Township of Douro-Dummer
Agenda for a Regular Meeting of Council

Tuesday, April 15, 2025, 5:00 p.m.
Council Chambers in the Municipal Building

Please note, that Council may, by general consensus, change the order of the agenda, without prior notification, in order to expedite the efficiency of conducting business.

Hybrid Meetings

Regular and Special meetings of Council are being held in person and electronically. Regular Meetings are recorded and live-streamed on the Township YouTube channel. Special Meetings will be recorded and live-streamed where feasible.

To watch the meeting live or access a recording please visit the Township's YouTube Channel
https://www.youtube.com/channel/UCPpzm-uRBZRDjB89o2X6R_A

Please contact the Clerk if you require an alternative method to virtually attend the meeting.
mchaithartwig@dourodummer.ca or 705-652-8392 x210

Minutes of the Special Closed Meeting of Council of the Township of Douro-Dummer
March 18, 2025, 4:00 PM
Council Chambers

Member Present: Mayor Heather Watson
Deputy Mayor Harold Nelson
Councillor Thomas Watt
Councillor Adam Vervoort
Councillor Ray Johnston

Staff Present: C.A.O. – Todd Davis
Clerk - Deputy C.A.O. – Martina Chait-Hartwig
Treasurer – Paul Creamer
CBO – Don Helleman

Guest: John Mascarin, Aird Berlis – Township Solicitor

1. Reason for Closed Session Meeting

The Mayor called the meeting to order at 4:29 p.m. and stated the reason for the special closed meeting is to allow Council to enter the Close Session to meet with Township Solicitor and receive an update on an ongoing file.

The meeting started at 4:29 p.m. following a delay caused by technical issues in the Council Chamber.

2. Land Acknowledgement

The Mayor recited the Land Acknowledgement.

3. Declaration of Pecuniary Interest

The Mayor reminded members of Council of their obligation to declare any pecuniary interest they might have. None were declared.

4. Approval of Closed Session Agenda - March 18, 2025

Resolution Number 087-2025

Moved by: Councillor Johnston
Seconded by: Deputy Mayor Nelson

That the agenda for the Closed Session Meeting, dated March 18, 2025, be adopted, as circulated. **Carried**

5. Closed Session

Resolution Number 088-2025

Moved by: Councillor Watt
Seconded by: Deputy Mayor Nelson

That Council move into Closed Session for the following items:
A review of legal matters with the Township Solicitor, and
A discussion of Building Department Matters
This action is being taken under the following exemptions in Section 239 (2) of the Municipal Act, as amended:
(b) personal matters about an identifiable individual, including municipal or local board employees;
(e) litigation or potential litigation, including matters before administrative tribunals, affecting the municipality or local board;
(f) advice that is subject to solicitor-client privilege, including communications necessary for that purpose; (4:32 p.m.). **Carried**

6. Rise Out of Closed Session with or without a Report

Resolution Number 089-2025

Moved by: Deputy Mayor Nelson
Seconded by: Councillor Vervoort

That Council come out of closed session at 5:20 p.m. with a report in the open portion of the Closed Council meeting. **Carried**

7. Matters Arising from Closed Session

Resolution Number 090-2025

Moved by: Councillor Watt
Seconded by: Councillor Johnston

Municipalities were created by the Province to be responsible and accountable governments for the core purpose of providing good government on matters within their jurisdiction.

The Township of Douro-Dummer is committed to delivering excellent, impartial and accessible customer services. Every member of Council and every member of staff strives to provide the best service to all the residents of the Township.

In the interests of openness, accountability and transparency, the Township has always attempted to address questions and queries from constituents and others doing business with the municipality in a prompt, proportionate and professional manner.

Recently, however, a small number of individuals and a largely anonymous group have commenced what can only be viewed as a crusade of disruption in our Township.

These individuals and group have embarked upon a campaign which appears designed to target certain members of our staff and to monopolize their time in a wholly disproportionate manner. Members of Council are not immune as they have been bombarded with demands for responses to matters that will be discussed, debated and deliberated upon in formal meetings of Council.

To date, these individuals and group have primarily targeted our staff with multiple, repetitious and time-consuming questions and demands which far exceed our limited capacity to properly respond. When answers are provided, they are more often than not alleged to be insufficient and unsatisfactory. Seemingly, each response appears to trigger exponentially multiplying additional questions. Follow-up demands often materialize before any realistic timeframe for providing an adequate and considered response has passed.

Such behaviour impedes our staff from providing essential service to others who are equally and fully entitled to have their matters addressed with a proper degree of care and attention.

Moreover, the tone and tenor of these communications is becoming increasingly impolite, discourteous and plainly uncivil. These communications bear the typical hallmarks of online harassment: passive-aggressive stances; micro-aggressions; hostility; false politeness; veiled criticism; sarcasm; continuing persistence.

This is effectively a form of harassment – these individuals and group are attempting to exploit our staff resources and their good patience. They are also attempting to prod and coerce Council members to speak out of turn and away from the Council table.

Such actions will not be tolerated by Council. First, we have a duty as the decision-making body for the Township and that is as an employer under the ESA to ensure that all members of staff are protected from workplace harassment. Second, we have a fiduciary duty to provide equal services and treatment to all residents of the Township and not just to those comprising a vocal minority. Lastly, we have a Public Conduct Policy which is being flouted by what has become vexatious conduct.

Going forward, this Council will not tolerate communications from any person or group that constitutes vexatious conduct as outlined in the Public Conduct Policy.

The public is forewarned – communications to our staff or to members of Council that are vexatious will not be responded to – FULL STOP. **Carried**

Resolution Number 091-2025

Moved by: Councillor Vervoort
Seconded by: Deputy Mayor Nelson

That the staff be directed to apply fees for Routine Disclosure Requests in accordance with Township Policy and the User Fees and Charges By-law.

Carried

8. Adjournment

Resolution Number 092-2025
Moved by: Councillor Watt
Seconded by: Deputy Mayor Nelson

That this meeting adjourn at 5:26 p.m. **Carried**

_____
Mayor, Heather Watson

_____
Clerk, Martina Chait-Hartwig

Minutes of the Regular Meeting of Council of the Township of Douro-Dummer

March 18, 2025, 5:00 PM
Council Chambers in the Municipal Building

Member Present: **Mayor Heather Watson**
Deputy Mayor Harold Nelson
Councillor Thomas Watt
Councillor Adam Vervoort
Councillor Ray Johnston

Staff Present: **C.A.O. - Todd Davis**
Clerk - Deputy C.A.O. - Martina Chait-Hartwig
Treasurer - Paul Creamer
CBO - Don Helleman

1. Call to Order

With a quorum of Council being present, the Mayor called the meeting to order at 5:45 p.m. Due to technical issues in the Council Chamber, a live stream or video of the meeting is not available. Only an audio recording is being provided.

2. Land Acknowledgement

The Mayor recited the Land Acknowledgement.

3. Moment of Silent Reflection

Council observed a moment of silent reflection.

4. Disclosure of Pecuniary Interest:

The Mayor reminded members of Council of their obligation to declare any pecuniary interest they might have. None were declared.

5. Adoption of Agenda: March 18, 2025

Resolution Number 093-2025

Moved by: Councillor Johnston
Seconded by: Deputy Mayor Nelson

That the agenda for the Regular Council meeting, dated March 18, 2025, be adopted, as circulated. Carried

6. Adoption of Minutes and Business Arising from the Minutes

6.1 Regular Council Meeting Minutes - March 4, 2025

Resolution Number 094-2025

Moved by: Councillor Watt
Seconded by: Deputy Mayor Nelson

That the minutes for the Regular Council meeting, dated March 4, 2025, be adopted, as circulated. Carried

7. Consent Agenda (Reports voted upon by ONE motion) - No Debate

7.1 Peterborough County Council Minutes - February 19, 2025

7.2 Delegation of Powers and Duties - Lottery License Issued

Resolution Number 095-2025

Moved by: Deputy Mayor Nelson
Seconded by: Councillor Watt

The Consent Agenda for March 18, 2025, be received. Carried

8. Delegations, Petitions, Presentations or Public Meetings: None

9. Public Comment Period - No Debate or Decision: None

10. Staff Reports

10.1 Report and Capital Project Status - March 2025

Resolution Number 096-2025

Moved by: Councillor Vervoort
Seconded by: Deputy Mayor Nelson

That the report and Capital Project Status document be received. Carried

10.2 Annual Building Department Financial Report – 2024, Treasurer-2025-06

Resolution Number 097-2025

Moved by: Councillor Johnston
Seconded by: Deputy Mayor Nelson

That the report Treasurer-2025-06, dated March 18, 2025, regarding the Annual Building Department Financial report – 2024 be received. Carried

10.3 2024 Council Remuneration, Treasurer-2025-07

Resolution Number 098-2025

Moved by: Deputy Mayor Nelson
Seconded by: Councillor Watt

That the report Treasurer-2025-07, dated March 18, 2025, regarding 2024 Council Remuneration be received. Carried

10.4 2025 Salary Step Increases - C.A.O.-2025-03

Resolution Number 099-2025

Moved by: Councillor Johnston
Seconded by: Councillor Watt

That the report C.A.O.-2025-03, dated March 18, 2025, regarding Salary Step Increases 2025 be received and that Martina Chait-Hartwig, Jake Condon, Don Helleman, Jessyka McArthur, Mike Mood and Vanessa Sweeting be provided a step increase in accordance with the Township of Douro Dummer Compensation By-law. Carried

10.5 Youngs Point Signage Opportunity - C.A.O.-2025-04

Resolution Number 100-2025

Moved by: Councillor Watt
Seconded by: Deputy Mayor Nelson

That the report C.A.O.-2025-04, dated March 18, 2025, regarding the Young's Point community signage opportunity be received; and

That Council direct staff to negotiate and action a lease for the property located at 400 South Beach Road for the installation of Young's Point community signage with the Township of Selwyn. Carried

11. Committee Minutes and Other Reports:

11.1 Township of Douro-Dummer Public Library Board Meeting Minutes - February 11, 2025

Resolution Number 101-2025

Moved by: Councillor Vervoort
Seconded by: Councillor Johnston

That the Township of Douro-Dummer Public Library Board Meeting Minutes for February 11, 2025 be received. Carried

12. Correspondence – Action Items:

12.1 Town of Bradford West Gwillimbury - Request for Landlord Tenant Board Reforms

Resolution Number 102-2025

Moved by: Deputy Mayor Nelson
Seconded by: Councillor Vervoort

That the Resolution from the Town of Bradford West Gwillimbury, dated March 12, 2025, regarding request for Landlord Tenant Board Reforms be received and supported. Carried

14. Reports derived from previous Notice of Motions: None

15. Notices of Motion - No Debate: None

16. Announcements: None

17. Closed Session: None

18. Rise from Closed Session with or without a Report: None

19. Matters Arising from Closed Session: None

20. Confirming By-law 2025-12

Moved by: Councillor Watt
Seconded by: Councillor Johnston

That By-law Number 2025-12, being a By-law to confirm the proceedings of the Special and Regular Meeting of Council, both be held on the 18 day of March, 2025, be passed in open Council and that the Mayor and the Clerk be directed to sign same and affix the Corporate Seal thereto. Carried

21. Next Meeting

Regular Council Meeting - April 15, 2025 at 5:00 PM
Committee of the Whole - April 16, 2025 at 10:00 AM

22. Adjournment

Resolution Number 103-2025

Moved by: Deputy Mayor Nelson
Seconded by: Councillor Watt

That this meeting adjourn at 6:04 p.m. Carried

_____

Mayor, Heather Watson

_____

Clerk, Martina Chait-Hartwig

Minutes
County Council - Regular Meeting

9:30 AM - Wednesday, March 5, 2025
Electronic Participation

The meeting was held hybrid (in-person and electronic) and was streamed live on the County of Peterborough's YouTube channel (Watch Video).

Present: Warden Bonnie Clark, Deputy Warden Sherry Senis, Councillor Carolyn Amyotte, Councillor Carol Armstrong, Councillor Ron Black, Councillor Lori Burtt, Councillor Matthew Graham, Councillor Terry Lambshead, Councillor Jim Martin, Councillor Harold Nelson, Councillor Joe Taylor, Councillor Heather Watson, Councillor Hart Webb, Councillor Jim Whelan, and Councillor Pat Wilford

Regrets: Councillor Ryan Huntley

Staff Present: Chief Administrative Officer Sheridan Graham; CFO/CIO/Director of Corporate Services/Deputy CAO Jennifer Stover; Chief of Paramedics Patricia Bromfield; Director of Legislative Services/Clerk Kari Stevenson; Director of Planning, Development and Public Works Iain Mudd; Director of Strategic Services Lynn Fawn; Manager of Finance/Deputy Treasurer Michelle Fisher; General Manager of Communications and Tourism Tracie Bertrand; General Manager of People Services Allison Young; General Manager of Operations Bill Linnen; Manager of Waste Management Kerri Snoddy; Deputy Chief, PCCP, Community Programming and Emergency Management Brent Abell; General Manager of Planning Keziah Holden; Museum Operations Manager Elizabeth King;

1. Call To Order

Warden Clark called the meeting to order at 9:30 a.m.

2. Land Acknowledgement

3. Moment of Silent Reflection/Silence

Council observed a moment of silence in memory of Robert Allen, a Douro Township Councillor and County Councillor in 1973 to 1976 and 1979 to 1984, and County Warden in 1983, who passed away on February 19, 2025. Council extends their deepest condolences to his family, friends, colleagues and all mourning his loss.

4. Adoption of Agenda

Resolution No. 39-2025

Moved by Councillor Martin
Seconded by Councillor Amyotte

That the agenda be adopted as circulated.

Carried

5. Disclosure of Interest

There were no disclosures of interest.

6. Adoption of Minutes

Resolution No. 40-2025

Moved by Councillor Watson
Seconded by Deputy Warden Senis

That the minutes of the Regular Council meeting of February 19, 2025 be adopted as circulated.

Carried

7. Public Meeting - Planning Act

a. Call to Order

Resolution No. 41-2025

Moved by Councillor Webb
Seconded by Councillor Nelson

That the Public Meeting be opened at 9:35 a.m.

Carried

b. Keziah Holden, General Manager of Planning
Iain Mudd, Director of Planning, Development and Public Works
Re: Public Meeting - Proposed Revisions to new County Official Plan

Resolution No. 42-2025

Moved by Councillor Lambshead
Seconded by Councillor Burtt

That the presentation from Keziah Holden and Iain Mudd regarding the Proposed Revisions to the new County Official Plan be received.

Carried

c. Delegations

Emily Champagne provided their comments to staff and Council on the proposed revisions to the new Peterborough County Official Plan as shown in Appendix A attached to these minutes.

Resolution No. 43-2025

Moved by Councillor Black
Seconded by Councillor Graham

That the delegations heard for the Proposed Revisions to the new County Official Plan be received.

Carried

d. Rise from Public Meeting

Resolution No. 44-2025

Moved by Councillor Armstrong
Seconded by Councillor Whelan

That Council rise from the Public Meeting held under the Planning Act at 10:16 a.m.

Carried

8. Delegations and Presentations

a. Kelli Steele-Stanton, Managing Partner, NLS Corp Management Consulting
Re: Lang Pioneer Village Museum Service Delivery Review

Resolution No. 45-2025

Moved by Councillor Lambshead
Seconded by Councillor Wilford

That the presentation from Kelli Steele-Stanton, Managing Partner, NLS Corp Management Consulting, regarding the Lang Pioneer Village Museum Service Delivery Review be received; and

That staff be directed to bring a report back to Council with the organizational structure and next steps to implement the recommendations therein.

Carried

b. Lynn Fawn, Director of Strategic Services
Re: Lang Pioneer Village Museum Service Delivery Review

Resolution No. 46-2025

Moved by Councillor Webb
Seconded by Deputy Warden Senis

That report, CPS 2025-08 Lang Pioneer Village Museum Service Delivery Review, be received;

That that the Tariff of Fees for Lang admissions be updated to be effective April 1, 2025; and

That staff be directed to work with the Lang Pioneer Village Museum Advisory Committee to bring a report back to Council in Q2 2025 with an implementation strategy.

Carried

9. Consent Items

Note: All matters listed under Consent Items are considered to be routine, housekeeping, information or non-controversial in nature and to facilitate Council's consideration can be approved by one motion.

a. **Staff Reports**
Patricia Bromfield, Chief of Paramedics
Re: Medical Priority Dispatch System (MPDS) for 911 Calls

b. **Staff Reports**
Michelle Fisher, General Manager, Finance/Deputy Treasurer
Re: 2024 Council Remuneration

c. **Jennifer Stover, CFO/CIO/Deputy CAO**
Re: Employee Expense Claims Policy

d. **Jennifer Stover, CFO/CIO/Deputy CAO**
Re: Employee Professional Development Policy

e. **Jennifer Stover, CFO/CIO/Deputy CAO**
Christopher Lee, General Manager of Information Technology
Re: Acceptable Use of County Technology Resources

f. **Correspondence Report**

g. **Committee Minutes**
Peterborough County Economic Development Advisory Committee
Re: Minutes of January 29, 2025

h. **Liaison Reports from External Committees, Boards and Agencies**
Haliburton Kawartha Northumberland Peterborough Board of Health
Re: Meeting Summary of February 19, 2025

Item 9. a., and the entire correspondence report, item 9. f., were pulled from the Consent Agenda to be dealt with separately.

Resolution No. 47-2025

Moved by Councillor Black
Seconded by Councillor Taylor

That Report PAR 2025-02, Medical Priority Dispatch System (MPDS) for 911 Calls, be received.

Carried

Resolution No. 48-2025

Moved by Councillor Whelan
Seconded by Councillor Black

That the Township of McGarry Resolution dated February 18, 2025, regarding Amending the Ontario Building Code, be supported.

Carried

Resolution No. 49-2025

Moved by Councillor Wilford
Seconded by Councillor Burtt

That the Township of Asphodel-Norwood Resolution dated February 19, 2025, regarding the Request for a Stop Sign on County Road 40, be referred to staff for a report back to Council as soon as possible.

Carried

Resolution No. 50-2025

Moved by Councillor Whelan
Seconded by Councillor Webb

That correspondence item 4 received from the Eastern Ontario Wardens Caucus be sent to the local tier municipalities requesting that they place it on an agenda.

Carried

Resolution No. 51-2025

Moved by Councillor Lambshead
Seconded by Councillor Nelson

That the balance of the Correspondence Report be received.

Carried

Resolution No. 52-2025

Moved by Councillor Amyotte
Seconded by Councillor Martin

That report FIN 2025-05, 2024 Council Remuneration, be received; and,

That Policy No. FI-5, Employee Expense Claims, be approved; and,

That Policy No. HR-19, Employee Professional Development Policy, be approved; and,

That Policy No. CORP-07, Acceptable Use of County Technology Resources, be approved; and,

That the minutes of the Peterborough County Economic Development Advisory Committee dated January 29, 2025 be adopted; and,

That the meeting summary of the Haliburton Kawartha Northumberland Peterborough Board of Health dated February 19, 2025 be received.

Carried

10. Staff Reports - Direction

a. Sheridan Graham, CAO, Deputy Clerk, Deputy Treasurer
Re: County Tariff Response

Resolution No. 53-2025

Moved by Deputy Warden Senis
Seconded by Councillor Watson

That Report CAO 2025-03, County Tariff Response, be received;

That staff be directed to add "other Countries" to the plan and implement the actions identified in the Peterborough County Tariff Implications and Response Actions Plan and report back to Council as applicable; and

That a letter be sent to the Federal and Provincial Governments requesting that a "Stay Local" tax credit (similar to that given during COVID in Ontario) be implemented in 2025 to support Canadian resident tourism in Canada.

Carried

b. Kerri Snoddy, Manager, Waste Management & Sustainability
Re: Non-Eligible Sources Direction

Councillor Taylor left the meeting at 11:46 a.m.

Resolution No. 54-2025

Moved by Councillor Whelan
Seconded by Deputy Warden Senis

That report, PDPW 2025-08 Non-Eligible Sources Direction, be received; and

That option 1.b. in the report be supported (non-residential properties pay) and that staff be directed to issue a non-binding Request for Proposal and come back to Council with specific costs associated with the non-eligible sources collection.

Ayes: Clark, Senis, Amyotte, Armstrong, Black, Burtt, Lambshead, Martin, Nelson, Watson, Whelan, and Wilford

Nays: Graham and Webb

CARRIED. 16-2 on a recorded vote

11. Notices of Motion

12. Announcements

Warden Clark announced that Saturday, March 8th marks International Women's Day. She stated that she is proud to serve alongside the incredible women in leadership roles on Council, as well as at the County and Townships, and to be part of a Council of men and women that values and champions diversity.

Councillor Amyotte challenged the women of Peterborough County to consider joining 100 Women Peterborough in honour of International Women's Day. This organization brings together 100 women from the Peterborough Region for 1 hour, 4 times a year, who commit to donating $100 each per meeting, totaling $10,000 for a worthy cause. Then a local charity or not for profit organization is chosen to receive these funds.

Councillor Amyotte advised that for the upcoming Luminary Awards for Women in Business, Sheridan Graham has been nominated for the Barrier Buster - Employee Award, and Warden Bonnie Clark has been nominated for the Legacy Award.

Councillor Wilford left the meeting at 12:12 p.m.

13. Closed Session

14. Rise from Closed Session

15. Matters Arising from Closed Session

16. By-laws

a. By-law No. 2025-08 being, "A by-law to establish a Tax Policy and Levy Property Taxes for the Year 2025".

b. By-law No. 2025-09 being, "A by-law to appoint area weed inspectors for the County of Peterborough and to establish remuneration."

Resolution No. 55-2025

Moved by Councillor Martin
Seconded by Councillor Amyotte

That By-law Nos. 2025-08 and 2025-09 be read and passed and that these by-laws shall be signed by the Warden and Clerk and sealed with the Seal of the Corporation.

Carried

17. Confirming By-law

Resolution No. 56-2025

Moved by Councillor Nelson
Seconded by Councillor Whelan

That the confirming by-law to adopt, ratify, and confirm the actions of Council at today's meeting in respect to each report, motion, resolution or other action passed and taken by Council be adopted.

Carried

18. Adjournment

Resolution No. 57-2025

Moved by Councillor Martin
Seconded by Councillor Nelson

That the Council meeting adjourn at 12:14 p.m.

Carried

~~Warden, Bonnie Clark~~ Sherry Senis, Deputy Warden

Clerk, ~~Kari Stevenson~~

Appendix A

Comments of concern with modifications to the Peterborough County Official Plan, March 5, 2025

Increased regulatory burden for property owners

- The new requirement for an Environmental Impact Study will be expensive, unequitable, and burdensome for property owners and developers.

Contradictions to the Minister's suggestions

- None of the three conditions from the Minister of MMAH for a new County Official Plan have been met as a result of the changes proposed here, including Indigenous consultation, transparency, and no new mapping.

Conflict of Interest

- The Kawarthas, Naturally Connected mapping may provide the Kawartha Land Trust with an unfair opportunity to buy devalued properties.

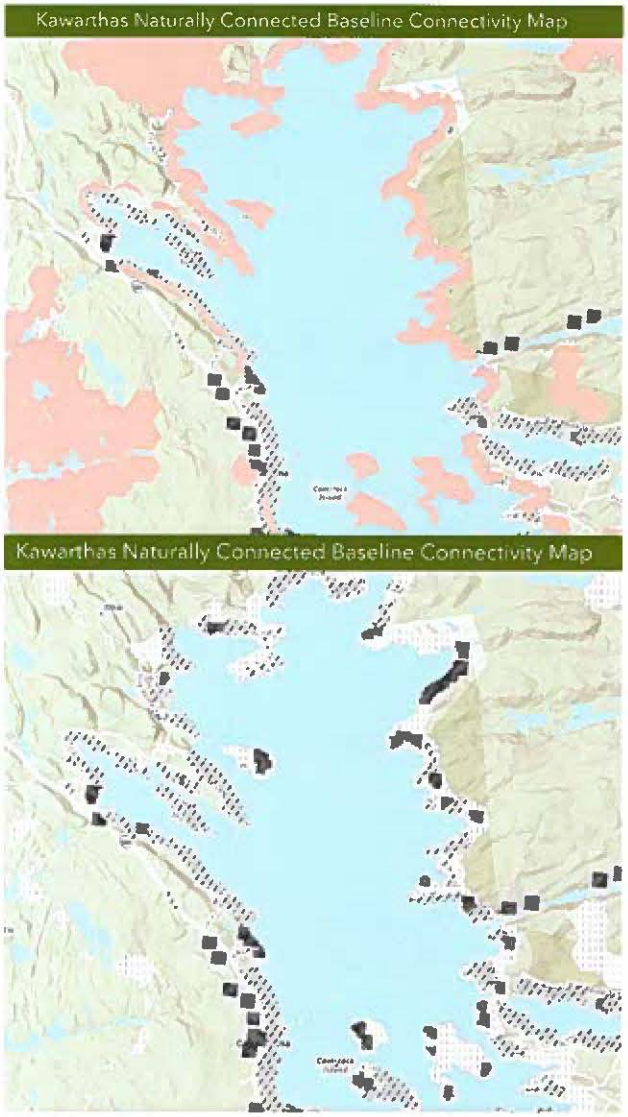
Recommendation

- The County of Peterborough should defer all policies and mapping decisions regarding Natural Heritage Designations, policies and mapping so that proper consultation and quality assurance can take place.

Comments of concern - March 5, 2025

Issues with the "Preferred Scenario" mapping:

- The 'barriers' layer is incorrectly applied
- The "Adjacent KNC Selected Areas" does not cover any Natural Heritage Features, methodology is unclear
  - One example is "**Priorities for conservation land acquisitions**"
- The shoreline mapping appears arbitrary
  - Does not include some islands
  - Leaves some properties out
- Significant work needs to be done before this mapping is ready to be applied



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2024 Annual Report, Hall's Glen Waste Transfer Station

Provisional Certificate of Approval No. A341004

March 25, 2025

Prepared for:
The Corporation of the Township of Douro-Dummer

Cambium Reference: 12987-002

CAMBIUM INC.

866.217.7900

cambium-inc.com

Docusign Envelope ID: 36547E71-C6E8-4924-8AE9-42188B5984E4

Executive Summary

The Hall's Glen Waste Transfer Station is owned and operated by the Township of Douro-Dummer under Ministry of the Environment, Conservation and Parks Provisional Certificate of Approval No. A341004. The Site is on Lot 25, Concession 4, geographic Township of Dummer, Township of Douro-Dummer, County of Peterborough. The municipal address is 1951 County Road 6, about 10 km north of the community of Warsaw. The total site area is 48.5 ha and has an approved landfill area of 1.0 ha. Closure activities were completed at the site from 2003 to 2005. Currently, the site operates as a non-hazardous solid waste and materials transfer station.

This report presents the results of the 2024 activities that were completed at the Hall's Glen waste transfer station. The report and activities have been completed and reported on in general conformance with the November 2010 Ministry of the Environment Technical Guidance Document entitled *Monitoring and Reporting for Waste Disposal Sites – Groundwater and Surface Water*. The Monitoring and Screening Checklist is provided in Appendix A.

Natural attenuation was occurring at the site as concentrations decreased with distance from the waste mound. Non-waste related sources were influencing groundwater quality in some areas of the Site.

A supplemental monitoring program for the analysis of Per- and Polyfluoroalkyl Substances at select wells was completed in 2023 (Cambium, 2024). There were no detectable Per- and Polyfluoroalkyl Substances concentrations at any down-gradient wells installed in the upper bedrock aquifer. The only detectable Per- and Polyfluoroalkyl Substances concentrations in down-gradient monitors were at MW10-1, MW11-1, and R1; however, the signature was dissimilar to the leachate characterization. This indicated that there was a potential non-waste related source contributing to the down-gradient water quality. All Per- and Polyfluoroalkyl Substances concentrations in the down-gradient monitoring wells complied with the Canadian Drinking Water Guidelines and the Drinking Water Screening Values as prescribed by Health Canada.

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Shallow groundwater was interpreted to discharge to surface down-gradient of the waste mound for at least a portion of the year. As such, groundwater results were compared to the Provincial Water Quality Objectives and Canadian Water Quality Guidelines. Minor impacts were attributed, at least in part, to non-waste related sources such as saturated organic soils, decaying organic vegetation, and surrounding agricultural land use.

Groundwater samples collected from MW08, MW09, MW10, MW11, MW12, and R1 were used to assess compliance with Ministry Guideline B-7 - Reasonable Use. Although select parameters continued to exceed the compliance criteria, these exceedances were naturally occurring or attributed to a non-waste related source. Furthermore, the only parameter to persistently exceed the Ontario Drinking Water Quality Standards was manganese which is an aesthetic objective.

A new down-gradient surface water monitoring station (S3) was established near monitoring well MW12 in 2023. Initial results indicated similar to or better water quality than the background quality. This location was dry during both 2024 monitoring events. Downstream surface water results at station S2 indicated a significant decrease in most parameter concentrations since the last sample collection. Further monitoring is required to fully assess impacts at these stations.

About 1013.87 tonnes of waste was accepted at the Site in 2024 and transferred to the Peterborough Waste Management Facility. About 110.31 tonnes of divertible materials (e.g., blue box recyclables, scrap metal, electronics, etc.) was collected at the Site.

The Township of Douro-Dummer operated the Hall's Glen waste transfer station in compliance with the Provisional Certificate of Approval in 2024.

Recommendations have been made regarding the future operation of the Hall's Glen waste transfer station and work to be completed in 2025.

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Respectfully submitted,

Cambium Inc.

Signed by:
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Sanjit Kaur, Dipl.
Environmental Technician

DocuSigned by:
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Warren Young, P.Eng.,
Coordinator

DocuSigned by:
677F3F2E4427404...
Kevin Warner, M.Sc., P. Geo (Ltd), BCIN.
Senior Project Hydrogeologist

DS

PROFESSIONAL GEOSCIENTIST
LIMITED MEMBER
KEVIN D. WARNER
1456
ONTARIO

2025-03-25

DocuSigned by:
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Stephanie Reeder, P.Geo., C.E.T.
Senior Project Manager

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1.0 Introduction

The Corporation of the Township of Douro-Dummer (Township) retained Cambium Inc. (Cambium) to complete the 2024 annual monitoring program for the Hall's Glen Waste Transfer Station (Site). The Site operates under the Ontario Ministry of the Environment, Conservation and Parks (Ministry) Provisional Certificate of Approval (PC of A) No. A341004, most recently amended August 22, 2016 (Appendix B).

To aid in the understanding of the history and development of the Site, the following information is included digitally in the report package:

- *Closure Report* (TSH, 2002a)
- *Design, Operations, Maintenance and Closure Report* (TSH, 2002b)
- Historical Correspondence
- Historical water quality

1.1 Site Location

The Site is on Lot 25, Concession 4, geographic Township of Dummer, Township of Douro-Dummer, County of Peterborough (Figure 1). The municipal address for the Site is 1951 County Road 6, about 10 km north of the community of Warsaw. The Universal Transverse Mercator (UTM) coordinates for the site entrance area Zone 17, 727911 m east, 4933207 m north, North American Datum 83.

1.2 Site Description

The Township has owned and operated the Site as a natural attenuation landfill since 1970. The PC of A which approved landfill operations was granted in 1980. Closure activities began in the summer of 2003, where the landfill area was mounded and capped. Final closure activities were completed from 2003 to 2005. An area of Fill Beyond Acceptable Limits (FBAL) on the north side of the waste mound was identified in Drawing 1 of the *Closure Report* (TSH, 2002a). It is understood that the Township addressed the FBAL in 2004 and 2005. To

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Cambium's knowledge there is no FBAL at the Site. Currently the Site operates as a non-hazardous solid waste and materials transfer station.

The Site is in a rural area and is surrounded by agricultural fields and forest; surrounding land use is primarily passive agriculture. An abandoned residential dwelling and an old barn used for farm equipment storage is present near the southeast property boundary. Site details are in Embedded Table 1. A Local Topography Plan and an Existing Conditions Plan are included as Figure 2 and Figure 3, respectively.

Embedded Table 1 Site Details

Total Site Area	48.5 ha
Approved Area of Refuse Placement	1.0 ha

The groundwater monitoring program is in the process of being redefined to reflect current environmental conditions. After on-going discussions between Cambium and the Ministry in 2022 and 2023, agreement was reached to enact changes to the approved monitoring program in a two-stage approach. Approval for Stage 1 reductions have been granted and are reflected in Table 1. Further changes to the monitoring program (referred to as Stage 2 reductions and not yet fully defined) were contingent on a Per- and Polyfluoroalkyl Substances (PFAS) sampling program at select wells to delineate leachate impacts at the Site. The specific details and results of the PFAS sampling program are outlined in the *2023 Annual Report* (Cambium, 2024). The results of the sampling program are referenced herein, where applicable. Approval had not been received at the time of this report for Stage 2 reductions.

1.3 Scope of Work

The scope of the 2024 work program was based on the results of the 2023 groundwater monitoring program (Cambium, 2024), requirements outlined in the PC of A, and included:

- Groundwater elevation monitoring
- Surface water and groundwater sampling and analysis

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- Evaluation of groundwater quality against the Ontario Drinking Water Quality Standards (ODWQS) and Reasonable Use Concept (RUC) values developed in accordance with Ministry Guideline B-7
- Evaluation of groundwater quality at select monitoring wells against the Provincial Water Quality Objectives (PWQO), the Canadian Water Quality Guidelines (CWQG) for the Protection of Aquatic Life and the British Columbia Approved Water Quality Guidelines: Aquatic Life, Wildlife, & Agriculture (BCG)
- Evaluation of surface water quality against the PWQO, the CWQG, and the BCG
- An overview of site development and operations
- Preparation of this annual report

This report presents the results of the 2024 work program, provides an assessment of the current landfill impact on the surrounding groundwater and surface water environments, and a summary of the operational activities. Cambium has provided recommendations for the 2025 monitoring program and site operations based on the 2024 results and assessment.

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2.0 Methodology

The 2024 work program was completed to maintain compliance with the PC of A and Ministry requirements. As such, the environmental monitoring work program was completed consistent with *Guidance Manual for Landfill Sites Receiving Municipal Waste* (MOEE, 1993), *Landfill Standards* (MECP, 2021a) and *Monitoring and Reporting for Waste Disposal Sites, Groundwater and Surface Water, Technical Guidance Document* (MOE, 2010).

Field tasks were completed following Cambium's Standard Operating Procedures developed from recognized standard procedures such as those listed above and *Guidance on Sampling and Analytical Methods for use at Contaminated Sites in Ontario* (MOEE, 1996). A health and safety program was developed for site-specific conditions and all Cambium personnel working on the project were familiarized and required to follow the identified protocol.

Groundwater and surface water samples were stored in coolers with freezer packs and maintained at less than 10°C during transport to Caduceon Environmental Laboratories (Caduceon) in Kingston, Ontario. Caduceon is accredited by the Canadian Association for Laboratory Accreditation Inc. for specific environmental tests listed in the scope of accreditation. Groundwater and surface water samples were submitted at the frequency and for analysis of the parameters outlined in Table 1.

2.1 Groundwater Monitoring Program

The following tasks were completed as part of the 2024 groundwater monitoring program:

- Prior to sampling, water levels were measured at each monitoring well using an electronic water level tape.
- The purge volume was calculated on-site during each monitoring event using the measured water level, well depth, and the well diameter. Each groundwater monitoring well to be sampled was purged about three well volumes. For wells with low recovery, at least one saturated well volume was purged prior to sampling. Purged water was disposed on the ground, down-gradient of each respective well.

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- Samples were collected using dedicated polyethylene tubing equipped with inertial-lift foot valves to prevent potential cross contamination and reduce waste.
- Groundwater samples for metals and dissolved organic carbon (DOC) analysis were field filtered.
- Field measurements were recorded for pH, conductivity, temperature, dissolved oxygen (DO), and oxygen reduction potential (ORP).

Groundwater samples were collected on October 29 from the on-site monitoring wells listed below. The only deviation from the monitoring program was that no samples were collected from MW01-2, MW02-1, and MW02-2 as these wells were reported to be dry.

- MW01-1
- MW01-2
- MW02-1
- MW02-2
- MW03-1*
- MW03-2*
- MW04-1*
- MW04-2*
- MW05-1
- MW05-2
- MW06-1
- MW06-2
- MW07-1*
- MW07-2*
- MW08-1
- MW08-2
- MW09-1
- MW09-2
- MW 10-1
- MW10-2
- MW11-1
- MW11-2
- MW12-1
- MW12-2
- MW12-3
- MW13-1
- MW13-2

**Indicates water level only*

Monitoring wells included in the groundwater monitoring program are shown on Figure 2. The UTM coordinates for the monitoring locations are in Table 2. Groundwater results are discussed in Section 4.2. Field data sheets are in Appendix D. Laboratory Certificates of Analysis are in Appendix E. Photographs of each monitoring location are in Appendix F.

2.2 Residential Well Monitoring Program

Residential wells identified for the monitoring program are as follows:

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- R1
- R2
- R3
- R4

Well locations are on Figure 2.

Residential well sampling was completed on October 29; however, no samples were collected from R2, R3, and R4 as the residents were not at home. Of note, Cambium staff has yet to receive permission from residential well R3 to continue routine sample collection at this location. Water samples were collected prior to filtration or softening, from a tap that was purged for about five minutes.

It is noted that R1 is not technically a residential supply well but a 0.05 m diameter PVC monitoring well that was installed to replace the abandoned stone dug well that was sampled historically (also identified as R1) (GHD, 2021). To Cambium's knowledge, the original R1 well has not recently been used as a private water supply and the existing R1 (monitoring well) is not used as a water supply. The suspected Ministry well record for R1 is no.:7338879 (MECP, 2021b). The record indicates that gravel overburden was encountered to a depth of 2.7 m below ground surface (mbgs). Limestone bedrock extended from 2.7 to 4.7 mbgs. R1 was installed to a depth of 4.7 mbgs and the screen crosses the overburden bedrock interface.

The other three residential wells are water supply wells for single-family residences to the east and west of the Site. Installation details and age of the wells R2, R3, and R4 are not known, and specific well records could not be assigned to each location. However, suspected well records for these locations were identified (7265867, 5106571, and 5110084, respectively (MECP, 2021b)) and indicated that the wells are likely installed in bedrock and ranged in depth between 10.7 and 16.2 mbgs. Results from the residential well sampling are discussed in Section 4.3. Field data sheets are in Appendix D and Laboratory Certificates of Analysis as provided by Caduceon are in Appendix E.

2.3 Surface Water Monitoring Program

The following tasks were completed as part of the 2024 surface water monitoring program:

- Weather conditions prior to and during field events were recorded.

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- Surface water samples were collected by immersing the sample container into the water body.
- When sample bottles were prefilled with preservatives, a clean bottle was used to collect and decant the water directly into the sample bottle.
- Surface water samples for mercury (0.45 µm) analysis were filtered by the laboratory.
- Field measurements including pH, conductivity, temperature, DO, and ORP were recorded at each sample location.
- Where possible, depth, width, and flow velocity measurements were collected at each surface water location.

The surface water monitoring program included an attempt to collect samples from on-site sampling stations S1, S2, and S3 on April 15 and October 29 with the following exceptions:

- S3 was dry in April
- All the surface water stations were dry in October

Surface water sampling locations are shown on Figure 2. The UTM coordinates for the monitoring locations are in Embedded Table 2. Surface water results are discussed in Section 4.4. Field data sheets are in Appendix D. Laboratory Certificates of Analysis provided by Caduceon are in Appendix E. Photographs of each surface water sample location are in Appendix F.

2.4 Quality Assurance / Quality Control Program

Quality Assurance/Quality Control (QA/QC) measures were in place to ensure the integrity of sample collection and analysis. Cambium collected blind field duplicate samples for groundwater and surface water as part of the QA/QC program. A minimum of 10% of the total samples were collected. In addition to these samples, the laboratory completed an internal QA/QC. The duplicate samples were collected at the same time and location as the original samples. Duplicate samples were collected by filling the bottles for the same analysis at the

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sample time to ensure samples were consistent. Other key parts of Cambium's QA/QC program may include:

- Calibration of field equipment at the start of each day. Equipment was checked throughout the day, as necessary.
- Laboratory grade detergent and distilled water were used for decontamination of non-disposable equipment. Care is taken to avoid cross contamination.
- Surface water sampling was conducted from the farthest station downstream/down-gradient of the Site, followed by advancing up-gradient/upstream or toward the Site.
- Use of new nitrile gloves at each sample location.
- Use of dedicated tubing and inertial foot-valves at each groundwater well to prevent potential cross-contamination and reduce waste.

Blind duplicate groundwater and surface water samples were collected from the following locations as part of the QA/QC program. The results of QA/QC program are presented in Section 4.1.

- S2 in April
- MW10-1 and MW10-2 in October

2.5 Landfill Gas Monitoring Program

Landfill gas monitoring was conducted at all existing groundwater monitoring wells in 2024 in conjunction with the autumn monitoring event. The purpose of the monitoring is to assess compliance with Section 4.10 of *Landfill Standards, A Guideline on the Regulatory and Approval Requirements for New and Expanding Landfilling Sites* (MOEE, 1998), which states the concentration of methane gas in the subsurface may not exceed 2.5% by volume at the property boundary.

An RKI Eagle II calibrated for methane, and hydrogen sulphide was used to collect landfill gas measurements. Equipment was calibrated for methane and hydrogen sulphide by Maxim

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Environmental and Safety Inc. prior to heading to the Site. Calibration standards were brought in the event the instrument needed to be recalibrated (e.g., due to elevated readings, equipment malfunction, etc.).

Landfill gas measurements were collected prior to measuring groundwater levels or collecting samples. The following methodology was used to collect landfill gas measurements:

- Upon arrival to Site, the RKI Eagle II was turned on and ran for five minutes prior to any measurements to allow the equipment to acclimatize.
- Weather conditions for the monitoring event and previous day were recorded including barometric pressure.
- Prior to each reading, the ambient air methane concentration was recorded.
- The well cap was removed, and the gas probe was inserted into the top headspace of the well. A hand was used to cap the top of the well to reduce the amount of gas lost to the atmosphere.
- The peak methane concentration was recorded.
- Water levels measurements were taken at all monitoring locations.

LFG monitoring is conducted on an annual basis at the Site; the LFG concentrations for the 2024 monitoring program are discussed in Section 4.5. Sample locations are shown in Figure 2 and field data sheets are in Appendix D.

2.6 Site Review and Operations Overview

Operations were observed during site visits completed in April and October 2024. During these visits, the items listed below were inspected on the accessed areas of the Site and observations were noted in the field file. In early 2025, the Township provided additional 2024 site operations information. Site inspection results are presented in Section 5.0.

- Litter control
- Condition and layout of recycling bins

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- Status of monitoring well security
- Condition and layout of access roads, access gates
- Final cover integrity
- Presence of leachate seeps

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3.0 Geological and Hydrogeological Context

3.1 Topography and Drainage

The Site is in the Indian River quaternary watershed, which is within the Otonabee River tertiary watershed. The surface water drainage systems on and near the Site have generally been characterized as poorly drained/stagnant and discontinuous. As such, surface water at and around the Site will either evaporate or infiltrate into the subsurface. An unevaluated wetland is within the central portion of the Site, east of the waste mound, and extends to the north and south. Various disconnected unevaluated wetlands have also been identified off-site to the north, southeast, and southwest. In general, surface water flow is only interpreted to occur during wetter times of the year. The nearest mapped watercourse is an unnamed tributary about 1.5 km south of the Site which eventually discharges into the Indian River. Topographic maps suggest that surface water flow within the area is generally south (during times of year when surface water flow occurs).

A surface water reconnaissance was completed by Cambium field personnel in autumn 2022. The purpose was to identify any defined surface water channels between monitoring wells MW11 and MW12 which has been an area speculated to receive groundwater discharge. The presence of a surface water channel would identify a primary flow path; however, no channels were observed during the reconnaissance. As such, it is likely that any groundwater discharging to surface will remain ponded and either evaporate or re-infiltrate the subsurface (as water levels fluctuate throughout the year). No defined flow channels have been observed by Cambium staff anywhere on-site. Nonetheless, a new surface water monitoring station was established near the southeast property boundary in April 2023, identified as S3. Although there was no defined channel identified when establishing this monitoring station, this location will assist in determining surface water compliance to the southeast.

There are three surface water stations incorporated in the existing monitoring program. These stations were established within topographic depressions which exhibit periods of low or no flow. The following describes the surface water stations in the approved monitoring program:

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- S1 is about 700 m southeast of the waste mound and near residential well R1.
- S2 is about 200 m east-northeast of the waste mound and has historically monitored the background surface water quality. Station S2 is where, according to available mapping, surface water flows south onto the Site from areas north of the property (making this location a background surface water monitoring station). Due to the proximity of station S2 to the waste mound, and the discontinuous nature of the flow surface water systems on-site, this station may be influenced from landfill leachate. Alternatively, this station may be in an area where impacted groundwater discharges to surface. See Section 4.3 for more details.
- S3 is about 225 m southeast of the waste mound near the property boundary.

The geospatial coordinates (NAD 83) for the surface water monitoring stations are outlined in Embedded Table 2. Although it is generally a best management practice to conduct surface water sampling during flowing conditions whenever possible, field observations often describe these stations as ponded with limited or no flow. Flow and discharge rates measured during the monitoring events are included in Appendix D. There was no staining observed at the surface water monitoring stations that would be indicative of leachate impacted groundwater discharge.

Embedded Table 2 Surface Water Stations Coordinates

Surface Water Station	UTM (Zone 17)
S1	729187 m east, 4933099 m north
S2	728686 m east, 4933486 m north
S3	728599 m east, 4933228 m north

3.1.1 Precipitation Data

A review of the 2024 precipitation data for Trent U Farms (Government of Canada, 2024a) in comparison to the normal precipitation data for 1991 to 2020 for Peterborough A (Government of Canada, 2024b) indicated that the annual precipitation was normal; however, varied month to month. In 2024, months where precipitation was greater than the normal were January,

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April, June, August, and December. Months which were drier than normal were February, May, October, and November. The monthly precipitation, as well as the amount of precipitation during and in the three days prior to the sampling events is summarized in Embedded Table 3. Refer to Appendix D for field sheets and climate data.

Embedded Table 3 Historical and 2024 Precipitation Data

Sampling Date	Average Monthly Precipitation (mm) (1991 – 2010)	2024 Monthly Precipitation (mm)	Precipitation During and Prior to Sampling (mm)
April 15	72.7	153.4	21.1
October 29	74.7	28.9	6.5

3.2 Geology and Hydrogeology

Based on the assessment completed by GHD (GHD, 2021) and other consultants, the following summary of the hydrogeological conditions of the Site is provided. The Site is in the physiographic region known as the Dummer Moraine. This area can be characterized as relatively flat, stoney ground covered with shallow deposits of glacial till. The average overburden depth in the area is 3.25 mbgs. The overburden unit is underlain by limestone bedrock from the Lindsay Formation. The bedrock is part of the Trenton-Black River Group and is of Middle Ordovician age.

The current monitoring program consists of 13 multi-level groundwater wells. Available information indicates that the monitoring wells intercepted four water bearing units (an overburden aquifer and three bedrock aquifers; Appendix G). The aquifers in which each well has been installed are outlined below. It is noted that the well groupings listed below were based off available information. In some cases, the water bearing strata in which a well is installed was estimated based on available information and assumptions regarding well construction.

- Overburden: MW01-2, MW02-2, MW03-2, MW04-2, MW05-2, MW06-2, MW07-2, and MW13-2

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- Shallow Bedrock (determined to be either the first bedrock aquifer encountered beneath overburden, or the shallowest bedrock well in a multi-level bedrock well grouping): MW01-1, MW02-1, MW03-1, MW04-1, MW05-1, MW06-1, MW07-1, MW08-2, MW09-2, MW10-2, MW11-2, MW12-1, and MW13-1
- Deep Bedrock: MW08-1, MW09-1, MW10-1, MW11-1, and MW12-2
- Monitoring well MW12-3 is the deepest well installed in bedrock from the MW12 multilevel well. This well was not included in any of the other aquifer groupings outlined above as no other wells were installed beneath the deep bedrock aquifer system.

3.2.1 Well Records

A well record search completed in 2020 indicated that there are 30 wells within 500 m of the Site (MECP, 2021b). 14 well records indicated they were used for domestic water supply, 14 records were for monitoring wells, and 2 records were for drilled test holes (Appendix H). The wells were reported to be from 4.3 to 44.8 mbgs and completed in bedrock. There are 12 well records plotted within the Site boundaries, all of which are identified as monitoring wells that are included in the existing groundwater monitoring program.

3.2.2 Groundwater Flow Direction

Historically, the regional direction of groundwater flow within the overburden deposits and bedrock has been to the southeast towards Indian River (GHD, 2021). To determine the current groundwater elevation, water table gradient, and groundwater flow direction, water level measurements were collected in the autumn. The water level data was used to calculate the groundwater elevations summarized in Table 2 and on Figure 4 (overburden), Figure 5 (shallow bedrock), and Figure 6 (deep bedrock). Groundwater elevation contours and flow directions are on Figure 7 (overburden), Figure 8 (shallow bedrock), and Figure 9 (deep bedrock). The predominant direction of groundwater flow in the three upper aquifers (not including the deepest bedrock system) is to the east/southeast. There is a portion of flow in the shallow bedrock aquifer that flowed northeast from MW09-1. The water chemistry at monitor MW01-1, northwest of the waste mound, suggested that there was likely a degree of

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groundwater mounding within the waste mound which would contribute a component of radial flow. Refer to Section 4.2 for additional detail.

Background monitoring wells MW13-1 and MW13-2 were surveyed in 2022 and confirmed that groundwater flow from these monitors was eastwards. Results of the supplementary PFAS monitoring program indicated that a component of radial flow from the waste mound may be present in the overburden unit, directing some impacts from the waste mound southwest to MW13-1/-2 (Cambium, 2024).

Embedded Table 4 provides a summary of horizontal hydraulic gradients calculated in 2024.

Embedded Table 4 Summary of Horizontal Hydraulic Gradients

Unit	October
Overburden (southeast)	0.012 m/m
Shallow Bedrock (east/southeast)	0.007 m/m
Deep Bedrock (variable)	0.004 m/m

3.2.3 Hydraulic Conductivity

Slug tests were conducted in 2009 by GHD on four wells to assess the permeability of some of the water bearing strata on-site. The results of the slug tests indicated that the overburden soils were silty sand with a relatively high hydraulic conductivity. The bedrock results indicated that the underlying limestone was fractured, also yielding a high conductivity.
Embedded Table 5 summarizes the results of the slug tests as reported by GHD (GHD, 2021) .

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Embedded Table 5 Summary of Hydraulic Conductivity

Well	Test Type	Hydraulic Conductivity (cm/s)	Geometric Mean, K (cm/s)	Aquifer
MW03-1	Falling Head	6×10^{-3}	10×10^{-3}	Fractured limestone
	Rising Head	3×10^{-3}		
MW07-2	Falling Head	3×10^{-2}	10×10^{-2}	Silty sand, clean sand
	Rising Head	2×10^{-2}		
MW08-2	Falling Head	2×10^{-2}	10×10^{-2}	Silty sand, clean sand
	Rising Head	4×10^{-2}		
MW08-1	Falling Head	4×10^{-3}	10×10^{-3}	Fractured limestone
	Rising Head	2×10^{-3}		

3.2.4 Vertical Gradients

Vertical hydraulic gradients were calculated between all clustered wells at the Site (Table 3). In general, hydraulic gradients for the wells near the waste mound were downwards between overburden and the shallow bedrock aquifer (i.e., MW03, MW04, MW05, MW06, and MW07). Farther away from the waste mound, at wells MW08, MW09, MW10, MW11, and MW12 vertical gradients were upward between shallow and deep bedrock aquifers. The only exception is a downward gradient was present at well MW13. Wells MW08, MW09, MW10, MW11, and MW12 do not include overburden monitors, as such the hydraulic gradient between overburden and bedrock aquifers in the areas south and east of the waste mound cannot be confirmed. However, the shallow bedrock is considered to be hydraulically connected to the overburden. The consistent upwards vertical hydraulic gradients reported at wells MW08, MW09, MW10, MW11, and MW12 suggest that groundwater may discharge to surface for at least a portion of the year.

3.3 Conceptual Site Model

As noted in Section 1.2, a supplementary PFAS monitoring program was completed in 2023 to delineate site-related impacts. Using the results of the additional monitoring event in conjunction with the known hydrogeological factors, the following conceptual model was determined.

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The Site is underlain by a thin veneer of overburden soils identified as silty-sand till. Underlying the soil is regionally extensive limestone bedrock, with trending drumlins and moraines in a northeast-southwest orientation. These features create natural basins and poor drainage conditions.

In general, precipitation infiltrates the overburden soil around the waste mound. Leachate impacted groundwater migrates down into the overburden and bedrock aquifers, where it then flows to the southeast. Upward vertical gradients were present at down-gradient monitors MW08 through MW12 indicating that any leachate laden groundwater which migrated into the deep bedrock aquifer near the waste mound will migrate upwards into the shallow bedrock aquifer. The vertical hydraulic gradients between the bedrock and overburden around wells MW08 through MW12 have not been confirmed since there was no overburden monitors included at these locations. However, it is possible that groundwater discharges to surface during some periods of the year when conditions permit.

Groundwater flow in the overburden and shallow bedrock aquifers are generally to the southeast. Groundwater flow in the shallow bedrock aquifer is to the east/southeast, but with some flow directed to the north from MW09-1. Based on this conceptual model, primary receptors of leachate impacted water are the downstream surface water systems and potentially overburden/shallow bedrock groundwater users.

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4.0 Results and Discussion

Water quality results from the monitoring program are used to assess the existence, extent, and degree of impacts to the groundwater and surface water environments related to waste disposal site activities at the Site.

To ensure appropriate actions are in place to respond to degradation in surface water or groundwater quality beyond an acceptable level, site-specific trigger levels and contingency measures aid in the assessment of impacts from leachate contamination and help to prevent adverse impacts to the environments surrounding the waste disposal site. This section presents the results of the 2024 routine monitoring program.

4.1 Quality Assurance / Quality Control

Results from the analyses completed on the blind duplicate QA/QC samples were evaluated. Parameter concentrations were considered significantly different if the relative percent difference (RPD) between the duplicate and the parent samples was greater than 30% when both results were greater than five times the reported detection limit (RDL).

The duplicate groundwater and surface water analyses were compared to the originals. Overall, the duplicate samples correlated well with the parent samples and met the data quality objective of 30%. Exceptions included:

- Copper, iron, and manganese at S2 in April

Parent/duplicate samples with only one measurable concentration or with results reporting less than five times the RDL were assessed qualitatively. Evaluation of these parent/duplicate samples did not identify significant data quality issues.

Considering the low variation between the parent and duplicate groundwater and surface water samples, the results were interpreted with confidence.

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4.2 Groundwater Quality

Groundwater analysis data for 2011 to 2024 are in Table 4 through Table 8. Historical data and data for those parameters no longer included in the monitoring program are attached to the report package digitally.

To assess water quality impacts related to landfill site operations, the analytical results for groundwater samples collected were compared to background water quality and historical data, and site compliance was assessed using the ODWQS (MOE, 2006) and RUC (MOEE, 1994a). Furthermore, as groundwater is interpreted to discharge to surface for at least a portion of the year, results from select monitors were also compared against the PWQO (MOEE, 1994b), the CWQG (CCME, 2011), and BCG (BC MOE, 2016).

4.2.1 Background Groundwater Quality

When evaluating the impact of any waste disposal site on a groundwater resource, a reference point or value must be established to assist in determining the magnitude of the impact. In this respect, the quality of the groundwater that is not impacted by the waste disposal site operation (background water quality) should be used for comparison purposes. Nested wells MW01 and MW13 are about 53 and 105 m up-gradient/cross-gradient of the waste mound, respectively. These well are considered representative of background groundwater conditions due to their location in respect to the direction of groundwater flow; however, water levels suggest a component of radial flow away from the waste mound toward MW01-1. Monitoring wells MW01-1 and MW13-1 are installed in the bedrock, and MW01-2 and MW13-2 are installed in the overburden (or at/just within the overburden/bedrock interface).

Historical water quality results from MW01-1 indicated low but detectable concentrations of most metals. Numerous parameters associated with road de-icing activities were elevated at this monitor including sodium, magnesium, calcium, chloride, hardness, alkalinity, and total dissolved solids (TDS). This location is within 10 m of the landfill access road, so road salt impacts were not unexpected. Water chemistry results in 2024 were generally consistent with historical ranges except the elevated chloride concentration. Of note, DO was significantly low in 2024 since May 2019.

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Only one sample has been collected historically at MW01-2. Results indicated most metal concentrations and parameters associated with road de-icing activities were less than adjacent monitor MW01-1.

The water quality at monitoring well MW13-1 is generally similar to or better than MW01-1. In most cases, parameters concentrations were significantly less than MW01-1. Water quality results in 2024 were consistent with historical concentrations. There were no detectable PFAS concentrations at MW13-1 indicating that this aquifer has not been impacted by leachate (Cambium, 2024).

Historical results at monitoring well MW13-2 indicated similar to or slightly elevated parameter concentrations when compared to adjacent overburden monitor MW13-1. Water quality results were consistent and stable with historical ranges in 2024.

Results of the supplementary monitoring program (Cambium, 2024) indicated detectable concentrations of some PFAS compounds. The PFAS signature was generally similar to leachate monitor MW06-2 indicating that there may be a component of radial flow from the waste mound toward this monitor; however, given the slight variation in the signature there may also be other sources influencing the water chemistry at MW13-2 including the on-site gravel pit (located between the waste mound and monitor), transfer station staging areas, and surrounding residential and agricultural properties. There were no detectable PFAS concentrations in the adjacent lower bedrock aquifer (i.e., MW13-1). Caution should be used when comparing down-gradient upper bedrock quality to MW13-2.

Cambium agrees with the comments provided by the Ministry Groundwater Reviewer regarding potential impacts to background nested monitors MW01 (Cambium, 2023). As these wells were not included in the supplemental monitoring program, impacts can only be speculated. The water quality at monitor MW13-1 was similar to or better than MW01-1 including parameters that were not associated with road de-icing activities (i.e., magnesium, boron, and barium). Given the proximity of nested well MW01 to the historical waste mound, there is potential that this well(s) may be impacted by a component of groundwater radial flow

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or run-off from transfer station operations. As such, caution should be used when comparing down-gradient water quality to nested background wells MW01.

4.2.2 Leachate Characteristics

Nested wells MW02 were installed centrally within the waste mound to characterize leachate quality. No samples have been collected from these wells in 2024.

Nested wells MW05 and MW06 were installed on the northeastern and southern toe of the waste mound for the purpose of leachate characterization, respectively. Identified Leachate Indicator Parameters (LIP) are outlined in Embedded Table 6, and were chosen if the average concentration from the leachate wells was at least two times greater than the average concentration from the background wells. The LIPs were reassessed for the 2023 monitoring period, and it was determined that total Kjeldahl nitrogen (TKN) should be added to the list of indicator parameters and was included in 2024 monitoring program.

Embedded Table 6 Leachate Indicator Parameters

arsenic	barium	boron	alkalinity	iron
ammonia	manganese	magnesium	phosphorus	potassium
TKN	DOC	chemical oxygen demand (COD)		

In addition to the above, the supplemental monitoring program characterized leachate as having detectable concentrations of the several PFAS compounds. The leachate signature between the overburden and bedrock monitors was generally similar; however, greater concentrations were typically in the overburden at MW06-2. This supports that conceptual site model that impacts would migrate from the overburden to the bedrock aquifer near the waste mound.

Groundwater results indicated that all LIP concentrations at MW05-1 (shallow bedrock) were generally similar to or less than the overburden monitor MW05-2. It should be noted that only a limited number of samples have been collected from monitor MW05-2, and observations may change as additional samples are collected. While the water quality at MW05-2 has historically exhibited variability, concentrations were considered stable at MW05-1. The water quality in

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2024 was consistent with historical concentration ranges. Of note, TKN concentrations have been slightly elevated at this monitor since June 2021. Further monitoring is required to determine the significance of the elevated TKN concentrations.

Only six samples have been collected from monitoring well MW05-2 since installation as this well has historically reported low volumes of water, including a groundwater sample in 2024. Further monitoring is required to fully assess impacts at this monitor.

Similar to nested monitors MW05-01, LIPs concentrations in the shallow bedrock aquifer at MW06-1 were generally less than those reported in the overburden monitor MW06-2. The only exception was phosphorus concentrations which were greater in the bedrock. Furthermore, impacts were slightly more elevated at shallow bedrock monitor MW05-01 on the northeast toe of the waste mound than to the south. Historical water quality results at MW06-1 were highly variable with no increasing or decreasing trends evident. Groundwater results in 2024 were consistent with historical ranges.

Overburden monitor MW06-2 has historically reported highly variable water chemistry. As such, it is difficult to discern trends at this monitor; however, ammonia concentrations have been slowly increasing at this monitor since May 2020. The water quality results in 2024 were consistent with historical ranges. Ammonia concentrations should be reviewed annually to determine the significance of these elevated concentrations.

Overall, it is evident that site-related impacts were in somewhat greater concentration in the overburden at monitors MW05-2 and MW06-2 when compared to the shallow bedrock leachate monitors. The water chemistry is considered relatively stable at these monitors, although some potential increasing trends were noted.

4.2.3 Down-Gradient Groundwater Quality

Nested wells MW08, MW09, MW10, MW11, and MW12 monitor the groundwater chemistry in the areas east/southeast and hydraulically down-gradient the waste mound. Historically, monitors MW03, MW04, and MW07 were included as part of the monitoring program but received Ministry approval to be removed in 2023 (Appendix C).

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Nested wells MW08, MW09, MW10, and MW11 are about 250 to 300 m hydraulically down-gradient of the waste mound, to the east-southeast. These locations include wells installed in the shallow and deep bedrock aquifers. Historical results indicated that LIP concentrations were generally greater in the deep bedrock aquifer. The exception is iron which were reported to be greater in the shallow bedrock aquifer (i.e., MW10-2, and MW11-2) suggesting potential influence from the wetland type environment on-site. Results of the supplemental monitoring program (Cambium, 2024) indicated the presence of limited PFAS compounds at MW10-1 and MW11-1. Given the notable difference in signature, attributing the PFAS concentrations to leachate impacts was not confirmed. There were no detectable PFAS concentrations at MW08 and MW09. This indicated that there may be a preferential flow path for leachate laden groundwater to the southeast (toward MW10 and MW11).

The farthest down-gradient monitoring location to the southeast is R1. Although part of the residential well monitoring program, this well is used to assess impacts in the shallow overburden aquifer. There were detectable concentrations of some PFAS compounds at R1 (Cambium, 2024). The presence of PFAS at R1 and similarity in signature when compared to MW10 and MW11 indicated that there may be an alternative source of PFAS impacting the aquifer at the Site (i.e., passive agricultural space, nearby farmhouse, and outdoor storage). Overall, water quality results from the supplemental monitoring program indicated that there was a potential for site-related impacts to the southeast (toward MW10, MW11, and R1). The absence of PFAS at monitors MW08 and MW09 indicated that site-related impacts were limited in this area, if any.

The water quality at the down-gradient monitors was generally considered stable and results were consistent with historical concentrations in 2024.

- Potassium, magnesium, and boron concentrations continue to decrease at MW08-1 since 2020.
- Most parameter concentrations at MW08-2 and MW09-2 continued to exhibit a great level of variability.
- No discernible trends were apparent at MW09-1, MW11-1 and MW11-2

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- Boron, magnesium, and sodium, concentrations have been decreasing, and barium and COD has been increasing at MW10-1 since 2021.

Nested wells MW12 are about 105 m south and down-gradient of the waste mound and about 35 m down-gradient of historical nested well MW04. Monitoring wells MW12-1, MW12-2 and MW12-3 are all installed in the bedrock, with MW12-1 being the shallowest and MW12-3 the deepest. Monitor MW12-1 was completed at a slightly deeper depth than MW04-1, and MW12-2 and MW12-3 were installed at greater depths. Vertical hydraulic gradients were upwards between all three MW12 wells, therefore leachate influences were considered to be restricted from entering the deeper bedrock aquifer at this location. Conversely, vertical hydraulic gradients were downwards at MW04 between the shallow overburden/bedrock aquifer and the deeper bedrock aquifer. Well nest MW04 is about 50 m northwest of MW12. These data indicate that the area between MW04 and MW12 is a transitionary area where vertical hydraulic gradients change from down to up (between the lower and upper bedrock monitors).

