Stuart.winchester@cima.ca

SW:vd

Encl.

cc: James Su, OCWA
Patrick Moyle, Township of Puslinch
Nina Lecic, Township of Puslinch

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CONTACT
Stuart Winchester, P.Eng.
stuart.winchester@cima.ca
T 519 772-2299, 6202

REPORT ADM-2019-023

TO: Mayor and Members of Council

FROM: Courtenay Hoytfox, Development and Legislative Coordinator

MEETING DATE: September 4, 2019

SUBJECT: Proposed 2020 Council/Budget Meeting Schedule

RECOMMENDATION

THAT Council adopts the 2020 Council/Budget Meeting Schedule, attached as Appendix "A" to Report ADM-2019-023.

DISCUSSION

Statutory Holiday and Conference Dates

The Council/Budget Meeting Schedule is set taking into consideration the 2020 Statutory Holidays and the various annual conferences that Council members may attend, including:

- Rural Ontario Municipal Association (January 18 to 21, 2020);
- Ontario Good Roads Association (February 23 to 26, 2020);
- Federation of Canadian Municipalities (June 4 to June 7, 2020); and
- Association of Municipalities of Ontario (August 16 to 19, 2020).

Council Meetings

Council meetings will take place on the first and third Wednesday of each month, commencing at 1:00 pm and 7:00 pm, with the exception of the months of July and August.

The July meeting has been set for the third Wednesday of the month, July 15, 2020, commencing at 7:00 pm. The August meeting has been set for the second Wednesday of the month, August 12, 2020 commencing at 7:00 pm.

Committee Schedule

The Township holds the following two evening advisory committee meetings:

- The Planning and Development Advisory Committee, which meets on the second Tuesday of every month at 7:00 p.m.

- The Recreation Committee which meets quarterly on the third Tuesday of the month at 7:00 p.m.
- The Heritage Committee which meets quarterly at 1:00 p.m.

Public Information Meetings

Ten Public Information Meeting (PIM) dates have been set throughout the year. This provides Council members and the public advance notice for any potential public meetings required under legislation or at the request of Council. If there is no need for a PIM, Council will be advised by Administration staff and the website will also be updated. All PIMs will commence at 7:00 p.m. Staff recommend that PIMs do not get scheduled during the months of July and August.

Budget Meetings

The Budget meetings for the **2020 Budget** have been set as follows:

- Capital Budget – September 25, 2019 (commencing at 9:00 am)
- Operating Budget – October 23, 2019 (commencing at 9:00 am)
- Combined Capital/Operating Overall Review – November 27, 2019 (commencing at 9:00 am)
- Public Open House – Budget Input – January 16, 2020 (commencing at 7:00 pm)
- Final Approval – February 19, 2020

The Budget meetings for the **2021 Budget** have been set as follows:

- Capital Budget – September 23, 2020 (commencing at 9:00 am)
- Operating Budget – October 28, 2020 (commencing at 9:00 am)
- Combined Capital/Operating Overall Review – November 25, 2020 (commencing at 9:00 am)
- Public Open House – Budget Input –– January 14, 2021 (commencing at 7:00 pm)
- Final Approval – February 17, 2021

Committee Meetings

FINANCIAL IMPLICATIONS

None

APPLICABLE LEGISLATION AND REQUIREMENTS

Municipal Act, 2001 – Section 286

Procedure By-Law 59/08

ATTACHMENTS

Appendix "A" - Proposed 2020 Council and Budget Meeting Schedule

PUSLINCH

2020 TOWNSHIP COUNCIL & BUDGET MEETING DATES

MEETING SCHEDULE

January

Su	Mo	Tu	We	Th	Fr	Sa
			1 H	2 C	3	4
5	6 HC	7	8	9	10	11
12	13	14 PDAC	15	16 **PIM	17	18 ROMA
19 ROMA	20 ROMA	21 ROMA	22 C	23	24	25
26	27	28	29	30	31	

February

Su	Mo	Tu	We	Th	Fr	Sa
						1
2	3	4	5 C	6	7	8
9	10	11 PDAC	12	13 PIM	14	15
16	17 H	18 REC	19 C B	20	21	22
23 OGRA	24 OGRA	25 OGRA	26 OGRA	27	28	29

March

Su	Mo	Tu	We	Th	Fr	Sa
1	2	3	4 C	5	6	7
8	9	10 PDAC	11	12	13	14
15	16 March Break	17 March Break	18 C	19	20 March Break	21
22	23	24	25	26 PIM	27	28
29	30	31				

**2020 Budget PIM

April

Su	Mo	Tu	We	Th	Fr	Sa
			1 C	2	3	4
5	6 HC	7	8	9	10 H	11
12	13 H	14 PDAC	15 C	16	17	18
19	20	21	22	23 PIM	24	25
26	27	28	29	30		

May

Su	Mo	Tu	We	Th	Fr	Sa
					1	2
3	4	5	6 C	7	8	9
10	11	12 PDAC	13	14	15	16
17	18 H	19 REC	20 C	21 PIM	22	23
24	25	26	27	28	29	30
31						

June

Su	Mo	Tu	We	Th	Fr	Sa
	1	2	3 C	4 FCM	5 FCM	6 FCM
7 FCM	8	9 PDAC	10	11	12	13
14	15	16	17 C	18 PIM	19	20
21	22	23	24	25	26	27
28	29	30				

July

Su	Mo	Tu	We	Th	Fr	Sa
			1 H	2	3	4
5	6 HC	7	8	9	10	11
12	13	14 PDAC	15 C	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

August

Su	Mo	Tu	We	Th	Fr	Sa
						1
2	3 H	4	5	6	7	8
9	10	11 PDAC	12 C	13	14	15
16 AMO	17 AMO	18 REC	19 AMO	20	21	22
23	24	25	26	27	28	29
30	31					

September

Su	Mo	Tu	We	Th	Fr	Sa
		1	2 C	3	4	5
6	7 H	8 PDAC	9	10	11	12
13	14	15	16 C	17 PIM	18	19
20	21	22	23 CB	24	25	26
27	28	29	30			

October

Su	Mo	Tu	We	Th	Fr	Sa
				1	2	3
4	5 HC	6	7 C	8	9	10
11	12 H	13 PDAC	14	15	16	17
18	19	20	21 C	22 PIM	23	24
25	26	27	28 OPB	29	30	31

November

Su	Mo	Tu	We	Th	Fr	Sa
1	2	3	4 C	5	6	7
8	9	10 PDAC	11 H	12	13	14
15	16	17 REC	18 C	19 PIM	20	21
22	23	24	25 OCB	26	27	28
29	30					

December

Su	Mo	Tu	We	Th	Fr	Sa
		1	2 C	3	4	5
6	7	8 PDAC	9	10	11	12
13	14	15	16 C	17 PIM	18	19
20	21	22	23	24	25 H	26 H
27	28	29	30	31 H		

PIM	Public Info. Meeting/Open House (7:00p.m.)
H	Denotes a Statutory Holiday/Offices Closed
CB	Capital Budget Meeting - 9 a.m.
C	Council Meeting (1 p.m.)
OPB	Operating Budget Meeting - 9 a.m.
C	Council Meeting (7 p.m.)
PDAC	Planning Development Advisory Committee - 7 p.m.

HC	Heritage Committee (1 p.m.)
B	Final Budget Approval
REC	Recreation Committee Meeting - 7 p.m.
ROMA	2020 ROMA Conference Jan. 18-21
ORGA	2020 OGRA Conference Feb. 23-26
AMO	2020 AMO Conference Aug. 16-19
FCM	2020 FCM Conference Jun. 4-7

REPORT BLDG-2019-007

TO: Mayor and Members of Council

FROM: Gerald Moore, Chief Building Official

MEETING DATE: September 4, 2019

SUBJECT: Building Department Monthly Update - June 2019

RECOMMENDATION

That Report BLDG-2019-007 with respect to the Building Department Monthly Update – June 2019 be received for information.

DISCUSSION

Purpose

The purpose of this report is to provide Council with an update of the activities in the Building Department for June 2019.

Background

The purpose of this report is to provide Council with a summary of the Building Department's activities for the month of June 2019.

Financial Implications

The Building Code Act requires that the total amount of building permit fees meets the total costs for the municipality to administer and enforce the Building Code Act and Regulations. Building permit fees were established to fully recover the Township's cost of providing building permit services, including an allocation of administrative overhead/indirect costs. Any surplus revenue from building permit fees is transferred to a restricted reserve, to be drawn upon in years of declining building activity.

APPLICABLE LEGISLATION AND REQUIREMENTS

Building Code Act, 1992, S.O. 1992, c. 23

ATTACHMENTS

Schedule A – 2019 Monthly report

Permit Comparison Summary

Issued For Period JUN 1,2019 To JUN 30,2019

	Previous Year			Current Year		
	Permit Count	Fees	Value	Permit Count	Fees	Value
Bylaw						
Pool Enclosure Permit	2	420.00	140,000.00	1	215.00	45,000.00
Commercial/Industrial						
Commercial - No Occupancy Required	0	0.00	0.00	1	1,027.00	40,000.00
Demolition						
Demolition Permit	1	156.00	1,000.00	3	468.00	60,000.00
New Residence						
Residential - Occupancy Required	4	20,445.36	3,590,000.00	10	60,217.62	6,690,000.00
Other						
Solar Permit	0	0.00	0.00	1	416.00	30,000.00
Tent Permit	1	260.00	8,000.00	0	0.00	0.00
Other Residential						
Accessory/Farm Buildings	1	705.60	55,000.00	5	5,769.60	518,000.00
Deck Permit	3	611.52	55,500.00	2	312.00	7,500.00
Detached Garage	1	156.00	3,500.00	1	896.22	900,000.00
Residential - No Occupancy Required	3	2,500.68	640,000.00	3	1,768.65	80,000.00
Others						
Pool Permit	0	0.00	0.00	1	218.76	15,000.00
Septic						
Sewage Disposal System Permit	5	3,120.00	77,400.00	8	4,836.00	205,000.00

	Previous Year	Current Year
Total Permits Issued	21	36
Total Dwelling Units Created	4	7
Total Permit Value	4,570,400.00	8,590,500.00
Total Permit Fees	28,375.16	76,144.85
Total Compliance Letters Issued	4	4
Total Compliance Letter Fees	300.00	225.00

Inspection Summary

Ward	Permit Inspections	Other Roll Inspections
000	398	0
Total	398	0

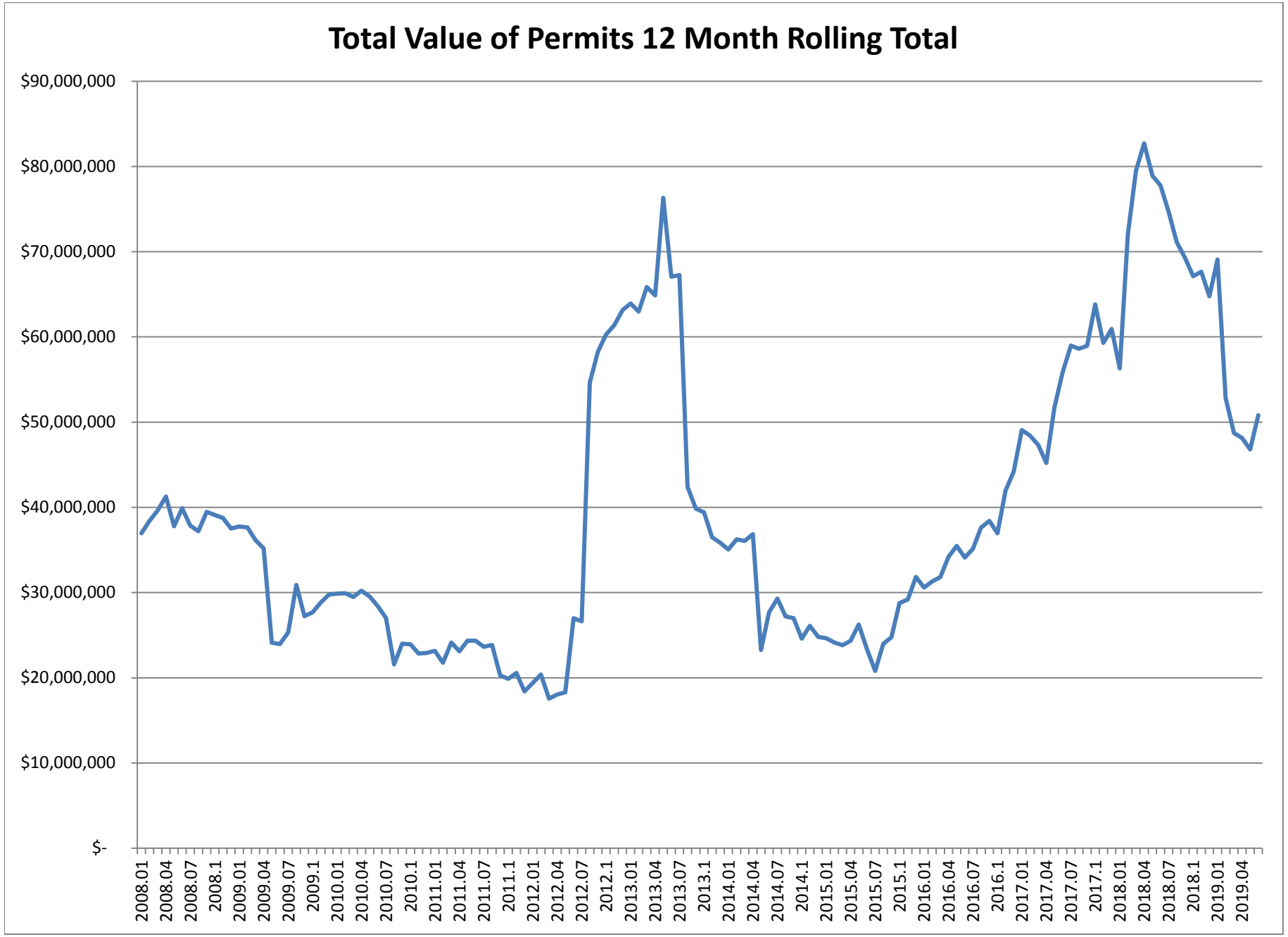
Permit Charge	Amount
Accessory/Farm Buildings	5,769.60
Commercial - No Occupancy Req	1,027.00
Deck Permit	312.00
Demolition Permit	468.00

Permit Comparison Summary

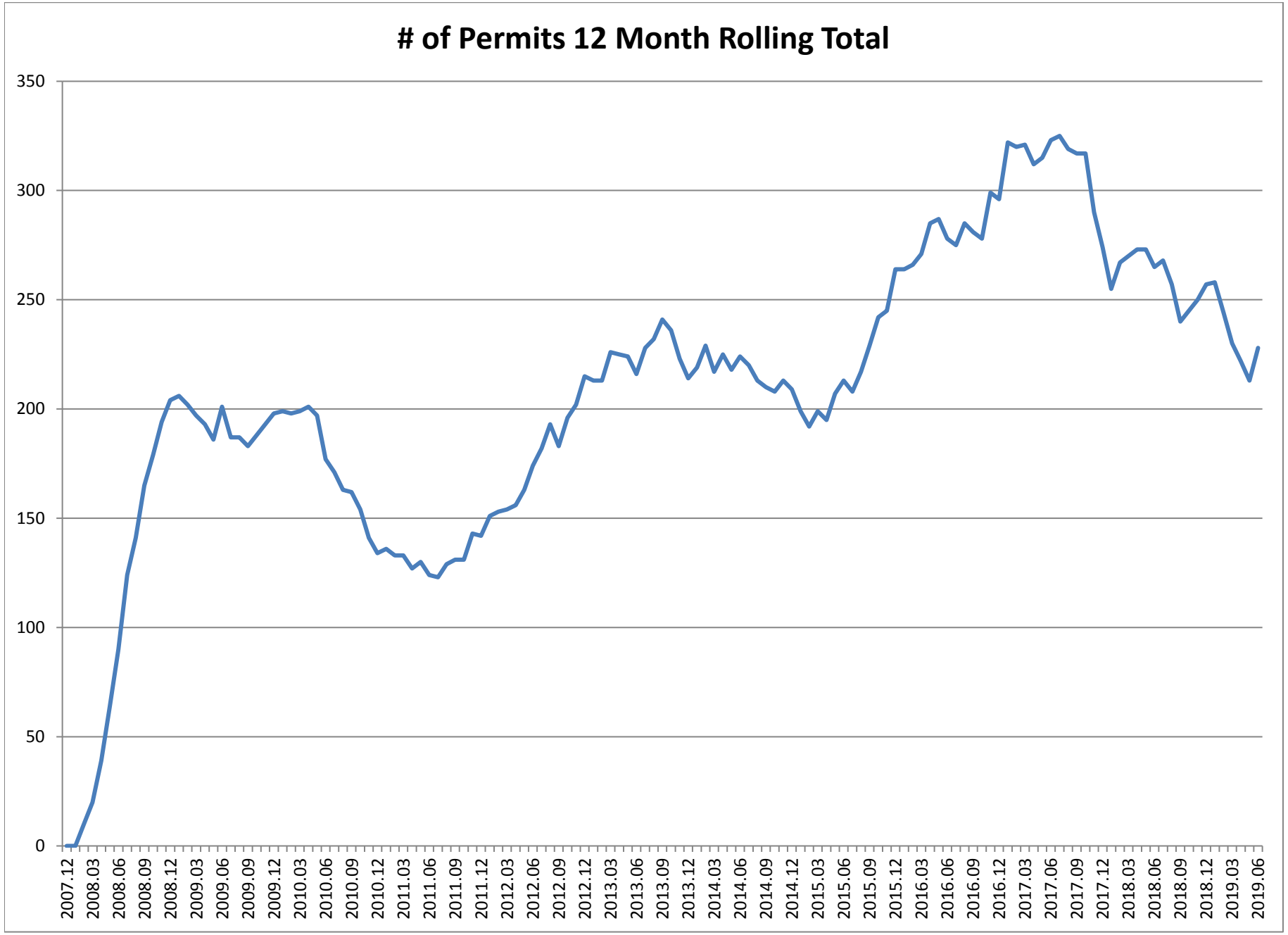
Issued For Period JUN 1,2019 To JUN 30,2019

Detached Garage	896.22
Pool Enclosure Permit	215.00
Pool Permit	218.76
Residential - No Occupancy Req	1,768.65
Residential - Occupancy Requir	60,217.62
Sewage Disposal System Permit	4,836.00
Solar Permit	416.00
Total	76,144.85

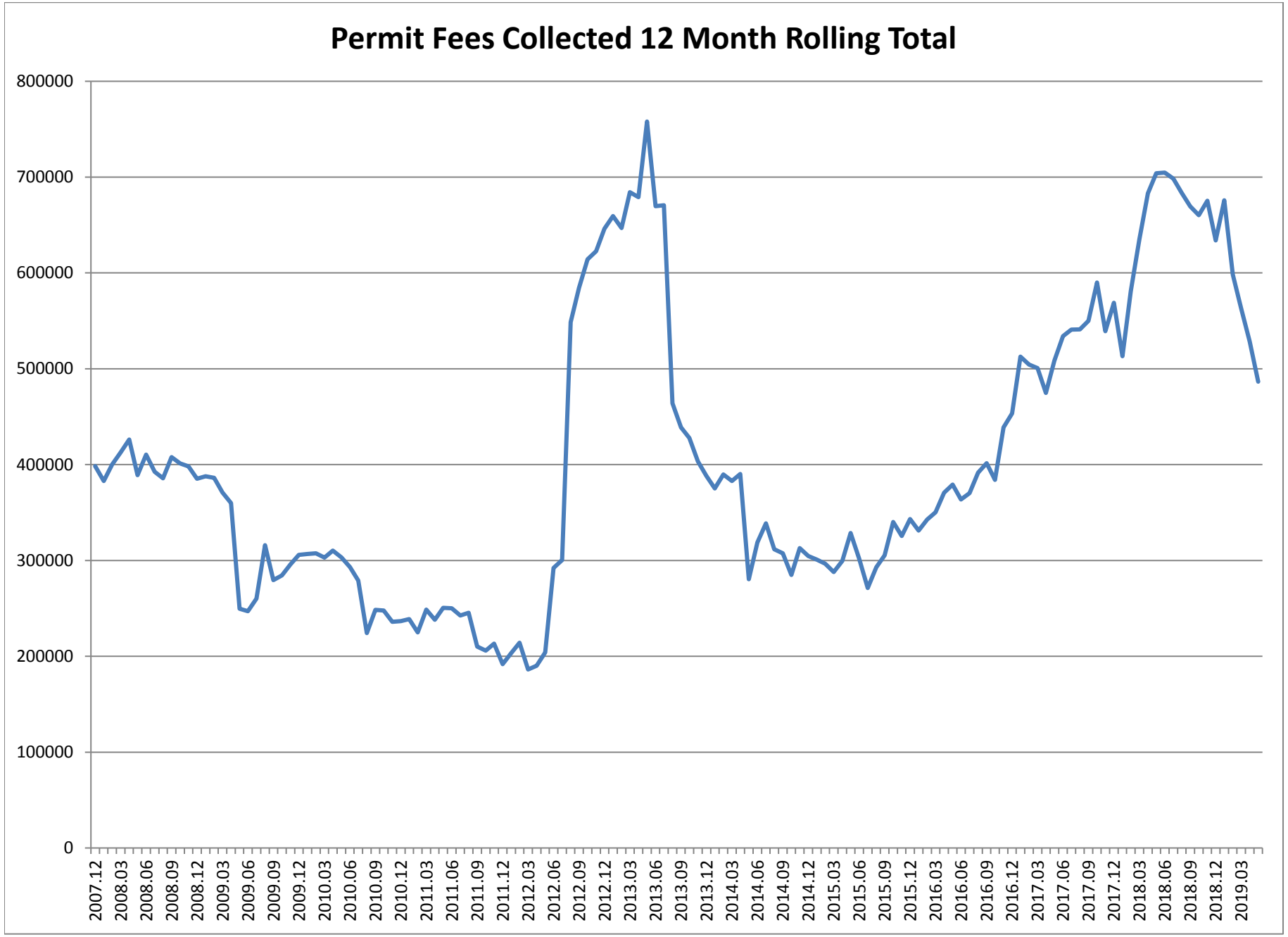
Note: The Graphs Below only Include Septic Permits in 2012 and beyond



Note: The Graphs Below only Include Septic Permits in 2012 and beyond



Note: The Graphs Below only Include Septic Permits in 2012 and beyond



REPORT PD-2019-011

TO: Mayor and Members of Council

FROM: Lynne Banks, Development and Legislative Coordinator

MEETING DATE: September 4, 2019

SUBJECT: Temporary Residence Agreement
7424 Wellington Rd 34
L04/MAR – Michael Marinovic

RECOMMENDATION

That Report PD-2019-011 regarding a Temporary Residence Agreement (the "Agreement") between the Township and Michael Marinovic for the land described as Rear Part Lot 20, Concession 7, designated as Part 1 on Reference Plan 61R-577 and known municipally as 7424 Wellington Rd 34, Puslinch (the "Lands"), be received.