Due to the proximity of well nest MW12 to the southwest property boundary and the potential for groundwater to discharge to surface (upward gradients), the Ministry supported the implementation of a new surface water station (sample ID :S3) near nest well MW04/MW12 in June 2022 (Appendix C).No samples were collected at S3 as the station was dry during the monitoring events in 2024.. Visual observations to date suggest that any potential groundwater discharging to surface would be limited seasonally. Furthermore, as there were no observed surface water channels in this area, this station is likely to remain ponded when present with flow only anticipated during times of increased precipitation.

The water quality in 2024 was generally consistent with historical concentrations. Of note, numerous LIPs and non-LIPs (i.e., ammonia, arsenic, barium, boron, TDS, magnesium, manganese, potassium, sodium, and sulphate) at MW12-2 have begun to decrease in concentration since 2021.

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4.2.4 Volatile Organic Compounds

Reductions to the Volatile Organic Compound (VOC) monitoring program were approved in 2023. This included reducing the sampling locations to only include MW05-1 and MW05-2 once every five years (next in 2027). The most recent VOC analyses was completed on all wells at least once in 2022. There were no detectable VOC concentrations reported. Refer to Table 7 for VOC results.

4.2.5 Groundwater/Surface Water Interaction

As indicated by the Ministry in their 2014 memorandum, the shallow overburden aquifer may discharge to the wetland southeast of the landfill. As such, the groundwater from down-gradient overburden and shallow bedrock wells should be compared against the PWQO criteria (MOEE, 1994b) to determine compliance with provincially regulated surface water standards. For boron concentrations, the CWQG objective for the Protection of Aquatic Life of 1,500 µg/L (CCME, 2011) which is based on more current toxicological information, was used in replacement of the PWQO criteria.

As discussed in Section 3.2.4, vertical gradients around nested wells MW08, MW09, MW10, MW11 and MW12 were upward. The vertical gradients were noted between the shallow and deeper bedrock wells at these locations. None of the wells outlined have an accompanying shallow overburden aquifer, as such groundwater quality comparisons (from the shallow bedrock wells) to the PWQO are for reference only.

The following wells were used for this assessment: MW08-2, MW09-2, MW10-2, MW11-2, and MW12-1. Embedded Table 7 provides a summary of exceedances of federal or provincial guidelines for in the autumn 2024 monitoring event. Refer to Table 8 for a full comparison.

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Embedded Table 7 Summary of PWQO/CWQG Exceedances at Select Monitors

Monitoring Well	Parameters
MW08-2	none
MW09-2	DO (low)
MW10-2	iron, DO (low)
MW11-2	iron, DO (low)
MW12-1	DO (low)

Phosphorus was reported at concentrations greater than PWQO criteria historically. The RDL in 2024 did not commensurate with the PWQO. Regardless, the total phosphorus concentration includes phosphorus bound to sediment. This phosphorus is mobile in surface water but not in the groundwater regime. As such, elevated total phosphorus concentrations in groundwater samples are not a concern where groundwater discharges to surface as the sediment collected in the sample is induced by the sampling methodology (i.e., well purging) and is not an actual representation of the phosphorus concentration dissolved (and mobile) in the groundwater regime. Based on this, even if total phosphorus exceeded the PWQO during the monitoring program, this is not a useful tool for determining potential impacts to surface water from discharging groundwater.

Due to the nature of DO in groundwater, low DO measurements are not unexpected and are not considered significant for groundwater quality comparisons. Furthermore, DO concentrations are known to fluctuate throughout the year as DO is directly related to temperature and environmental conditions.

Iron (LIP) consistently exceeds PWQO criteria at MW10-2 and MW11-2 and is consistently elevated compared with background water quality. Iron is considered to have naturally variable concentrations which exceed the PWQO within low-lying, stagnant areas due to natural reducing conditions cause by decaying organic vegetation. The elevated iron concentrations at MW10-2 and MW11-2 is likely attributed to this natural variation.

The absence of any PFAS compound in the down-gradient upper bedrock aquifer (i.e., MW08-2, MW09-2, MW10-2, MW11-2) indicated that these wells have not been impacted by

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leachate and any elevated LIP concentrations (i.e., iron and phosphorus) were attributed to non-waste related sources.

Comparing the water quality from shallow wells MW08, MW09, MW10, MW11 and MW12 is used as a general reference for potential impacts to surface water quality. As discussed in Section 4.2.3, an area of potential concern was identified at monitoring well MW12 near the southwest property boundary. Based on the conceptual site model, it is possible that groundwater discharges to surface within this area. As discussed in Section 3.1, a new surface water monitoring station identified as S3 during the spring 2023 monitoring event. Initial water quality results are discussed in Section 4.4.

4.2.6 Groundwater Compliance Assessment

The conceptual site model indicates that groundwater may discharge to surface in the areas east of the waste mound. However, there is potential for leachate impacted groundwater to migrate laterally off the Site in the overburden and bedrock aquifers. Migration of leachate into deeper bedrock aquifers is restricted since there are upwards hydraulic gradients between deep and shallow bedrock wells onsite.

To ensure appropriate recognition and response to potential degradation in groundwater quality beyond an acceptable level at the down-gradient property boundary occurs, site-specific trigger values and contingency plans have been developed for the Site. These are the RUC values developed in accordance with Ministry Guideline B-7 (MOEE, 1994a). The Ministry Guideline B-7 states that, in accordance with the appropriate criteria for particular uses, a change in quality of the groundwater on an adjacent property will be accepted only as follows (Ministry Procedure B-7-1):

> *The quality cannot be degraded by an amount in excess of 50% of the difference between background and the ODWQS for non-health related parameters and in excess of 25% of the difference between background and the ODWQS for health-related parameters. Background is considered to be the quality of the groundwater prior to any man-made contamination.*

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The maximum concentration of a particular contaminant that is considered acceptable in the groundwater beneath an adjacent property is calculated in accordance with the following relationship:

$$C_m = C_b + x\,(C_r - C_b)$$

Where,
C_m is maximum concentration accepted
C_b is background concentration
C_r is maximum concentration permitted in accordance with the ODWQS
x is a constant that reduces the contamination to a level that is considered by the Ministry to have a negligible effect on water use (i.e., 0.5 for non-health related parameters and 0.25 for health-related parameters

The RUC values were calculated using the median value of the background concentration (C_b) from a minimum of the previous five sampling events as required by Ministry Eastern Region Technical Support Section. Where background concentrations were less than the laboratory RDL, the RDL was used as the background concentration. Where the background concentrations exceeded ODWQS, the C_b value was set as the RUC value. The calculated C_m values for the Site were set as the RUC values.

The RUC values were calculated for all LIPs with an ODWQS criteria at the Site using background water quality at nested monitors MW01 and MW13 for the overburden and bedrock, respectively. RUC compliance criteria of the shallow and deep bedrock wells is assessed at MW08, MW09, MW10, MW11 and MW12.

The predominant direction of groundwater flow in the overburden was reported to be toward the southeast, away from the waste mound. There are no overburden monitoring wells installed near the property boundary, except for R1. As such R1 is referenced as the RUC compliance well for the overburden.

Manganese exceeded the RUC criteria at R1 in 2024 (Table 4).

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The following parameters exceeded the RUC criteria within the shallow bedrock wells in 2024 (Table 5):

- MW09-2: DOC
- MW10-2: barium, iron, and manganese
- MW11-2: barium, iron, and manganese
- MW12-1: barium

The following parameters exceeded the RUC criteria in the lower bedrock aquifer in 2024 (Table 6).

- MW09-1: barium and manganese
- MW10-1: barium
- MW11-1: barium and manganese
- MW12-2: manganese

As discussed in Section 4.2.3, results of the supplementary monitoring program (Cambium, 2024) were able to confirm that no waste related impacts were occurring at nested wells MW08 and MW09 (i.e., there were no detectable PFAS concentrations). Furthermore, there were no detectable PFAS concentrations at any shallow bedrock monitoring well. As such, any RUC exceedances reported at these wells (i.e., iron, barium, DOC, and manganese) were attributed to non-waste related sources.

A PFAS signature was present at MW10-1, MW11-1, and R1 suggesting that potential leachate impacts may be extending to the southeast from the waste mound; however, there was uncertainty with these results given that the PFAS signature between these three wells was dissimilar to the PFAS signature present at leachate monitors MW05-1 and MW06-1. Although this may suggest that natural attenuation was occurring at the Site, results may also suggest that an alternative source down-gradient of the waste mound was responsible for the differing leachate signature. This was because PFBA was not detected at MW10-1 but was reported at farthest down-gradient monitor R1 at a concentration slightly less than leachate

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(i.e., MW06-1). Given the surrounding property use near R1, MW10-1, and MW11-1, it would not be unexpected that the passive agricultural space, outdoor storage, and residential dwelling be the source of the noted PFAS concentrations in this area.

Barium was the only RUC exceedance reported at MW10-1, and barium and manganese were the only RUC exceedances at MW11-1 (i.e., locations with detectable PFAS concentrations). However, concentrations of these parameters also exceeded the RUC criteria at MW09-1 where no PFAS were detected. This would indicate that the elevated concentrations were from a non-waste related source. Embedded Table 8 provides a summary of average manganese, barium, and DOC concentrations at the down-gradient deep bedrock monitoring wells.

Embedded Table 8 Average Concentrations at Select Wells

Monitor	Average Manganese Concentration (µg/L)	Average Barium Concentration (µg/L)	Average DOC Concentrations (mg/L)
MW08-1	76	114	2.2
MW09-1	65	678	1.8
MW10-1	93	859	1.7
MW11-1	76	628	2.0
MW12-2	151	206	1.7

Although there were RUC exceedances at the down-gradient monitors, results suggest that they could be attributed to a non-waste related source. Manganese is the only parameter which persistently exceeded the ODWQS aesthetic objective at MW10-1, MW11-1, and R1. Down-gradient drinking water users are limited to R2 (included in the monitoring program) where results have indicated that the well has not been impacted by waste disposal operations (Section 4.3).

Based on the above, Cambium recommends that the standard monitoring program continue. The Site is not considered to be a threat to local groundwater and surface water users, as such Cambium respectfully requests the Ministry's approval to reduce the reporting frequency from once annual to biennially (once every two years).

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4.3 Residential Groundwater Quality

To ensure that residential groundwater supplies around the Site are not influenced from leachate, four residential wells are sampled as part of the monitoring program. Results of the residential monitoring program are detailed in Table 4 for R1 and Table 9 for R2 to R4. The following describes the residential well monitoring locations.

- R1 is within the Site boundaries about 620 m southeast of the waste mound. The original well was a stone dug well; however, was abandoned in the summer of 2019 and replaced with a monitoring well installed to a similar depth within the overburden.
- R2 is about 750 m east-southeast of the waste mound on the eastern side of 5th Line Road North Dummer.
- R3 and R4 are hydraulically up-gradient of the waste mound about 500 m southwest and 435 m west, respectively.

Historical water quality results from residential well R1 indicated variable results for certain parameters (i.e., barium, magnesium, iron, manganese, nitrate, potassium, and TDS) but similar to or better than the quality reported from wells MW08, MW09, MW10, and MW11. Water quality results in 2024 were consistent with historical concentration ranges. Manganese exceeded the ODWQS criteria in 2024. Although PFAS were detected at R1 the signature was different than results from any leachate monitoring well suggesting that the water quality at R1 may be being influencing adjacent residential dwelling, outdoor storage, and surrounding property use (Cambium, 2024).

Historical water chemistry at residential well R2 reported low but detectable concentrations of most metals and a neutral pH. There has been the sporadic ODWQS exceedance for TDS and iron. No sample was collected in 2024 as the resident was not at home during the monitoring program.

Permission has not been obtained from resident well owner R3. Historical water quality results at R3 indicated low but detectable concentrations of most metals, a neutral pH, and the

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sporadic exceedance of the ODWQS for iron, lead, TDS, and manganese. No sample was collected in 2024 as the residential well was inaccessible.

Historical water quality at R4 indicated low but detectable concentrations of metals, sporadic exceedances of the ODWQS for chloride, and a persistent exceedance of the ODWQS for TDS. No sample was collected in 2024 as the resident was not at home during the monitoring program.

4.4 Surface Water Quality

The 2014 to 2024 surface water quality data are in Table 10. Historical data and data for those parameters no longer included in the monitoring program are attached to the report package digitally. The surface water data have been compared with background water quality and historical data, and compliance was assessed using the PWQO (MOEE, 1994b).

It is important to note that analysis for manganese, magnesium, potassium, and DOC (identified LIPs, Embedded Table 6) have been inadvertently missed in the surface water monitoring program since 2020. Cambium recommended (Cambium, 2024) to include these parameters for future analysis in 2023. These parameters were included and analysed in the 2024 surface monitoring program.

4.4.1 Background Surface Water Quality

Historically station S2 was selected to represent background surface water quality; however, chemistry results over time indicated that this station was not suitable for comparison purposes. Comments received from the Ministry's Surface Water Reviewer supported Cambium's recommendations that since the water quality at station S1 (down-gradient) was interpreted to be unimpacted, it could be used for background purposes. This is under the agreement that the data is reviewed annually to determine if a negative change in water quality has occurred.

Ministry comments recommended that station S2 remain in the monitoring program to determine if this station is being impacted by surface water runoff from the waste mound and/or potential groundwater discharge. Runoff generated from the waste mound generally

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flows in a southeastern direction; however, it is suspected that there is a component of radial flow around S2 due to a northeast-southwest trending topographical high that would deflect surface water flow in the northeastern to northwestern direction and potentially towards station S2. Although, the water chemistry at S2 may suggest site-related impacts, the variability in the water chemistry may also suggest that the elevated concentrations may be attributed to poor sampling conditions (ponded) in an area that does not receive regular, sustained surface water flow.

Historically, phenols and copper frequently exceeded the PWQO, and total phosphorus has sporadically exceeded the criteria at station S2. Three samples have been collected at station S2 since 2020. In 2024, only one sample was collected during spring as the surface water station was dry in autumn Water chemistry results in 2024 generally reported a significant decrease in concentration for most parameters than those reported in 2020. This would suggest that the elevated concentrations reported in 2020 were likely attributed to sampling technique. No parameter exceeded the PWQO criteria in 2024.

Station S1 is 695 m southeast of the waste mound. As mentioned above, historically S1 was used to assess downstream water quality. Given the generally low concentrations of most parameters and the infrequent PWQO exceedances, this location was deemed suitable for background purposes. Only one sample was collected at this station in 2024 as it was reported dry during the autumn monitoring event. The water quality results remained consistent with historical concentration ranges in 2024. No parameter exceeded the PWQO criteria in 2024.

4.4.2 Downstream Surface Water Quality

As discussed in Section 4.4.1, the Ministry agreed with Cambium's interpretation of the former background and downstream surface water monitoring locations. A new downstream surface water station was proposed in the area of monitor MW12. During the autumn 2022 site visit, Cambium staff noted that the area was dry, and the reconnaissance area was expanded to determine any potential monitoring locations which would accommodate drier conditions; however, no new surface water stations were established in the autumn. These initial observations in 2022 suggest that any groundwater discharging to surface (if any) would be

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limited seasonally. Station S3 was established in spring 2023 about 20 m down-gradient of MW12. Field observations noted ponded conditions suggesting that flow may only be present during times of increased precipitation.

No samples were collected in 2024 as the station was dry during both spring and autumn monitoring events.

4.5 Landfill Gas Monitoring

Landfill gas (LFG), specifically methane and carbon dioxide, is derived from the decomposition of organic wastes. Production of LFG from landfilled wastes normally reaches a maximum rate about two years after placement and may continue at this rate for many years. The biological decomposition process results in the generation of LFG until some period, likely decades, after the landfilling of that waste ceases. Methane is explosive at volumes of 5 to 17% methane by volume (50,000 to 170,000 ppm) in air (Werner Sölken, 2021).

Once landfill gases are produced under the surface, they tend to migrate from the landfill through pore spaces within the refuse and cover material. Landfill gases are lighter than air and naturally tend to move upward, usually through the landfill surface. Where upward migration is restricted by densely compact waste or impermeable landfill cover, gases tend to migrate horizontally. Generally, a landfill's peak production of gas occurs within five to seven years following closure and gas is no longer produced 20 years following closure; however, small quantities of gas may continue to be emitted from a landfill for 50 or more years.

Landfill gas monitoring was completed to assess compliance with Section 4.10 of *Landfill Standards, A Guideline on the Regulatory and Approval Requirements for New and Expanding Landfilling Sites* (MOEE, 1998), which states that methane gas concentrations must be:

- less than 2.5% methane gas in the subsurface at the property boundary,
- less than 1.0% methane in an on-site building, or its foundation, and
- less than 0.05% methane (i.e. not present) in a building, or its foundation, which is located off-site.

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Landfill gas measurements were taken on October 29, 2024 (Appendix D). Monitoring results collected in 2024 were less than 0.05% methane by volume. The only exceptions were at nested monitor MW02. Hydrogen sulphide was detected at MW09-1 in 2024The 2024 LFG results are included in Table 11 and Appendix D. .

Methane concentrations were below the lower explosive limit at all monitoring wells except MW02-1 and MW02-2 where concentrations were measured at 5.0 % methane by volume. Given that both the wells are installed within the waste mound, high concentrations of methane were not unexpected. As there were no methane concentrations at the property boundaries greater than 2.5% by volume the Site complied with Section 4.10 of *Landfill Standards, A Guideline on the Regulatory and Approval Requirements for New and Expanding Landfilling Sites* (MOEE, 1998).

4.6 Adequacy of Monitoring Program

As discussed in Section 1.3, Ministry support has been received for Stage 1 reductions of a two-stage process. These changes were implemented in 2023 which included a reduction in sample locations, frequency, and parameters analyzed (Table 1). Stage 2 reductions were contingent on the results of the supplementary monitoring program (Cambium, 2024). As outlined in the 2023 Annual Report (Cambium, 2024), Cambium recommended that the monitoring program continue as outlined in Table 1; however, Cambium recommended the reporting frequency be reduced from once annual to biennially (once every two years). This recommendation was based on the following conclusions:

- All detectable PFAS concentrations at MW10-1, MW11-1, and R1 were less than the applicable compliance criteria.
- Manganese was generally the only parameter which exceeded the ODWQS criteria at MW10-1, MW11-1, and R1. The ODWQS criterion for manganese is an aesthetic objective.
- All LIPs were stable or decreasing at down-gradient monitors MW10-1, MW11-1, and R1.
- There have been no exceedances of any health related ODWQS criteria at the farthest down-gradient monitoring well R1 other than an anomalous concentration of lead in 2016.

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- The only down-gradient residential well user is included in the current monitoring program as R2. Results to date indicate that the water quality at this well has not been impacted by waste disposal operations.
- Groundwater sample collection is once annually.

Once an agreement of all the changes to the monitoring program is understood between the Ministry and the Township, then an application must be submitted to the Ministry to amend the PC of A to formally reflect the approved changes.

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5.0 Site Operations

This section summarizes operations as reported by the Township for 2024 and discusses the following requirements of PC of A Condition 62.

- a monthly summary of the type and quantity of all incoming and outgoing wastes, and the destination of all outgoing waste (Section 5.6.1 and Table 12)
- a discussion of any operational or environmental problems encountered at the Site and corrective action taken (Section 5.3)
- any changes to the Emergency Response Plan or Design and Operations Report that have been approved by the Director since the last Annual Report (Section 5.7)
- Recommendations respecting any proposed changes in the operation of the Site (Section 5.8)

5.1 Site Access and Security

The Site is not visible from County Road 6- and Fourth-Line Road as it is well screened by surrounding trees, thick vegetation, and natural topography. A lockable gate at the entrance controls access. Signs were posted at the Site entrance which detailed the hours of operation, acceptable and prohibited materials, and tipping fees.

The Site services the residents of the Township of Douro-Dummer, though signage at the gate directs contractors to use the Bensfort Road Waste Facility in Peterborough or the nearby Stoney Lake transfer station managed by Waste Connections. Ratepayers are required to show a pass for Site access. A site attendant is present during the hours of operation. The hours of operation in 2024 were:

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Summer – May 1 to October 31

Monday, Wednesday, Friday, and Saturday: ... 10:00 AM to 2:00 PM

Sunday: ..... 10:00 AM to 6:00 PM

Winter – November 1 to April 30

Saturday, Sunday, and Wednesday: ..... 10:00 AM to 2:00 PM

5.2 Training

Staff from the Township and Township appointed contractors operate the Site. As required by PC of A Condition 30, all employees working at the Site are properly trained for the tasks that they are expected to perform and are provided with continued on-the-job training.

- Controlling admission of authorized vehicles with acceptable wastes
- The terms and conditions of the PC of A and any relevant waste management legislation and regulation (e.g., EPA, and O. Reg. 347)
- Ensuring proper daily litter control
- Controlling collection and transport of materials by a licensed hauler
- Maintaining a daily record of all operations, which are available for inspection by the Ministry
- Emergency response procedures (e.g., spills, and first aid)
- Equipment and Site inspection procedures
- Record keeping of quantities of waste being delivered to the Site and records of all incidents of illegal dumping, complaints, and unauthorized waste disposal.

The Township reported that the Public Works Manager, Lead Hand, and the site attendant completed a training course provided by the Solid Waste Association of North America (SWANA) in December 2022 (Cambium, 2023). Training records are kept on-file as required by PC of A Condition 31.

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5.3 Site Inspections

This section discusses observations during site inspections conducted by Cambium and summarizes information provided by the Township in 2024.

In 2024, the Township completed regular routine site inspections to meet PC of A Condition 32. Site inspections included observations of the following:

- Waste material staging areas including: the condition of disposal bins, waste oil tank, and divertible material, and if any waste quantity exceeded the maximum allowable capacity described in PC of A Condition 20, 21, 22, and 24.
- On-site equipment, buildings, and barriers
- General housekeeping (e.g., first aid, security, personal protective equipment, etc.)

A written record of the areas inspected are maintained at the Site as required by PC of A Condition 32. The records include: the names of the trained personnel conducting the inspection, date and time, areas inspected, any maintenance completed, and recommendations for remedial action.

5.3.1 Litter Control

As noted by Cambium staff, the Site was in good condition. During the April 2024 sampling event, Cambium staff observed some historical waste (i.e., bulky items and scrap metal) on the slope behind the organics bins and recycling depot, adjacent the northwest fence line. It is recommended that the Township clean up this area in 2025.

The intent of good housekeeping practices is to protect on-site worker health and safety, and the surrounding environment from nuisance effects. Nuisance effects are minimized by adopting good housekeeping measures as part of the Site operations. Regular housekeeping is essential to control such nuisances as:

- Blowing and loose litter
- Odour

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- Rodents and insects
- Scavenging birds

5.3.2 Roads

The access road has sufficient width at the entrance and within the Site to allow unimpeded winter travel and access for emergency and snow removal equipment. The site access roads were observed to be well maintained and graded and were reported to be regularly cleared of snow with a sand mixture applied as needed by the Township during the winter months.

5.3.3 Final Cover Integrity

The waste mound was adequately covered and there was minimal evidence of erosion observed from the areas accessed during visits in 2024. Furthermore, the waste mound was well vegetated, which is an effective erosion control measure. No seeps were noted during any site visits conducted in 2024.

5.4 Complaints and Incidents

The Township reported that there were no complaints or incidents regarding the Site in 2024.

5.5 Monitoring Well Security

As part of the 2024 groundwater monitoring program, all monitoring wells listed in Table 1 were inspected for compliance with R.R.O. 1990 Regulation 903 - Wells. Field staff noted a blockage, suspected to be bentonite, was preventing water level measurements and potential sample collection at MW02-1, first reported in 2022 (Cambium, 2022). As no samples have been collected from nest monitor MW02 historically, it is recommended that these wells be decommissioned. Refer to Appendix F for photographs of the monitoring wells.

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5.6 Materials Summary

The following waste types are collected at the Site; refer to Figure 3 for the collection locations of each material. In 2022, the Township reported that the Site no longer accepts mattresses and box springs (Cambium, 2023).

- Domestic solid, non-hazardous waste
- Blue box recycling
- Organic waste
- Scrap metal and white goods
- Freon Appliances
- Brush
- Wood waste
- Waste Electrical and Electronic Equipment (WEEE)
- Propane tanks
- Used oil

5.6.1 Site Usage

Site usage, as documented by the Township, is summarized in Embedded Table 9. The Site is equipped with a scale, such that the tonnage of waste accepted can be determined annually. Waste collected is transferred to the Peterborough Waste Management Facility (Bensfort Road Landfill). Refer to appended Table 12 for a monthly summary of materials accepted and transferred at the Site.

Embedded Table 9 Summary of Site Usage

	2024	2023	2022	2021
Household Garbage (tonnes)	1,013.87	1,008.12	976.90	200.51

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In addition to the above, the Township reported that the Site accepted the following tonnages in 2024:

- Clean wood: 69.30 tonnes
- C&D materials: 10.55 tonnes

5.6.2 Material Diversion

Embedded Table 10 provides a summary of the materials diverted from the Site in 2024, as provided by the Township and the County of Peterborough. Blue box recyclables are hauled to the Peterborough County Material Recycling Facility – Pido Road.

Embedded Table 10 Summary of Diverted Materials

Material	tonnes	tonnes
Containers	24.19	
Fibres	30.37	
Blue Box Subtotal		*54.56*
MHSW (May 27 and August 12)		4.89
Scrap Metal and White Goods[1]		15.55
WEEE		9.70
Organics		25.61
TOTAL		**110.31**
Other		
Alcohol Containers		2,400 units
Tires		294 units
Freon Appliances[1]		29 units

Notes:

1. Includes white goods quantities.

Embedded Table 11 summarizes additional waste the County manages and reports as diverted from within the Township in 2024.

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Embedded Table 11 Summary of Divertible Materials - Private and Curbside

Curbside Recyclables Pick-up (entire Township)[1]	54.56 tonnes
Depot – Leaf and Yard Waste (Warsaw)[2]	80.15 tonnes
Curbside Leaf and Yard[3]	19.06 tonnes

Notes:

1. *Curbside and Campground recyclable materials are hauled directly to 390 Pido Road. Campground recyclables are included in curbside recyclable totals.*
2. *Leaf and Yard Waste Collected at the Warsaw Public Works Yard from Spring to Autumn*
3. *Curbside Leaf and Yard and Organics materials are hauled to County's Harper Road Composting Facility*

5.7 Site Documentation Reviews and Updates

The following documents are maintained by the Township and updated as required. There were no changes to these documents in 2024.

- *Hall's Glen Landfill Site, Closure Report* (TSH, 2002a)
- *Hall's Glen Landfill Site Transfer Station: Design, Operation, Maintenance, and Closure Report* (TSH, 2002b)

5.8 Operations, Equipment, and Procedures

The Township has made conscientious efforts to mitigate risk to the surrounding environment and promote a safe location for the disposal of waste for the site attendants and residents. As such, Cambium has no recommendation regarding the operation of the Site.

5.9 Compliance with Ministry Approval

The Hall's Glen transfer station was operated in compliance with all PC of A conditions in 2024. Furthermore, the Township operated the Site in compliance with all required inspection and reporting requirements contained in the PC of A.

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6.0 Conclusions and Recommendations

Based on the 2024 routine monitoring program and supplemental monitoring program, Cambium makes the following conclusions regarding the Hall's Glen waste disposal site:

- The water level measurements indicated that the predominant direction of groundwater flow in all three aquifers is to the east/southeast.
- Natural attenuation is occurring at the Site as concentrations decreased with distance from the waste mound. The down-gradient water quality suggest that non-waste related impacts may be influencing the water chemistry (i.e., saturated organic soils, and decaying organic vegetation).
- Results of the supplemental monitoring program (Cambium, 2024) indicated a similar leachate signature between background monitoring well MW13-2 and the leachate monitoring wells suggesting a potential component of radial flow to the southwest. There were no detectable PFAS concentrations in the down-gradient wells installed in the shallow bedrock aquifer. PFAS were detected at down-gradient residential well R1 and deep bedrock monitors MW10-1 and MW11-1; however, the signature present was different that what was reported in the leachate quality suggesting a potential non-waste related source.
- Groundwater samples collected from MW08, MW09, MW10, MW11, MW12, and R1 were used to assess compliance with Ministry Guideline B-7 - Reasonable Use. Although select parameters continued to exceed the compliance criteria, these exceedances were considered to be naturally occurring or attributed to a non-waste related source. Furthermore, the only parameter to continually exceed the ODWQS is manganese which is an aesthetic objective.
- A new down-gradient surface water monitoring station (S3) was established in 2023. Initial results indicated similar to or better water quality than the background quality. S3 was dry during both the monitoring events in 2024 Downgradient surface water results at station S2 indicated a significant decrease in most parameter concentrations since the last sample collected. Further monitoring is required to fully assess impacts at these stations.

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- About 1013.87 tonnes of waste accepted at the Site and transferred to the Peterborough Waste Management Facility.
- About 110.31 tonnes of blue box recycling, scrap metal, organics, MHSW, and WEEE were collected at the Site.
- The Township of Douro-Dummer operated the Hall's Glen waste transfer station in compliance with the Provisional Certificate of Approval in 2024

Based on the results of the work completed in 2024, Cambium recommends the following:

- The groundwater and surface water monitoring program should continue as outlined in Table 1.
- As discussed in Section 4.6, the reporting frequency should be reduced from annually to biennially.
- Nest well MW02 should be decommissioned. Field staff noted MW02-1 to be compromised during the autumn sampling event and no samples have been collected at either MW02-1 and MW02-2 since installation.
- Once an agreement of all the monitoring program and reporting changes is understood between the Ministry and the Township, then an application to amend the PC of A should be formally submitted to reflect these changes.

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Glossary of Terms

- **Active Face/Area**
  The portion of the landfill facility where waste is currently being deposited, spread and/or, compacted prior to the placement of cover material.
- **Adverse Environmental Impact**
  Any direct or indirect undesirable effect on the environment resulting from an emission or discharge that is caused or likely to be caused by human activity.
- **Annual Report**
  Report documenting the results of water quality, environmental quality, and operations monitoring for the year, or for a period as prescribed in the Certificate of Approval.
- **Approved Design and Operations Plan**
  The design of a landfill site and its facilities which have been submitted along with the application documents for which formal Ministry approval has been issued through the Certificate of Approval.
- **Approved Site or Facility**
  A landfill site/facility for which there is an existing and current Certificate of Approval.
- **Aquifer**
  A geologic unit (soil or rock) that contains sufficient saturated permeable material to yield measurable quantities of water to wells and springs.
- **Attenuation**
  Natural process through which the concentrations of landfill generated contaminants are reduced to safe levels.
- **Borehole**
  A hole drilled for soil sampling purposes.
- **Buffer Area**
  An area of land situated within the peripheral area surrounding an active filling area, but limited in extent to the property boundary, assigned to provide space for remedial measures, contaminant control measures, and for the reduction or elimination of adverse environmental impact caused by migrating contaminants.
- **Certificate of Approval**
  The license or permit issued by the Ministry for the operation of a landfill site. Issued to the owner of the site with conditions of compliance stated therein.
- **Contaminant**
  A compound, element, or physical parameter, usually resulting from human activity, or found at elevated concentrations that have or may have a harmful effect on public health or the environment.
- **Contaminant Migration Path**
  Route by which a contaminant will move from the site into adjacent properties or the natural environment. Usually a route that offers the least resistance to movement.
- **Contamination Attenuation Zone**
  The zone beneath the surface, located beyond the landfill site boundary, where contaminants will be naturally attenuated to predetermined levels. Also, see Reasonable Use Policy.
- **Contingency Plan**
  A documented plan detailing a co-ordinated course of action to be followed to control and remediate occurrences such as a fire, explosion, or release of contaminants in an uncontrolled manner that could threaten the environment and public health.
- **Cover Material**
  Material approved by the Ministry that is used to cover compacted solid waste. Usually, a soil with suitable characteristics for specific end-use.
- **Site Development Plan and Operations Report**
  Development and Operations Plan or Report is a document detailing the planned sequence of activities through the landfill site's active life, the control systems, site facilities and monitoring systems that are necessary. This document is required for obtaining a Certificate of Approval.
- **Design Capacity**
  The maximum amount of waste that is planned to be disposed of at a landfill site.
- **Detection Limit**
  Concentration under which a parameter cannot be quantitatively measured.

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- **EAA or EA Act**
  Environmental Assessment Act, Revised Statutes of Ontario, 1990. One of the primary acts of legislation intended to protect, conserve, and wisely manage Ontario's environment through regulating planning and development.
- **Environmental Compliance Approval**
  The license or permit issued by the Ministry for the operation of a landfill site. Issued to the owner of the site with conditions of compliance stated therein.
- **EPA**
  Environmental Protection Act, Revised Status of Ontario, 1990. EPA is another of the primary pieces of Provincial legislation governing the protection of the natural environment of the Province.
- **Evapotranspiration**
  The evaporation of all water from soil, snow, ice, vegetation and other surfaces, including the water absorbed by plants, that is released to the atmosphere as vapour.
- **Fill Area**
  The area of a landfill site designed and designated for the disposal of waste.
- **Final Cover**
  Soil material or soil in combination with synthetic membranes, overlain by vegetation in a planned landscape, placed over a waste cell that has reached the end of its active life.
- **Groundwater**
  Subsurface water that occurs beneath the water table in soils and rocks that are fully saturated.
- **Hydraulic Conductivity**
  The rate of flow of water through a cross-section under a specific hydraulic gradient. It is a property of the geologic formation and the fluid, in hydrogeologic applications where the fluid is water (Units of m/day or cm/s).
- **Hydraulic Gradient**
  The head drop per unit distance in the direction of flow, the driving force for groundwater flow.
- **Hydrogeology**
  The study of subsurface waters and related geologic aspects of surface waters.
- **Impermeable Fill**
  Soil material that is placed as filling material that is sufficiently cohesive and fine grained to impede and restrict the flow of water through it.
- **In situ Testing**
  Testing done on-site, in the field, of material or naturally occurring substances in their original state.
- **Landfill Gas**
  Combustible gas (primarily methane and carbon dioxide) generated by the decomposition of organic waste materials.
- **Landfill Site**
  A parcel of land where solid waste is disposed of in or on land for the purposes of waste management.
- **Leachate**
  Water or other liquid that has been contaminated by dissolved or suspended particles due to contact with solid waste.
- **Leachate Breakout**
  Location where leachate comes to the ground surfaces; a seep or spring.
- **Limit of Filling**
  The outermost limit at which waste has been disposed of, or approved or proposed for disposal at a landfill.
- **Ministry**
  Ontario Ministry of the Environment, Conservation and Parks.
- **Monitoring**
  Regular or spontaneous procedures used to methodically inspect and collect data on the performance of a landfill site relating to environmental quality (i.e., air, leachate, gas, ground or surface water, unsaturated soils, etc.).
- **Monitoring Well**
  The constructed unit of casing (riser and screen) installed in a borehole.
- **Multi-Level Monitoring Well**
  More than one monitoring well installed at a given test well location.
- **Native Soil**
  Soil material occurring naturally in the ground at a location.

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- **Natural Attenuation**
  Where contaminants are reduced to acceptable concentration levels by natural mechanisms (dilution, absorption onto the soil matrix, etc.), biological action, and chemical interaction.
- **Occupational Health and Safety Act**
  The primary act of legislation enacted by Ontario Ministry of Labour to regulate and control the safety in the workplace; also Occupational Health and Safety Act, Revised Statutes of Ontario, 1990.
- **Odour Control**
  Minimizing or eliminating the nuisance and undesirable impact of objectionable or unpleasant odours arising from waste disposal operations.
- **Open Burning**
  Burning any matter whereby the resultant combustion products are emitted directly to the atmosphere without passing through an adequate stack, duct, or chimney.
- **Operations Plan**
  A document detailing the waste disposal operations in a planned, and if necessary, a staged manner, that ensure compliance with regulatory provisions concerning the operations of a landfill site.
- **Operator (Site Operator)/Attendant**
  The individual or organization who, through ownership or under contract, manages and operates a landfill site for the purpose of waste disposal.
- **Owner**
  A person, persons, organization, or municipal authority who own a landfill facility or part of a landfill facility, and in whose name the Certificate of Approval for the site is issued.
- **Percolation**
  The movement of infiltrating water through soil.
- **Permeability**
  Often used interchangeable with hydraulic conductivity, but not strictly correct. Permeability is a property of the porous media only. Dependent upon media properties that affect flow, diameter, sphericity, roundness, and packing of the grains.
- **Piezometer**
  A well that intersects a confined aquifer.
- **Provisional Certificate of Approval (Provisional C of A)**
  Same as Certificate of Approval.
- **Reasonable Use Policy**
  A policy developed by the Ministry to stipulate limits to the level of groundwater quality impairment that may be permitted to occur at site property boundaries, to allow the reasonable use of adjacent properties or land without adversely affecting public health and the environment.
- **Recharge Zone**
  An area where precipitation or surface run-off infiltrates into the ground and then, through natural percolation enters an aquifer.
- **Recycling**
  Sorting, collecting or processing waste materials that can be used as a substitute for the raw materials in a process or activity for the production of (the same or other) goods. For example, the "Blue Box" system, in-plant scrap handling, or raw material recovery systems. Recycling is also the marketing of products made from recycled or recycled materials.
- **Reduction (of waste or component of 3Rs program)**
  Those actions, practices, or processes that result in the production or generation of less waste.
- **Remedial Action**
  Corrective action taken to clean-up or remedy a spill, an uncontrolled discharge of a contaminant, or a breach in a facility or its operations, in order to minimize the consequent threat to public health and the environment.
- **Representative Sample**
  A small portion of soil, water, etc. which can be subjected to testing and analysis, that is expected to yield results that will reliably represent the identical characteristics of the source of the material or of a larger body of material.
- **Reuse (component of 3Rs program)**
  The use of an item again in its original form, for a similar purpose as originally intended, or to fulfil a different function.
- **Run-off**
  The part of precipitation (rainwater, snowmelt) that flows overland and does not infiltrate the surface material (soil or rock).

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- **Saturated Zone**
  The zone of a subsurface soil where all voids are filled with water.
- **Sedimentation**
  The deposition of fine grained soil in an undesirable location, caused by the scouring, erosion and transportation of earth materials by surface run-off.
- **Sensitive Land Use**
  A land use where humans or the natural environment may experience an adverse environmental impact.
- **Settlement**
  The subsidence of the top surface and underlying waste of a landfill or waste cell as a result of densification under its own weight.
- **Site Capacity**
  The maximum amount of waste that is planned to be disposed (design capacity) or that has been disposed of at a landfill site.
- **Site Closure**
  The planned and approved cessation or termination of landfilling activities at a landfill site upon reaching its site capacity.
- **Site Life**
  The period from its inception through active period of waste disposal, to the time when a landfill site reaches its' site capacity, when it ceases to receive any further waste, including and up to closure.
- **Solid Waste**
  Any waste matter that cannot be characterized by its physical properties as a liquid waste product.
- **Solid Waste Disposal Site or Facility**
  A site or facility such as a landfill site where solid waste is disposed of.
- **Source Separation**
  The separation of various wastes at their point of generation for the purposes of recycling or further processing.
- **Standpipe**
  A monitoring well that intersects the water table aquifer.
- **Storm water**
  Run-off that occurs as a direct result of a storm event or thaw.
- **Storm water Detention**
  Control of storm water by the construction of impoundments of structures for the purpose of regulating storm water flows during high intensity rainfall events that would otherwise transport excessive amounts of sediment, cause soil erosion or cause flooding.
- **Stratigraphy**
  The geologic sub-structuring, usually layered with different distribution, deposition and age.
- **Surface Run-off (Drainage)**
  See Run-off.
- **Surface Water**
  Water that occurs at the earth's surface (ponds, streams, rivers, lakes, oceans).
- **Sub-Soil**
  Soil horizons below the topsoil.
- **Test hole**
  A hole drilled for soil sampling purposes.
- **Topsoil**
  The uppermost layer of the soil containing appreciable organic materials in mineral soils. Adequate fertility to support plant growth.
- **Unsaturated Zone**
  The zone (also vadose zone) in a porous sub-soil, where the voids are not completely water-filled, but contain some air-filled voids. Limited above by the land surface and below by the water table.
- **Vector**
  A disease carrier and transmitter; usually an insect or rodent.
- **VOC**
  Volatile organic compounds are those compounds that will readily volatilize (convert from liquid to gas phase) at conditions normally found in the environment.

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- **Waste**
  Ashes, garbage, refuse, domestic waste, industrial waste, or municipal refuse and other used products as are designated or interpreted by the provisions of the Environmental Protection Act.
- **Waste Disposal Site (Facility)**
  Any land or land covered by water upon, into, in or through which, or building or structure in which, waste is deposited or processed and any machinery or equipment or operation required for the treatment or disposal of waste.
- **Waste Management System**
  All facilities, equipment and operations for the complete management of waste, including the collection, handling, transportation, storage, processing and disposal thereof, and may include one or more waste disposal sites.
- **Water Table**
  The water level attained in a monitoring well, which screens the surficial unconfined aquifer.
- **Water Balance**
  Amounts of water to various components in a system so that water entering the system equals the amount of water contained within and discharged out of a system.
- **Water Level**
  The level of water in a well.
- **Well Casing**
  The pipe that is used to construct a well.
- **Well Screen**
  A filtering device used to keep sediment from entering a well.
- **Wetlands**
  Areas where water is at, near or above the land surface long enough to be capable of supporting aquatic or hydrolytic vegetation, and which have soils indicative of wet conditions.

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Abbreviations

RFP	Request For Proposal
ha	hectare
Ministry	Ontario Ministry of the Environment, Conservation and Parks
tonne	metric ton
MNRF	Ontario Ministry of Natural Resources and Forestry
t	metric tonne
ECA	Environmental Compliance Approval
µS	microSiemens
EPA	Environmental Protection Act
ODWQS	Ontario Drinking Water Quality Standards
EAA	Environmental Assessment Act
PC of A	Provisional Certificate of Approval
MW	monitoring well
PWQO	Provincial Water Quality Objectives
masl	metres above sea level
TOC	Total Organic Carbon
pg	picogram
VOC	Volatile Organic Compound
ng	nanogram
BTU	British Thermal Unit
µg	microgram
°C	temperature in degrees Celsius
g	gram
N/A	not available
kg	kilogram
%	percent
L	Litre
cfm	cubic feet per minute
mg/L	milligrams per litre
ppmdv	part per million by dry volume
mm	millimetre
ppmv	part per million by volume
m	metre
ppm	part per million
km	kilometre
min	minimum
m^3	cubic metre
max	maximum
m^2	square metre

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Standard Limitations

Limited Warranty

In performing work on behalf of a client, Cambium relies on its client to provide instructions on the scope of its retainer and, on that basis, Cambium determines the precise nature of the work to be performed. Cambium undertakes all work in accordance with applicable accepted industry practices and standards. Unless required under local laws, other than as expressly stated herein, no other warranties or conditions, either expressed or implied, are made regarding the services, work or reports provided.

Reliance on Materials and Information

The findings and results presented in reports prepared by Cambium are based on the materials and information provided by the client to Cambium and on the facts, conditions and circumstances encountered by Cambium during the performance of the work requested by the client. In formulating its findings and results into a report, Cambium assumes that the information and materials provided by the client or obtained by Cambium from the client or otherwise are factual, accurate and represent a true depiction of the circumstances that exist. Cambium relies on its client to inform Cambium if there are changes to any such information and materials. Cambium does not review, analyze or attempt to verify the accuracy or completeness of the information or materials provided, or circumstances encountered, other than in accordance with applicable accepted industry practice. Cambium will not be responsible for matters arising from incomplete, incorrect or misleading information or from facts or circumstances that are not fully disclosed to or that are concealed from Cambium during the provision of services, work or reports.

Facts, conditions, information and circumstances may vary with time and locations and Cambium's work is based on a review of such matters as they existed at the particular time and location indicated in its reports. No assurance is made by Cambium that the facts, conditions, information, circumstances or any underlying assumptions made by Cambium in connection with the work performed will not change after the work is completed and a report is submitted. If any such changes occur or additional information is obtained, Cambium should be advised and requested to consider if the changes or additional information affect its findings or results.

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Site Assessments

A site assessment is created using data and information collected during the investigation of a site and based on conditions encountered at the time and particular locations at which fieldwork is conducted. The information, sample results and data collected represent the conditions only at the specific times at which and at those specific locations from which the information, samples and data were obtained and the information, sample results and data may vary at other locations and times. To the extent that Cambium's work or report considers any locations or times other than those from which information, sample results and data was specifically received, the work or report is based on a reasonable extrapolation from such information, sample results and data but the actual conditions encountered may vary from those extrapolations.

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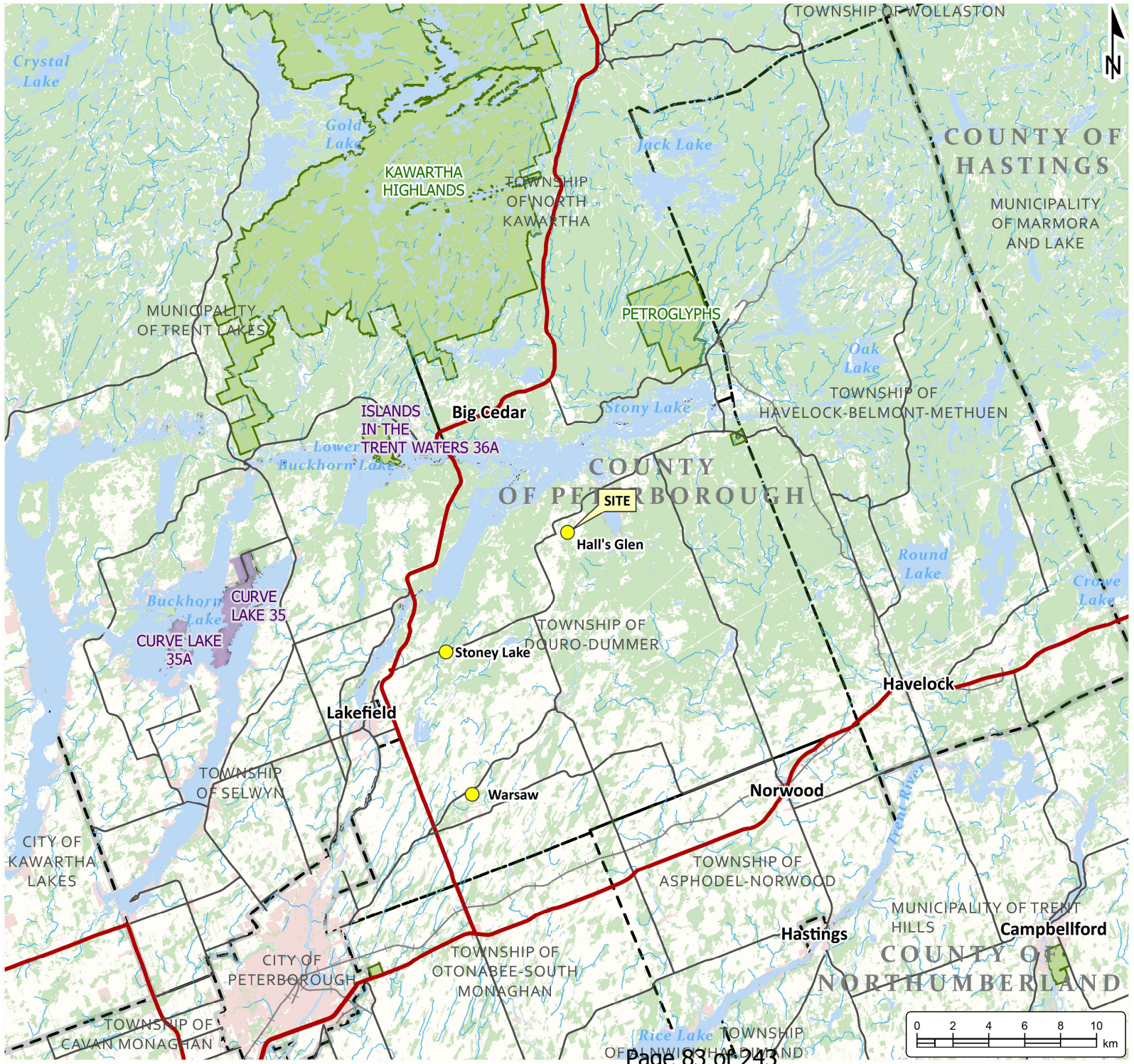
Appended Figures



2024 ANNUAL REPORT

HALL'S GLEN WASTE TRANSFER STATION
1951 County Road 6
Hall's Glen, Ontario
The Corporation of the Township of Douro-Dummer

LEGEND

- Railway
- Watercourse
- Water Area
- First Nations Reserve
- Provincial Park
- Wooded Area
- Built Up Area

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SITE LOCATION PLAN

Project No.: 12987-002		Date: March 2025 Rev.:	
Scale: 1:300,000		Projection: NAD 1983 UTM Zone 17N	
Created by: MAT	Checked by: SNR	Figure: 1	

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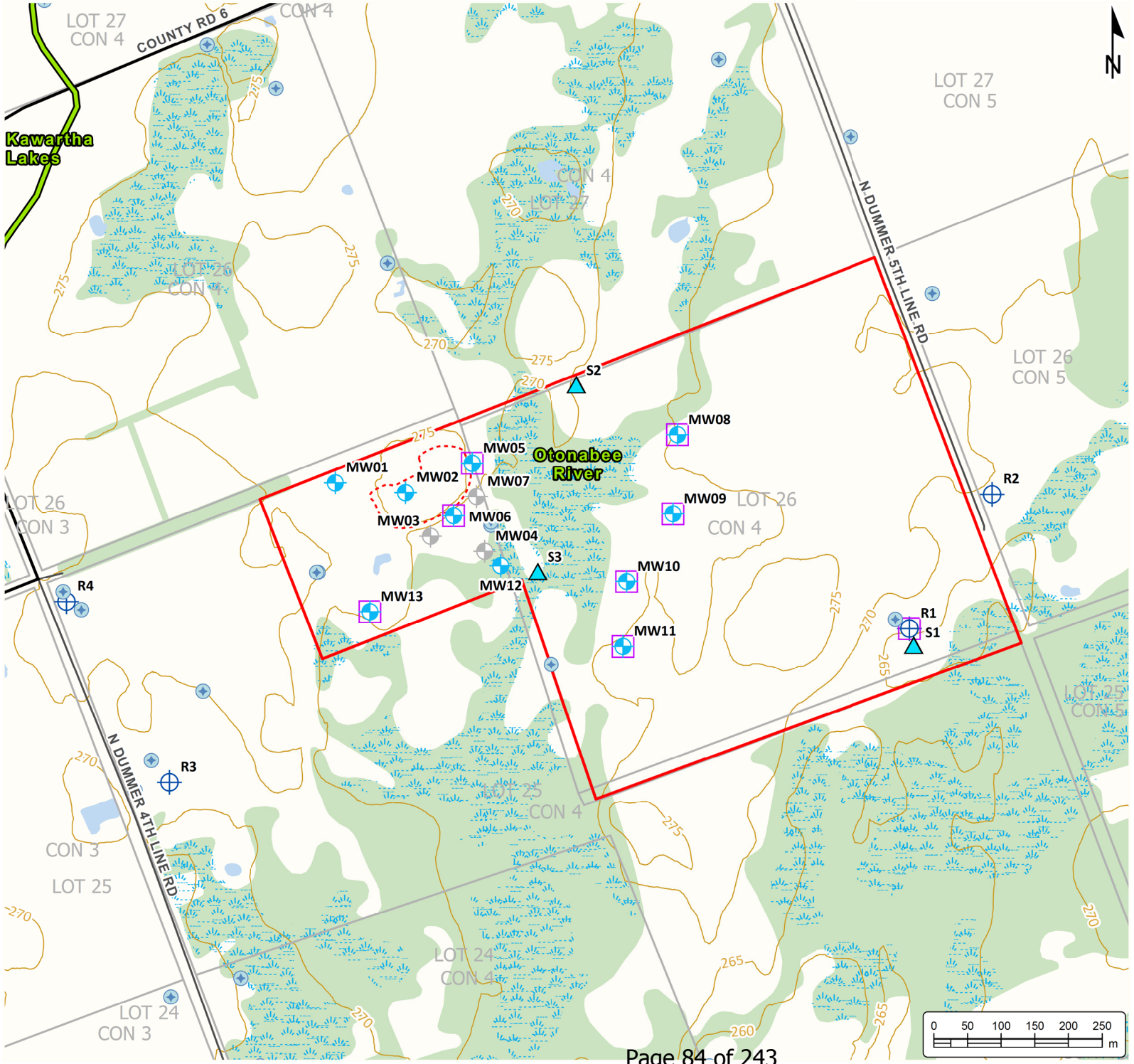

2024 ANNUAL REPORT

HALL'S GLEN WASTE TRANSFER STATION
1951 County Road 6
Hall's Glen, Ontario
The Corporation of the Township of Douro-Dummer

LEGEND

- Ministry Well Record
- Surface Water Sample Location
- Historical Monitoring Well
- Monitoring Well
- Residential Well
- Supplemental Monitoring Program (Monitoring and Residential Well)
- Major Road
- Minor Road
- Contour (5m Interval)
- Lot/Concession
- Unevaluated Wetland
- Water Area
- Wooded Area
- Landfill Footprint
- Site (48.5 ha, approximate)
- Tertiary Watershed

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SAMPLE LOCATION PLAN

Project No.: 12987-002		Date: March 2025	Rev.:
Scale: 1:8,000		Projection: NAD 1983 UTM Zone 17N	
Created by: MAT	Checked by: SNR	Figure: 2	

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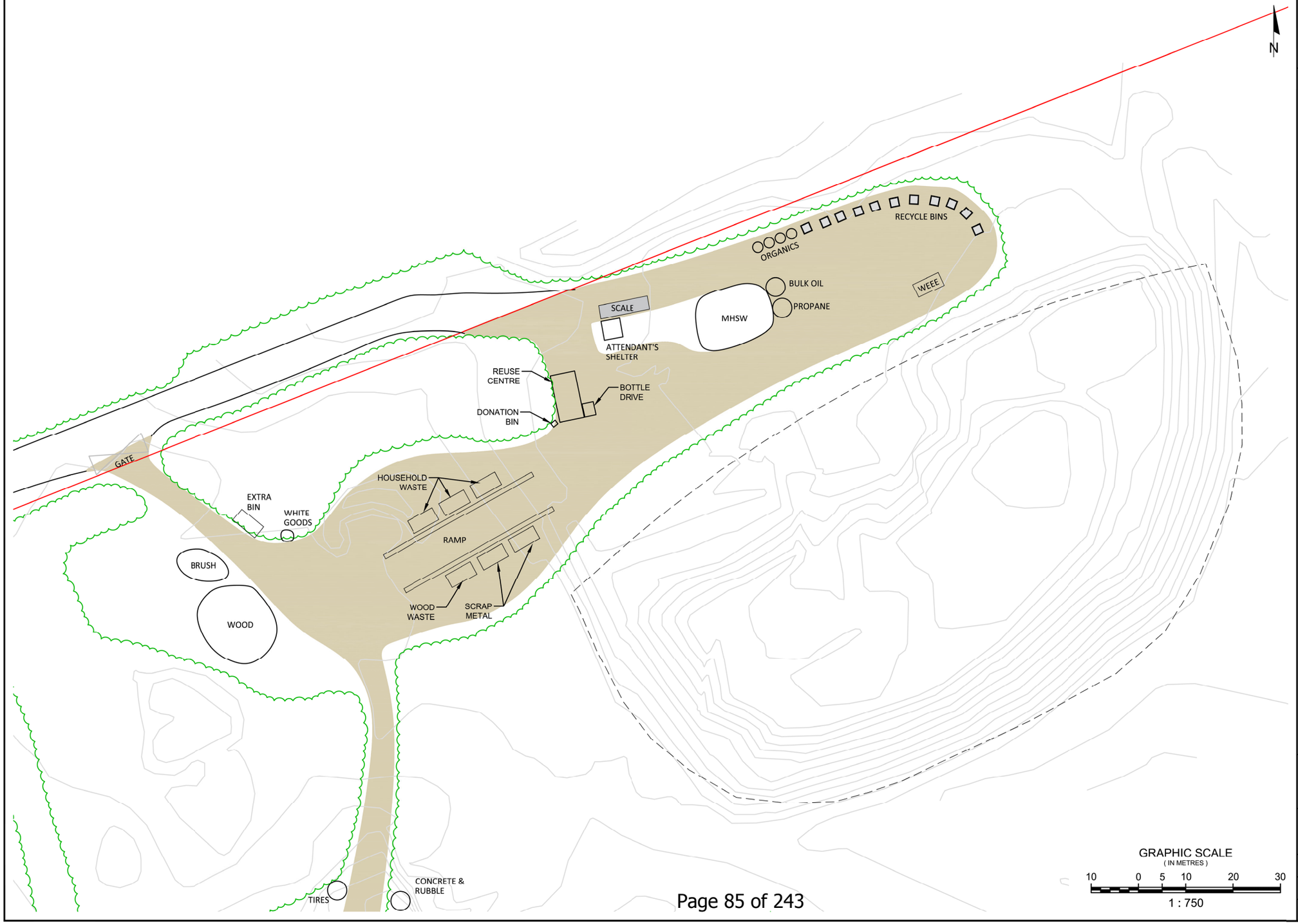

2024 ANNUAL REPORT
HALL'S GLEN WASTE TRANSFER STATION

1951 COUNTY ROAD 6
HALL'S GLEN, ONTARIO
THE CORPORATION OF THE
TOWNSHIP OF DOURO-DUMMER

LEGEND

- Site (approximate)
- Approximate Landfill Footprint (1.0 ha)
- Topographic Contour
- Approximate Treeline

GRAPHIC SCALE
(IN METRES)
10 0 5 10 20 30
1 : 750

Notes:
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EXISTING CONDITIONS

Project No.: 12987-002		Date: March 2025	Rev.:
Horizontal Scale: 1:750		Projection: UTM Zone 17N	
Drawn By: TLC	Checked By: CM	Figure: 3	

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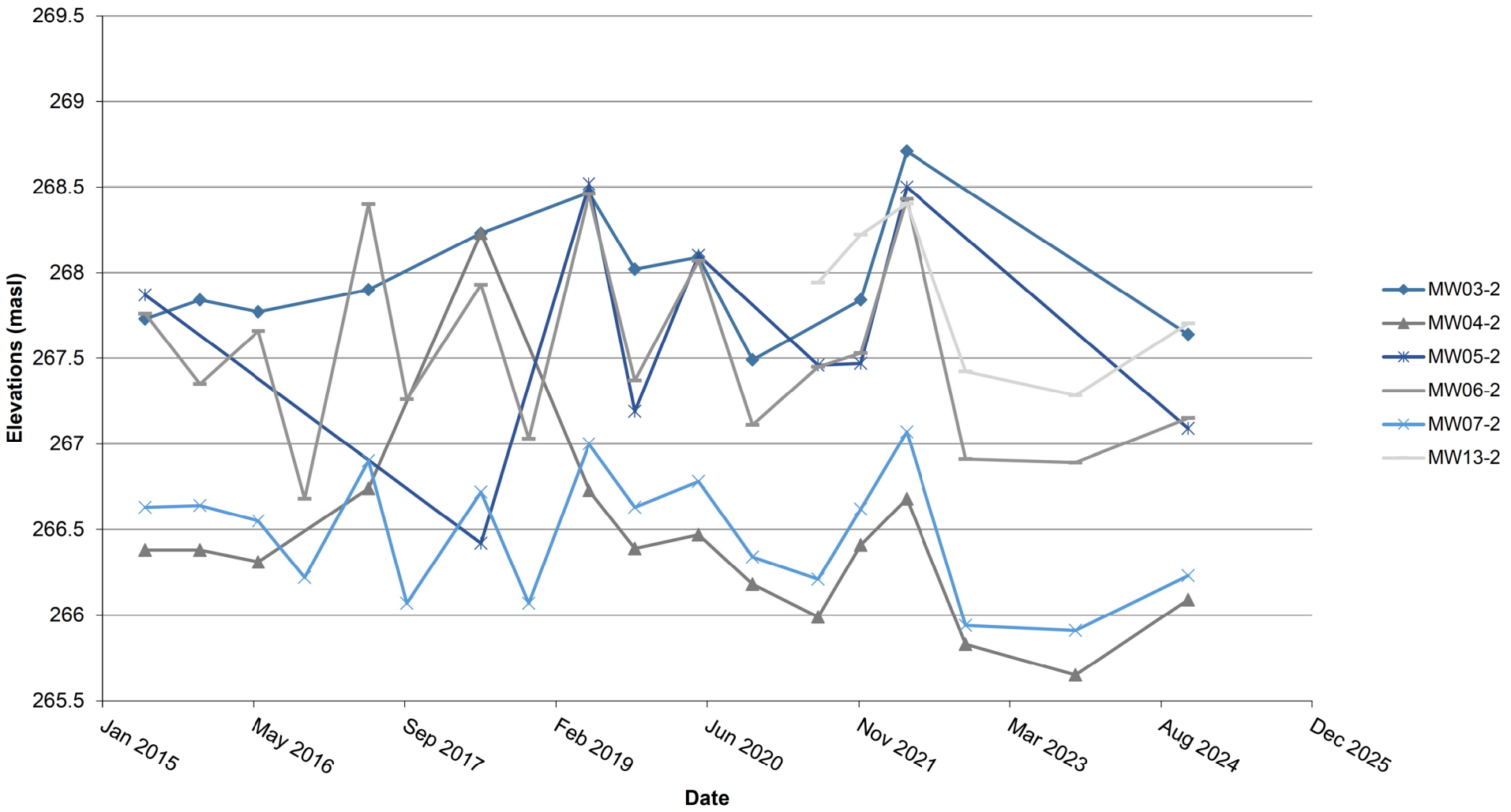
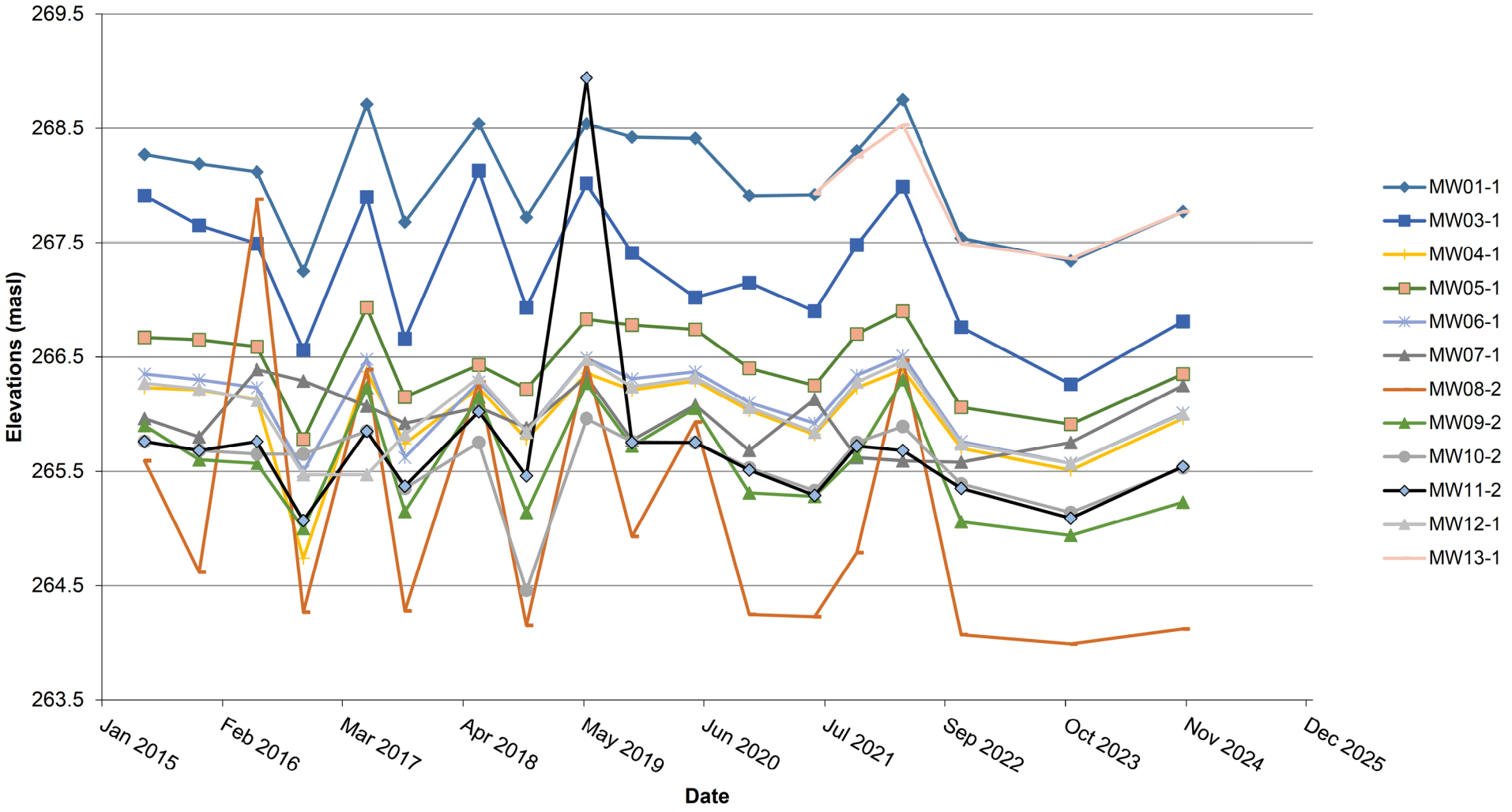