Background:

The owner of the Lands currently has a residential dwelling that he occupies, however he will be building a new residential dwelling on the Lands and has requested to enter into an agreement with the Township to permit the occupants of the existing dwelling to continue to reside in it until the new residential dwelling is built and occupancy is obtained.

The *Planning Act*, R.S.O 1990, as amended, allows for the temporary use, in part, of a existing dwelling to be used as a temporary residence during the construction of a new residence for a period that does not exceed 12 months after issuance of a building permit for the new dwelling, providing, among other requirements that sufficient securities be posted to ensure the removal of the temporary dwelling.

The owner is requesting to enter into an agreement with the Township and has agreed to post a security deposit in the amount of $20,000.00 to ensure that the temporary dwelling is removed from the property once occupancy of the new dwelling has been granted. .

Purpose:

The Agreement will ensure that the temporary dwelling will be removed from the property once occupancy of the new dwelling is granted.

Financial Implications

None.

Applicable Legislation and Requirements

Municipal Act, 2001, S.O. 2001, c. 25
Planning Act, R.S.O. 1990, as amended

Applicable Legislation and Requirements

Township of Puslinch Zoning By-law 19/85

REPORT PD-2019-012

TO: Mayor and Members of Council

FROM: Lynne Banks, Development and Legislative Coordinator

MEETING DATE: September 4, 2019

SUBJECT: Bus Pad Agreement
Wellington Vacant Land Condominium Corporation No. 172
L04/HER – Wellington Road #34

RECOMMENDATION

That Report PD-2019-012 regarding a Bus Pad Agreement (the "Agreement") between the Township and Wellington Vacant Land Condominium Corporation No. 172 for the land abutting Wellington Road 34, Puslinch (the "Lands"), be received.

Background:

The Wellington Vacant Land Condominium Corporation No. 172 (the "Condo Corporation"), the owner of the lands abutting Wellington Road 34, has requested that the Condo Corporation enter into an agreement with the Township of Puslinch to construct a bus pad on its land abutting Wellington Road 34, shown on Schedule "A attached, for the purpose of providing a safe location for school students to wait for the school buses. The Condo Corporation intends to install a sidewalk on its own property to provide safe access to the bus pad.

The Condo Corporation would be responsible for the design and construction of the bus pad as well as all maintenance and repair obligations to include the removal of snow, ice, garbage, and debris as well as salting and sanding in accordance with the Township's standards. It will also be responsible for replacement of the bus pad if necessary in the future.

It should be noted that should the Condo Corporation or its contractors do any work on the Township road allowance, it will provide the Township with evidence of a current comprehensive liability insurance policy holding the Township harmless for any and all claims for damages, injuries or losses.

Purpose:

The Agreement will ensure that the students have a safe location to wait for the school buses during the school year.

Financial Implications

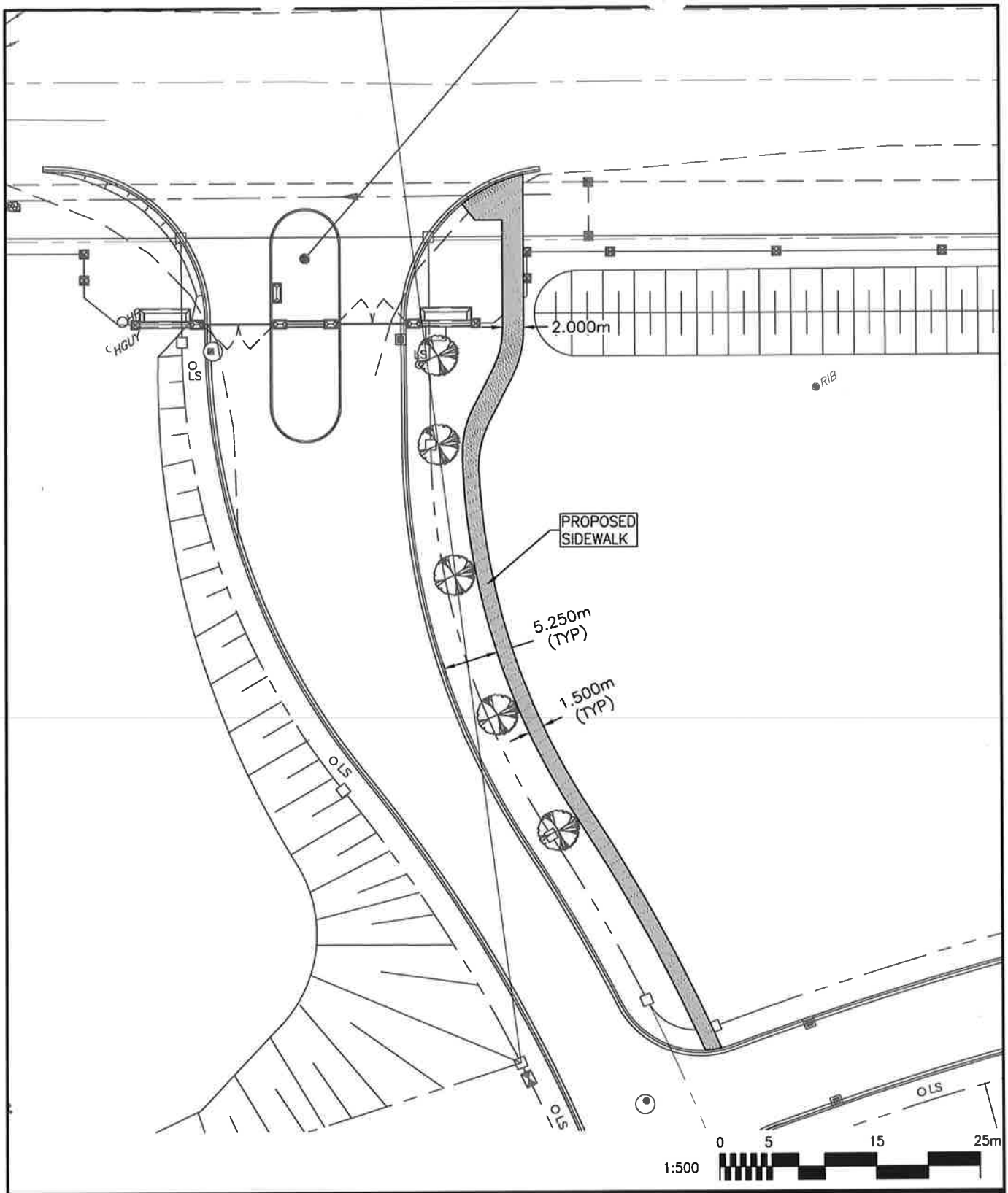
None.

Applicable Legislation and Requirements

Planning Act, R.S.O. 1990, as amended

Attachment "A"

SCHEDULE "A"



Stantec

Stantec Consulting Ltd.
100-300 Hagey Boulevard
Waterloo ON N2L 0A4
Tel: (519) 579-4410
www.stantec.com

Client/Project
HERITAGE LAKE LP.

HEITAGE LAKE DEVELOPMENT

Project No.
160320598

Title
PROPOSED SIDEWALK

Revision
0

Date
2016.07.16

Reference Sheet

Figure No.
FIG 1.0

V:\01603\active\60310598\design\drawing\civil\sheet_files\60310598C-SIDEWALK.dwg
7/16/2018 4:37:29 PM By: Brown, Kevin

REPORT PD-2019-013

TO: Mayor and Members of Council

FROM: Courtenay Hoytfox, Development and Legislative Coordinator

MEETING DATE: September 4, 2019

SUBJECT: Canadian Radiocommunications Information and Notification Services (CRINS-SINRC)

RECOMMENDATION

That Report PD-2019-013 with respect to a membership with Canadian Radiocommunications Information and Notification Services (CRINS-SINRC) be received; and

That Council authorize that the Township of Puslinch become a member of the Canadian Radiocommunications Information and Notification Service for processing Radiocommunications facilities applications within the Township of Puslinch and forward a letter to CRINS-SINRC advising of the decision; and

That Council authorize CRINS-SINRC and its staff to act as the authorized representative of the Township for the purpose of receiving and acting upon all Radiocommunications applications, reporting to and working with the Development and Legislative Coordinator; and

That Council adopt the CRINS-SINRC Antenna System Siting Review and Consultation Protocol; and

That Council authorize a combined application fee of $2293.00 where $543.00 is remitted to the Township to cover administration costs and $1750.00 is remitted to CRINS.

Background:

At the August 14, 2019 Council meeting, Council directed staff to have CRINS-SINRC make a delegation to Council with respect to their services and that staff report back on these services.

Purpose:

The purpose of this report is to have Council authorize the Township of Puslinch to become a member of CRINS-SINRC.

Financial Implications

Report FIN-2019-027 regarding the 2020 Proposed User Fees and Charges indicated an administrative fee of $543.00 for Telecommunications Tower Proposals. It is recommended that this fee increase by $1750.00 to a total amount of $2293.00 in order to recoup the costs associated with CRINS-SINRC services.

Applicable Legislation and Requirements

Not applicable

Attachment "A"

Antenna System Siting Review and Consultation Protocol

Antenna System Siting Review and Consultation Protocol,

Reference Issue 4

July 15, 2017

CRINS-SINRC

Table of Contents

Introduction

The purpose of the *Antenna System Siting Review and Consultation Protocol, Reference Issue 3* [1]is to detail the review process for an application submitted through CRINS-SINRC to a participating Land Use Authority (LUA) for the siting and construction of an antenna system, as well as defining the participating LUA's expectations relating to the location and design of radiocommunications facilities.

This protocol applies to any proponent planning to install a new or modify an existing radiocommunications facility regardless of the type of installation or service. This includes, but not limited to:

- Personal Communications Services (PCS);
- Cellular operators;
- Fixed wireless operators;
- Broadcasting operators;
- Land-mobile operators;
- License-exempt operators; and,
- Amateur radio operators.

All new radiocommunications facilities are expected to follow this process to obtain either a Notice of Facility Exemption or a Notice of Completion relating to the consultation and the corresponding Land Use Authority (LUA) Recommendations Report.

[1] [Short Title: *CRINS-SINRC Reference Protocol, Issue 4 (2017)]*

1 Objectives

The goal of this protocol is to provide a framework which sets out the LUA's expectations for appropriate design and satisfactory public consultation for proposed radiocommunications facilities. The objectives that implement this goal are:

1.1 Having regard for Industry Canada's legislative authority in a protocol which also respects the context for development, and land-use mandate of the LUA;

1.2 Setting out a transparent, consistent, and predictable process for the evaluation of all radiocommunications facility proposals that:

a) Establishes objective criteria and guidelines for evaluating and processing applications seeking LUA concurrence;

b) Specifies the LUA's expectations as to how new radiocommunications facilities are to be sited and designed in a manner that compliments the surrounding landscape and public realm;

c) Defines a clear consultation process administered through CRINS-SINRC that requires proponents to engage and inform stakeholders about radiocommunications facilities; and,

d) Develops a predictable timeline for issuing of LUA recommendations that incorporates early consultation to identify potential issues with applications in order to meet Industry Canada's timeline requirements.

1.3 Detailing the roles and responsibilities of the various parties in the radiocommunications facility consultation process;

1.4 Ensuring that the LUA's residents and businesses are made adequately aware of radiocommunications facility proposals through education and public consultation; and,

1.5 Establishing an appropriate conclusion to the LUA consultation process, including specific outcomes and deliverables.

2 Jurisdiction and Interpretation

2.1 Wireless communications and broadcast operators in Canada are licensed by the Department of Industry (Industry Canada) in accordance with the exclusively federal jurisdiction vested in the *Radiocommunications Act Section 5(1) (a) (i.1).* Additionally, the broadcasting communication operator's activities are licensed separately by the *Canadian Radio-television and Telecommunications Commission (CRTC).*

2.2 As a federal undertaking, radiocommunications sites must adhere to all applicable federal regulations and guidelines, including but not limited to:

- The National Building Code and National Fire Code;
- Canadian Environmental Assessment Act;
- Industry Canada's CPC-2-0-17 - *Conditions of Licence for Mandatory Roaming and Antenna Tower and Site Sharing and to Prohibit Exclusive Site Arrangements*;
- Health Canada's Safety Code 6; and,
- Industry Canada's CPC-2-0-03.

2.3 Radiocommunications sites are not subject to either municipal or provincial land-use legislation including the Planning Act and /or Municipal Governance Act of a province or territory. No formal development or planning agreements can be executed and registered on title with respect to radiocommunications facilities.

2.4 For the purposes of this protocol, the Land Use Authority (LUA) shall be the municipal government, or in the case of land administered by the Crown, the relevant provincial government or federal government agency.

2.5 For radiocommunications facilities not excluded under Section 4 of this protocol, proponents are expected to satisfy the public consultation requirements of the applicable LUA. The role of the LUA is to provide input and comments to Industry Canada as part of that process.

2.6 This protocol is to be read in its entirety as a comprehensive and integrated policy framework to establish the site criteria and process leading to the issuing of a Notice of Completion or Notice of Facility Exemption, and a LUA Recommendations Report for a proposed facility.

2.7 For the purposes of this protocol, the only member of LUA staff having the authority to manage and exercise responsibilities under this protocol shall be the Director of Planning or his or her designate. No powers or privileges under this protocol shall at any time be interpreted to extend to any other member of staff.

3 Radiocommunications Development Plan

3.1 Annual Review

3.1.1 Proponents shall be invited to submit within 90 days of the adoption of this protocol and by September 30th of each subsequent year, a written Radiocommunications Development Plan (RDP) which outlines the proponent's expected areas of infrastructure development for the coming year.

3.1.2 The LUA shall review each proponent's plan and identify areas of common interest between proponents. The LUA shall host a meeting with all Proponents who submitted an RDP to identify opportunities for joint build and co-location pursuant to Industry Canada's CPC 2-0-03 and CPC 2-0-17.

3.1.3 The LUA shall identify, as part of the meeting, areas of development and development applications within its jurisdiction where Proponents may have an interest in expanding their services. The LUA may facilitate discussion with land developers, and other interested parties, to allow the Proponents to consider infrastructure options during the planning stage.

3.1.4 Where feasible, the LUA may offer the Proponents an option for pre-approval on proposed facilities where a joint build option exists.

4 Excluded Antenna Systems

4.1 Basic Exclusions

Industry Canada excludes a number of proposals from consultation with the public. The exclusions are as follows:

a) The maintenance of existing radio apparatus including the antenna system, transmission line, mast, power, or other antenna-supporting structure;

b) Addition or modification of an antenna system (including improving the structural integrity of its integral mast to facilitate sharing), the transmission line, antenna-supporting structure, or other radio apparatus to existing infrastructure, building, or other structure, provided the addition or modification does not result in an overall height increase above the existing structure of no greater than 25% of the height of the original structure. For greater clarity, Industry Canada extends this exclusion to radiocommunications facilities proposed to be attached or affixed to any building or structure, including a rooftop or support pillar;

c) Maintenance of a radiocommunications facility's painting or lighting in order to comply with the requirements of Transport Canada;

d) Installation of a radiocommunications facility used for a limited duration for a special event or to support local, provincial, or national emergency operations during that emergency, and is removed

within three months after the special event or emergency; and,

e) All radiocommunications facilities less than 15 metres (50 feet) in height except when the proponent is a telecommunications company as defined under the *Telecommunications Act*.

4.2 Additional Exclusions

The LUA additionally excludes the following radiocommunications facilities from public consultation:

a) Any facility which has been pre-approved as part of a proponent's annual Radiocommunications Development Plan; and,

b) Additional equipment shelters associated with a new co-located facility.

4.3 Confirmation of Exclusion

4.3.1 Notwithstanding 4.1 and 4.2 above, the proponent is still required to confirm with the LUA that the proposed facility meets the exclusion criteria by submitting proposal information in accordance with Section 5.1 of this protocol.

4.3.2 Where a proponent demonstrates that their proposal meets one or more of the exclusion criteria of Sections 4.1 or Section 4.2, the LUA shall issue confirmation of the exclusion in the form of a Notice of Facility Exemption to the proponent and Industry Canada.

4.3.3 Proponents are asked to incorporate the design recommendations provided in Section 7.2 of this protocol (as applicable), even if a Notice of Facility Exemption has been issued.

4.4 Community Sensitive Locations

4.4.1 Notwithstanding the exclusions outlined in Section 4.1 and Section 4.2 of this protocol, Industry Canada states in Section 6 of CPC-2-0-03 that exclusion criteria should be applied with consideration for local surroundings. To that end, proponents are expected to engage in a pre-consultation review with the LUA for all proposals, even where a proposed radiocommunications facility is likely to be excluded, to allow the LUA an opportunity to determine if the proposed facility falls within a Community Sensitive Location.

4.4.2 A Community Sensitive Location shall be defined as any property, which under the relevant LUA regulations:

- is currently designated as a Heritage Property;
- is an area of designated architectural significance;
- contains a site of archeological significance; or,
- is located on or within a distance of three (3) times the high of the structure froma natural conservation area.

4.4.3 A proposed facility will not be eligible for an exemption from consultation, and the LUA will request that Industry Canada override their policy on radiocommunications facilities excluded from consultation, where a facility is proposed within a Community Sensitive Location.

5 Application Requirements

5.1 Pre-consultation Review

Proponents shall request a pre-consultation review through the CRINS-SINRC system. Requests for pre-consultation will be accepted once the proponent has submitted the following information to the CRINS-SINRC online system:

- The location of the proposed radiocommunications facility, including its address and location on the lot or structure (CRINS-SINRC Site Information Abstract);
- A short summary of the proposed radiocommunications facility and, if applicable, how it meets one of the exclusion criteria under Section 4 of this protocol (CRINS-SINRC Facility Type Abstract);
- Set of drawings illustrating the proposal, including a conceptual site plan, elevation drawings, and context plan showing the development within the existing neighborhood (which can be supplied using an aerial photograph base) according to the drawing guidelines outlined in Section 5.2 (c) and (d).

Such a request shall not be deemed by the LUA as the official commencement of the 120-day consultation process, in accordance with Section 5.3 of this protocol.

5.2 Non-Excluded Radiocommunications Facilities

Any proposals for non-excluded radiocommunications facilities will require the submission of a complete application through the CRINS-SINRC online system. This includes completing the online application information, payment of fees, and uploading electronic versions of supporting documentation as follows:

a) CRINS-SINRC online data entry of the following information :

- The location of the proposed radiocommunications facility, including its geographic coordinates, its address and location on the lot or structure (CRINS-SINRC Site Information Abstract);
- A description of the proposed structure type, shelter type, height, access, and utility sources (CRINS-SINRC Facility Type Abstract);

b) Upload a written justification on the CRINS-SINRC Facility Type Abstract containing:

- The rationale for the selection of the proposed site (indication of whether the site provides coverage and/or capacity, what communities / areas will benefit from the new facility);
- Description of co-location alternatives considered within a 3 km radius of the proposed site;
- A statement indicating the justification for the height of the proposed radiocommunications facility (towers only);
- A statement on future co-location possibilities for the support structure, if applicable (CPC-2-0-17);
- A statement on how the radiocommunications facility, if located in an area designated for future urban development, shall complement and become a part of the future community

without unduly limiting the potential for future urban development; and,

- A statement indicating the justification for not complying with any of the LUA's preferred design criteria in Section 7.3 of this protocol, as applicable.

c) Upload to the CRINS-SINRC system a set of color photographs of the subject lot, oriented toward the proposed radiocommunications facility from at least three landmarks or important locations in the vicinity of the proposed site:

- One set showing the current site conditions (minimum 3 photos); and,
- One set including superimposed images of the proposed radiocommunications facility (minimum 3 photos).
- A topographical map or satellite image showing the location from which the pictures were taken (1 image).

d) Upload to the CRINS-SINRC system a site plan, elevations, and survey drawings prepared to appropriate metric scale showing:

- The subject lot and lease area (a key plan can be used for properties having an area of 2.0 hectares or greater);
- General site grading;
- The location of existing lot lines, and setbacks from those for the proposed radiocommunications facility;
- Setbacks from existing and proposed buildings and structures for the proposed radiocommunications facility;
- Setbacks from the nearest building not on the subject property, measured from the nearest point of the building, structure, or feature;
- The staked limits of significant natural heritage features and other sensitive lands and setbacks from those for the proposed radiocommunications facility within 3 times the height of the proposed structure (if applicable);
- Existing and proposed landscaping, including an inventory of existing vegetation and any plantings proposed to screen the base of the tower and any structures on the ground where applicable;
- Access proposed to the radiocommunications facility, including any motor vehicle parking spaces including dimensions; and,
- The structure type and height of the proposed radiocommunications facility.

e) Upload to the CRINS-SINRC system mapping prepared to appropriate metric scale showing:

- The location of the proposed radiocommunications facility within the community; and,
- Network coverage mapping showing the applicant's current coverage and anticipated coverage (including signal strengths in dBm) with the installation of the proposed radiocommunications facility including the nearest existing antenna systems belonging to the proponent.

f) Upload approvals from Transport Canada's and NAV Canada outlining aeronautical obstruction marking requirements (whether painting, lighting, or both) if available. If unavailable, the proponents can provide their applications to Transport Canada and NAV Canada together with an undertaking to provide those requirements once they become available;

g) Upload a written attestation that the proposed radiocommunications facility will comply with Safety

Code 6, including combined effects within the local radio environment at all times, signed by the Professional Engineer taking responsibility for the site's compliance;

h) Upload a statement on the potential effects that the proposal may have on nearby electronic equipment (both existing and proposed) in accordance with CPC-2-0-03 and EMCAB-2, as well as measures proposed to mitigate those effects; and,

i) Upload a written attestation that the proposed radiocommunications facility will comply with the National Building Code and National Fire Code in accordance with the proponent's responsibilities under enabling federal legislation, signed by the Professional Engineer taking responsibility for the site's compliance.