Groundwater Elevations (Overburden)

2024 Annual Report, Hall's Glen Waste Transfer Station
1951 County Road 6, Hall's Glen
The Township of Douro-Dummer

Figure:	4
Date:	7/Mar/25
Project Manager:	Stephanie Reeder
Project No.:	12987-002

CAMBIUM



Groundwater Elevations (Shallow Bedrock)

2024 Annual Report, Hall's Glen Waste Transfer Station
1951 County Road 6, Hall's Glen
The Township of Douro-Dummer

Figure:	**5**
Date:	7/Mar/25
Project Manager:	Stephanie Reeder
Project No.:	12987-002

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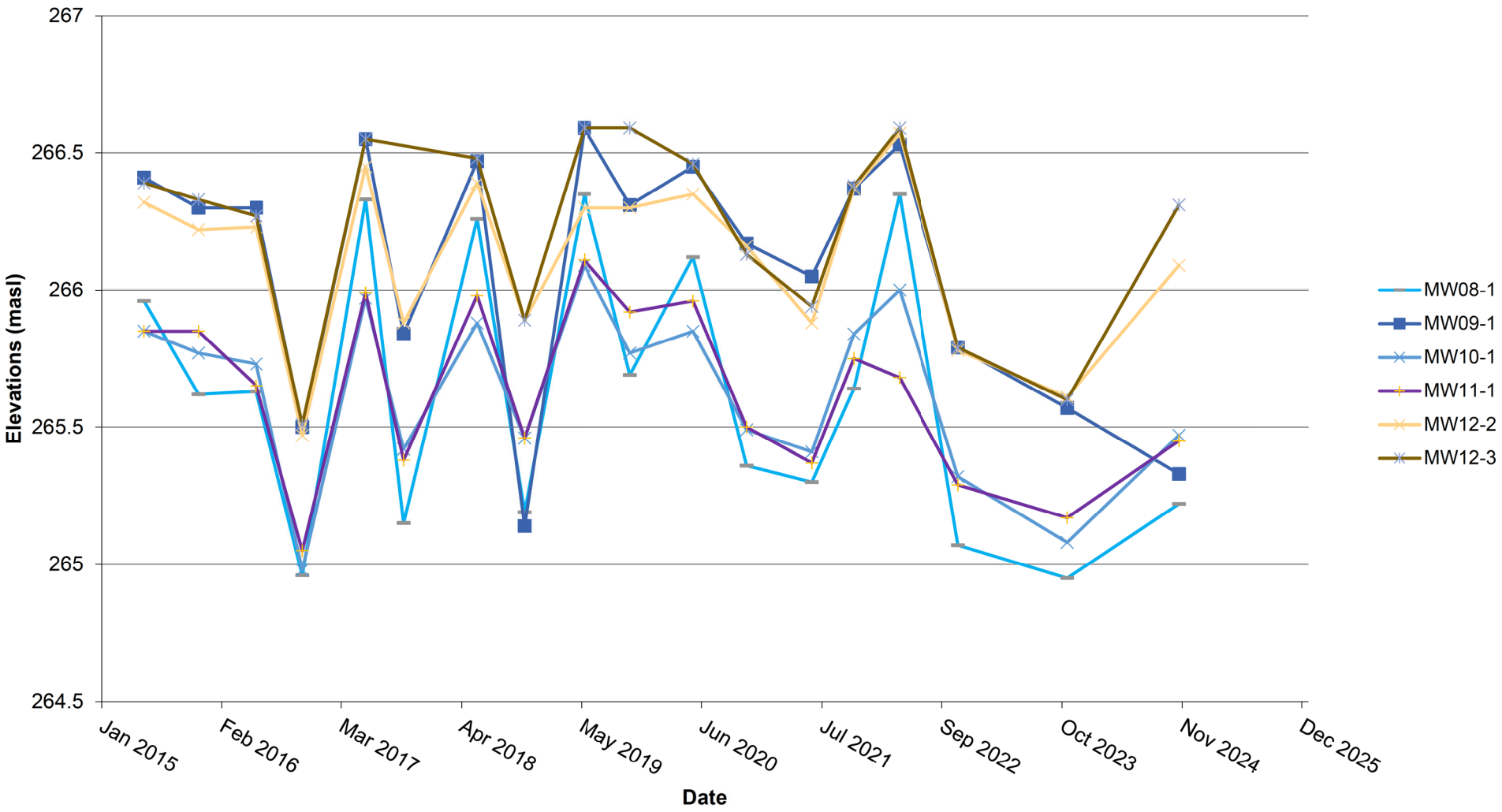

Groundwater Elevations (Deep Bedrock)

2024 Annual Report, Hall's Glen Waste Transfer Station
1951 County Road 6, Hall's Glen
The Township of Douro-Dummer

Figure:	**6**
Date:	7/Mar/25
Project Manager:	Stephanie Reeder
Project No.:	12987-002

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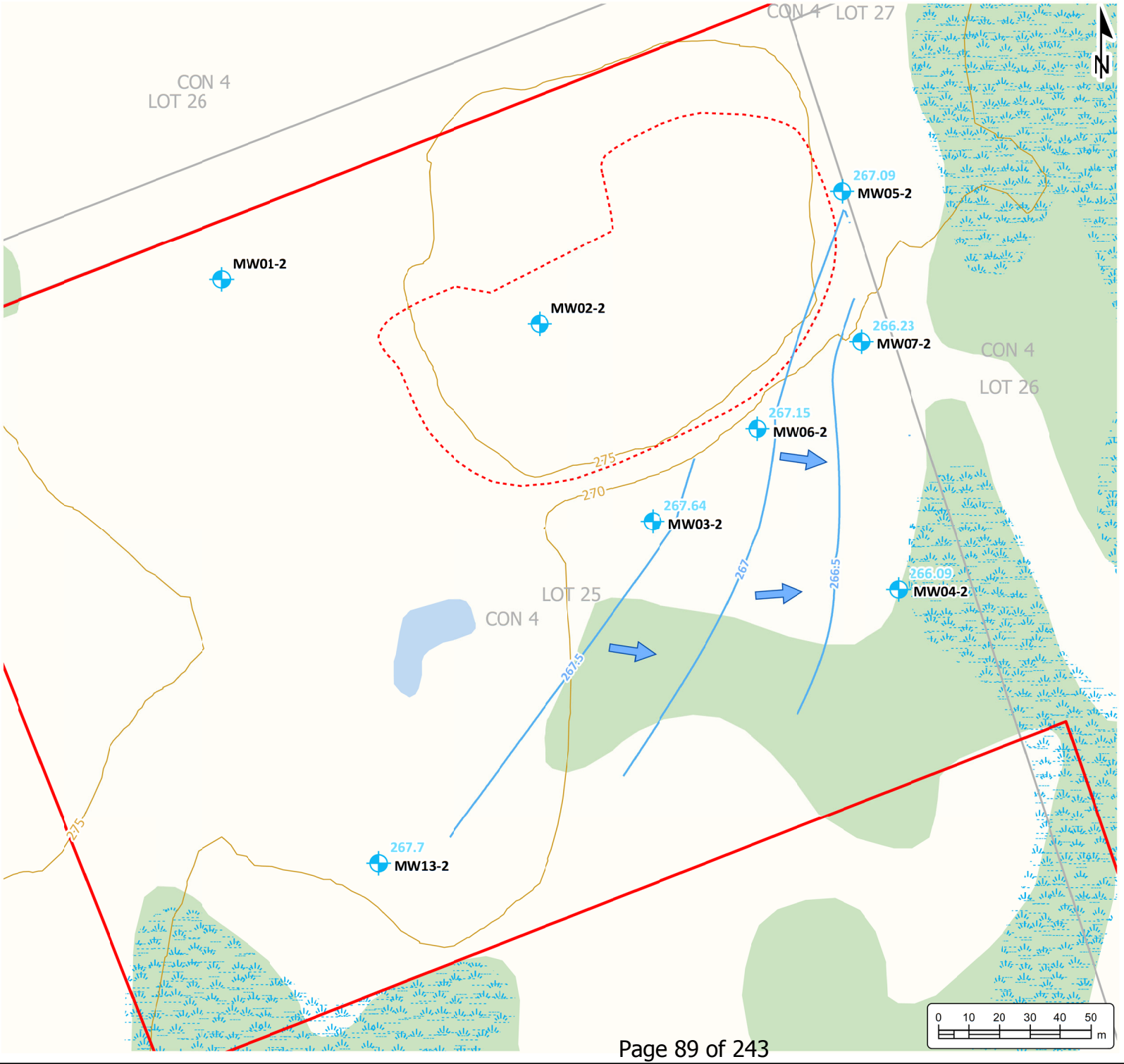

2024 ANNUAL REPORT

HALL'S GLEN WASTE TRANSFER STATION
1951 County Road 6
Hall's Glen, Ontario
The Corporation of the Township of Douro-Dummer

LEGEND

- Overburden Monitoring Well
- Contour (5m Interval)
- Groundwater Contour October 29, 2024
- 266.25 Groundwater Elevation October 29, 2024
- Groundwater Flow Direction October 29, 2024
- Lot/Concession
- Unevaluated Wetland
- Water Area
- Wooded Area
- Landfill Footprint
- Site (48.5 ha, approximate)

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OVERBURDEN GROUNDWATER CONFIGURATION

Project No.:	12987-002	Date:	March 2025
		Rev.:	
Scale:	1:1,750	Projection:	NAD 1983 UTM Zone 17N
Created by:	MAT	Checked by:	SNR
Figure:	7		

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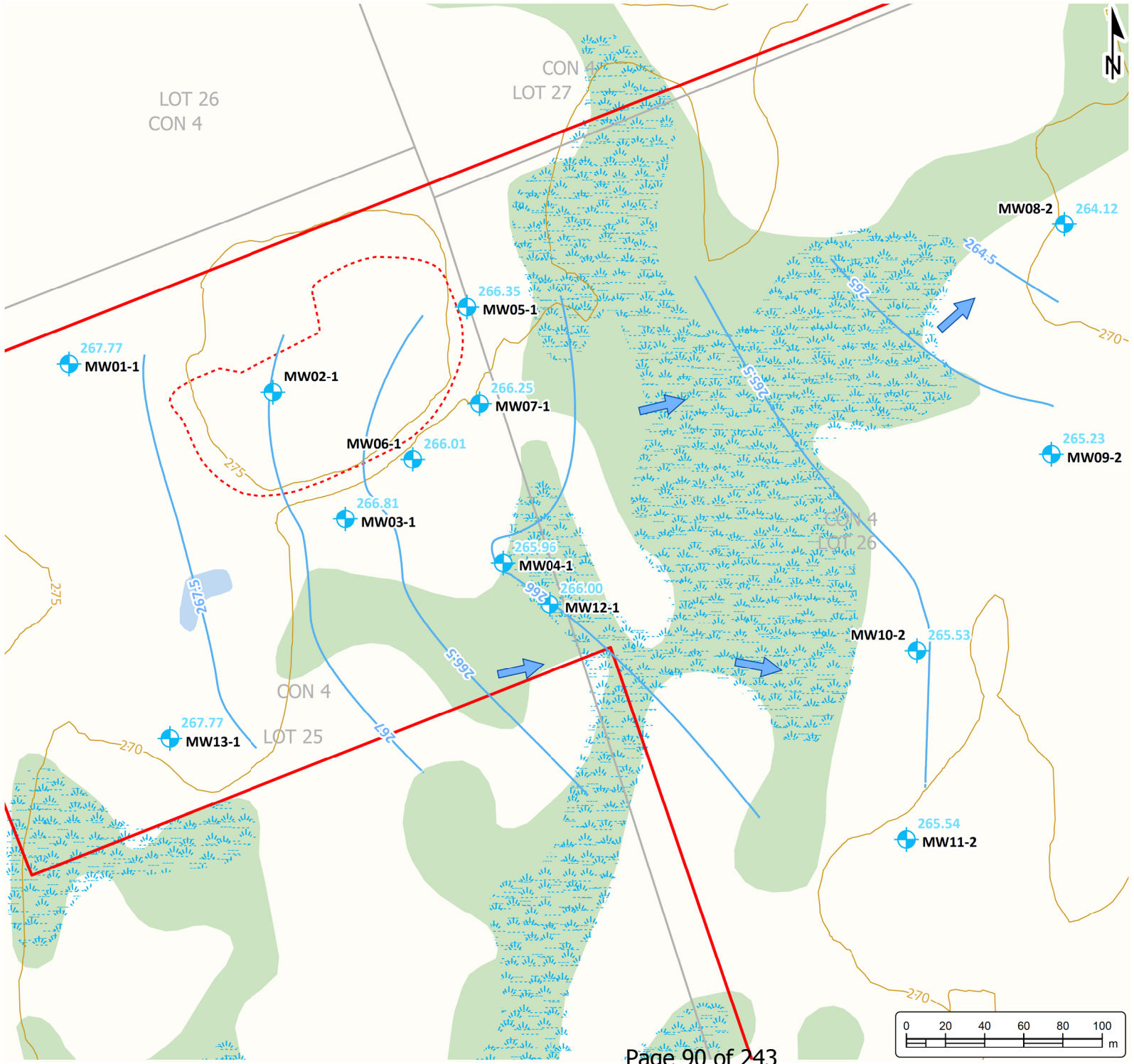

2024 ANNUAL REPORT

HALL'S GLEN WASTE TRANSFER STATION
1951 County Road 6
Hall's Glen, Ontario
The Corporation of the
Township of Douro-Dummer

LEGEND

- Shallow Monitoring Well
- Contour (5m Interval)
- Groundwater Contour October 29, 2024
- 266.25 Groundwater Elevation October 29, 2024
- Groundwater Flow Direction October 29, 2024
- Lot/Concession
- Unevaluated Wetland
- Water Area
- Wooded Area
- Landfill Footprint
- Site (48.5 ha, approximate)

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SHALLOW BEDROCK GROUNDWATER CONFIGURATION

Project No.:	12987-002	Date:	March 2025
		Rev.:	
Scale:	1:2,750	Projection:	NAD 1983 UTM Zone 17N
Created by:	MAT	Checked by:	SNR
Figure:	8		

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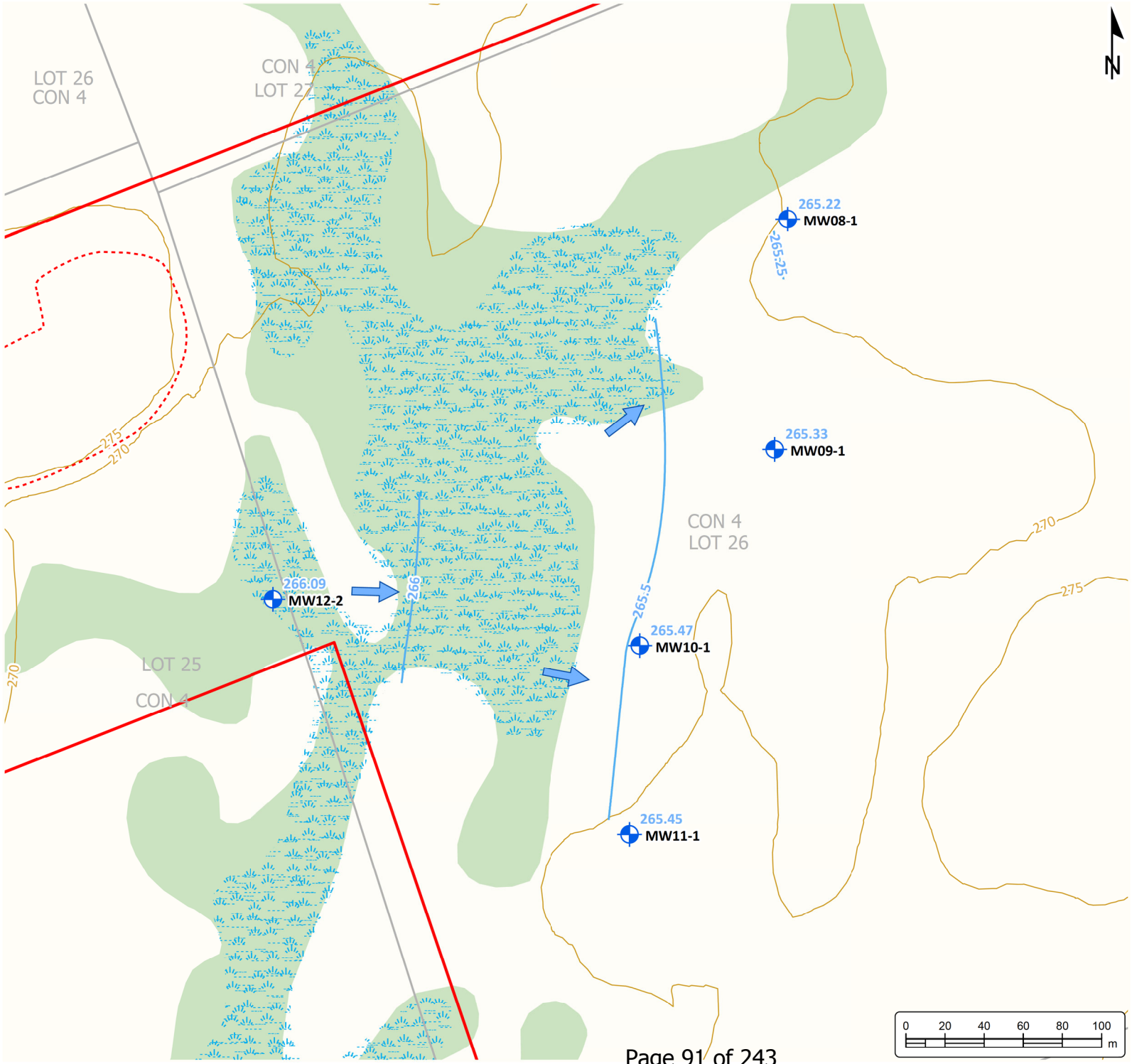

2024 ANNUAL REPORT

HALL'S GLEN WASTE TRANSFER STATION
1951 County Road 6
Hall's Glen, Ontario
The Corporation of the
Township of Douro-Dummer

LEGEND

- Deep Bedrock Groundwater Configuration
- Contour (5m Interval)
- Groundwater Contour October 29, 2024
- 266.25 Groundwater Elevation October 29, 2024
- Groundwater Flow Direction October 29, 2024
- Lot/Concession
- Unevaluated Wetland
- Wooded Area
- Landfill Footprint
- Site (48.5 ha, approximate)

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DEEP BEDROCK GROUNDWATER CONFIGURATION

Project No.:	12987-002	Date:	March 2025
		Rev.:	
Scale:	1:2,750	Projection:	NAD 1983 UTM Zone 17N
Created by:	MAT	Checked by:	SNR
Figure:	9		

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Appended Tables

Docusign Envelope ID: 36547E71-C6E8-4924-8AE9-42188B5984E4

Table Notes

EQL - reported detection limit for the current year

RUC - Reasonable Use Criteria

CWQG - Canadian Water Quality Guidelines for the Protection of Aquatic Life (CCME, 2011)

ODWQS - Ontario Drinking Water Quality Standards, O.Reg. 169/03

PWQO - Water Management, Policies, Guidelines, Provincial Water Quality Objectives (MOEE, 1994b)

PWQO for cadmium, copper, and lead depend on hardness

NV - No Value

"-" Parameter not analyzed or measured

Unionized ammonia calculated using total ammonia and field data for pH and temperature

Table 1 - Groundwater and Surface Water Monitoring Program

Location	Task	Frequency	Analytical Parameters
Groundwater			
MW01-1, MW01-2, MW02-1, MW02-2, MW05-1, MW05-2, MW06-1, MW06-2, MW08-1, MW08-2, MW09-1, MW09-2, MW10-1, MW10-2, MW11-1, MW11-2, MW12-1, MW12-2, MW12-3, MW13-1, MW13-2 R1, R2, R3, R4 QA/QC 1 QA/QC 2	• Measure groundwater levels • Groundwater sampling • Field measurements (pH, temperature, ORP, dissolved oxygen, conductivity)	Once Annually (Autumn)	alkalinity, ammonia, barium, boron, calcium, chloride, conductivity, iron, magnesium, nitrate, pH, sodium, TDS, sulphate, COD, DOC, phenols, arsenic, manganese, phosphorus, potassium, hardness, TKN
MW05-1, MW05-2, trip blank	• VOCs	Once every five years (Autumn, next in 2027)	benzene, 1,4 dichlorobenzene, dichloromethane, toluene, vinyl chloride, monochlorobenzene
All Wells	• Landfill Gas Measurements	Once Annually (Autumn)	CH4 and H2S
Surface Water			
S1, S2, S3 QA/QC 1	• Surface water sampling • Flow estimates • Field measurements (pH, temperature, ORP, conductivity, dissolved oxygen)	Twice Annually (Spring & Autumn)	alkalinity, ammonia, arsenic, barium, boron, cadmium, chloride, chromium, conductivity, copper, iron, lead, nitrite, nitrate, TKN, pH, total phosphorus, TSS, TDS, sulphate, zinc, BOD, COD, phenols, hardness, unionized ammonia (field, calc), manganese, magnesium, potassium, DOC, **dissolved mercury**

Dissolved mercury to be lab filtered with a 0.45 micron filter for all surface water samples.
Lab to provide calculated unionized ammonia with provided field pH and temperature.

Table 2 - Groundwater Elevation Data

Monitor	UTM (Zone 17)		Top of Casing Elevation (m)	Ground Elevation (m)	Measured Stick-Up (m)	Well Depth (mtop)	Well Depth (m)	Screened Unit	Water Level Elevation (masl)								
	mN	mE							22-May-15	19-Nov-15	31-May-16	1-Nov-16	31-May-17	4-Oct-17	6/7- June-2018	11/12- Nov 2018	30-May-19
MW01-1	4933341	728326	271.24	270.42	0.82	7.65	6.83	Limestone/Shale	268.27	268.19	268.12	267.25	268.71	267.68	268.54	267.72	268.54
MW01-2			***271.24***	***270.42***	***0.82***	***2.74***	***1.92***	***Clay/Gravel***	***dry***	***dry***	***dry***	***dry***	***dry***	***dry***	***dry***	***dry***	***dry***
MW02-1	4933327	728431	282.49	282.27	0.22	15.33	15.11	Limestone/Shale	dry	na	dry	dry	dry	dry	dry	dry	dry
MW02-2			***282.53***	***282.32***	***0.21***	***5.45***	***5.24***	***Sand/Gravel***	***dry***	***dry***	***dry***	***dry***	***dry***	***dry***	***dry***	***dry***	***dry***
MW03-1	4933262	728468	269.23	268.80	0.66	5.51	4.85	Limestone	267.91	267.65	267.49	266.56	267.90	266.66	268.13	266.93	268.02
MW03-2			***269.53***	***268.80***	***0.49***	***1.72***	***1.23***	***Clay/Sand/Gravel***	***267.73***	***267.84***	***267.77***	***dry***	***267.90***	***dry***	***268.23***	***dry***	***268.47***
MW04-1	4933239	728549	268.28	267.36	0.92	5.62	4.70	Limestone/Shale	266.23	266.21	266.13	264.74	266.37	265.74	266.23	265.78	266.36
MW04-2			***268.28***	***267.43***	***0.85***	***2.99***	***2.14***	***Gravel/Limestone***	***266.38***	***266.38***	***266.31***	***dry***	***266.74***	***dry***	***268.23***	***dry***	***266.73***
MW05-1	4933370	728530	271.35	-	Below Grade	7.68	7.68	Limestone	266.67	266.65	266.59	265.78	266.93	266.15	266.43	266.22	266.83
MW05-2			***271.35***	***271.13***	***0.22***	***4.38***	***4.16***	***Clay/Sand/Gravel***	***267.87***	***dry***	***dry***	***dry***	***dry***	***dry***	***266.42***	***dry***	***268.52***
MW06-1	4933292	728502	271.01	270.40	0.61	7.85	7.24	Limestone/Shale	266.35	266.30	266.23	265.50	266.48	265.62	266.28	265.85	266.49
MW06-2			***271.01***	***270.41***	***0.60***	***5.13***	***4.53***	***Sand/Gravel***	***267.76***	***267.35***	***267.66***	***266.68***	***268.40***	***267.26***	***267.93***	***267.03***	***268.46***
MW07-1	4933309	728559	269.03	268.24	0.79	6.98	6.19	Limestone	265.96	265.80	266.39	266.29	266.07	265.92	266.06	265.88	266.33
MW07-2			***269.03***	***268.29***	***0.74***	***3.37***	***2.63***	***Limestone***	***266.63***	***266.64***	***266.55***	***266.22***	***266.90***	***266.07***	***266.72***	***266.07***	***267.00***
MW08-1	4933413	728836	270.74	270.05	0.69	11.31	10.62	Limestone	265.96	265.62	265.63	264.96	266.33	265.15	266.26	265.19	266.35
MW08-2			270.74	270.04	0.70	7.70	7.00	Gravel/Limestone	265.59	264.62	267.88	264.27	266.39	264.28	266.28	264.15	266.46
MW09-1	4933295	728829	267.25	266.57	0.68	9.92	9.24	Limestone	266.41	266.30	266.30	265.50	266.55	265.84	266.47	265.14	266.59
MW09-2			267.25	266.57	0.68	6.16	5.48	Limestone	265.90	265.60	265.57	265.00	266.23	265.15	266.15	265.14	266.27
MW10-1	4933194	728760	267.97	267.23	0.74	9.89	9.15	Limestone	265.85	265.77	265.73	264.98	265.97	265.42	265.88	265.46	266.09
MW10-2			267.97	267.24	0.73	6.65	5.92	Limestone	265.76	265.68	265.65	265.65	265.85	265.35	265.75	264.46	265.96
MW11-1	4933098	728755	268.50	267.80	0.70	9.96	9.26	Limestone	265.85	265.85	265.65	265.05	265.99	265.38	265.98	265.46	266.11
MW11-2			268.50	267.78	0.72	6.74	6.02	Limestone	265.76	265.68	265.76	265.07	265.85	265.37	266.02	265.46	268.94
MW12-1	4933218	728573	268.00	267.11	0.89	6.84	5.95	Limestone	266.27	266.22	266.12	265.47	265.47	265.82	266.32	265.84	266.48
MW12-2			268.00	267.09	0.91	10.21	9.30	Limestone	266.32	266.22	266.23	265.47	266.45	265.88	266.39	265.89	266.30
MW12-3[5]			268.00	267.10	0.90	13.09	12.19	Limestone	266.39	266.33	266.27	265.51	266.55	na	266.48	265.89	266.59
MW13-1	4933149	728378	270.07	269.11	0.86	6.04	5.18	Limestone	-	-	-	-	-	-	-	-	-
MW13-2			***269.96***	***269.11***	***0.86***	***3.76***	***2.90***	***Gravel/Limestone***	***-***	***-***	***-***	***-***	***-***	***-***	***-***	***-***	***-***

Notes:

1. All measurements are reported relative to an assumed elevation of the site benchmark.
2. Bold and italics wells indicate wells installed in the overburden aquifer.
3. Shaded wells indicate wells installed in the deep bedrock.
4. Unformatted wells indicate wells installed in the shallow bedrock.
5. Well MW12-3 is installed in a deep bedrock aquifer not sampled by other wells on-site.

Table 2 - Groundwater Elevation Data

Monitor	UTM (Zone 17)		Top of Casing Elevation (m)	Ground Elevation (m)	Measured Stick-Up (m)	Well Depth (mtop)	Well Depth (m)	Screened Unit	Water Level Elevation (masl)								
	mN	mE							29-Oct-19	26-May-20	20-Nov-20	24-Jun-21	11-Nov-21	12-Apr-22	25-Oct-22	23-Oct-23	29-Oct-24
MW01-1	4933341	728326	271.24	270.42	0.82	7.65	6.83	Limestone/Shale	268.42	268.41	267.91	267.92	268.30	268.75	267.54	267.34	267.77
MW01-2			***271.24***	***270.42***	***0.82***	***2.74***	***1.92***	***Clay/Gravel***	***dry***	***-***	***-***	***-***	***-***	***268.91***	***-***	***-***	***-***
MW02-1	4933327	728431	282.49	282.27	0.22	15.33	15.11	Limestone/Shale	dry	-	-	268.17	-	-	-	-	-
MW02-2			***282.53***	***282.32***	***0.21***	***5.45***	***5.24***	***Sand/Gravel***	***dry***	***-***	***-***	***-***	***-***	***-***	***-***	***-***	***-***
MW03-1	4933262	728468	269.23	268.80	0.66	5.51	4.85	Limestone	267.41	267.02	267.15	266.90	267.48	267.99	266.76	266.26	266.81
MW03-2			***269.53***	***268.80***	***0.49***	***1.72***	***1.23***	***Clay/Sand/Gravel***	***268.02***	***268.09***	***267.49***	***-***	***267.84***	***268.71***	***-***	***-***	***267.64***
MW04-1	4933239	728549	268.28	267.36	0.92	5.62	4.70	Limestone/Shale	266.21	266.29	266.03	265.82	266.23	266.39	265.70	265.51	265.96
MW04-2			***268.28***	***267.43***	***0.85***	***2.99***	***2.14***	***Gravel/Limestone***	***266.39***	***266.47***	***266.18***	***265.99***	***266.41***	***266.68***	***265.83***	***265.65***	***266.09***
MW05-1	4933370	728530	271.35	-	Below Grade	7.68	7.68	Limestone	266.78	266.74	266.40	266.25	266.70	266.90	266.06	265.91	266.35
MW05-2			***271.35***	***271.13***	***0.22***	***4.38***	***4.16***	***Clay/Sand/Gravel***	***267.19***	***268.10***	***-***	***267.46***	***267.47***	***268.50***	***-***	***-***	***267.09***
MW06-1	4933292	728502	271.01	270.40	0.61	7.85	7.24	Limestone/Shale	266.31	266.37	266.10	265.92	266.34	266.51	265.76	265.57	266.01
MW06-2			***271.01***	***270.41***	***0.60***	***5.13***	***4.53***	***Sand/Gravel***	***267.37***	***268.07***	***267.11***	***267.45***	***267.53***	***268.43***	***266.91***	***266.89***	***267.15***
MW07-1	4933309	728559	269.03	268.24	0.79	6.98	6.19	Limestone	265.77	266.08	265.68	266.13	265.62	265.59	265.58	265.75	266.25
MW07-2			***269.03***	***268.29***	***0.74***	***3.37***	***2.63***	***Limestone***	***266.63***	***266.78***	***266.34***	***266.21***	***266.62***	***267.07***	***265.94***	***265.91***	***266.23***
MW08-1	4933413	728836	270.74	270.05	0.69	11.31	10.62	Limestone	265.69	266.12	265.36	265.30	265.64	266.35	265.07	264.95	265.22
MW08-2			270.74	270.04	0.70	7.70	7.00	Gravel/Limestone	264.93	265.93	264.25	264.23	264.79	266.47	264.07	263.99	264.12
MW09-1	4933295	728829	267.25	266.57	0.68	9.92	9.24	Limestone	266.31	266.45	266.17	266.05	266.37	266.53	265.79	265.57	265.33
MW09-2			267.25	266.57	0.68	6.16	5.48	Limestone	265.72	266.05	265.31	265.28	265.64	266.30	265.06	264.94	265.23
MW10-1	4933194	728760	267.97	267.23	0.74	9.89	9.15	Limestone	265.77	265.85	265.49	265.41	265.84	266.00	265.32	265.08	265.47
MW10-2			267.97	267.24	0.73	6.65	5.92	Limestone	265.76	265.75	265.53	265.33	265.75	265.89	265.39	265.14	265.53
MW11-1	4933098	728755	268.50	267.80	0.70	9.96	9.26	Limestone	265.92	265.96	265.50	265.37	265.75	265.68	265.29	265.17	265.45
MW11-2			268.50	267.78	0.72	6.74	6.02	Limestone	265.75	265.75	265.51	265.29	265.72	265.68	265.35	265.09	265.54
MW12-1	4933218	728573	268.00	267.11	0.89	6.84	5.95	Limestone	266.24	266.32	266.06	265.84	266.28	266.46	265.74	265.57	266.00
MW12-2			268.00	267.09	0.91	10.21	9.30	Limestone	266.30	266.35	266.16	265.88	266.37	266.57	265.78	265.61	266.09
MW12-3[5]			268.00	267.10	0.90	13.09	12.19	Limestone	266.59	266.46	266.13	265.94	266.38	266.59	265.79	265.60	266.31
MW13-1	4933149	728378	270.07	269.11	0.86	6.04	5.18	Limestone	-	-	-	267.93	268.25	268.53	267.49	267.36	267.77
MW13-2			***269.96***	***269.11***	***0.86***	***3.76***	***2.90***	***Gravel/Limestone***	***-***	***-***	***-***	***267.94***	***268.22***	***268.40***	***267.42***	***267.28***	***267.70***

Notes:
1. All measurements are reported relative to an assumed elevation of the site benchmark.
2. Bold and italics wells indicate wells installed in the overburden aquifer.
3. Shaded wells indicate wells installed in the deep bedrock.
4. Unformatted wells indicate wells installed in the shallow bedrock.
5. Well MW12-3 is installed in a deep bedrock aquifer not sampled by other wells on-site.

Table 3 - Vertical Hydraulic Gradients

Monitor	Geologic Unit in Which Screen is Completed	Difference in Elevation of Bottom of Screen	Vertical Gradients +ve (shaded) = downward-ve = upward							
			26-May-20	20-Nov-20	24-Jun-21	11-Nov-21	12-Apr-22	25-Oct-22	23-Oct-23	29-Oct-24
MW01-1	Limestone/Shale	-4.91	-	-	-	-	0.03	-	-	-
MW01-2	***Clay/Gravel***									
MW02-1	Limestone/Shale	-9.92	-	-	-	-	-	-	-	-
MW02-2	***Sand/Gravel***									
MW03-1	Limestone	-3.79	0.28	0.09	-	0.09	0.11	-	-	0.22
MW03-2	***Clay/Sand/Gravel***									
MW04-1	Limestone/Shale	-2.63	0.07	0.06	0.06	0.07	0.11	0.07	0.05	0.05
MW04-2	***Gravel/Limestone***									
MW05-1	Limestone	-3.30	0.41	-	0.37	0.23	0.48	-	-	0.22
MW05-2	***Clay/Sand/Gravel***									
MW06-1	Limestone/Shale	-2.72	0.62	0.37	0.56	0.44	0.71	0.62	0.49	0.42
MW06-2	***Sand/Gravel***									
MW07-1	Limestone	-3.61	0.19	0.18	0.02	0.28	0.41	0.19	0.04	-0.01
MW07-2	***Clay/Gravel***									
MW08-1	Limestone	-3.61	-0.05	-0.31	-0.30	-0.24	0.03	-0.05	-0.27	-0.30
MW08-2	Gravel/Limestone									
MW09-1	Limestone	-3.76	-0.11	-0.23	-0.20	-0.19	-0.06	-0.11	-0.17	-0.03
MW09-2	Limestone									
MW10-1	Limestone	-3.24	-0.03	0.01	-0.02	-0.03	-0.03	-0.03	0.02	0.02
MW10-2	Limestone									
MW11-1	Limestone	-3.22	-0.07	0.00	-0.02	-0.01	0.00	-0.07	-0.02	0.03
MW11-2	Limestone									
MW12-1	Limestone	-3.37	-0.01	-0.03	-0.01	-0.03	-0.03	-0.01	-0.01	-0.03
MW12-2	Limestone									
MW12-1	Limestone	-6.25	-0.02	-0.01	-0.02	-0.02	-0.02	-0.02	0.00	-0.05
MW12-3[5]	Limestone									
MW12-2	Limestone	-2.88	0.04	-0.01	-0.02	0.00	-0.01	-0.04	0.00	-0.08
MW12-3[5]	Limestone									
MW13-1	Limestone	-2.17	-	-	-0.01	0.01	0.06	0.03	0.04	0.03
MW13-2	***Gravel/Limestone***									

Note:

1. All measurements are in meters unless otherwise stated.
2. Bold and italics wells indicate wells installed in the overburden aquifer.
3. Shaded wells indicate wells installed in the deep bedrock.
4. Unformatted wells indicate wells installed in the shallow bedrock.
5. Well MW12-3 is installed in a deep bedrock aquifer not sampled by other wells on-site.

Table 4 - Groundwater Quality - Overburden

				Location Code	MW01-2	MW03-2	MW03-2	MW03-2	MW03-2	MW03-2	MW03-2	MW03-2	MW03-2	MW03-2	MW03-2	MW03-2	MW03-2
				Date	12 Apr 2022	01 Nov 2011	24 May 2012	12 Jun 2013	05 Nov 2013	25 Jun 2014	11 Nov 2014	22 May 2015	19 Nov 2015	30 May 2016	30 May 2019	29 Oct 2019	26 May 2020
	Unit	EQL	*RUC*	**ODWQS**													
Arsenic (filtered)	µg/L	0.1	***6***	**25**	<0.1	-	-	-	-	-	1.3	0.7	1.0	0.4	0.2	0.3	0.3
Barium (filtered)	µg/L	0.01	***351***	**1,000**	171	***598***	***576***	***455***	***480***	***375***	***596***	***494***	***475***	***402***	175	237	157
Boron (filtered)	µg/L	0.2	***2,520***	**5,000**	6	315	343	326	324	355	397	420	305	303	563	827	466
Calcium (filtered)	µg/L	10			112,000	241,000	193,000	177,000	183,000	122,000	235,000	192,000	229,000	191,000	246,000	325,000	222,000
Chloride	µg/L	200		**250,000**	26,600	35,000	17,000	12,000	18,000	28,000	28,000	26,000	28,000	12,000	37,000	100,000	54,000
Iron (filtered)	µg/L	2	***158***	**300**	8	***25,500***	***22,300***	***19,300***	***7,270***	***7,850***	***14,600***	***9,160***	***4,410***	***4,820***	132	20	28
Magnesium (filtered)	µg/L	1			1,720	31,000	26,700	22,200	26,800	18,300	26,600	23,200	22,300	21,600	22,000	24,400	27,200
Manganese (filtered)	µg/L	0.01	***26***	**50**	1	-	-	-	-	-	***6,210***	***4,860***	***4,530***	***3,180***	***3,240***	***52***	***822***
Phosphorus total (P2O5)	µg/L	3			1,150	-	-	-	-	-	-	<30	<30	8	-	110	270
Potassium (filtered)	µg/L	2			200	-	-	-	-	-	24,800	20,000	20,100	19,100	16,900	21,100	22,900
Sodium (filtered)	µg/L	10		**200,000**	19,500	43,200	34,600	45,400	88,100	126,000	29,500	65,800	26,600	57,700	38,300	43,300	107,000
Zinc (filtered)	µg/L	2		**5,000**	6	-	-	-	-	-	2	3	3	4	3	4	<2
Alkalinity (total) as CaCO3	mg/L	2	***392***	**500**	270	***685***	***650***	***615***	***772***	***689***	***717***	***655***	380	286	***536***	***559***	***674***
Total Dissolved Solids	mg/L	3		**500**	311	**849**	**760**	**786**	**920**	**830**	**851**	**809**	**671**	389	**677**	**1,120**	**814**
Hardness as CaCO3 (filtered)	mg/L	0.02		**500**	287	-	-	-	-	-	-	-	-	-	-	-	-
Chemical Oxygen Demand	mg/L	5			127	70	48	44	22	28	27	33	35	26	11	20	26
Dissolved Organic Carbon (filtered)	mg/L	0.2	***4***	**5**	***4.4***	***4.4***	***11.3***	4.0	***10.0***	***11.5***	***8.9***	-	-	-	-	-	-
Phenols (4AAP)	mg/L	0.001			<0.001	-	-	-	-	-	-	0.002	<0.002	0.004	<0.001	0.002	<0.001
Sulphate (filtered)	mg/L	0.2		**500**	3	17	24	59	23	95	50	80	84	35	70	210	89
Ammonia as N	mg/L	0.01			0.09	1.0	2.3	0.8	0.6	2.5	2.5	3.2	0.6	1.9	0.7	0.1	0.6
Nitrate (as N)	mg/L	0.05		**10**	0.18	<0.05	0.59	<0.06	0.19	<0.06	0.32	0.09	1.23	0.12	1.01	5.39	1.76
Total Kjeldahl Nitrogen	mg/L	0.1			7.5	-	-	-	-	-	-	3.4	0.6	2.3	0.6	<0.5	1.3
Electrical Conductivity (Lab)	µS/cm	1			599	1,350	1,220	1,230	1,470	1,360	1,360	1,280	1,120	710	1,110	1,630	1,360
pH (Lab)	-	0.05		**6.5-8.5**	8.17	7.82	7.51	7.59	7.85	7.47	7.99	7.89	7.46	7.86	7.42	7.58	7.36
DO (Field)	mg/L				10.56	-	-	-	-	-	-	-	-	-	3.7	-	-
Redox (Field)	mV				25	-	-	-	-	-	-	-	-	-	86	-	-
Temperature (Field)	°C				6.9	-	-	-	-	-	-	-	-	-	11.3	-	13.6
Conductivity (field)	µS/cm				519	-	-	-	-	-	-	-	-	-	490	-	-
pH (Field)	-			**6.5-8.5**	6.9	-	-	-	-	-	-	-	-	-	7	-	6.9

Table 4 - Groundwater Quality - Overburden

				Location Code	MW03-2	MW03-2	MW03-2	MW04-2	MW04-2	MW04-2	MW04-2	MW04-2	MW04-2	MW04-2	MW04-2	MW04-2	MW04-2	MW04-2
				Date	18 Nov 2020	11 Nov 2021	12 Apr 2022	01 Nov 2011	28 May 2012	12 Jun 2013	05 Nov 2013	25 Jun 2014	11 Nov 2014	22 May 2015	19 Nov 2015	30 May 2016	04 Oct 2017	30 May 2019
	Unit	EQL	*RUC*	**ODWQS**														
Arsenic (filtered)	µg/L	0.1	***6***	**25**	0.3	0.3	0.2	-	-	-	-	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Barium (filtered)	µg/L	0.01	***351***	**1,000**	240	320	264	139	120	88.0	103	99.7	140	115	156	99.5	177	87.7
Boron (filtered)	µg/L	0.2	***2,520***	**5,000**	408	550	445	29.4	30.7	15.3	13.0	13.2	42.1	85.3	68.2	28	45	34
Calcium (filtered)	µg/L	10			296,000	296,000	257,000	123,000	104,000	83,200	97,400	98,200	130,000	102,000	140,000	110,000	128,000	92,900
Chloride	µg/L	200		**250,000**	59,000	67,700	21,200	48,000	12,000	4,700	2,900	7,300	23,000	16,000	32,000	35,000	70,000	2,000
Iron (filtered)	µg/L	2	***158***	**300**	***1,390***	147	***248***	<3	<3	5	<3	<2	<2	<2	18	16	<7	<7
Magnesium (filtered)	µg/L	1			24,100	28,500	27,600	3,390	3,320	2,230	2,410	2,000	2,930	2,990	5,260	2,490	4,240	2,200
Manganese (filtered)	µg/L	0.01	***26***	**50**	***1,010***	***1,400***	***2,820***	-	-	-	-	-	0.28	0.26	***200***	3.31	1.13	0.41
Phosphorus total (P2O5)	µg/L	3			560	90	80	-	-	-	-	-	-	<30	<30	3	<30	-
Potassium (filtered)	µg/L	2			26,600	25,100	19,800	-	-	-	-	-	903	960	3,970	608	2,170	729
Sodium (filtered)	µg/L	10		**200,000**	45,700	59,200	45,200	20,000	11,700	7,010	8,390	5,820	12,000	13,600	27,400	7,230	26,000	5,320
Zinc (filtered)	µg/L	2		**5,000**	5	<5	<5	-	-	-	-	-	2	<2	3	<2	<2	<2
Alkalinity (total) as CaCO3	mg/L	2	***392***	**500**	***841***	***745***	***694***	265	269	226	242	274	321	272	270	279	302	218
Total Dissolved Solids	mg/L	3		**500**	**900**	**907**	**771**	434	289	254	231	320	394	329	300	303	463	186
Hardness as CaCO3 (filtered)	mg/L	0.02		**500**	-	**857**	**756**	-	-	-	-	-	-	-	-	-	-	-
Chemical Oxygen Demand	mg/L	5			<8	40	26	11	<8	<8	<8	<8	<8	12	<8	11	<8	<8
Dissolved Organic Carbon (filtered)	mg/L	0.2	***4***	**5**	-	***10.1***	***11.8***	2.2	2.8	2.1	1.1	2.4	3.9	-	-	-	-	-
Phenols (4AAP)	mg/L	0.001			<0.001	<0.002	<0.001	-	-	-	-	-	-	0.001	0.004	0.002	<0.001	<0.001
Sulphate (filtered)	mg/L	0.2		**500**	62	51	31	14	10	6.8	3.6	6.8	8.1	11	9	14	13	<2
Ammonia as N	mg/L	0.01			1.5	0.62	0.54	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	0.1	0.4	<0.1	<0.1
Nitrate (as N)	mg/L	0.05		**10**	5.18	0.42	1.4	0.72	0.15	0.06	0.44	<0.06	0.21	0.20	0.64	0.89	0.68	<0.06
Total Kjeldahl Nitrogen	mg/L	0.1			2.2	1.7	1.1	-	-	-	-	-	-	<0.5	<0.5	0.6	<0.5	<0.5
Electrical Conductivity (Lab)	µS/cm	1			1,360	1,660	1,420	710	549	468	474	520	679	569	537	558	769	320
pH (Lab)	-	0.05		**6.5-8.5**	7.63	7.53	7.56	7.98	7.82	7.88	8.25	7.95	8.14	8.06	7.94	7.99	7.94	7.77
DO (Field)	mg/L				7.2	4.28	2.97	-	-	-	-	-	-	-	-	-	-	8.6
Redox (Field)	mV				29	85	4	-	-	-	-	-	-	-	-	-	-	-23
Temperature (Field)	°C				10	9.7	7.2	-	-	-	-	-	-	-	-	-	-	10.3
Conductivity (field)	µS/cm				973	671	1,236	-	-	-	-	-	-	-	-	-	-	295
pH (Field)	-			**6.5-8.5**	7.1	6.78	6.81	-	-	-	-	-	-	-	-	-	-	7.8

Table 4 - Groundwater Quality - Overburden

				Location Code	MW04-2	MW04-2	MW04-2	MW04-2	MW04-2	MW04-2	MW04-2	MW05-2	MW05-2	MW05-2	MW05-2	MW05-2	MW05-2
				Date	29 Oct 2019	26 May 2020	18 Nov 2020	24 Jun 2021	11 Nov 2021	12 Apr 2022	25 Oct 2022	30 May 2019	26 May 2020	24 Jun 2021	11 Nov 2021	12 Apr 2022	29 Oct 2024
	Unit	EQL	***RUC***	**ODWQS**													
Arsenic (filtered)	µg/L	0.1	***6***	**25**	<0.2	<0.2	<0.2	0.1	<0.1	<0.1	0.1	0.7	1.4	3.1	4.2	0.9	***7***
Barium (filtered)	µg/L	0.01	***351***	**1,000**	156	90	128	136	160	101	223	***667***	***700***	***910***	***936***	***517***	***1,090***
Boron (filtered)	µg/L	0.2	***2,520***	**5,000**	36	22	34	33	41	24	49	401	427	662	477	273	692
Calcium (filtered)	µg/L	10			120,000	90,800	115,000	122,000	121,000	95,100	160,000	281,000	264,000	269,000	245,000	258,000	230,000
Chloride	µg/L	200		**250,000**	34,000	5,000	53,000	26,200	31,400	9,700	92,000	93,000	110,000	172,000	149,000	36,800	241,000
Iron (filtered)	µg/L	2	***158***	**300**	<7	<7	11	135	<5	8	***250***	***13,300***	***26,100***	***34,400***	***42,100***	***10,800***	***50,200***
Magnesium (filtered)	µg/L	1			3,750	2,640	3,240	4,040	3,960	3,000	5,200	27,800	29,000	33,400	26,800	23,300	30,100
Manganese (filtered)	µg/L	0.01	***26***	**50**	0.99	0.73	2.54	20	2	1	***37***	***6,610***	***8,520***	***6,230***	***4,300***	***4,680***	***3,450***
Phosphorus total (P2O5)	µg/L	3			390	550	520	420	1,270	580	600	-	320	410	760	440	<100
Potassium (filtered)	µg/L	2			1,560	911	1,280	1,600	2,000	800	2,400	24,400	27,200	41,800	40,700	16,900	49,900
Sodium (filtered)	µg/L	10		**200,000**	24,400	7,430	16,100	16,300	26,000	10,000	41,100	63,600	77,100	117,000	83,800	38,700	146,000
Zinc (filtered)	µg/L	2		**5,000**	2	<2	<2	<5	<5	<5	<5	4	6	6	7	<5	-
Alkalinity (total) as CaCO3	mg/L	2	***392***	**500**	287	382	***490***	263	270	226	299	***806***	***780***	***826***	***700***	***679***	***732***
Total Dissolved Solids	mg/L	3		**500**	374	251	406	308	334	251	470	**934**	**900**	**1,080**	**983**	**752**	**1,190**
Hardness as CaCO3 (filtered)	mg/L	0.02		**500**	-	-	-	322	319	250	422	-	-	**810**	**723**	**741**	**698**
Chemical Oxygen Demand	mg/L	5			<8	10	<8	42	13	50	60	47	62	113	160	79	6,130
Dissolved Organic Carbon (filtered)	mg/L	0.2	***4***	**5**	-	-	-	3.4	1.7	2.5	0.4	-	-	***14.1***	***10.5***	***14***	***31***
Phenols (4AAP)	mg/L	0.001			<0.001	0.001	<0.001	<0.002	<0.002	<0.001	<0.001	0.005	0.005	<0.002	<0.002	<0.001	<0.001
Sulphate (filtered)	mg/L	0.2		**500**	6	4	13	13	10	7	14	9	9	7	9	15	4
Ammonia as N	mg/L	0.01			<0.1	<0.1	<0.1	0.02	0.03	0.01	0.01	11	13.6	26.4	23.2	7.8	39.7
Nitrate (as N)	mg/L	0.05		**10**	0.45	<0.06	1.49	0.55	0.49	0.16	1.44	0.23	0.07	0.2	0.1	<0.05	<0.4
Total Kjeldahl Nitrogen	mg/L	0.1			<0.5	<0.5	<0.5	0.3	0.5	0.4	0.4	11.8	13.5	30.3	30.4	10	104
Electrical Conductivity (Lab)	µS/cm	1			705	415	680	594	644	485	887	1,600	1,560	1,960	1,790	1,390	2,150
pH (Lab)	-	0.05		**6.5-8.5**	7.93	7.79	7.76	7.8	7.75	7.55	7.78	6.86	7.18	7.67	7.56	7.44	7.25
DO (Field)	mg/L				10.5	-	8.5	9.71	7.53	7.32	5.98	9.6	-	6.67	6.47	4.49	4.22
Redox (Field)	mV				134	-	32	145	28	45	-141	101	-	140	121	-37	-232
Temperature (Field)	°C				10.3	13	10.6	9	9.5	5.8	13	12.1	13.1	9.3	8.5	6.9	8.9
Conductivity (field)	µS/cm				565	-	458	569	277	412	841	1,236	-	1,962	786	1,294	1,615
pH (Field)	-			**6.5-8.5**	8.1	7.6	7.6	7.53	7.1	7.11	7.13	7	6.7	7.15	6.63	6.62	6.67

Table 4 - Groundwater Quality - Overburden

				Location Code	MW06-2	MW06-2	MW06-2	MW06-2	MW06-2	MW06-2	MW06-2	MW06-2	MW06-2	MW06-2	MW06-2	MW06-2	MW06-2	MW06-2
				Date	01 Nov 2011	24 May 2012	24 Oct 2012	12 Jun 2013	05 Nov 2013	25 Jun 2014	11 Nov 2014	22 May 2015	19 Nov 2015	30 May 2016	01 Nov 2016	04 Oct 2017	30 May 2019	29 Oct 2019
	Unit	EQL	***RUC***	**ODWQS**														
Arsenic (filtered)	µg/L	0.1	***6***	**25**	-	-	-	-	-	-	1.4	1.1	0.8	0.6	1.4	1.4	1.6	1.2
Barium (filtered)	µg/L	0.01	***351***	**1,000**	***458***	***390***	***488***	***360***	***408***	***528***	***432***	***453***	***399***	***403***	***499***	***529***	***685***	***467***
Boron (filtered)	µg/L	0.2	***2,520***	**5,000**	649	612	772	486	603	754	836	737	551	589	876	688	831	753
Calcium (filtered)	µg/L	10			305,000	304,000	269,000	308,000	285,000	372,000	302,000	354,000	276,000	319,000	271,000	344,000	372,000	322,000
Chloride	µg/L	200		**250,000**	98,000	65,000	110,000	75,000	82,000	100,000	120,000	120,000	74,000	62,000	140,000	130,000	80,000	110,000
Iron (filtered)	µg/L	2	***158***	**300**	***714***	***731***	***2,370***	***645***	***855***	***6,020***	***1,070***	***4,100***	***1,960***	***3,110***	***4,360***	***8,920***	***15,600***	***3,860***
Magnesium (filtered)	µg/L	1			41,600	46,700	46,300	39,400	39,100	52,700	41,000	46,100	34,100	32,200	43,000	43,400	48,000	30,800
Manganese (filtered)	µg/L	0.01	***26***	**50**	-	-	-	-	-	-	***8,730***	***12,400***	***6,730***	***6,390***	***7,320***	***10,500***	***8,400***	***5,340***
Phosphorus total (P2O5)	µg/L	3			-	-	-	-	-	-	-	<30	<30	72	23	<30	-	60
Potassium (filtered)	µg/L	2			-	-	-	-	-	-	54,900	33,900	42,500	36,400	48,400	36,000	40,300	33,900
Sodium (filtered)	µg/L	10		**200,000**	88,200	87,800	107,000	83,500	87,300	97,300	103,000	123,000	73,400	76,600	135,000	107,000	109,000	101,000
Zinc (filtered)	µg/L	2		**5,000**	-	-	-	-	-	-	<2	3	2	4	6	<2	5	<2.00000
Alkalinity (total) as CaCO3	mg/L	2	***392***	**500**	***860***	***1,030***	***969***	***1,050***	***865***	***1,066***	***1,020***	***1,100***	***938***	***971***	***1,050***	***1,048***	***792***	***951***
Total Dissolved Solids	mg/L	3		**500**	**1,260**	**1,420**	**1,450**	**1,430**	**1,310**	**1,650**	**1,350**	**1,520**	**1,190**	**1,310**	**1,300**	**1,710**	**1,010**	**1,240**
Hardness as CaCO3 (filtered)	mg/L	0.02		**500**	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chemical Oxygen Demand	mg/L	5			60	56	71	70	54	102	69	101	58	69	82	99	70	68
Dissolved Organic Carbon (filtered)	mg/L	0.2	***4***	**5**	***14.0***	***26.2***	***28.0***	***28.4***	***30.6***	***48.4***	***36.1***	-	-	-	-	-	-	-
Phenols (4AAP)	mg/L	0.001			-	-	-	-	-	-	-	0.001	0.003	0.003	0.002	0.005	0.006	0.006
Sulphate (filtered)	mg/L	0.2		**500**	120	120	110	140	130	240	100	140	87	150	55	210	170	61
Ammonia as N	mg/L	0.01			10.0	8.4	16.6	8.3	13.1	20.0	17.1	10.4	21.1	17.0	25.4	18.7	22.1	23.3
Nitrate (as N)	mg/L	0.05		**10**	<0.05	0.30	0.99	<0.06	0.11	<0.06	0.11	<0.06	<0.06	0.10	<0.06	0.08	<0.06	3.72
Total Kjeldahl Nitrogen	mg/L	0.1			-	-	-	-	-	-	-	12.7	21.9	17.5	26.2	22.6	22.5	25.4
Electrical Conductivity (Lab)	µS/cm	1			1,980	2,090	2,260	2,190	1,980	2,350	2,140	2,070	1,940	2,090	2,170	2,490	1,640	2,010
pH (Lab)	-	0.05		**6.5-8.5**	7.76	7.43	7.36	7.50	7.67	7.45	8.00	7.25	7.50	7.47	7.31	7.25	6.98	7.6
DO (Field)	mg/L				-	-	-	-	-	-	-	-	-	-	-	-	3.3	11.8
Redox (Field)	mV				-	-	-	-	-	-	-	-	-	-	-	-	-88	55
Temperature (Field)	°C				-	-	-	-	-	-	-	-	-	-	-	-	11.7	10.9
Conductivity (field)	µS/cm				-	-	-	-	-	-	-	-	-	-	-	-	1,953	832
pH (Field)	-			**6.5-8.5**	-	-	-	-	-	-	-	-	-	-	-	-	6.9	6.7

Table 4 - Groundwater Quality - Overburden

				Location Code	MW06-2	MW06-2	MW06-2	MW06-2	MW06-2	MW06-2	MW06-2	MW06-2	MW07-2	MW07-2	MW07-2	MW07-2	MW07-2
				Date	26 May 2020	18 Nov 2020	24 Jun 2021	11 Nov 2021	12 Apr 2022	25 Oct 2022	23 Oct 2023	29 Oct 2024	01 Nov 2011	28 May 2012	12 Jun 2013	05 Nov 2013	25 Jun 2014
	Unit	EQL	*RUC*	**ODWQS**													
Arsenic (filtered)	µg/L	0.1	***6***	**25**	0.6	1	2.4	1.7	1.4	3	1.8	1.8	-	-	-	-	-
Barium (filtered)	µg/L	0.01	***351***	**1,000**	***544***	***401***	***699***	***540***	***502***	***635***	***564***	***626***	290	183	125	148	114
Boron (filtered)	µg/L	0.2	***2,520***	**5,000**	739	557	1,080	833	625	921	810	904	179	73.3	94.8	54.4	36.6
Calcium (filtered)	µg/L	10			342,000	305,000	310,000	268,000	300,000	248,000	261,000	247,000	158,000	104,000	98,000	98,200	82,600
Chloride	µg/L	200		**250,000**	92,000	140,000	167,000	98,800	34,900	115,000	133,000	131,000	25,000	12,000	38,000	14,000	10,000
Iron (filtered)	µg/L	2	***158***	**300**	***7,210***	***4,590***	***21,700***	***9,810***	***13,100***	***12,200***	***8,390***	***12,200***	<3	<3	<3	<3	<2
Magnesium (filtered)	µg/L	1			42,400	33,100	47,100	35,700	37,300	39,500	35,800	37,300	13,100	6,730	7,590	4,760	2,980
Manganese (filtered)	µg/L	0.01	***26***	**50**	***8,490***	***6,340***	***8,580***	***7,250***	***7,750***	***6,840***	***6,660***	***5,430***	-	-	-	-	-
Phosphorus total (P2O5)	µg/L	3			80	40	40	30	130	220	190	<100	-	-	-	-	-
Potassium (filtered)	µg/L	2			38,400	33,400	51,400	43,700	34,400	49,400	41,200	49,200	-	-	-	-	-
Sodium (filtered)	µg/L	10		**200,000**	90,800	91,000	158,000	101,000	62,200	125,000	103,000	139,000	35,500	20,700	22,500	21,400	8,430
Zinc (filtered)	µg/L	2		**5,000**	3	3	6	<5	<5	<5	-	-	-	-	-	-	-
Alkalinity (total) as CaCO3	mg/L	2	***392***	**500**	***1,090***	***973***	***1,120***	***876***	***825***	***969***	***1,000***	***892***	361	317	278	273	332
Total Dissolved Solids	mg/L	3		**500**	**1,370**	**1,200**	**1,350**	**1,100**	**986**	**1,180**	**1,220**	**1,190**	**566**	360	354	309	380
Hardness as CaCO3 (filtered)	mg/L	0.02		**500**	-	-	**969**	**817**	**903**	**783**	**800**	**771**	-	-	-	-	-
Chemical Oxygen Demand	mg/L	5			102	98	119	73	100	125	108	93	17	<8	14	<8	9
Dissolved Organic Carbon (filtered)	mg/L	0.2	***4***	**5**	-	-	***22.3***	***17.7***	***20***	***11.1***	***20.2***	***34.3***	2.9	***5.5***	4.0	3.7	3.5
Phenols (4AAP)	mg/L	0.001			0.005	<0.001	<0.002	<0.002	<0.001	0.004	<0.001	<0.001	-	-	-	-	-
Sulphate (filtered)	mg/L	0.2		**500**	150	64	83	65	95	25	50	52	14	9.7	11	12	16
Ammonia as N	mg/L	0.01			31.8	27	43	28.4	23.1	37	31.5	38.7	<0.1	<0.1	<0.1	<0.1	<0.1
Nitrate (as N)	mg/L	0.05		**10**	<0.06	0.14	0.06	<0.05	<0.05	0.25	0.73	<0.4	1.01	0.15	0.15	0.21	0.09
Total Kjeldahl Nitrogen	mg/L	0.1			32.8	28.7	48	30.8	25	44.3	-	38	-	-	-	-	-
Electrical Conductivity (Lab)	µS/cm	1			2,190	1,940	2,440	1,990	1,800	2,140	2,210	2,150	845	650	628	578	680
pH (Lab)	-	0.05		**6.5-8.5**	7.25	7.67	7.54	7.64	7.51	7.37	7.6	7.45	7.96	7.72	7.84	8.21	7.73
DO (Field)	mg/L				-	7.4	8.96	8.02	5.44	5.75	5.69	4.4	-	-	-	-	-
Redox (Field)	mV				-	-72	162	102	-50	-150	-53	-8	-	-	-	-	-
Temperature (Field)	°C				12.9	10.6	10	9.7	8.7	11.8	11.3	9.7	-	-	-	-	-
Conductivity (field)	µS/cm				-	973	2,433	788	1,691	17	1,958	1,594	-	-	-	-	-
pH (Field)	-			**6.5-8.5**	6.6	7	7.29	6.83	6.68	6.72	6.66	6.87	-	-	-	-	-

Table 4 - Groundwater Quality - Overburden

				Location Code	MW07-2	MW07-2	MW07-2	MW07-2	MW07-2	MW07-2	MW07-2	MW07-2	MW07-2	MW07-2	MW07-2	MW07-2	MW07-2
				Date	11 Nov 2014	22 May 2015	19 Nov 2015	30 May 2016	04 Oct 2017	30 May 2019	29 Oct 2019	26 May 2020	18 Nov 2020	24 Jun 2021	11 Nov 2021	12 Apr 2022	25 Oct 2022
	Unit	EQL	***RUC***	**ODWQS**													
Arsenic (filtered)	µg/L	0.1	***6***	**25**	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	0.4	<0.2	<0.2	0.2	0.2	0.2	0.2
Barium (filtered)	µg/L	0.01	***351***	**1,000**	273	326	248	221	***375***	87.6	211	83.8	183	***416***	***364***	175	***643***
Boron (filtered)	µg/L	0.2	***2,520***	**5,000**	175	254	112	121	260	55	138	46	62	324	294	110	550
Calcium (filtered)	µg/L	10			151,000	152,000	126,000	129,000	190,000	72,100	130,000	74,600	134,000	200,000	177,000	106,000	211,000
Chloride	µg/L	200		**250,000**	68,000	64,000	36,000	6,000	76,000	6,000	35,000	10,000	53,000	104,000	80,300	35,200	118,000
Iron (filtered)	µg/L	2	***158***	**300**	5	3	10	40	12	8	<7	<7	16	51	31	129	11
Magnesium (filtered)	µg/L	1			9,310	15,400	6,440	8,970	16,100	3,710	10,100	3,180	7,130	21,300	16,900	9,810	27,000
Manganese (filtered)	µg/L	0.01	***26***	**50**	***217***	***236***	***152***	***159***	1.16	0.92	0.29	0.3	2.94	22	7	***42***	***218***
Phosphorus total (P2O5)	µg/L	3			-	90	<30	4	180	-	60	90	60	80	50	190	390
Potassium (filtered)	µg/L	2			4,930	7,210	2,880	4,750	8,690	1,330	5,410	631	2,600	10,300	8,200	3,900	18,700
Sodium (filtered)	µg/L	10		**200,000**	24,000	46,400	21,000	26,700	50,200	17,300	29,800	12,600	17,000	82,800	69,900	36,800	105,000
Zinc (filtered)	µg/L	2		**5,000**	<2	2	<2	<2	<2	2	<2	<2	<2	<5	<5	<5	<5
Alkalinity (total) as CaCO3	mg/L	2	***392***	**500**	368	***414***	316	356	***530***	191	322	212	***397***	***510***	***474***	291	***593***
Total Dissolved Solids	mg/L	3		**500**	466	**557**	411	429	**791**	209	451	223	**611**	**659**	**659**	372	**871**
Hardness as CaCO3 (filtered)	mg/L	0.02		**500**	-	-	-	-	-	-	-	-	-	**588**	**511**	304	**639**
Chemical Oxygen Demand	mg/L	5			14	24	10	<8	23	<8	<8	10	<8	33	33	17	99
Dissolved Organic Carbon (filtered)	mg/L	0.2	***4***	**5**	***7.2***	-	-	-	-	-	-	-	-	***9.1***	***6.7***	***5.6***	***5.8***
Phenols (4AAP)	mg/L	0.001			-	<0.001	<0.002	0.002	0.001	<0.001	<0.001	0.002	<0.001	<0.002	<0.002	<0.001	<0.001
Sulphate (filtered)	mg/L	0.2		**500**	23	36	14	8	47	11	15	5	19	37	29	18	38
Ammonia as N	mg/L	0.01			0.4	0.4	0.3	0.1	0.4	<0.1	<0.1	<0.1	<0.1	0.39	0.06	0.03	2.21
Nitrate (as N)	mg/L	0.05		**10**	1.41	0.47	0.77	0.09	0.19	0.08	1.36	<0.06	1.62	0.48	4.96	0.59	**10.9**
Total Kjeldahl Nitrogen	mg/L	0.1			-	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.9	0.7	0.5	4
Electrical Conductivity (Lab)	µS/cm	1			799	952	713	755	1,240	331	691	383	840	1,220	1,220	717	1,590
pH (Lab)	-	0.05		**6.5-8.5**	8.06	7.90	7.89	8.09	7.81	7.84	7.92	7.95	7.78	7.72	7.8	7.59	7.75
DO (Field)	mg/L				-	-	-	-	-	9.8	9.8	-	10.2	6.88	7.35	9.28	5.43
Redox (Field)	mV				-	-	-	-	-	63	86	-	31	132	135	36	-151
Temperature (Field)	°C				-	-	-	-	-	11.3	11.1	14.4	9.4	11.1	9	7.8	11.4
Conductivity (field)	µS/cm				-	-	-	-	-	370	1,662	-	579	1,048	503	648	1,525
pH (Field)	-			**6.5-8.5**	-	-	-	-	-	7.7	6.7	7.1	8	7.51	6.98	7.33	6.8

Table 4 - Groundwater Quality - Overburden

				Location Code	MW13-2	MW13-2	MW13-2	MW13-2	MW13-2	MW13-2	MW13-2	MW13-2	MW13-2	MW13-2	MW13-2	MW13-2	MW13-2
				Date	24 May 2012	24 Oct 2012	18 Jun 2013	05 Nov 2013	26 Jun 2014	11 Nov 2014	22 May 2015	19 Nov 2015	31 May 2016	01 Nov 2016	04 Oct 2017	30 May 2019	29 Oct 2019
	Unit	EQL	***RUC***	**ODWQS**													
Arsenic (filtered)	µg/L	0.1	***6***	**25**	-	-	-	-	-	0.2	0.3	<0.2	<0.2	<0.2	<0.2	<0.2	0.3
Barium (filtered)	µg/L	0.01	***351***	**1,000**	105	117	146	117	135	141	113	***567***	337	***370***	132	137	155
Boron (filtered)	µg/L	0.2	***2,520***	**5,000**	35.0	28.4	46.8	36.5	43.2	53.7	41.2	30.6	33	43	38	51	46
Calcium (filtered)	µg/L	10			107,000	110,000	126,000	111,000	110,000	131,000	107,000	307,000	230,000	176,000	118,000	139,000	144,000
Chloride	µg/L	200		**250,000**	40,000	15,000	64,000	36,000	51,000	44,000	40,000	**1,100,000**	110,000	**710,000**	70,000	51,000	58,000
Iron (filtered)	µg/L	2	***158***	**300**	6	64	6	<3	6	67	***385***	9	<7	23	71	27	19
Magnesium (filtered)	µg/L	1			3,440	2,990	4,250	3,440	3,690	3,620	3,480	7,690	5,930	4,510	3,750	4,420	4,680
Manganese (filtered)	µg/L	0.01	***26***	**50**	-	-	-	-	-	5.92	***55.7***	0.69	0.93	4.37	***137***	1.44	2.27
Phosphorus total (P2O5)	µg/L	3			-	-	-	-	-	-	<30	<30	<30	22	50	-	100
Potassium (filtered)	µg/L	2			-	-	-	-	-	3,800	2,850	5,120	4,270	4,660	3,990	3,480	3,640
Sodium (filtered)	µg/L	10		**200,000**	23,300	16,000	36,200	24,100	27,300	23,200	21,600	**436,000**	**267,000**	**442,000**	38,200	30,000	36,500
Zinc (filtered)	µg/L	2		**5,000**	-	-	-	-	-	<2	3	3	4	2	2	3	4
Alkalinity (total) as CaCO3	mg/L	2	***392***	**500**	242	290	289	279	283	312	268	252	261	***393***	285	230	331
Total Dissolved Solids	mg/L	3		**500**	410	369	460	400	383	417	403	**2,000**	491	**1,600**	454	329	474
Hardness as CaCO3 (filtered)	mg/L	0.02		**500**	-	-	-	-	-	-	-	-	-	-	-	-	-
Chemical Oxygen Demand	mg/L	5			29	<8	11	8	<8	<8	<8	39	9	<8	<8	10	<8
Dissolved Organic Carbon (filtered)	mg/L	0.2	***4***	**5**	2.5	<1	3.6	2.9	***4.8***	***4.4***	-	-	-	-	-	-	-
Phenols (4AAP)	mg/L	0.001			-	-	-	-	-	-	<0.001	0.010	0.003	0.001	<0.001	0.002	<0.001
Sulphate (filtered)	mg/L	0.2		**500**	20	13	26	22	17	16	15	20	17	45	13	18	26
Ammonia as N	mg/L	0.01			<0.1	<0.1	<0.1	<0.1	0.5	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	0.4	<0.1
Nitrate (as N)	mg/L	0.05		**10**	0.48	0.67	1.10	1.31	0.57	1.23	0.82	1.20	0.92	2.42	0.52	0.65	2.36
Total Kjeldahl Nitrogen	mg/L	0.1			-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	0.8	<0.5
Electrical Conductivity (Lab)	µS/cm	1			636	634	784	696	675	724	632	3,680	895	3,030	774	569	833
pH (Lab)	-	0.05		**6.5-8.5**	7.87	7.69	7.79	8.10	7.95	8.10	7.94	7.79	7.99	7.60	7.47	7.51	7.82
DO (Field)	mg/L				-	-	-	-	-	-	-	-	-	-	-	7.1	8.7
Redox (Field)	mV				-	-	-	-	-	-	-	-	-	-	-	129	10
Temperature (Field)	°C				-	-	-	-	-	-	-	-	-	-	-	8.9	10.8
Conductivity (field)	µS/cm				-	-	-	-	-	-	-	-	-	-	-	292	502
pH (Field)	-			**6.5-8.5**	-	-	-	-	-	-	-	-	-	-	-	7.9	7.6

Table 4 - Groundwater Quality - Overburden

				Location Code	MW13-2	MW13-2	MW13-2	MW13-2	MW13-2	MW13-2	MW13-2	MW13-2	R1	R1	R1	R1	R1
				Date	26 May 2020	18 Nov 2020	28 Jun 2021	11 Nov 2021	12 Apr 2022	25 Oct 2022	23 Oct 2023	29 Oct 2024	18 May 2012	23 Oct 2012	10 Jun 2013	04 Nov 2013	26 Jun 2014
	Unit	EQL	***RUC***	**ODWQS**													
Arsenic (filtered)	µg/L	0.1	***6***	**25**	<0.2	<0.2	0.1	0.1	0.1	0.1	0.2	0.1	-	-	-	-	-
Barium (filtered)	µg/L	0.01	***351***	**1,000**	158	113	135	168	190	108	109	116	75.0	112	63.3	88.6	78.8
Boron (filtered)	µg/L	0.2	***2,520***	**5,000**	49	50	27	46	77	27	24	26	15.0	24.5	13.4	11.1	12.0
Calcium (filtered)	µg/L	10			149,000	126,000	123,000	143,000	165,000	95,400	95,900	108,000	89,800	98,200	89,800	102,000	99,400
Chloride	µg/L	200		**250,000**	85,000	38,000	70,300	56,700	79,000	31,000	32,900	45,600	62,000	27,000	46,000	72,000	57,000
Iron (filtered)	µg/L	2	***158***	**300**	16	46	6	<5	<5	41	125	16	17	***174***	14	12	28
Magnesium (filtered)	µg/L	1			5,680	3,550	3,930	4,390	6,690	3,020	3,050	3,260	2,820	4,010	2,910	3,270	3,200
Manganese (filtered)	µg/L	0.01	***26***	**50**	1.27	3.28	<1	<1	<1	4	4	<1	-	-	-	-	-
Phosphorus total (P2O5)	µg/L	3			30	40	70	20	30	310	130	<100	-	-	-	-	-
Potassium (filtered)	µg/L	2			4,010	2,970	3,200	4,500	4,500	2,900	3,300	4,100	-	-	-	-	-
Sodium (filtered)	µg/L	10		**200,000**	46,800	25,600	43,700	36,500	43,600	23,600	21,700	29,900	35,500	20,100	28,200	35,300	33,200
Zinc (filtered)	µg/L	2		**5,000**	12	<2	<5	<5	<5	<5	-	-	-	-	-	-	-
Alkalinity (total) as CaCO3	mg/L	2	***392***	**500**	318	314	268	318	345	250	278	268	218	239	218	242	229
Total Dissolved Solids	mg/L	3		**500**	**526**	391	399	436	**527**	311	322	353	357	343	337	403	300
Hardness as CaCO3 (filtered)	mg/L	0.02		**500**	-	-	324	375	440	251	252	282	-	-	-	-	-
Chemical Oxygen Demand	mg/L	5			15	10	<5	10	8	46	12	5	10	<8	<8	<8	<8
Dissolved Organic Carbon (filtered)	mg/L	0.2	***4***	**5**	-	-	3.3	2.7	3.8	1.3	***5***	2.9	<1	1.4	3.7	3.0	***4.1***
Phenols (4AAP)	mg/L	0.001			0.003	<0.001	<0.002	<0.002	<0.001	<0.001	<0.001	<0.001	-	-	-	-	-
Sulphate (filtered)	mg/L	0.2		**500**	22	12	12	23	22	10	12	10	4.5	18	4.1	24	1.8
Ammonia as N	mg/L	0.01			0.2	<0.1	0.02	0.02	0.16	0.03	<0.05	<0.05	<0.1	<0.1	0.1	<0.1	0.1
Nitrate (as N)	mg/L	0.05		**10**	1.27	1.12	1.71	1.28	2.42	0.4	0.16	0.68	0.43	0.74	0.84	0.77	0.60
Total Kjeldahl Nitrogen	mg/L	0.1			<0.5	<0.5	0.2	0.2	0.5	0.5	-	0.2	-	-	-	-	-
Electrical Conductivity (Lab)	µS/cm	1			862	666	763	827	989	599	621	680	614	597	584	735	590
pH (Lab)	-	0.05		**6.5-8.5**	7.41	7.77	7.68	7.72	7.4	7.72	7.46	7.81	7.93	8.12	7.93	8.21	8.05
DO (Field)	mg/L				-	4.8	6.56	2.51	2.45	4.53	10.37	3.22	-	-	-	-	-
Redox (Field)	mV				-	38	131	45	39	-142	-25	33	-	-	-	-	-
Temperature (Field)	°C				16.6	12.6	12.4	10.1	6.5	12	9.9	10.9	-	-	-	-	-
Conductivity (field)	µS/cm				-	485	715	353	859	575	592	509	-	-	-	-	-
pH (Field)	-			**6.5-8.5**	7.5	7.6	7.23	6.9	6.72	7.24	7.07	7.54	-	-	-	-	-

Table 4 - Groundwater Quality - Overburden

				Location Code	R1	R1	R1	R1	R1	R1	R1	R1	R1	R1	R1	R1	R1
				Date	22 May 2015	19 Nov 2015	30 May 2016	31 Oct 2016	24 Feb 2017	31 May 2017	04 Oct 2017	29 Oct 2019	26 May 2020	18 Nov 2020	28 Jun 2021	11 Nov 2021	12 Apr 2022
	Unit	EQL	*RUC*	**ODWQS**													
Arsenic (filtered)	µg/L	0.1	***6***	**25**	<0.2	<0.2	<0.2	0.5	<0.2	<0.2	<0.2	0.5	<0.2	<0.2	0.3	0.2	0.1
Barium (filtered)	µg/L	0.01	***351***	**1,000**	69.0	119	77.5	131	81.6	63.6	92.9	262	76.8	175	165	144	68
Boron (filtered)	µg/L	0.2	***2,520***	**5,000**	9.9	14.6	13	24	5	13	38	100	13	33	20	12	5
Calcium (filtered)	µg/L	10			95,000	119,000	110,000	134,000	110,000	85,300	107,000	111,000	83,300	131,000	123,000	112,000	80,700
Chloride	µg/L	200		**250,000**	56,000	78,000	72,000	33,000	120,000	50,000	46,000	55,000	58,000	92,000	51,700	70,900	37,200
Iron (filtered)	µg/L	2	***158***	**300**	24	28	16	***1,130***	43	<7	102	***664***	<7	22	***577***	150	44
Magnesium (filtered)	µg/L	1			3,150	4,200	3,460	6,390	3,550	2,600	3,920	7,540	2,980	4,910	4,640	3,750	2,770
Manganese (filtered)	µg/L	0.01	***26***	**50**	8.23	11.4	6.90	***52.2***	2.37	0.3	***27.1***	***3,270***	0.33	3.43	***940***	***726***	***132***
Phosphorus total (P2O5)	µg/L	3			<30	-	40	-	<30	<30	-	-	<30	-	960	2,070	9,480
Potassium (filtered)	µg/L	2			905	1,280	1,170	1,710	756	897	1,460	4,300	870	1,920	1,500	1,000	400
Sodium (filtered)	µg/L	10		**200,000**	34,500	39,800	44,900	23,800	63,000	35,900	30,400	31,000	36,000	45,900	36,500	45,200	26,600
Zinc (filtered)	µg/L	2		**5,000**	3	8	8	136	3	5	12	10	4	3	<5	<5	<5
Alkalinity (total) as CaCO3	mg/L	2	***392***	**500**	239	275	304	273	212	207	299	273	***1,710***	298	254	259	204
Total Dissolved Solids	mg/L	3		**500**	346	471	357	440	463	326	403	423	337	460	353	382	270
Hardness as CaCO3 (filtered)	mg/L	0.02		**500**	-	-	-	-	-	-	-	-	-	-	327	295	213
Chemical Oxygen Demand	mg/L	5			14	10	22	20	<8	<8	10	<8	<8	<8	450	82	342
Dissolved Organic Carbon (filtered)	mg/L	0.2	***4***	**5**	3.6	3.2	3.4	***5***	-	2	4	1	3	1	3.7	2.8	2.9
Phenols (4AAP)	mg/L	0.001			<0.002	-	0.002	-	<0.001	<0.002	-	-	<0.002	-	<0.002	<0.002	<0.001
Sulphate (filtered)	mg/L	0.2		**500**	3	63	4	30	14	5	5	18	4	15	10	10	7
Ammonia as N	mg/L	0.01			<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	<0.1	<0.1	0.08	<0.01	0.07
Nitrate (as N)	mg/L	0.05		**10**	0.25	0.54	0.29	6.02	0.26	0.29	0.68	1.43	0.09	1.78	1.58	0.39	0.14
Total Kjeldahl Nitrogen	mg/L	0.1			1.0	-	<0.5	-	<0.5	<0.5	-	-	<0.5	-	1.1	2.4	13.8
Electrical Conductivity (Lab)	µS/cm	1			626	800	726	725	817	546	680	721	611	864	679	732	521
pH (Lab)	-	0.05		**6.5-8.5**	7.99	7.69	8.03	7.98	7.90	7.88	7.61	7.93	8.03	8.14	7.74	8.03	7.54
DO (Field)	mg/L				-	-	-	-	-	-	-	-	-	-	4.89	4.1	4.48
Redox (Field)	mV				-	-	-	-	-	-	-	-	-	-	125	8	81
Temperature (Field)	°C				-	-	-	-	-	-	-	-	-	-	10.4	9.4	8
Conductivity (field)	µS/cm				-	-	-	-	-	-	-	-	-	-	678	319	456
pH (Field)	-			**6.5-8.5**	-	-	-	-	-	-	-	-	-	-	7.18	7.06	7.24

Table 4 - Groundwater Quality - Overburden

				Location Code	R1	R1	R1
				Date	25 Oct 2022	23 Oct 2023	29 Oct 2024
	Unit	EQL	*RUC*	ODWQS			
Arsenic (filtered)	µg/L	0.1	***6***	**25**	0.2	0.1	0.2
Barium (filtered)	µg/L	0.01	***351***	**1,000**	226	112	150
Boron (filtered)	µg/L	0.2	***2,520***	**5,000**	34	11	28
Calcium (filtered)	µg/L	10			122,000	78,400	112,000
Chloride	µg/L	200		**250,000**	58,100	37,400	52,400
Iron (filtered)	µg/L	2	***158***	**300**	***202***	20	58
Magnesium (filtered)	µg/L	1			5,090	3,240	4,340
Manganese (filtered)	µg/L	0.01	***26***	**50**	***1,390***	13	***68***
Phosphorus total (P2O5)	µg/L	3			10,200	20	<100
Potassium (filtered)	µg/L	2			2,200	1,200	2,000
Sodium (filtered)	µg/L	10		**200,000**	39,100	9,400	33,000
Zinc (filtered)	µg/L	2		**5,000**	<5	-	-
Alkalinity (total) as CaCO3	mg/L	2	***392***	**500**	287	273	282
Total Dissolved Solids	mg/L	3		**500**	405	329	376
Hardness as CaCO3 (filtered)	mg/L	0.02		**500**	326	209	299
Chemical Oxygen Demand	mg/L	5			355	28	257
Dissolved Organic Carbon (filtered)	mg/L	0.2	***4***	**5**	2	3.8	3.5
Phenols (4AAP)	mg/L	0.001			<0.001	<0.001	<0.001
Sulphate (filtered)	mg/L	0.2		**500**	13	10	10
Ammonia as N	mg/L	0.01			0.23	<0.05	0.13
Nitrate (as N)	mg/L	0.05		**10**	1.7	1.32	0.71
Total Kjeldahl Nitrogen	mg/L	0.1			15.3	-	5.8
Electrical Conductivity (Lab)	µS/cm	1			773	634	722
pH (Lab)	-	0.05		**6.5-8.5**	7.79	7.5	7.76
DO (Field)	mg/L				5.97	9.24	4.7
Redox (Field)	mV				-148	56	-29
Temperature (Field)	°C				11.6	10.1	9.5
Conductivity (field)	µS/cm				727	407	504
pH (Field)	-			**6.5-8.5**	7.06	7.3	7.19

Table 5 - Groundwater Quality - Shallow BR

				Location Code	MW01-1	MW01-1	MW01-1	MW01-1	MW01-1	MW01-1	MW01-1	MW01-1	MW01-1	MW01-1	MW01-1	MW01-1	MW01-1	MW01-1
				Date	01 Nov 2011	24 May 2012	24 Oct 2012	12 Jun 2013	05 Nov 2013	25 Jun 2014	14 Nov 2014	22 May 2015	19 Nov 2015	30 May 2016	01 Nov 2016	31 May 2017	04 Oct 2017	30 May 2019
	Unit	EQL	***RUC***	**ODWQS**														
Arsenic (filtered)	µg/L	0.1	***6***	**25**	-	-	-	-	-	-	1.0	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Barium (filtered)	µg/L	0.01	***423***	**1,000**	307	287	304	254	250	283	251	281	259	273	271	269	248	282
Boron (filtered)	µg/L	0.2	***2,535***	**5,000**	85.5	92.9	101	80.7	80.1	90.3	109	113	82.4	139	149	134	114	93
Calcium (filtered)	µg/L	10			170,000	154,000	147,000	137,000	139,000	150,000	146,000	156,000	152,000	183,000	159,000	169,000	158,000	175,000
Chloride	µg/L	200		**250,000**	170,000	150,000	150,000	170,000	180,000	160,000	160,000	150,000	140,000	160,000	160,000	170,000	170,000	180,000
Iron (filtered)	µg/L	2	***153***	**300**	6	7	<3	4	<3	2	<2	<2	<7	<7	<7	14	<7	<7
Magnesium (filtered)	µg/L	1			13,800	15,000	13,600	13,200	13,000	14,000	14,000	16,000	12,300	14,800	14,500	15,600	14,600	15,000
Manganese (filtered)	µg/L	0.01	***26***	**50**	-	-	-	-	-	-	0.21	0.29	0.56	0.03	12.9	0.15	6.28	0.03
Phosphorus total (P2O5)	µg/L	3			-	-	-	-	-	-	-	140	-	<30	-	<30	-	-
Potassium (filtered)	µg/L	2			-	-	-	-	-	-	6,200	5,230	4,600	5,300	5,780	5,150	4,920	5,560
Sodium (filtered)	µg/L	10		**200,000**	79,500	84,000	74,900	80,500	73,600	59,800	79,500	79,600	69,300	83,600	79,100	72,800	68,900	73,000
Zinc (filtered)	µg/L	2		**5,000**	-	-	-	-	-	-	3	5	3	<2	4	5	8	<2
Alkalinity (total) as CaCO3	mg/L	2	***396***	**500**	298	338	318	283	318	309	338	346	336	338	322	317	302	272
Total Dissolved Solids	mg/L	3		**500**	**737**	**710**	**771**	**680**	**757**	**700**	**723**	**831**	**711**	**686**	**737**	**771**	**834**	**711**
Hardness as CaCO3 (filtered)	mg/L	0.02		**500**	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chemical Oxygen Demand	mg/L	5			<8	<8	10	9	<8	<8	90	11	<8	12	<8	<8	<8	<8
Dissolved Organic Carbon (filtered)	mg/L	0.2	***4***	**5**	2.2	2.6	2.2	2.0	***5.7***	***4.2***	1.3	2.6	2.2	2.3	2	2	2	-
Phenols (4AAP)	mg/L	0.001			-	-	-	-	-	-	-	0.005	-	0.004	-	<0.002	-	0.006
Sulphate (filtered)	mg/L	0.2		**500**	77	78	80	74	73	69	73	83	73	81	81	81	81	79
Ammonia as N	mg/L	0.01			<0.1	<0.1	0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	<0.1	<0.1
Nitrate (as N)	mg/L	0.05		**10**	4.34	4.13	4.03	3.66	3.62	3.15	3.10	3.22	3.05	3.02	3.37	2.24	-	2.29
Total Kjeldahl Nitrogen	mg/L	0.1			-	-	-	-	-	-	-	<0.5	-	<0.5	-	<0.5	-	<0.5
Electrical Conductivity (Lab)	µS/cm	1			1,160	1,250	1,250	1,180	1,250	1,170	1,190	1,250	1,200	1,270	1,300	1,180	1,220	1,150
pH (Lab)	-	0.05		**6.5-8.5**	8.03	7.91	7.80	7.87	8.12	7.96	7.99	7.98	7.69	8.15	7.90	7.91	7.69	7.53
DO (Field)	mg/L				-	-	-	-	-	-	-	-	-	-	-	-	-	6.4
Redox (Field)	mV				-	-	-	-	-	-	-	-	-	-	-	-	-	164
Temperature (Field)	°C				-	-	-	-	-	-	-	-	-	-	-	-	-	8.9
Conductivity (field)	µS/cm				-	-	-	-	-	-	-	-	-	-	-	-	-	767
pH (Field)	-			**6.5-8.5**	-	-	-	-	-	-	-	-	-	-	-	-	-	7.7

Table 5 - Groundwater Quality - Shallow BR

				Location Code	MW01-1	MW01-1	MW01-1	MW01-1	MW01-1	MW01-1	MW01-1	MW01-1	MW01-1	MW03-1	MW03-1	MW03-1	MW03-1	MW03-1
				Date	29 Oct 2019	26 May 2020	18 Nov 2020	24 Jun 2021	11 Nov 2021	12 Apr 2022	25 Oct 2022	23 Oct 2023	29 Oct 2024	01 Nov 2011	24 May 2012	24 Oct 2012	12 Jun 2013	05 Nov 2013
	Unit	EQL	***RUC***	**ODWQS**														
Arsenic (filtered)	µg/L	0.1	***6***	**25**	<0.2	<0.2	<0.2	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	-	-	-	-	-
Barium (filtered)	µg/L	0.01	***423***	**1,000**	278	243	227	233	245	284	301	271	258	208	343	204	146	129
Boron (filtered)	µg/L	0.2	***2,535***	**5,000**	105	98	102	73	93	84	84	70	77	118	395	93.3	118	45.5
Calcium (filtered)	µg/L	10			178,000	178,000	177,000	165,000	156,000	191,000	185,000	176,000	166,000	186,000	163,000	147,000	126,000	121,000
Chloride	µg/L	200		**250,000**	170,000	190,000	180,000	175,000	153,000	216,000	221,000	218,000	232,000	97,000	75,000	92,000	50,000	75,000
Iron (filtered)	µg/L	2	***153***	**300**	<7.00000	<7	<7	<5	<5	<5	<5	10	<5	10	***5,920***	15	12	6
Magnesium (filtered)	µg/L	1			14,200	17,500	15,200	13,700	14,900	15,100	14,300	13,000	15,300	8,420	17,500	6,900	6,570	4,300
Manganese (filtered)	µg/L	0.01	***26***	**50**	1.85	0.02	1.09	<1	<1	<1	2	1	2	-	-	-	-	-
Phosphorus total (P2O5)	µg/L	3			-	-	-	60	880	110	2,370	60	<100	-	-	-	-	-
Potassium (filtered)	µg/L	2			5,450	5,000	5,170	4,500	5,600	5,000	5,200	4,800	5,500	-	-	-	-	-
Sodium (filtered)	µg/L	10		**200,000**	69,400	87,800	75,500	83,300	83,800	102,000	96,200	85,600	94,600	54,000	69,800	48,900	34,900	27,200
Zinc (filtered)	µg/L	2		**5,000**	<2.00000	2	3	<5	<5	<5	<5	-	-	-	-	-	-	-
Alkalinity (total) as CaCO3	mg/L	2	***396***	**500**	261	297	304	313	292	331	333	333	297	***414***	***669***	369	381	337
Total Dissolved Solids	mg/L	3		**500**	**666**	**746**	**737**	**680**	**627**	**798**	**800**	**753**	**777**	**680**	**870**	**629**	**534**	**523**
Hardness as CaCO3 (filtered)	mg/L	0.02		**500**	-	-	-	469	451	**540**	**522**	493	478	-	-	-	-	-
Chemical Oxygen Demand	mg/L	5			<8.0	<8	<8	<5	16	9	116	6	31	23	26	14	20	12
Dissolved Organic Carbon (filtered)	mg/L	0.2	***4***	**5**	<1.0	2	2	2.2	1.1	1.6	0.3	3	1.4	***4.6***	***11.2***	3.2	***4.9***	3.5
Phenols (4AAP)	mg/L	0.001			-	<0.002	-	<0.002	<0.002	<0.001	<0.001	<0.001	<0.001	-	-	-	-	-
Sulphate (filtered)	mg/L	0.2		**500**	74	90	87	79	63	74	73	66	70	34	68	26	28	23
Ammonia as N	mg/L	0.01			<0.1000	<0.1	<0.1	0.04	0.06	<0.01	0.03	0.05	0.06	1.7	17.6	1.7	2.3	<0.1
Nitrate (as N)	mg/L	0.05		**10**	2.4	2.92	2.84	2.54	1.85	2.52	2.51	2.13	1.73	0.61	0.12	4.79	0.76	0.97
Total Kjeldahl Nitrogen	mg/L	0.1			-	<0.5	-	0.3	-	0.4	2.8	-	0.4	-	-	-	-	-
Electrical Conductivity (Lab)	µS/cm	1			1,150	1,210	1,250	1,260	1,170	1,470	1,470	1,390	1,430	1,110	1,530	1,090	962	894
pH (Lab)	-	0.05		**6.5-8.5**	7.98	7.79	7.81	7.73	7.85	7.7	7.59	7.6	7.75	8.00	7.39	7.41	7.67	7.87
DO (Field)	mg/L				6.6	-	9.6	5.17	9.03	7.78	8.5	9.9	3.02	-	-	-	-	-
Redox (Field)	mV				75	-	2	151	173	43	-160	27	109	-	-	-	-	-
Temperature (Field)	°C				10.8	16.3	10.7	10.9	10.7	7.5	11.6	12	10.8	-	-	-	-	-
Conductivity (field)	µS/cm				9	-	885	1,216	435	1,240	1,442	1,365	1,033	-	-	-	-	-
pH (Field)	-			**6.5-8.5**	6.5	7.5	7.5	7.04	7.18	6.79	6.79	6.94	6.94	-	-	-	-	-

Table 5 - Groundwater Quality - Shallow BR

				Location Code	MW03-1	MW03-1	MW03-1	MW03-1	MW03-1	MW03-1	MW03-1	MW03-1	MW03-1	MW03-1	MW03-1	MW03-1	MW03-1	MW03-1
				Date	25 Jun 2014	11 Nov 2014	22 May 2015	19 Nov 2015	30 May 2016	01 Nov 2016	04 Oct 2017	30 May 2019	29 Oct 2019	26 May 2020	18 Nov 2020	24 Jun 2021	11 Nov 2021	12 Apr 2022
	Unit	EQL	***RUC***	**ODWQS**														
Arsenic (filtered)	µg/L	0.1	***6***	**25**	-	0.4	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.1	<0.1	<0.1
Barium (filtered)	µg/L	0.01	***423***	**1,000**	250	130	83.4	100	105	203	82.9	83.6	118	120	105	112	186	88
Boron (filtered)	µg/L	0.2	***2,535***	**5,000**	262	53.2	46.4	35.5	58	87	33	25	50	107	40	29	54	18
Calcium (filtered)	µg/L	10			183,000	134,000	100,000	114,000	124,000	205,000	92,600	106,000	137,000	120,000	118,000	132,000	169,000	97,600
Chloride	µg/L	200		**250,000**	96,000	73,000	22,000	68,000	43,000	110,000	32,000	24,000	56,000	57,000	43,000	73,800	104,000	27,700
Iron (filtered)	µg/L	2	***153***	**300**	5	9	7	<7	14	10	12	<7	<7.00000	8	<7	16	<5	<5
Magnesium (filtered)	µg/L	1			10,300	4,420	3,520	3,990	4,070	5,780	3,280	2,960	3,350	5,100	4,130	4,190	5,140	3,050
Manganese (filtered)	µg/L	0.01	***26***	**50**	-	***120***	0.32	12.4	20.8	***32.8***	6.11	0.24	6.2	21.9	3.96	1	4	<1
Phosphorus total (P2O5)	µg/L	3			-	-	70	-	<30	-	-	-	-	-	-	20	30	40
Potassium (filtered)	µg/L	2			-	4,760	3,040	3,580	3,990	4,780	4,170	2,860	3,590	5,120	4,750	3,300	5,100	3,200
Sodium (filtered)	µg/L	10		**200,000**	50,900	38,200	14,900	27,200	23,900	57,300	16,500	21,100	43,000	30,400	30,200	25,200	59,500	19,600
Zinc (filtered)	µg/L	2		**5,000**	-	4	2	2	2	5	4	7	4	2	<2	<5	<5	<5
Alkalinity (total) as CaCO3	mg/L	2	***396***	**500**	***615***	354	267	***400***	289	***406***	278	248	330	364	343	266	347	227
Total Dissolved Solids	mg/L	3		**500**	**900**	**506**	351	**703**	394	**849**	394	294	**534**	480	451	378	**558**	288
Hardness as CaCO3 (filtered)	mg/L	0.02		**500**	-	-	-	-	-	-	-	-	-	-	-	347	443	257
Chemical Oxygen Demand	mg/L	5			33	<8	17	8	<8	8	<8	<8	<8.0	14	<8	<5	11	<5
Dissolved Organic Carbon (filtered)	mg/L	0.2	***4***	**5**	***12.6***	***4.7***	2.6	3.5	2.2	***5***	2	-	2	***6***	2	2.9	2.5	2.5
Phenols (4AAP)	mg/L	0.001			-	-	0.003	-	0.002	-	-	<0.001	-	<0.002	-	<0.002	<0.002	<0.001
Sulphate (filtered)	mg/L	0.2		**500**	72	19	10	14	13	39	9	9	20	24	14	11	27	7
Ammonia as N	mg/L	0.01			12.6	0.3	<0.1	<0.1	<0.1	<0.1	0.3	<0.1	<0.1000	3.1	<0.1	<0.01	0.01	0.03
Nitrate (as N)	mg/L	0.05		**10**	0.08	1.52	1.01	1.06	1.43	2.97	-	1.41	2.51	1.22	1.26	1.48	1.64	1.02
Total Kjeldahl Nitrogen	mg/L	0.1			-	-	<0.5	-	<0.5	-	-	<0.5	-	3.3	-	0.2	0.4	0.3
Electrical Conductivity (Lab)	µS/cm	1			1,480	881	576	1,150	707	1,300	666	526	920	876	772	726	1,040	555
pH (Lab)	-	0.05		**6.5-8.5**	7.63	8.12	7.97	7.44	7.96	7.59	7.51	7.34	7.9	7.5	7.39	7.74	7.68	7.57
DO (Field)	mg/L				-	-	-	-	-	-	-	3.7	9.5	-	4.8	9.56	5.73	7.27
Redox (Field)	mV				-	-	-	-	-	-	-	29	49	-	28	132	69	18
Temperature (Field)	°C				-	-	-	-	-	-	-	11.7	10.9	13.1	10.5	10	10.1	7.8
Conductivity (field)	µS/cm				-	-	-	-	-	-	-	729	621	-	514	653	378	511
pH (Field)	-			**6.5-8.5**	-	-	-	-	-	-	-	7.4	6.7	7	7.6	7.84	6.99	7.06

Table 5 - Groundwater Quality - Shallow BR

				Location Code	MW03-1	MW04-1	MW04-1	MW04-1	MW04-1	MW04-1	MW04-1	MW04-1	MW04-1	MW04-1	MW04-1	MW04-1	MW04-1	MW04-1
				Date	25 Oct 2022	01 Nov 2011	24 May 2012	24 Oct 2012	12 Jun 2013	05 Nov 2013	25 Jun 2014	11 Nov 2014	22 May 2015	19 Nov 2015	30 May 2016	01 Nov 2016	04 Oct 2017	30 May 2019
	Unit	EQL	*RUC*	**ODWQS**														
Arsenic (filtered)	µg/L	0.1	***6***	**25**	<0.1	-	-	-	-	-	-	0.3	<0.2	<0.2	<0.2	0.8	<0.2	<0.2
Barium (filtered)	µg/L	0.01	***423***	**1,000**	188	206	55.3	147	135	194	153	198	166	196	117	114	131	115
Boron (filtered)	µg/L	0.2	***2,535***	**5,000**	69	100	74.9	47.9	88.8	109	115	150	98.3	105	103	563	63	69
Calcium (filtered)	µg/L	10			165,000	179,000	125,000	123,000	114,000	163,000	134,000	160,000	145,000	174,000	123,000	28,600	131,000	118,000
Chloride	µg/L	200		**250,000**	87,100	86,000	52,000	83,000	52,000	87,000	47,000	76,000	88,000	87,000	39,000	42,000	75,000	51,000
Iron (filtered)	µg/L	2	***153***	**300**	***299***	5	8	6	14	42	3	8	3	42	<7	<7	21	12
Magnesium (filtered)	µg/L	1			6,050	7,750	6,120	4,760	5,730	7,120	6,350	7,180	6,890	7,180	5,250	6,610	5,280	4,940
Manganese (filtered)	µg/L	0.01	***26***	**50**	***175***	-	-	-	-	-	-	***690***	***520***	***421***	***249***	3.25	***175***	***168***
Phosphorus total (P2O5)	µg/L	3			130	-	-	-	-	-	-	-	180	-	<30	-	-	-
Potassium (filtered)	µg/L	2			5,600	-	-	-	-	-	-	9,170	5,820	6,300	4,950	2,230	5,090	5,640
Sodium (filtered)	µg/L	10		**200,000**	44,600	52,000	13,700	37,100	36,000	42,300	35,100	44,000	51,000	40,800	31,100	146,000	32,100	37,000
Zinc (filtered)	µg/L	2		**5,000**	<5	-	-	-	-	-	-	3	6	3	2	4	2	3
Alkalinity (total) as CaCO3	mg/L	2	***396***	**500**	361	389	281	286	319	***408***	346	388	368	382	302	325	325	291
Total Dissolved Solids	mg/L	3		**500**	**530**	**609**	460	**529**	449	**617**	470	**543**	**566**	**546**	417	463	500	434
Hardness as CaCO3 (filtered)	mg/L	0.02		**500**	438	-	-	-	-	-	-	-	-	-	-	-	-	-
Chemical Oxygen Demand	mg/L	5			15	20	<8	<8	10	17	11	11	18	8	10	<8	8	<8
Dissolved Organic Carbon (filtered)	mg/L	0.2	***4***	**5**	1.8	***4.5***	2.1	1.6	***4.1***	***9.2***	***6.4***	***7.5***	***5.0***	***4.1***	2.2	<1	2	-
Phenols (4AAP)	mg/L	0.001			<0.001	-	-	-	-	-	-	-	0.004	-	0.004	-	-	0.002
Sulphate (filtered)	mg/L	0.2		**500**	17	36	25	17	22	33	28	28	23	28	15	31	14	22
Ammonia as N	mg/L	0.01			0.03	1.0	0.1	0.1	1.4	1.1	1.4	2.1	1.4	0.8	0.5	<0.1	0.6	1.2
Nitrate (as N)	mg/L	0.05		**10**	2.02	0.52	<0.05	1.50	1.01	0.90	0.71	0.66	0.70	1.11	1.38	0.12	-	1.19
Total Kjeldahl Nitrogen	mg/L	0.1			1	-	-	-	-	-	-	-	1.7	-	0.7	-	-	1.1
Electrical Conductivity (Lab)	µS/cm	1			993	1,040	720	857	793	1,050	830	923	964	964	729	798	841	713
pH (Lab)	-	0.05		**6.5-8.5**	7.67	7.99	7.87	7.72	7.74	7.83	7.61	8.11	7.87	7.71	7.94	8.20	7.44	8.08
DO (Field)	mg/L				7.39	-	-	-	-	-	-	-	-	-	-	-	-	4.1
Redox (Field)	mV				-144	-	-	-	-	-	-	-	-	-	-	-	-	-9
Temperature (Field)	°C				13.7	-	-	-	-	-	-	-	-	-	-	-	-	8.5
Conductivity (field)	µS/cm				5	-	-	-	-	-	-	-	-	-	-	-	-	477
pH (Field)	-			**6.5-8.5**	6.9	-	-	-	-	-	-	-	-	-	-	-	-	7.6

Table 5 - Groundwater Quality - Shallow BR

				Location Code	MW04-1	MW04-1	MW04-1	MW04-1	MW04-1	MW04-1	MW04-1	MW05-1	MW05-1	MW05-1	MW05-1	MW05-1	MW05-1	MW05-1
				Date	29 Oct 2019	26 May 2020	18 Nov 2020	24 Jun 2021	11 Nov 2021	12 Apr 2022	25 Oct 2022	01 Nov 2011	24 May 2012	24 Oct 2012	12 Jun 2013	05 Nov 2013	25 Jun 2014	11 Nov 2014
	Unit	EQL	***RUC***	**ODWQS**														
Arsenic (filtered)	µg/L	0.1	***6***	**25**	0.2	<0.2	<0.2	<0.1	<0.1	<0.1	<0.1	-	-	-	-	-	-	2.9
Barium (filtered)	µg/L	0.01	***423***	**1,000**	193	125	143	124	174	109	154	***473***	***543***	***458***	***429***	***507***	***576***	***617***
Boron (filtered)	µg/L	0.2	***2,535***	**5,000**	79	81	49	66	81	60	81	321	372	311	250	329	406	483
Calcium (filtered)	µg/L	10			214,000	124,000	157,000	125,000	166,000	113,000	139,000	230,000	235,000	163,000	239,000	226,000	282,000	222,000
Chloride	µg/L	200		**250,000**	90,000	47,000	57,000	54,000	96,200	36,000	69,400	140,000	77,000	100,000	77,000	120,000	140,000	120,000
Iron (filtered)	µg/L	2	***153***	**300**	125	50	21	34	<5	65	<5	***21,600***	***24,500***	***16,000***	***20,300***	***15,600***	***21,100***	***21,200***
Magnesium (filtered)	µg/L	1			7,480	6,270	5,310	5,530	6,510	4,790	5,920	18,200	21,500	15,000	17,600	18,700	22,800	19,200
Manganese (filtered)	µg/L	0.01	***26***	**50**	***69.4***	***212***	***50.9***	***147***	***106***	***63***	21	-	-	-	-	-	-	***2,170***
Phosphorus total (P2O5)	µg/L	3			-	-	-	20	4,780	1,160	1,090	-	-	-	-	-	-	-
Potassium (filtered)	µg/L	2			5,670	4,740	4,750	4,800	5,800	4,400	4,300	-	-	-	-	-	-	28,900
Sodium (filtered)	µg/L	10		**200,000**	49,200	35,100	36,000	31,400	52,800	27,700	39,900	82,400	99,300	64,700	61,700	72,800	83,800	91,300
Zinc (filtered)	µg/L	2		**5,000**	<2.00000	<2	<2	<5	<5	<5	<5	-	-	-	-	-	-	3
Alkalinity (total) as CaCO3	mg/L	2	***396***	**500**	378	329	390	296	351	279	332	***643***	***715***	***509***	***702***	356	***832***	***713***
Total Dissolved Solids	mg/L	3		**500**	**597**	389	469	392	**541**	363	470	**911**	**950**	**763**	**977**	**940**	**1,070**	**883**
Hardness as CaCO3 (filtered)	mg/L	0.02		**500**	-	-	-	335	441	302	373	-	-	-	-	-	-	-
Chemical Oxygen Demand	mg/L	5			<8.0	8	<8	<5	157	35	85	53	60	25	44	50	63	53
Dissolved Organic Carbon (filtered)	mg/L	0.2	***4***	**5**	3	2	2	***4***	2.8	3.1	1.3	***16.7***	***14.6***	***9.4***	***5.5***	***16.4***	***18.0***	***17.1***
Phenols (4AAP)	mg/L	0.001			-	<0.002	-	<0.002	<0.002	<0.001	<0.001	-	-	-	-	-	-	-
Sulphate (filtered)	mg/L	0.2		**500**	42	15	12	15	26	15	17	25	20	20	26	23	20	17
Ammonia as N	mg/L	0.01			0.4	1	0.4	0.8	0.92	0.64	0.19	8.9	7.9	11.8	7.8	10.1	9.3	13.7
Nitrate (as N)	mg/L	0.05		**10**	2.14	1.1	2.65	1.56	0.64	1.44	1.27	<0.05	0.46	<0.05	<0.06	0.20	<0.06	0.65
Total Kjeldahl Nitrogen	mg/L	0.1			-	1.2	-	1	-	1.7	1.4	-	-	-	-	-	-	-
Electrical Conductivity (Lab)	µS/cm	1			1,050	725	862	750	1,010	698	887	1,540	1,580	1,350	1,590	1,570	1,820	1,570
pH (Lab)	-	0.05		**6.5-8.5**	7.57	7.52	7.26	7.63	7.58	7.5	7.71	7.65	7.37	7.38	7.42	7.77	7.41	7.93
DO (Field)	mg/L				7.5	-	5.2	4.06	4	3.54	2.64	-	-	-	-	-	-	-
Redox (Field)	mV				138	-	-7	140	45	35	-139	-	-	-	-	-	-	-
Temperature (Field)	°C				10	12.9	9.2	8	9	6.6	12.2	-	-	-	-	-	-	-
Conductivity (field)	µS/cm				723	-	547	735	431	579	832	-	-	-	-	-	-	-
pH (Field)	-			**6.5-8.5**	7.9	7.2	7.5	7.87	6.8	6.88	6.93	-	-	-	-	-	-	-

Table 5 - Groundwater Quality - Shallow BR

				Location Code	MW05-1	MW05-1	MW05-1	MW05-1	MW05-1	MW05-1	MW05-1	MW05-1	MW05-1	MW05-1	MW05-1	MW05-1	MW05-1	MW05-1
				Date	22 May 2015	19 Nov 2015	30 May 2016	01 Nov 2016	04 Oct 2017	30 May 2019	29 Oct 2019	26 May 2020	18 Nov 2020	24 Jun 2021	11 Nov 2021	12 Apr 2022	25 Oct 2022	23 Oct 2023
	Unit	EQL	*RUC*	**ODWQS**														
Arsenic (filtered)	µg/L	0.1	***6***	**25**	2.2	3.4	1.8	3.1	3.2	1.1	3.5	0.4	2.1	3	2.3	2.7	1.9	2.6
Barium (filtered)	µg/L	0.01	***423***	**1,000**	***453***	***524***	395	***541***	***469***	***434***	***664***	***504***	***512***	***911***	***612***	***749***	***512***	***595***
Boron (filtered)	µg/L	0.2	***2,535***	**5,000**	288	304	258	430	303	213	340	276	304	502	359	390	315	337
Calcium (filtered)	µg/L	10			204,000	214,000	231,000	223,000	243,000	203,000	249,000	230,000	225,000	255,000	215,000	234,000	151,000	166,000
Chloride	µg/L	200		**250,000**	57,000	86,000	72,000	150,000	87,000	29,000	120,000	83,000	110,000	147,000	80,700	57,600	94,900	124,000
Iron (filtered)	µg/L	2	***153***	**300**	***19,400***	***22,400***	***14,000***	***23,100***	***21,400***	***11,100***	***32,600***	***3,740***	***25,000***	***44,500***	***32,000***	***39,100***	***26,400***	***30,700***
Magnesium (filtered)	µg/L	1			17,600	18,100	14,700	19,000	20,200	15,500	22,900	22,700	20,000	26,500	20,000	22,100	15,500	16,200
Manganese (filtered)	µg/L	0.01	***26***	**50**	***1,790***	***1,680***	***1,180***	***1,960***	***1,720***	***1,170***	***2,680***	***2,590***	***2,000***	***3,120***	***2,310***	***2,980***	***1,990***	***1,980***
Phosphorus total (P2O5)	µg/L	3			<30	-	<30	-	-	-	-	-	-	1,100	260	1,510	950	300
Potassium (filtered)	µg/L	2			17,700	20,900	15,500	24,800	19,800	16,100	32,200	21,800	25,100	30,000	25,500	25,300	24,300	23,600
Sodium (filtered)	µg/L	10		**200,000**	44,000	61,700	38,400	69,700	58,100	36,500	80,200	55,100	64,300	85,000	57,900	51,800	52,400	58,500
Zinc (filtered)	µg/L	2		**5,000**	<2	2	5	15	2	2	2	<2	2	<5	<5	<5	<5	-
Alkalinity (total) as CaCO3	mg/L	2	***396***	**500**	***679***	***696***	***606***	***619***	***738***	***536***	***653***	***609***	***661***	***757***	***588***	***674***	***480***	***544***
Total Dissolved Solids	mg/L	3		**500**	**811**	**843**	**689**	**934**	**1,000**	**574**	**874**	**711**	**823**	**946**	**761**	**787**	**669**	**751**
Hardness as CaCO3 (filtered)	mg/L	0.02		**500**	-	-	-	-	-	-	-	-	-	**746**	**620**	**676**	442	482
Chemical Oxygen Demand	mg/L	5			45	45	40	40	36	17	47	39	49	134	80	129	137	66
Dissolved Organic Carbon (filtered)	mg/L	0.2	***4***	**5**	***14.9***	***18.6***	3.2	***14***	***19***	-	***14***	***14***	***12***	***13.4***	***10.6***	***13.5***	***4.3***	***12.3***
Phenols (4AAP)	mg/L	0.001			0.005	-	0.006	-	-	0.002	-	0.005	-	<0.002	<0.002	<0.001	<0.001	<0.001
Sulphate (filtered)	mg/L	0.2		**500**	17	13	14	10	21	12	7	13	10	8	10	11	9	7
Ammonia as N	mg/L	0.01			7.7	11.5	6.8	14.3	9.7	5.8	14.5	6.9	11.3	16.4	13.6	14.1	14.5	14.7
Nitrate (as N)	mg/L	0.05		**10**	0.36	<0.06	0.75	0.62	-	0.71	0.24	0.24	0.53	0.09	0.12	<0.05	0.09	0.09
Total Kjeldahl Nitrogen	mg/L	0.1			10.0	-	8.7	-	-	6.2	-	6.4	-	21.5	-	18.3	19.6	-
Electrical Conductivity (Lab)	µS/cm	1			1,330	1,450	1,204	1,570	1,660	980	1,510	1,200	1,470	1,730	1,400	1,450	1,240	1,380
pH (Lab)	-	0.05		**6.5-8.5**	7.70	7.45	7.69	7.22	7.25	7.44	7.21	7.48	7.31	7.35	7.38	7.23	7.3	7.39
DO (Field)	mg/L				-	-	-	-	-	7.2	9	-	5.2	1.58	4.76	2.09	3.51	5.16
Redox (Field)	mV				-	-	-	-	-	-72	44	-	-66	96	123	-90	-152	-67
Temperature (Field)	°C				-	-	-	-	-	10.2	11.3	12.8	9.1	9	8.6	8.1	10.3	9.9
Conductivity (field)	µS/cm				-	-	-	-	-	958	1,124	-	973	1,747	600	1,352	1,175	1,361
pH (Field)	-			**6.5-8.5**	-	-	-	-	-	7.1	**6.1**	6.9	7.4	7.08	6.55	6.57	6.75	6.68

Table 5 - Groundwater Quality - Shallow BR

				Location Code	MW05-1	MW06-1	MW06-1	MW06-1	MW06-1	MW06-1	MW06-1	MW06-1	MW06-1	MW06-1	MW06-1	MW06-1	MW06-1	MW06-1
				Date	29 Oct 2024	01 Nov 2011	24 May 2012	24 Oct 2012	12 Jun 2013	05 Nov 2013	25 Jun 2014	11 Nov 2014	22 May 2015	19 Nov 2015	30 May 2016	01 Nov 2016	04 Oct 2017	30 May 2019
	Unit	EQL	***RUC***	**ODWQS**														
Arsenic (filtered)	µg/L	0.1	***6***	**25**	2.7	-	-	-	-	-	-	0.5	0.3	0.3	0.3	0.6	0.4	0.2
Barium (filtered)	µg/L	0.01	***423***	**1,000**	***664***	225	223	277	239	256	301	279	283	231	219	331	268	402
Boron (filtered)	µg/L	0.2	***2,535***	**5,000**	290	103	157	135	121	144	190	193	225	144	192	263	198	246
Calcium (filtered)	µg/L	10			155,000	152,000	138,000	159,000	150,000	149,000	164,000	164,000	164,000	139,000	148,000	191,000	151,000	198,000
Chloride	µg/L	200		**250,000**	106,000	77,000	70,000	110,000	100,000	97,000	97,000	100,000	88,000	79,000	78,000	120,000	94,000	130,000
Iron (filtered)	µg/L	2	***153***	**300**	***28,400***	***1,690***	***1,200***	***2,200***	***1,500***	***1,270***	***1,490***	***2,300***	***949***	***679***	***759***	***2,320***	***1,320***	***684***
Magnesium (filtered)	µg/L	1			16,000	8,790	9,860	9,590	9,190	9,380	10,500	9,070	11,100	8,090	8,300	12,100	10,100	13,800
Manganese (filtered)	µg/L	0.01	***26***	**50**	***1,770***	-	-	-	-	-	-	***1,440***	***1,270***	***1,030***	***338***	***1,270***	***1,150***	***1,530***
Phosphorus total (P2O5)	µg/L	3			<100	-	-	-	-	-	-	-	80	-	60	-	-	-
Potassium (filtered)	µg/L	2			23,600	-	-	-	-	-	-	11,900	11,900	9,690	10,500	15,000	12,000	18,300
Sodium (filtered)	µg/L	10		**200,000**	60,300	46,200	51,400	53,300	56,400	57,500	55,200	59,500	63,500	45,600	49,800	68,300	62,200	71,400
Zinc (filtered)	µg/L	2		**5,000**	-	-	-	-	-	-	-	2	7	3	5	2	5	3
Alkalinity (total) as CaCO3	mg/L	2	***396***	**500**	***465***	346	387	***401***	388	370	***453***	***412***	***473***	382	***413***	***485***	***490***	***468***
Total Dissolved Solids	mg/L	3		**500**	**672**	**563**	**560**	**654**	**609**	**597**	**640**	**634**	**703**	**571**	**609**	**754**	**654**	**749**
Hardness as CaCO3 (filtered)	mg/L	0.02		**500**	453	-	-	-	-	-	-	-	-	-	-	-	-	-
Chemical Oxygen Demand	mg/L	5			178	20	12	10	25	11	19	<8	21	20	10	17	17	25
Dissolved Organic Carbon (filtered)	mg/L	0.2	***4***	**5**	***12.7***	***3.7***	***5.2***	***4.3***	***10.3***	***5.6***	***9.2***	***5.8***	***6.5***	***4.4***	***5.4***	***8***	***6***	-
Phenols (4AAP)	mg/L	0.001			<0.001	-	-	-	-	-	-	-	0.003	-	0.004	-	-	0.006
Sulphate (filtered)	mg/L	0.2		**500**	9	33	57	45	35	43	42	43	43	34	36	49	37	44
Ammonia as N	mg/L	0.01			14.8	2.1	3.5	3.1	2.4	3.3	3.7	3.3	3.5	3.5	3.2	4.4	4.5	6.6
Nitrate (as N)	mg/L	0.05		**10**	<0.05	0.10	0.26	0.32	0.89	0.21	<0.06	0.66	0.37	0.08	0.81	0.26	-	0.65
Total Kjeldahl Nitrogen	mg/L	0.1			18.4	-	-	-	-	-	-	-	3.7	-	3.2	-	-	6.6
Electrical Conductivity (Lab)	µS/cm	1			1,240	953	967	1,180	1,090	1,070	1,150	1,100	1,160	977	1,058	1,350	1,180	1,260
pH (Lab)	-	0.05		**6.5-8.5**	7.39	8.04	7.57	7.53	7.76	7.86	7.57	8.01	7.81	7.70	7.85	7.63	7.45	7.21
DO (Field)	mg/L				1.35	-	-	-	-	-	-	-	-	-	-	-	-	4.2
Redox (Field)	mV				-40	-	-	-	-	-	-	-	-	-	-	-	-	-60
Temperature (Field)	°C				9.2	-	-	-	-	-	-	-	-	-	-	-	-	11.2
Conductivity (field)	µS/cm				947	-	-	-	-	-	-	-	-	-	-	-	-	918
pH (Field)	-			**6.5-8.5**	6.62	-	-	-	-	-	-	-	-	-	-	-	-	7.2

Table 5 - Groundwater Quality - Shallow BR

				Location Code	MW06-1	MW06-1	MW06-1	MW06-1	MW06-1	MW06-1	MW06-1	MW06-1	MW06-1	MW07-1	MW07-1	MW07-1	MW07-1	MW07-1
				Date	29 Oct 2019	26 May 2020	18 Nov 2020	24 Jun 2021	11 Nov 2021	12 Apr 2022	25 Oct 2022	23 Oct 2023	29 Oct 2024	01 Nov 2011	24 May 2012	24 Oct 2012	12 Jun 2013	05 Nov 2013
	Unit	EQL	***RUC***	**ODWQS**														
Arsenic (filtered)	µg/L	0.1	***6***	**25**	0.4	0.3	0.4	0.3	0.2	0.3	0.4	0.3	0.3	-	-	-	-	-
Barium (filtered)	µg/L	0.01	***423***	**1,000**	337	330	278	233	262	215	286	218	289	105	95.7	108	101	113
Boron (filtered)	µg/L	0.2	***2,535***	**5,000**	227	207	176	87	79	122	227	100	106	519	566	564	491	476
Calcium (filtered)	µg/L	10			217,000	172,000	172,000	151,000	189,000	125,000	140,000	126,000	188,000	32,600	29,600	26,000	26,100	27,600
Chloride	µg/L	200		**250,000**	120,000	92,000	120,000	124,000	167,000	84,000	86,100	94,600	183,000	42,000	42,000	42,000	46,000	44,000
Iron (filtered)	µg/L	2	***153***	**300**	***1,340***	***410***	***1,630***	***717***	***1,100***	***424***	***2,110***	***1,190***	***1,380***	3	8	7	6	3
Magnesium (filtered)	µg/L	1			11,000	13,900	11,500	8,040	8,340	8,230	11,500	7,740	9,990	8,220	7,120	6,650	6,680	6,910
Manganese (filtered)	µg/L	0.01	***26***	**50**	***1,460***	***1,720***	***1,380***	***698***	***721***	***767***	***1,400***	***932***	***936***	-	-	-	-	-
Phosphorus total (P2O5)	µg/L	3			-	-	-	280	400	800	1,110	600	200	-	-	-	-	-
Potassium (filtered)	µg/L	2			16,400	16,800	14,600	8,600	8,300	11,200	16,900	9,700	10,400	-	-	-	-	-
Sodium (filtered)	µg/L	10		**200,000**	60,900	75,100	63,500	64,200	74,300	59,700	63,600	48,900	84,200	152,000	136,000	143,000	160,000	93,500
Zinc (filtered)	µg/L	2		**5,000**	4	<2	3	<5	<5	<5	<5	-	-	-	-	-	-	-
Alkalinity (total) as CaCO3	mg/L	2	***396***	**500**	***429***	***470***	***454***	342	347	307	392	390	***417***	312	334	311	284	313
Total Dissolved Solids	mg/L	3		**500**	**671**	**617**	**749**	**544**	**694**	496	**575**	**563**	**763**	454	**530**	469	483	457
Hardness as CaCO3 (filtered)	mg/L	0.02		**500**	-	-	-	411	**508**	346	396	347	**510**	-	-	-	-	-
Chemical Oxygen Demand	mg/L	5			11	16	19	31	51	104	368	222	23	<8	22	<8	<8	<8
Dissolved Organic Carbon (filtered)	mg/L	0.2	***4***	**5**	***6***	***7***	***5***	***4.1***	1.6	2.9	3.1	***5.4***	***5.8***	1.4	1.7	2.0	2.3	1.9
Phenols (4AAP)	mg/L	0.001			-	<0.002	-	<0.002	<0.002	<0.001	<0.001	<0.001	0.009	-	-	-	-	-
Sulphate (filtered)	mg/L	0.2		**500**	43	37	33	29	47	26	40	32	26	33	33	34	33	32
Ammonia as N	mg/L	0.01			9	7.3	6.7	2.84	3.19	4.01	6.86	6.1	3.69	<0.1	<0.1	<0.1	<0.1	<0.1
Nitrate (as N)	mg/L	0.05		**10**	0.5	<0.06	0.12	1.5	1.55	0.53	0.2	0.16	0.81	<0.05	0.24	0.13	0.10	<0.06
Total Kjeldahl Nitrogen	mg/L	0.1			-	6.8	-	4.7	-	6	27.7	-	4.5	-	-	-	-	-
Electrical Conductivity (Lab)	µS/cm	1			1,210	1,130	1,300	1,020	1,280	934	1,070	1,050	1,400	780	801	810	808	795
pH (Lab)	-	0.05		**6.5-8.5**	7.94	7.6	7.49	7.59	7.62	7.55	7.44	7.55	7.54	8.37	8.13	8.22	8.10	8.42
DO (Field)	mg/L				10.1	-	5.3	4.72	3.61	5.5	5.47	5.56	1.64	-	-	-	-	-
Redox (Field)	mV				-	-	-20	143	83	-2	-149	-48	-91	-	-	-	-	-
Temperature (Field)	°C				10.8	13.8	9.8	10.2	9.4	9.5	11.2	10.5	9.9	-	-	-	-	-
Conductivity (field)	µS/cm				919	-	1,407	1,023	553	838	1,000	962	1,032	-	-	-	-	-
pH (Field)	-			**6.5-8.5**	6.9	7	7.5	6.97	6.78	6.89	7.02	6.96	6.74	-	-	-	-	-

Table 5 - Groundwater Quality - Shallow BR

				Location Code	MW07-1	MW07-1	MW07-1	MW07-1	MW07-1	MW07-1	MW07-1	MW07-1	MW07-1	MW07-1	MW07-1	MW07-1	MW07-1	MW07-1
				Date	25 Jun 2014	11 Nov 2014	22 May 2015	19 Nov 2015	30 May 2016	01 Nov 2016	04 Oct 2017	30 May 2019	29 Oct 2019	26 May 2020	18 Nov 2020	24 Jun 2021	11 Nov 2021	12 Apr 2022
	Unit	EQL	***RUC***	**ODWQS**														
Arsenic (filtered)	µg/L	0.1	***6***	**25**	-	0.9	0.7	0.9	0.7	<0.2	0.8	0.5	0.8	0.6	0.7	0.5	1.1	0.5
Barium (filtered)	µg/L	0.01	***423***	**1,000**	117	119	111	128	111	148	119	136	128	133	130	162	24	182
Boron (filtered)	µg/L	0.2	***2,535***	**5,000**	553	621	556	435	600	79	483	516	445	482	432	533	571	526
Calcium (filtered)	µg/L	10			29,200	28,800	28,900	32,000	31,700	153,000	32,000	34,000	40,100	32,300	35,400	36,900	34,500	48,100
Chloride	µg/L	200		**250,000**	45,000	45,000	44,000	42,000	42,000	100,000	46,000	47,000	45,000	51,000	48,000	53,600	53,100	51,600
Iron (filtered)	µg/L	2	***153***	**300**	4	4	<2	16	24	12	108	7	9	<7	<7	88	<5	***292***
Magnesium (filtered)	µg/L	1			7,060	6,930	7,340	7,210	7,440	5,520	7,020	7,590	7,520	8,370	7,820	8,900	9,390	10,300
Manganese (filtered)	µg/L	0.01	***26***	**50**	-	8.02	1.45	13.3	0.22	8.70	24.9	0.76	8.31	0.21	2.71	6	1	21
Phosphorus total (P2O5)	µg/L	3			-	-	<30	-	<30	-	-	-	-	-	-	1,910	1,050	1,790
Potassium (filtered)	µg/L	2			-	2,660	2,170	2,250	2,310	3,910	2,240	2,250	2,550	2,160	2,290	2,300	2,900	2,300
Sodium (filtered)	µg/L	10		**200,000**	134,000	139,000	150,000	130,000	159,000	47,800	141,000	151,000	152,000	163,000	143,000	157,000	163,000	140,000
Zinc (filtered)	µg/L	2		**5,000**	-	<2	<2	2	<2	3	6	2	<2	3	7	<5	<5	<5
Alkalinity (total) as CaCO3	mg/L	2	***396***	**500**	330	335	342	320	330	322	337	370	328	359	367	336	316	299
Total Dissolved Solids	mg/L	3		**500**	490	469	474	466	457	**569**	489	474	469	489	466	421	433	422
Hardness as CaCO3 (filtered)	mg/L	0.02		**500**	-	-	-	-	-	-	-	-	-	-	-	129	125	163
Chemical Oxygen Demand	mg/L	5			<8	<8	9	<8	<8	<8	<8	65	<8	<8	<8	125	76	75
Dissolved Organic Carbon (filtered)	mg/L	0.2	***4***	**5**	3.1	2.4	1.4	1.2	1.5	3	2	-	2	1	1	***4.5***	2.4	2.2
Phenols (4AAP)	mg/L	0.001			-	-	<0.002	-	0.004	-	-	0.002	-	0.003	-	<0.002	<0.002	<0.001
Sulphate (filtered)	mg/L	0.2		**500**	30	30	32	29	30	17	31	34	33	32	29	31	30	29
Ammonia as N	mg/L	0.01			<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	0.1	<0.1	<0.1	0.04	0.06	0.03
Nitrate (as N)	mg/L	0.05		**10**	0.12	0.19	0.11	<0.06	<0.06	1.67	-	0.13	0.25	0.17	0.23	0.19	0.19	0.32
Total Kjeldahl Nitrogen	mg/L	0.1			-	-	<0.5	-	<0.5	-	-	<0.5	-	<0.5	-	1.3	-	1.8
Electrical Conductivity (Lab)	µS/cm	1			790	782	797	773	791	979	816	808	844	790	808	802	822	804
pH (Lab)	-	0.05		**6.5-8.5**	8.20	8.42	8.29	8.26	8.28	7.75	8.27	7.92	8.12	8.08	8.08	8.16	8.16	8.19
DO (Field)	mg/L				-	-	-	-	-	-	-	6	10.6	-	5.4	9.94	6.7	11.6
Redox (Field)	mV				-	-	-	-	-	-	-	56	51	-	22	138	121	8
Temperature (Field)	°C				-	-	-	-	-	-	-	10.1	10.3	12.8	9.4	11.1	9.3	8.4
Conductivity (field)	µS/cm				-	-	-	-	-	-	-	590	597	-	524	800	354	706
pH (Field)	-			**6.5-8.5**	-	-	-	-	-	-	-	8	7.3	7.4	8.1	**8.71**	7.73	7.88