5.3 Complete Application

To clarify Industry Canada's requirements of Section 4 of CPC-2-0-03, the LUA shall consider the date a Complete Application was received as the official commencement of the 120-day consultation process. Such a process is consistent with and required for other development applications in the LUA. A determination on the completeness of an application or request for additional information will be provided within five days of receipt of the application by the LUA.

5.4 Additional Information

If a request is made to the proponent for additional information prior to the LUA deeming the application to be complete and no additional information is supplied within 90 days, the LUA shall advise Industry Canada of the incomplete nature of the application and will deem the application abandoned.

6 Siting on LUA-owned Properties

Any request to install a radiocommunications facility on lands owned by the LUA shall be made to the Manager of Realty Services, in accordance with LUA policy. Independently, an application shall be required by the proponent in accordance with Section 5.2 of this protocol.

7 LUA Recommendations Report

The LUA acknowledges that proponents can install radiocommunications facilities in almost any location. It is the LUA's position to work with proponents to achieve the best possible design of a radiocommunications facility for constituents. Such design strikes an appropriate balance between technological and network coverage requirements, and unobtrusive development that compliments or improves the surrounding landscape and public realm.

As part of the input provided to proponents and Industry Canada, an LUA Recommendations Report will be provided for all proposed installations and shall be a required deliverable for non-excluded applications prior to a Notice of Completion being issued. The LUA Recommendation report shall consist minimally of the following elements:

7.1 Statement on Land Use

The LUA shall provide a statement on the Proponent's choice of site relative to the following criteria:

- Community Sensitive Locations
- Fire routing and access.
- Zoning and compatibility with existing Strategic Plans.
- Environmental Concerns

7.2 Antenna Siting Design Framework Criteria

7.2.1 The LUA shall provide Antenna Siting Design Framework (ASDF) criteria for the proposed site to the proponent through the CRINS-SINRC system. The ASDF criteria shall outline design goals for the proposed site based on the location chosen by the proponent. The LUA shall inform its recommendations based on how well the proponent's design meets the ASDF design criteria.

7.2.2 The ASDF provides an overall classification of the proposed design through a concept known as "Degree of Visual Change" which is characterized as "Low", "Medium" or "High".

7.2.3 The level of public consultation required for a proposed site shall be dictated by the ASDF "Degree of Visual Change" classification as follows:

- "Low" – the proposed facility requires that land owners within a minimum of 120 metres or 3 times the structure height, whichever is greater, be notified by mail/courier requesting comments or questions over a 30 day period. No road signage is required. No public meeting is required. LUA Staff shall issue a LUA Recommendation Report within 30 days. A Notice of Completion shall be issued by CRINS-SINRC upon receipt of the LUA Recommendation Report and approval by the LUA Designated Representative.

- "Medium" – the proposed facility requires that land owners within a minimum of 120 metres or 3 times the structure height, whichever is greater, be notified by mail/courier requesting comments or questions over a 30 day period. A Public Notice shall be placed in local media outlets requesting comments or questions over a 30 day period. Road signage shall be erected prior to the mailout to adjacent landowners and publication of the Public Notice. No public meeting is required. Staff shall issue an LUA Recommendation report within 30 days and such report shall be accompanied by a summary of public comments received from adjacent landowners and members of the public. A Notice of Completion shall be issued by CRINS-SINRC upon receipt of the LUA Recommendation Report and approval by the LUA Designated Representative.

- "High" – the proposed facility requires that land owners within a minimum of 120 metres or 3 times the structure height, whichever is greater, be notified by mail/courier requesting comments or questions over a 30 day period. Road signage shall be erected prior to the mailout to adjacent landowners. A Public Information Meeting shall be held no later than 14 days after the closing date for submissions from adjacent landowners. LUA staff shall prepare an LUA Recommendations Report within 60 days, including a summary of public comments received

during the public information meeting, and shall present the report to the LUA's Planning Committee and/or Council for review. A Notice of Completion shall be issued by CRINS-SINRC on the date the LUA Recommendation Report is presented to Council. However, a statement of concurrence from the LUA will only occur with the approval of Council.

7.3 Statement on Compliance with General Design Recommendations

The following general design guidelines shall apply for all radiocommunications facilities in the LUA and proponents are asked to follow these guidelines, as applicable, for all proposed facilities:

7.3.1 Colors used for all components of the radiocommunications facility shall be compatible with the surrounding landscape and public realm:

a) Color matching shall be the first preference for the LUA, with the exact color(s) determined on a case-by-case basis to enhance the surrounding landscape and public realm;

b) Neutral colors shall be the second preference; and,

c) Non-reflective surfaces and paints shall be used.

7.3.2 Designs requiring no illumination are expected except where Transport Canada and NAV Canada requirements for illumination of the radiocommunications facility are identified.

7.3.3 Where a proposed radiocommunications facility requires an equipment shelter:

a) The first preference is to locate such structures within a main or accessory building used for other uses on the same lot;

b) A new, above-ground equipment shelter at the base of the structure or abutting the penthouse of a building is the next preference of the LUA; and,

c) Any new equipment shelter shall require architectural treatments sensitive to the surrounding landscape and public realm and in the case of a building, consistent with the architectural style of the building.

7.3.4 Where a proposed radiocommunications facility requires screening and access restriction:

a) Existing vegetation shall be preserved wherever possible, with new plantings provided to enhance the surrounding landscape and public realm;

b) Where fencing is proposed, design details including the materials proposed and elevation drawings showing details and gate locations shall be provided in the drawings uploaded with the application;

c) Fencing shall use materials sensitive to the surrounding landscape and public realm; and,

d) The use of razor wire requires analysis in the justification report, including how its use will not compromise the surrounding landscape and public realm.

7.3.5 Vehicular access to the proposed radiocommunications facility should be provided as follows:

a) Access needs to be suitably provided to a public street or across a private right-of-way; and,

b) Any parking space provided shall not be within a road allowance.

7.3.6 Where a proposed radiocommunications facility is located on the roof of a building or structure:

a) Support structures and equipment shelters should be color-matched or designed with architectural treatments and/or shrouding to compliment or blend in with the existing building; and,

b) Antennas should be flush-mounted wherever possible.

7.3.7 New radiocommunications facilities shall avoid obscuring significant views and vistas.

7.3.8 Where a proposed radiocommunications facility is located on the roof of a building or structure:

a) Any signage required by Industry Canada shall be permitted to be posted on the radiocommunications facility;

b) The LUA shall require the posting of a small plaque at the base of the radiocommunications facility, identifying its owner/operator and contact information for that party; and,

c) No third-party signage, flags, or graphics are permitted on a telecommunication facility except where such signage is part of the shrouding scheme for the site and the signage is compliant with the LUAs existing signage requirements.

7.4 Siting of Facility Relative to Existing Use

The LUA acknowledges that radiocommunications facilities are not subject to the requirements of a Zoning By-law. Notwithstanding this, the following requirements apply to radiocommunications facilities:

7.4.1 The placement of any parking space or any component of a radiocommunications facility shall not create or cause a situation of non-compliance with any LUA Zoning By-law for any other use, building, or structure on the same lot.

7.5 Statement of Concurrence

The LUA shall provide a statement of concurrence or non-concurrence with the proposed facility, signed by the Director of Planning.

7.5.1 If the LUA concurs with the proposed facility subject to conditions, the Statement of Concurrence shall state any conditions to be satisfied by the proponent, and the Proponent shall be asked to provide a Letter of Undertaking on their letterhead agreeing to satisfy the conditions.

7.5.2 If the LUA does not concur with proposed facility, then the Statement of Non-Concurrence shall detail the reasons that the proposed facility is deemed unacceptable, and any remedies available to the Proponent to satisfy the LUA and bring their proposal into an acceptable state.

7.5.3 In the case that non-concurrence is due to the Proponent not being prepared to satisfy the conditions provided under a conditional Statement of Concurrence, then the LUA shall request that Industry Canada not provide a license to the Proponent for the proposed site.

8 Public Consultation

In completing a public consultation process for a new, non-excluded radiocommunications facility, it is expected that CRINS-SINRC and LUA staff shall facilitate the process with support from the proponent as required. A Public Consultation shall be required only for facilities that do not meet the exclusion criteria of Section 4 of this protocol, and shall be conducted according to the following process:

8.1 Notification Package

a) The LUA will provide CRINS-SINRC staff with a list of landowners and tenants, where applicable, within a radius of the greater of 120 metres or three times the height of the proposed radiocommunications facility. This distance shall be measured outward from the furthest point of the radiocommunications facility's supporting mechanism (i.e. outermost guy line, building edge, or tower face). All properties within this distance shall be included on the mailing list.

b) CRINS-SINRC will prepare and distribute the notification package to the following recipients:

- To the landowners within a radius the greater of 3 times the tower height or 120 metres from the proposed radiocommunications facility, addressed to the name on the list and "or the occupant";
- The Director of Planning or his or her designate;
- The CAO of the LUA;
- If an adjacent municipality is located within 120 metres or three times the tower height of the proposed radiocommunications facility, the CAO of that municipality; and,
- The local councilor(s).

c) The package shall include the following items submitted under Section 5.2 of this protocol:

- Description of and rationale for the proposed structure including structure type and design, dimensions, height, color, lighting, and site access (including measures to control public access);
- Superimposed images of the proposed radiocommunications facility;
- Attestation that the general public will be protected in compliance with Safety Code 6, including combined effects within the local radio environment at all times;
- The project's status under the Canadian Environmental Assessment Act;
- A description of Transport Canada's and NAV Canada's aeronautical obstruction marking requirements (whether painting, lighting, or both) if available. If unavailable, the proponents can provide their expectation of Transport Canada's requirements together with an undertaking to provide those requirements once they become available;
- A statement on the potential effects, measures that the proposal may have on nearby electronic equipment (both existing and proposed) in accordance with CPC-2-0-03 and EMCAB-2, as well as measures proposed to mitigate those effects;
- Attestation that the proposed facility shall comply with all structural codes and regulations;
- Notice that general information relating to antenna systems is available on the CRINS-SINRC website;

- Contact information for CRINS-SINRC, a representative of the proponent, the Director of Planning Services or his or her designate, and a representative from Industry Canada; and,
- Information on how to submit comments and the closing date for submission of written public comments (which shall be not less than 30 days from the date of transmission of the notification).

8.2 Notice Sign

a) The proponent shall erect, when required under this protocol, one notice sign along each lot line abutting a public street or roadway.

b) Where a public meeting is required, the sign shall be posted at least 21 days before the public information meeting. Where no public information meeting is required, the sign shall be posted for three weeks at any point during the consultation process.

c) All notice signs shall be erected on the lot so that it is clearly visible and legible from all public streets or roadways abutting the subject lot. The signs shall be provided by CRINS-SINRC and conform to the following format:

d) Photographs illustrating all notice signs posted and the date on which they were installed on the subject lot shall be uploaded to the CRINS-SINRC online system by the proponent as soon as possible after installation.

e) All notice signs must be removed no later than 21 days after an issuance of a Notice of Completion.

8.3 Public Information Meeting

a) The Public Information Meeting shall be required for all non-excluded facilities classified as "High" under ASDF criteria, and shall be open and accessible to all members of the public and local stakeholders.

b) The convener shall make it clear at the beginning of the public meeting that the LUA is a commenting agency only, and that all decisions relating to the proposal are to be made by Industry Canada at a later date.

c) The public information meeting will be convened and facilitated by the LUA or CRINS-SINRC at the LUA's request. A representative from the LUA may attend to assist in answering questions.

d) The proponent shall provide, at a minimum, two sets of display panels containing a site plan drawing and color photographs of the subject lot, oriented toward the proposed radiocommunications facility from at least three landmarks or important locations in the vicinity of the proposed site:

- One set showing the current site conditions; and,
- One set including superimposed images of the proposed radiocommunications facility.
- The convener shall record all names, addresses, and contact information for attendees.

e) All Public Information Meetings convened by CRINS-SINRC shall be video recorded and made available on the CRINS-SINRC website for viewing.

8.4 Local Media Notice

Where a Notice in the local media is required under this protocol, CRINS-SINRC shall additionally place a notice in the outlets identified by the LUA. Publication of this notice shall be synchronized with the distribution of the public notification package. The notice shall be consistent with the following format:

CRINS-SINRC

Public Notice

In accordance with the *Radiocommunications Act* and Industry Canada procedure CPC-2-0-03, Issue 5 (2014), be advised that

[Name of Proponent]

has submitted an application and notified **[Name of LUA]** of its intentions to develop a Radiocommunications Site located at

[LOCATION OF PROPOSED SITE]

For further information on the above proposal visit the CRINS-SINRC website:

http://www.crins-sinrc.ca/

or call

1-855-502-7467

Please reference the following Case Number:

XXXX-XXXX-XXXX

ANY PERSON may make a written submission by **[DATE]** with respect to this matter addressed to:

Canadian Radiocommunications Information and Notification Service

501-1500 Bank Street,
Ottawa, Ontario
K1H 7Z2

Fax: 613-482-2299

Email: *submissions@crins-sinrc.ca*

8.5 Timelines and Concluding Consultation

a) All written submissions received from the public by a means other than direct entry into the CRINS-SINRC online system by a registered user shall be entered into the online system by CRINS-SINRC staff with 24 hours of receipt. Once entered into the online system an acknowledgement by the proponent shall be made within 14 days.

b) A dialogue between a party who has provided a written submission and a proponent shall continue until all Relevant Concerns are answered, or a further response or inquiry is not received from either party within 21 days, whichever occurs first. A proponent must respond to all reasonable and relevant inquiries within 60 days or provide a reason why the question or concern is not relevant.

c) CRINS-SINRC will maintain the official records of public consultation for the LUA containing, at a minimum, the following:

- Copies of all letters and other written communications received on or before the last day for comments associated with the application;
- Copies of responses outlining how the concerns and issues raised were or will be addressed or, alternatively, clearly setting out the reasons why such concerns are not reasonable or relevant; and,
- Copies of any follow-up responses received from residents.
- Summary of the public information meeting including attendee list and contact information (if applicable);

9 Deliverables

Copies of the Notice of Facility Exemption or Notice of Completion, and LUA Recommendations Report shall be sent directly to Industry Canada with copies sent to the following parties:

- The proponent;
- The CAO of the LUA;
- The applicable Councilors;
- If an adjacent municipality is located within 120 metres of the proposed radiocommunications facility, the CAO of that municipality; and,
- The Director of Planning for the LUA.

Copies of the above notices and reports shall be maintained by CRINS-SINRC online for 7 years following the completion of the consultation.

9.1 LUA Recommendations Report and Concurrence

The end result of a successful land use authority consultation process consists of two parts:

9.1.1 The first component is an LUA Recommendation Report. This report shall outline the recommendations of the LUA with respect to the design of the proposed facility. This part of the Concurrence shall only be signed by the Director of Planning once a Letter of Undertaking signed by the proponent is received by the LUA. This Letter of Undertaking shall form a Schedule(s) to the final LUA Recommendations Report and shall include the following requirements, if applicable:

a) Attestation that the proponent shall construct and operate the radiocommunications facility in accordance with the drawings and justification report submitted; and

b) Any noted design requirements or considerations and other conditions to meet LUA expectations.

9.1.2 The second component is a Notice of Completion of Public Consultation, or a Notice of Facility Exemption. This part of the Concurrence shall only be signed by the Executive Director of CRINS-SINRC and the LUA Director of Planning, or his designate, once proponent has completed the consultation as set out in this protocol.

9.1.3 A proposal which has received a Notice of Facility Exemption or Notice of Completion, and a LUA Recommendations Report where the LUA has approved the site and the proponent have agreed to be bound by the conditions of the approval (if applicable) shall be deemed to have received Municipal Concurrence.

9.1.4 The only valid Municipal Concurrence statement the LUA shall issue is one attached to the LUA Recommendations Report and signed by the Director of Planning or his or her designate and sent directly to Industry Canada, with a copy to CRINS-SINRC for publication and archive.

9.2 Circumstances of Municipal Non-concurrence

9.2.1 Where the LUA is not in concurrence with a proposal, the LUA will advise the proponent and Industry Canada within the Industry Canada stipulated 120-day period of its non-concurrence with the proposal.

9.2.2 The LUA will request, for a radiocommunications facility not yet constructed, that Industry Canada not issue radio license prior to the LUA issuing a Municipal Concurrence.

9.2.3 The LUA will request, for a radiocommunications facility constructed without a Municipal Concurrence, that Industry Canada direct the proponent to consult with the LUA or use its own powers to remedy the situation.

9.3 Time Frames

9.3.1 If, in the mutual opinion of the Director of Planning Services and the proponent, outstanding issues are close to being resolved approaching the end of the 120-day period but more time is required to finalize, the LUA shall advise Industry Canada of the situation and provide an estimated date for delivery of a Municipal Concurrence. The LUA will also request Industry Canada not issue a radio license prior to the LUA issuing a Municipal Concurrence.

10 Definitions

Co-location (and co-located)
Means the placement of antenna systems on an existing building or structure, or the placement of additional antenna systems on an existing support structure, by one or more proponents.

Complete application
Means an application for Letter of Municipal Concurrence where all of the items listed in Section 4.1 of this protocol have been provided to the LUA.

CPC 2-0-03
Means Industry Canada's Client Procedures Circular, "Radiocommunication and Broadcasting Antenna Systems," Issue 5, effective July 15, 2014.

EMCAB-2
Means "Criteria for Resolution of Immunity Complaints Involving Fundamental Emissions of Radiocommunications Transmitters," Issue 1, June 1994.

Equipment shelter
Means a structure containing equipment such as radios, electronic, and other apparatus necessary to support the operation of the radiocommunications facility to receive or transmit signals, and which is not staffed on a permanent basis.

Height
Means the vertical distance measured from the established grade of a building or structure to the highest point of the building or structure, including any components attached to the building or structure.

Land Use Authority (LUA)
Means the municipal government, provincial government (Crown land), or federal agency (i.e. Indian and Northern Affairs Canada) responsible for land use and planning and development within a jurisdiction.

LUA
Same as "Land Use Authority" above.

Landlord
Means the owner of a lot, building, or structure who permits occupancy of that lot, building, or structure by a radiocommunications facility.

Municipal Concurrence
Means satisfaction by the LUA that the proponent has given adequate regard to this protocol in the siting and

design of a proposed radiocommunications facility, and satisfaction with the completeness of the public consultation process undertaken by the proponent. Such satisfaction shall only be expressed through a statement issued by the Director of Planning Services or his or her designate as part of the LUA Recommendations Report.

Proponent
Means a company, organization, or person which offers, provides, or operates a radiocommunications facility for personal use or the general public.

Public Authority
Means the LUA, Government of Canada, Provincial Government, or a Conservation Authority.

Public Realm
Means, in an area of suburban or urban development, the appearance, form, and function of buildings, structures, landscape, linkages, places, and activities occurring or planned on the subject lot and within the immediate vicinity, regardless of ownership.

Radio License
Means the approval of sites to be used for radiocommunications facilities, issued only by Industry Canada.

Safety Code 6
Means Health Canada's Safety Code 6, "Limits of Human Exposure to Radiofrequency Electromagnetic Fields in the Frequency Range from 3 kHz to 300 GHz," 2009.

Surrounding Landscape
Means, in a rural or undeveloped area, the geography of and appearance of the land and associated features including buildings and vegetation.

Support Structure
Means a structure permanently affixed to the ground or onto an existing building or other existing structure used to support one or more antenna systems or other platforms for the primary purpose of radiocommunications.

Radiocommunications Facility
Means the components, either individually or in combination, required to operate a wireless communications network including cell sites, transmitters, receivers, antennae, and signaling and control equipment, and may include an accessory equipment shelter and support structure.

PLANNING REPORT
for the TOWN OF PUSLINCH

Prepared by the County of Wellington Planning and Development Department

DATE: August 26th, 2019
TO: Patrick Moyle, CAO/Clerk (Acting)
Township of Puslinch
FROM: Meagan Ferris, Senior Planner
County of Wellington
SUBJECT: **PLANNING RECOMMENDATION**
Zoning By-law Amendment Application D14/SUN – Sunrise Therapeutic Riding and Learning Centre
Rezone to permit ancillary, on-farm diversified uses in relation to the existing riding centre
6920 Concession 1, Puslinch

RECOMMENDATIONS

1) That Council receive this Planning Report by the County of Wellington Planning and Development Department;
2) That Council pass a by-law to amend Zoning By-law 19/85 on the subject lands as outlined in this report dated August 26, 2019; and
3) That Council pass a by-law to amend Zoning By-law 023/18 on the subject lands as outlined in this report dated August 26, 2019;

SUMMARY

The purpose of the subject zoning by-law amendment application is to rezone the subject lands from Agriculture (A) Zone and Natural Environment (NE) Zone to introduce a site specific Agriculture (A) Zone. The proposed zoning amendment does not amend the existing NE Zone.

The intent of the proposed zoning by-law amendment is to permit ancillary uses to the main, farm use which is a therapeutic riding centre. The ancillary uses proposed include an on-farm diversified use in the form of supportive housing and the recognition of existing uses (i.e. day camp, administrative office, etc.). The supportive housing use is intended to contain up to twenty-two (22) units (potentially 16 permanent suites and 6 respite bedrooms).

This proposal is consistent with the Provincial Policy Statement (2014), the Provincial Growth Plan (2019) and conforms to the applicable policies of the County of Wellington Official Plan. There were no public or agency concerns or objections raised during the circulation or at the public meeting. It is recommended that Council approve the subject zoning by-law amendment.