Table 5 - Groundwater Quality - Shallow BR

				Location Code	MW07-1	MW08-2	MW08-2	MW08-2	MW08-2	MW08-2	MW08-2	MW08-2	MW08-2	MW08-2	MW08-2	MW08-2	MW08-2	MW08-2
				Date	25 Oct 2022	18 May 2012	09 Oct 2012	10 Jun 2013	05 Nov 2013	26 Jun 2014	06 Nov 2014	22 May 2015	30 May 2016	31 Oct 2016	31 May 2017	04 Oct 2017	30 May 2019	29 Oct 2019
	Unit	EQL	***RUC***	**ODWQS**														
Arsenic (filtered)	µg/L	0.1	***6***	**25**	0.3	-	-	-	-	-	0.4	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Barium (filtered)	µg/L	0.01	***423***	**1,000**	213	122	197	107	161	116	184	88.0	113	197	87.5	148	53.1	158
Boron (filtered)	µg/L	0.2	***2,535***	**5,000**	519	15.3	35.7	11.1	27.4	13.8	29.6	10.0	18	32	20	31	14	50
Calcium (filtered)	µg/L	10			45,000	98,000	131,000	85,100	113,000	97,500	125,000	84,100	116,000	156,000	81,900	118,000	103,000	127,000
Chloride	µg/L	200		**250,000**	49,200	48,000	110,000	56,000	69,000	38,000	74,000	24,000	55,000	150,000	45,000	68,000	3,000	69,000
Iron (filtered)	µg/L	2	***153***	**300**	***614***	18	<3	20	12	6	15	20	8	26	<7	<7	7	10
Magnesium (filtered)	µg/L	1			10,900	3,410	5,020	2,680	4,140	3,260	4,620	2,950	3,430	5,410	2,620	4,140	2,820	3,820
Manganese (filtered)	µg/L	0.01	***26***	**50**	***49***	-	-	-	-	-	9.10	3.25	0.82	4.47	1.75	1.89	0.74	4.33
Phosphorus total (P2O5)	µg/L	3			2,090	-	-	-	-	-	-	<30	6	<30	<30	<30	-	30
Potassium (filtered)	µg/L	2			3,200	-	-	-	-	-	2,220	1,000	979	1,710	817	1,370	472	1,400
Sodium (filtered)	µg/L	10		**200,000**	129,000	28,800	50,700	29,500	35,900	23,900	43,200	23,500	28,700	60,700	30,500	36,500	3,740	36,800
Zinc (filtered)	µg/L	2		**5,000**	<5	-	-	-	-	-	2	<2	<2	3	<2	<2	2	3
Alkalinity (total) as CaCO3	mg/L	2	***396***	**500**	310	258	279	226	267	208	305	254	261	285	221	300	235	272
Total Dissolved Solids	mg/L	3		**500**	412	363	**529**	366	423	354	491	294	380	**629**	297	443	257	434
Hardness as CaCO3 (filtered)	mg/L	0.02		**500**	157	-	-	-	-	-	-	-	-	-	-	-	-	-
Chemical Oxygen Demand	mg/L	5			182	15	<8	14	10	8	<8	10	<8	16	<8	<8	<8	<8
Dissolved Organic Carbon (filtered)	mg/L	0.2	***4***	**5**	1.8	2.4	1.4	***4.7***	***5.3***	***3.9***	2.5	-	-	-	-	-	-	-
Phenols (4AAP)	mg/L	0.001			<0.001	-	-	-	-	-	-	<0.001	0.002	0.001	<0.001	<0.001	0.002	<0.001
Sulphate (filtered)	mg/L	0.2		**500**	29	10	19	1.3	21	6.8	16	8	8	17	3	10	7	12
Ammonia as N	mg/L	0.01			0.05	<0.1	0.2	<0.1	<0.1	0.2	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Nitrate (as N)	mg/L	0.05		**10**	0.16	0.44	1.22	0.10	0.35	0.24	0.53	0.16	0.46	1.33	<0.06	0.35	<0.06	0.66
Total Kjeldahl Nitrogen	mg/L	0.1			1.9	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Electrical Conductivity (Lab)	µS/cm	1			785	657	929	604	757	615	807	559	700	1,040	535	781	429	748
pH (Lab)	-	0.05		**6.5-8.5**	7.98	7.87	8.07	7.91	8.23	8.29	8.10	7.93	8.08	7.86	7.88	7.63	7.66	8.12
DO (Field)	mg/L				6.41	-	-	-	-	-	-	-	-	-	-	-	3.4	8.8
Redox (Field)	mV				-152	-	-	-	-	-	-	-	-	-	-	-	196	79
Temperature (Field)	°C				10.8	-	-	-	-	-	-	-	-	-	-	-	8.5	13.4
Conductivity (field)	µS/cm				751	-	-	-	-	-	-	-	-	-	-	-	419	803
pH (Field)	-			**6.5-8.5**	7.68	-	-	-	-	-	-	-	-	-	-	-	7.7	**6.1**

Table 5 - Groundwater Quality - Shallow BR

				Location Code	MW08-2	MW08-2	MW08-2	MW08-2	MW08-2	MW08-2	MW08-2	MW08-2	MW09-2	MW09-2	MW09-2	MW09-2	MW09-2	MW09-2
				Date	26 May 2020	18 Nov 2020	24 Jun 2021	11 Nov 2021	12 Apr 2022	25 Oct 2022	25 Oct 2023	29 Oct 2024	18 May 2012	09 Oct 2012	10 Jun 2013	05 Nov 2013	02 Jul 2014	22 May 2015
	Unit	EQL	***RUC***	**ODWQS**														
Arsenic (filtered)	µg/L	0.1	***6***	**25**	<0.2	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-	-	-	0.3
Barium (filtered)	µg/L	0.01	***423***	**1,000**	81.1	162	135	168	95	181	183	153	259	***803***	***856***	***470***	232	178
Boron (filtered)	µg/L	0.2	***2,535***	**5,000**	26	23	15	28	6	27	22	25	53.2	442	513	139	119	28.7
Calcium (filtered)	µg/L	10			80,100	145,000	114,000	119,000	85,300	123,000	141,000	115,000	97,400	49,400	43,700	96,700	58,000	96,100
Chloride	µg/L	200		**250,000**	9,000	120,000	65,500	67,500	35,700	69,900	75,700	67,300	51,000	17,000	13,000	59,000	46,000	58,000
Iron (filtered)	µg/L	2	***153***	**300**	24	15	19	<5	<5	<5	6	<5	***203***	35	<3	***192***	***294***	***177***
Magnesium (filtered)	µg/L	1			2,680	5,280	4,060	4,140	2,880	4,600	4,720	4,410	4,780	18,300	19,500	7,760	6,210	4,290
Manganese (filtered)	µg/L	0.01	***26***	**50**	4.34	0.97	4	2	<1	3	1	4	-	-	-	-	-	23.3
Phosphorus total (P2O5)	µg/L	3			<30	<30	100	110	50	60	<100	<100	-	-	-	-	-	<30
Potassium (filtered)	µg/L	2			738	1,210	1,000	1,800	700	1,600	1,400	1,500	-	-	-	-	-	2,330
Sodium (filtered)	µg/L	10		**200,000**	23,500	29,400	38,300	44,000	26,800	44,100	38,900	40,300	35,900	48,000	44,300	40,700	41,600	37,900
Zinc (filtered)	µg/L	2		**5,000**	9	<2	<5	<5	<5	<5	-	-	-	-	-	-	-	<2
Alkalinity (total) as CaCO3	mg/L	2	***396***	**500**	235	283	276	275	215	277	289	281	253	255	263	278	222	260
Total Dissolved Solids	mg/L	3		**500**	240	480	364	389	283	428	407	400	374	394	380	414	346	371
Hardness as CaCO3 (filtered)	mg/L	0.02		**500**	-	-	302	316	225	326	372	307	-	-	-	-	-	-
Chemical Oxygen Demand	mg/L	5			16	<8	7	10	<5	12	9	26	11	36	35	14	14	<8
Dissolved Organic Carbon (filtered)	mg/L	0.2	***4***	**5**	-	-	***3.7***	2.7	3	0.9	3.3	3.4	2.4	<1	1.8	1.5	1.7	-
Phenols (4AAP)	mg/L	0.001			<0.001	<0.001	<0.002	<0.002	<0.001	<0.001	<0.001	<0.001	-	-	-	-	-	<0.001
Sulphate (filtered)	mg/L	0.2		**500**	6	10	9	10	5	<10	11	10	13	6.3	32	22	8.6	12
Ammonia as N	mg/L	0.01			<0.1	<0.1	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.1	0.6	0.7	<0.1	0.2	<0.1
Nitrate (as N)	mg/L	0.05		**10**	0.15	0.67	0.74	0.41	0.05	0.62	0.64	0.23	0.11	<0.05	<0.06	<0.06	<0.06	<0.06
Total Kjeldahl Nitrogen	mg/L	0.1			<0.5	<0.5	0.4	0.3	0.2	0.3	-	0.4	-	-	-	-	-	<0.5
Electrical Conductivity (Lab)	µS/cm	1			452	838	700	744	547	814	777	765	665	617	591	756	573	666
pH (Lab)	-	0.05		**6.5-8.5**	7.85	7.81	7.94	8.27	7.57	7.93	7.76	7.83	7.92	8.17	8.19	8.18	8.00	7.86
DO (Field)	mg/L				-	11.3	13.26	2.49	7.65	6.06	4.12	7.44	-	-	-	-	-	-
Redox (Field)	mV				-	135	140	-73	-54	-140	243	28	-	-	-	-	-	-
Temperature (Field)	°C				16.4	6.2	9.3	9.2	8.8	13	12.7	10.0	-	-	-	-	-	-
Conductivity (field)	µS/cm				-	486	652	334	473	722	841	54	-	-	-	-	-	-
pH (Field)	-			**6.5-8.5**	8.1	**8.6**	**8.78**	7.27	7.35	7.21	6.94	7.45	-	-	-	-	-	-

Table 5 - Groundwater Quality - Shallow BR

				Location Code	MW09-2	MW09-2	MW09-2	MW09-2	MW09-2	MW09-2	MW09-2	MW09-2	MW09-2	MW09-2	MW09-2	MW09-2	MW09-2
				Date	30 May 2016	31 Oct 2016	31 May 2017	04 Oct 2017	30 May 2019	29 Oct 2019	26 May 2020	18 Nov 2020	28 Jun 2021	11 Nov 2021	12 Apr 2022	25 Oct 2022	23 Oct 2023	29 Oct 2024
	Unit	EQL	***RUC***	**ODWQS**														
Arsenic (filtered)	µg/L	0.1	***6***	**25**	<0.2	<0.2	0.2	0.3	0.3	<0.2	0.4	<0.2	0.2	0.1	<0.1	<0.1	<0.1	0.1
Barium (filtered)	µg/L	0.01	***423***	**1,000**	109	204	117	258	158	184	285	176	210	203	***846***	229	207	193
Boron (filtered)	µg/L	0.2	***2,535***	**5,000**	62	44	26	84	26	65	143	39	40	45	567	47	48	38
Calcium (filtered)	µg/L	10			57,500	133,000	83,700	107,000	105,000	121,000	80,800	126,000	124,000	119,000	51,100	122,000	110,000	120,000
Chloride	µg/L	200		**250,000**	50,000	98,000	35,000	70,000	66,000	73,000	50,000	77,000	88,500	70,500	15,100	79,700	76,900	79,200
Iron (filtered)	µg/L	2	***153***	**300**	***234***	27	87	***205***	***293***	38	***302***	15	87	43	13	26	17	13
Magnesium (filtered)	µg/L	1			3,510	4,530	3,120	5,780	3,890	3,820	8,760	4,270	4,640	4,550	21,900	4,730	4,390	4,320
Manganese (filtered)	µg/L	0.01	***26***	**50**	***35.2***	7.39	22	15.9	***29.1***	4.64	***33.2***	3.31	3	3	***47***	2	2	2
Phosphorus total (P2O5)	µg/L	3			3	<30	<30	<30	-	<30	<30	<30	40	20	40	20	60	<100
Potassium (filtered)	µg/L	2			3,000	2,410	1,910	2,600	2,160	2,570	2,740	2,650	2,300	2,700	5,300	2,600	2,300	2,600
Sodium (filtered)	µg/L	10		**200,000**	45,500	54,600	32,600	45,700	42,900	46,500	44,400	44,600	55,600	48,200	51,300	57,700	45,600	52,200
Zinc (filtered)	µg/L	2		**5,000**	<2	<2	2	<2	3	3	2	<2	<5	<5	<5	<5	-	-
Alkalinity (total) as CaCO3	mg/L	2	***396***	**500**	280	238	226	274	241	260	233	295	271	280	249	278	306	302
Total Dissolved Solids	mg/L	3		**500**	383	417	314	420	214	414	311	437	432	409	316	425	432	445
Hardness as CaCO3 (filtered)	mg/L	0.02		**500**	-	-	-	-	-	-	-	-	329	315	218	324	293	318
Chemical Oxygen Demand	mg/L	5			<8	10	<8	10	<8	<8	<8	<8	<5	11	38	7	<5	7
Dissolved Organic Carbon (filtered)	mg/L	0.2	***4***	**5**	-	-	-	-	-	-	-	-	3.3	2.4	2.4	0.7	***3.8***	***3.6***
Phenols (4AAP)	mg/L	0.001			0.002	0.002	0.006	<0.001	0.003	<0.001	<0.001	<0.001	<0.002	<0.002	0.048	<0.001	<0.001	<0.001
Sulphate (filtered)	mg/L	0.2		**500**	8	20	20	14	16	11	10	10	13	13	37	14	15	13
Ammonia as N	mg/L	0.01			<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	0.03	0.03	0.69	0.02	<0.05	<0.05
Nitrate (as N)	mg/L	0.05		**10**	<0.06	1.12	0.1	0.37	<0.06	0.93	<0.06	1.17	1.21	0.73	<0.05	1	1.29	0.76
Total Kjeldahl Nitrogen	mg/L	0.1			<0.5	<0.5	<0.5	<0.5	<0.5	<0.1	<0.5	<0.5	0.2	0.2	0.7	0.2	-	0.2
Electrical Conductivity (Lab)	µS/cm	1			767	762	560	719	653	737	591	791	821	780	609	809	821	844
pH (Lab)	-	0.05		**6.5-8.5**	8.21	7.77	7.75	7.57	8	8.11	7.9	7.91	7.69	7.66	7.7	7.71	7.46	7.9
DO (Field)	mg/L				-	-	-	-	3.6	4.1	-	5	2.63	2.91	2.32	5.39	3.09	1.31
Redox (Field)	mV				-	-	-	-	-125	-86	-	60	160	30	-36	-140	-51	-139
Temperature (Field)	°C				-	-	-	-	10.3	14.1	1.7	7.4	10.7	9.8	7.4	13.7	9.2	10.7
Conductivity (field)	µS/cm				-	-	-	-	404	655	-	471	792	332	496	801	771	613
pH (Field)	-			**6.5-8.5**	-	-	-	-	7.7	7.4	7.6	8	7.08	7.01	7.01	7.06	6.75	7.07

Table 5 - Groundwater Quality - Shallow BR

				Location Code	MW10-2	MW10-2	MW10-2	MW10-2	MW10-2	MW10-2	MW10-2	MW10-2	MW10-2	MW10-2	MW10-2	MW10-2	MW10-2	MW10-2
				Date	18 May 2012	09 Oct 2012	10 Jun 2013	05 Nov 2013	26 Jun 2014	22 May 2015	30 May 2016	31 Oct 2016	31 May 2017	04 Oct 2017	30 May 2019	29 Oct 2019	26 May 2020	18 Nov 2020
	Unit	EQL	***RUC***	**ODWQS**														
Arsenic (filtered)	µg/L	0.1	***6***	**25**	-	-	-	-	-	<0.2	<0.2	<0.2	<0.2	<0.2	0.2	<0.2	<0.2	<0.2
Barium (filtered)	µg/L	0.01	***423***	**1,000**	***923***	***710***	***620***	***587***	***587***	***524***	***476***	***501***	***459***	***506***	***626***	***580***	***491***	416
Boron (filtered)	µg/L	0.2	***2,535***	**5,000**	147	141	119	130	116	100	121	122	123	131	118	145	106	96
Calcium (filtered)	µg/L	10			95,300	93,600	99,800	96,500	99,500	106,000	113,000	107,000	91,200	104,000	117,000	129,000	98,500	99,900
Chloride	µg/L	200		**250,000**	45,000	45,000	55,000	50,000	59,000	57,000	52,000	49,000	48,000	51,000	48,000	48,000	54,000	53,000
Iron (filtered)	µg/L	2	***153***	**300**	***9,270***	***6,760***	***4,190***	***4,380***	***6,210***	***3,160***	***533***	***3,580***	***3,340***	***3,370***	***6,910***	***4,030***	***886***	***3,290***
Magnesium (filtered)	µg/L	1			13,600	12,700	11,500	11,000	11,900	11,900	11,200	10,100	11,300	11,000	11,200	10,900	12,700	10,400
Manganese (filtered)	µg/L	0.01	***26***	**50**	-	-	-	-	-	***92.4***	***29.8***	***49.7***	***97.3***	***60.1***	***171***	***54.4***	***95.1***	***58***
Phosphorus total (P2O5)	µg/L	3			-	-	-	-	-	<30	<3	<30	<30	30	-	60	40	80
Potassium (filtered)	µg/L	2			-	-	-	-	-	2,340	2,370	2,140	2,580	2,600	2,420	2,690	2,460	2,600
Sodium (filtered)	µg/L	10		**200,000**	8,870	7,070	6,180	5,160	7,250	6,690	7,750	5,520	8,990	6,070	7,470	5,540	9,830	6,930
Zinc (filtered)	µg/L	2		**5,000**	-	-	-	-	-	4	<2	<2	<2	<2	5	<2	2	<2
Alkalinity (total) as CaCO3	mg/L	2	***396***	**500**	238	225	240	226	299	254	245	240	171	233	243	245	243	258
Total Dissolved Solids	mg/L	3		**500**	351	366	446	377	423	411	389	394	269	406	334	354	389	351
Hardness as CaCO3 (filtered)	mg/L	0.02		**500**	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chemical Oxygen Demand	mg/L	5			10	<8	8	<8	<8	10	<8	<8	<8	<8	<8	<8	8	<8
Dissolved Organic Carbon (filtered)	mg/L	0.2	***4***	**5**	***3.8***	<1	2.0	1.5	1.9	-	-	-	-	-	-	-	-	-
Phenols (4AAP)	mg/L	0.001			-	-	-	-	-	<0.001	0.001	<0.001	0.004	<0.001	<0.001	<0.001	<0.001	0.001
Sulphate (filtered)	mg/L	0.2		**500**	13	9.7	15	8.8	13	11	140	8	12	9	8	7	10	6
Ammonia as N	mg/L	0.01			0.1	0.7	0.5	1.0	0.9	0.6	0.3	1.0	0.5	1	0.8	1.1	0.9	1
Nitrate (as N)	mg/L	0.05		**10**	<0.05	<0.05	<0.06	<0.06	0.07	<0.06	0.21	<0.06	0.08	<0.06	0.08	0.08	<0.06	<0.06
Total Kjeldahl Nitrogen	mg/L	0.1			-	-	-	-	-	1.2	<0.5	1.0	0.8	1.1	0.7	1.1	0.8	1
Electrical Conductivity (Lab)	µS/cm	1			613	615	667	619	686	645	639	633	483	631	599	621	618	623
pH (Lab)	-	0.05		**6.5-8.5**	7.91	8.13	7.89	8.15	8.13	7.94	8.13	7.95	7.92	7.67	7.54	8.03	7.83	7.79
DO (Field)	mg/L				-	-	-	-	-	-	-	-	-	-	3.6	4	-	4.2
Redox (Field)	mV				-	-	-	-	-	-	-	-	-	-	-109	-115	-	-148
Temperature (Field)	°C				-	-	-	-	-	-	-	-	-	-	10.6	13.8	15.1	6.7
Conductivity (field)	µS/cm				-	-	-	-	-	-	-	-	-	-	442	518	-	364
pH (Field)	-			**6.5-8.5**	-	-	-	-	-	-	-	-	-	-	7.6	7.6	7.7	7.9

Table 5 - Groundwater Quality - Shallow BR

				Location Code	MW10-2	MW10-2	MW10-2	MW10-2	MW10-2	MW10-2	MW11-2	MW11-2	MW11-2	MW11-2	MW11-2	MW11-2	MW11-2	MW11-2
				Date	24 Jun 2021	11 Nov 2021	12 Apr 2022	25 Oct 2022	23 Oct 2023	29 Oct 2024	18 May 2012	09 Oct 2012	10 Jun 2013	05 Nov 2013	26 Jun 2014	22 May 2015	30 May 2016	31 Oct 2016
	Unit	EQL	***RUC***	**ODWQS**														
Arsenic (filtered)	µg/L	0.1	***6***	**25**	0.3	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-	-	-	<0.2	<0.2	<0.2
Barium (filtered)	µg/L	0.01	***423***	**1,000**	***510***	***574***	***542***	***603***	***511***	***450***	***495***	376	416	***469***	***437***	***473***	407	***433***
Boron (filtered)	µg/L	0.2	***2,535***	**5,000**	109	125	95	135	118	130	185	237	161	113	150	115	208	146
Calcium (filtered)	µg/L	10			118,000	119,000	118,000	112,000	102,000	96,900	95,600	71,600	81,200	100,000	85,700	98,400	91,900	97,900
Chloride	µg/L	200		**250,000**	59,600	56,700	54,700	50,300	48,400	49,600	38,000	14,000	34,000	21,000	27,000	36,000	25,000	34,000
Iron (filtered)	µg/L	2	***153***	**300**	<5	***5,280***	***3,750***	***4,080***	***3,630***	***858***	***1,920***	***536***	***1,430***	***2,090***	***1,200***	***2,630***	***1,190***	***1,890***
Magnesium (filtered)	µg/L	1			11,400	11,300	11,300	11,000	9,950	11,300	11,700	13,600	9,740	10,400	10,700	10,200	12,900	10,100
Manganese (filtered)	µg/L	0.01	***26***	**50**	***38***	***42***	***39***	***28***	***32***	***44***	-	-	-	-	-	***30.7***	22.7	***29.2***
Phosphorus total (P2O5)	µg/L	3			110	90	420	60	110	<100	-	-	-	-	-	30	14	<30
Potassium (filtered)	µg/L	2			2,000	2,500	1,900	2,400	2,200	2,500	-	-	-	-	-	2,410	3,770	2,530
Sodium (filtered)	µg/L	10		**200,000**	6,100	6,500	6,100	5,900	4,900	6,900	10,600	9,300	10,900	5,540	12,000	8,180	11,800	8,290
Zinc (filtered)	µg/L	2		**5,000**	<5	<5	<5	<5	-	-	-	-	-	-	-	<2	<2	4
Alkalinity (total) as CaCO3	mg/L	2	***396***	**500**	260	250	222	254	272	250	249	239	232	225	250	258	246	258
Total Dissolved Solids	mg/L	3		**500**	343	351	336	341	337	332	380	363	391	311	340	366	303	371
Hardness as CaCO3 (filtered)	mg/L	0.02		**500**	342	343	341	326	296	289	-	-	-	-	-	-	-	-
Chemical Oxygen Demand	mg/L	5			53	9	7	11	7	5	9	<8	<8	<8	<8	17	<8	<8
Dissolved Organic Carbon (filtered)	mg/L	0.2	***4***	**5**	2.8	2.6	3	0.9	***4.9***	2.5	1.6	<1	2.1	1.4	***3.7***	-	-	-
Phenols (4AAP)	mg/L	0.001			<0.002	0.013	<0.001	<0.001	<0.001	<0.001	-	-	-	-	-	0.001	0.001	0.001
Sulphate (filtered)	mg/L	0.2		**500**	10	9	11	7	5	2	21	15	16	20	14	10	19	10
Ammonia as N	mg/L	0.01			0.93	1.04	0.8	1.04	0.95	1.04	0.8	0.7	0.7	0.7	0.8	0.6	0.8	0.9
Nitrate (as N)	mg/L	0.05		**10**	0.07	<0.05	0.4	0.18	0.67	0.08	<0.05	<0.05	<0.06	<0.06	0.60	<0.06	<0.06	0.06
Total Kjeldahl Nitrogen	mg/L	0.1			1	1.1	1.2	1.2	-	1.1	-	-	-	-	-	1.1	0.9	0.9
Electrical Conductivity (Lab)	µS/cm	1			660	675	647	657	649	640	618	603	602	550	560	599	560	628
pH (Lab)	-	0.05		**6.5-8.5**	7.83	7.68	7.48	7.85	7.54	7.9	7.98	8.06	7.94	8.19	7.67	7.95	8.09	7.99
DO (Field)	mg/L				2.87	2.81	2.44	1.62	2.75	2.92	-	-	-	-	-	-	-	-
Redox (Field)	mV				-15	19	-117	-143	-85	-216	-	-	-	-	-	-	-	-
Temperature (Field)	°C				9	10.3	7.9	13.3	9.9	9.9	-	-	-	-	-	-	-	-
Conductivity (field)	µS/cm				665	297	615	630	33	476	-	-	-	-	-	-	-	-
pH (Field)	-			**6.5-8.5**	8.45	7.38	7.18	7.22	**6.29**	7.19	-	-	-	-	-	-	-	-

Table 5 - Groundwater Quality - Shallow BR

				Location Code	MW11-2	MW11-2	MW11-2	MW11-2	MW11-2	MW11-2	MW11-2	MW11-2	MW11-2	MW11-2	MW11-2	MW11-2	MW12-1	MW12-1
				Date	31 May 2017	04 Oct 2017	30 May 2019	29 Oct 2019	26 May 2020	18 Nov 2020	24 Jun 2021	11 Nov 2021	12 Apr 2022	25 Oct 2022	23 Oct 2023	29 Oct 2024	24 May 2012	24 Oct 2012
	Unit	EQL	*RUC*	**ODWQS**														
Arsenic (filtered)	µg/L	0.1	***6***	**25**	<0.2	<0.2	<0.2	0.7	<0.2	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-
Barium (filtered)	µg/L	0.01	***423***	**1,000**	419	***449***	381	40.8	***504***	358	***528***	***528***	***466***	***632***	***539***	***566***	***565***	***729***
Boron (filtered)	µg/L	0.2	***2,535***	**5,000**	515	123	85	176	150	164	127	143	219	169	113	128	118	133
Calcium (filtered)	µg/L	10			90,100	93,800	96,600	147,000	102,000	93,400	117,000	113,000	90,600	110,000	105,000	113,000	112,000	90,100
Chloride	µg/L	200		**250,000**	26,000	36,000	14,000	33,000	21,000	43,000	52,000	41,000	25,300	28,200	49,700	39,800	49,000	39,000
Iron (filtered)	µg/L	2	***153***	**300**	11	***2,130***	***1,550***	124	***2,130***	***1,060***	***3,030***	***2,750***	***1,670***	***2,150***	***2,910***	***3,010***	<3	3
Magnesium (filtered)	µg/L	1			25,200	8,590	7,400	22,100	12,700	12,300	11,300	11,100	14,000	12,400	9,800	10,500	11,500	12,100
Manganese (filtered)	µg/L	0.01	***26***	**50**	***84.2***	***29.6***	24.5	14.7	***31.4***	19.8	***35***	***33***	***35***	***33***	***31***	***32***	-	-
Phosphorus total (P2O5)	µg/L	3			<30	40	-	40	<30	30	80	80	40	40	90	<100	-	-
Potassium (filtered)	µg/L	2			4,710	2,280	1,990	7,590	2,860	3,720	2,300	2,800	3,600	3,100	2,300	2,700	-	-
Sodium (filtered)	µg/L	10		**200,000**	15,400	5,300	6,300	76,700	8,390	6,200	7,300	6,700	8,400	6,800	6,000	7,000	9,970	8,330
Zinc (filtered)	µg/L	2		**5,000**	<2	3	4	4	8	<2	<5	<5	<5	<5	-	-	-	-
Alkalinity (total) as CaCO3	mg/L	2	***396***	**500**	265	255	224	242	227	242	271	250	233	244	286	258	264	227
Total Dissolved Solids	mg/L	3		**500**	400	391	274	320	274	343	342	329	300	294	349	329	430	343
Hardness as CaCO3 (filtered)	mg/L	0.02		**500**	-	-	-	-	-	-	339	329	284	326	303	326	-	-
Chemical Oxygen Demand	mg/L	5			<8	8	<8	<8	13	<8	<5	8	11	<5	9	<5	<8	12
Dissolved Organic Carbon (filtered)	mg/L	0.2	***4***	**5**	<1	-	-	-	-	-	***4.4***	2.2	3.1	1.3	***4.7***	2.8	1.4	1.6
Phenols (4AAP)	mg/L	0.001			<0.002	<0.001	<0.001	<0.001	0.002	0.001	<0.002	<0.002	<0.001	<0.001	<0.001	<0.001	-	-
Sulphate (filtered)	mg/L	0.2		**500**	63	7	6	10	17	9	11	10	15	11	10	7	23	15
Ammonia as N	mg/L	0.01			0.9	0.9	0.5	0.9	0.7	0.9	0.95	0.96	0.7	0.99	0.99	0.98	0.2	0.2
Nitrate (as N)	mg/L	0.05		**10**	<0.06	<0.06	<0.06	0.18	0.13	<0.06	0.07	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Total Kjeldahl Nitrogen	mg/L	0.1			1.1	0.9	<0.5	1	0.6	0.8	1	1.1	1	1.1	-	1	-	-
Electrical Conductivity (Lab)	µS/cm	1			658	603	465	584	520	547	659	633	578	568	672	633	680	590
pH (Lab)	-	0.05		**6.5-8.5**	7.91	7.63	8.09	8.1	7.76	7.77	7.81	7.8	7.56	7.87	7.58	7.88	7.85	7.86
DO (Field)	mg/L				-	-	4	5.7	-	6.4	1.55	7.98	5.38	8.75	2.77	1.48	-	-
Redox (Field)	mV				-	-	-93	-122	-	-60	136	15	114	-148	-80	-110	-	-
Temperature (Field)	°C				-	-	9.1	12.5	15.1	4.9	7.7	9	9.1	13.7	8.5	10.2	-	-
Conductivity (field)	µS/cm				-	-	345	528	-	350	672	286	527	644	23	498	-	-
pH (Field)	-			**6.5-8.5**	-	-	7.8	7.7	7.6	8.3	7.26	7.37	7.13	7.33	**6.47**	7.14	-	-

Table 5 - Groundwater Quality - Shallow BR

				Location Code	MW12-1	MW12-1	MW12-1	MW12-1	MW12-1	MW12-1	MW12-1	MW12-1	MW12-1	MW12-1	MW12-1	MW12-1	MW12-1	MW12-1
				Date	18 Jun 2013	05 Nov 2013	26 Jun 2014	11 Nov 2014	22 May 2015	19 Nov 2015	31 May 2016	01 Nov 2016	04 Oct 2017	30 May 2019	29 Oct 2019	26 May 2020	18 Nov 2020	24 Jun 2021
	Unit	EQL	***RUC***	**ODWQS**														
Arsenic (filtered)	µg/L	0.1	***6***	**25**	-	-	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	0.8	<0.2	<0.2	<0.1
Barium (filtered)	µg/L	0.01	***423***	**1,000**	***574***	***739***	***597***	***869***	***664***	***801***	***569***	***723***	152	***713***	230	***621***	311	***743***
Boron (filtered)	µg/L	0.2	***2,535***	**5,000**	91.6	116	99.4	180	110	136	128	153	83	104	99	106	110	121
Calcium (filtered)	µg/L	10			113,000	89,800	113,000	96,900	99,700	87,200	109,000	102,000	122,000	126,000	117,000	115,000	113,000	116,000
Chloride	µg/L	200		**250,000**	50,000	30,000	50,000	33,000	39,000	42,000	53,000	42,000	54,000	51,000	44,000	55,000	44,000	40,700
Iron (filtered)	µg/L	2	***153***	**300**	8	4	4	<2	<2	11	11	20	18	10	19	20	24	<5
Magnesium (filtered)	µg/L	1			11,000	11,900	11,700	12,600	12,200	12,700	12,600	11,800	6,760	11,500	7,580	12,900	9,820	13,400
Manganese (filtered)	µg/L	0.01	***26***	**50**	-	-	-	3.63	3.29	6.36	4.53	4.94	15.6	3.52	20.1	5.18	16.4	3
Phosphorus total (P2O5)	µg/L	3			-	-	-	-	<30	<30	30	<3	<30	-	<30	<30	<30	20
Potassium (filtered)	µg/L	2			-	-	-	3,700	3,080	3,240	3,410	3,290	2,100	3,280	2,250	3,340	2,780	3,100
Sodium (filtered)	µg/L	10		**200,000**	11,100	8,290	11,300	8,740	10,600	8,640	10,600	11,200	12,300	13,700	12,000	16,900	11,200	11,700
Zinc (filtered)	µg/L	2		**5,000**	-	-	-	<2	<2	<2	<2	4	<2	3	3	2	<2	<5
Alkalinity (total) as CaCO3	mg/L	2	***396***	**500**	262	233	273	255	271	262	272	250	283	284	265	278	253	271
Total Dissolved Solids	mg/L	3		**500**	423	337	354	343	420	357	363	360	460	403	403	397	351	338
Hardness as CaCO3 (filtered)	mg/L	0.02		**500**	-	-	-	-	-	-	-	-	-	-	-	-	-	345
Chemical Oxygen Demand	mg/L	5			12	17	<8	12	13	12	8	9	<8	<8	<8	<8	<8	7
Dissolved Organic Carbon (filtered)	mg/L	0.2	***4***	**5**	1.4	<1	2.7	***3.7***	-	-	-	-	-	-	-	-	-	2.2
Phenols (4AAP)	mg/L	0.001			-	-	-	-	0.002	<0.002	0.002	<0.001	<0.001	<0.001	<0.001	0.002	<0.001	0.004
Sulphate (filtered)	mg/L	0.2		**500**	24	21	21	23	22	25	19	20	24	22	28	23	25	20
Ammonia as N	mg/L	0.01			0.2	<0.1	0.3	0.1	0.1	0.2	0.1	0.1	0.1	0.1	<0.1	<0.1	0.1	0.14
Nitrate (as N)	mg/L	0.05		**10**	0.17	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	0.18	<0.06	<0.06	<0.06	<0.06	<0.06	0.08
Total Kjeldahl Nitrogen	mg/L	0.1			-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.2
Electrical Conductivity (Lab)	µS/cm	1			692	592	692	589	618	608	695	616	710	675	649	684	595	650
pH (Lab)	-	0.05		**6.5-8.5**	7.92	8.23	7.98	8.13	7.99	7.97	8.04	7.86	7.8	7.42	7.92	7.71	7.91	7.85
DO (Field)	mg/L				-	-	-	-	-	-	-	-	-	3	5.9	-	6.5	2.83
Redox (Field)	mV				-	-	-	-	-	-	-	-	-	-92	-149	-	-128	-38
Temperature (Field)	°C				-	-	-	-	-	-	-	-	-	8.5	9.9	14.4	8.6	9.4
Conductivity (field)	µS/cm				-	-	-	-	-	-	-	-	-	457	477	-	388	651
pH (Field)	-			**6.5-8.5**	-	-	-	-	-	-	-	-	-	7.6	7.6	7.3	8.1	7.2

Table 5 - Groundwater Quality - Shallow BR

				Location Code	MW12-1	MW12-1	MW12-1	MW12-1	MW12-1	MW13-1	MW13-1	MW13-1	MW13-1	MW13-1	MW13-1	MW13-1	MW13-1	MW13-1
				Date	11 Nov 2021	12 Apr 2022	25 Oct 2022	23 Oct 2023	29 Oct 2024	24 May 2012	24 Oct 2012	18 Jun 2013	05 Nov 2013	26 Jun 2014	11 Nov 2014	22 May 2015	19 Nov 2015	31 May 2016
	Unit	EQL	*RUC*	ODWQS														
Arsenic (filtered)	µg/L	0.1	***6***	**25**	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-	-	-	<0.2	<0.2	<0.2	<0.2
Barium (filtered)	µg/L	0.01	***423***	**1,000**	***994***	***694***	***1,080***	***1,010***	***1,050***	118	122	92.1	77.8	118	80.5	119	83.9	84.2
Boron (filtered)	µg/L	0.2	***2,535***	**5,000**	156	118	167	151	170	16.7	28.7	18.6	15.5	19.0	42.3	20.7	28.3	21
Calcium (filtered)	µg/L	10			106,000	109,000	93,500	87,900	92,800	115,000	105,000	98,300	81,700	110,000	88,800	114,000	88,300	91,700
Chloride	µg/L	200		**250,000**	39,400	41,300	37,500	36,300	39,100	120,000	71,000	63,000	21,000	100,000	15,000	110,000	18,000	86,000
Iron (filtered)	µg/L	2	***153***	**300**	<5	<5	15	<5	27	<3	<3	6	<3	<2	<2	***283***	7	<7
Magnesium (filtered)	µg/L	1			14,300	12,400	15,200	13,900	15,700	3,500	3,210	2,710	2,340	3,040	2,480	3,190	2,550	2,600
Manganese (filtered)	µg/L	0.01	***26***	**50**	3	3	10	3	4	-	-	-	-	-	0.16	3.15	0.21	0.08
Phosphorus total (P2O5)	µg/L	3			10	30	30	50	<100	-	-	-	-	-	-	<30	-	<30
Potassium (filtered)	µg/L	2			3,500	3,300	3,400	3,200	3,800	-	-	-	-	-	2,130	2,020	1,740	1,970
Sodium (filtered)	µg/L	10		**200,000**	10,600	13,600	9,500	7,700	9,100	62,200	49,200	29,600	17,800	51,200	21,100	67,300	21,400	33,000
Zinc (filtered)	µg/L	2		**5,000**	<5	<5	<5	-	-	-	-	-	-	-	2	2	3	4
Alkalinity (total) as CaCO3	mg/L	2	***396***	**500**	241	254	241	254	237	274	267	235	246	267	257	272	262	270
Total Dissolved Solids	mg/L	3		**500**	336	353	321	320	325	**620**	483	374	283	469	283	**517**	320	463
Hardness as CaCO3 (filtered)	mg/L	0.02		**500**	325	323	296	277	297	-	-	-	-	-	-	-	-	-
Chemical Oxygen Demand	mg/L	5			13	6	8	9	8	25	<8	<8	<8	<8	<8	<8	<8	<8
Dissolved Organic Carbon (filtered)	mg/L	0.2	***4***	**5**	1.9	2.3	0.7	2.8	1.9	2.4	1.4	2.1	2.1	3.1	***3.9***	1.5	2.5	2.0
Phenols (4AAP)	mg/L	0.001			0.006	0.002	<0.001	<0.001	<0.001	-	-	-	-	-	-	<0.002	-	0.003
Sulphate (filtered)	mg/L	0.2		**500**	26	23	25	28	27	9.8	21	9.3	6.0	7.8	6.4	11	8	9
Ammonia as N	mg/L	0.01			0.16	0.14	0.16	0.16	0.19	<0.1	<0.1	<0.1	<0.1	0.2	0.1	<0.1	<0.1	<0.1
Nitrate (as N)	mg/L	0.05		**10**	<0.05	<0.05	<0.05	<0.05	<0.05	1.09	1.31	1.81	0.37	0.63	0.27	1.56	0.24	1.12
Total Kjeldahl Nitrogen	mg/L	0.1			0.2	0.2	0.2	-	0.3	-	-	-	-	-	-	<0.5	-	<0.5
Electrical Conductivity (Lab)	µS/cm	1			647	680	618	617	627	1,000	801	682	521	878	516	884	558	859
pH (Lab)	-	0.05		**6.5-8.5**	7.91	7.56	7.76	7.38	7.8	7.79	7.86	7.95	8.20	8.02	8.18	7.99	8.04	7.99
DO (Field)	mg/L				3.6	2.29	2.96	2.91	1.31	-	-	-	-	-	-	-	-	-
Redox (Field)	mV				11	175	-141	-163	-263	-	-	-	-	-	-	-	-	-
Temperature (Field)	°C				9.4	7.2	10.8	9.4	9.9	-	-	-	-	-	-	-	-	-
Conductivity (field)	µS/cm				280	589	586	584	451	-	-	-	-	-	-	-	-	-
pH (Field)	-			**6.5-8.5**	7.45	7.08	7.37	6.97	7.33	-	-	-	-	-	-	-	-	-

Table 5 - Groundwater Quality - Shallow BR

				Location Code	MW13-1	MW13-1	MW13-1	MW13-1	MW13-1	MW13-1	MW13-1	MW13-1	MW13-1	MW13-1	MW13-1	MW13-1
				Date	01 Nov 2016	04 Oct 2017	30 May 2019	29 Oct 2019	26 May 2020	18 Nov 2020	28 Jun 2021	11 Nov 2021	12 Apr 2022	25 Oct 2022	23 Oct 2023	29 Oct 2024
	Unit	EQL	*RUC*	ODWQS												
Arsenic (filtered)	µg/L	0.1	***6***	**25**	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	0.1	0.1	<0.1	<0.1	<0.1	<0.1
Barium (filtered)	µg/L	0.01	***423***	**1,000**	138	147	118	82.4	110	71.6	132	138	117	121	121	126
Boron (filtered)	µg/L	0.2	***2,535***	**5,000**	42	42	21	19	17	23	20	23	13	24	26	34
Calcium (filtered)	µg/L	10			119,000	117,000	132,000	96,500	108,000	79,100	114,000	125,000	124,000	104,000	103,000	115,000
Chloride	µg/L	200		**250,000**	100,000	140,000	57,000	21,000	140,000	21,000	124,000	115,000	105,000	102,000	102,000	123,000
Iron (filtered)	µg/L	2	***153***	**300**	<7	<7	<7	<7.00000	<7	<7	<5	<5	<5	<5	<5	6
Magnesium (filtered)	µg/L	1			3,440	3,340	3,110	2,590	3,020	2,220	3,270	3,500	3,640	3,410	2,910	3,540
Manganese (filtered)	µg/L	0.01	***26***	**50**	0.06	0.1	0.15	0.13	0.07	0.12	<1	<1	<1	1	<1	<1
Phosphorus total (P2O5)	µg/L	3			-	-	-	-	-	-	20	90	30	740	70	<100
Potassium (filtered)	µg/L	2			2,700	3,000	1,880	2,240	2,510	2,160	2,600	2,600	1,900	2,900	2,300	2,700
Sodium (filtered)	µg/L	10		**200,000**	74,900	87,600	38,200	28,400	70,300	34,000	91,500	87,000	53,900	84,700	70,500	82,900
Zinc (filtered)	µg/L	2		**5,000**	<2	3	2	3	4	<2	<5	<5	<5	<5	-	-
Alkalinity (total) as CaCO3	mg/L	2	***396***	**500**	276	290	249	250	251	245	262	309	243	277	315	290
Total Dissolved Solids	mg/L	3		**500**	491	**566**	394	286	**503**	294	484	**532**	463	474	486	**515**
Hardness as CaCO3 (filtered)	mg/L	0.02		**500**	-	-	-	-	-	-	298	328	325	274	269	303
Chemical Oxygen Demand	mg/L	5			<8	<8	<8	<8.0	8	<8	17	56	<5	5	<5	9
Dissolved Organic Carbon (filtered)	mg/L	0.2	***4***	**5**	<1	3	-	1	2	1	2.4	2	1.6	0.4	3.3	2.6
Phenols (4AAP)	mg/L	0.001			-	-	0.003	-	<0.002	-	<0.002	<0.002	<0.001	<0.001	<0.001	<0.001
Sulphate (filtered)	mg/L	0.2		**500**	19	21	10	8	10	7	11	11	12	15	16	12
Ammonia as N	mg/L	0.01			<0.1	<0.1	<0.1	<0.1000	<0.1	<0.1	<0.01	<0.01	<0.01	0.03	<0.05	<0.05
Nitrate (as N)	mg/L	0.05		**10**	1.56	-	2.42	0.26	<0.06	0.35	0.9	2.55	3.35	1.42	1.92	1.8
Total Kjeldahl Nitrogen	mg/L	0.1			-	-	<0.5	-	<0.5	-	0.2	-	0.2	0.2	-	0.2
Electrical Conductivity (Lab)	µS/cm	1			917	1,020	628	534	884	517	913	998	875	895	916	967
pH (Lab)	-	0.05		**6.5-8.5**	7.96	7.83	8.1	7.89	7.77	7.76	7.73	7.64	7.53	7.68	7.49	7.87
DO (Field)	mg/L				-	-	9.9	10.3	-	8.2	7.01	5.2	8.75	5.93	8.76	4.01
Redox (Field)	mV				-	-	158	13	-	28	135	57	48	-142	-29	54
Temperature (Field)	°C				-	-	9.1	9.6	12.8	12.8	10.1	10.6	6.7	11.7	9.1	10.9
Conductivity (field)	µS/cm				-	-	385	652	-	370	848	412	765	337	858	714
pH (Field)	-			**6.5-8.5**	-	-	7.9	7.8	7.3	7.6	7.23	7	7	7.27	7.04	7.23

Table 6 - Groundwater Quality - Deep BR

				Location Code	MW08-1	MW08-1	MW08-1	MW08-1	MW08-1	MW08-1	MW08-1	MW08-1	MW08-1	MW08-1	MW08-1	MW08-1	MW08-1	MW08-1
				Date	18 May 2012	09 Oct 2012	10 Jun 2013	05 Nov 2013	26 Jun 2014	06 Nov 2014	22 May 2015	30 May 2016	31 Oct 2016	31 May 2017	04 Oct 2017	30 May 2019	29 Oct 2019	26 May 2020
	Unit	EQL	***RUC***	**ODWQS**														
Arsenic (filtered)	µg/L	0.1	***6***	**25**	-	-	-	-	-	0.3	<0.2	3.5	0.9	2.1	0.6	<0.2	<0.2	<0.2
Barium (filtered)	µg/L	0.01	***423***	**1,000**	118	112	103	110	107	103	101	110	97.8	122	105	106	106	94.8
Boron (filtered)	µg/L	0.2	***2,535***	**5,000**	92.1	86.6	92.7	80.4	92.6	76.0	82.0	128	91	116	105	114	102	101
Calcium (filtered)	µg/L	10			112,000	108,000	94,300	103,000	100,000	106,000	103,000	118,000	110,000	115,000	108,000	125,000	121,000	105,000
Chloride	µg/L	200		**250,000**	65,000	69,000	74,000	71,000	75,000	75,000	71,000	71,000	70,000	78,000	79,000	83,000	78,000	86,000
Iron (filtered)	µg/L	2	***153***	**300**	41	***531***	***1,200***	***250***	***3,030***	***184***	28	***3,890***	***1,040***	***3,820***	***881***	16	18	17
Magnesium (filtered)	µg/L	1			9,260	9,150	9,240	9,030	11,300	9,620	9,820	10,500	10,100	11,600	11,200	11,700	11,300	12,000
Manganese (filtered)	µg/L	0.01	***26***	**50**	-	-	-	-	-	***30.6***	9.63	***190***	***97.7***	***188***	***156***	5.23	***83.7***	4.05
Phosphorus total (P2O5)	µg/L	10			-	-	-	-	-	-	<30	<30	-	<30	-	-	-	-
Potassium (filtered)	µg/L	2			-	-	-	-	-	3,840	3,200	3,490	3,220	3,810	3,410	3,770	3,640	3,150
Sodium (filtered)	µg/L	10		**200,000**	43,800	42,600	39,400	42,000	45,100	46,600	44,500	48,400	43,800	45,500	44,200	48,400	45,900	52,100
Zinc (filtered)	µg/L	2		**5,000**	-	-	-	-	-	5	2	<2	4	8	2	3	3	4
Alkalinity (total) as CaCO3	mg/L	2	***396***	**500**	298	290	281	274	309	309	304	314	299	313	294	284	274	290
Total Dissolved Solids	mg/L	3		**500**	454	471	426	434	440	457	440	437	457	454	460	489	454	451
Hardness as CaCO3 (filtered)	mg/L	0.02		**500**	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chemical Oxygen Demand	mg/L	5			13	9	<8	<8	<8	<8	13	9	<8	<8	8	<8	<8	<8
Dissolved Organic Carbon (filtered)	mg/L	0.2	***4***	**5**	1.8	1.5	2.5	3.1	2.7	2.8	<1	2.0	***4***	1	2	-	<1	2
Phenols (4AAP)	mg/L	0.001			-	-	-	-	-	-	<0.002	0.004	-	0.006	-	0.001	-	<0.002
Sulphate (filtered)	mg/L	0.2		**500**	16	17	16	18	15	16	17	15	13	15	16	18	19	19
Ammonia as N	mg/L	0.01			<0.1	<0.1	<0.1	<0.1	0.1	0.2	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	0.2	<0.1
Nitrate (as N)	mg/L	0.05		**10**	0.26	0.08	0.16	0.06	0.09	<0.06	0.25	0.08	0.13	<0.06	-	<0.06	<0.06	<0.06
Total Kjeldahl Nitrogen	mg/L	0.1			-	-	-	-	-	-	<0.5	<0.5	-	0.5	-	<0.5	-	<0.5
Electrical Conductivity (Lab)	µS/cm	1			784	820	784	771	793	791	788	816	824	792	814	795	801	794
pH (Lab)	-	0.05		**6.5-8.5**	7.89	8.02	7.96	8.16	7.50	8.09	7.92	8.07	7.99	7.83	7.83	7.53	7.94	7.84
DO (Field)	mg/L				-	-	-	-	-	-	-	-	-	-	-	4.8	3.7	-
Redox (Field)	mV				-	-	-	-	-	-	-	-	-	-	-	198	21	-
Temperature (Field)	°C				-	-	-	-	-	-	-	-	-	-	-	9.2	12.2	15.2
Conductivity (field)	µS/cm				-	-	-	-	-	-	-	-	-	-	-	570	695	-
pH (Field)	-			**6.5-8.5**	-	-	-	-	-	-	-	-	-	-	-	7.7	**6.4**	7.7

Table 6 - Groundwater Quality - Deep BR

				Location Code	MW08-1	MW08-1	MW08-1	MW08-1	MW08-1	MW08-1	MW08-1	MW09-1	MW09-1	MW09-1	MW09-1	MW09-1	MW09-1	MW09-1
				Date	18 Nov 2020	28 Jun 2021	11 Nov 2021	12 Apr 2022	25 Oct 2022	23 Oct 2023	29 Oct 2024	18 May 2012	09 Oct 2012	10 Jun 2013	05 Nov 2013	02 Jul 2014	22 May 2015	30 May 2016
	Unit	EQL	***RUC***	**ODWQS**														
Arsenic (filtered)	µg/L	0.1	***6***	**25**	<0.2	0.4	0.3	0.3	0.3	0.2	0.2	-	-	-	-	-	<0.2	<0.2
Barium (filtered)	µg/L	0.01	***423***	**1,000**	97.6	109	119	109	153	168	146	***985***	***1,010***	192	***936***	***875***	***742***	177
Boron (filtered)	µg/L	0.2	***2,535***	**5,000**	99	79	63	43	42	53	36	558	523	29.0	472	492	526	541
Calcium (filtered)	µg/L	10			111,000	115,000	118,000	106,000	117,000	109,000	116,000	48,300	49,900	83,600	49,600	46,200	46,100	40,900
Chloride	µg/L	200		**250,000**	85,000	84,100	72,100	69,400	73,700	81,500	77,600	12,000	12,000	49,000	13,000	13,000	24,000	17,000
Iron (filtered)	µg/L	2	***153***	**300**	19	10	***885***	30	52	***222***	<5	<3	<3	***372***	<3	4	<2	33
Magnesium (filtered)	µg/L	1			11,400	10,200	8,050	6,100	5,670	5,410	4,570	21,600	21,200	3,840	19,900	20,600	21,500	18,500
Manganese (filtered)	µg/L	0.01	***26***	**50**	***56.4***	17	***260***	11	21	***85***	5	-	-	-	-	-	***92.6***	***66.3***
Phosphorus total (P2O5)	µg/L	10			-	50	60	180	60	70	<100	-	-	-	-	-	<30	<30
Potassium (filtered)	µg/L	2			3,580	3,000	2,900	2,300	2,200	2,000	2,200	-	-	-	-	-	5,290	4,870
Sodium (filtered)	µg/L	10		**200,000**	48,500	53,400	49,700	46,100	51,300	45,300	52,500	49,100	47,000	29,600	43,700	49,500	50,000	46,500
Zinc (filtered)	µg/L	2		**5,000**	<2	<5	<5	<5	<5	-	-	-	-	-	-	-	<2	6
Alkalinity (total) as CaCO3	mg/L	2	***396***	**500**	287	273	277	271	283	314	298	274	282	240	266	252	280	252
Total Dissolved Solids	mg/L	3		**500**	440	433	408	405	417	445	442	346	357	337	383	386	366	363
Hardness as CaCO3 (filtered)	mg/L	0.02		**500**	-	329	328	290	315	295	309	-	-	-	-	-	-	-
Chemical Oxygen Demand	mg/L	5			<8	<5	16	13	6	<5	9	41	51	10	41	33	37	8
Dissolved Organic Carbon (filtered)	mg/L	0.2	***4***	**5**	1	2.8	2.2	2.9	0.8	***3.9***	2.5	<1	<1	3.5	1.8	1.0	<1	1.5
Phenols (4AAP)	mg/L	0.001			-	<0.002	<0.002	<0.001	<0.001	0.003	<0.001	-	-	-	-	-	<0.002	0.004
Sulphate (filtered)	mg/L	0.2		**500**	18	20	12	13	14	15	13	7.2	3.6	8.6	9.4	38	23	66
Ammonia as N	mg/L	0.01			<0.1	0.02	0.01	0.03	0.04	<0.05	<0.05	0.7	0.7	<0.1	0.6	1.0	0.6	0.6
Nitrate (as N)	mg/L	0.05		**10**	<0.06	0.22	0.46	0.23	0.32	1.09	0.83	<0.05	<0.05	<0.06	<0.06	0.18	0.06	0.46
Total Kjeldahl Nitrogen	mg/L	0.1			-	0.2	-	0.4	0.3	-	0.2	-	-	-	-	-	0.9	0.6
Electrical Conductivity (Lab)	µS/cm	1			791	822	778	774	795	843	839	608	606	617	602	590	593	617
pH (Lab)	-	0.05		**6.5-8.5**	7.73	7.77	7.92	7.61	7.8	7.45	7.87	8.02	8.41	7.92	8.21	8.00	8.19	8.17
DO (Field)	mg/L				7.7	3.15	2.3	3.23	1.88	8.61	2.1	-	-	-	-	-	-	-
Redox (Field)	mV				119	221	-72	-70	-135	-38	47	-	-	-	-	-	-	-
Temperature (Field)	°C				5.8	11.1	9	9.8	11	9.5	9.7	-	-	-	-	-	-	-
Conductivity (field)	µS/cm				460	792	335	626	776	783	596	-	-	-	-	-	-	-
pH (Field)	-			**6.5-8.5**	8.4	7.04	7.24	7.12	7.09	7	6.96	-	-	-	-	-	-	-

Table 6 - Groundwater Quality - Deep BR

				Location Code	MW09-1	MW09-1	MW09-1	MW09-1	MW09-1	MW09-1	MW09-1	MW09-1	MW09-1	MW09-1	MW09-1	MW09-1	MW09-1	MW10-1
				Date	31 Oct 2016	31 May 2017	04 Oct 2017	30 May 2019	29 Oct 2019	26 May 2020	18 Nov 2020	28 Jun 2021	11 Nov 2021	12 Apr 2022	25 Oct 2022	23 Oct 2023	29 Oct 2024	18 May 2012
	Unit	EQL	***RUC***	**ODWQS**														
Arsenic (filtered)	µg/L	0.1	***6***	**25**	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	-
Barium (filtered)	µg/L	0.01	***423***	**1,000**	***708***	***662***	***772***	***688***	***570***	***689***	***612***	***768***	***897***	141	***914***	***652***	***579***	***986***
Boron (filtered)	µg/L	0.2	***2,535***	**5,000**	533	571	549	590	491	531	468	571	569	19	615	470	583	143
Calcium (filtered)	µg/L	10			49,700	54,600	56,900	58,700	55,700	53,000	57,500	51,600	53,700	90,900	50,800	39,400	47,600	102,000
Chloride	µg/L	200		**250,000**	24,000	18,000	28,000	16,000	18,000	16,000	15,000	15,200	16,200	20,500	14,900	15,100	16,300	48,000
Iron (filtered)	µg/L	2	***153***	**300**	8	16	9	<7	8	15	<7	40	<5	37	<5	15	19	36
Magnesium (filtered)	µg/L	1			20,600	20,600	22,000	22,700	18,900	24,400	20,800	22,900	22,100	3,430	22,500	17,900	22,600	14,100
Manganese (filtered)	µg/L	0.01	***26***	**50**	***83.0***	***91.6***	***90.4***	***82***	***70***	***69.9***	***58.3***	***64***	***41***	2	***50***	***69***	***46***	-
Phosphorus total (P2O5)	µg/L	10			-	<30	-	-	-	-	-	60	40	10	50	60	<100	-
Potassium (filtered)	µg/L	2			5,170	5,410	5,380	6,170	5,320	5,330	5,420	5,400	5,600	1,800	5,700	4,400	5,700	-
Sodium (filtered)	µg/L	10		**200,000**	50,200	48,100	50,000	51,700	42,600	56,200	47,000	54,400	52,500	32,200	55,700	39,000	52,300	9,600
Zinc (filtered)	µg/L	2		**5,000**	2	<2	<2	<2	<2	<2	<2	<5	<5	<5	<5	-	-	-
Alkalinity (total) as CaCO3	mg/L	2	***396***	**500**	276	278	292	271	241	258	335	236	239	250	268	238	257	237
Total Dissolved Solids	mg/L	3		**500**	369	354	366	391	323	337	320	315	326	296	322	304	328	389
Hardness as CaCO3 (filtered)	mg/L	0.02		**500**	-	-	-	-	-	-	-	223	225	241	220	172	212	-
Chemical Oxygen Demand	mg/L	5			16	34	34	34	24	37	35	33	35	<5	57	50	49	12
Dissolved Organic Carbon (filtered)	mg/L	0.2	***4***	**5**	3	1	2	-	<1	1	1	2.6	1.8	3.5	0.9	3.3	2.1	1.0
Phenols (4AAP)	mg/L	0.001			-	<0.002	-	<0.001	-	0.003	-	0.009	0.013	<0.001	0.016	0.032	0.028	-
Sulphate (filtered)	mg/L	0.2		**500**	47	39	53	41	42	63	66	55	46	7	44	64	53	18
Ammonia as N	mg/L	0.01			0.7	0.7	0.7	0.7	0.7	0.6	0.7	0.65	0.64	<0.01	0.63	0.6	0.7	0.2
Nitrate (as N)	mg/L	0.05		**10**	<0.06	<0.06	-	<0.06	<0.06	<0.06	<0.06	<0.05	<0.05	0.17	<0.05	<0.05	<0.05	0.16
Total Kjeldahl Nitrogen	mg/L	0.1			-	0.6	-	0.5	-	0.6	-	0.7	-	0.2	0.8	-	0.8	-
Electrical Conductivity (Lab)	µS/cm	1			619	622	617	605	561	592	598	607	628	571	621	587	631	633
pH (Lab)	-	0.05		**6.5-8.5**	8.17	7.97	8.02	7.41	7.23	7.73	8.24	7.84	7.82	7.46	7.98	7.41	8.01	7.96
DO (Field)	mg/L				-	-	-	3.7	2.8	-	3.7	6.1	3.33	1.25	5.57	1.31	5.75	-
Redox (Field)	mV				-	-	-	-195	-220	-	-288	119	-96	-	-139	-241	-233	-
Temperature (Field)	°C				-	-	-	10.5	13.2	14.8	7.3	10.8	9.4	6.8	13.6	8.5	9.9	-
Conductivity (field)	µS/cm				-	-	-	420	533	-	361	622	271	498	560	585	441	-
pH (Field)	-			**6.5-8.5**	-	-	-	7.9	7.6	7.5	7.7	7.83	7.82	7.46	7.87	7.19	7.75	-

Table 6 - Groundwater Quality - Deep BR

				Location Code	MW10-1	MW10-1	MW10-1	MW10-1	MW10-1	MW10-1	MW10-1	MW10-1	MW10-1	MW10-1	MW10-1	MW10-1	MW10-1	MW10-1
				Date	09 Oct 2012	10 Jun 2013	05 Nov 2013	26 Jun 2014	22 May 2015	30 May 2016	31 Oct 2016	31 May 2017	04 Oct 2017	30 May 2019	29 Oct 2019	26 May 2020	18 Nov 2020	24 Jun 2021
	Unit	EQL	*RUC*	**ODWQS**														
Arsenic (filtered)	µg/L	0.1	***6***	**25**	-	-	-	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.1
Barium (filtered)	µg/L	0.01	***423***	**1,000**	***917***	***838***	***802***	***749***	***725***	***798***	***768***	***825***	***823***	***839***	***803***	***848***	***662***	***944***
Boron (filtered)	µg/L	0.2	***2,535***	**5,000**	158	177	182	179	219	278	277	227	217	260	273	221	201	184
Calcium (filtered)	µg/L	10			100,000	85,600	82,500	84,300	83,900	87,600	83,900	95,500	98,400	103,000	91,900	90,900	96,300	105,000
Chloride	µg/L	200		**250,000**	46,000	51,000	47,000	49,000	50,000	47,000	47,000	48,000	53,000	51,000	49,000	53,000	51,000	54,200
Iron (filtered)	µg/L	2	***153***	**300**	7	8	5	20	***380***	***369***	19	30	10	85	14	48	23	18
Magnesium (filtered)	µg/L	1			16,000	15,100	17,700	18,500	19,500	20,700	21,200	18,100	18,300	20,700	20,500	21,500	20,100	17,700
Manganese (filtered)	µg/L	0.01	***26***	**50**	-	-	-	-	***102***	***116***	***127***	***138***	***137***	***173***	***136***	***119***	***124***	***62***
Phosphorus total (P2O5)	µg/L	10			-	-	-	-	<30	<30	-	<30	-	-	-	-	-	30
Potassium (filtered)	µg/L	2			-	-	-	-	3,890	4,390	4,080	3,890	4,000	4,690	4,590	3,870	4,460	3,500
Sodium (filtered)	µg/L	10		**200,000**	10,100	10,800	11,300	11,800	12,000	14,200	13,600	11,400	11,600	13,200	13,000	14,100	12,900	11,200
Zinc (filtered)	µg/L	2		**5,000**	-	-	-	-	<2	<2	4	3	<2	4	<2	6	3	<5
Alkalinity (total) as CaCO3	mg/L	2	***396***	**500**	234	234	227	243	243	222	238	243	223	245	232	233	241	251
Total Dissolved Solids	mg/L	3		**500**	389	420	354	349	389	391	369	369	414	400	334	377	351	336
Hardness as CaCO3 (filtered)	mg/L	0.02		**500**	-	-	-	-	-	-	-	-	-	-	-	-	-	335
Chemical Oxygen Demand	mg/L	5			12	<8	11	<8	13	<8	<8	<8	8	<8	<8	<8	<8	<5
Dissolved Organic Carbon (filtered)	mg/L	0.2	***4***	**5**	<1	2.7	<1	1.8	1.7	1.3	3	<1	1	-	<1	1	1	2.8
Phenols (4AAP)	mg/L	0.001			-	-	-	-	<0.002	0.006	-	<0.002	-	0.002	-	<0.002	-	<0.002
Sulphate (filtered)	mg/L	0.2		**500**	19	18	19	17	20	26	24	23	31	25	23	25	25	23
Ammonia as N	mg/L	0.01			0.2	0.2	0.1	0.2	<0.1	<0.1	0.2	0.2	0.3	0.2	0.2	0.2	0.3	0.15
Nitrate (as N)	mg/L	0.05		**10**	<0.05	<0.06	<0.06	0.18	<0.06	<0.06	<0.06	<0.06	-	<0.06	<0.06	<0.06	<0.06	<0.05
Total Kjeldahl Nitrogen	mg/L	0.1			-	-	-	-	<0.5	<0.5	-	<0.5	-	<0.5	-	<0.5	-	0.1
Electrical Conductivity (Lab)	µS/cm	1			653	638	610	625	629	624	629	617	643	616	608	623	631	648
pH (Lab)	-	0.05		**6.5-8.5**	8.13	7.97	8.33	7.69	8.02	8.16	7.99	7.84	7.77	7.74	8.16	7.8	7.91	7.76
DO (Field)	mg/L				-	-	-	-	-	-	-	-	-	4	3.6	-	3.4	2.59
Redox (Field)	mV				-	-	-	-	-	-	-	-	-	-70	-126	-	-238	-118
Temperature (Field)	°C				-	-	-	-	-	-	-	-	-	10.2	13.2	14.1	6.6	8.9
Conductivity (field)	µS/cm				-	-	-	-	-	-	-	-	-	447	556	-	373	648
pH (Field)	-			**6.5-8.5**	-	-	-	-	-	-	-	-	-	7.8	7.5	7.7	8.1	8.15

Table 6 - Groundwater Quality - Deep BR

				Location Code	MW10-1	MW10-1	MW10-1	MW10-1	MW10-1	MW11-1	MW11-1	MW11-1	MW11-1	MW11-1	MW11-1	MW11-1	MW11-1	MW11-1
				Date	11 Nov 2021	12 Apr 2022	25 Oct 2022	23 Oct 2023	29 Oct 2024	18 May 2012	09 Oct 2012	10 Jun 2013	05 Nov 2013	26 Jun 2014	22 May 2015	30 May 2016	31 Oct 2016	31 May 2017
	Unit	EQL	***RUC***	**ODWQS**														
Arsenic (filtered)	µg/L	0.1	***6***	**25**	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-	-	-	<0.2	<0.2	<0.2	<0.2
Barium (filtered)	µg/L	0.01	***423***	**1,000**	***888***	***980***	***929***	***984***	***1,070***	***915***	***592***	349	***452***	***1,160***	***473***	199	***430***	***452***
Boron (filtered)	µg/L	0.2	***2,535***	**5,000**	193	150	169	158	179	589	568	484	404	603	547	655	715	145
Calcium (filtered)	µg/L	10			98,500	103,000	86,900	96,500	101,000	70,400	70,600	71,200	72,700	68,600	71,800	77,500	69,900	105,000
Chloride	µg/L	200		**250,000**	48,400	45,100	38,000	47,700	48,000	26,000	29,000	30,000	32,000	25,000	31,000	30,000	38,000	28,000
Iron (filtered)	µg/L	2	***153***	**300**	17	26	<5	<5	9	22	18	14	9	4	<2	30	<7	***3,840***
Magnesium (filtered)	µg/L	1			17,400	14,500	12,100	13,400	14,900	32,000	31,100	28,100	26,800	34,100	30,000	30,100	34,700	10,500
Manganese (filtered)	µg/L	0.01	***26***	**50**	***102***	26	10	13	15	-	-	-	-	-	***103***	***103***	***86.3***	***40.4***
Phosphorus total (P2O5)	µg/L	10			<10	<10	20	60	<100	-	-	-	-	-	<30	<30	-	<30
Potassium (filtered)	µg/L	2			3,700	2,900	2,900	3,000	3,500	-	-	-	-	-	5,110	5,350	5,530	2,670
Sodium (filtered)	µg/L	10		**200,000**	11,500	9,200	7,900	7,800	9,700	19,900	18,200	16,800	15,200	20,200	17,600	18,800	20,400	10,400
Zinc (filtered)	µg/L	2		**5,000**	<5	<5	<5	-	-	-	-	-	-	-	<2	3	4	<2
Alkalinity (total) as CaCO3	mg/L	2	***396***	**500**	236	238	241	262	241	288	262	247	254	245	265	268	294	261
Total Dissolved Solids	mg/L	3		**500**	337	339	320	336	335	406	409	409	371	417	411	426	391	349
Hardness as CaCO3 (filtered)	mg/L	0.02		**500**	317	317	267	296	314	-	-	-	-	-	-	-	-	-
Chemical Oxygen Demand	mg/L	5			10	<5	8	10	15	14	<8	8	16	32	19	<8	13	<8
Dissolved Organic Carbon (filtered)	mg/L	0.2	***4***	**5**	1.4	2	1.1	***4.1***	2	1.6	1.1	2.2	1.1	2.3	1.4	2.1	3	-
Phenols (4AAP)	mg/L	0.001			0.002	0.003	0.003	<0.001	<0.001	-	-	-	-	-	<0.002	0.003	-	0.002
Sulphate (filtered)	mg/L	0.2		**500**	20	19	20	21	21	36	47	45	45	28	53	65	69	10
Ammonia as N	mg/L	0.01			0.18	0.15	0.18	0.17	0.2	0.9	1.0	0.9	1.1	1.2	0.8	0.9	1.1	0.6
Nitrate (as N)	mg/L	0.05		**10**	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.06	<0.06	1.56	<0.06	0.20	0.07	<0.06
Total Kjeldahl Nitrogen	mg/L	0.1			-	0.2	0.3	-	0.4	-	-	-	-	-	1.5	0.9	-	0.8
Electrical Conductivity (Lab)	µS/cm	1			649	653	616	647	646	674	684	661	669	655	663	674	690	565
pH (Lab)	-	0.05		**6.5-8.5**	7.8	7.54	7.85	7.37	8.05	8.14	8.15	8.00	8.16	8.01	8.02	8.03	8.13	7.96
DO (Field)	mg/L				2.07	2	1.06	3.44	2.93	-	-	-	-	-	-	-	-	-
Redox (Field)	mV				15	-172	-146	-99	-59	-	-	-	-	-	-	-	-	-
Temperature (Field)	°C				9.4	9.1	12	9.4	11.0	-	-	-	-	-	-	-	-	-
Conductivity (field)	µS/cm				284	564	545	42	465	-	-	-	-	-	-	-	-	-
pH (Field)	-			**6.5-8.5**	7.32	6.98	7.37	**6.14**	7.55	-	-	-	-	-	-	-	-	-

Table 6 - Groundwater Quality - Deep BR

				Location Code	MW11-1	MW11-1	MW11-1	MW11-1	MW11-1	MW11-1	MW11-1	MW11-1	MW11-1	MW11-1	MW11-1	MW12-2	MW12-2	MW12-2
				Date	04 Oct 2017	30 May 2019	29 Oct 2019	26 May 2020	18 Nov 2020	24 Jun 2021	11 Nov 2021	12 Apr 2022	25 Oct 2022	23 Oct 2023	29 Oct 2024	24 May 2012	24 Oct 2012	18 Jun 2013
	Unit	EQL	***RUC***	**ODWQS**														
Arsenic (filtered)	µg/L	0.1	***6***	**25**	<0.2	<0.2	<0.2	<0.2	<0.2	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	-	-	-
Barium (filtered)	µg/L	0.01	***423***	**1,000**	***434***	***460***	***446***	***683***	***1,740***	***570***	***748***	***498***	***587***	***720***	***642***	261	288	275
Boron (filtered)	µg/L	0.2	***2,535***	**5,000**	511	362	396	331	438	610	442	446	395	413	360	401	414	403
Calcium (filtered)	µg/L	10			99,900	101,000	90,600	90,300	101,000	79,200	91,900	90,300	93,200	80,200	91,800	89,500	86,500	89,500
Chloride	µg/L	200		**250,000**	33,000	29,000	35,000	34,000	28,000	27,900	35,700	35,200	36,000	38,100	40,700	38,000	39,000	38,000
Iron (filtered)	µg/L	2	***153***	**300**	16	42	19	14	<7	116	48	***232***	***172***	58	132	4	4	20
Magnesium (filtered)	µg/L	1			25,800	19,400	20,700	22,800	27,300	34,400	25,600	26,300	22,700	24,300	23,200	19,400	19,700	21,200
Manganese (filtered)	µg/L	0.01	***26***	**50**	***86.4***	***62.9***	***85.3***	***68***	***64.3***	***86***	***55***	***80***	***71***	***72***	***74***	-	-	-
Phosphorus total (P2O5)	µg/L	10			-	-	-	-	-	180	170	190	90	130	<100	-	-	-
Potassium (filtered)	µg/L	2			4,600	4,260	4,230	3,880	5,000	5,400	4,500	4,500	4,300	4,300	4,500	-	-	-
Sodium (filtered)	µg/L	10		**200,000**	14,600	12,600	12,300	14,700	15,900	19,800	15,800	16,100	14,300	13,000	13,500	29,300	30,300	32,900
Zinc (filtered)	µg/L	2		**5,000**	2	3	<2	7	<2	<5	<5	<5	<5	-	-	-	-	-
Alkalinity (total) as CaCO3	mg/L	2	***396***	**500**	263	260	248	241	290	271	243	253	260	279	257	276	258	273
Total Dissolved Solids	mg/L	3		**500**	409	400	334	391	346	346	360	369	353	361	360	420	420	403
Hardness as CaCO3 (filtered)	mg/L	0.02		**500**	-	-	-	-	-	339	335	334	326	300	325	-	-	-
Chemical Oxygen Demand	mg/L	5			10	9	11	11	10	65	58	45	19	28	20	26	15	14
Dissolved Organic Carbon (filtered)	mg/L	0.2	***4***	**5**	2	-	<1	2	<1	3	2.3	2.5	1.4	***4.1***	2.6	1.4	<1	1.5
Phenols (4AAP)	mg/L	0.001			-	<0.001	-	<0.002	-	<0.002	0.008	<0.001	<0.001	<0.001	0.001	-	-	-
Sulphate (filtered)	mg/L	0.2		**500**	54	37	29	43	64	62	49	51	41	47	43	46	53	53
Ammonia as N	mg/L	0.01			1	0.7	0.9	0.8	0.8	0.88	1.03	0.82	0.89	0.83	0.84	0.2	0.3	0.3
Nitrate (as N)	mg/L	0.05		**10**	-	<0.06	<0.06	<0.06	<0.06	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.06
Total Kjeldahl Nitrogen	mg/L	0.1			-	0.5	-	0.9	-	1.6	-	1.4	1.4	-	1.1	-	-	-
Electrical Conductivity (Lab)	µS/cm	1			663	643	598	607	657	666	693	710	679	695	694	708	730	710
pH (Lab)	-	0.05		**6.5-8.5**	7.84	7.78	8.22	7.83	8.09	7.91	7.69	7.9	7.96	7.64	7.91	7.87	7.84	7.96
DO (Field)	mg/L				-	3.8	4.4	-	3.6	12.42	9.36	7.05	9.19	10.98	4.01	-	-	-
Redox (Field)	mV				-	-95	-125	-	-235	5	15	-93	-149	132	-206	-	-	-
Temperature (Field)	°C				-	9.5	12.9	14.5	6.2	8.3	9	9.4	14.4	7.2	9.6	-	-	-
Conductivity (field)	µS/cm				-	435	589	-	386	655	294	615	649	-	496	-	-	-
pH (Field)	-			**6.5-8.5**	-	7.8	7.7	7.7	8	**8.76**	7.8	7.25	7.62	6.92	7.33	-	-	-

Table 6 - Groundwater Quality - Deep BR

				Location Code	MW12-2	MW12-2	MW12-2	MW12-2	MW12-2	MW12-2	MW12-2	MW12-2	MW12-2	MW12-2	MW12-2	MW12-2	MW12-2	MW12-2
				Date	05 Nov 2013	26 Jun 2014	11 Nov 2014	22 May 2015	19 Nov 2015	31 May 2016	01 Nov 2016	04 Oct 2017	30 May 2019	29 Oct 2019	26 May 2020	18 Nov 2020	24 Jun 2021	11 Nov 2021
	Unit	EQL	***RUC***	**ODWQS**														
Arsenic (filtered)	µg/L	0.1	***6***	**25**	-	-	<0.2	<0.2	<0.2	0.3	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	0.6	4.8
Barium (filtered)	µg/L	0.01	***423***	**1,000**	234	268	276	291	263	260	209	183	252	204	195	180	195	130
Boron (filtered)	µg/L	0.2	***2,535***	**5,000**	288	430	494	584	392	593	514	429	609	548	621	566	674	175
Calcium (filtered)	µg/L	10			91,700	90,600	92,500	86,300	84,500	95,100	91,600	96,100	111,000	115,000	82,300	86,000	78,000	102,000
Chloride	µg/L	200		**250,000**	41,000	40,000	38,000	37,000	42,000	37,000	39,000	41,000	38,000	37,000	34,000	32,000	32,200	43,200
Iron (filtered)	µg/L	2	***153***	**300**	25	6	8	<2	7	19	54	33	143	7	38	15	<5	***917***
Magnesium (filtered)	µg/L	1			17,000	21,200	20,800	24,100	22,100	22,700	20,900	21,500	24,700	26,800	31,200	27,000	29,100	18,800
Manganese (filtered)	µg/L	0.01	***26***	**50**	-	-	***166***	***147***	***146***	***127***	***181***	***164***	***139***	***148***	***110***	***96.81***	***114***	***292***
Phosphorus total (P2O5)	µg/L	10			-	-	-	40	-	<30	-	-	-	-	-	-	170	1,010
Potassium (filtered)	µg/L	2			-	-	3,750	3,440	3,430	3,600	3,520	3,200	3,750	4,160	3,560	3,700	3,500	2,000
Sodium (filtered)	µg/L	10		**200,000**	26,300	35,600	33,000	35,000	33,200	38,100	37,000	36,700	41,400	45,700	47,900	39,000	46,800	45,700
Zinc (filtered)	µg/L	2		**5,000**	-	-	<2	<2	<2	6	11	<2	4	3	3	4	<5	7
Alkalinity (total) as CaCO3	mg/L	2	***396***	**500**	267	270	283	291	276	284	270	264	294	285	303	291	300	284
Total Dissolved Solids	mg/L	3		**500**	431	440	440	460	429	414	440	457	463	417	394	431	399	390
Hardness as CaCO3 (filtered)	mg/L	0.02		**500**	-	-	-	-	-	-	-	-	-	-	-	-	315	331
Chemical Oxygen Demand	mg/L	5			11	10	<8	8	13	<8	<8	<8	8	18	23	<8	16	98
Dissolved Organic Carbon (filtered)	mg/L	0.2	***4***	**5**	<1	1.9	***4.1***	1.1	1.2	1.5	<1	1	-	<1	1	1	***3.9***	1.6
Phenols (4AAP)	mg/L	0.001			-	-	-	<0.002	-	0.002	-	-	0.001	-	<0.002	-	<0.002	<0.002
Sulphate (filtered)	mg/L	0.2		**500**	47	58	66	64	61	68	72	71	72	78	75	80	79	33
Ammonia as N	mg/L	0.01			0.5	0.4	0.2	0.3	0.2	0.2	0.1	0.3	0.3	0.4	0.4	0.4	0.44	0.31
Nitrate (as N)	mg/L	0.05		**10**	<0.06	<0.06	<0.06	0.06	<0.06	<0.06	0.10	-	<0.06	<0.06	<0.06	<0.06	0.06	<0.05
Total Kjeldahl Nitrogen	mg/L	0.1			-	-	-	<0.5	-	<0.5	-	-	<0.5	-	<0.5	-	0.6	-
Electrical Conductivity (Lab)	µS/cm	1			726	734	738	736	742	746	758	750	740	730	732	708	763	746
pH (Lab)	-	0.05		**6.5-8.5**	8.30	8.00	8.18	8.01	8.04	7.49	7.85	8.03	7.62	7.95	7.73	7.79	7.92	7.93
DO (Field)	mg/L				-	-	-	-	-	-	-	-	4.1	6.5	-	5.4	6.76	5.98
Redox (Field)	mV				-	-	-	-	-	-	-	-	-55	-106	-	-151	-4	43
Temperature (Field)	°C				-	-	-	-	-	-	-	-	9.1	9.2	12.9	10.3	8.1	8.9
Conductivity (field)	µS/cm				-	-	-	-	-	-	-	-	501	576	-	486	748	331
pH (Field)	-			**6.5-8.5**	-	-	-	-	-	-	-	-	7.7	7.5	7.3	7.6	7.87	7.2

Table 6 - Groundwater Quality - Deep BR

				Location Code	MW12-2	MW12-2	MW12-2	MW12-2	MW12-3	MW12-3	MW12-3	MW12-3	MW12-3	MW12-3	MW12-3	MW12-3	MW12-3	MW12-3
				Date	12 Apr 2022	25 Oct 2022	23 Oct 2023	29 Oct 2024	24 May 2012	24 Oct 2012	12 Jun 2013	05 Nov 2013	26 Jun 2014	11 Nov 2014	22 May 2015	19 Nov 2015	31 May 2016	01 Nov 2016
	Unit	EQL	***RUC***	**ODWQS**														
Arsenic (filtered)	µg/L	0.1	***6***	**25**	0.7	1.5	0.5	0.4	-	-	-	-	-	<0.2	<0.2	<0.2	<0.2	<0.2
Barium (filtered)	µg/L	0.01	***423***	**1,000**	115	94	83	69	115	45.4	44.7	41.6	93.6	33.8	35.0	48.2	55.0	48.6
Boron (filtered)	µg/L	0.2	***2,535***	**5,000**	119	99	78	87	39.8	74.4	71.0	62.3	76.4	126	136	84.9	101	108
Calcium (filtered)	µg/L	10			100,000	104,000	99,200	104,000	104,000	124,000	120,000	123,000	127,000	133,000	127,000	125,000	137,000	129,000
Chloride	µg/L	200		**250,000**	39,500	43,800	48,300	44,200	13,000	57,000	59,000	56,000	53,000	54,000	50,000	50,000	50,000	52,000
Iron (filtered)	µg/L	2	***153***	**300**	12	***565***	12	30	3	***188***	6	***239***	14	78	4	***767***	<7	***368***
Magnesium (filtered)	µg/L	1			15,800	13,500	12,600	12,600	3,380	5,630	5,580	5,480	5,710	5,460	5,620	5,200	5,620	5,720
Manganese (filtered)	µg/L	0.01	***26***	**50**	***214***	***269***	***80***	***30***	-	-	-	-	-	***78.0***	9.02	***75.5***	0.65	***83.1***
Phosphorus total (P2O5)	µg/L	10			170	740	110	<100	-	-	-	-	-	-	<30	-	<30	-
Potassium (filtered)	µg/L	2			1,200	1,100	1,000	1,200	-	-	-	-	-	1,930	1,710	1,640	1,780	1,850
Sodium (filtered)	µg/L	10		**200,000**	32,000	25,600	20,300	20,900	11,000	13,700	14,800	12,900	14,100	14,500	13,700	13,200	14,700	14,400
Zinc (filtered)	µg/L	2		**5,000**	8	<5	-	-	-	-	-	-	-	<2	<2	<2	5	4
Alkalinity (total) as CaCO3	mg/L	2	***396***	**500**	263	273	283	273	276	267	276	246	288	288	288	275	271	276
Total Dissolved Solids	mg/L	3		**500**	371	365	368	365	330	423	457	443	440	417	489	406	411	443
Hardness as CaCO3 (filtered)	mg/L	0.02		**500**	315	316	300	312	-	-	-	-	-	-	-	-	-	-
Chemical Oxygen Demand	mg/L	5			11	80	6	47	17	11	<8	<8	<8	<8	16	<8	<8	<8
Dissolved Organic Carbon (filtered)	mg/L	0.2	***4***	**5**	2.3	0.9	***3.7***	2.5	1.6	1.4	1.9	2.4	1.3	***4.5***	2.4	1.4	1.5	<1
Phenols (4AAP)	mg/L	0.001			<0.001	<0.001	<0.001	<0.001	-	-	-	-	-	-	<0.002	-	0.002	-
Sulphate (filtered)	mg/L	0.2		**500**	42	25	31	26	12	24	31	24	24	24	26	23	82	21
Ammonia as N	mg/L	0.01			0.11	0.19	<0.05	0.09	<0.1	0.3	<0.1	<0.1	0.2	<0.1	<0.1	<0.1	<0.1	<0.1
Nitrate (as N)	mg/L	0.05		**10**	<0.05	0.23	0.11	<0.05	0.14	<0.05	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	0.27
Total Kjeldahl Nitrogen	mg/L	0.1			0.3	0.6	-	0.3	-	-	-	-	-	-	<0.5	-	<0.5	-
Electrical Conductivity (Lab)	µS/cm	1			714	703	709	702	537	738	719	690	722	716	704	703	723	729
pH (Lab)	-	0.05		**6.5-8.5**	7.69	7.81	7.53	7.82	7.91	7.73	7.73	8.12	7.85	8.11	8.03	7.91	7.86	7.88
DO (Field)	mg/L				8.49	9.05	8.8	5.81	-	-	-	-	-	-	-	-	-	-
Redox (Field)	mV				38	-139	-16	-57	-	-	-	-	-	-	-	-	-	-
Temperature (Field)	°C				6.8	10.2	10.1	10.6	-	-	-	-	-	-	-	-	-	-
Conductivity (field)	µS/cm				606	655	662	505	-	-	-	-	-	-	-	-	-	-
pH (Field)	-			**6.5-8.5**	7.09	7.25	7.11	7.29	-	-	-	-	-	-	-	-	-	-

Table 6 - Groundwater Quality - Deep BR

				Location Code	MW12-3	MW12-3	MW12-3	MW12-3	MW12-3	MW12-3	MW12-3	MW12-3	MW12-3	MW12-3	MW12-3
				Date	04 Oct 2017	30 May 2019	29 Oct 2019	26 May 2020	18 Nov 2020	24 Jun 2021	11 Nov 2021	12 Apr 2022	25 Oct 2022	23 Oct 2023	29 Oct 2024
	Unit	EQL	***RUC***	**ODWQS**											
Arsenic (filtered)	µg/L	0.1	***6***	**25**	<0.2	<0.2	<0.2	<0.2	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Barium (filtered)	µg/L	0.01	***423***	**1,000**	29.1	39.9	66.4	34	29.2	31	30	33	58	32	28
Boron (filtered)	µg/L	0.2	***2,535***	**5,000**	79	90	143	77	69	83	83	87	88	72	82
Calcium (filtered)	µg/L	10			134,000	162,000	140,000	127,000	134,000	133,000	127,000	129,000	122,000	116,000	119,000
Chloride	µg/L	200		**250,000**	60,000	55,000	51,000	52,000	47,000	48,600	44,500	43,800	42,700	48,700	44,900
Iron (filtered)	µg/L	2	***153***	**300**	13	54	99	<7	56	19	44	21	<5	45	26
Magnesium (filtered)	µg/L	1			5,500	6,180	8,910	5,490	5,370	5,830	5,430	5,430	5,600	4,990	5,380
Manganese (filtered)	µg/L	0.01	***26***	**50**	11.1	14.5	***50.23***	***62.7***	19.3	***34***	24	***38***	9	16	9
Phosphorus total (P2O5)	µg/L	10			-	-	-	-	-	40	730	100	40	90	<100
Potassium (filtered)	µg/L	2			1,710	1,940	2,060	1,650	1,660	1,600	1,800	1,600	1,700	1,500	1,800
Sodium (filtered)	µg/L	10		**200,000**	14,400	15,700	18,800	16,100	13,200	16,000	16,200	16,900	15,600	13,200	15,200
Zinc (filtered)	µg/L	2		**5,000**	3	8	<2.00000	<2	<2	<5	<5	<5	<5	-	-
Alkalinity (total) as CaCO3	mg/L	2	***396***	**500**	277	290	272	296	334	283	263	264	271	287	265
Total Dissolved Solids	mg/L	3		**500**	486	443	391	403	394	362	361	363	357	363	356
Hardness as CaCO3 (filtered)	mg/L	0.02		**500**	-	-	-	-	-	356	340	345	328	311	321
Chemical Oxygen Demand	mg/L	5			<8	<8	<8	<8	<8	<5	32	17	9	10	16
Dissolved Organic Carbon (filtered)	mg/L	0.2	***4***	**5**	1	-	1	1	1	3.5	1.6	3.1	0.9	***5.3***	2.5
Phenols (4AAP)	mg/L	0.001			-	0.001	-	<0.002	-	<0.002	<0.002	<0.001	<0.001	<0.001	<0.001
Sulphate (filtered)	mg/L	0.2		**500**	25	26	24	23	21	23	23	22	23	22	21
Ammonia as N	mg/L	0.01			<0.1	<0.1	<0.1000	<0.1	<0.1	0.02	0.05	0.02	0.02	<0.05	<0.05
Nitrate (as N)	mg/L	0.05		**10**	-	<0.06	<0.060000	<0.06	<0.06	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Total Kjeldahl Nitrogen	mg/L	0.1			-	<0.5	-	<0.5	-	0.2	-	0.3	0.1	-	0.2
Electrical Conductivity (Lab)	µS/cm	1			737	711	694	681	663	696	694	699	687	698	686
pH (Lab)	-	0.05		**6.5-8.5**	7.77	8.06	7.75	7.68	7.7	7.75	7.72	7.54	7.71	7.38	7.79
DO (Field)	mg/L				-	5.7	10.8	-	4.5	3.52	2.63	1.99	2.07	2.61	1.17
Redox (Field)	mV				-	147	-51	-	-59	-5	12	-50	-139	-41	-210
Temperature (Field)	°C				-	10.1	9.5	14.1	9.6	7.2	8.7	7.3	10.6	8.5	8.6
Conductivity (field)	µS/cm				-	510	572	-	446	694	300	610	564	664	477
pH (Field)	-			**6.5-8.5**	-	7.7	7.7	7.4	7.5	7.48	7.15	**6.34**	7.12	6.92	6.85

Table 7 - Groundwater Quality - VOCs

			Location Code	MW01-1	MW01-1	MW01-1	MW01-1	MW01-1	MW01-1	MW01-2	MW03-1	MW03-1	MW03-1	MW03-1	MW03-1	MW03-1	MW03-1	MW03-1	MW03-1	MW03-1	MW03-1	MW03-1
			Date	22 May 2015	30 May 2016	31 May 2017	26 May 2020	24 Jun 2021	12 Apr 2022	12 Apr 2022	01 Nov 2011	24 May 2012	24 Oct 2012	12 Jun 2013	05 Nov 2013	25 Jun 2014	11 Nov 2014	22 May 2015	19 Nov 2015	30 May 2016	01 Nov 2016	04 Oct 2017
	Unit	EQL	**ODWQS**																		
Benzene	µg/L	0.5	**1**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Toluene	µg/L	0.5	**60**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.91	<0.5	<0.5	1.9	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	µg/L	0.5	**140**	<0.5	-	<0.5	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylene (m & p)	µg/L	0.5		<0.5	-	<0.5	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylene (o)	µg/L	0.5		<0.5	-	<0.5	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylene Total	µg/L	0.5	**90**	<0.5	-	<0.5	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Acetone	µg/L	30		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bromoform	µg/L	0.5		<0.5	-	<0.5	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.7	<0.5	<0.5	<0.5
Bromomethane	µg/L	0.5		<0.5	-	<0.5	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	<0.5	<0.5	<0.5
Bromodichloromethane	µg/L	0.5		<0.5	-	<0.5	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Carbon tetrachloride	µg/L	0.2	**2**	<0.2	-	<0.2	-	-	-	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Chlorobenzene	µg/L	0.2	**80**	<0.5	-	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chloroethane	µg/L	3		<5	-	<5	-	-	-	-	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Chloroform	µg/L	0.5		<0.5	-	<0.5	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chloromethane	µg/L	2		<5	-	<5	-	-	-	-	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Dibromochloromethane	µg/L	0.5		<0.5	-	<0.5	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dibromoethane,1,2-	µg/L	0.2		<0.2	-	<0.2	-	-	-	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Dichlorobenzene, 1,2-	µg/L	0.5	**200**	<0.5	-	<0.5	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichlorobenzene, 1,3-	µg/L	0.5		<0.5	-	<0.5	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichlorobenzene, 1,4-	µg/L	0.5	**5**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichlorodifluoromethane	µg/L	2		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dibromoethene, 1,2-trans-	ug/L			-	-	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5
Dichloroethane, 1,1-	µg/L	0.5		<0.5	-	<0.5	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichloroethane, 1,2-	µg/L	0.5	**5**	<0.5	-	<0.5	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichloroethene, 1,1-	µg/L	0.5	**14**	<0.5	-	<0.5	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichloroethene, 1,2-cis-	µg/L	0.5		<0.5	-	<0.5	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichloroethene, 1,2-trans-	µg/L	0.5		<0.5	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-
Dichloromethane	µg/L	0.5	**50**	<0.5	<0.5	<0.5	<0.5	<5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichloropropane, 1,2-	µg/L	0.5		<0.5	-	<0.5	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichloropropene, 1,3-	µg/L	0.5		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dichloropropene, 1,3- cis	µg/L	0.5		<0.5	-	<0.5	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichloropropene, 1,3- trans	µg/L	0.5		<0.5	-	<0.5	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Hexane	µg/L	5		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Methyl Ethyl Ketone	µg/L	20		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Methyl Iso-Butyl Ketone	µg/L	20		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Methyl tert-butyl ether	µg/L	2		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Styrene	µg/L	0.5		<0.5	-	<0.5	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Tetrachloroethene	µg/L	0.5	**10**	<0.5	-	<0.5	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Tetrachloroethane, 1,1,1,2-	µg/L	0.5		<0.5	-	<0.5	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Tetrachloroethane, 1,1,2,2-	µg/L	0.5		<0.5	-	<0.5	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Trichloroethene	µg/L	0.5	**5**	<0.5	-	<0.5	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Trichloroethane, 1,1,1-	µg/L	0.5		<0.5	-	<0.5	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Trichloroethane, 1,1,2-	µg/L	0.5		<0.5	-	<0.5	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Trichlorofluoromethane	µg/L	5		<5	-	<5	-	-	-	-	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Trimethylbenzene, 1,3,5-	µg/L	0.1		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vinyl chloride	µg/L	0.2	**1**	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2

Table 7 - Groundwater Quality - VOCs

			Location Code	MW03-1	MW03-1	MW03-1	MW03-1	MW03-1	MW03-1	MW03-2	MW03-2	MW03-2	MW03-2	MW03-2	MW03-2	MW03-2	MW03-2	MW03-2	MW03-2	MW03-2	MW03-2	MW03-2
			Date	26 May 2020	18 Nov 2020	24 Jun 2021	11 Nov 2021	12 Apr 2022	25 Oct 2022	01 Nov 2011	24 May 2012	12 Jun 2013	05 Nov 2013	25 Jun 2014	11 Nov 2014	22 May 2015	19 Nov 2015	30 May 2016	26 May 2020	18 Nov 2020	11 Nov 2021	12 Apr 2022
	Unit	EQL	ODWQS																			
Benzene	µg/L	0.5	1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Toluene	µg/L	0.5	60	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.68	<0.5	<0.5	<0.5	1.8	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	µg/L	0.5	140	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylene (m & p)	µg/L	0.5		<0.5	<0.5	-	<1	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<1
Xylene (o)	µg/L	0.5		<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylene Total	µg/L	0.5	90	<0.5	<0.5	-	<1.1	<1.1	<1.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1.1	<1.1
Acetone	µg/L	30		-	-	-	<30	<30	<30	-	-	-	-	-	-	-	-	-	-	-	<30	<30
Bromoform	µg/L	0.5		<0.5	<0.5	<5	<5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5
Bromomethane	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bromodichloromethane	µg/L	0.5		<0.5	<0.5	<2	<2	<2	<2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<2
Carbon tetrachloride	µg/L	0.2	2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Chlorobenzene	µg/L	0.2	80	<0.5	<0.5	<0.5	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	<0.5
Chloroethane	µg/L	3		<5	<5	<3	<3	<3	<3	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<3	<3
Chloroform	µg/L	0.5		<0.5	<0.5	<1	<1	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<1
Chloromethane	µg/L	2		<5	<5	<2	<2	<2	<2	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<2	<2
Dibromochloromethane	µg/L	0.5		<0.5	<0.5	<2	<2	<2	<2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<2
Dibromoethane,1,2-	µg/L	0.2		<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Dichlorobenzene, 1,2-	µg/L	0.5	200	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichlorobenzene, 1,3-	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichlorobenzene, 1,4-	µg/L	0.5	5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichlorodifluoromethane	µg/L	2		-	-	-	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	<2	<2
Dibromoethene, 1,2-trans-	ug/L			<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<0.5	-	-
Dichloroethane, 1,1-	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichloroethane, 1,2-	µg/L	0.5	5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichloroethene, 1,1-	µg/L	0.5	14	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichloroethene, 1,2-cis-	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichloroethene, 1,2-trans-	µg/L	0.5		-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	<0.5
Dichloromethane	µg/L	0.5	50	<0.5	<0.5	<5	<5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5
Dichloropropane, 1,2-	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichloropropene, 1,3-	µg/L	0.5		-	-	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	<0.5	<0.5
Dichloropropene, 1,3- cis	µg/L	0.5		<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichloropropene, 1,3- trans	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Hexane	µg/L	5		-	-	-	<5	<5	<5	-	-	-	-	-	-	-	-	-	-	-	<5	<5
Methyl Ethyl Ketone	µg/L	20		-	-	-	<20	<20	<20	-	-	-	-	-	-	-	-	-	-	-	<20	<20
Methyl Iso-Butyl Ketone	µg/L	20		-	-	-	<20	<20	<20	-	-	-	-	-	-	-	-	-	-	-	<20	<20
Methyl tert-butyl ether	µg/L	2		-	-	-	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	<2	<2
Styrene	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Tetrachloroethene	µg/L	0.5	10	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Tetrachloroethane, 1,1,1,2-	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Tetrachloroethane, 1,1,2,2-	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Trichloroethene	µg/L	0.5	5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Trichloroethane, 1,1,1-	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Trichloroethane, 1,1,2-	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Trichlorofluoromethane	µg/L	5		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Trimethylbenzene, 1,3,5-	µg/L	0.1		-	-	-	<0.1	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1
Vinyl chloride	µg/L	0.2	1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2

Table 7 - Groundwater Quality - VOCs

			Location Code	MW04-1	MW04-1	MW04-1	MW04-1	MW04-1	MW04-1	MW04-1	MW04-1	MW04-1	MW04-1	MW04-1	MW04-1	MW04-1	MW04-1	MW04-1	MW04-1	MW04-1	MW04-2	MW04-2
			Date	24 May 2012	24 Oct 2012	12 Jun 2013	05 Nov 2013	25 Jun 2014	11 Nov 2014	22 May 2015	19 Nov 2015	30 May 2016	01 Nov 2016	04 Oct 2017	26 May 2020	18 Nov 2020	24 Jun 2021	11 Nov 2021	12 Apr 2022	25 Oct 2022	12 Jun 2013	25 Jun 2014
	Unit	EQL	ODWQS																			
Benzene	µg/L	0.5	1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Toluene	µg/L	0.5	60	<0.5	0.85	<0.5	<0.5	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.4
Ethylbenzene	µg/L	0.5	140	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5
Xylene (m & p)	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<1	<1	<1	<0.5	<0.5
Xylene (o)	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5
Xylene Total	µg/L	0.5	90	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<1.1	<1.1	<1.1	<0.5	<0.5
Acetone	µg/L	30		-	-	-	-	-	-	-	-	-	-	-	-	-	-	<30	<30	<30	-	-
Bromoform	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<5	<5	<0.5	<0.5
Bromomethane	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bromodichloromethane	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<2	<2	<2	<0.5	<0.5
Carbon tetrachloride	µg/L	0.2	2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Chlorobenzene	µg/L	0.2	80	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	<0.5	<0.5	<0.5	<0.5
Chloroethane	µg/L	3		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<3	<3	<3	<3	<5	<5
Chloroform	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<1	<1	<1	<0.5	<0.5
Chloromethane	µg/L	2		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<2	<2	<2	<2	<5	<5
Dibromochloromethane	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<2	<2	<2	<0.5	<0.5
Dibromoethane,1,2-	µg/L	0.2		<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Dichlorobenzene, 1,2-	µg/L	0.5	200	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichlorobenzene, 1,3-	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichlorobenzene, 1,4-	µg/L	0.5	5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichlorodifluoromethane	µg/L	2		-	-	-	-	-	-	-	-	-	-	-	-	-	-	<2	<2	<2	-	-
Dibromoethene, 1,2-trans-	ug/L			-	-	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	-	-	-	-	-	-
Dichloroethane, 1,1-	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichloroethane, 1,2-	µg/L	0.5	5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichloroethene, 1,1-	µg/L	0.5	14	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichloroethene, 1,2-cis-	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichloroethene, 1,2-trans-	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichloromethane	µg/L	0.5	50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<5	<5	<0.5	<0.5
Dichloropropane, 1,2-	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichloropropene, 1,3-	µg/L	0.5		-	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	-	-
Dichloropropene, 1,3- cis	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5
Dichloropropene, 1,3- trans	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Hexane	µg/L	5		-	-	-	-	-	-	-	-	-	-	-	-	-	-	<5	<5	<5	-	-
Methyl Ethyl Ketone	µg/L	20		-	-	-	-	-	-	-	-	-	-	-	-	-	-	<20	<20	<20	-	-
Methyl Iso-Butyl Ketone	µg/L	20		-	-	-	-	-	-	-	-	-	-	-	-	-	-	<20	<20	<20	-	-
Methyl tert-butyl ether	µg/L	2		-	-	-	-	-	-	-	-	-	-	-	-	-	-	<2	<2	<2	-	-
Styrene	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Tetrachloroethene	µg/L	0.5	10	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Tetrachloroethane, 1,1,1,2-	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Tetrachloroethane, 1,1,2,2-	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Trichloroethene	µg/L	0.5	5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Trichloroethane, 1,1,1-	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Trichloroethane, 1,1,2-	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Trichlorofluoromethane	µg/L	5		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Trimethylbenzene, 1,3,5-	µg/L	0.1		-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	-	-
Vinyl chloride	µg/L	0.2	1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2

Table 7 - Groundwater Quality - VOCs

			Location Code	MW04-2	MW04-2	MW04-2	MW04-2	MW04-2	MW04-2	MW04-2	MW04-2	MW04-2	MW04-2	MW04-2	MW05-1	MW05-1	MW05-1	MW05-1	MW05-1	MW05-1	MW05-1	MW05-1
			Date	11 Nov 2014	22 May 2015	19 Nov 2015	30 May 2016	04 Oct 2017	26 May 2020	18 Nov 2020	24 Jun 2021	11 Nov 2021	12 Apr 2022	25 Oct 2022	01 Nov 2011	24 May 2012	24 Oct 2012	12 Jun 2013	05 Nov 2013	25 Jun 2014	11 Nov 2014	22 May 2015
	Unit	EQL	ODWQS																			
Benzene	µg/L	0.5	1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.61	<0.5	0.54	<0.5	<0.5	<0.5	0.6	<0.5
Toluene	µg/L	0.5	60	<0.5	<0.5	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.3	<0.5	<0.5
Ethylbenzene	µg/L	0.5	140	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylene (m & p)	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<1	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylene (o)	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylene Total	µg/L	0.5	90	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<1.1	<1.1	<1.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Acetone	µg/L	30		-	-	-	-	-	-	-	-	<30	<30	<30	-	-	-	-	-	-	-	-
Bromoform	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bromomethane	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bromodichloromethane	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<2	<2	<2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Carbon tetrachloride	µg/L	0.2	2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Chlorobenzene	µg/L	0.2	80	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	<0.5	<0.5	0.96	0.77	0.75	0.6	0.5	<0.5	<0.5	0.7
Chloroethane	µg/L	3		<5	<5	<5	<5	<5	<5	<5	<3	<3	<3	<3	<5	<5	<5	<5	<5	<5	<5	<5
Chloroform	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<1	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chloromethane	µg/L	2		<5	<5	<5	<5	<5	<5	<5	<2	<2	<2	<2	<5	<5	<5	<5	<5	<5	<5	<5
Dibromochloromethane	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<2	<2	<2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dibromoethane,1,2-	µg/L	0.2		<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Dichlorobenzene, 1,2-	µg/L	0.5	200	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichlorobenzene, 1,3-	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichlorobenzene, 1,4-	µg/L	0.5	5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichlorodifluoromethane	µg/L	2		-	-	-	-	-	-	-	-	<2	<2	<2	-	-	-	-	-	-	-	-
Dibromoethene, 1,2-trans-	ug/L			-	-	-	-	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-
Dichloroethane, 1,1-	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichloroethane, 1,2-	µg/L	0.5	5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichloroethene, 1,1-	µg/L	0.5	14	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichloroethene, 1,2-cis-	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.68	<0.5	0.50	<0.5	<0.5	<0.5	<0.5	<0.5
Dichloroethene, 1,2-trans-	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichloromethane	µg/L	0.5	50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichloropropane, 1,2-	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichloropropene, 1,3-	µg/L	0.5		-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-
Dichloropropene, 1,3- cis	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichloropropene, 1,3- trans	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Hexane	µg/L	5		-	-	-	-	-	-	-	-	<5	<5	<5	-	-	-	-	-	-	-	-
Methyl Ethyl Ketone	µg/L	20		-	-	-	-	-	-	-	-	<20	<20	<20	-	-	-	-	-	-	-	-
Methyl Iso-Butyl Ketone	µg/L	20		-	-	-	-	-	-	-	-	<20	<20	<20	-	-	-	-	-	-	-	-
Methyl tert-butyl ether	µg/L	2		-	-	-	-	-	-	-	-	<2	<2	<2	-	-	-	-	-	-	-	-
Styrene	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Tetrachloroethene	µg/L	0.5	10	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Tetrachloroethane, 1,1,1,2-	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Tetrachloroethane, 1,1,2,2-	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Trichloroethene	µg/L	0.5	5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Trichloroethane, 1,1,1-	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Trichloroethane, 1,1,2-	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Trichlorofluoromethane	µg/L	5		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Trimethylbenzene, 1,3,5-	µg/L	0.1		-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	-	-	-	-	-	-	-	-
Vinyl chloride	µg/L	0.2	1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2

Table 7 - Groundwater Quality - VOCs

			Location Code	MW05-1	MW05-1	MW05-1	MW05-1	MW05-1	MW05-1	MW05-1	MW05-1	MW05-1	MW05-1	MW05-2	MW05-2	MW05-2	MW05-2	MW06-1	MW06-1	MW06-1	MW06-1	MW06-1
			Date	19 Nov 2015	30 May 2016	01 Nov 2016	04 Oct 2017	26 May 2020	18 Nov 2020	24 Jun 2021	11 Nov 2021	12 Apr 2022	25 Oct 2022	26 May 2020	24 Jun 2021	11 Nov 2021	12 Apr 2022	01 Nov 2011	24 May 2012	24 Oct 2012	12 Jun 2013	05 Nov 2013
	Unit	EQL	**ODWQS**																			
Benzene	µg/L	0.5	**1**	0.6	<0.5	0.5	0.6	<0.5	0.7	<0.5	<0.5	<0.5	<0.5	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Toluene	µg/L	0.5	**60**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	µg/L	0.5	**140**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylene (m & p)	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<1	<1	<1	<0.5	-	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5
Xylene (o)	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylene Total	µg/L	0.5	**90**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<1.1	<1.1	<1.1	<0.5	-	<1.1	<1.1	<0.5	<0.5	<0.5	<0.5	<0.5
Acetone	µg/L	30		-	-	-	-	-	-	-	<30	<30	<30	-	-	<30	<30	-	-	-	-	-
Bromoform	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<5	<5	<0.5	<5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5
Bromomethane	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bromodichloromethane	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<2	<2	<2	<0.5	<2	<2	<2	<0.5	<0.5	<0.5	<0.5	<0.5
Carbon tetrachloride	µg/L	0.2	**2**	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Chlorobenzene	µg/L	0.2	**80**	0.8	0.5	<0.5	0.8	<0.5	0.7	<0.5	0.6	<0.5	<0.5	<0.5	<0.5	0.8	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chloroethane	µg/L	3		<5	<5	<5	<5	<5	<5	<3	<3	<3	<3	<5	<3	<3	<3	<5	<5	<5	<5	<5
Chloroform	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<1	<1	<1	<0.5	<1	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5
Chloromethane	µg/L	2		<5	<5	<5	<5	<5	<5	<2	<2	<2	<2	<5	<2	<2	<2	<5	<5	<5	<5	<5
Dibromochloromethane	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<2	<2	<2	<0.5	<2	<2	<2	<0.5	<0.5	<0.5	<0.5	<0.5
Dibromoethane,1,2-	µg/L	0.2		<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Dichlorobenzene, 1,2-	µg/L	0.5	**200**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichlorobenzene, 1,3-	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichlorobenzene, 1,4-	µg/L	0.5	**5**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichlorodifluoromethane	µg/L	2		-	-	-	-	-	-	-	<2	<2	<2	-	-	<2	<2	-	-	-	-	-
Dibromoethene, 1,2-trans-	ug/L			-	-	-	<0.5	<0.5	<0.5	-	-	-	-	<0.5	-	-	-	-	-	-	-	-
Dichloroethane, 1,1-	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichloroethane, 1,2-	µg/L	0.5	**5**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichloroethene, 1,1-	µg/L	0.5	**14**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichloroethene, 1,2-cis-	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichloroethene, 1,2-trans-	µg/L	0.5		<0.5	<0.5	<0.5	-	-	-	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichloromethane	µg/L	0.5	**50**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<5	<5	<0.5	<5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichloropropane, 1,2-	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichloropropene, 1,3-	µg/L	0.5		-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	-	-	-	-	-
Dichloropropene, 1,3- cis	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichloropropene, 1,3- trans	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Hexane	µg/L	5		-	-	-	-	-	-	-	<5	<5	<5	-	-	<5	<5	-	-	-	-	-
Methyl Ethyl Ketone	µg/L	20		-	-	-	-	-	-	-	<20	<20	<20	-	-	<20	<20	-	-	-	-	-
Methyl Iso-Butyl Ketone	µg/L	20		-	-	-	-	-	-	-	<20	<20	<20	-	-	<20	<20	-	-	-	-	-
Methyl tert-butyl ether	µg/L	2		-	-	-	-	-	-	-	<2	<2	<2	-	-	<2	<2	-	-	-	-	-
Styrene	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Tetrachloroethene	µg/L	0.5	**10**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Tetrachloroethane, 1,1,1,2-	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Tetrachloroethane, 1,1,2,2-	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Trichloroethene	µg/L	0.5	**5**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Trichloroethane, 1,1,1-	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Trichloroethane, 1,1,2-	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Trichlorofluoromethane	µg/L	5		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Trimethylbenzene, 1,3,5-	µg/L	0.1		-	-	-	-	-	-	-	<0.1	<0.1	<0.1	-	-	<0.1	<0.1	-	-	-	-	-
Vinyl chloride	µg/L	0.2	**1**	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2

Table 7 - Groundwater Quality - VOCs

			Location Code	MW06-1	MW06-1	MW06-1	MW06-1	MW06-1	MW06-1	MW06-1	MW06-1	MW06-1	MW06-1	MW06-1	MW06-1	MW06-1	MW06-2	MW06-2	MW06-2	MW06-2	MW06-2	MW06-2
			Date	25 Jun 2014	11 Nov 2014	22 May 2015	19 Nov 2015	30 May 2016	01 Nov 2016	04 Oct 2017	26 May 2020	18 Nov 2020	24 Jun 2021	11 Nov 2021	12 Apr 2022	25 Oct 2022	01 Nov 2011	24 May 2012	24 Oct 2012	12 Jun 2013	05 Nov 2013	25 Jun 2014
	Unit	EQL	**ODWQS**																		
Benzene	µg/L	0.5	**1**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Toluene	µg/L	0.5	**60**	1.3	2.4	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.2
Ethylbenzene	µg/L	0.5	**140**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylene (m & p)	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<1	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylene (o)	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylene Total	µg/L	0.5	**90**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<1.1	<1.1	<1.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Acetone	µg/L	30		-	-	-	-	-	-	-	-	-	-	<30	<30	<30	-	-	-	-	-	-
Bromoform	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bromomethane	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bromodichloromethane	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<2	<2	<2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Carbon tetrachloride	µg/L	0.2	**2**	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Chlorobenzene	µg/L	0.2	**80**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chloroethane	µg/L	3		<5	<5	<5	<5	<5	<5	<5	<5	<5	<3	<3	<3	<3	<5	<5	<5	<5	<5	<5
Chloroform	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<1	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chloromethane	µg/L	2		<5	<5	<5	<5	<5	<5	<5	<5	<5	<2	<2	<2	<2	<5	<5	<5	<5	<5	<5
Dibromochloromethane	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<2	<2	<2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dibromoethane,1,2-	µg/L	0.2		<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Dichlorobenzene, 1,2-	µg/L	0.5	**200**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichlorobenzene, 1,3-	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichlorobenzene, 1,4-	µg/L	0.5	**5**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichlorodifluoromethane	µg/L	2		-	-	-	-	-	-	-	-	-	-	<2	<2	<2	-	-	-	-	-	-
Dibromoethene, 1,2-trans-	ug/L			-	-	-	-	-	-	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-
Dichloroethane, 1,1-	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichloroethane, 1,2-	µg/L	0.5	**5**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichloroethene, 1,1-	µg/L	0.5	**14**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichloroethene, 1,2-cis-	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichloroethene, 1,2-trans-	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichloromethane	µg/L	0.5	**50**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichloropropane, 1,2-	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichloropropene, 1,3-	µg/L	0.5		-	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-
Dichloropropene, 1,3- cis	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichloropropene, 1,3- trans	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Hexane	µg/L	5		-	-	-	-	-	-	-	-	-	-	<5	<5	<5	-	-	-	-	-	-
Methyl Ethyl Ketone	µg/L	20		-	-	-	-	-	-	-	-	-	-	<20	<20	<20	-	-	-	-	-	-
Methyl Iso-Butyl Ketone	µg/L	20		-	-	-	-	-	-	-	-	-	-	<20	<20	<20	-	-	-	-	-	-
Methyl tert-butyl ether	µg/L	2		-	-	-	-	-	-	-	-	-	-	<2	<2	<2	-	-	-	-	-	-
Styrene	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Tetrachloroethene	µg/L	0.5	**10**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Tetrachloroethane, 1,1,1,2-	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Tetrachloroethane, 1,1,2,2-	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Trichloroethene	µg/L	0.5	**5**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Trichloroethane, 1,1,1-	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Trichloroethane, 1,1,2-	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Trichlorofluoromethane	µg/L	5		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Trimethylbenzene, 1,3,5-	µg/L	0.1		-	-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	-	-	-	-	-	-
Vinyl chloride	µg/L	0.2	**1**	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2

Table 7 - Groundwater Quality - VOCs

			Location Code	MW06-2	MW06-2	MW06-2	MW06-2	MW06-2	MW06-2	MW06-2	MW06-2	MW06-2	MW06-2	MW06-2	MW06-2	MW07-1	MW07-1	MW07-1	MW07-1	MW07-1	MW07-1	MW07-1
			Date	11 Nov 2014	22 May 2015	19 Nov 2015	30 May 2016	01 Nov 2016	04 Oct 2017	26 May 2020	18 Nov 2020	24 Jun 2021	11 Nov 2021	12 Apr 2022	25 Oct 2022	01 Nov 2011	24 Oct 2012	12 Jun 2013	05 Nov 2013	25 Jun 2014	11 Nov 2014	22 May 2015
	Unit	EQL	**ODWQS**																			
Benzene	µg/L	0.5	**1**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Toluene	µg/L	0.5	**60**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.6	<0.5	<0.5
Ethylbenzene	µg/L	0.5	**140**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylene (m & p)	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<1	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylene (o)	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylene Total	µg/L	0.5	**90**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<1.1	<1.1	<1.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Acetone	µg/L	30		-	-	-	-	-	-	-	-	-	<30	<30	<30	-	-	-	-	-	-	-
Bromoform	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bromomethane	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bromodichloromethane	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<2	<2	<2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Carbon tetrachloride	µg/L	0.2	**2**	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Chlorobenzene	µg/L	0.2	**80**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chloroethane	µg/L	3		<5	<5	<5	<5	<5	<5	<5	<5	<3	<3	<3	<3	<5	<5	<5	<5	<5	<5	<5
Chloroform	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<1	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chloromethane	µg/L	2		<5	<5	<5	<5	<5	<5	<5	<5	<2	<2	<2	<2	<5	<5	<5	<5	<5	<5	<5
Dibromochloromethane	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<2	<2	<2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dibromoethane,1,2-	µg/L	0.2		<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Dichlorobenzene, 1,2-	µg/L	0.5	**200**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichlorobenzene, 1,3-	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichlorobenzene, 1,4-	µg/L	0.5	**5**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichlorodifluoromethane	µg/L	2		-	-	-	-	-	-	-	-	-	<2	<2	<2	-	-	-	-	-	-	-
Dibromoethene, 1,2-trans-	ug/L			-	-	-	-	-	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-
Dichloroethane, 1,1-	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichloroethane, 1,2-	µg/L	0.5	**5**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichloroethene, 1,1-	µg/L	0.5	**14**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichloroethene, 1,2-cis-	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichloroethene, 1,2-trans-	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichloromethane	µg/L	0.5	**50**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichloropropane, 1,2-	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichloropropene, 1,3-	µg/L	0.5		-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-
Dichloropropene, 1,3- cis	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichloropropene, 1,3- trans	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Hexane	µg/L	5		-	-	-	-	-	-	-	-	-	<5	<5	<5	-	-	-	-	-	-	-
Methyl Ethyl Ketone	µg/L	20		-	-	-	-	-	-	-	-	-	<20	<20	<20	-	-	-	-	-	-	-
Methyl Iso-Butyl Ketone	µg/L	20		-	-	-	-	-	-	-	-	-	<20	<20	<20	-	-	-	-	-	-	-
Methyl tert-butyl ether	µg/L	2		-	-	-	-	-	-	-	-	-	<2	<2	<2	-	-	-	-	-	-	-
Styrene	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Tetrachloroethene	µg/L	0.5	**10**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Tetrachloroethane, 1,1,1,2-	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Tetrachloroethane, 1,1,2,2-	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Trichloroethene	µg/L	0.5	**5**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Trichloroethane, 1,1,1-	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Trichloroethane, 1,1,2-	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Trichlorofluoromethane	µg/L	5		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Trimethylbenzene, 1,3,5-	µg/L	0.1		-	-	-	-	-	-	-	-	-	<0.1	<0.1	<0.1	-	-	-	-	-	-	-
Vinyl chloride	µg/L	0.2	**1**	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2

Table 7 - Groundwater Quality - VOCs

			Location Code	MW07-1	MW07-1	MW07-1	MW07-1	MW07-1	MW07-1	MW07-1	MW07-1	MW07-1	MW07-1	MW07-2	MW07-2	MW07-2	MW07-2	MW07-2	MW07-2	MW07-2	MW07-2	MW07-2
			Date	19 Nov 2015	30 May 2016	01 Nov 2016	04 Oct 2017	26 May 2020	18 Nov 2020	24 Jun 2021	11 Nov 2021	12 Apr 2022	25 Oct 2022	01 Nov 2011	28 May 2012	12 Jun 2013	05 Nov 2013	25 Jun 2014	11 Nov 2014	22 May 2015	19 Nov 2015	30 May 2016
	Unit	EQL	**ODWQS**																			
Benzene	µg/L	0.5	**1**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Toluene	µg/L	0.5	**60**	<0.5	<0.5	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.7	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	µg/L	0.5	**140**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylene (m & p)	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<1	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylene (o)	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylene Total	µg/L	0.5	**90**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<1.1	<1.1	<1.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Acetone	µg/L	30		-	-	-	-	-	-	-	<30	<30	<30	-	-	-	-	-	-	-	-	-
Bromoform	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bromomethane	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bromodichloromethane	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<2	<2	<2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Carbon tetrachloride	µg/L	0.2	**2**	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Chlorobenzene	µg/L	0.2	**80**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chloroethane	µg/L	3		<5	<5	<5	<5	<5	<5	<3	<3	<3	<3	<5	<5	<5	<5	<5	<5	<5	<5	<5
Chloroform	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<1	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chloromethane	µg/L	2		<5	<5	<5	<5	<5	<5	<2	<2	<2	<2	<5	<5	<5	<5	<5	<5	<5	<5	<5
Dibromochloromethane	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<2	<2	<2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dibromoethane,1,2-	µg/L	0.2		<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Dichlorobenzene, 1,2-	µg/L	0.5	**200**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichlorobenzene, 1,3-	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichlorobenzene, 1,4-	µg/L	0.5	**5**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichlorodifluoromethane	µg/L	2		-	-	-	-	-	-	-	<2	<2	<2	-	-	-	-	-	-	-	-	-
Dibromoethene, 1,2-trans-	ug/L			-	-	-	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-
Dichloroethane, 1,1-	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichloroethane, 1,2-	µg/L	0.5	**5**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichloroethene, 1,1-	µg/L	0.5	**14**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichloroethene, 1,2-cis-	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichloroethene, 1,2-trans-	µg/L	0.5		<0.5	<0.5	<0.5	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichloromethane	µg/L	0.5	**50**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichloropropane, 1,2-	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichloropropene, 1,3-	µg/L	0.5		-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-
Dichloropropene, 1,3- cis	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichloropropene, 1,3- trans	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Hexane	µg/L	5		-	-	-	-	-	-	-	<5	<5	<5	-	-	-	-	-	-	-	-	-
Methyl Ethyl Ketone	µg/L	20		-	-	-	-	-	-	-	<20	<20	<20	-	-	-	-	-	-	-	-	-
Methyl Iso-Butyl Ketone	µg/L	20		-	-	-	-	-	-	-	<20	<20	<20	-	-	-	-	-	-	-	-	-
Methyl tert-butyl ether	µg/L	2		-	-	-	-	-	-	-	<2	<2	<2	-	-	-	-	-	-	-	-	-
Styrene	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Tetrachloroethene	µg/L	0.5	**10**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Tetrachloroethane, 1,1,1,2-	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Tetrachloroethane, 1,1,2,2-	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Trichloroethene	µg/L	0.5	**5**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Trichloroethane, 1,1,1-	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Trichloroethane, 1,1,2-	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Trichlorofluoromethane	µg/L	5		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Trimethylbenzene, 1,3,5-	µg/L	0.1		-	-	-	-	-	-	-	<0.1	<0.1	<0.1	-	-	-	-	-	-	-	-	-
Vinyl chloride	µg/L	0.2	**1**	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2

Table 7 - Groundwater Quality - VOCs

			Location Code	MW07-2	MW07-2	MW07-2	MW07-2	MW07-2	MW07-2	MW07-2	MW08-1	MW08-1	MW08-1	MW08-1	MW08-1	MW08-1	MW08-2	MW08-2	MW08-2	MW08-2	MW09-1	MW09-1
			Date	04 Oct 2017	26 May 2020	18 Nov 2020	24 Jun 2021	11 Nov 2021	12 Apr 2022	25 Oct 2022	22 May 2015	30 May 2016	31 May 2017	26 May 2020	28 Jun 2021	12 Apr 2022	24 Jun 2021	11 Nov 2021	12 Apr 2022	25 Oct 2022	22 May 2015	30 May 2016
	Unit	EQL	**ODWQS**																			
Benzene	µg/L	0.5	**1**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Toluene	µg/L	0.5	**60**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	µg/L	0.5	**140**	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-
Xylene (m & p)	µg/L	0.5		<0.5	<0.5	<0.5	-	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-
Xylene (o)	µg/L	0.5		<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-
Xylene Total	µg/L	0.5	**90**	<0.5	<0.5	<0.5	-	<1.1	<1.1	<1.1	-	-	-	-	-	-	-	-	-	-	-	-	-
Acetone	µg/L	30		-	-	-	-	<30	<30	<30	-	-	-	-	-	-	-	-	-	-	-	-	-
Bromoform	µg/L	0.5		<0.5	<0.5	<0.5	<5	<5	<5	<5	-	-	-	-	-	-	-	-	-	-	-	-	-
Bromomethane	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-
Bromodichloromethane	µg/L	0.5		<0.5	<0.5	<0.5	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-	-
Carbon tetrachloride	µg/L	0.2	**2**	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	-	-	-	-	-	-	-	-	-	-	-	-	-
Chlorobenzene	µg/L	0.2	**80**	<0.5	<0.5	<0.5	<0.5	0.5	<0.5	<0.5	-	-	-	-	<0.5	<0.5	-	<0.5	<0.5	-	-	-	-
Chloroethane	µg/L	3		<5	<5	<5	<3	<3	<3	<3	-	-	-	-	-	-	-	-	-	-	-	-	-
Chloroform	µg/L	0.5		<0.5	<0.5	<0.5	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-
Chloromethane	µg/L	2		<5	<5	<5	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-	-
Dibromochloromethane	µg/L	0.5		<0.5	<0.5	<0.5	<2	<2	<2	<2	-	-	<0.5	-	-	-	-	-	-	-	-	-	-
Dibromoethane,1,2-	µg/L	0.2		<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	-	-	-	-	-	-	-	-	-	-	-	-	-
Dichlorobenzene, 1,2-	µg/L	0.5	**200**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	<0.5	-	-	-	-	-	-	-	-	-	-
Dichlorobenzene, 1,3-	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-
Dichlorobenzene, 1,4-	µg/L	0.5	**5**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichlorodifluoromethane	µg/L	2		-	-	-	-	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-	-
Dibromoethene, 1,2-trans-	ug/L			<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dichloroethane, 1,1-	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-
Dichloroethane, 1,2-	µg/L	0.5	**5**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-
Dichloroethene, 1,1-	µg/L	0.5	**14**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-
Dichloroethene, 1,2-cis-	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-
Dichloroethene, 1,2-trans-	µg/L	0.5		-	-	-	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-
Dichloromethane	µg/L	0.5	**50**	<0.5	<0.5	<0.5	<5	<5	<5	<5	<0.5	<0.5	-	<0.5	<5	<5	<5	<5	<5	<5	<0.5	<0.5	
Dichloropropane, 1,2-	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-
Dichloropropene, 1,3-	µg/L	0.5		-	-	-	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-
Dichloropropene, 1,3- cis	µg/L	0.5		<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-
Dichloropropene, 1,3- trans	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-
Hexane	µg/L	5		-	-	-	-	<5	<5	<5	-	-	-	-	-	-	-	-	-	-	-	-	-
Methyl Ethyl Ketone	µg/L	20		-	-	-	-	<20	<20	<20	-	-	-	-	-	-	-	-	-	-	-	-	-
Methyl Iso-Butyl Ketone	µg/L	20		-	-	-	-	<20	<20	<20	-	-	-	-	-	-	-	-	-	-	-	-	-
Methyl tert-butyl ether	µg/L	2		-	-	-	-	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-	-
Styrene	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-
Tetrachloroethene	µg/L	0.5	**10**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-
Tetrachloroethane, 1,1,1,2-	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-
Tetrachloroethane, 1,1,2,2-	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-
Trichloroethene	µg/L	0.5	**5**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-
Trichloroethane, 1,1,1-	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-
Trichloroethane, 1,1,2-	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-
Trichlorofluoromethane	µg/L	5		<5	<5	<5	<5	<5	<5	<5	-	-	-	-	-	-	-	-	-	-	-	-	-
Trimethylbenzene, 1,3,5-	µg/L	0.1		-	-	-	-	<0.1	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-
Vinyl chloride	µg/L	0.2	**1**	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2