INTRODUCTION

The subject rezoning application relates to lands legally described as CON 1 FRONT PT LOT 17, within the Township of Puslinch, and known municipally as 6920 Concession 1 (see Figure 1). The

property is approximately 39.94 hectares (98.7 acres) in size and contains an existing, single detached dwelling, pool, indoor riding arena and barn, horse paddocks, and an accessory structure utilized for office space related to the existing uses on-site. The existing use on-site is a farming operation and a therapeutic riding and learning centre (Sunrise Therapeutic Riding & Learning Centre).

PROPOSAL

The purpose of the subject zoning by-law amendment application is to rezone the lands from Agriculture (A) Zone and Natural Environment (NE) Zone to introduce a site specific Agriculture (A) Zone. The proposed zoning amendment does not amend the existing NE Zone.

The intent of the proposed zoning by-law amendment is to permit ancillary uses to the main, farm use which is the therapeutic riding centre. The ancillary uses proposed include an on-farm diversified use in the form of supportive housing and the recognition of existing uses (i.e. day camp, administrative office, etc.). The supportive housing use is intended to contain up to twenty-two (22) units (potentially 16 permanent suites and 6 respite bedrooms).

Figure 1: Location Map

The proposed supportive housing building will contain common areas such as a kitchen, dining room, etc.; is proposed to be a maximum size of 2400 m^2 (25 833.4 ft^2) and up to 10 metres (32.8 feet) in height. The future tenants of the supportive housing use are intended to be special needs adults that are utilizing or will utilize the existing, therapeutic riding centre and other services on-site, while also contributing to and learning about the operation, maintenance, and care of the farm, horses and the horticulture uses on-site. Figure 2 identifies the development proposal and existing uses.

PLANNING ANALYSIS

Provincial Policy (Provincial Policy Statement (PPS), 2014 & Growth Plan, 2019)

Within the PPS, the subject property is located within a Prime Agricultural Area and contains natural heritage features and areas. The subject development for this site is well removed from the features on-site; therefore, it is not anticipated that this development will negatively impact the natural heritage features and areas. Overall, planning staff are satisfied that this proposal is consistent with both the Provincial Policy Statement and the Provincial Growth Plan.

On-farm Diversified Uses

The PPS permits the following uses in the prime agricultural area: agricultural uses, agriculture-related uses, and on-farm diversified uses. The PPS generally directs residential uses to settlement areas. A key component of the subject proposal is to introduce a supportive-type housing opportunity on the subject lands. This housing option is specifically for users of the

therapeutic riding centre and these users are to take part in the other services available on-site, while also playing an integral role in the maintenance, operation and care of the farm and horses. The interaction of the future tenants with the farm is specifically important as its provides an opportunity to develop and hone life skills. As this unique housing opportunity is providing a group living environment for those that will actively participate in the farm operation, this use, including other existing uses on-site (i.e. the associated day camp, the administrative building etc.) are being considered as on-farm diversified uses.

The Provincial *Guideline on Permitted Uses in Ontario Prime Agricultural Areas* identifies criteria for on-farm diversified uses –must be located on a farm, secondary to the principle agricultural use, limited in area, and are compatible and shall not hinder agricultural operations.
Planning staff are satisfied that this proposal meets the criteria for on-farm diversified uses as the subject lands are an active farm (i.e. an equestrian riding centre and in active cultivation); the principle land use is the riding centre; the on-farm diversified uses are limited in scale (i.e. size, height, setbacks), compatible with the farm operation and neighbouring operations and is existing (or proposed) within the farm building cluster.

Minimum Distance Separation

When considering on-farm diversified uses, the application of Minimum Distance Separation (MDS) is not always required. However, the Provincial MDS Guidelines recognizes that some on-farm diversified uses may have a high density of human occupancy or activity that may warrant applying MDS but these uses can still be recognized as Type A uses.

Figure 2: Development Proposal

In an abundance of caution to minimize any potential conflicts between uses and the adjacent farm operations, planning staff have reviewed MDS I setbacks to the proposal. There is one (active) livestock facility across the road (Classy Lane Stables) and a barn to the east that has a potential to house livestock.

In this case, MDS 1 is measured from the livestock facility to the area to be rezoned (i.e. to the property line). Planning staff are satisfied that MDS is adequately addressed and clarified through the proposed provisions in the draft zoning by-law and that impacts to the existing, neighbouring farm operations are mitigated. Planning staff are satisfied that this proposal is compatible with and does not hinder the agricultural community.

WELLINGTON COUNTY OFFICIAL PLAN

The subject property is designated as PRIME AGRICULTRURAL AREA within the County of Wellington Official Plan. A portion of the site (north and south portion) is designated as CORE

GREENLAND SYSTEM and GREENLAND SYSTEM. The existing and proposed structures are well removed from the Core and non-core Greenland System.

Section 6.4.3 of the Official Plan permits on-farm diversified uses, in Prime Agricultural Area, and these uses must be compatible with and not hinder surrounding land uses. Planning staff are satisfied that MDS requirements can be appropriately addressed through the proposed zone provisions within the attached by-laws.

In regards to the supportive housing uses, this use is required to be located on a farm as the future tenants are to benefit from the existing, therapeutic services on-site while taking part in farm activities and assisting with the day to day operation and maintenance of the farm. The combination of housing, therapy services and farm-specific activities provides a unique opportunity for future tenants that assists in the development of skills, provides opportunities for socialization, and generally contributes to the overall betterment of life for the future tenants. It is also important to note that the County's Official Plan permits group homes and accessory residences for farm help, both of which are permanent housing uses, within the Prime Agricultural Area. The subject proposal does not specifically represent a group home use or a farm help use; however, does consist of similar elements of both uses.

DRAFT AMENDING BY-LAW

Attached to this report is a draft amending by-law for both By-law 19/85 and By-law 023/18 (under appeal) for Council's review.

Zoning By-law 19/85

The subject property is zoned Agricultural (A) and Natural Environment (NE). The A Zone does not clearly permit the subject proposed uses, specifically the proposed supportive housing use. Appendix A includes a by-law that adds a site specific provision to the subject lands to add permissions for ancillary uses, defines supportive housing, adds specific zone provisions related to setbacks and the future structure's size and height, and provides clarification of Minimum Distance Separation (MDS) requirements.

Zoning By-law 23-2018 (New Township By-law – Under Appeal)

The subject property is zoned Agricultural (A) and Natural Environment (NE), and also subject to a Natural Environment overlay. Similar to by-law 19/85 - the A Zone does not clearly permit the subject proposed uses, specifically the proposed supportive housing use. Appendix B includes a by-law that adds a site specific provision to the subject lands to add permissions for ancillary uses, defines supportive house, adds specific zone provisions related to setbacks and the future structures size and height, and provides clarification of Minimum Distance Separation (MDS) requirements.

SITE PLAN CONTROL

In terms of next steps, if the subject proposal is approved by Council, the subject development will be required to go through the site plan review and approval process. This phase of review will evaluate the specific details of the development, including more technical items (i.e. grading,

servicing details etc.). This next step has been discussed with the Township and the applicants are aware of this requirement.

SERVICING

The existing uses are serviced by two (2), existing septic systems and a well. The intent is to introduce another well and a new septic system. As part of the circulation of the subject application, no issues have been identified with the proposed servicing on-site. The specific servicing details will be confirmed as part of site plan and building permit process.

AGENCY COMMENTS

This application was circulated to statutory agencies by the Township. The following commenting agencies were circulated with no objections or concerns received:

- Grand River Conservation Authority
- Township Engineer
- Township Hydrogeologist
- Public Works and Parks
- Township Ecologist/Environmental Consultant
- Wellington Source Water Protection
- Fire and Rescue Services
- Upper Grand District School Board

PUBLIC COMMENTS

The statutory public meeting was held on August 14th, 2019. There were no public concerns raised at this meeting. However, staff notes that there was one member of the public present who sought clarification regarding Minimum Distance Separation formulae (MDS) questions. Since that time, these questions have been satisfactorily addressed. The applicants planning consultants and County Planning staff confirmed answers to the neighbour's question and explained how the proposed by-laws have been customized to limit impacts on existing (and future) livestock structures.

PLANNING OPINION

The Zoning By-law amendment is proposing to recognize uses that have been operational on-site and introduce a new housing opportunity, which is for adults with special needs, that provides a level of assisted, communal living; access to therapeutic services; and provides opportunities for learning and socialization, with a focus on teaching life skills through the observation and completion of farm based tasks (i.e. maintaining and caring for horses and the farm, horticulture etc.). The subject proposal, as identified by the applicant's consultant, is intrinsically linked with Sunrise, its therapeutic opportunities and the farm operation. As such, the use is identified as being required to be located within the rural setting and on an active farm. Planning staff are of the opinion that the proposed uses will be appropriately limited in scale, and situated on site, while also addressing current and future MDS requirements via the attached, drafted by-laws. Overall, planning staff concurs with the consulting Planner's opinion that the subject proposal represents a use that needs to be located on a farm. There were no objections from any commenting agencies or neighbours. Technical details will be addressed through the future site

plan approval process. Therefore, this proposal is consistent with provincial policy and generally conforms to the Growth Plan, and the County of Wellington Official Plan.

Respectfully submitted
County of Wellington Planning and Development Department

Meagan Ferris

Meagan Ferris, RPP MCIP
Senior Planner

Appendix A: Draft Amending Zoning By-law (By-law 19/85)
Appendix B: Draft Amending Zoning By-law (By-law 023/18)

August 7, 2019
Our File: 117006-03

Township of Puslinch
RR 3, 7404 Wellington Road 34
Puslinch, ON N0B 2J0

Attention: Ms. Nina Lecic

Re: Municipal Development Standards

Dear Ms. Lecic:

In May 2019 GM BluePlan presented to Puslinch Council the draft of the Municipal Development Standards which have been prepared to replace the previous version of the standards originally developed in 1999.

The previous version of the standards was primarily geared towards servicing for subdivision developments and did not reflect policy and procedure changes which had occurred over the years as well as current industry best practices and material/design innovations.

The updated standards have been expanded to reflect procedures and requirements for all land development applications within the Township. The County of Wellington Planning Department, GWS Ecological Services and Harden Environmental contributed to the development of these standards.

Comments received from Council during the May 2019 Council meeting were incorporated into an updated draft which was posted to the Township of Puslinch website for a 30 day public review period. No comments were received through that review period.

A final version of the Municipal Development Standards is enclosed. If the Township is satisfied, we recommend that the updated standards be adopted.

If you have any questions or require additional information, please do not hesitate to contact us.

Yours truly,

GM BLUEPLAN ENGINEERING
Per:

Amanda Pepping, P. Eng.

TOWNSHIP OF
PUSLINCH
EST. 1850

MUNCIPAL DEVELOPMENT STANDARDS

AUGUST 2019

TABLE OF CONTENTS

APPENDICES

Record of Revisions

Revision	Date	Remarks

1.0 INTRODUCTION

These development standards have been prepared as a reference guide to assist with land development applications within the Township of Puslinch (Township).

This document provides an overview of development application processes within the Township, summarizes submission requirements and describes standards for design and construction of Municipal infrastructure.

It is intended that these standards will provide consistency in the documentation received in support of development applications and in developments constructed in the Township, in order to facilitate and add efficiency to the approval process.

For items not specifically covered herein, the Ontario Provincial Standards Specifications (OPSS) and Ontario Provincial Standard Drawings (OPSD) shall be used. Additional design guidelines and manuals by the Ministry of Environment, Conservation and Parks (MECP), Ministry of Transportation (MTO) or other recognized authority should also be referenced.

The guidelines and standards that follow should be adhered to wherever possible. Any deviations to these standards shall only be made through consultation with the Township.

These standards are subject to revision and it is the responsibility of the proponent to ensure that the most current version of the standard is being referenced.

2.0 GENERAL

2.1 Planning Process

In the Township, development applications for Subdivisions, Condominiums, County Official Plan Amendments and Land Severances (consents) are overseen by the County of Wellington (County). Application guidelines are available through the County website (*www.wellington.ca*) or by contacting the County Planning and Development Department.

The Township directly oversees development applications for Site Plan Approval, Zoning Bylaw Amendments and Minor Variances. Additional information is available through the Township website (*www.puslinch.ca)*.

A general overview of the application process for each type of development application is provided below.

2.2 General Submission Requirements

2.2.1 Pre-Consultation Meeting

Applicants are encouraged to attend a pre-consultation meeting prior to the submission of a development application. The pre-consultation meeting is a no-cost service provided by the Township and reviewing agencies. It assists applicants in determining the requirements for the

submission of a complete application and gives staff the opportunity to identify key planning issues that will require further attention.

The applicant shall submit any available drawings and a summary of the proposed development one week prior to the pre-consultation meeting. Meetings are held at the Township Office the first Thursday of every month. Please contact the Township to schedule the pre-consultation.

2.2.2 Application Requirements

A complete application shall be submitted to the Township. The application must be accompanied by the reports, studies, plans and supporting information requested through pre-consultation and/or as listed in the relevant checklists provided in *Appendix A*. Incomplete applications may be returned to the applicant. Further details regarding supporting information requirements are provided in Section 2.2.3 below.

Each application must be accompanied by the required administration fee. Please contact the Township to determine the fee as well as any applicable disbursements or third-party fees.

Submissions shall consist of a maximum of seven hard copies and one complete digital copy.

2.2.3 Supporting Information

The applicant will be required to submit a number of background reports or studies to identify and address any issues and impacts that may occur as a result of the proposed development and to demonstrate to the satisfaction of the Township and any other review agencies that the proposed use can be adequately supported by the site.

Requirements for supporting information will be confirmed through the pre-consultation process. Requirements will vary depending on the nature of the site and proposed development, however a comprehensive list of studies which may be requested is provided in Section 13.15 of the Wellington County Official Plan, available through the County website (*www.wellington.ca*).

A Functional Servicing Report or Detailed Servicing Report will be required for most applications. The servicing report will describe:

- The existing conditions of the site and the nature of the proposed development;
- How the site will be provided with water and wastewater servicing;
- How stormwater management for the development will be provided;
- Grading and drainage considerations for the site;
- Geotechnical/hydrogeological considerations to support the proposed design;
- Transportation considerations including site access and impacts or changes to off-site infrastructure; and
- Other site-specific constraints that the Township or review agencies may identify during its review of the planning application.

Engineering Plans required to support the application will generally include:

- A cover page showing the name of the development, a key map, and a list of drawings which make up a complete set;
- A Site Plan generally showing the existing and proposed above ground infrastructure and services including but not limited to buildings, curbs and parking areas, fire routes and fire protection infrastructure, sidewalks, catchbasins, potable water well;
- A Grading and Servicing Plan generally showing the existing and proposed underground infrastructure and services including but not limited to storm sewers, water and sanitary lines, stormwater facilities and site grading;
- An Erosion and Sediment Control Plan showing sediment and erosion control measures proposed to mitigate the effect of the construction on surrounding areas and infrastructure;
- A Landscaping Plan showing all existing and proposed plantings;
- A Photometric Plan showing proposed lighting design details and photometric data; and
- Additional plans (if requested by the Township) such as plan and profile drawings, stormwater management facility plans and utility plans.

Additional information regarding preparation of Stormwater Management Reports, Hydrogeological Reports, Nitrate Impact Assessments, and Tree Enhancement/Preservation Plans are provided in other sections of this document. The County Official Plan, available through the County website (*www.wellington.ca*), details considerations for preparation of various impact studies including a Planning Impact Assessment, Environmental Impact Assessment, Traffic Impact Assessment, Heritage Impact Assessment and Agricultural Impact Assessment. Grand River Conservation Authority and Conservation Halton have guidelines for preparation of Environmental Impact Assessments within their jurisdiction.

2.2.4 Township Review and Comments

The Township will review the application and supporting documentation to determine if the development is in accordance with current planning policies and design standards.

If required, the Township will circulate the application package to any outside review agencies (eg. Ministry of Transportation, County of Wellington, Conservation Authority, etc.) for comment.

The Township will provide the applicant with any comments arising through the review. All comments are to be addressed by the applicant and additional or revised documentation submitted. A letter summarizing the applicant's response to each of the review comments is required to accompany each re-submission. The documents will be re-submitted until the Township and review agencies are satisfied.

2.2.5 Council Approval

Development applications generally require approval by Council. Approval of Site plan applications may be delegated to staff.

Once the Township and reviewing agencies are satisfied with the application, staff will prepare a report to Council. The applicant will be provided notice of any decision made by Council concerning the application.

2.3 Zoning By-Law Amendment Application

Land use within the Township is governed by the Township zoning by-law. The zoning by-law specifies:

- How land may be used;
- Where buildings and other structures can be located;
- The types of buildings that are permitted and how they may be used;
- The lot size and dimensions, lot coverage, building height, and setbacks; and
- Requirements for landscaped areas, planting strips, buffers and parking.

If a proposed use is not permitted within the zoning of a property, or if the standards of that zone can't be met by a proposed development, an application for a zoning by-law amendment is required.

In general, the following are the steps required to obtain approval for a zoning by-law amendment application.

- Applicant submits application, including fee
- Township and review agencies review application for completeness
- Application deemed complete or additional information is requested
- Applicant erects sign on proposed lands
- Township issues Notice of Complete Application and holds Public Meeting
- Comprehensive review of proposal and submission revisions
- Staff report to Council and decision

2.4 Site Plan Approval Application

A Site Plan Control By-Law is in effect in the Township. A site plan approval application is required where the following activities are proposed:

- A new building or structure
- Building additions

- Major building renovations
- Construct or enlarge a parking lot

Certain types of development are exempt from Site Plan Control . Refer to the Site Plan Control By-Law for the full list of exemptions.

Site plan approval must be obtained prior to applying for a building permit. In general, the following are the steps required to obtain approval for a site plan application.

- Applicant submits application, including fee
- Comprehensive review of proposal and submission revisions
- Preparation of site plan agreement
- Final approval by Township staff (may be referred to Council in specific circumstances)

2.4.1 Site Plan Agreement

In most instances a site plan agreement must be executed and registered prior to final site plan approval being issued. The site plan agreement contains information regarding conditions of development and the developer's responsibilities, including but not limited to, financial matters, easements and land conveyances, timing, and requirements for maintenance of the proposed works.

Once the Township is satisfied with the detailed design for the development, the site plan agreement will be completed. The agreement will be prepared by the Township and the cost to prepare and register the agreement will be paid by the developer. A draft copy will be circulated to developer for review and comment. When the site plan agreement is finalized to the satisfaction of all parties, it will be prepared for signature.

Prior to signing of the agreement, the developer will be required to post securities to guarantee the satisfactory completion of the work and to guarantee payment to the Township of all inspection or other costs that the Township may incur in connection with the site plan application.

At a minimum, the security will be in the form of an unconditional irrevocable Letter of Credit for 50% of the site servicing and landscaping costs with additional allowance for Township review and site grading and drainage deposit. The estimated value of the construction costs shall be determined by the Developer's engineers and approved by the Township's consulting engineers.

The signed site plan agreement will be registered on the title of the lands at the cost of the applicant.

2.5 Plan of Subdivision Application

An application for a plan of subdivision/condominium is required for all residential developments where a property is proposed to be subdivided. Plan of subdivision/condominium applications

are overseen by the County. Further information related to the process is available through the County website (*www.wellington.ca*).

2.5.1 Draft Plan Approval

Following the submission of a complete application for plan of subdivision/condominium, the County will circulate the application to review agencies including the Township for comments. A public meeting will be held by the Township to allow the community an opportunity to provide input related to the proposed plan of subdivision/condominium.

The County will receive any written submissions, confer with any persons and agencies as necessary and consider the application. Based on input received, the County will then prepare conditions of draft plan approval that must be satisfied before the proposed plan of subdivision/condominium. The draft approval conditions may be circulated to the Township for endorsement prior to final draft approval being issued by the County.

2.5.2 Detailed Design Review and Comments

As a condition of draft plan approval, the developer shall provide the Township with a detailed design submission which includes the material in the Subdivision Detailed Design Submission Checklist in *Appendix A*, and any additional requirements identified in the draft plan conditions and Township comments.

The Township will review and provide comments to be addressed by the developer in subsequent detailed design submissions.

2.5.3 Development Agreement

Among the conditions of draft plan approval will be a requirement to enter into a development agreement with the Township. The development agreement contains information regarding conditions of development and the developer's responsibilities, including but not limited to, financial matters, easements and land conveyances, timing and staging, and requirements for design and construction of roads and servicing.

Once the Township is satisfied with the detailed design for the development, the development agreement will be completed. The agreement will be prepared by the Township and the cost to prepare and register the agreement will be paid by the developer. A draft copy will be circulated to developer for review and comment. When the development agreement is finalized to the satisfaction of all parties, it will be prepared for signature.

Prior to signing of the agreement, the developer will be required to post securities to guarantee the satisfactory completion of the work and to guarantee payment to the Township of all inspection or other costs that the Township may incur in connection with the development.

At a minimum, the security will be in the form of an unconditional irrevocable Letter of Credit for 100% of the site servicing and landscaping costs with additional allowance for Township review. The estimated value of the construction costs shall be determined by the Developer's engineers and approved by the Township's consulting engineers.

The signed development agreement will be registered on the title of the subdivision lands at the cost of the applicant.

2.5.4 As-Constructed Drawings

Following completion of the work, the developer will provide final "as constructed" drawings in hard copy and digital format (PDF and AutoCAD).

2.6 Development Charges

The Township has in effect a Development Charges By-Law which enables the Township to collect development charges for new development and re-development. Development charges are fees collected from the developer at the time of building permit to help pay for the cost of infrastructure required to provide municipal services to new development. These include capital costs related to transportation, fire protection, parks and recreation and administrative studies.

The development charges payable are in accordance with the most current version of the Township's Development Charge Background Study and Development Charges By-Law.

2.7 Site Alteration Permit

A by-law prohibiting and regulating the placing or dumping of fill, the removal of soil and the alteration of the grade of land in the Township is in effect. Under this By-law, site alteration activities may require a Site Alteration Permit and the entering into of a Site Alteration Agreement. Additional information is available through the Township website (*www.puslinch.ca)*.