Table 7 - Groundwater Quality - VOCs

			Location Code	MW09-1	MW09-1	MW09-1	MW09-1	MW09-2	MW09-2	MW09-2	MW09-2	MW10-2	MW10-2	MW10-2	MW10-2	MW11-1	MW11-1	MW11-1	MW11-1	MW11-1	MW11-1	MW11-1
			Date	31 May 2017	26 May 2020	28 Jun 2021	12 Apr 2022	28 Jun 2021	11 Nov 2021	12 Apr 2022	25 Oct 2022	24 Jun 2021	11 Nov 2021	12 Apr 2022	25 Oct 2022	18 May 2012	09 Oct 2012	10 Jun 2013	05 Nov 2013	26 Jun 2014	22 May 2015	19 Nov 2015
	Unit	EQL	**ODWQS**																			
Benzene	µg/L	0.5	**1**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Toluene	µg/L	0.5	**60**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.1	<0.5	<0.5
Ethylbenzene	µg/L	0.5	**140**	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylene (m & p)	µg/L	0.5		-	-	-	-	-	-	-	-	-	-	-	-	0.55	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylene (o)	µg/L	0.5		-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylene Total	µg/L	0.5	**90**	-	-	-	-	-	-	-	-	-	-	-	-	0.90	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Acetone	µg/L	30		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bromoform	µg/L	0.5		-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bromomethane	µg/L	0.5		-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bromodichloromethane	µg/L	0.5		-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Carbon tetrachloride	µg/L	0.2	**2**	-	-	-	-	-	-	-	-	-	-	-	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Chlorobenzene	µg/L	0.2	**80**	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chloroethane	µg/L	3		-	-	-	-	-	-	-	-	-	-	-	-	<5	<5	<5	<5	<5	<5	<5
Chloroform	µg/L	0.5		-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chloromethane	µg/L	2		-	-	-	-	-	-	-	-	-	-	-	-	<5	<5	<5	<5	<5	<5	<5
Dibromochloromethane	µg/L	0.5		<0.5	-	-	-	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dibromoethane,1,2-	µg/L	0.2		-	-	-	-	-	-	-	-	-	-	-	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Dichlorobenzene, 1,2-	µg/L	0.5	**200**	<0.5	-	-	-	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichlorobenzene, 1,3-	µg/L	0.5		-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichlorobenzene, 1,4-	µg/L	0.5	**5**	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichlorodifluoromethane	µg/L	2		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dibromoethene, 1,2-trans-	ug/L			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dichloroethane, 1,1-	µg/L	0.5		-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichloroethane, 1,2-	µg/L	0.5	**5**	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichloroethene, 1,1-	µg/L	0.5	**14**	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichloroethene, 1,2-cis-	µg/L	0.5		-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichloroethene, 1,2-trans-	µg/L	0.5		-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichloromethane	µg/L	0.5	**50**	-	<0.5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichloropropane, 1,2-	µg/L	0.5		-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichloropropene, 1,3-	µg/L	0.5		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dichloropropene, 1,3- cis	µg/L	0.5		-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichloropropene, 1,3- trans	µg/L	0.5		-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Hexane	µg/L	5		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Methyl Ethyl Ketone	µg/L	20		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Methyl Iso-Butyl Ketone	µg/L	20		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Methyl tert-butyl ether	µg/L	2		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Styrene	µg/L	0.5		-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Tetrachloroethene	µg/L	0.5	**10**	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Tetrachloroethane, 1,1,1,2-	µg/L	0.5		-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Tetrachloroethane, 1,1,2,2-	µg/L	0.5		-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Trichloroethene	µg/L	0.5	**5**	-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Trichloroethane, 1,1,1-	µg/L	0.5		-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Trichloroethane, 1,1,2-	µg/L	0.5		-	-	-	-	-	-	-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Trichlorofluoromethane	µg/L	5		-	-	-	-	-	-	-	-	-	-	-	-	<5	<5	<5	<5	<5	<5	<5
Trimethylbenzene, 1,3,5-	µg/L	0.1		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vinyl chloride	µg/L	0.2	**1**	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2

Table 7 - Groundwater Quality - VOCs

			Location Code	MW11-1	MW11-1	MW11-1	MW11-1	MW11-1	MW11-1	MW11-1	MW11-1	MW11-1	MW11-1	MW11-2	MW11-2	MW11-2	MW11-2	MW11-2	MW11-2	MW11-2	MW11-2	MW11-2
			Date	30 May 2016	31 Oct 2016	31 May 2017	04 Oct 2017	26 May 2020	18 Nov 2020	24 Jun 2021	11 Nov 2021	12 Apr 2022	25 Oct 2022	18 May 2012	10 Jun 2013	26 Jun 2014	22 May 2015	19 Nov 2015	30 May 2016	31 Oct 2016	31 May 2017	04 Oct 2017
	Unit	EQL	**ODWQS**																			
Benzene	µg/L	0.5	**1**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Toluene	µg/L	0.5	**60**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	µg/L	0.5	**140**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylene (m & p)	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<1	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylene (o)	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylene Total	µg/L	0.5	**90**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<1.1	<1.1	<1.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Acetone	µg/L	30		-	-	-	-	-	-	-	<30	<30	<30	-	-	-	-	-	-	-	-	-
Bromoform	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bromomethane	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bromodichloromethane	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<2	<2	<2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Carbon tetrachloride	µg/L	0.2	**2**	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Chlorobenzene	µg/L	0.2	**80**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chloroethane	µg/L	3		<5	<5	<5	<5	<5	<5	<3	<3	<3	<3	<5	<5	<5	<5	<5	<5	<5	<5	<5
Chloroform	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<1	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chloromethane	µg/L	2		<5	<5	<5	<5	<5	<5	<2	<2	<2	<2	<5	<5	<5	<5	<5	<5	<5	<5	<5
Dibromochloromethane	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<2	<2	<2	<2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dibromoethane,1,2-	µg/L	0.2		<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Dichlorobenzene, 1,2-	µg/L	0.5	**200**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichlorobenzene, 1,3-	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichlorobenzene, 1,4-	µg/L	0.5	**5**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichlorodifluoromethane	µg/L	2		-	-	-	-	-	-	-	<2	<2	<2	-	-	-	-	-	-	-	-	-
Dibromoethene, 1,2-trans-	ug/L			-	-	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	<0.5	<0.5
Dichloroethane, 1,1-	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichloroethane, 1,2-	µg/L	0.5	**5**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichloroethene, 1,1-	µg/L	0.5	**14**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichloroethene, 1,2-cis-	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichloroethene, 1,2-trans-	µg/L	0.5		<0.5	<0.5	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-
Dichloromethane	µg/L	0.5	**50**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<5	<5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichloropropane, 1,2-	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichloropropene, 1,3-	µg/L	0.5		-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-
Dichloropropene, 1,3- cis	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichloropropene, 1,3- trans	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Hexane	µg/L	5		-	-	-	-	-	-	-	<5	<5	<5	-	-	-	-	-	-	-	-	-
Methyl Ethyl Ketone	µg/L	20		-	-	-	-	-	-	-	<20	<20	<20	-	-	-	-	-	-	-	-	-
Methyl Iso-Butyl Ketone	µg/L	20		-	-	-	-	-	-	-	<20	<20	<20	-	-	-	-	-	-	-	-	-
Methyl tert-butyl ether	µg/L	2		-	-	-	-	-	-	-	<2	<2	<2	-	-	-	-	-	-	-	-	-
Styrene	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Tetrachloroethene	µg/L	0.5	**10**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Tetrachloroethane, 1,1,1,2-	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Tetrachloroethane, 1,1,2,2-	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Trichloroethene	µg/L	0.5	**5**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Trichloroethane, 1,1,1-	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Trichloroethane, 1,1,2-	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Trichlorofluoromethane	µg/L	5		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Trimethylbenzene, 1,3,5-	µg/L	0.1		-	-	-	-	-	-	-	<0.1	<0.1	<0.1	-	-	-	-	-	-	-	-	-
Vinyl chloride	µg/L	0.2	**1**	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2

Table 7 - Groundwater Quality - VOCs

			Location Code	MW11-2	MW11-2	MW11-2	MW11-2	MW11-2	MW11-2	MW12-1	MW12-1	MW12-1	MW12-1	MW12-2	MW12-2	MW12-2	MW12-2	MW12-2	MW12-3	MW12-3	MW12-3	MW12-3
			Date	26 May 2020	18 Nov 2020	24 Jun 2021	11 Nov 2021	12 Apr 2022	25 Oct 2022	24 Jun 2021	11 Nov 2021	12 Apr 2022	25 Oct 2022	22 May 2015	31 May 2016	26 May 2020	24 Jun 2021	12 Apr 2022	22 May 2015	31 May 2016	26 May 2020	24 Jun 2021
	Unit	EQL	**ODWQS**																			
Benzene	µg/L	0.5	**1**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Toluene	µg/L	0.5	**60**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	µg/L	0.5	**140**	<0.5	<0.5	-	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-
Xylene (m & p)	µg/L	0.5		<0.5	<0.5	-	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-
Xylene (o)	µg/L	0.5		<0.5	<0.5	-	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-
Xylene Total	µg/L	0.5	**90**	<0.5	<0.5	-	<1.1	<1.1	<1.1	-	-	-	-	-	-	-	-	-	-	-	-	-
Acetone	µg/L	30		-	-	-	<30	<30	<30	-	-	-	-	-	-	-	-	-	-	-	-	-
Bromoform	µg/L	0.5		<0.5	<0.5	<5	<5	<5	<5	-	-	-	-	-	-	-	-	-	-	-	-	-
Bromomethane	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-
Bromodichloromethane	µg/L	0.5		<0.5	<0.5	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-	-
Carbon tetrachloride	µg/L	0.2	**2**	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	-	-	-	-	-	-	-	-	-	-	-	-	-
Chlorobenzene	µg/L	0.2	**80**	<0.5	<0.5	<0.5	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	<0.5	<0.5	-	-	-	<0.5
Chloroethane	µg/L	3		<5	<0.5	<3	<3	<3	<3	-	-	-	-	-	-	-	-	-	-	-	-	-
Chloroform	µg/L	0.5		<0.5	<0.5	<1	<1	<1	<1	-	-	-	-	-	-	-	-	-	-	-	-	-
Chloromethane	µg/L	2		<5	<0.5	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-	-
Dibromochloromethane	µg/L	0.5		<0.5	<0.2	<2	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-	-
Dibromoethane,1,2-	µg/L	0.2		<0.2	<0.5	<0.2	<0.2	<0.2	<0.2	-	-	-	-	-	-	-	-	-	-	-	-	-
Dichlorobenzene, 1,2-	µg/L	0.5	**200**	<0.5	<5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-
Dichlorobenzene, 1,3-	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-
Dichlorobenzene, 1,4-	µg/L	0.5	**5**	<0.5	<5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichlorodifluoromethane	µg/L	2		-	-	-	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-	-
Dibromoethene, 1,2-trans-	ug/L			<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dichloroethane, 1,1-	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-
Dichloroethane, 1,2-	µg/L	0.5	**5**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-
Dichloroethene, 1,1-	µg/L	0.5	**14**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-
Dichloroethene, 1,2-cis-	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-
Dichloroethene, 1,2-trans-	µg/L	0.5		-	-	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-
Dichloromethane	µg/L	0.5	**50**	<0.5	<0.5	<5	<5	<5	<5	<5	<5	<5	<5	<0.5	<0.5	<0.5	<5	<5	<0.5	<0.5	<0.5	<5
Dichloropropane, 1,2-	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-
Dichloropropene, 1,3-	µg/L	0.5		-	-	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-
Dichloropropene, 1,3- cis	µg/L	0.5		<0.5	<0.5	-	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-
Dichloropropene, 1,3- trans	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-
Hexane	µg/L	5		-	-	-	<5	<5	<5	-	-	-	-	-	-	-	-	-	-	-	-	-
Methyl Ethyl Ketone	µg/L	20		-	-	-	<20	<20	<20	-	-	-	-	-	-	-	-	-	-	-	-	-
Methyl Iso-Butyl Ketone	µg/L	20		-	-	-	<20	<20	<20	-	-	-	-	-	-	-	-	-	-	-	-	-
Methyl tert-butyl ether	µg/L	2		-	-	-	<2	<2	<2	-	-	-	-	-	-	-	-	-	-	-	-	-
Styrene	µg/L	0.5		<0.5	<0.2	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-
Tetrachloroethene	µg/L	0.5	**10**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-
Tetrachloroethane, 1,1,1,2-	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-
Tetrachloroethane, 1,1,2,2-	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-
Trichloroethene	µg/L	0.5	**5**	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-
Trichloroethane, 1,1,1-	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-
Trichloroethane, 1,1,2-	µg/L	0.5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	-	-	-	-	-	-	-	-	-	-	-	-
Trichlorofluoromethane	µg/L	5		<5	<5	<5	<5	<5	<5	-	-	-	-	-	-	-	-	-	-	-	-	-
Trimethylbenzene, 1,3,5-	µg/L	0.1		-	-	-	<0.1	<0.1	<0.1	-	-	-	-	-	-	-	-	-	-	-	-	-
Vinyl chloride	µg/L	0.2	**1**	<0.2	<0.5	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2

Table 7 - Groundwater Quality - VOCs

				Location Code	MW12-3	MW13-1	MW13-1	MW13-1	MW13-1	MW13-1	MW13-2	MW13-2	MW13-2	MW13-2
				Date	12 Apr 2022	22 May 2015	31 May 2016	26 May 2020	28 Jun 2021	12 Apr 2022	28 Jun 2021	11 Nov 2021	12 Apr 2022	25 Oct 2022
	Unit	EQL	ODWQS											
Benzene	µg/L	0.5	**1**		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Toluene	µg/L	0.5	**60**		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	µg/L	0.5	**140**		-	-	-	-	-	-	-	-	-	-
Xylene (m & p)	µg/L	0.5			-	-	-	-	-	-	-	-	-	-
Xylene (o)	µg/L	0.5			-	-	-	-	-	-	-	-	-	-
Xylene Total	µg/L	0.5	**90**		-	-	-	-	-	-	-	-	-	-
Acetone	µg/L	30			-	-	-	-	-	-	-	-	-	-
Bromoform	µg/L	0.5			-	-	-	-	-	-	-	-	-	-
Bromomethane	µg/L	0.5			-	-	-	-	-	-	-	-	-	-
Bromodichloromethane	µg/L	0.5			-	-	-	-	-	-	-	-	-	-
Carbon tetrachloride	µg/L	0.2	**2**		-	-	-	-	-	-	-	-	-	-
Chlorobenzene	µg/L	0.2	**80**		<0.5	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	-
Chloroethane	µg/L	3			-	-	-	-	-	-	-	-	-	-
Chloroform	µg/L	0.5			-	-	-	-	-	-	-	-	-	-
Chloromethane	µg/L	2			-	-	-	-	-	-	-	-	-	-
Dibromochloromethane	µg/L	0.5			-	-	-	-	-	-	-	-	-	-
Dibromoethane,1,2-	µg/L	0.2			-	-	-	-	-	-	-	-	-	-
Dichlorobenzene, 1,2-	µg/L	0.5	**200**		-	-	-	-	-	-	-	-	-	-
Dichlorobenzene, 1,3-	µg/L	0.5			-	-	-	-	-	-	-	-	-	-
Dichlorobenzene, 1,4-	µg/L	0.5	**5**		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichlorodifluoromethane	µg/L	2			-	-	-	-	-	-	-	-	-	-
Dibromoethene, 1,2-trans-	ug/L				-	-	-	-	-	-	-	-	-	-
Dichloroethane, 1,1-	µg/L	0.5			-	-	-	-	-	-	-	-	-	-
Dichloroethane, 1,2-	µg/L	0.5	**5**		-	-	-	-	-	-	-	-	-	-
Dichloroethene, 1,1-	µg/L	0.5	**14**		-	-	-	-	-	-	-	-	-	-
Dichloroethene, 1,2-cis-	µg/L	0.5			-	-	-	-	-	-	-	-	-	-
Dichloroethene, 1,2-trans-	µg/L	0.5			-	-	-	-	-	-	-	-	-	-
Dichloromethane	µg/L	0.5	**50**		<5	<0.5	<0.5	<0.5	<5	<5	<5	<5	<5	<5
Dichloropropane, 1,2-	µg/L	0.5			-	-	-	-	-	-	-	-	-	-
Dichloropropene, 1,3-	µg/L	0.5			-	-	-	-	-	-	-	-	-	-
Dichloropropene, 1,3- cis	µg/L	0.5			-	-	-	-	-	-	-	-	-	-
Dichloropropene, 1,3- trans	µg/L	0.5			-	-	-	-	-	-	-	-	-	-
Hexane	µg/L	5			-	-	-	-	-	-	-	-	-	-
Methyl Ethyl Ketone	µg/L	20			-	-	-	-	-	-	-	-	-	-
Methyl Iso-Butyl Ketone	µg/L	20			-	-	-	-	-	-	-	-	-	-
Methyl tert-butyl ether	µg/L	2			-	-	-	-	-	-	-	-	-	-
Styrene	µg/L	0.5			-	-	-	-	-	-	-	-	-	-
Tetrachloroethene	µg/L	0.5	**10**		-	-	-	-	-	-	-	-	-	-
Tetrachloroethane, 1,1,1,2-	µg/L	0.5			-	-	-	-	-	-	-	-	-	-
Tetrachloroethane, 1,1,2,2-	µg/L	0.5			-	-	-	-	-	-	-	-	-	-
Trichloroethene	µg/L	0.5	**5**		-	-	-	-	-	-	-	-	-	-
Trichloroethane, 1,1,1-	µg/L	0.5			-	-	-	-	-	-	-	-	-	-
Trichloroethane, 1,1,2-	µg/L	0.5			-	-	-	-	-	-	-	-	-	-
Trichlorofluoromethane	µg/L	5			-	-	-	-	-	-	-	-	-	-
Trimethylbenzene, 1,3,5-	µg/L	0.1			-	-	-	-	-	-	-	-	-	-
Vinyl chloride	µg/L	0.2	**1**		<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2

Table 8 - Groundwater Quality - PWQO

				Location Code	MW08-2	MW08-2	MW08-2	MW08-2	MW08-2	MW08-2	MW08-2	MW08-2	MW08-2	MW08-2	MW08-2	MW08-2	MW08-2	MW08-2
				Date	18 May 2012	09 Oct 2012	10 Jun 2013	05 Nov 2013	26 Jun 2014	06 Nov 2014	22 May 2015	30 May 2016	31 Oct 2016	31 May 2017	04 Oct 2017	30 May 2019	29 Oct 2019	26 May 2020
	Unit	EQL	Other	PWQO														
Arsenic (filtered)	µg/L	0.1		**5**	-	-	-	-	-	0.4	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Barium (filtered)	µg/L	0.01			122	197	107	161	116	184	88.0	113	197	87.5	148	53.1	158	81.1
Boron (filtered)	µg/L	0.2	1,500[#1]	**200**	15.3	35.7	11.1	27.4	13.8	29.6	10.0	18	32	20	31	14	50	26
Calcium (filtered)	µg/L	10			98,000	131,000	85,100	113,000	97,500	125,000	84,100	116,000	156,000	81,900	118,000	103,000	127,000	80,100
Chloride	µg/L	200	120,000[#2]		48,000	110,000	56,000	69,000	38,000	74,000	24,000	55,000	**150,000**	45,000	68,000	3,000	69,000	9,000
Iron (filtered)	µg/L	2	350[#3]	**300**	18	<3	20	12	6	15	20	8	26	<7	<7	7	10	24
Magnesium (filtered)	µg/L	1			3,410	5,020	2,680	4,140	3,260	4,620	2,950	3,430	5,410	2,620	4,140	2,820	3,820	2,680
Manganese (filtered)	µg/L	0.01			-	-	-	-	-	9.10	3.25	0.82	4.47	1.75	1.89	0.74	4.33	4.34
Phosphorus total (P2O5)	µg/L	3		**30**	-	-	-	-	-	-	<30	6	<30	<30	<30	-	30	<30
Potassium (filtered)	µg/L	2			-	-	-	-	-	2,220	1,000	979	1,710	817	1,370	472	1,400	738
Sodium (filtered)	µg/L	10			28,800	50,700	29,500	35,900	23,900	43,200	23,500	28,700	60,700	30,500	36,500	3,740	36,800	23,500
Zinc (filtered)	µg/L	2		**20**	-	-	-	-	-	2	<2	<2	3	<2	<2	2	3	9
Alkalinity (total) as CaCO3	mg/L	2			258	279	226	267	208	305	254	261	285	221	300	235	272	235
Total Dissolved Solids	mg/L	3			363	529	366	423	354	491	294	380	629	297	443	257	434	240
Hardness as CaCO3 (filtered)	mg/L	0.02			-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chemical Oxygen Demand	mg/L	5			15	<8	14	10	8	<8	10	<8	16	<8	<8	<8	<8	16
Dissolved Organic Carbon (filtered)	mg/L	0.2			2.4	1.4	4.7	5.3	3.9	2.5	-	-	-	-	-	-	-	-
Phenols (4AAP)	mg/L	0.001		**0.001**	-	-	-	-	-	-	<0.001	**0.002**	0.001	<0.001	<0.001	**0.002**	<0.001	<0.001
Sulphate (filtered)	mg/L	0.2	128..429[#4]		10	19	1.3	21	6.8	16	8	8	17	3	10	7	12	6
Ammonia as N	mg/L	0.01			<0.1	0.2	<0.1	<0.1	0.2	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Nitrate (as N)	mg/L	0.05	3[#5]		0.44	1.22	0.10	0.35	0.24	0.53	0.16	0.46	1.33	<0.06	0.35	<0.06	0.66	0.15
Total Kjeldahl Nitrogen	mg/L	0.1			-	-	-	-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Electrical Conductivity (Lab)	µS/cm	1			657	929	604	757	615	807	559	700	1,040	535	781	429	748	452
pH (Lab)	-	0.05		**6.5-8.5**	7.87	8.07	7.91	8.23	8.29	8.10	7.93	8.08	7.86	7.88	7.63	7.66	8.12	7.85
DO (Field)	mg/L			**5**	-	-	-	-	-	-	-	-	-	-	-	**3.4**	8.8	-
Redox (Field)	mV				-	-	-	-	-	-	-	-	-	-	-	196	79	-
Temperature (Field)	°C				-	-	-	-	-	-	-	-	-	-	-	8.5	13.4	16.4
Conductivity (field)	µS/cm				-	-	-	-	-	-	-	-	-	-	-	419	803	-
pH (Field)	-			**6.5-8.5**	-	-	-	-	-	-	-	-	-	-	-	7.7	**6.1**	8.1

Table 8 - Groundwater Quality - PWQO

				Location Code	MW08-2	MW08-2	MW08-2	MW08-2	MW08-2	MW08-2	MW08-2	MW09-2	MW09-2	MW09-2	MW09-2	MW09-2	MW09-2	MW09-2
				Date	18 Nov 2020	24 Jun 2021	11 Nov 2021	12 Apr 2022	25 Oct 2022	25 Oct 2023	29 Oct 2024	18 May 2012	09 Oct 2012	10 Jun 2013	05 Nov 2013	02 Jul 2014	22 May 2015	30 May 2016
	Unit	EQL	Other	PWQO														
Arsenic (filtered)	µg/L	0.1		**5**	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-	-	-	0.3	<0.2
Barium (filtered)	µg/L	0.01			162	135	168	95	181	183	153	259	803	856	470	232	178	109
Boron (filtered)	µg/L	0.2	1,500[#1]	**200**	23	15	28	6	27	22	25	53.2	**442**	**513**	139	119	28.7	62
Calcium (filtered)	µg/L	10			145,000	114,000	119,000	85,300	123,000	141,000	115,000	97,400	49,400	43,700	96,700	58,000	96,100	57,500
Chloride	µg/L	200	120,000[#2]		120,000	65,500	67,500	35,700	69,900	75,700	67,300	51,000	17,000	13,000	59,000	46,000	58,000	50,000
Iron (filtered)	µg/L	2	350[#3]	**300**	15	19	<5	<5	<5	6	<5	203	35	<3	192	294	177	234
Magnesium (filtered)	µg/L	1			5,280	4,060	4,140	2,880	4,600	4,720	4,410	4,780	18,300	19,500	7,760	6,210	4,290	3,510
Manganese (filtered)	µg/L	0.01			0.97	4	2	<1	3	1	4	-	-	-	-	-	23.3	35.2
Phosphorus total (P2O5)	µg/L	3		**30**	<30	**100**	**110**	**50**	**60**	<100	<100	-	-	-	-	-	<30	3
Potassium (filtered)	µg/L	2			1,210	1,000	1,800	700	1,600	1,400	1,500	-	-	-	-	-	2,330	3,000
Sodium (filtered)	µg/L	10			29,400	38,300	44,000	26,800	44,100	38,900	40,300	35,900	48,000	44,300	40,700	41,600	37,900	45,500
Zinc (filtered)	µg/L	2		**20**	<2	<5	<5	<5	<5	-	-	-	-	-	-	-	<2	<2
Alkalinity (total) as CaCO3	mg/L	2			283	276	275	215	277	289	281	253	255	263	278	222	260	280
Total Dissolved Solids	mg/L	3			480	364	389	283	428	407	400	374	394	380	414	346	371	383
Hardness as CaCO3 (filtered)	mg/L	0.02			-	302	316	225	326	372	307	-	-	-	-	-	-	-
Chemical Oxygen Demand	mg/L	5			<8	7	10	<5	12	9	26	11	36	35	14	14	<8	<8
Dissolved Organic Carbon (filtered)	mg/L	0.2			-	3.7	2.7	3	0.9	3.3	3.4	2.4	<1	1.8	1.5	1.7	-	-
Phenols (4AAP)	mg/L	0.001		**0.001**	<0.001	<0.002	<0.002	<0.001	<0.001	<0.001	<0.001	-	-	-	-	-	<0.001	**0.002**
Sulphate (filtered)	mg/L	0.2	128..429[#4]		10	9	10	5	<10	11	10	13	6.3	32	22	8.6	12	8
Ammonia as N	mg/L	0.01			<0.1	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.1	0.6	0.7	<0.1	0.2	<0.1	<0.1
Nitrate (as N)	mg/L	0.05	3[#5]		0.67	0.74	0.41	0.05	0.62	0.64	0.23	0.11	<0.05	<0.06	<0.06	<0.06	<0.06	<0.06
Total Kjeldahl Nitrogen	mg/L	0.1			<0.5	0.4	0.3	0.2	0.3	-	0.4	-	-	-	-	-	<0.5	<0.5
Electrical Conductivity (Lab)	µS/cm	1			838	700	744	547	814	777	765	665	617	591	756	573	666	767
pH (Lab)	-	0.05		**6.5-8.5**	7.81	7.94	8.27	7.57	7.93	7.76	7.83	7.92	8.17	8.19	8.18	8.00	7.86	8.21
DO (Field)	mg/L			**5**	11.3	13.26	**2.49**	7.65	6.06	**4.12**	7.44	-	-	-	-	-	-	-
Redox (Field)	mV				135	140	-73	-54	-140	243	28	-	-	-	-	-	-	-
Temperature (Field)	°C				6.2	9.3	9.2	8.8	13	12.7	10.0	-	-	-	-	-	-	-
Conductivity (field)	µS/cm				486	652	334	473	722	841	54	-	-	-	-	-	-	-
pH (Field)	-			**6.5-8.5**	**8.6**	**8.78**	7.27	7.35	7.21	6.94	7.45	-	-	-	-	-	-	-

Table 8 - Groundwater Quality - PWQO

				Location Code	MW09-2	MW09-2	MW09-2	MW09-2	MW09-2	MW09-2	MW09-2	MW09-2	MW09-2	MW09-2	MW09-2	MW09-2	MW09-2	MW10-2
				Date	31 Oct 2016	31 May 2017	04 Oct 2017	30 May 2019	29 Oct 2019	26 May 2020	18 Nov 2020	28 Jun 2021	11 Nov 2021	12 Apr 2022	25 Oct 2022	23 Oct 2023	29 Oct 2024	18 May 2012
	Unit	EQL	Other	PWQO														
Arsenic (filtered)	µg/L	0.1		**5**	<0.2	0.2	0.3	0.3	<0.2	0.4	<0.2	0.2	0.1	<0.1	<0.1	<0.1	0.1	-
Barium (filtered)	µg/L	0.01			204	117	258	158	184	285	176	210	203	846	229	207	193	923
Boron (filtered)	µg/L	0.2	1,500[#1]	**200**	44	26	84	26	65	143	39	40	45	**567**	47	48	38	147
Calcium (filtered)	µg/L	10			133,000	83,700	107,000	105,000	121,000	80,800	126,000	124,000	119,000	51,100	122,000	110,000	120,000	95,300
Chloride	µg/L	200	120,000[#2]		98,000	35,000	70,000	66,000	73,000	50,000	77,000	88,500	70,500	15,100	79,700	76,900	79,200	45,000
Iron (filtered)	µg/L	2	350[#3]	**300**	27	87	205	293	38	**302**	15	87	43	13	26	17	13	9,270
Magnesium (filtered)	µg/L	1			4,530	3,120	5,780	3,890	3,820	8,760	4,270	4,640	4,550	21,900	4,730	4,390	4,320	13,600
Manganese (filtered)	µg/L	0.01			7.39	22	15.9	29.1	4.64	33.2	3.31	3	3	47	2	2	2	-
Phosphorus total (P2O5)	µg/L	3		**30**	<30	<30	<30	-	<30	<30	<30	**40**	20	**40**	20	**60**	<100	-
Potassium (filtered)	µg/L	2			2,410	1,910	2,600	2,160	2,570	2,740	2,650	2,300	2,700	5,300	2,600	2,300	2,600	-
Sodium (filtered)	µg/L	10			54,600	32,600	45,700	42,900	46,500	44,400	44,600	55,600	48,200	51,300	57,700	45,600	52,200	8,870
Zinc (filtered)	µg/L	2		**20**	<2	2	<2	3	3	2	<2	<5	<5	<5	<5	-	-	-
Alkalinity (total) as CaCO3	mg/L	2			238	226	274	241	260	233	295	271	280	249	278	306	302	238
Total Dissolved Solids	mg/L	3			417	314	420	214	414	311	437	432	409	316	425	432	445	351
Hardness as CaCO3 (filtered)	mg/L	0.02			-	-	-	-	-	-	-	329	315	218	324	293	318	-
Chemical Oxygen Demand	mg/L	5			10	<8	10	<8	<8	<8	<8	<5	11	38	7	<5	7	10
Dissolved Organic Carbon (filtered)	mg/L	0.2			-	-	-	-	-	-	-	3.3	2.4	2.4	0.7	3.8	3.6	3.8
Phenols (4AAP)	mg/L	0.001		**0.001**	**0.002**	**0.006**	<0.001	**0.003**	<0.001	<0.001	<0.001	<0.002	<0.002	**0.048**	<0.001	<0.001	<0.001	-
Sulphate (filtered)	mg/L	0.2	128..429[#4]		20	20	14	16	11	10	10	13	13	37	14	15	13	13
Ammonia as N	mg/L	0.01			<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	0.03	0.03	0.69	0.02	<0.05	<0.05	0.1
Nitrate (as N)	mg/L	0.05	3[#5]		1.12	0.1	0.37	<0.06	0.93	<0.06	1.17	1.21	0.73	<0.05	1	1.29	0.76	<0.05
Total Kjeldahl Nitrogen	mg/L	0.1			<0.5	<0.5	<0.5	<0.5	<0.1	<0.5	<0.5	0.2	0.2	0.7	0.2	-	0.2	-
Electrical Conductivity (Lab)	µS/cm	1			762	560	719	653	737	591	791	821	780	609	809	821	844	613
pH (Lab)	-	0.05		**6.5-8.5**	7.77	7.75	7.57	8	8.11	7.9	7.91	7.69	7.66	7.7	7.71	7.46	7.9	7.91
DO (Field)	mg/L			**5**	-	-	-	**3.6**	**4.1**	-	5	**2.63**	**2.91**	**2.32**	5.39	**3.09**	**1.31**	-
Redox (Field)	mV				-	-	-	-125	-86	-	60	160	30	-36	-140	-51	-139	-
Temperature (Field)	°C				-	-	-	10.3	14.1	1.7	7.4	10.7	9.8	7.4	13.7	9.2	10.7	-
Conductivity (field)	µS/cm				-	-	-	404	655	-	471	792	332	496	801	771	613	-
pH (Field)	-			**6.5-8.5**	-	-	-	7.7	7.4	7.6	8	7.08	7.01	7.01	7.06	6.75	7.07	-

Table 8 - Groundwater Quality - PWQO

				Location Code	MW10-2	MW10-2	MW10-2	MW10-2	MW10-2	MW10-2	MW10-2	MW10-2	MW10-2	MW10-2	MW10-2	MW10-2	MW10-2	MW10-2
				Date	09 Oct 2012	10 Jun 2013	05 Nov 2013	26 Jun 2014	22 May 2015	30 May 2016	31 Oct 2016	31 May 2017	04 Oct 2017	30 May 2019	29 Oct 2019	26 May 2020	18 Nov 2020	24 Jun 2021
	Unit	EQL	Other	PWQO														
Arsenic (filtered)	µg/L	0.1		**5**	-	-	-	-	<0.2	<0.2	<0.2	<0.2	<0.2	0.2	<0.2	<0.2	<0.2	0.3
Barium (filtered)	µg/L	0.01			710	620	587	587	524	476	501	459	506	626	580	491	416	510
Boron (filtered)	µg/L	0.2	1,500[#1]	**200**	141	119	130	116	100	121	122	123	131	118	145	106	96	109
Calcium (filtered)	µg/L	10			93,600	99,800	96,500	99,500	106,000	113,000	107,000	91,200	104,000	117,000	129,000	98,500	99,900	118,000
Chloride	µg/L	200	120,000[#2]		45,000	55,000	50,000	59,000	57,000	52,000	49,000	48,000	51,000	48,000	48,000	54,000	53,000	59,600
Iron (filtered)	µg/L	2	350[#3]	**300**	**6,760**	**4,190**	**4,380**	**6,210**	**3,160**	**533**	**3,580**	**3,340**	**3,370**	**6,910**	**4,030**	**886**	**3,290**	<5
Magnesium (filtered)	µg/L	1			12,700	11,500	11,000	11,900	11,900	11,200	10,100	11,300	11,000	11,200	10,900	12,700	10,400	11,400
Manganese (filtered)	µg/L	0.01			-	-	-	-	92.4	29.8	49.7	97.3	60.1	171	54.4	95.1	58	38
Phosphorus total (P2O5)	µg/L	3		**30**	-	-	-	-	<30	<3	<30	<30	30	-	**60**	**40**	**80**	**110**
Potassium (filtered)	µg/L	2			-	-	-	-	2,340	2,370	2,140	2,580	2,600	2,420	2,690	2,460	2,600	2,000
Sodium (filtered)	µg/L	10			7,070	6,180	5,160	7,250	6,690	7,750	5,520	8,990	6,070	7,470	5,540	9,830	6,930	6,100
Zinc (filtered)	µg/L	2		**20**	-	-	-	-	4	<2	<2	<2	<2	5	<2	2	<2	<5
Alkalinity (total) as CaCO3	mg/L	2			225	240	226	299	254	245	240	171	233	243	245	243	258	260
Total Dissolved Solids	mg/L	3			366	446	377	423	411	389	394	269	406	334	354	389	351	343
Hardness as CaCO3 (filtered)	mg/L	0.02			-	-	-	-	-	-	-	-	-	-	-	-	-	342
Chemical Oxygen Demand	mg/L	5			<8	8	<8	<8	10	<8	<8	<8	<8	<8	<8	8	<8	53
Dissolved Organic Carbon (filtered)	mg/L	0.2			<1	2.0	1.5	1.9	-	-	-	-	-	-	-	-	-	2.8
Phenols (4AAP)	mg/L	0.001		**0.001**	-	-	-	-	<0.001	0.001	<0.001	**0.004**	<0.001	<0.001	<0.001	<0.001	0.001	<0.002
Sulphate (filtered)	mg/L	0.2	128..429[#4]		9.7	15	8.8	13	11	**140**	8	12	9	8	7	10	6	10
Ammonia as N	mg/L	0.01			0.7	0.5	1.0	0.9	0.6	0.3	1.0	0.5	1	0.8	1.1	0.9	1	0.93
Nitrate (as N)	mg/L	0.05	3[#5]		<0.05	<0.06	<0.06	0.07	<0.06	0.21	<0.06	0.08	<0.06	0.08	0.08	<0.06	<0.06	0.07
Total Kjeldahl Nitrogen	mg/L	0.1			-	-	-	-	1.2	<0.5	1.0	0.8	1.1	0.7	1.1	0.8	1	1
Electrical Conductivity (Lab)	µS/cm	1			615	667	619	686	645	639	633	483	631	599	621	618	623	660
pH (Lab)	-	0.05		**6.5-8.5**	8.13	7.89	8.15	8.13	7.94	8.13	7.95	7.92	7.67	7.54	8.03	7.83	7.79	7.83
DO (Field)	mg/L			**5**	-	-	-	-	-	-	-	-	-	**3.6**	**4**	-	**4.2**	**2.87**
Redox (Field)	mV				-	-	-	-	-	-	-	-	-	-109	-115	-	-148	-15
Temperature (Field)	°C				-	-	-	-	-	-	-	-	-	10.6	13.8	15.1	6.7	9
Conductivity (field)	µS/cm				-	-	-	-	-	-	-	-	-	442	518	-	364	665
pH (Field)	-			**6.5-8.5**	-	-	-	-	-	-	-	-	-	7.6	7.6	7.7	7.9	8.45

Table 8 - Groundwater Quality - PWQO

				Location Code	MW10-2	MW10-2	MW10-2	MW10-2	MW10-2	MW11-2	MW11-2	MW11-2	MW11-2	MW11-2	MW11-2	MW11-2	MW11-2
				Date	11 Nov 2021	12 Apr 2022	25 Oct 2022	23 Oct 2023	29 Oct 2024	18 May 2012	09 Oct 2012	10 Jun 2013	05 Nov 2013	26 Jun 2014	22 May 2015	30 May 2016	31 Oct 2016	31 May 2017
	Unit	EQL	Other	PWQO														
Arsenic (filtered)	µg/L	0.1		**5**	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-	-	-	<0.2	<0.2	<0.2	<0.2
Barium (filtered)	µg/L	0.01			574	542	603	511	450	495	376	416	469	437	473	407	433	419
Boron (filtered)	µg/L	0.2	1,500[#1]	**200**	125	95	135	118	130	185	**237**	161	113	150	115	**208**	146	**515**
Calcium (filtered)	µg/L	10			119,000	118,000	112,000	102,000	96,900	95,600	71,600	81,200	100,000	85,700	98,400	91,900	97,900	90,100
Chloride	µg/L	200	120,000[#2]		56,700	54,700	50,300	48,400	49,600	38,000	14,000	34,000	21,000	27,000	36,000	25,000	34,000	26,000
Iron (filtered)	µg/L	2	350[#3]	**300**	**5,280**	**3,750**	**4,080**	**3,630**	**858**	**1,920**	**536**	**1,430**	**2,090**	**1,200**	**2,630**	**1,190**	**1,890**	11
Magnesium (filtered)	µg/L	1			11,300	11,300	11,000	9,950	11,300	11,700	13,600	9,740	10,400	10,700	10,200	12,900	10,100	25,200
Manganese (filtered)	µg/L	0.01			42	39	28	32	44	-	-	-	-	-	30.7	22.7	29.2	84.2
Phosphorus total (P2O5)	µg/L	3		**30**	**90**	**420**	**60**	**110**	<100	-	-	-	-	-	30	14	<30	<30
Potassium (filtered)	µg/L	2			2,500	1,900	2,400	2,200	2,500	-	-	-	-	-	2,410	3,770	2,530	4,710
Sodium (filtered)	µg/L	10			6,500	6,100	5,900	4,900	6,900	10,600	9,300	10,900	5,540	12,000	8,180	11,800	8,290	15,400
Zinc (filtered)	µg/L	2		**20**	<5	<5	<5	-	-	-	-	-	-	-	<2	<2	4	<2
Alkalinity (total) as CaCO3	mg/L	2			250	222	254	272	250	249	239	232	225	250	258	246	258	265
Total Dissolved Solids	mg/L	3			351	336	341	337	332	380	363	391	311	340	366	303	371	400
Hardness as CaCO3 (filtered)	mg/L	0.02			343	341	326	296	289	-	-	-	-	-	-	-	-	-
Chemical Oxygen Demand	mg/L	5			9	7	11	7	5	9	<8	<8	<8	<8	17	<8	<8	<8
Dissolved Organic Carbon (filtered)	mg/L	0.2			2.6	3	0.9	4.9	2.5	1.6	<1	2.1	1.4	3.7	-	-	-	<1
Phenols (4AAP)	mg/L	0.001		**0.001**	**0.013**	<0.001	<0.001	<0.001	<0.001	-	-	-	-	-	0.001	0.001	0.001	<0.002
Sulphate (filtered)	mg/L	0.2	128..429[#4]		9	11	7	5	2	21	15	16	20	14	10	19	10	63
Ammonia as N	mg/L	0.01			1.04	0.8	1.04	0.95	1.04	0.8	0.7	0.7	0.7	0.8	0.6	0.8	0.9	0.9
Nitrate (as N)	mg/L	0.05	3[#5]		<0.05	0.4	0.18	0.67	0.08	<0.05	<0.05	<0.06	<0.06	0.60	<0.06	<0.06	0.06	<0.06
Total Kjeldahl Nitrogen	mg/L	0.1			1.1	1.2	1.2	-	1.1	-	-	-	-	-	1.1	0.9	0.9	1.1
Electrical Conductivity (Lab)	µS/cm	1			675	647	657	649	640	618	603	602	550	560	599	560	628	658
pH (Lab)	-	0.05		**6.5-8.5**	7.68	7.48	7.85	7.54	7.9	7.98	8.06	7.94	8.19	7.67	7.95	8.09	7.99	7.91
DO (Field)	mg/L			**5**	**2.81**	**2.44**	**1.62**	**2.75**	**2.92**	-	-	-	-	-	-	-	-	-
Redox (Field)	mV				19	-117	-143	-85	-216	-	-	-	-	-	-	-	-	-
Temperature (Field)	°C				10.3	7.9	13.3	9.9	9.9	-	-	-	-	-	-	-	-	-
Conductivity (field)	µS/cm				297	615	630	33	476	-	-	-	-	-	-	-	-	-
pH (Field)	-			**6.5-8.5**	7.38	7.18	7.22	**6.29**	7.19	-	-	-	-	-	-	-	-	-

Table 8 - Groundwater Quality - PWQO

				Location Code	MW11-2	MW11-2	MW11-2	MW11-2	MW11-2	MW11-2	MW11-2	MW11-2	MW11-2	MW11-2	MW11-2	MW12-1	MW12-1	MW12-1
				Date	04 Oct 2017	30 May 2019	29 Oct 2019	26 May 2020	18 Nov 2020	24 Jun 2021	11 Nov 2021	12 Apr 2022	25 Oct 2022	23 Oct 2023	29 Oct 2024	24 May 2012	24 Oct 2012	18 Jun 2013
	Unit	EQL	Other	PWQO														
Arsenic (filtered)	µg/L	0.1		**5**	<0.2	<0.2	0.7	<0.2	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	-	-
Barium (filtered)	µg/L	0.01			449	381	40.8	504	358	528	528	466	632	539	566	565	729	574
Boron (filtered)	µg/L	0.2	1,500[#1]	**200**	123	85	176	150	164	127	143	**219**	169	113	128	118	133	91.6
Calcium (filtered)	µg/L	10			93,800	96,600	147,000	102,000	93,400	117,000	113,000	90,600	110,000	105,000	113,000	112,000	90,100	113,000
Chloride	µg/L	200	120,000[#2]		36,000	14,000	33,000	21,000	43,000	52,000	41,000	25,300	28,200	49,700	39,800	49,000	39,000	50,000
Iron (filtered)	µg/L	2	350[#3]	**300**	**2,130**	**1,550**	124	**2,130**	**1,060**	**3,030**	**2,750**	**1,670**	**2,150**	**2,910**	**3,010**	<3	3	8
Magnesium (filtered)	µg/L	1			8,590	7,400	22,100	12,700	12,300	11,300	11,100	14,000	12,400	9,800	10,500	11,500	12,100	11,000
Manganese (filtered)	µg/L	0.01			29.6	24.5	14.7	31.4	19.8	35	33	35	33	31	32	-	-	-
Phosphorus total (P2O5)	µg/L	3		**30**	**40**	-	**40**	<30	30	**80**	**80**	**40**	**40**	**90**	<100	-	-	-
Potassium (filtered)	µg/L	2			2,280	1,990	7,590	2,860	3,720	2,300	2,800	3,600	3,100	2,300	2,700	-	-	-
Sodium (filtered)	µg/L	10			5,300	6,300	76,700	8,390	6,200	7,300	6,700	8,400	6,800	6,000	7,000	9,970	8,330	11,100
Zinc (filtered)	µg/L	2		**20**	3	4	4	8	<2	<5	<5	<5	<5	-	-	-	-	-
Alkalinity (total) as CaCO3	mg/L	2			255	224	242	227	242	271	250	233	244	286	258	264	227	262
Total Dissolved Solids	mg/L	3			391	274	320	274	343	342	329	300	294	349	329	430	343	423
Hardness as CaCO3 (filtered)	mg/L	0.02			-	-	-	-	-	339	329	284	326	303	326	-	-	-
Chemical Oxygen Demand	mg/L	5			8	<8	<8	13	<8	<5	8	11	<5	9	<5	<8	12	12
Dissolved Organic Carbon (filtered)	mg/L	0.2			-	-	-	-	-	4.4	2.2	3.1	1.3	4.7	2.8	1.4	1.6	1.4
Phenols (4AAP)	mg/L	0.001		**0.001**	<0.001	<0.001	<0.001	**0.002**	0.001	<0.002	<0.002	<0.001	<0.001	<0.001	<0.001	-	-	-
Sulphate (filtered)	mg/L	0.2	128..429[#4]		7	6	10	17	9	11	10	15	11	10	7	23	15	24
Ammonia as N	mg/L	0.01			0.9	0.5	0.9	0.7	0.9	0.95	0.96	0.7	0.99	0.99	0.98	0.2	0.2	0.2
Nitrate (as N)	mg/L	0.05	3[#5]		<0.06	<0.06	0.18	0.13	<0.06	0.07	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.17
Total Kjeldahl Nitrogen	mg/L	0.1			0.9	<0.5	1	0.6	0.8	1	1.1	1	1.1	-	1	-	-	-
Electrical Conductivity (Lab)	µS/cm	1			603	465	584	520	547	659	633	578	568	672	633	680	590	692
pH (Lab)	-	0.05		**6.5-8.5**	7.63	8.09	8.1	7.76	7.77	7.81	7.8	7.56	7.87	7.58	7.88	7.85	7.86	7.92
DO (Field)	mg/L			**5**	-	**4**	5.7	-	6.4	**1.55**	7.98	5.38	8.75	**2.77**	**1.48**	-	-	-
Redox (Field)	mV				-	-93	-122	-	-60	136	15	114	-148	-80	-110	-	-	-
Temperature (Field)	°C				-	9.1	12.5	15.1	4.9	7.7	9	9.1	13.7	8.5	10.2	-	-	-
Conductivity (field)	µS/cm				-	345	528	-	350	672	286	527	644	23	498	-	-	-
pH (Field)	-			**6.5-8.5**	-	7.8	7.7	7.6	8.3	7.26	7.37	7.13	7.33	**6.47**	7.14	-	-	-

Table 8 - Groundwater Quality - PWQO

				Location Code	MW12-1	MW12-1	MW12-1	MW12-1	MW12-1	MW12-1	MW12-1	MW12-1	MW12-1	MW12-1	MW12-1	MW12-1	MW12-1
				Date	05 Nov 2013	26 Jun 2014	11 Nov 2014	22 May 2015	19 Nov 2015	31 May 2016	01 Nov 2016	04 Oct 2017	30 May 2019	29 Oct 2019	26 May 2020	18 Nov 2020	24 Jun 2021	11 Nov 2021
	Unit	EQL	Other	PWQO														
Arsenic (filtered)	µg/L	0.1		**5**	-	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	0.8	<0.2	<0.2	<0.1	<0.1
Barium (filtered)	µg/L	0.01			739	597	869	664	801	569	723	152	713	230	621	311	743	994
Boron (filtered)	µg/L	0.2	1,500[#1]	**200**	116	99.4	180	110	136	128	153	83	104	99	106	110	121	156
Calcium (filtered)	µg/L	10			89,800	113,000	96,900	99,700	87,200	109,000	102,000	122,000	126,000	117,000	115,000	113,000	116,000	106,000
Chloride	µg/L	200	120,000[#2]		30,000	50,000	33,000	39,000	42,000	53,000	42,000	54,000	51,000	44,000	55,000	44,000	40,700	39,400
Iron (filtered)	µg/L	2	350[#3]	**300**	4	4	<2	<2	11	11	20	18	10	19	20	24	<5	<5
Magnesium (filtered)	µg/L	1			11,900	11,700	12,600	12,200	12,700	12,600	11,800	6,760	11,500	7,580	12,900	9,820	13,400	14,300
Manganese (filtered)	µg/L	0.01			-	-	3.63	3.29	6.36	4.53	4.94	15.6	3.52	20.1	5.18	16.4	3	3
Phosphorus total (P2O5)	µg/L	3		**30**	-	-	-	<30	<30	30	<3	<30	-	<30	<30	<30	20	10
Potassium (filtered)	µg/L	2			-	-	3,700	3,080	3,240	3,410	3,290	2,100	3,280	2,250	3,340	2,780	3,100	3,500
Sodium (filtered)	µg/L	10			8,290	11,300	8,740	10,600	8,640	10,600	11,200	12,300	13,700	12,000	16,900	11,200	11,700	10,600
Zinc (filtered)	µg/L	2		**20**	-	-	<2	<2	<2	<2	4	<2	3	3	2	<2	<5	<5
Alkalinity (total) as CaCO3	mg/L	2			233	273	255	271	262	272	250	283	284	265	278	253	271	241
Total Dissolved Solids	mg/L	3			337	354	343	420	357	363	360	460	403	403	397	351	338	336
Hardness as CaCO3 (filtered)	mg/L	0.02			-	-	-	-	-	-	-	-	-	-	-	-	345	325
Chemical Oxygen Demand	mg/L	5			17	<8	12	13	12	8	9	<8	<8	<8	<8	<8	7	13
Dissolved Organic Carbon (filtered)	mg/L	0.2			<1	2.7	3.7	-	-	-	-	-	-	-	-	-	2.2	1.9
Phenols (4AAP)	mg/L	0.001		**0.001**	-	-	-	**0.002**	<0.002	**0.002**	<0.001	<0.001	<0.001	<0.001	**0.002**	<0.001	**0.004**	**0.006**
Sulphate (filtered)	mg/L	0.2	128..429[#4]		21	21	23	22	25	19	20	24	22	28	23	25	20	26
Ammonia as N	mg/L	0.01			<0.1	0.3	0.1	0.1	0.2	0.1	0.1	0.1	0.1	<0.1	<0.1	0.1	0.14	0.16
Nitrate (as N)	mg/L	0.05	3[#5]		<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	0.18	<0.06	<0.06	<0.06	<0.06	<0.06	0.08	<0.05
Total Kjeldahl Nitrogen	mg/L	0.1			-	-	-	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.2	0.2
Electrical Conductivity (Lab)	µS/cm	1			592	692	589	618	608	695	616	710	675	649	684	595	650	647
pH (Lab)	-	0.05		**6.5-8.5**	8.23	7.98	8.13	7.99	7.97	8.04	7.86	7.8	7.42	7.92	7.71	7.91	7.85	7.91
DO (Field)	mg/L			**5**	-	-	-	-	-	-	-	-	**3**	5.9	-	6.5	**2.83**	**3.6**
Redox (Field)	mV				-	-	-	-	-	-	-	-	-92	-149	-	-128	-38	11
Temperature (Field)	°C				-	-	-	-	-	-	-	-	8.5	9.9	14.4	8.6	9.4	9.4
Conductivity (field)	µS/cm				-	-	-	-	-	-	-	-	457	477	-	388	651	280
pH (Field)	-			**6.5-8.5**	-	-	-	-	-	-	-	-	7.6	7.6	7.3	8.1	7.2	7.45

Table 8 - Groundwater Quality - PWQO

				Location Code	MW12-1	MW12-1	MW12-1	MW12-1
				Date	12 Apr 2022	25 Oct 2022	23 Oct 2023	29 Oct 2024
	Unit	EQL	Other	PWQO				
Arsenic (filtered)	µg/L	0.1		**5**	<0.1	<0.1	<0.1	<0.1
Barium (filtered)	µg/L	0.01			694	1,080	1,010	1,050
Boron (filtered)	µg/L	0.2	1,500[#1]	**200**	118	167	151	170
Calcium (filtered)	µg/L	10			109,000	93,500	87,900	92,800
Chloride	µg/L	200	120,000[#2]		41,300	37,500	36,300	39,100
Iron (filtered)	µg/L	2	350[#3]	**300**	<5	15	<5	27
Magnesium (filtered)	µg/L	1			12,400	15,200	13,900	15,700
Manganese (filtered)	µg/L	0.01			3	10	3	4
Phosphorus total (P2O5)	µg/L	3		**30**	30	30	**50**	<100
Potassium (filtered)	µg/L	2			3,300	3,400	3,200	3,800
Sodium (filtered)	µg/L	10			13,600	9,500	7,700	9,100
Zinc (filtered)	µg/L	2		**20**	<5	<5	-	-
Alkalinity (total) as CaCO3	mg/L	2			254	241	254	237
Total Dissolved Solids	mg/L	3			353	321	320	325
Hardness as CaCO3 (filtered)	mg/L	0.02			323	296	277	297
Chemical Oxygen Demand	mg/L	5			6	8	9	8
Dissolved Organic Carbon (filtered)	mg/L	0.2			2.3	0.7	2.8	1.9
Phenols (4AAP)	mg/L	0.001		**0.001**	**0.002**	<0.001	<0.001	<0.001
Sulphate (filtered)	mg/L	0.2	128..429[#4]		23	25	28	27
Ammonia as N	mg/L	0.01			0.14	0.16	0.16	0.19
Nitrate (as N)	mg/L	0.05	3[#5]		<0.05	<0.05	<0.05	<0.05
Total Kjeldahl Nitrogen	mg/L	0.1			0.2	0.2	-	0.3
Electrical Conductivity (Lab)	µS/cm	1			680	618	617	627
pH (Lab)	-	0.05		**6.5-8.5**	7.56	7.76	7.38	7.8
DO (Field)	mg/L			**5**	**2.29**	**2.96**	**2.91**	**1.31**
Redox (Field)	mV				175	-141	-163	-263
Temperature (Field)	°C				7.2	10.8	9.4	9.9
Conductivity (field)	µS/cm				589	586	584	451
pH (Field)	-			**6.5-8.5**	7.08	7.37	6.97	7.33

Table 9 - Residential Wells

			Location Code	R2	R2	R2	R2	R2	R2	R2	R2	R2	R2	R2	R2	R2	R2	R2	R2	R3	R3	R3
			Date	18 May 2012	23 Oct 2012	10 Jun 2013	04 Nov 2013	26 Jun 2014	22 May 2015	19 Nov 2015	30 May 2016	31 Oct 2016	31 May 2017	04 Oct 2017	30 May 2019	29 Oct 2019	26 May 2020	18 Nov 2020	23 Oct 2023	18 May 2012	23 Oct 2012	10 Jun 2013
	Unit	EQL	ODWQS																			
Arsenic	µg/L	0.1	**25**	-	-	-	-	-	<0.2	<0.2	<0.2	6.4	<0.2	<0.2	<0.2	<0.2	0.2	<0.2	<0.1	-	-	-
Barium	µg/L	0.01	**1,000**	83.2	104	94.6	70.8	85.0	89.7	103	83.9	91.5	102	87.3	95.3	98.3	87.7	103	100	74.0	107	68.8
Boron	µg/L	0.2	**5,000**	11.7	42.2	11.7	17.2	11.7	9.0	9.2	12	211	12	22	9	25	11	29	15	15.8	124	8.9
Calcium	µg/L	10		107,000	121,000	120,000	97,700	109,000	116,000	119,000	121,000	129,000	125,000	105,000	126,000	125,000	114,000	139,000	116,000	103,000	112,000	84,300
Chloride	µg/L	200	**250,000**	54,000	84,000	86,000	58,000	48,000	60,000	83,000	60,000	85,000	78,000	48,000	62,000	70,000	59,000	140,000	89,900	16,000	81,000	49,000
Iron	µg/L	2	**300**	59	115	6	**694**	9	13	29	28	**1,020**	<7	22	<7	10	<7	13	113	46	6	<3
Magnesium	µg/L	1		2,830	4,440	3,290	3,550	2,830	3,250	3,630	3,170	4,130	3,360	3,780	3,240	3,320	2,910	3,970	3,900	3,290	3,850	2,400
Manganese	µg/L	0.01	**50**	-	-	-	-	-	0.25	0.80	1.28	8.44	0.12	0.59	0.22	0.32	0.07	0.38	2	-	-	-
Phosphorus total (P2O5)	µg/L	10		-	-	-	-	-	<30	-	<30	-	<30	-	-	-	<3	-	1,010	-	-	-
Potassium	µg/L	2		-	-	-	-	-	722	880	781	1,000	1,070	1,080	1,340	1,140	869	1,000	1,200	-	-	-
Sodium	µg/L	10	**200,000**	23,300	43,700	26,700	34,200	24,100	25,600	39,400	27,500	42,900	27,700	31,700	21,300	38,300	26,300	61,000	38,400	11,700	44,100	15,100
Zinc	µg/L	2	**5,000**	-	-	-	-	-	11	5	5	747	22	38	0.64	106	8	7	-	-	-	-
Alkalinity (total) as CaCO3	mg/L	2	**500**	255	280	251	276	267	276	268	248	286	246	276	272	291	254	270	288	258	266	223
Total Dissolved Solids	mg/L	3	**500**	411	466	**514**	406	371	460	477	394	**570**	469	426	403	454	397	**529**	443	369	437	320
Hardness as CaCO3	mg/L	0.02	**500**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	306	-	-	-
Chemical Oxygen Demand	mg/L	5		<8	<8	<8	8	<8	<8	9	<8	<8	<8	8	<8	<8	9	<8	<5	<8	<8	<8
Dissolved Organic Carbon (filtered)	mg/L	0.2	**5**	1.4	1.1	1.9	1.9	2.3	<1	2.1	2.7	4	1	2	1	<1	1	2	3.3	1.4	4.0	1.8
Phenols (4AAP)	mg/L	0.001		-	-	-	-	-	<0.002	-	0.002	-	<0.002	-	<0.002	-	<0.002	-	<0.001	-	-	-
Sulphate (filtered)	mg/L	0.2	**500**	7.5	19	13	16	5.4	10	22	8	12	14	8	17	11	9	21	12	6.9	10	6.5
Ammonia as N	mg/L	0.01		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.05	<0.1	<0.1	<0.1
Nitrate (as N)	mg/L	0.05	**10**	0.91	1.44	3.61	0.49	0.66	1.86	0.71	1.02	<0.06	3.41	0.8	3.97	1.14	1.77	0.54	0.53	1.06	0.43	0.47
Total Kjeldahl Nitrogen	mg/L	0.1		-	-	-	-	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	-	-	-	-
Electrical Conductivity (Lab)	µS/cm	1		698	833	775	711	645	714	821	671	950	752	692	695	777	702	941	841	633	780	524
pH (Lab)	-	0.05	**6.5-8.5**	7.94	7.98	7.82	8.08	8.28	8.03	7.79	7.50	7.84	7.88	7.99	7.54	7.79	7.96	7.6	7.48	7.93	8.06	7.88
DO (Field)	mg/L			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.94	-	-	-
Redox (Field)	mV			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	57	-	-	-
Temperature (Field)	°C			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11.9	-	-	-
Conductivity (field)	µS/cm			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	772	-	-	-
pH (Field)	-		**6.5-8.5**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.96	-	-	-

Table 9 - Residential Wells

			Location Code	R3	R3	R3	R3	R3	R3	R3	R3	R3	R3	R3	R3	R3	R4	R4	R4	R4	R4	R4
			Date	04 Nov 2013	26 Jun 2014	22 May 2015	19 Nov 2015	30 May 2016	31 Oct 2016	31 May 2017	04 Oct 2017	30 May 2019	02 Jul 2019	29 Oct 2019	26 May 2020	18 Nov 2020	18 May 2012	23 Oct 2012	10 Jun 2013	25 Nov 2013	26 Jun 2014	22 May 2015
	Unit	EQL	ODWQS																			
Arsenic	µg/L	0.1	**25**	-	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	-	-	-	-	-	<0.2
Barium	µg/L	0.01	**1,000**	70.1	1.6	0.56	2.96	34.3	12.0	30.3	32.7	37.7	37.7	49.5	27.9	91.5	144	163	115	123	178	112
Boron	µg/L	0.2	**5,000**	11.3	18.7	10.2	18.5	14	39	17	25	10	10	48	26	21	19.7	34.1	21.0	22.9	23.9	19.9
Calcium	µg/L	10		81,700	1,450	670	3,560	83,700	14,400	37,200	46,300	56,200	56,200	56,900	27,200	117,000	128,000	132,000	108,000	111,000	140,000	114,000
Chloride	µg/L	200	**250,000**	11,000	92,000	57,000	72,000	41,000	110,000	19,000	87,000	32,000	32,000	92,000	41,000	81,000	180,000	**270,000**	130,000	55,000	**300,000**	44,000
Iron	µg/L	2	**300**	3	4	3	8	<7	11	<7	<7	<7	<7	**591**	9	17	48	22	12	77	9	4
Magnesium	µg/L	1		2,580	39	18	121	3,230	427	1,060	1,580	1,580	1,580	1,840	1,160	3,650	4,170	4,180	3,560	3,600	4,420	3,830
Manganese	µg/L	0.01	**50**	-	-	0.26	2.00	1.88	0.28	0.84	6.74	0.56	0.56	**263**	**73.4**	3.18	-	-	-	-	-	0.20
Phosphorus total (P2O5)	µg/L	10		-	-	<30	-	50	-	<30	-	-	<30	-	<30	-	-	-	-	-	-	40
Potassium	µg/L	2		-	-	348	202,000	27,900	267,000	119,000	1,810	1,420	1,420	793	700	1,570	-	-	-	-	-	6,810
Sodium	µg/L	10	**200,000**	16,300	168,000	157,000	50,400	9,640	25,600	11,900	93,900	70,400	70,400	123,000	124,000	49,100	105,000	180,000	64,600	49,100	143,000	25,800
Zinc	µg/L	2	**5,000**	-	-	22	24	39	49	162	9	19	19	29	24	54	-	-	-	-	-	53
Alkalinity (total) as CaCO3	mg/L	2	**500**	228	270	274	291	264	268	239	223	243	243	257	237	277	284	337	185	98	316	298
Total Dissolved Solids	mg/L	3	**500**	283	437	400	**569**	471	**660**	329	457	343	343	480	331	434	**606**	**846**	**526**	**734**	**854**	403
Hardness as CaCO3	mg/L	0.02	**500**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chemical Oxygen Demand	mg/L	5		<8	<8	<8	<8	10	<8	8	15	<8	<8	<8	<8	<8	16	<8	<8	<8	<8	10
Dissolved Organic Carbon (filtered)	mg/L	0.2	**5**	<1	4.1	4.6	3.2	3.1	4	4	5	3	3	2	3	2	2.1	2.3	2.8	3.7	3.2	3.1
Phenols (4AAP)	mg/L	0.001		-	-	<0.002	-	0.002	-	<0.002	-	<0.002	<0.002	-	<0.002	-	-	-	-	-	-	<0.002
Sulphate (filtered)	mg/L	0.2	**500**	5.1	7.9	9	10	9	16	7	<2	<2	<2	19	8	8	11	19	9.8	12	13	11
Ammonia as N	mg/L	0.01		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Nitrate (as N)	mg/L	0.05	**10**	0.57	0.53	0.99	0.31	0.86	3.92	1.61	0.43	0.62	0.62	3.56	2.16	0.81	0.49	3.46	0.78	1.57	0.68	1.11
Total Kjeldahl Nitrogen	mg/L	0.1		-	-	<0.5	-	<0.5	-	<0.5	-	<0.5	<0.5	-	<0.5	-	-	-	-	-	-	<0.5
Electrical Conductivity (Lab)	µS/cm	1		490	792	692	933	846	1,050	534	707	552	552	825	530	776	1,110	1,570	908	993	1,500	699
pH (Lab)	-	0.05	**6.5-8.5**	8.30	7.82	8.02	7.73	8.14	7.90	7.98	7.69	7.95	7.95	7.72	7.96	7.67	7.99	8.06	8.03	6.88	7.98	7.99
DO (Field)	mg/L			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Redox (Field)	mV			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Temperature (Field)	°C			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Conductivity (field)	µS/cm			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
pH (Field)	-		**6.5-8.5**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 9 - Residential Wells