2.8 Source Water Protection

Source water protection plans are in effect in Wellington County. Planning applications submitted to the County or Township will be screened to assess any risks from the proposed activity.

If a property is not within a vulnerable area or if the activity does not trigger a Prohibition or Risk Management Plan policy, the application will proceed as normal. Vulnerable area mapping and additional information is available through the Wellington Source Water Protection website (*www.wellingtonwater.ca*).

If a property is located within a vulnerable area, applicants will be asked to fill out a short *Source Water Protection Screening Application Form*. The application will then be screened to assess if the proposed activities pose a risk to drinking water quality or quantity. The Risk Management Official will determine whether a notice or Risk Management Plan is required.

2.9 Erosion and Sediment Control Guidelines

Sediment and erosion control measures must be implemented on all construction sites to limit the effect of the proposed construction on the surrounding areas and infrastructure. A site-specific Erosion and Sediment Control Plan must be prepared to support any site plan or subdivision/condominium application and submitted for review.

Erosion and sediment control design shall be in accordance with the most current version of the *Erosion and Sediment Control Guideline for Urban Construction*, prepared by the Greater Golden Horseshoe Area Conservation Authorities and available for download from the Grand River Conservation Authority website (*www.grandriver.ca*).

2.10 Puslinch Design Guidelines

The Township has developed design guidelines intended to develop and enhance streetscapes and improve the quality of site and building design within key corridors in the Township.

The design guidelines are intended to be applied to commercial, industrial and institutional development and re-development within the Township. The guidelines primarily apply to two geographic areas including the Highway 6 North Industrial Corridor and the Brock Road / Highway 6 South Corridor, from Guelph to Morriston.

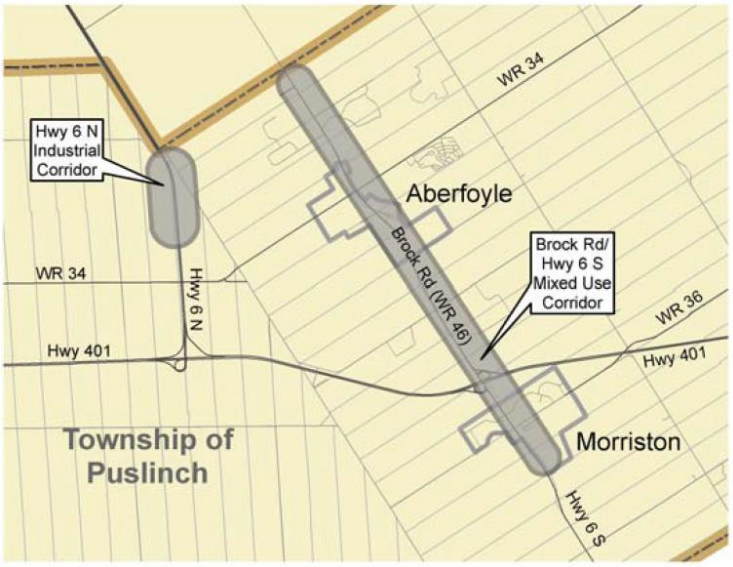


Figure 1. Design Guideline Priority Areas

All development proposals within the priority areas, as highlighted in Figure 1, are required to comply with the design guidelines. Additional information is available through the Township website (*www.puslinch.ca)*.

Additional design considerations also apply for industrial properties visible from Provincial highways and arterial streets. Refer to the Puslinch Zoning By-law for further information.

2.11 Approvals

Depending on the nature of the development, additional external agency permits or approvals may be required. These may include, but are not limited to:

- Conservation Authority
- Ministry of Environment, Conservation and Parks (MECP)
- Ministry of Transportation (MTO)
- County of Wellington
- Ministry of Natural Resources (MNR)
- Department of Fisheries and Oceans (DFO)
- Railway

It is the developer's responsibility to identify and obtain all required approvals and permits. The developer shall submit to the Township a copy of all permits or approvals required from other agencies.

2.12 Accessibility

The Township of Puslinch is committed to providing a barrier-free environment. Development applications within the Township shall incorporate accessibility requirements outlined in the County of Wellington Facility Accessibility Design Manual (FADM) and Accessibility for Ontarians with Disabilities Act (AODA).

2.13 Asset Maintenance Trust Funds

The Township has adopted an asset maintenance trust program to ensure sufficient funds are available to the Municipality to undertake inspection and maintenance of assets which are constructed through new development and assumed by the Township. Assets requiring contribution include Gateway features, Stormwater Management and Fire Protection infrastructure. In some instances, a portion of extraordinary asset costs such as decorative streetlighting may be requested.

Asset maintenance trust funds are initiated through a lump sum contribution made by the developer at the time of the development agreement. The lump sum contribution amount is based on the present value of all inspection and maintenance costs associated with the asset(s) over a 20-year service life at an interest rate of 5%. The calculation shall be completed by the Engineer for the developer and the amounts shall be reviewed and accepted by the Township.

2.14 Asset Management Data

The developer is required to submit electronically, in a form that is consistent with the Township's asset registry, data that reflects the characteristics of all assets that would become the ownership responsibilities of the Township including replacement costs of such asset.

3.0 ROADS

3.1 General

In general, road design and construction shall be in accordance with the most current version of the Ontario Provincial Standard Specifications (OPSS) and Ontario Provincial Standard Drawings (OPSD).

Roadway and driveway entrance design may be subject to approval by the Township, County or Ministry of Transportation.

3.2 Road Sections

Standard road sections are shown on drawings STD-101 and STD-102 in *Appendix B*. Standard drawing STD-101 will generally apply to rural roads located outside of urban centres and standard drawing STD-102 will generally apply in urban centres and hamlets.

3.3 Geometric Standards

Road geometrics, such as horizontal and vertical sight distances and curve values, shall be designed in accordance with the latest revision of the Transportation Association of Canada's (TAC) Geometric Design Guide for Canadian Roads Part 1 and Part 2.

3.4 Concrete Curb and Sidewalk

Concrete sidewalks will be provided on one side of local residential streets and two sides of collector residential streets. Requirements for sidewalk on all other streets will be reviewed on a development specific basis. Sidewalk shall be in accordance with the latest revision of OPSD 310.010.

Concrete curb and gutter (for urban cross sections) shall be barrier curb in accordance with OPSD 600.040. Mountable curb in accordance with the latest revision of OPSD 600.100 will also be accepted for local residential streets.

Concrete curb and sidewalks must be designed to comply with the latest revision of the County of Wellington Facility Accessibility Design Manual (FADM).

3.5 Driveway Entrances

Curb depressions for driveways shall be formed in accordance with latest revision of OPSD 351.010. If the final driveway location is not known at the time of curb construction, the driveway may be mechanically cut to the satisfaction of the Township.

Driveway ramps between curb and property line (and sidewalk as applicable) shall be constructed with minimum 300mm granular B, 150mm granular A and 50mm HL3 asphalt.

An entrance is prohibited in any location where the clear vision is less than 150 metres in each direction from which traffic may approach on a Township road or at the discretion of the Township. Driveways which open upon or cross a day lighting area will not be permitted.

An Entrance Permit must be obtained from the Township or County (as applicable) before work commences within the limits of the road allowance.

3.6 Daylight Triangles

A daylight triangle may be required by the Township at intersection corners. Daylight triangles, if required, are to be part of the Municipal right-of-way. The requirement for daylight triangles will be confirmed during the road design.

3.7 Boulevard Restoration

All boulevards shall be graded, top soiled with a minimum depth of 150mm and sodded.

3.8 Community Mailboxes

The developer is responsible for constructing community mailboxes within residential developments. Community mailboxes will be placed in a central location accepted by the

Township and Canada Post Corporation. All details associated with the community mailbox shall be identified on the Engineering Drawings.

3.9 Testing and Inspection

A qualified geotechnical firm shall be engaged by the developer to undertake insitu verification testing of all granular materials used within the Municipal right of way during construction. Copies of all test results shall be submitted to the Township.

3.10 Traffic and Street Signs

The developer is responsible for erecting all traffic, street name, and lot identification (911 address) signs within a development.

3.11 Summary of Roadway Design Criteria

Minimum Grade	0.5%
Maximum Grade	6%
Boulevard Minimum Grade	2%
Boulevard Maximum Grade	5%
Crown a) Subgrade b) Finished Surface	3% 2%
Pavement Width	Varies - see std. drawings
Width of Shoulder	Varies - see std. drawings
Width of Shoulder Rounding	0.6 m
Shoulder Grade	4%
Granular Base*	Varies - see std. drawings
Compaction requirements	100% SPMDD
Pavement Structure	Varies - see std. drawings
Sidewalk width	1.5 m
Sidewalk slope	2% minimum 4% maximum
Minimum Depth of Ditch from Road Centreline Side Slope Back Slope	1.0 m 3:1 3:1
Cul-de-sac Pavement Radius	15 m
Cul-de-sac - Bulb Right-of-way Radius	20 m
Minimum Pavement Radius at Intersection	9 m
Subdrain	As recommended by Geotechnical Engineer
Minimum dia. Culvert (with end sections) For Centreline Culverts For Driveways	 500 mm 400 mm

* Granular road base may have to be increased based on results of geotechnical report or conditions encountered in the field.

4.0 STORMWATER MANAGEMENT

4.1 Stormwater Management Objectives

Any development or redevelopment within the Township is required to include stormwater management controls which are designed, constructed and maintained in such a way as to meet the following stormwater management objectives:

- The potential for flood damage, health hazards or loss of life will not be increased.
- Prevent undesirable geomorphic change to watercourses.
- Minimize the impacts of development or redevelopment on the existing groundwater and base flow characteristics of the subject property and surrounding lands.
- Minimize the impacts of development or redevelopment on water quality.
- Minimize the inconvenience caused by surface ponding and flooding.

Additional stormwater management objectives may be identified based on site-specific requirements.

Where the subject property is located within an area regulated by a Conservation Authority or the Ministry of Transportation, the stormwater management policies and guidelines of that organization will govern. The County will review and provide input into stormwater management controls for developments which front to a County Road.

4.2 Subwatershed Studies

The Township is located within several different subwatershed catchments. Subwatershed studies have been prepared for several of these including, but not limited to, the Mill Creek, Hanlon Creek, Torrance Creek, Eramosa River & Blue Springs Creek subwatersheds.

Actions and policies of the subwatershed studies, such as impervious cover limits and stormwater management objectives, shall be considered in the site and stormwater management design for any development proposal falling within the jurisdiction of a particular study. Copies of the subwatershed study may be obtained digitally through the Conservation Authority.

4.3 References

In general, stormwater management facilities are to be designed in accordance with the Ministry of Environment (MOE) Stormwater Management Planning and Design (SWMPD) Manual (2003), or the most current version thereof.

4.4 Runoff Quality Control

Stormwater quality control measures will be provided to achieve, as a minimum, the Enhanced level of protection (i.e. 80% TSS removal) as described in the MOE SWMPD manual.

The use of multiple quality control measures in series to achieve treatment requirements is encouraged.

Runoff quality control measures will be designed to achieve the enhanced level of protection.

The Township supports the use of oil/grit separator (OGS) units for stormwater quality treatment as part of a treatment train approach.

4.5 Runoff Quantity Control

Post-development peak runoff rates will be controlled to pre-development peak runoff rates, for the 2, 5, 10, 25, 50, 100-year return period.

4.6 Design Storm Events

Design storm events (2, 5, 10, 25, 50, 100-year) are to use a 3-hour duration Chicago Storm distribution based on the City of Guelph Intensity Duration Frequency (IDF) curves.

The Regional Storm for the Township is Hurricane Hazel (1954). Rainfall data is available in the MTO Drainage Management Manual (1997), or the most current version thereof.

- Storm sewers shall be designed to convey the 5-year design storm event without surcharging.
- Driveway culverts, ditches, and trunk storm sewers shall be designed to convey the 10-year design storm event.
- Road crossing culverts shall be designed to convey the 25-year design storm event.
- Major drainage systems, including stormwater management facilities, shall be designed for the greater of the 100-year or regional design storm events.

4.7 Stormwater Outlet

Stormwater drainage systems shall discharge to Municipal storm sewer system where feasible. In cases where this is not possible, stormwater drainage systems may discharge to natural watercourses, subject to approval by the Township, Conservation Authority and other regulatory agencies as necessary.

4.8 Water Budget

An annual water budget shall be prepared for the development site as described in the MOE SWMPD Manual.

Infiltration facilities shall be designed to ensure that under post-development conditions, infiltration volumes match the pre-development condition.

4.9 Low Impact Development (LID)

The Township encourages the use of low impact development best management practices.

Low impact development best management practices shall be designed in accordance with the MOE SWMPD Manual, and the TRCA/CVC Low Impact Development Stormwater Management Planning and Design Guide (2010).

4.10 Hydrologic Modeling

Hydrologic Modeling, using hydrologic modeling software is required for all proposed developments.

4.11 Monitoring and Maintenance

The storm water management report shall include an operational, monitoring and maintenance plan to verify that the proposed storm water management facility is operating as designed. Inspection of storm water management systems should occur on average four times per year during the first two years of operation, or in accordance with the latest version of the Storm Water Management Planning and Design Manual – Ontario.

4.12 Storm Sewer Design

4.12.1 General

Storm sewers shall be designed using the Rational Method.

For storm sewers which will be owned by the Township, a storm sewer design sheet shall be submitted in Microsoft Excel format.

4.12.2 Rainfall Intensity

Rainfall intensity used shall be as per the City of Guelph IDF curves.

4.12.3 Inlet Time (Time of Concentration)

The inlet time used in the design of storm sewers shall be calculated using the Bransby-Williams Formula for catchment with a runoff coefficient greater than 0.4, and the Airport Formula for catchments with a runoff coefficient of 0.4 or less.

The minimum inlet time shall be 10 minutes.

4.12.4 Runoff Coefficients

Runoff coefficients for the design of storm sewers shall be those used in the MTO Drainage Management Manual (1997), or the most current version thereof.

4.12.5 Storm Sewer Design Criteria

Storm Sewer Mains	
Minimum pipe diameter	300 mm
Minimum slope	0.5%, or 1.0% for first reach
Minimum depth of cover on uninsulated storm sewer	1.2 m
Minimum flow velocity	0.75 m/s
Maximum flow velocity	4.5 m/s
Minimum catch basins lead diameter	250 mm (single) 300 mm (double)
Minimum driveway culvert diameter	400 mm
Minimum road culvert diameter	500 mm
Minimum foundation drain pipe diameter	150 mm
Minimum foundation drain grade	1.0%
Side yard/rear yard swales minimum slopes	2.0%
Road ditches, minimum slope	0.7%, or 0.5% for distances less than 100m

4.12.6 Pipe Capacity and Roughness

Storm sewer capacity shall be determined using the Manning's formula on the basis of a pipe flowing full.

The design value of Manning's "n" coefficient shall be:

Concrete, PVC, HDPE Pipe = 0.013

Corrugated Steel Pipe (CSP) = 0.024

4.12.7 Pipe Materials

375mm diameter or less:

- DR 35 PVC pipe
- Concrete – CSA A257.2 (reinforced)

450mm or greater:

- Concrete – CSA A257.2 (reinforced)

Culverts:

- Galvanized CSP, minimum 1.6mm thick
- High Density Polyethylene (HDPE)

4.12.8 Bedding and Backfill

As per latest revision of OPSD 802.03 and 803.04.

4.12.9 Inspection, Testing and Flushing of Sewers

All sewers and maintenance holes must be flushed and cleaned prior to testing. A mandrel test shall be performed on all flexible pipe in accordance with the latest OPSS.MUNI 410 standard.

Sewer video inspection (CCTV) is required to show that the new, as well as existing downstream sewers (as applicable) are clean, undamaged and operating properly. Sewer video will be required for all newly constructed sewers and existing downstream sewers, to the next downstream maintenance hole.

4.13 Maintenance Holes

Design criteria for maintenance holes:

- The minimum maintenance hole size is 1200mm diameter.
- Maintenance holes shall be precast concrete as per the latest revision of OPSD 701.010 to OPSD 701.15.
- The maximum spacing between maintenance holes shall be 100 m.
- Flow direction changes through a maintenance hole greater than 90^{o} will not be permitted.
- Maintenance holes are to be benched to the spring line of the outlet pipe as per the latest revision of OPSD 701.021.
- The minimum invert drops between the inlet and outlet pipes in a maintenance hole are:

Direction	Minimum Drop
Straight Through	Pipe slope
Up to 45^{o}	0.03 m
46 ^{o} to 90^{o}	0.06 m

- An external drop structure as per the latest revision of OPSD 1003.01 shall be provided where inlet and outlet differ by more than 0.61 m.
- Frame and cover: as per the latest revision of OPSD 401.010.
- Safety grates are required for maintenance holes with depths greater than 5.0 m, per the latest revision of OPSD 404.02. Safety grates are to be installed at the midpoint of the maintenance hole.

- Precast concrete adjustment units as per the latest revision of OPSD 704.010. Maximum 300 mm adjustment unit allowance.

4.14 Catch basins

Design criteria for catch basins:

- Catch basins shall be precast concrete as per the latest revision of OPSD 705.010 to OPSD 705.040.
- Maximum spacing between catch basins: 75 m.
- The sump depth of each catch basin shall be 600 mm, regardless of structure or outlet size.
- Frame and cover: as per the latest revision of OPSD 400.020.
- Precast concrete adjustment units as per the latest revision of OPSD 704.010. Maximum 300 mm adjustment unit allowance.

5.0 LOT GRADING

General requirements for lot grading and drainage are as follows:

- Lot specific grading plans shall be submitted with the application for building permit for the house or structure that is to be built on a lot. If applicable, the grading plan(s) shall conform to the approved grading plan for the subdivision.
- Plans shall be drawn at a minimum scale of 1:500 and shall include a north arrow, benchmark information, title block, list of revisions and lot number or Municipal address.
- Plan shall be prepared and stamped by a Professional Engineer or Ontario Land Surveyor.
- The envelope for all proposed buildings and structures must be clearly shown, including outbuildings and pools. Setback distances shall be in accordance with the Township Zoning Bylaw.
- The location of the water well, septic system and tile field shall be clearly shown. Minimum separation distances shall be as required by Part 8 of the Ontario Building Code.
- Regional flood and fill lines shall be depicted on lot grading plans to the satisfaction of the Conservation Authority.
- Overland flow routes shall be indicated on the plan using arrows. Surface water shall be directed away from the septic tile field.
- Finish grade elevations and details shall be provided for all lot corners, high points, changes in grades, building corners, retaining walls, ditch and swale bottoms.

- The underside of footing, basement floor elevation, top of foundation and garage floor elevations shall be shown on the plan.

- The top of foundation elevation shall be a minimum of 150mm higher than the proposed grade adjacent to the building.

- The seasonal high groundwater elevation shall be shown on the plan. A minimum separation of 0.5m between the underside of footing and the seasonal high groundwater elevation is required. Any deviation from this minimum due to site specific conditions is to be supported by additional documentation and recommendations prepared by a geotechnical engineer or hydrogeologist.

- Maximum embankment slopes shall be 3:1. Where grades steeper than 3:1 are proposed a retaining wall is required.

- Yard surfaces and swales shall have a minimum grade of 2%. Side-yard swales shall have a minimum depth of 150mm.

- Topsoil from all cut areas will be stockpiled for redistribution. Minimum depth of topsoil to be placed on seeded areas shall be 150mm.

- The method for stabilizing/restoring disturbed ground areas shall be identified on the plan.

- Grading on adjacent lands will require written consent from the property owner. A copy of this letter shall be submitted to the Township.

6.0 FIRE PROTECTION

6.1 Fire Routes

Access routes for emergency vehicles must be provided where required by the Ontario Building Code (OBC), latest edition.

6.2 Fire Water Storage

All buildings requiring on-site water supply for firefighting, as per Appendix A of the OBC, will be provided with fire water storage. The fire water storage volume will be determined using the formula and minimum flow rate/duration criteria provided within the OBC, however the Chief Building Official or Township Fire Prevention Officer may require more or less storage at their discretion. The required fire water storage volume for the site will be confirmed at the time of building permit application.

Fire water storage shall be provided through installation of pre-cast concrete tanks, or approved alternative. Where necessary and as approved by the Township, multiple tanks may be provided and connected in series as per Figure 8.1. Fire tanks within subdivisions and large site developments are to be spaced at a maximum spacing of 150 m from each other, and the distance

from the dry hydrant to any portion of a building perimeter that is required by the OBC to face a street shall not exceed 90 m. The location of the proposed fire tank(s) shall be clearly shown on the site plan submitted for the development.

General requirements for fire water storage tanks are as follows:

1. Fire water storage tanks shall satisfy the requirements of National Fire Protection Agency (NFPA) 22 and NFPA 1141.

2. Any tank located within a right of way or paved parking area shall be rated for truck loading per the bridge design code (CL-625-ONT).

3. The tank shall be installed on 300 mm of granular bedding compacted to 100% SPMDD.

4. The top of the tank shall be installed below the frost line, minimum of 1.3 meters OR the tank shall be insulated with minimum 50 mm rigid insulation.

5. The bottom of the tank must not be more than 4.6 m below ground level.

6. The dry hydrant shall be installed a minimum of 30 m from any building and within 1.8 m of the edge of driveway. The dry hydrant fitting shall be installed 900 mm above finish ground using 152 mm diameter stainless steel pipe with National Hose (NH) thread pattern, female connection and cap facing towards the fire truck location.
   - e.g. Kochek 6NH

7. The access riser shall be sealed with lockable aluminum access hatch.

8. The tank shall be equipped with aluminum ladder or maintenance hole rungs for access.

9. The tank shall be provided with a 150 mm diameter stainless steel vent pipe, complete with rodent and insect screen.

10. Concrete: 35 Mpa at 28 days.

11. Reinforcement: As per manufacturer's specifications. Minimum reinforcement cover for the tank shall be 50mm.

12. Upon completion of the tank and fittings, it shall be filled with potable water by the developer before the building is occupied.

13. The tank shall be connected to the property water supply system with a backflow preventer and automatic float valve system to ensure the remains tank full.

14. Representatives from the fire department or Township building department shall be called for inspection at the following milestones:

- Completion of granular base installation.
- Prior to backfilling.
- Completion of installation (perform pump test with fire pumper).

15. The Township is to be notified a minimum of 24 hours prior to each required inspection.

16. Inspections and Maintenance of water storage tanks will comply with NFPA 1142 section 8.7 including records of annual tests, quarterly inspections and maintenance submitted to the Puslinch Fire Department by the end of each calendar year.

17. A dry hydrant identification sign will be installed with each civic address sign. The sign is provided and installed free of charge by the Puslinch fire department.

7.0 WATER AND SEWAGE SERVICING

7.1 General

All development in the Township is currently serviced through private individual on site water wells and sewage disposal systems.

7.2 Sewage Disposal Systems

Small sewage systems, having a design flow rate of 10,000 L/d or less will be reviewed and approved by the Township under the Ontario Building Code.

Large sewage systems, having a design flow rate of more than 10,000 L/d are within the jurisdiction of the MECP and will not be reviewed by the Township.

7.3 Potable Water Supply

Potable water supply wells must be constructed by a licensed well contractor in strict accordance with the requirements of Ontario Regulation (O.Reg.) 903, as amended.

Wells will be sited to minimize the impact from any leaching beds or other potential sources of contamination and in accordance with the minimum separation distances identified within the regulation.

Existing wells on the property may be maintained provided they comply with the current standards set in O.Reg. 903. Existing wells which will not be used must be abandoned in accordance with O.Reg. 903.

7.4 Hydrogeological Study Report

A hydrogeological study will be required for most new development applications to demonstrate the suitability of the site for development of private services.

The hydrogeological study report will be prepared by a qualified professional (i.e. professional hydrogeologist or engineer) and will generally include details regarding the site setting, desktop

geologic and hydrogeologic information, and results from a field investigation program established by the qualified professional to support the development including results from test pits, boreholes, sampling, pumping tests, monitoring wells and well surveys, as required.

The hydrogeological study report will review the availability and sustainability of adequate groundwater supplies with respect to both quantity and quality, including any potential interference to existing water users or sensitive receptors (eg. wetlands, watercourses).

In addition, the hydrogeological study report will support the septic system design and stormwater management design and must provide sufficient details with respect to soil profiles and percolation rates.

7.5 Nitrate Impact Assessment

For some development applications, nitrate impact assessment will be required to demonstrate, to the satisfaction of the Township, that the proposed development will not adversely impact groundwater quality with respect to neighbouring property use and/or the natural environment.

Nitrate impact assessment will generally be required for the following types of applications:

- Zoning by-law amendments
- Plan of subdivision/condominiums
- Severance applications, with the exception of severance for the purpose of establishing four or fewer single detached dwellings
- Expansions of existing uses that will increase the need for water and/or sewage disposal

Nitrate impact assessment will follow MOECC Procedure D-5-4 (Individual On-Site Sewage Systems: Water Quality Impact Risk Assessment). The nitrate impact assessment may be stand alone or may be incorporated into the hydrogeological study report.

8.0 UTILITIES AND STREETLIGHTING

8.1 Utilities

The Developer is responsible for the design and installation of all utilities including hydro, gas, telephone, cable and other communications (as available).

Utilities shall be installed underground within the road allowance, in accordance with the typical cross sections attached as *Appendix B*. All materials and installation shall be in accordance with current OPSS standards and the requirements of the respective utility company.

A Composite Utility Plan (CUP) shall be provided to the Township for review and approval. The CUP shall indicate the location of all underground and aboveground services, utilities, driveways,

street lighting, signs and landscaping to be installed within the Municipal right-of-way. Sign-off of the CUP by each utility company represented by the plan is to be provided with the submission.

The Developer will be required to provide evidence to the Township that it has entered into an agreement for provision of utilities in accordance with terms of the development agreement.

8.2 Lighting

Site Plans

As part of the site plan process, applicants will be required to submit a lighting design prepared by a qualified lighting design professional. The lighting design will limit the impacts of excess and unnecessary external lighting and consisting of a lighting plan showing photometric data (in lux) and detailed specifications including lamp type, fixture type, lumens rating, wattage and colour. Site lighting design shall be in accordance with minimum levels IES RP-8-18 Standard Practice for Design and Maintenance of Roadway and Parking Facility Lighting and IES-RP-33-14 Lighting for Exterior Environments.

Average light level shall not exceed 1 lux on adjacent properties (including road way). Light fixtures should be positioned across a site so as to give a uniform distribution of light over the relevant area. Fixtures shall be 'full-cut off' type such that light is focused down preventing light trespass. Light fixture designs which cannot meet these standards, such as those with sag lenses or wall mount lights that shine horizontally, are prohibited.

Street Lighting

All developments shall be provided with adequate street and sidewalk lighting in accordance with the latest version of the Illuminating Engineering Society of North America (IESNA) standard practice for Roadway Lighting (ANSI/IESNA RP-8) and the requirements of the Electrical Safety Authority (ESA).

The lighting design is to be prepared by a Professional Engineer experienced in roadway lighting and submitted to the Township for review and approval. The street lighting design submission is to include street lighting layout and electrical drawings showing the location of poles, loadcentre(s) and luminaires, standard drawings and specifications for materials and installation, and a photometric distribution diagram indicating the average maintained illumination levels and uniformity rating in comparison to IESNA minimum requirements. Fixtures will be LED with spill control and Correlated Color Temperature (CCT) of 3000K or less. A minimum clearance of 1.5 m shall be required from the centre of the streetlight to the edge of a driveway and a minimum clearance of 3.0 m shall be required from the center of the streetlight to the center of street trees.

Lighting poles shall be installed as shown on the typical cross sections attached as *Appendix B*, with consideration to suitable clearances from driveways, structures and trees. Lighting materials and suppliers will be reviewed with the Township prior to installation The Township may require a stocking of spare poles, lights and accessories be provided. Fixtures shall be 'full-cut off' type such that light is focused down preventing light trespass. Light fixture designs which cannot meet

these standards, such as those with sag lenses or wall mount lights that shine horizontally, are prohibited.

9.0 PARKLAND AND LANDSCAPING

9.1 Parks and Recreational Areas

The Township will require the conveyance of lands for park or other recreational purposes, at the rates identified within cash-in-lieu of parkland by-law, for all developments, redevelopment, or plans of subdivision.

Suitable municipal parkland shall be:

- of appropriate size and configuration to effectively utilize municipal resources and facilitate meaningful recreation activities adjacent to established parks, schools, or storm water management ponds;
- within easy walking distance of the residential area served;
- located near the highest density residential areas; redevelopment or plans of subdivision.
- of adequate street frontage to provide for visibility and safety;
- level, regularly shaped and not susceptible to major flooding, poor drainage, or other environmental or physical conditions, which would interfere with their development or use for public recreation.

Alternately, the Township may require cash-in-lieu of parkland, to be used towards future acquisition or development of parkland within the Township.

Undevelopable Open Space lands (e.g., storm water management ponds, woodlots, valley lands, floodplains, hazard lands, etc.) will not be accepted as parkland dedication. However, the Township may choose to assume these lands through voluntary dedication or easement.

All Park or Recreational Areas dedicated to the Township shall be graded and seeded so that they are suitable for recreational use. The requirements for fencing or other features will be reviewed on a case by case basis.

The Township may further, in accordance with The Planning Act, require dedication of land for pedestrian pathways, bicycle pathways and public transit rights of way as a condition of plan of subdivision approval.

9.2 Site Landscaping

Objectives

1. To encourage landscape design that is compatible with the character of the surrounding rural or urban landscape.

2. To improve the aesthetic quality of a development and screen less attractive elements from view.

3. To protect and enhance the quality of natural heritage features found on and adjacent to proposed development sites.

Plant Materials

- Native trees and shrubs should mostly be used in landscape plantings, particularly where development is proposed in close proximity to woodlands and wetlands. However, in urban areas and on other sites where planting conditions are difficult some non-native species that are not considered invasive may be utilized.

- Along all-weather roads an average of one tree is to be planted for every 10 meters of road frontage. Street trees are not to be planted within the road allowance but are to be provided on private property close to the road allowance.

- Trees are also to be planted in and/or around parking areas and along the perimeter of development properties in locations that enhance the appearance and functions of buildings and structures.

List of Recommended Trees

DECIDUOUS TREES

Red Maple *(Acer rubrum)*
Silver Maple *(Acer saccharium)*
Sugar Maple *(Acer saccharum)*
Downy Serviceberry *(Amelanchier arborea)*
Allegheny Serviceberry *(Amelanchier laevis)*
White Birch *(Betula papyrifera)*
Blue Beech *(Carpinus caroliniana)*
Bitternut Hickory *(Carya cordiformis)*
Shagbark Hickory *(Carya ovata)*
Hackberry *(Celtis occidentalis)*
Black Walnut *(Juglans nigra)*
American Hophornbeam *(Ostrya virginiana)*
London Planetree *(Plantanus x acerifolia)**
Sycamore *(Plantanus occidentalis)*
Largetooth Aspen *(Populus grandidentata)*
Pin Cherry *(Prunus pensylvanica)*
Black Cherry *(Prunus serotina)*
Bur Oak *(Quercus macrocarpa)*
Red Oak *(Quercus rubra)*
American Mountain Ash *(Sorbus Americana)*
Showy Mountain Ash *(Sorbus decora)*
Basswood *(Tilia Americana)*

*Non-invasive introduced species

- Minimum acceptable size for deciduous trees is 60mm, 3 to 3.5m in height and for coniferous trees 1.5m in height.

CONIFEROUS TREES

Balsam Fir *(Abies balsamea)*
Red Cedar *(Juniperous virginiana)*
European Larch *(Larix decidua)**
Tamarack *(Larix laricina)*
Norway Spruce *(Picea abies)**
White Spruce *(Picea glauca)*
Colorado Blue Spruce *(Picea pungens 'Glauca")**
Red Pine *(Pinus resinosa)*
White Pine *(Pinus strobus)*
White Cedar *(Thuja occidentalis)*
Eastern Hemlock *(Tsuga canadensis)*
Austrian Pine (Pinus nigra)*

*Non-invasive introduced species

- For ecological restoration and/or enhancement projects bare root tree seedlings that are 15 to 60cm in height may be utilized.

Shrubs and Ground Covers

- Use shrubs and ground covers in large masses for lower maintenance and seasonal planting. Place special emphasis on early spring and fall colours.
- Use shrubs to define and control pedestrian circulation and to screen undesirable views.
- Minimum acceptable sizes for shrubs are 60 to 100cm in height.
- For ecological restoration and/or enhancement projects bare root shrub seedlings 20 to 60cm in height may be utilized.

List of Recommended Shrubs and Groundcovers

DECIDUOUS SHRUBS

Alternate-leaved Dogwood *(Cornus alternifolia)*
Grey Dogwood *(Cornus racemosa)*
Red-osier Dogwood *(Cornus sericea)*
Winterberry *(Ilex verticillata)*
Ninebark *(Physocarpus opulifolius)*
Chokecherry *(Prunus virginiana)*
Fragrant Sumac *(Rhus aromatica)*
Staghorn Sumac *(Rhus typhina)*
Smooth Wild Rose *(Rosa blanda)*
Pussy Willow *(Salix discolor)*
American Elderberry *(Sambucus canadensis)*
Red Elderberry *(Sambucus pubens)*
Meadowsweet *(Spiraea alba)*
Narrow-leaved meadowsweet *(Spiraea alba)*
Nannyberry *(Viburnum lentago)*
American Highbush Cranberry *(Viburnum trilobum)*

EVERGREEN SHRUBS

Junipers *(Juniperus sp.)*
Mugo Pine *(Pinus mugo)**
Ground Hemlock *(Taxus canadensis)*

PERENNIALS

New England Aster *(Aster novae-angliae)*
Purple Cone Flower *(Echinacea purpurea)*
Canada Wild Rye *(Elymus Canadensis)*
Creeping Red Fescue *(Festuca rubra)*
Daylily *(Hemerocallis sp.)**
Perennial Ryegrass *(Lolium perenne)**
Wild Bergamot *(Monarda fistulosa)*
Kentucky Bluegrass *(Poa pratensis)**
Black-Eyed Susan *(Rudbeckia hirta)*
Autumn Joy Sedum *(Sedum sp.)**
Little Bluestem *(Schizachyrium scoparium)*
Indian Grass *(Sorghastrum nutans)*

*Non-invasive introduced species

Landscape Buffers

- Buffers may be needed to screen undesirable views along roads or property boundaries. Buffers may consist of architectural screening, landscaping, berming or a combination of these materials.

- Where landscaping is used to create the buffer, planting is to consist of trees and/or shrubs, with a minimum of 50% coniferous (evergreen) plant material. Site-specific circumstances may warrant dense, continuous coniferous planting.

- Where berming is used to create the buffer, the berm must be a minimum of one meter high and have maximum side slopes of 3:1. It must be seeded with an appropriate native groundcover and planted with a mixture of shrubs and coniferous trees.

- Refer to the Township zoning by-law for minimum buffer requirements.

Tree Maintenance

- Subsequent to planting the agency or company planting trees shall be responsible for all maintenance, including pruning and replacement, if necessary. The maintenance period will be in accordance with the Subdivision Agreement.

9.3 Tree Management

Objectives

1. To accurately inventory and describe woodland communities over 0.4 ha (1 acre) in size, smaller tree clusters and isolated trees that are established on a proposed development property or immediately adjacent to it.

2. To retain and protect significant woodlands identified by the County as Greenlands and Core Greenlands from potential development impacts. The 2017 Growth Plan for the Greater Golden Horseshoe applies to all of Wellington County and it incorporates policies of the Greenbelt Plan for Key Natural Heritage features, including significant woodlands. As a consequence, these policies supercede the County's policies for the Greenlands System and they stipulate that development and site alteration is not permitted in significant woodlands or the required minimum 30m wide vegetation protection zone that is measured from the woodland dripline.

3. To retain and protect good quality native trees that are greater than 10 cm in diameter at breast height (dbh) wherever possible.

9.3.1 Standards for Draft Plan of Subdivision, Rezoning and Consent Applications

A General Vegetation Overview (GVO) will be required where woodlands, small tree clusters and/or isolated trees occur on or immediately adjacent to a development property that is proposed to be subdivided or rezoned. The GVO may be incorporated into a more comprehensive Environmental Impact Assessment (EIA) where other natural heritage concerns need to be

addressed. Vegetation communities should be identified using Ecological Land Classification (ELC) procedures and delineated on an air photomap. For each woodland community found in the study area the following data should be recorded.

- Vegetation type as per ELC
- Stand composition (%)
- Overstory canopy coverage (%) and/or basal area (m2/ha)
- Average height (m) of dominant and codominant trees
- Average DBH (cm) of dominant and codominant trees
- Stand health (identify any significant insect and disease pests and environmental damage)
- Community age (in years or record as regeneration, young, immature, mature or over mature)
- Major species in understory (up to 5 species of trees and/or shrubs)
- Major groundflora species (up to 5 species)
- Topography (flat, undulating/gently sloping, rolling/moderately sloping, strongly rolling, hilly/steep)
- Soil depth (deep, moderately deep, shallow)
- Soil drainage (rapid, well, imperfect, poor)
- Soil texture (sand, silt, clay, loam, organic)

For isolated trees over 10 cm DBH and small tree clusters record the species, DBH and condition rating as excellent, good, fair, poor, very poor and dead.

For each vegetation community, isolated tree and tree cluster that is inventoried an assessment and recommendation is required as to whether it is worthy of preservation and should be retained, or is of low ecological value and should be removed. Alternatively, it may be necessary to identify some vegetation communities and/or individual trees for further study at the detailed grading and design stage. In addition, forest and tree maintenance needs should be identified along with appropriate protection measures (eg. buffers, drainage swales, hazard tree removal, tree protection fencing etc.)

9.3.2 Standards for Site Plan Applications and Draft Plans of Subdivision Subject to Further Tree Study

Where tree cover is found on proposed development properties subject to Site Plan Approval, as well as on Draft Plans of Subdivision subject to further study, a Tree Preservation/Enhancement Plan will be required. This plan should be derived concurrently with the Lot Grading Control Plan, which must also show all other required services (water, sewage, hydro etc), and be illustrated at a scale of approximately 1:500. Submission requirements include the following information.

- The true dimensions and bearings of the subject property and/or subdivided lots.
- The accurate location of all trees 10 cm DBH and greater, including their driplines, that occur as isolated individuals, tree clusters or along woodland edges.
- The proposed building envelope and type of building must be accurately shown on each lot, including the entrance driveway and all required services.
- The Lot Grading Plan must identify the original surveyed grades and proposed future grades, cut and fill areas, future surface drainage and any potential disruption to groundwater.
- For trees that may potentially be impacted by proposed development, data must be recorded on the species, size and condition of each tree along with an appropriate tree management recommendation (eg. save, remove, prune, fertilize, transplant etc.) A Tree Management Plan must be submitted with the Lot Grading Plan and where feasible it may be superimposed on the Grading Plan. Depending upon the type of proposed development, the number of trees to be inventoried, the ecological sensitivity of affected treed areas and the presence of potential hazard trees, it may be necessary to attach numbered tree tags to trees located in potential impact areas.
- The species size and quantity of any compensatory plantings required along new woodland edges, as well as requirements for any further ecological enhancement work.
- The location and type of proposed tree protection measures must be identified on the Tree Management Plan including the need for any required setbacks from tree driplines, the installation of protective fencing (eg. orange construction fence or paige wire farm fence with or without attached filter cloth), wooden hoarding or other erosion control measures (eg. the use of straw bales, mulch mats etc.)
- After all approved tree removal and pruning work has been completed all recommended tree protection measures are to be installed prior to the initiation of site grading. The consulting forester, arborist or landscape architect who is responsible for the supervision of the tree management work will be required to submit a Tree Maintenance Report to the Township that documents compliance with

the approved Tree Preservation/Enhancement Plan and also identifies any deviations that occurred and the reasons for those changes.

9.3.3 County of Wellington Tree By-Law

The County regulates the destruction or injuring of trees through the "Conservation and Sustainable Use of Woodlands By-law". An approval/permit may be required in certain situations where tree removal is proposed as part of a development application. The applicant should consult with the County prior to any tree removals.

APPENDIX A:
SUBMISSION CHECKLISTS

Township of Puslinch
7404 Wellington Road 34
Puslinch, ON N0B 2J0
T: (519) 763-1226
www.puslinch.ca

Zoning By-law Amendment Application
Pre-Consultation Checklist

General Information:

Site Address or Legal Description: _____

Name of Applicant or Representative: _____

_____

Contact email address: _____

Description of Proposed Development: _____

_____

Date of Pre-Consultation: _____

Submission Requirements:

This checklist outlines the information required to be provided with the application. To ensure your application is complete, please include the following:

Required		
Yes	*No*	
☐	☐	Source Water Protection Screening Form
☐	☐	Completed application form and required application fee
☐	☐	Planning Impact Assessment
☐	☐	Functional Servicing Report

Yes	*No*	
☐	☐	Water and Wastewater Servicing
☐	☐	Stormwater Management
☐	☐	Geotechnical and Hydrogeological *(may be stand alone report)*
☐	☐	Site Grading

Township of Puslinch
7404 Wellington Road 34
Puslinch, ON N0B 2J0
T: (519) 763-1226
www.puslinch.ca

☐ ☐ Other Reports/Studies as requested through pre-consultation

Yes	*No*	
☐	☐	Environmental Impact Assessment
☐	☐	General Vegetation Overview *(may be combined with Environmental Impact Assessment)*
☐	☐	Traffic Impact Assessment
☐	☐	Heritage Impact Assessment
☐	☐	Agricultural Impact Assessment
☐	☐	Archaeological Assessment
☐	☐	Noise Impact Assessment
☐	☐	Nitrate Impact Assessment *(may be combined with servicing/hydrogeological report)*
☐	☐	Other:

Plans

☐ ☐ Site Plan

☐ ☐ Grading and Servicing Plan

☐ ☐ Other:

Township of Puslinch

_____
Name

_____
Signature

Applicant or Representative

_____
Name

_____
Signature

A copy of the completed checklist will be provided to the applicant following the pre-consultation meeting.

Township of Puslinch
7404 Wellington Road 34
Puslinch, ON N0B 2J0
T: (519) 763-1226
www.puslinch.ca

Site Plan Approval Application
Pre-Consultation Checklist

General Information:

Site Address or Legal Description: _____

Name of Applicant or Representative: _____

_____

Contact email address: _____

Description of Proposed Development: _____

_____

Date of Pre-Consultation: _____

Submission Requirements:

This checklist outlines the information required to be provided with the application. To ensure your application is complete, please include the following:

Required		
Yes	*No*	
☐	☐	Source Water Protection Screening Form
☐	☐	Completed application form and required application fee
☐	☐	Planning Impact Assessment
☐	☐	Functional Servicing Report

Yes	*No*	
☐	☐	Water and Wastewater Servicing
☐	☐	Stormwater Management
☐	☐	Geotechnical and Hydrogeological *(may be standalone report)*
☐	☐	Site Grading

Township of Puslinch
7404 Wellington Road 34
Puslinch, ON N0B 2J0
T: (519) 763-1226
www.puslinch.ca

☐ ☐ Other Reports/Studies as requested through pre-consultation

Yes	*No*	
☐	☐	Environmental Impact Assessment
☐	☐	Tree Management Plan *(may be combined with Environmental Impact Assessment)*
☐	☐	Traffic Impact Assessment
☐	☐	Heritage Impact Assessment
☐	☐	Agricultural Impact Assessment
☐	☐	Archaeological Assessment
☐	☐	Noise Impact Assessment
☐	☐	Nitrate Impact Assessment *(may be combined with servicing/hydrogeological report)*
☐	☐	Other:

☐ ☐ Itemized construction cost estimate, including 15% for engineering and contingencies

☐ ☐ Legal survey of the property

☐ ☐ Spills Management Plan

Plans

☐ ☐ Site Plan

☐ ☐ Grading and Servicing Plan

☐ ☐ Erosion and Sediment Control Plan

☐ ☐ Landscaping Plan

☐ ☐ Photometric Plan

☐ ☐ Other:

Township of Puslinch
7404 Wellington Road 34
Puslinch, ON N0B 2J0
T: (519) 763-1226
www.puslinch.ca

Township of Puslinch	**Applicant or Representative**
_____	_____
Name	Name
_____	_____
Signature	Signature

A copy of the completed checklist will be provided to the applicant following the pre-consultation meeting.

Township of Puslinch
7404 Wellington Road 34
Puslinch, ON N0B 2J0
T: (519) 763-1226
www.puslinch.ca

Subdivision Detailed Design Submission
Pre-Consultation Checklist

General Information:

Site Address or Legal Description: _____

Name of Applicant or Representative: _____

_____

Contact email address: _____

Description of Proposed Development: _____

_____

Date of Pre-Consultation: _____

Submission Requirements:

This checklist outlines the information required to be provided with the application. To ensure your application is complete, please include the following:

Required		
Yes	*No*	
☐	☐	Source Water Protection Screening Form
☐	☐	Completed application form and required application fee
☐	☐	Planning Impact Assessment
☐	☐	Detailed Servicing Report
☐	☐	Stormwater Management Report
☐	☐	Geotechnical and Hydrogeological Study
☐	☐	Other Reports/Studies as requested through pre-consultation

Yes	*No*	
☐	☐	Environmental Impact Assessment
☐	☐	General Vegetation Overview *(may be combined with Environmental Impact Assessment)*
☐	☐	Traffic Impact Assessment

Township of Puslinch
7404 Wellington Road 34
Puslinch, ON N0B 2J0
T: (519) 763-1226
www.puslinch.ca

☐	☐	Heritage Impact Assessment
☐	☐	Agricultural Impact Assessment
☐	☐	Archaeological Assessment
☐	☐	Noise Impact Assessment
☐	☐	Nitrate Impact Assessment *(may be combined with servicing/hydrogeological report)*
☐	☐	Other:

☐	☐	Itemized construction cost estimate, including 15% for engineering and contingencies
☐	☐	Legal survey of the property
☐	☐	Storm Sewer Design Sheet (Microsoft Excel format)

Plans

☐	☐	General Arrangement Plan
☐	☐	Grading Plan
☐	☐	Plan and Profile Drawings for all Roads and Services
☐	☐	Stormwater Management Facility Plans
☐	☐	Erosion and Sediment Control Plan
☐	☐	Landscaping Plan
☐	☐	Photometric Plan
☐	☐	Composite Utility Plan
☐	☐	Other:

Township of Puslinch
7404 Wellington Road 34
Puslinch, ON N0B 2J0
T: (519) 763-1226
www.puslinch.ca

Township of Puslinch	**Applicant or Representative**
_____	_____
Name	Name
_____	_____
Signature	Signature

A copy of the completed checklist will be provided to the applicant following the pre-consultation meeting.

APPENDIX B:
STANDARD DRAWINGS

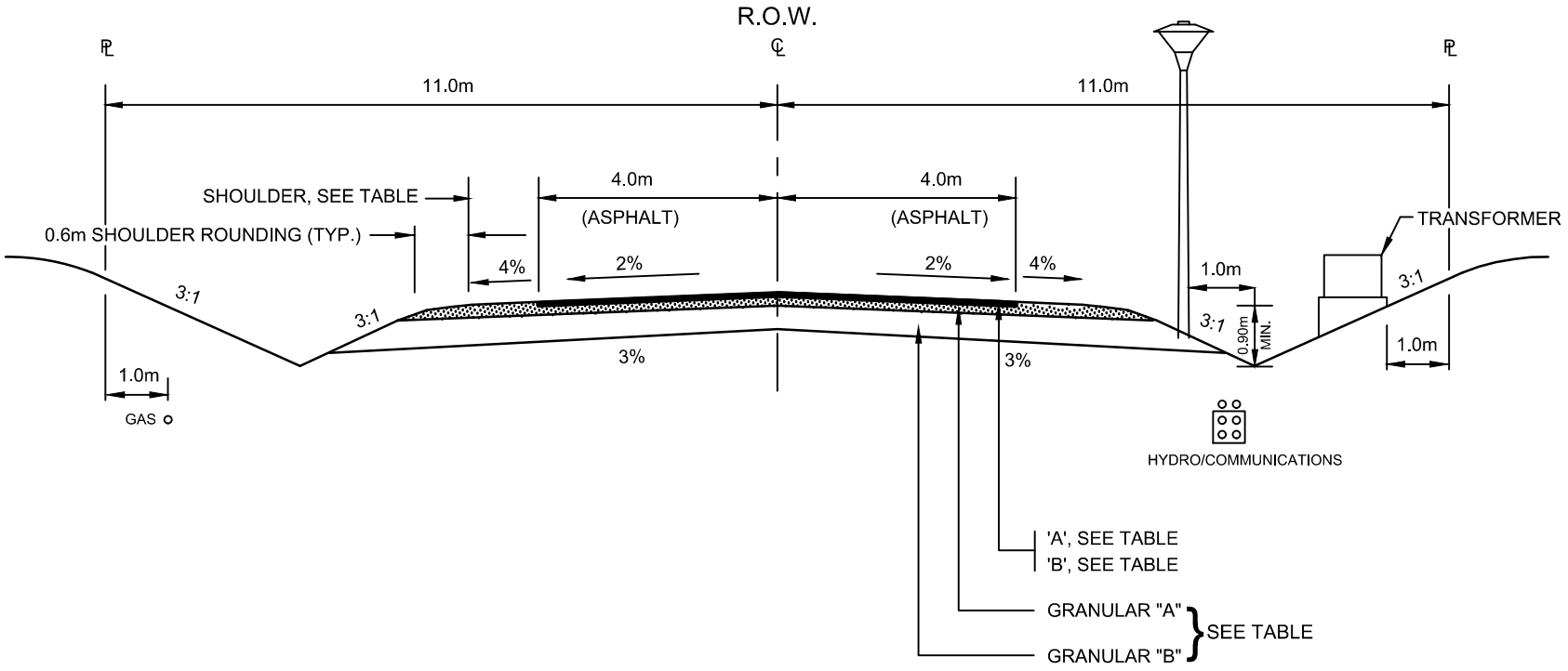
PUSLINCH

TOWNSHIP OF PUSLINCH STANDARD DRAWING

TYPICAL RURAL CROSS-SECTION

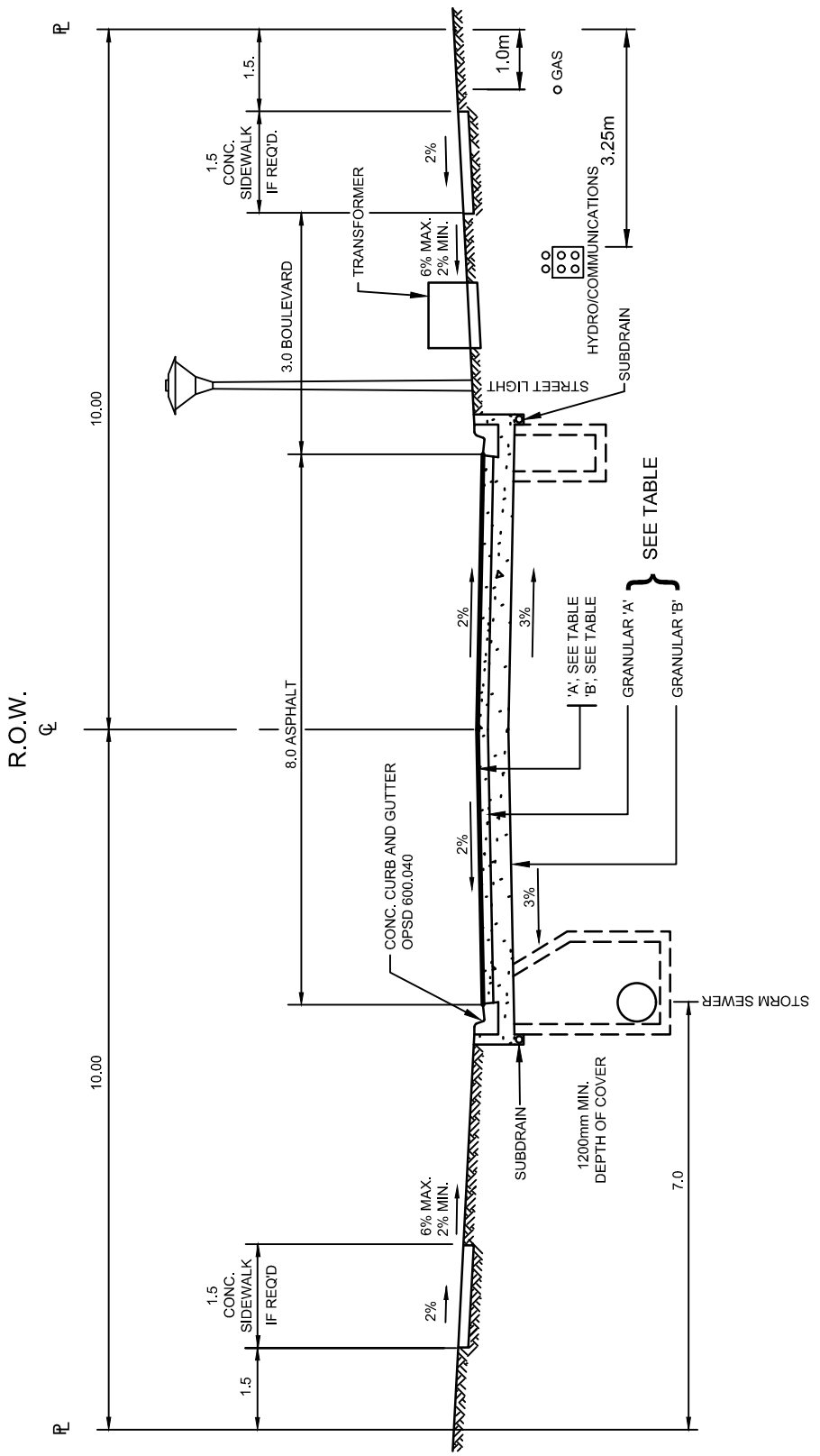
STD-101

DATE: AUGUST 2019



ROAD CLASS	'A'	'B'	GRAN 'A'*	GRAN 'B'*	SHOULDER
LOCAL RESIDENTIAL	35mm HL3	60mm HL4	150mm	300mm	1.0m
COLLECTOR RESIDENTIAL	35mm HL3	60mm HL4	150mm	400mm	1.5m
LOCAL INDUSTRIAL	50mm HL4	60mm HL8	150mm	450mm	1.5m
COLLECTOR INDUSTRIAL	50mm HL4	60mm HL8	200mm	450mm	2.0m

GRANULAR BASE TO BE CONFIRMED BY SOILS REPORT



ROAD CLASS	'A'	'B'	GRAN 'A'*	GRAN 'B'*
RESIDENTIAL - LOCAL	35mm HL3	60mm HL4	150mm	300mm
RESIDENTIAL - COLLECTOR	35mm HL3	60mm HL4	150mm	400mm
INDUSTRIAL - LOCAL	50mm HL4	60mm HL8	150mm	450mm
INDUSTRIAL - COLLECTOR	50mm HL4	60mm HL8	200mm	450mm

GRANULAR BASE TO BE CONFIRMED BY SOILS REPORT

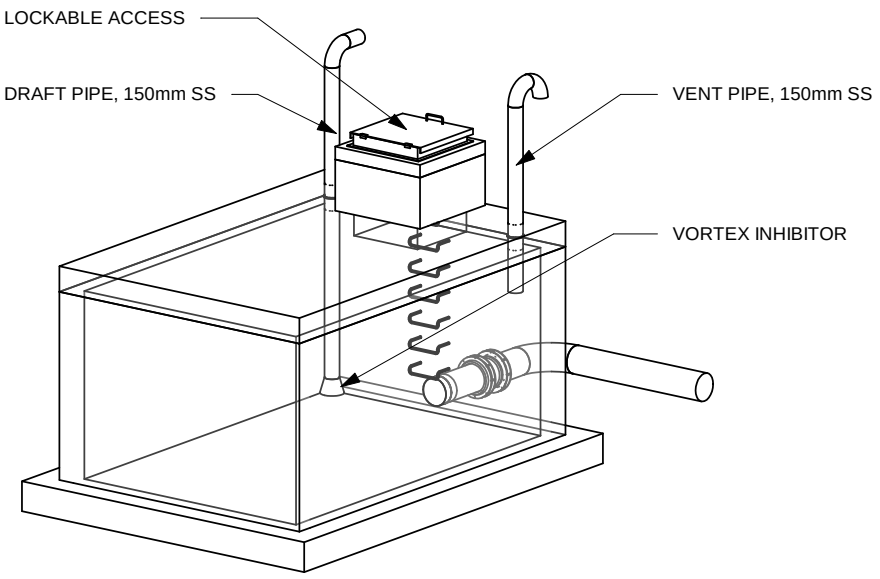
TOWNSHIP OF PUSLINCH

TOWNSHIP OF PUSLINCH STANDARD DRAWING

TYPICAL URBAN CROSS-SECTION

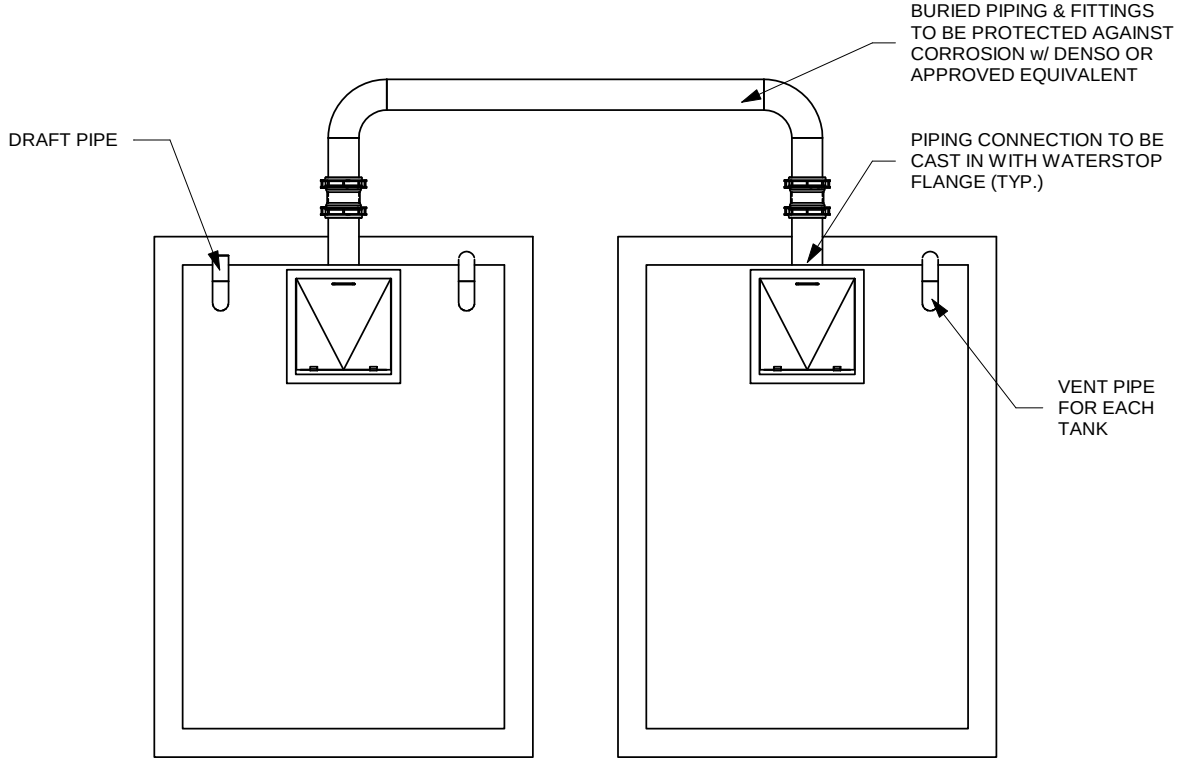
DATE: AUGUST 2019

STD-102



ISOMETRIC VIEW

N.T.S.



TYPICAL SERIES CONNECTION

N.T.S.

TOWNSHIP OF PUSLINCH

EST. 1850

TOWNSHIP OF PUSLINCH STANDARD DRAWING

WATER STORAGE FOR FIRE PROTECTION

DATE: AUGUST 2019

STD-103

REPORT PW-2019-003

TO:	Mayor and Members of Council
FROM:	Mike Fowler, Supervisor of Public Works & Parks
MEETING DATE:	September 4, 2019
SUBJECT:	Intersection Review File: T08LES, T08MAL, T08CON

RECOMMENDATION

That Report PW-2019-003 with respect to the Sight Lines Intersection Review prepared by the Township insurance provider Brian Anderson, Frank Cowan Company, be received for information.

Purpose

The purpose of this report is to provide Council with an update with respect to recommendations made by the Township's insurance provider and the action taken by the Public Works Department.

Background

Staff requested three intersections be reviewed due to recent collisions at Leslie Road West at Watson Road South; and Maltby Road East at Watson Road South; and Sideroad 10 at Concession 4 Road. A report was prepared by the Township insurance provider, Brian Anderson, Frank Cowan Company and is attached as Schedule A of this report.

Recommendations:

a) That a hidden intersection tab sign (WA-18T) be installed on Leslie Road West on the eastbound approach to the intersection of Watson Road South and Leslie Road West; and
b) That the Township consider placing a stop-ahead sign for both east bound and west bound approaches on Maltby Road and may also consider supplementing the intersection by painting the word "stop" at the stop blocks; and
c) For the intersection of Sideroad 10 and Concession 4 Road it was determined that the site lines for both stop control directions were unobstructed and no work is required. A reminder that any long grasses or low hanging branches need to be removed upon identification.

Recommendations were reviewed by the Supervisor of Public Works and Parks and all recommendations have been completed by Public Works staff.

Financial Implications

None

Attachments

Schedule A – Site Lines at Intersections, prepared by Brian Anderson, Frank Cowan Insurance
Schedule B – Photos of works completed

Schedule B: Photos of Works Completed

Leslie Road Eastbound approaching intersection (intersection ahead warning sign installed)

Maltby Road at Watson Road (Eastbound). Stop Block moved ahead to road edge and four by two foot lettering applied at stop.

Driver's eye view of Stop Lettering approaching Watson Road

East and Westbound Stop Ahead signs installed 150 metres before Watson Road and Maltby Road intersection.

TOWNSHIP OF
PUSLINCH
EST. 1850

Wednesday, August 21, 2019

The Honourable Caroline Mulroney,
Ministry of Transportation
5th Floor
777 Bay St.
Toronto, ON M7A 1Z8

Thank you very much for seeing me today.

I would personally like to thank you, The Honourable Ted Arnott and the Government of Ontario for supporting our application for the "Moyer's Bridge/Concession 7" reconstruction. The application was made pursuant to the "Investing in Canada Infrastructure" program and your governments support is crucial to permit this important road project to proceed.

These investments in infrastructure facilitate our shared interest in creating jobs and economic development. The approval of this project allows us to address other pressing infrastructure needs as set out in our new Asset Management Plan.

It is my intention to bring to the Ministry's attention these two important projects which will create jobs and prosperity as well as improve goods movement in this part of the Province.

- Halton Truck Inspection Station location
- Highway 6 regional improvement

The first item to discuss is the proposed placement of the Halton Truck Inspection Station on prime agricultural lands. The current priority sites are located on lands that are currently used as "seed" farms. As you can imagine, the cost to the food supply is considerable when land used to grow seed for other farms is used for a truck inspection station

There are other opportunities to place the Truck Inspection Station on lands not being farmed or on lands owned by the MTO/Crown corporations within Morriston. Prime agricultural farm land is not permitted to be anything but farm land and I would respectfully suggest that this policy should also apply to the MTO. We therefore request that the Halton Truck inspection stations be located off of prime agricultural land and in a more suitable location.

Economic development has proven difficult in Puslinch due to a number of factors. The stalling on the Highway 6 by-pass is the primary concern. Lands abutting the 401 corridor as well as the

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Hanlon corridor have " holds" in place from the MTO for future widening of the 401 as well the Highway 6 by-pass. Lands located within our industrial park sit vacant all waiting on these projects to be approved. Investor are paying significant taxes on vacant land they cannot sell as the business community awaits the Highway improvements.

Improvements to the Hanlon expressway (at Maltby Road, part of the Highway 6 by-pass plan) will add jobs to Ontario's economy, provide opportunities for Wellington County along with Puslinch to develop commercial lands along these corridors adding jobs to Ontario's growing economy.

I have provided another copy of my letter outlining the Economic benefits to the region should the highway 6 by-pass be approved in conjunction with the Hanlon Expressway interchange improvement (Maltby Rd/Hanlon). I cannot express enough the need for movement on these projects. The regional area needs improved infrastructure to keep the economy moving.

Thank you again for the opportunity to share our municipality's perspective and I look forward to working with you on these matters.

Thank you,

Mayor James Seeley

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Monday, August 19, 2019

The Honourable Jeff Yurek
Minister of the Environment, Conservation and Parks
5th Floor, 777 Bay St.
Toronto, ON M7A 2J3

RE: Permits to Take Water and Aggregate Extraction

Mr. Minister I would like to take the opportunity to express our thanks for the oversight the Ministry provided during the clean up of the jet fuel spill into Mill Creek. Countless hours by volunteers have been spent rehabilitating one of our last cold water streams. The task of dealing with a spill of this magnitude during the heart of winter must have been challenging for the contractor. The response to the spill was very impressive. I believe the clean up has been completed and that there were minimal impacts on the natural environment.

Our local Environment generally, and Mill Creek more specifically, are key priorities for our community. It is therefore important that our two major industries- aggregate extraction and commercial water taking are done in such a way as to minimize impacts on the natural and man made environment.

The regulatory regime should be reviewed to ensure that water taking permits are treated equally among industries. For example, water bottlers are granted a Ministry permit for a maximum of five (5) years while an aggregate company in the immediate vicinity of a water bottler is granted a permit for 10 years with very minimal monitoring in place and significantly more daily amounts permitted.

If our water is one of our most precious resources, we need standardization for terms across all industry and ALL industry to be required to monitor the affect of their PTTW on aquifers. This would also ensure that the proper oversight and community input is received prior to permit renewals.

There is another issue relating to aggregate operations. The continued practice of below the water table extraction of aggregate needs to be reviewed. This form of water taking below the water table has the very real potential to expose our drinking water to the potential for contamination. (The recent Jet fuel spill 2018 at the head waters of Mill creek is a prime example). The consumption rate of these man made lakes (evaporation) far exceeds the water taking of other local industries, however new gravel pits continue to be approved. We as a society

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need to make a decision, are we going to destroy the environment to extract all the gravel possible or are we going to mine this resource responsibly, returning the land back to farm land instead of man made lakes with gated fences around them? In summary, in Puslinch, we believe that PTTW need to be standardized across all industry. A 5 year PTTW seem to be acceptable and should be applied consistently. Rigorous independent monitoring should also be imposed on all PTTW to ensure the safety of our drinking water supplies for our future generations.

Finally, we also request a review of below water table extraction. The environmental and social affects on our community are quite evident as seen in the aerial photo provided. Extraction below the water table destroys the local environment, cause significant evaporation and thus loss of drinking water as well as exposing the water table to possible contamination.

It is time to put the protection of our drinking water as the main priority in the Province of Ontario across all industries.

Thank you,

Mayor James Seeley

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TOWNSHIP OF
PUSLINCH
EST. 1850

Monday, August 19, 2019

The Honourable Rod Phillips
Ministry of Finance
Frost Building South
7th Floor
7 Queen's Park Cres.
Toronto, ON M7A 1Y7

I would like to take this opportunity to personally thank you, The Honourable Ted Arnott and the Ministry for their support of our "Moyers Bridge/Concession 7 reconstruction". This cost shared program has been nominated by the Province for approval to the Federal government as part of the "Investing in Canada Infrastructure" initiative. To put this in context, this project accounts for 1/3 of our total budget for fiscal year 2020. This funding commitment will provide Puslinch the opportunity to address other infrastructure repairs identified in our Asset Management Plan. This also represents the first ever form of financial support the Provincial government has made in our Township's history in well over half a decade….something that is very much appreciated!

At Puslinch, we have made a conscious effort to ensure that our infrastructure improvements reflect our shared philosophy to keep Ontario moving and being for open for business. Puslinch is located immediately west of the GTA between the cities of Guelph, Hamilton and the Region of Waterloo. We clearly understand that improving infrastructure unlocks our shared ability to create jobs a move goods and services.

I would also like to take this opportunity to ask that the Province to review the fees paid by one of our major sectors: the commercial water taking industry. This industry contributes a water taking royalty to the Province and I would respectively suggest that this fee be shared with our municipality for capital improvements in much the same way that the aggregate industry assists us with the aggregate levy.

It is our hope that the Provincial government will see the similarities between the gravel levy and the water taking fee. Both industries remove a resource from the ground, process it, and then ship their product on large commercial vehicles.

Our industries are all great corporate citizens. I am certain that our water bottling industry would prefer their levy to be directed to the local municipality where their impacts are felt the most.

This policy change would demonstrate that the Province is moving towards treating natural resource based industry in an equitable fashion.

Thank you,

Mayor James Seeley

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TOWNSHIP OF
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EST. 1850

Tuesday, August 20, 2019

The Honourable Steve Clark,
Minister of Municipal Affairs and Housing
17th Floor
777 Bay St.
Toronto, ON M5G 2E5

Thank you for seeing me today. I know that as a former Mayor, you appreciate the challenges and opportunities of leading a Council and representing the local needs of constituents. We are fortunate to have an experienced Mayor as our Minister.

It is my desire to ask your Ministry for continued support for planned and sustainable growth in rural Ontario. Puslinch understands that appropriate growth is important to keeping the economy growing and creating jobs. Puslinch is primarily a farming community with pockets of Industry fitting in well to provide one of the best communities to call home. We are situated along the 401 corridor in close proximity to Halton, Kitchener/ Waterloo Regions as well as Guelph and Hamilton.

Despite these geographical advantages, we cannot meet our full potential in the 401 corridor in particular because of the lack of municipal servicing. We are currently in the midst of a servicing feasibility study but frankly, the costs are well beyond our limited means. The option of continuing to encourage economic development without services is our only option- but certainly is a major impediment to attracting and retaining job creation in what should be a prime economic development zone.

Puslinch is one of 7 Townships within the County of Wellington. Puslinch Township provides approximately 30 percent of the Municipal taxes for Wellington County with only 17% of the total population.

Growth in Puslinch provides a tax assessment 30% higher than most other parts of the County. For every home approved in Puslinch, all levels of Government receive 30 percent more funding. As a small Municipality we have funding models in place that support our community needs. With the new Communities Benefit Charge, these funding models may be in jeopardy. Growth in Puslinch is not hindered by our current Parkland Dedication fee or Development charges. Reduction in these fees will not result in lower cost to home owners. These reductions will result

in increased profit to builders and place Puslinch in a precarious position of a shortage of funds to maintain current parkland and Infrastructure.

I am certain this was not the governments' intent when the legislation changed. To ensure that there are no unintended consequences, I would urge the Ministry to heed the advice of AMO, the Municipal Finance Officers Association and our development charge consultant, Watson and Associates in the drafting of the regulations and procedures.

Thank you very much for the opportunity to meet and I look forward to your consideration of our requests. I am certain that we both share a desire to grow in a financially sustainable manner, create jobs and prosperity and make this the best place to live and invest.

Thank you,

Mayor James Seeley

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THE CORPORATION OF THE TOWNSHIP OF PUSLINCH
COMMITTEE OF ADJUSTMENT
July 9, 2019
7:00 PM
COUNCIL CHAMBERS

M I N U T E S

MEMBERS PRESENT
Councillor John Sepulis, Chair
Dan Kennedy
Dennis O'Connor
Paul Sadhra

MEMBERS ABSENT
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OTHERS IN ATTENDANCE
Lynne Banks, Development and Legislative Coordinator
Meagan Ferris, Sr. Planner, County of Wellington
Zach Prince, Planner, County of Wellington
Hugh Handy, GSP Group
Shannon Davison, Aboud & Associates
Dave Wright & Beth Reade
Karl & Brigitte Strachan
John Sloot

1. OPENING REMARKS

The meeting was called to order at 7:00 pm. The Chair welcomed the gallery to the Committee of Adjustment and informed the gallery that Township Staff would present the application, then the applicant would have the opportunity to present the purpose and details of the application and provide any further relevant information. Following this, the public can obtain clarification, ask questions and express their views on the proposal. The members of the Committee can then obtain clarification, ask questions and express their views on the proposal. All application decisions are subject to a 20 day appeal period.

2. DISCLOSURE OF PECUNIARY INTEREST

- None

3. APPROVAL OF MINUTES

Moved by: Paul Sadhra Seconded by: Dennis O'Connor

That the Minutes of the Committee of Adjustment meetings held Tuesday, June 11, 2019 be adopted.

CARRIED

4. APPLICATIONS FOR MINOR VARIANCE OR PERMISSION under section 45 of the Planning Act to be heard by the Committee this date:

4a.) Minor Variance Application D13/WRI – David Wright/Elizabeth Reade – Property described as Part of Lot 11, Concession 10, 161 Hume Road, Township of Puslinch**.**

Requesting relief from provisions of Zoning By-Law #19/85, as amended, requesting a reduced lot width of the severed parcel to be 10.0 metres instead of 24.3 metres as required.

- Lynne Banks outlined the application, advised that the notice requirements for the application had been met and then outlined the comments and objections that were received from the circulated agencies and public.

- Hugh Handy of GSP Group, consultant for the owner, provided an overview of the application, presented a power point presentation and advised that the severance conditions were set by the Township of Puslinch, provisional consent was granted by the County of Wellington Land Division

Committee and that the Consent Application is now under appeal through the LPAT. He also noted that the Minor Variance Application was deferred from the February 26, 2019 and the June 11, 2019 Committee of Adjustment meetings, and that the County is supportive of the minor variance. He further advised that the EIS field work is proceeding to completion on the property and that he and the owners of the property had met with Mr. & Mrs. Strachan to try to work towards a solution regarding the location of the proposed driveway, noting that the proposed driveway location cannot be changed due to provincially significant wetlands located on the west side of the property. He also noted that the grade of the proposed driveway will drop a bit to stay below the retaining wall and that the owners will keep the proposed driveway away from their property and as far from the retaining wall as possible.

- Karl Strachan comments: the main issue is the location of the proposed driveway and would like the proposed driveway location to be through the middle of the property or the west side of the property, noting that the proposed location of the driveway will affect their privacy.
- Brigette Strachan comments: they had met with the owners but were unable to come up with a satisfactory solution to the location of the proposed driveway and noted that after looking at the County GIS mapping, the "flagpole" shape was not a common way to sever properties, that the owners of 161 Hume Road park their vehicles at the end of the driveway in the winter due to weather conditions not allowing the vehicles to get up the grade of the proposed driveway to be parked near the house. She also inquired that if they add animals to their property, how will it affect the MDS to the severed land.
- John Sepulis inquired how the proposed location of the driveway was decided.
- Hugh Handy advised that due to the wetlands and the required 30 metre buffer, the proposed driveway cannot be located on the west side of the property.
- Shannon Davison noted that the GRCA requires a 30 metre buffer from the wetlands and that the GRCA attended at the property to review the location of the wetlands in relation to the proposed driveway and that the proposed location of the house is outside the 30 metre buffer.
- Hugh Handy advised that there is a ridge that runs across the front part of the property which is why the proposed driveway is being located where it is shown on the sketch provided.
- John Sloot asked what about the animals in the adjacent barn.
- Hugh Handy advised that the County ran the MDS calculations and noted that there are currently no animals located in the barn, however, the location of the proposed dwelling is far enough away from the barn should the abutting landowners ever acquire animals.
- John Sloot stated that he doesn't feel his concerns from the February 26, 2019 meeting have been addressed, is disappointed that no one has reached out to him to satisfy his concerns and that he had contacted Van Harten Surveying Inc. to request a meeting with the owners, but a meeting was never arranged. He also stated that he feels the minor variance application has been "rubber stamped", that it is not a minor variance but a major variance and is disappointed in the committee for not reaching out to him. He further stated that he asked for a compromise but was not informed of the outcome of the meeting between the owners and the abutting owners, and that he is not opposed to the severance but is opposed to the minor variance and would like to know why can't the proposed driveway be either relocated or the width of the proposed driveway changed from 10 metres to 20 metres. He also inquired why the property was for sale prior to the severance and what guarantee can be given that the owners won't sell the retained lands in the property in the future, and why is the proposed location of the house close to the woodlot and wetlands and why it can't be put somewhere else on the property. He further stated that he would like the fire department to review the revised grading plan and meet with him about it. He advised that he has not been provided with any documents to review and would like a discussion with the Committee to clean up the minor variance process.
- John Sepulis advised that whether or not the owner is selling the property is not germane to the issue. He further inquired as to whether or not the fire department reviewed and commented on the revised grading plan.
- Lynne Banks advised that the revised grading plan was not provided to the Township for review and comment prior to the meeting.
- John Sepulis inquired how the tree cutting on the property will be handled.
- Hugh Handy advised that the County will oversee what type and how many trees will be removed.

- Karl Strachan asked if there is a 30 metre wetland buffer then why is the driveway being allowed to be located at its proposed location.
- Brigette Strachan inquired as to why the proposed driveway couldn't be located closer to the driveway on the retained parcel.
- Hugh Handy advised that the width of the proposed driveway was selected was not to locate by their property but located due to other issues and was discussed with the County, and further advised that the County confirmed site line issues on the west side.
- Dan Kennedy inquired what will be done to protect the abutting owners retaining wall located beside the proposed driveway.
- Hugh Handy advised that the wall condition and age is not known and that it could be a condition to of the minor variance approval to have it assessed and ensure that it will not be impacted by construction on the severed parcel.
- Dan Kennedy asked if there has been any discussions regarding privacy fencing.
- Hugh Handy advised that there have been discussions with the owner and neighbour but they have been unable to come up with a satisfactory solution.
- Paul Sadhra inquired how would water flow affect the retaining wall and is there a plan in place to address water flow near the retaining wall.
- Hugh Handy stated that the proposed driveway will be engineered prior to the permit application process.
- Paul Sadhra asked how will any possible damage to the retaining wall be dealt with.
- Hugh Handy advised that it would most likely be a civil matter between the owners.
- Paul Sadhra asked if the proposed driveway could be moved closer to the existing home on the retained parcel.
- Brigitte Strachan stated that it would still be visible from their property.
- Hugh Handy advised that the intent is to locate the proposed driveway as far as possible from the property line.
- Dennis O'Connor inquired how will the trees on the property be maintained.
- Hugh Handy advised that it is not a condition of the consent.
- John Sepulis asked why can't the proposed driveway be relocated 5 metres to the west.
- Hugh Handy stated that there is no environmental reason but that the parking pad and shed located on the property would have to be moved and that it is already located as far as it possibly can be located.
- John Sepulis inquired if the proposed driveway could be located in the middle of the property.
- Hugh Handy advised that there is a significant ridge across the front of the property.
- Dennis O'Connor asked if the wetlands are provincially significant.
- Shannon Davison advised that it is below 750 metres and could be complexed in due to significant wildlife habitats that would be protected by the Provincial Policy Statement.
- Hugh Handy noted that there could also be locally significant wildlife located there.
- Shannon Davison noted that their recommendation would be that it be classified as provincially significant wetlands.
- Dan Kennedy inquired why the proposed driveway can't be moved 10 metres or moved to the west side of the property.
- John Sepulis stated that it is due to the wildlife migration patterns.
- Dan Kennedy inquired if the migration patterns could be factored in.

There were no more comments or questions and the Committee had a discussion and the following was noted:

- Paul Sadhra stated that it is not a minor variance and that maintaining the integrity of the retaining wall is an issue and that there are too many variables.
- Dennis O'Connor stated that he would like a condition in the minor variance that the vegetative buffer be planted to protect the abutting neighbour's view, otherwise there are too many adverse impacts.
- John Sepulis noted that there were no objections when the severance application was presented to the committee.
- Dennis O'Connor noted that they need a reduced impact to the abutting neighbours.

The Committee voted on the motion with all opposed.

That Application D13/WRI requesting relief from provisions of Zoning By-Law #19/85, as amended, requesting a reduced lot width of the severed parcel to be 10.0 metres instead of 24.3 metres as required.

The request is hereby **Denied** for the following reasons:

1. That the proposed driveway width could be increased to locate the driveway further to the west of the property.
2. That the integrity of the retaining wall would need to be maintained during construction.

4(b). Minor Variance Application D13/CAL – William Calhoun - Property described as Rear Part Lot 6, Concession 1, 4 Lake Avenue PV, Township of Puslinch.

Requesting relief from provisions of Zoning By-Law #19/85, as amended, to permit a reduced side yard setback to be 0.74 metres instead of 2.0 metres as required.

- The owner provided an overview of the application.
- There were no public comments or questions.
- There were no comments or questions from the Committee.
- The owner inquired that since there are two building permits, one for the dwelling and one for the deck would he still be able to proceed with the work on the house.
- Lynne Banks advised that since the minor variance is for the deck then the 20 day appeal period will apply to the deck and not the house renovations.

The Committee voted on the motion with all in favour.

That Application D13/CAL, providing relief from provisions of Zoning By-Law #19/85, as amended, requesting relief from provisions of Zoning By-Law #19/85, as amended, to permit a reduced side yard setback to be 0.74 metres instead of 2.0 metres as required, is hereby **Approved** with no conditions.

5. OTHER MATTERS

- None.

6. ADJOURNMENT

Moved by: Dennis O'Connor Seconded by: Dan Kennedy

The Committee of Adjustment meeting adjourned at 8:11 p.m.

CARRIED

THE CORPORATION OF THE TOWNSHIP OF PUSLINCH
PLANNING & DEVELOPMENT ADVISORY COMMITTEE
JULY 9, 2019
7:00 PM
COUNCIL CHAMBERS

M I N U T E S

MEMBERS PRESENT
Councillor John Sepulis, Chair
Dan Kennedy
Dennis O'Connor
Paul Sadhra

MEMBERS ABSENT
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OTHERS IN ATTENDANCE
Lynne Banks, Development and Legislative Coordinator
Meagan Ferris, Sr. Planner, County of Wellington
Zach Prince, Planner, County of Wellington
Megan Gereghty, GSP Group
Ann Caine, Sunrise Board President

1 - 5. COMMITTEE OF ADJUSTMENT

- See July 9, 2019 Committee of Adjustment minutes.

6. OPENING REMARKS

The meeting was called to order at 8:12 p.m. The Chair advised that the following portion of the Committee meeting will be reviewing and commenting on development planning applications.

7. DISCLOSURE OF PECUNIARY INTEREST

- None

8. APPROVAL OF MINUTES

Moved by: Paul Sadhra Seconded by: Dennis O'Connor

That the Minutes of the Planning & Development Advisory Committee Meeting held Tuesday, June 11, 2019, be adopted.

CARRIED

9. APPLICATION FOR SITE PLAN URBAN DESIGN REVIEW

- None

10. ZONING BY-LAW AMENDMENT

10(a) Zoning By-law Amendment Application D14/SUN – Sunrise Therapeutic Riding & Learning Centre – Property described as Part of Lot 17 Concession 1 – 6920 Concession 1, Township of Puslinch.

The purpose and effect of the application is to amend Township of Puslinch Zoning By-law 19/85 to rezone the lands from Agricultural (A) to Agricultural Site Specific (A-) to permit a residential building to include 16 residential suites, 6 respite rooms for adults with special needs, office and administration area, kitchen, social gathering areas and multipurpose hall.

- Megan Gereghty provided an overview of the application and some background.
- John Sepulis inquired that if the application is for the entire property, could it not be limited to

the development area.

- Megan Gereghty advised that they worked with the County to come up with the best way to locate the building that will be used for the sleeping quarters.
- John Sepulis asked if there are any plans for future expansion on the property.
- Megan Gereghty advised that the zoning that has been requested allows for other secondary uses and would be limited in height.
- John Sepulis inquired if this would create new jobs in the Township.
- Ann Caine advised that there will be an increase in jobs, specifically because they will be adding a building that will require 24 hour support, life skill training would expand to 5 days per week instead of the current 2-3 days per week, resulting in the hiring of approximately 10 more staff.
- John Sepulis asked that if there are currently 30 parking spaces, will increasing it to 44 parking spaces will be adequate to meet their parking needs.
- Ann Caine responded that since it will mostly be for staff, 44 spaces will be adequate.

Committee Comments:

The Committee supports the undertaking, creating approximately 10 new jobs, and is satisfied that the building envelope is sequestered within the setbacks.

Moved by: Dennis O'Connor Seconded by: Paul Sadhra

CARRIED

10(b) Zoning By-law Amendment Application D14/ELL – D.J. Ivan Elliot –Property described as Part Lot 17, Concession 1, municipally known as 6920 Concession 1, RR#2, Township of Puslinch.

The purpose and effect of the application is to amend Township of Puslinch Zoning By-law 19/85 to allow for a temporary use over a portion of the property from an Agricultural (A) to a Site Specific Zoning to permit a Garden Suite for an additional ten year period.

- Lynne Banks provided an overview of the application.
- Dennis O'Connor inquired how the Township can guarantee that it is permitted.
- Megan Ferris advised that the *Planning Act* allows for a term of 20 years, and that the owner would have to apply to the Township to renew the zoning for another 10 years.
- Dan Kennedy asked if there is any way to guarantee that the occupants that will be inhabiting the Garden Suite are one and the same as are noted in the agreement and that it is not being rented out to another individual.
- Lynne Banks advised that there is currently no mechanism in place to guarantee who is residing in the Garden Suite, and that the Township is relying on who the owner has listed in the registered agreement as inhabitants of the Garden Suite.

Committee Comments:

The Committee supports the application:

1. With the understanding that it is only to be inhabited by aging in-laws.
2. Subject to the agreement being registered on title.

Moved by: Dennis O'Connor Seconded by: Paul Sadhra

CARRIED

11. LAND DIVISION

- None

12. OTHER MATTERS

- None

13. CLOSED MEETING

- None

14. NEXT MEETING

- Next Regular Meeting Tuesday, August 13, 2019 @ 7:00 p.m.

15. ADJOURNMENT

Moved by: Dennis O'Connor Seconded by: Dan Kennedy

That the Planning & Development Advisory Committee is adjourned at 8:30 p.m.

CARRIED

THE CORPORATION OF THE TOWNSHIP OF PUSLINCH

BY-LAW NUMBER 053-2019

Being a by-law to confirm the proceedings of the Council of the Corporation of the Township of Puslinch at its Regular Council meeting held on September 4, 2019.

WHEREAS by Section 5 of the *Municipal Act, 2001, S.O. 2001, c.25* the powers of a municipal corporation are to be exercised by its Council;

AND WHEREAS by Section 5, Subsection (3) of the *Municipal Act,* a municipal power including a municipality's capacity, rights, powers and privileges under section 8, shall be exercised by by-law unless the municipality is specifically authorized to do otherwise;

AND WHEREAS it is deemed expedient that the proceedings of the Council of the Corporation of the Township of Puslinch at its Regular Council meeting held on September 4, 2019 be confirmed and adopted by By-law;

NOW THEREFORE the Council of the Corporation of the Township of Puslinch hereby enacts as follows:

1) The action of the Council of the Corporation of the Township of Puslinch, in respect of each recommendation contained in the reports of the Committees and each motion and resolution passed and other action taken by the Council at said meeting are hereby adopted and confirmed.

2) The Head of Council and proper official of the Corporation are hereby authorized and directed to do all things necessary to give effect to the said action of the Council.

3) The Head of Council and the Clerk are hereby authorized and directed to execute all documents required by statute to be executed by them, as may be necessary in that behalf and the Clerk authorized and directed to affix the seal of the said Corporation to all such documents.

READ A FIRST, SECOND AND THIRD TIME AND FINALLY PASSED THIS 4th DAY OF SEPTEMBER, 2019.

_____

James Seeley, Mayor

_____

Patrick Moyle, Clerk/CAO