			Location Code	R4	R4	R4	R4	R4	R4	R4	R4	R4	R4	R4	R4	R4
			Date	19 Nov 2015	30 May 2016	31 Oct 2016	31 May 2017	04 Oct 2017	30 May 2019	29 Oct 2019	26 May 2020	18 Nov 2020	28 Jun 2021	11 Nov 2021	12 Apr 2022	23 Oct 2023
	Unit	EQL	ODWQS													
Arsenic	µg/L	0.1	**25**	<0.2	<0.2	<0.2	<0.2	<0.2	0.3	<0.2	<0.2	<0.2	0.1	0.2	0.2	0.1
Barium	µg/L	0.01	**1,000**	119	140	180	118	152	117	141	114	125	128	122	126	179
Boron	µg/L	0.2	**5,000**	47.5	20	24	18	32	16	29	16	31	20	26	12	19
Calcium	µg/L	10		114,000	148,000	161,000	109,000	133,000	128,000	120,000	116,000	126,000	127,000	113,000	120,000	149,000
Chloride	µg/L	200	**250,000**	130,000	250,000	**380,000**	50,000	**280,000**	52,000	210,000	210,000	220,000	183,000	126,000	85,200	**292,000**
Iron	µg/L	2	**300**	<7	23	25	<7	19	<7	14	11	8	6	<5	<5	7
Magnesium	µg/L	1		3,310	4,270	4,500	2,840	4,200	3,290	3,290	3,750	3,290	3,870	3,200	3,280	4,390
Manganese	µg/L	0.01	**50**	0.79	0.88	0.85	0.07	0.73	0.1	0.61	0.42	0.22	<1	<1	<1	1
Phosphorus total (P2O5)	µg/L	10		-	60	-	<30	-	-	-	<30	-	10	30	40	80
Potassium	µg/L	2		3,130	3,230	2,970	4,840	3,120	3,260	3,220	2,950	3,160	2,800	2,700	4,300	3,400
Sodium	µg/L	10	**200,000**	110,000	121,000	**261,000**	28,900	186,000	34,600	153,000	138,000	165,000	121,000	123,000	54,500	160,000
Zinc	µg/L	2	**5,000**	26	73	441	21	14	2.29	37	31	30	45	28	71	-
Alkalinity (total) as CaCO3	mg/L	2	**500**	361	285	348	259	403	288	336	304	347	267	338	251	370
Total Dissolved Solids	mg/L	3	**500**	**637**	**731**	**1,050**	406	**880**	411	**726**	**629**	**797**	**605**	**563**	429	**931**
Hardness as CaCO3	mg/L	0.02	**500**	-	-	-	-	-	-	-	-	-	333	294	313	391
Chemical Oxygen Demand	mg/L	5		<8	8	<8	<8	9	25	<8	<8	18	<5	8	7	<5
Dissolved Organic Carbon (filtered)	mg/L	0.2	**5**	2.4	2.5	5	4	3	5	1	2	4	2	2.1	2.5	2
Phenols (4AAP)	mg/L	0.001		-	0.004	-	0.002	-	<0.002	-	0.002	-	<0.002	<0.002	<0.001	<0.001
Sulphate (filtered)	mg/L	0.2	**500**	24	130	20	17	18	13	17	10	14	12	10	13	15
Ammonia as N	mg/L	0.01		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.01	<0.01	<0.01	<0.05
Nitrate (as N)	mg/L	0.05	**10**	5.12	0.62	3.50	1.93	0.61	3.15	1.59	0.56	2.12	1.38	0.97	3.6	0.86
Total Kjeldahl Nitrogen	mg/L	0.1		-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	0.2	0.2	0.3	-
Electrical Conductivity (Lab)	µS/cm	1		1,100	1,261	1,960	666	1,610	743	1,290	1,130	1,340	1,130	1,050	815	1,700
pH (Lab)	-	0.05	**6.5-8.5**	7.69	7.98	7.83	7.79	7.39	8.01	7.75	7.72	7.85	7.87	8.21	7.69	7.63
DO (Field)	mg/L			-	-	-	-	-	-	-	-	-	8.86	8.16	2.15	11.04
Redox (Field)	mV			-	-	-	-	-	-	-	-	-	145	17	139	42
Temperature (Field)	°C			-	-	-	-	-	-	-	-	-	13.4	19.1	21.1	10.3
Conductivity (field)	µS/cm			-	-	-	-	-	-	-	-	-	1,046	425	714	1,582
pH (Field)	-		**6.5-8.5**	-	-	-	-	-	-	-	-	-	7.36	7.22	7.12	7.13

Table 10 - Surface Water Quality

				Location Code	S1	S1	S1	S1	S1	S1	S1	S1	S1	S1	S1	S1	S1	S1
				Date	01 Nov 2011	18 May 2012	10 Jun 2013	04 Nov 2013	26 Jun 2014	06 Nov 2014	22 May 2015	19 Nov 2015	16 May 2016	30 May 2019	29 Oct 2019	26 May 2020	18 Nov 2020	11 Nov 2021
	Unit	EQL	Other	PWQO														
Arsenic	µg/L	0.1		**5**	-	-	-	-	-	<0.2	<0.2	<0.2	<0.2	<0.2	0.3	-	<0.2	0.1
Barium	µg/L	0.02			-	-	-	-	-	137	82.2	137	78.7	76.4	115	-	132	94
Boron	µg/L	0.2	1,500[#1]	**200**	-	-	-	-	-	20.0	14.8	23.0	13	17	25	-	52	24
Cadmium	µg/L	0.003		**0.1..0.5**[#7]	-	-	-	-	-	0.008	0.006	0.010	0.005	0.005	0.03	-	0.008	<0.015
Chloride	µg/L	200	120,000[#2]		75,000	52,000	48,000	50,000	50,000	72,000	59,000	64,000	61,000	56,000	33,000	-	63,000	71,800
Chromium (III+VI)	µg/L	0.03		**1**[#8]	-	-	-	-	-	<0.03	0.06	0.20	0.53	0.16	0.16	-	0.46	<1
Copper	µg/L	0.02		**1..5**[#7]	-	-	-	-	-	0.58	0.68	**1.12**	0.58	0.7	**3.9**	-	0.9	0.6
Iron	µg/L	2	1,000[#3]	**300**	36	42	5	9	<2	12	43	26	23	10	42	-	68	27
Lead	µg/L	0.01		**1..5**[#7]	-	-	-	-	-	0.05	0.01	0.07	0.04	<0.01	0.29	-	0.07	0.03
Magnesium	µg/L	1			-	-	-	-	-	-	3,350	4,300	3,490	3,270	3,850	-	4,590	-
Manganese	µg/L	0.01			-	-	-	-	-	-	0.80	1.07	0.74	3.06	29.9	-	13	-
Mercury (filtered)	µg/L	0.01		**0.2**	-	-	-	-	-	<0.01	<0.01	<0.01	<0.01	<10	<10	-	<10	<0.02
Phosphorus total (P2O5)	µg/L	3		**30**	**90**	<30	**80**	<30	<30	**60**	12	<30	<30	6	**48**	-	9	20
Potassium	µg/L	2			-	-	-	-	-	-	941	1,660	1,010	1,510	2,290	-	1,730	-
Zinc	µg/L	2		**20**	-	-	-	-	-	2	4	3	5	3	12	-	3	<5
Alkalinity (total) as CaCO3	mg/L	2			262	231	225	218	271	288	253	273	225	240	245	-	267	277
Total Dissolved Solids	mg/L	3			474	337	360	329	360	440	374	431	383	366	354	-	406	385
Hardness as CaCO3	mg/L	1			-	-	-	-	-	-	-	-	-	-	-	-	-	275
Chemical Oxygen Demand	mg/L	5			11	<8	<8	8	<8	12	9	10	<8	<8	16	-	<8	13
Total Suspended Solids	mg/L	2			<2	6	2	<2	<2	<2	4	<2	<2	5	2	-	4	<3
Biochemical Oxygen Demand	mg/L	2			<2	<4	<4	<4	<2	<4	<4	<4	<4	<4	16	-	<4	<3
Dissolved Organic Carbon (filtered)	mg/L	0.2			-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phenols (4AAP)	mg/L	0.001		**0.001**	<0.001	**0.002**	<0.001	<0.001	**0.002**	<0.001	<0.001	0.001	<0.001	**0.004**	**0.01**	-	<0.001	<0.001
Sulphate (filtered)	mg/L	0.2	128..429[#4]		30	5.2	3.1	23	2.9	16	<1	15	6	4	17	-	17	8
Ammonia as N	mg/L	0.01			0.3	<0.1	0.3	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-	<0.1	0.01
Nitrate (as N)	mg/L	0.05	3[#5]		1.00	0.48	0.59	0.34	0.82	0.64	0.32	0.54	0.44	0.18	1	-	2.24	0.23
Nitrite (as N)	mg/L	0.03	0.06[#6]		<0.06	<0.06	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	-	<0.03	<0.05
Total Kjeldahl Nitrogen	mg/L	0.1			1.5	<0.5	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	0.3
Ammonia, Unionized	mg/L	0.01		**0.02**	-	-	-	-	-	-	-	-	-	<0.005	<0.005	<0.005	<0.005	<0.01
Electrical Conductivity (Lab)	µS/cm	1			774	601	595	625	656	749	642	746	651	603	587	-	717	738
pH (Lab)	-	0.05		**6.5-8.5**	8.06	8.00	7.91	8.19	8.08	8.00	7.92	7.79	8.10	8.09	7.85	-	7.61	7.99
DO (Field)	mg/L			**5**	-	-	-	-	-	-	-	-	-	5.9	5.71	8.29	10.2	6.58
Redox (Field)	mV				-	-	-	-	-	-	-	-	-	-	180	145	120	10
Temperature (Field)	°C				-	-	-	-	-	-	-	-	-	13.8	12.2	18	2.7	8.8
Conductivity (field)	µS/cm				-	-	-	-	-	-	-	-	-	505	441	517	375	324
pH (Field)	-			**6.5-8.5**	-	-	-	-	-	-	-	-	-	7.75	7.92	7.55	**8.81**	7.22

Comments

#1 Canadian Water Quality Guidelines for the Protection of Aquatic Life - Boron (CCME, 2009)
#2 Canadian Water Quality Guidelines for the Protection of Aquatic Life - Chloride (CCME, 2011)
#3 British Columbia Approved Water Quality Guidelines, Aquatic Life, Wildlife, & Agriculture (BCMOE, 2008)
#4 Depends on hardness. British Columbia Approved Water Quality Guidelines: Aquatic Life, Wildlife, & Agriculture (BCMOE, 2016)
#5 Canadian Water Quality Guidelines for the Protection of Aquatic Life - Nitrate (CCME, 2012)
#6 Canadian Water Quality Guidelines for the Protection of Aquatic Life - Nitrite (CCME, 1987)
#7 Depends on Hardness
#8 PWQO value for Total Chromium based on more stringent Chromium VI criteria.

Table 10 - Surface Water Quality

				Location Code	S1	S1	S1	S2	S2	S2	S2	S2	S2	S2	S2	S2	S2	S3
				Date	12 Apr 2022	12 Apr 2023	15 Apr 2024	06 Nov 2014	22 May 2015	19 Nov 2015	16 May 2016	30 May 2019	29 Oct 2019	26 May 2020	18 Nov 2020	12 Apr 2023	15 Apr 2024	12 Apr 2023
	Unit	EQL	Other	PWQO														
Arsenic	µg/L	0.1		**5**	0.1	0.1	0.1	0.5	<0.2	0.6	0.2	<0.2	0.5	-	0.8	0.2	<0.1	0.1
Barium	µg/L	0.02			67	59	66	110	108	109	91.5	59.3	115	-	106	84	59	57
Boron	µg/L	0.2	1,500[#1]	**200**	<5	11	6	19.7	17.9	16.5	16	13	30	-	52	11	8	15
Cadmium	µg/L	0.003		**0.1..0.5**[#7]	<0.015	<0.015	<0.015	0.015	0.006	0.022	0.006	0.003	0.071	-	**0.111**	0.028	0.041	0.021
Chloride	µg/L	200	120,000[#2]		38,300	32,000	41,200	98,000	34,000	84,000	29,000	67,000	36,000	-	33,000	24,000	46,700	16,300
Chromium (III+VI)	µg/L	0.03		**1**[#8]	<1	<1	<1	<0.03	0.05	0.15	0.48	0.12	0.32	-	0.65	<1	<1	<1
Copper	µg/L	0.02		**1..5**[#7]	0.5	0.9	0.6	0.69	**1.02**	**1.65**	**1.40**	0.7	**4.4**	-	**5**	0.5	1.9	0.6
Iron	µg/L	2	1,000[#3]	**300**	32	217	24	30	42	51	44	20	25	-	**316**	23	42	26
Lead	µg/L	0.01		**1..5**[#7]	0.03	0.56	0.03	0.06	<0.01	0.08	0.07	<0.01	0.17	-	0.48	0.02	0.17	0.05
Magnesium	µg/L	1			-	-	2,760	-	3,830	4,030	3,480	2,900	4,670	-	4,800	-	2,690	-
Manganese	µg/L	0.01			-	-	4	-	15.2	30.8	7.05	14.3	28.6	-	63.5	-	52	-
Mercury (filtered)	µg/L	0.01		**0.2**	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01	<10	<10	-	<10	<0.02	<0.02	<0.02
Phosphorus total (P2O5)	µg/L	3		**30**	20	**70**	20	**50**	21	<30	<30	8	**404**	-	**136**	**60**	30	**50**
Potassium	µg/L	2			-	-	1,100	-	2,330	2,690	1,940	1,070	6,100	-	7,130	-	1,000	-
Zinc	µg/L	2		**20**	<5	6	<5	4	5	8	7	3	9	-	15	<5	18	<5
Alkalinity (total) as CaCO3	mg/L	2			202	171	200	257	269	251	222	235	168	-	220	215	201	138
Total Dissolved Solids	mg/L	3			257	221	264	483	351	446	346	363	489	-	423	248	272	165
Hardness as CaCO3	mg/L	1			211	169	199	-	-	-	-	-	-	-	-	206	212	142
Chemical Oxygen Demand	mg/L	5			23	21	9	38	9	18	<8	11	60	-	58	12	13	21
Total Suspended Solids	mg/L	2			14	18	<3	6	<2	3	2	<2	28	-	34	<3	<3	<3
Biochemical Oxygen Demand	mg/L	2			<3	<3	<3	4	<4	<4	<4	<4	23	-	10	<3	<3	<3
Dissolved Organic Carbon (filtered)	mg/L	0.2			-	-	7.4	-	-	-	-	-	-	-	-	-	7.3	-
Phenols (4AAP)	mg/L	0.001		**0.001**	0.001	<0.001	-	<0.001	0.001	**0.002**	0.001	**0.003**	**0.011**	-	**0.002**	<0.001	-	<0.001
Sulphate (filtered)	mg/L	0.2	128..429[#4]		6	8	7	42	2	26	9	7	89	-	54	10	7	8
Ammonia as N	mg/L	0.01			<0.01	0.03	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	0.3	-	<0.1	0.03	<0.05	0.04
Nitrate (as N)	mg/L	0.05	3[#5]		<0.05	0.05	<0.05	<0.06	<0.06	0.13	0.21	<0.06	**10.3**	-	0.49	0.07	<0.05	0.16
Nitrite (as N)	mg/L	0.03	0.06[#6]		<0.05	<0.05	<0.05	<0.03	<0.03	<0.03	<0.03	<0.03	**1.16**	-	0.05	<0.05	<0.05	<0.05
Total Kjeldahl Nitrogen	mg/L	0.1			0.3	0.6	0.2	0.7	<0.5	<0.5	<0.5	<0.5	1.1	-	0.7	0.4	0.3	0.5
Ammonia, Unionized	mg/L	0.01		**0.02**	<0.01	<0.01	<0.01	-	-	-	-	<0.005	<0.005	<0.005	<0.005	<0.01	<0.01	<0.01
Electrical Conductivity (Lab)	µS/cm	1			496	437	510	793	591	779	551	638	675	-	604	491	525	327
pH (Lab)	-	0.05		**6.5-8.5**	7.96	8.07	8.06	8.07	7.98	7.88	8.24	7.7	7.72	-	7.72	7.95	8.15	7.86
DO (Field)	mg/L			**5**	10.57	9.41	10.26	-	-	-	-	7.3	5.06	6.04	10.5	8.67	7.84	7.6
Redox (Field)	mV				87	-66	229	-	-	-	-	-	190	151	100	-72	183	-76
Temperature (Field)	°C				12.5	11.1	12.6	-	-	-	-	14.9	13.9	18.1	0.4	16.5	15.6	10.3
Conductivity (field)	µS/cm				456	417	506	-	-	-	-	555	648	498	305	478	517	313
pH (Field)	-			**6.5-8.5**	7.45	7.53	7.6	-	-	-	-	7.52	7.74	7.5	**9.36**	7.31	7.47	7.39

Comments

#1 Canadian Water Quality Guidelines for the Protection of Aquatic Life - Boron (CCME, 2009)
#2 Canadian Water Quality Guidelines for the Protection of Aquatic Life - Chloride (CCME, 2011)
#3 British Columbia Approved Water Quality Guidelines, Aquatic Life, Wildlife, & Agriculture (BCMOE, 2008)
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#6 Canadian Water Quality Guidelines for the Protection of Aquatic Life - Nitrite (CCME, 1987)
#7 Depends on Hardness
#8 PWQO value for Total Chromium based on more stringent Chromium VI criteria.

Table 11 - Landfill Gas Measurements

Well ID	Top of Screen Elevation (m)	Water Elevation (mASL)	Screen Saturated	6/24 and 28/2021		11-Nov-21		12-Apr-22		25-Oct-22		23-Oct-23		29-Oct-24	
				CH4 (% vol)	H2S (ppm)	CH4 (% vol)	H2S (ppm)	CH4 (% vol)	H2S (ppm)	CH4 (% vol)	H2S (ppm)	CH4 (% vol)	H2S (ppm)	CH4 (% vol)	H2S (ppm)
MW01-1	265.12	267.99	yes	<0.05	<0.1	<0.05	<0.1	<0.05	<0.1	<0.05	<0.1	<0.05	2.4	<0.05	<0.1
MW01-2	270.02	-	-	<0.05	<0.1	<0.05	<0.1	<0.05	<0.1	<0.05	<0.1	<0.05	<0.1	<0.05	<0.1
MW02-1	268.68	-	-	<0.05	<0.1	1.03	<0.1	<0.05	<0.1	1.90	<0.1	0.50	<0.1	5.03	<0.1
MW02-2	278.60	-	-	<0.05	<0.1	17	<0.1	<0.05	<0.1	5.00	<0.1	1.00	<0.1	5.03	<0.1
MW03-1	265.24	267.05	yes	<0.05	<0.1	<0.05	<0.1	<0.05	<0.1	<0.05	<0.1	<0.05	<0.1	<0.05	<0.1
MW03-2	269.03	267.95	no	<0.05	<0.1	<0.05	<0.1	<0.05	<0.1	<0.05	<0.1	<0.05	<0.1	<0.05	<0.1
MW04-1	264.18	265.99	yes	<0.05	<0.1	<0.05	<0.1	<0.05	<0.1	<0.05	<0.1	<0.05	<0.1	<0.05	<0.1
MW04-2	266.81	266.16	no	<0.05	<0.1	<0.05	<0.1	<0.05	<0.1	<0.05	<0.1	<0.05	<0.1	<0.05	<0.1
MW05-1	265.19	266.41	yes	<0.05	<0.1	<0.05	<0.1	<0.05	<0.1	<0.05	<0.1	<0.05	<0.1	<0.05	<0.1
MW05-2	268.49	267.72	no	<0.05	<0.1	<0.05	<0.1	<0.05	<0.1	<0.05	<0.1	<0.05	<0.1	<0.05	<0.1
MW06-1	264.68	266.07	yes	<0.05	<0.1	<0.05	<0.1	<0.05	<0.1	<0.05	<0.1	<0.05	<0.1	<0.05	<0.1
MW06-2	267.40	267.44	yes	<0.05	<0.1	<0.05	<0.1	<0.05	<0.1	<0.05	<0.1	<0.05	<0.1	<0.05	<0.1
MW07-1	263.57	265.84	yes	<0.05	<0.1	<0.05	<0.1	<0.05	<0.1	<0.05	<0.1	<0.05	<0.1	<0.05	<0.1
MW07-2	267.18	266.39	no	<0.05	<0.1	<0.05	<0.1	<0.05	<0.1	<0.05	<0.1	0.05	<0.1	<0.05	<0.1
MW08-1	260.95	265.50	yes	<0.05	<0.1	<0.05	<0.1	<0.05	<0.1	<0.05	<0.1	<0.05	<0.1	<0.05	<0.1
MW08-2	264.56	264.73	yes	<0.05	<0.1	<0.05	<0.1	<0.05	<0.1	<0.05	<0.1	<0.05	<0.1	<0.05	<0.1
MW09-1	258.85	266.03	yes	<0.05	<0.1	<0.05	<0.1	<0.05	<0.1	0.09	<0.1	<0.05	<0.1	<0.05	16
MW09-2	262.61	265.48	yes	<0.05	<0.1	<0.05	<0.1	<0.05	<0.1	<0.05	<0.1	<0.05	<0.1	<0.05	<0.1
MW10-1	259.60	265.56	yes	<0.05	<0.1	<0.05	<0.1	<0.05	<0.1	<0.05	<0.1	<0.05	<0.1	<0.05	<0.1
MW10-2	262.84	265.54	yes	<0.05	<0.1	<0.05	<0.1	<0.05	<0.1	<0.05	<0.1	<0.05	<0.1	<0.05	<0.1
MW11-1	260.06	265.52	yes	<0.05	<0.1	<0.05	<0.1	<0.05	<0.1	<0.05	<0.1	<0.05	<0.1	<0.05	<0.1
MW11-2	263.28	265.49	yes	<0.05	<0.1	<0.05	<0.1	<0.05	<0.1	<0.05	<0.1	<0.05	<0.1	<0.05	<0.1
MW12-1	262.68	266.03	yes	<0.05	<0.1	0.05	<0.1	<0.05	<0.1	0.05	<0.1	<0.05	<0.1	<0.05	<0.1
MW12-2	259.31	266.10	yes	<0.05	<0.1	0.85	<0.1	<0.05	<0.1	0.05	<0.1	<0.05	<0.1	<0.05	<0.1
MW12-3	256.43	266.15	yes	<0.05	<0.1	0.05	<0.1	<0.05	<0.1	0.05	<0.1	<0.05	<0.1	<0.05	<0.1
MW13-1	265.55	267.89	yes	<0.05	<0.1	<0.05	<0.1	<0.05	<0.1	<0.05	<0.1	<0.05	<0.1	<0.05	<0.1
MW13-2	267.72	267.83	yes	<0.05	<0.1	<0.05	<0.1	<0.05	<0.1	<0.05	<0.1	<0.05	<0.1	<0.05	<0.1

Table 12 - Monthly Summary of Accepted Materials

	Waste (tonnes)	C&D Materials (tonnes)	Containers (tonnes)	Fibres (tonnes)	Alcohol Containers (Units)	CFC Appliances (Units)	MHSW (tonnes)	Organics (tonnes)	Scrap Metal (tonnes)	Tires (Units)	WEEE (tonnes)	Wood Waste (tonnes)
January		-	2.38	3.09	-	-	-	2.47	-	14	-	-
February	-	-	2.08	2.51	-	2	-	1.06	-	-	-	3.36
March		-	0.90	1.23	-	3	-	1.13	-	66	-	2.87
April		4.75	0.81	3.97	-	1	-	1.06	2.97	68	-	-
May	-	-	1.90	1.77	170	2	1.39	2.69	3.54	52	2.60	9.18
June		-	1.87	2.40	-	3	-	2.30	-	1	-	5.64
July		-	3.57	3.97	650	3	-	2.17	2.49	20	-	11.73
August	-	-	4.46	3.39	950	6	3.50	4.87	-	4	3.59	5.60
September		1.76	2.03	2.49	360	3	-	3.02	2.53	33	-	14.09
October		-	2.06	1.60	270	3	-	1.50	-	18	-	5.00
November	-	2.1	1.13	1.76	-	3	-	2.16	2.06	18	3.51	3.35
December		1.94	-	-	-	-	-	1.18	-	-	-	8.48
Total	**1,013.87**	**10.55**	**23.19**	**28.18**	**2400**	**29**	**4.89**	**25.61**	**13.59**	**294**	**9.70**	**69.30**

Docusign Envelope ID: 36547E71-C6E8-4924-8AE9-42188B5984E4

Appendices

Docusign Envelope ID: 36547E71-C6E8-4924-8AE9-42188B5984E4

Appendices

The following appendices are available in Part II – Appendices.

Appendix A **Monitoring and Screening Checklist**
Appendix B **Provisional Compliance Approval No. A341004**
Appendix C **Correspondence**
Appendix D **Field and Precipitation Data**
Appendix E **Laboratory Certificates of Analysis**
Appendix F **Photographs**
Appendix G **Borehole Logs**
Appendix H **Ministry Well Records**

COUNTY OF PETERBOROUGH
MUNICIPAL APPRAISAL FORM

APPLICANT: Gord, Julie and Darren Hunt **FILE B – 7-25**

LOT: 5, CON.: 8 MUNICIPAL WARD: Douro

911 address: Douro 8th Line, Roll #: 152201000402600, Island # or other: N/a

APPLICATION FOR: Creation of a new lot

RECOMMENDATION:

Application **conforms** to the Official Plan. Severed parcel **conforms** to the Zoning By-Law. Retained parcel **conforms** to the Zoning By-Law. The Township **recommends** this application. If the application is approved, the following conditions are requested:

1. ☒ **$1250** Cash-in-lieu of parkland fee be paid to the Municipality.
2. ☐ Rezoning of the severed parcel to the satisfaction of the Municipality.
3. ☐ Rezoning of the retained parcel to the satisfaction of the Municipality.
4. ☐ Minor Variance for the severed parcel to the satisfaction of the Municipality.
5. ☐ Minor Variance for the retained parcel to the satisfaction of the Municipality.
6. ☒ A 3-metre strip of frontage from the severed parcel be deeded to the Township for road widening purposes. Cost to be incurred by the applicant.
7. ☐ The applicant be responsible for the costs of upgrading _____ Road to Municipal Standards to provide a minimum of 150' of frontage to the satisfaction of the Manager of Public Works.
8. ☒ The Manager of Public Works confirm that a safe entrance is possible.
9. ☐ A Mitigation Measures Agreement is to be entered into between the Owner and the Municipality and registered on title at the owner's expense, which would recognize the recommendations outlined in Section _____ of the _____ prepared by _____ dated _____.
10. ☐ An Agreement is to be entered into between the Applicant & the Municipality and registered on title at the applicants expense which would _____.
11. ☐ A Merger Agreement is to be entered into between the Transferor, Transferee and Municipality, pursuant to Section 51(26) and Section 53(12) of the *Planning Act, R.S.O, 1990*, and registered on title to merge the severed parcel with the abutting (or separated) land identified by property roll # _____, such that these 2 parcels shall be considered as one lot and shall not be dealt with separately. *(To be used in the case of an addition to a lot which was previously created by severance, plan of subdivision or is physically separated).* ***OR***
12. ☐ The solicitor for the applicant is to provide an undertaking, whereby he informs the Committee, in writing, that the lands are being conveyed to an abutting property owner and a merger of title shall take place. *(To be used in the case of an addition to a lot which had not been created by severance – usually created before subdivision control began in 1979).*
13. ☒ A test hole for the septic system be inspected, there is a fee to inspect test holes to ensure a septic system would be viable – current fees are $150 per severed lot severed and applicant is responsible for the digging of the test holes.
14. ☐ An up-to-date site plan survey be completed on the retained and severed (after the lot is merged with the adjacent property) lots to assist with the rezoning process.
15. ☐ An Ontario Land Surveyor provide a measurement of the frontage on the retained portion to assist with the rezoning.
16. ☐ A Right-of-way be obtained to provide access to the newly merged lot.
17. ☐ The depth of the severed lot be increased to ensure that the lot is a minimum of 0.4 ha (1 acre) in size (which does not include the 3-metre strip of frontage deeded to the municipality).
18. ☐ An Easement be granted by the County of Peterborough to allow access to the severed parcel over the County Trail.
19. ☐ The existing buildings and setbacks from the new lot lines be shown on the draft R-Plan and if any deficiencies are found then a rezoning/minor variance will be required.
20. ☐ _____
21. ☐ _____

Comments: _____

OFFICIAL PLAN:

Application **conforms** to the Township Official Plan policies, Section(s) **6.2.2.2, 6.2.2.3, 6.2.2.5, 7.12**.

Severed Parcel:
a) Proposed Use: Residential.
b) Land Use Designation(s): Rural.
c) The proposed use **is** a permitted one.
d) Special policies affecting the severed parcel (i.e. OPA): N/a.

Retained Parcel(s):
a) Proposed Use: Rural.
b) Land Use Designation(s): Rural.
c) The proposed use **is** a permitted one.
d) Special policies affecting the retained parcel (i.e. OPA): N/a.

ZONING BY-LAW:

Severed Parcel:
a) The severed parcel **conforms** to the Township Zoning By-Law provisions, Section(s) **9.1.5, 9.2.4**.

This document is available in 12 pt. font required for accessibility.

b) ☒ A rezoning **is not** required for the severed parcel.
c) ☒ A minor variance **is not** required for the severed parcel.
d) The existing zoning of the severed parcel is: Rural (RU).
e) The recommended zoning of the severed parcel would be: no change.

Retained Parcel(s):

a) The retained parcel **conforms** to the Township Zoning By-Law provisions, Section(s) **9.1.5, 9.2.4**.
b) ☒ A rezoning **is not** required for the retained parcel.
c) ☒ A minor variance **is not** required for the retained parcel.
d) The existing zoning of the retained parcel is: Rural (RU), Environmental Conservation (EC).
e) The recommended zoning of the retained parcel would be: no change.

General:

a) If the severed and/or retained parcel(s) do not conform to the Zoning By-Law, Council **supports** a rezoning and/or minor variance.

Completed By: Michelle Duong, Junior Planner

DM Wills Associates Limited, on behalf of the Township of Douro-Dummer

Date: March 10, 2025

Amended Date: _____

County of Peterborough
Land Division Committee
fax: 705-876-1730

Reply to: Ann Hamilton
(705) 743-3718, 1-800-710-9586, Ext. 2406
ldivision@ptbocounty.ca

7ILE: B-7-25
DATE: February 7, 2025

Notice of Application For Consent

TO:
- ☒ Municipality
- ☒ Planning Department
  - Septic Comments
- ☒ Septic Review
- ☒ (ORCA) ☐ (CVCA) ☐ (KRCA) ☐ CP Rail
- ☒ Public Works
  - ☐ City of Peterborough
- ☐ Ministry of Transportation (K) (B)
- ☐ Trent Severn Waterway
- ☒ Chief, First Nation Council
- ☐ Other
  - ☒Bell Canada
- ☒ KPR & PVNCCD School Boards

Pursuant to Section 3(8) of Ontario Regulation 197/96, under the Planning Act, I am enclosing a copy of an application for Consent, for your review and comments to the Peterborough County Land Division Office.

An application for Consent has been made by **Gord, Julie and Darren Hunt** .

Purpose and Effect
The purpose of the application is to request the consent of the Land Division Office to the conveyance of a parcel of land having a frontage of approximately **99m** and an area of approximately **1 hectare**.

The effect of the application is to create a new residential lot

Location of Land
Municipality: (Ward of) **Douro** Lot **5** Concession **8.** Plan _____ Block _____
911 Address: Douro Eighth Line

Other Planning Act Applications: This land is the subject of the application is the subject of another application under the Planning Act for:

- ☐Official Plan Amendment: File Number _____
- ☐Zoning By-Law Amendment: File Number _____
- ☐Minor Variance: File Number _____
- ☐Minister's Zoning Order Amendment: File Number _____

Decision and Appeal
If you wish to be notified of the decision in respect of the proposed consent, you must make a written request to the Land Division Office at the address noted below.

If a person or public body, that files an appeal of a decision in respect of the proposed consent, does not make a written submission to the Land Division Office before it gives or refuses to give a provisional consent, then the Local Planning Appeal Tribunal may dismiss the appeal.

Last Day for Receiving Comments:
Pursuant to Section 53 (14) of the Planning Act, if an application is made for a consent and a decision regarding the application is not made within 60 days after the day the application is received by the Land Division Office, the applicant may appeal to the Local Planning Appeal Tribunal.
It is the policy of the Land Division Committee that there be 35 consecutive days allowed for agencies to submit their comments.

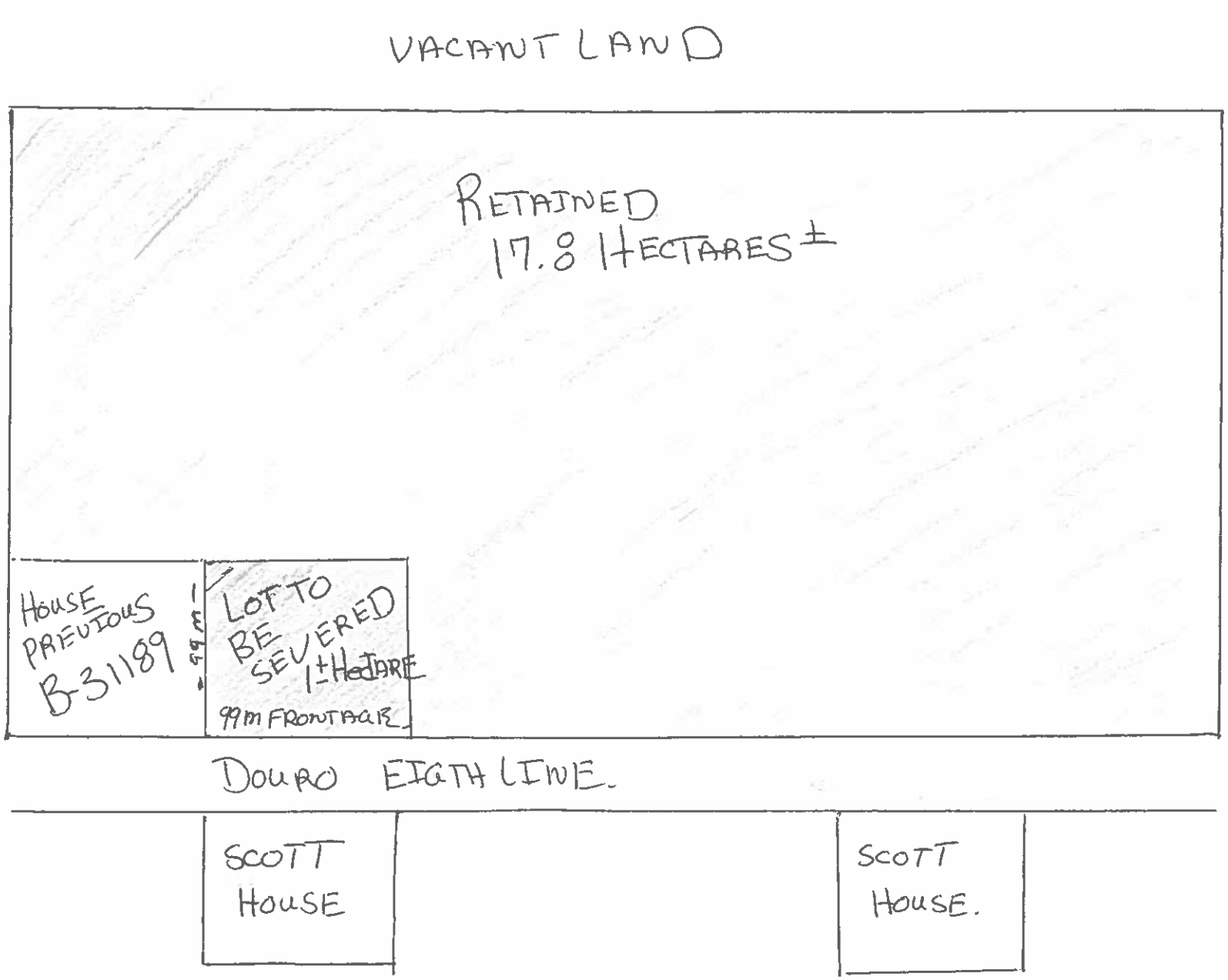
Therefore, your comments are required to be received prior to March 14, 2025. If comments are not received, prior to this date, the Committee may proceed with the hearing of this application.

Please quote the name of the applicant and the file number, which is located at the top right hand corner of the application form, on your correspondence which is directed to this office.

Additional information regarding this application will be available to the public for inspection between 8:30 a.m. to 4:30 p.m. - Monday to Friday at:

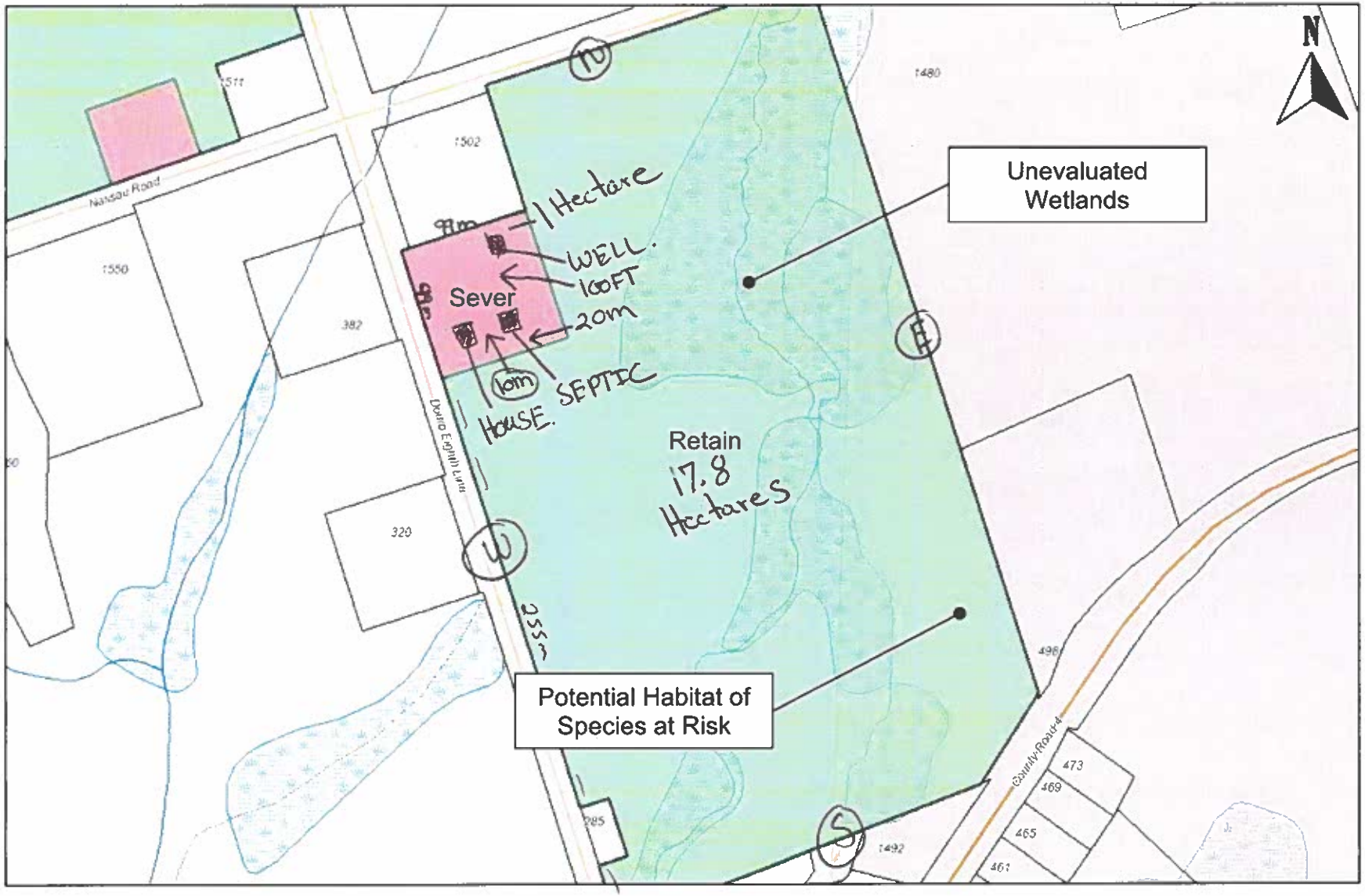
County of Peterborough, Land Division Office,
County Court House, 470 Water Street, Peterborough, Ontario. K9H 3M3

If you require this information in an accessible format, please contact Ann Hamilton at ahamilton@ptbocounty.ca 705-743-0380 extension 2406



SEPTIC, HOUSE & WELL PLACEMENTS
TO BE DERTERMINED BY FUTURE BUILER
AS REQUIRED TO MEET REQUIREMENTS.
UNKNOWN AT THIS TIME.

Roll # 1522-010-004-02600
~~295~~ Douro Eighth Line, Lot 5, Concession 8, Douro Ward
Hunt & Scott
,Constraints Mapping: Natural Heritage Features and Natural Hazards



Scale (metric)
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COUNTY OF PETERBOROUGH
MUNICIPAL APPRAISAL FORM

APPLICANT: James & Judith Patterson **FILE B – 16-25**

LOT: 33, CON.: 7 MUNICIPAL WARD: Dummer

911 address: 1164 Duck Pond Road, Roll #: 1522-020-005-76250, Island # or other: N/A

APPLICATION FOR: Addition to a Lot

RECOMMENDATION:

Application **conforms** to the Official Plan. Severed parcel **conforms** to the Zoning By-Law. Retained parcel **conforms** to the Zoning By-Law. The Township **recommends** this application. If the application is approved, the following conditions are requested:

1. ☐ **$1250** Cash-in-lieu of parkland fee be paid to the Municipality.
2. ☐ Rezoning of the severed parcel to the satisfaction of the Municipality.
3. ☐ Rezoning of the retained parcel to the satisfaction of the Municipality.
4. ☐ Minor Variance for the severed parcel to the satisfaction of the Municipality.
5. ☐ Minor Variance for the retained parcel to the satisfaction of the Municipality.
6. ☐ A 3-metre strip of frontage from the severed parcel be deeded to the Township for road widening purposes. Cost to be incurred by the applicant.
7. ☐ The applicant be responsible for the costs of upgrading _____ Road to Municipal Standards to provide a minimum of 150' of frontage to the satisfaction of the Manager of Public Works.
8. ☐ The Manager of Public Works confirm that a safe entrance is possible.
9. ☐ A Mitigation Measures Agreement is to be entered into between the Owner and the Municipality and registered on title at the owner's expense, which would recognize the recommendations outlined in Section _____ of the _____ prepared by _____ dated _____.
10. ☐ An Agreement is to be entered into between the Applicant & the Municipality and registered on title at the applicants expense which would _____.
11. ☒ A Merger Agreement is to be entered into between the Transferor, Transferee and Municipality, pursuant to Section 51(26) and Section 53(12) of the *Planning Act, R.S.O, 1990*, and registered on title to merge the severed parcel with the abutting (or separated) land identified by property roll # **152202000576210**, such that these 2 parcels shall be considered as one lot and shall not be dealt with separately. *(To be used in the case of an addition to a lot which was previously created by severance, plan of subdivision or is physically separated).* ***OR***
12. ☒ The solicitor for the applicant is to provide an undertaking, whereby he informs the Committee, in writing, that the lands are being conveyed to an abutting property owner and a merger of title shall take place. *(To be used in the case of an addition to a lot which had not been created by severance – usually created before subdivision control began in 1979).*
13. ☐ A test hole for the septic system be inspected, there is a fee to inspect test holes to ensure a septic system would be viable – current fees are $150 per severed lot severed and applicant is responsible for the digging of the test holes.
14. ☐ An up-to-date site plan survey be completed on the retained and severed (after the lot is merged with the adjacent property) lots to assist with the rezoning process.
15. ☐ An Ontario Land Surveyor provide a measurement of the frontage on the retained portion to assist with the rezoning.
16. ☐ A Right-of-way be obtained to provide access to the newly merged lot.
17. ☐ The depth of the severed lot be increased to ensure that the lot is a minimum of 0.4 ha (1 acre) in size (which does not include the 3-metre strip of frontage deeded to the municipality).
18. ☐ An Easement be granted by the County of Peterborough to allow access to the severed parcel over the County Trail.
19. ☐ The existing buildings and setbacks from the new lot lines be shown on the draft R-Plan and if any deficiencies are found then a rezoning/minor variance will be required.
20. ☐ _____
21. ☐ _____

Comments: _____

OFFICIAL PLAN:

Application **conforms** to the Township Official Plan policies, Section(s) **6.2.2.7, 7.12.21**.

Severed Parcel:
a) Proposed Use: Vacant .
b) Land Use Designation(s): Rural and Environmental Constraint.
c) The proposed use **is** a permitted one.
d) Special policies affecting the severed parcel (i.e. OPA): N/A.

Retained Parcel(s):
a) Proposed Use: Residential .
b) Land Use Designation(s): Rural and Environmental Constraint.
c) The proposed use **is** a permitted one.
d) Special policies affecting the retained parcel (i.e. OPA): N/A.

ZONING BY-LAW:

Severed Parcel:
a) The severed parcel **conforms** to the Township Zoning By-Law provisions, Section(s) **9.1, 9.2.4** .

This document is available in 12 pt. font required for accessibility.
88009_Duck Pond Roa

b) ☒ A rezoning **is not** required for the severed parcel.
c) ☒ A minor variance **is not** required for the severed parcel.
d) The existing zoning of the severed parcel is: Rural .
e) The recommended zoning of the severed parcel would be: Rural.

Retained Parcel(s):

a) The retained parcel **conforms** to the Township Zoning By-Law provisions, Section(s) **9.1, 9.2.4** .
b) ☒ A rezoning **is not** required for the retained parcel.
c) ☒ A minor variance **is not** required for the retained parcel.
d) The existing zoning of the retained parcel is: Rural.
e) The recommended zoning of the retained parcel would be: Rural.

General:

a) If the severed and/or retained parcel(s) do not conform to the Zoning By-Law, Council **supports** a rezoning and/or minor variance.

Completed By: _____ Date: 03/12/2025

Amended Date: _____

County of Peterborough
Land Division Committee
fax: 705-876-1730

Reply to: Ann Hamilton
(705) 743-3718, 1-800-710-9586, Ext. 2406
ldivision@ptbocounty.ca

7ILE: B-16-25
DATE: February 19, 2025

Notice of Application For Consent

TO:
- ☒ Municipality
- ☒ Planning Department
  - Septic Comments
- ☒ Septic Review
- ☒ (ORCA) ☐ (CVCA) ☐ (KRCA)
- ☐ Public Works
- ☐ City of Peterborough
- ☐ Ministry of Transportation (K) (B)
- ☐ Trent Severn Waterway
- ☒ Chief, First Nation Council
- ☐ CP Rail
- ☐ Other
- ☒ Bell Canada
- ☐ KPR & PVNCCD School Boards

Pursuant to Section 3(8) of Ontario Regulation 197/96, under the Planning Act, I am enclosing a copy of an application for Consent, for your review and comments to the Peterborough County Land Division Office.

An application for Consent has been made by **James & Judith Patterson** .

Purpose and Effect
The purpose of the application is to request the consent of the Land Division Office to the conveyance of a parcel of land having a frontage of approximately **85m** and an area of approximately **3.32 hecatres**.

The effect of the application is to create an addition to an existing residential lot

Location of Land
Municipality: (Ward of) **Dummer** Lot **33** Concession **7.** Plan _____ Block _____
911 Address: 64 Duck Pond Road

Other Planning Act Applications: This land is the subject of the application is the subject of another application under the Planning Act for:

- ☐ Official Plan Amendment: File Number _____
- ☐ Zoning By-Law Amendment: File Number _____
- ☐ Minor Variance: File Number _____
- ☐ Minister's Zoning Order Amendment: File Number _____

Decision and Appeal
If you wish to be notified of the decision in respect of the proposed consent, you must make a written request to the Land Division Office at the address noted below.

If a person or public body, that files an appeal of a decision in respect of the proposed consent, does not make a written submission to the Land Division Office before it gives or refuses to give a provisional consent, then the Local Planning Appeal Tribunal may dismiss the appeal.

Last Day for Receiving Comments:
Pursuant to Section 53 (14) of the Planning Act, if an application is made for a consent and a decision regarding the application is not made within 60 days after the day the application is received by the Land Division Office, the applicant may appeal to the Local Planning Appeal Tribunal.
It is the policy of the Land Division Committee that there be 35 consecutive days allowed for agencies to submit their comments.

Therefore, your comments are required to be received prior to March 28, 2025. If comments are not received, prior to this date, the Committee may proceed with the hearing of this application.

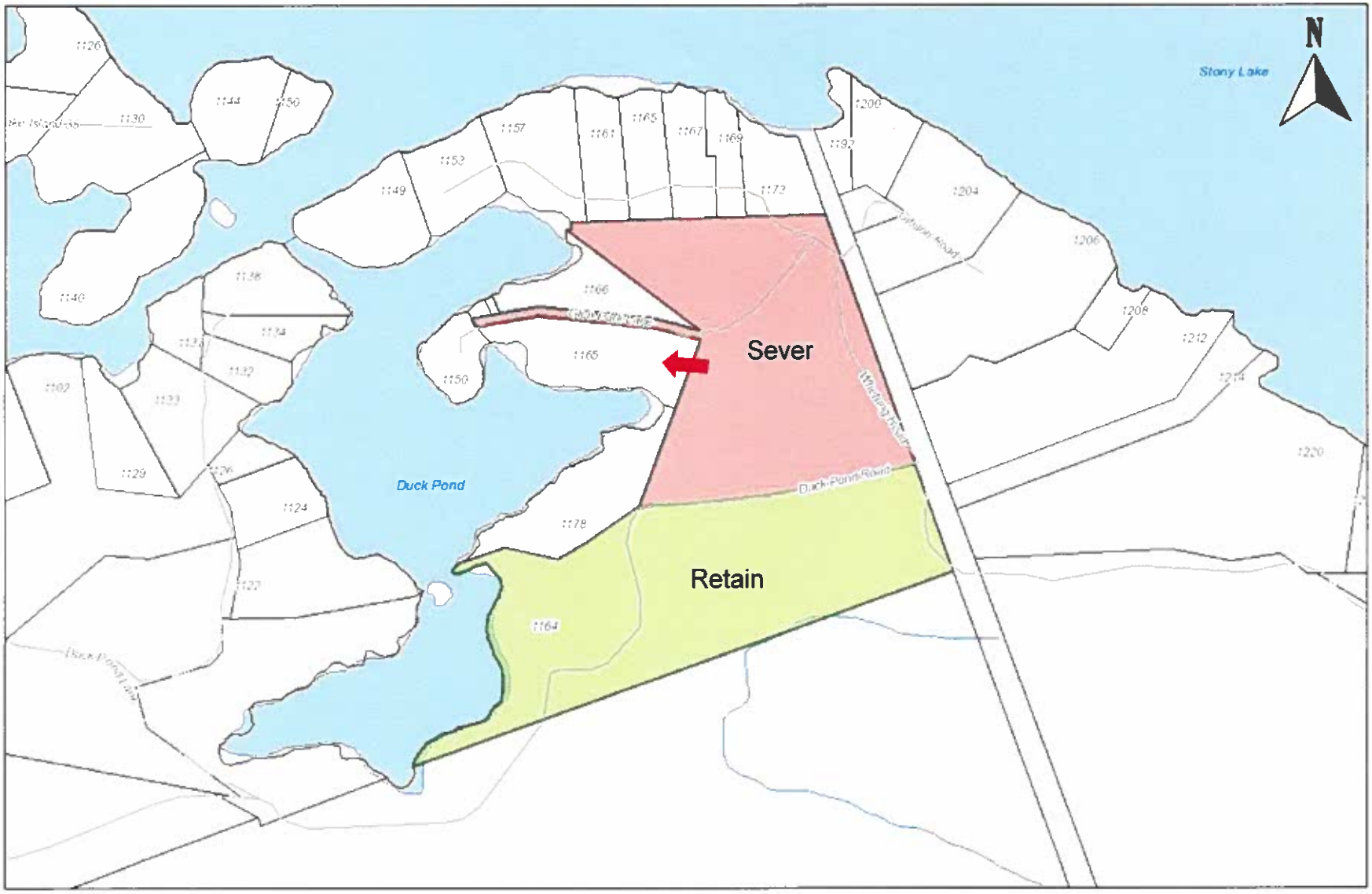
Please quote the name of the applicant and the file number, which is located at the top right hand corner of the application form, on your correspondence which is directed to this office.

Additional information regarding this application will be available to the public for inspection between 8:30 a.m. to 4:30 p.m. - Monday to Friday at:

County of Peterborough, Land Division Office,
County Court House, 470 Water Street, Peterborough, Ontario. K9H 3M3

If you require this information in an accessible format, please contact Ann Hamilton at ahamilton@ptbocounty.ca 705-743-0380 extension 2406

Roll # 1522-020-005-76250
1164 Duck Pond Lane, Lot 33, Concession 7, Dummer Ward
Patterson
Severance Sketch



Scale (metric)
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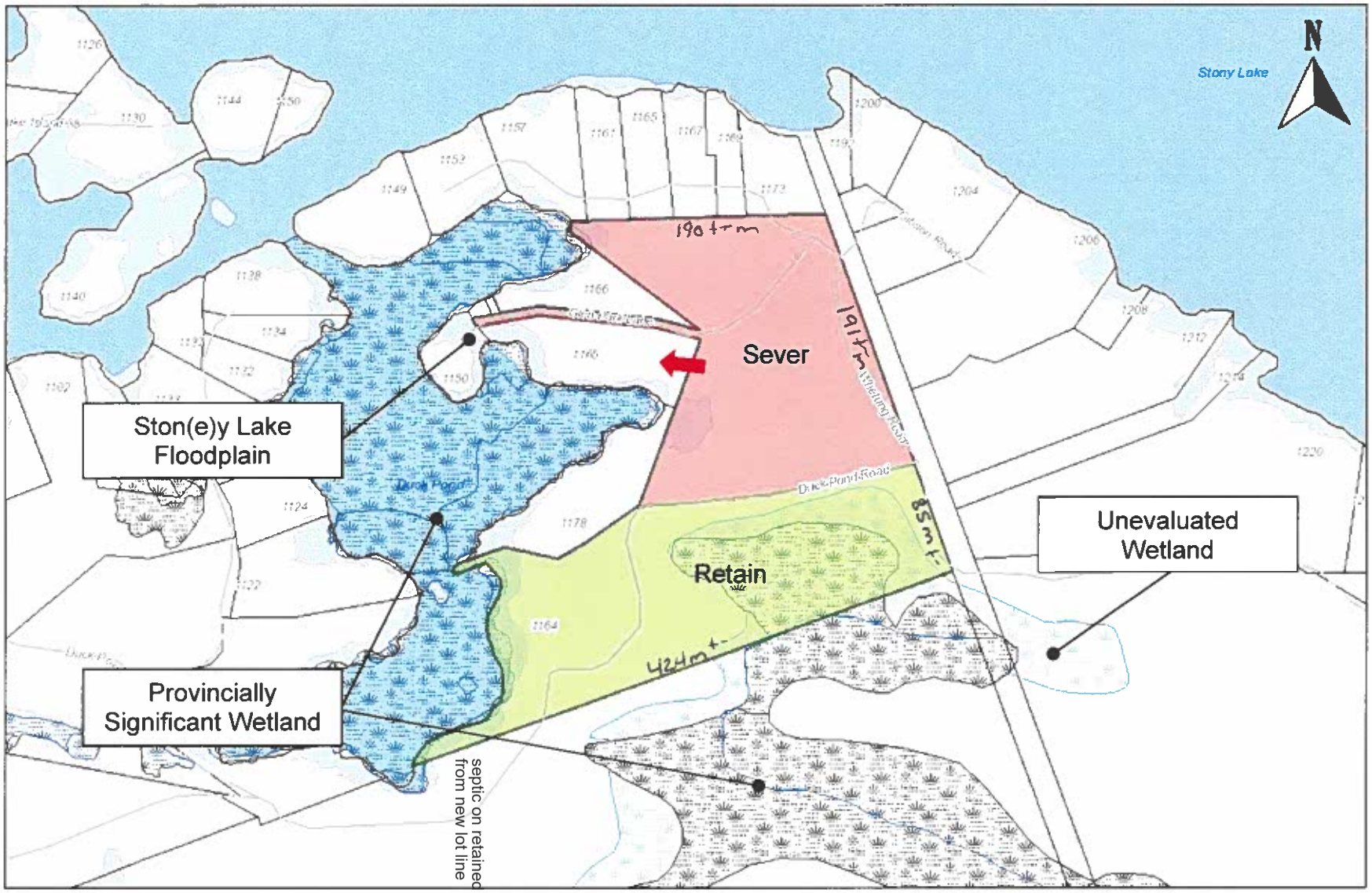
Roll # 1522-020-005-76250
1164 Duck Pond Lane, Lot 33, Concession 7, Dummer Ward
Patterson
Natural Heritage Features & Natural Hazards



Scale (metric)
1:4,514

From: Martina Chait-Hartwig
To: Anu Mundahar
Subject: FW: 2025 Ontario Senior of the Year / Prix de la personne âgée de l'année de l'Ontario
Date: Wednesday, April 9, 2025 8:36:20 AM

For agenda please.

Thanks!

Martina

::
Martina Chait-Hartwig, AOMC, Dipl. M.A.
Clerk - Deputy CAO

T: 705 652 8392 x 210 F: 705 652 5044

Township of
Douro-Dummer
www.dourodummer.ca

Instagram: @dourodummer | **Facebook:** Douro-Dummer

Stay Informed!

Subscribe to receive updates about Township and Council news: https://subscribe.dourodummer.ca/subscribe

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From: Ontario Honours And Awards (MCM) <OntarioHonoursAndAwards@ontario.ca>
Sent: Tuesday, April 8, 2025 5:59 PM
Subject: 2025 Ontario Senior of the Year / Prix de la personne âgée de l'année de l'Ontario

Ministry for Seniors and Accessibility

Minister

College Park
777 Bay Street
5th Floor
Toronto ON M7A 1S5

Ministère des Services aux aînés et de l'Accessibilité

Ministre

College Park
777, rue Bay
5e étage
Toronto (Ontario) M7A 1S5

Ontario

April 2025

Dear Mayor, Reeve and Members of Council:

I am writing to invite you to nominate an exceptional local senior for the 2025 Ontario Senior of the Year Award.

This award provides each municipality the opportunity to honour one outstanding senior for their contributions to enriching the social, cultural, and civic life of their community.

The deadline for nominations is April 30, 2025.

For more information on how to submit a nomination online, please visit the Ontario Senior of the Year webpage. Once your nomination is submitted, a personalized certificate with your nominee's name will be sent to you. I encourage you to present this certificate to your nominee in June during Seniors Month.

The Ontario government is proud to celebrate Seniors Month with municipalities across the province. Seniors generously give their time, knowledge and expertise making Ontario the best place in this country to live and work. It is important to take the time to celebrate our older population and acknowledge their invaluable contributions.

If you have any questions regarding the 2025 Ontario Senior of the Year Award, please contact Ontario Honours and Awards at OntarioHonoursAndAwards@ontario.ca.

Thank you for supporting the civic engagement of your local seniors.

Sincerely,

Raymond Cho

Raymond Cho
Minister for Seniors and Accessibility

Ministry for Seniors and Accessibility

Minister

College Park
777 Bay Street
5th Floor
Toronto ON M7A 1S5

Ministère des Services aux aînés et de l'Accessibilité

Ministre

College Park
777, rue Bay
5e étage
Toronto (Ontario) M7A 1S5

Ontario

Avril 2025

Monsieur le Maire / Madame la Mairesse, Préfet/Préfète et Membres du Conseil :

Je vous écris pour vous inviter à soumettre une candidature pour le Prix ontarien de la personne âgée de l'année 2025.

Ce prix donne à chaque municipalité l'occasion d'honorer une personne âgée exceptionnelle de sa localité pour les contributions qu'elle a apportées à l'enrichissement de la vie sociale, culturelle et civique de sa communauté.

La date limite de soumission des candidatures est le 30 avril 2025.

Pour obtenir de plus amples renseignements concernant la façon de soumettre une candidature en ligne, veuillez visiter la page Web du Prix ontarien de la personne âgée de l'année. Une fois que vous aurez soumis une candidature, un certificat personnalisé avec le nom de votre candidat(e) vous sera envoyé. Je vous encourage à le présenter à votre candidat(e) en juin pendant le Mois des aînés.

Le gouvernement de l'Ontario est ravi de célébrer le Mois des aînés avec les municipalités de toute la province. Les personnes âgées ont généreusement donné leur temps, leurs connaissances et leur expertise pour faire de cette province le meilleur endroit au pays où vivre et travailler. Il est important que nous prenions le temps de célébrer nos aînés et leurs précieuses contributions.

Si vous avez des questions au sujet du Prix ontarien de la personne âgée de l'année 2025, veuillez communiquer avec le Secrétariat des distinctions et prix de l'Ontario à l'adresse : OntarioHonoursAndAwards@ontario.ca

Merci d'avance pour votre soutien à l'engagement civique de vos aînés locaux.

Cordialement,

Raymond Cho

Raymond Cho
Ministre des Services aux aînés et de l'Accessibilité

City of Peterborough

Resolution of Council
City Council Meeting

Title:	Use of X by the City of Peterborough
Date:	March 17, 2025

Whereas X has become a media platform that is not adequately responding to hate speech and misinformation;

Whereas continued use of X could be perceived as tacit approval of or association with ideologies that are inconsistent with the City of Peterborough's commitment to freedom, inclusivity, and nondiscrimination.

Whereas the City of Peterborough maintains other social media accounts to reach residents about municipal services and news that provide comparable functionality like Instagram, Facebook, and LinkedIn.

Whereas Peterborough Transit relies on X as one of its main methods to communicate with customers about Transit service changes;

Whereas Peterborough Transit has implemented customer service enhancements such as real time tracking of buses through the My Transit Rid-GPS Tracker map for transit customers to see when the next bus will arrive;

Whereas emergency services require the ability to use all available channels to reach residents for emergency messaging;

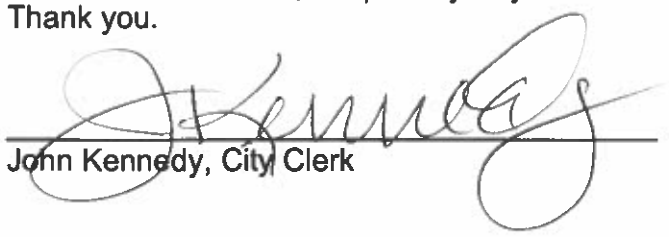
Therefore, be it resolved that Council approve the following:

a) **that to support enhanced communication with residents and customers and to reduce reliance on social media that City staff report back to Council during the 2026 Budget deliberations with recommendations and associated budget implications for implementing a Snow Plow Tracker service for residents and a smartphone app for Peterborough Transit, which includes the ability to send notifications to subscribers, with the goal of improving customer service and eliminating the use of X; and**

b) **that the City of Peterborough discontinue the use of X, formerly known as Twitter, except for Peterborough Transit, Fire Services, and emergency information as necessary.**

c) **That, a copy of this resolution be forwarded to all Ontario municipalities and the Association of Municipalities of Ontario (AMO).**

The above resolution, adopted by City Council is forwarded for your information and action, as required. Thank you.



John Kennedy, City Clerk

Schedule 'A' to By-law 2022-21

Delegations

Request to Address Council

If you would like to attend as a delegation before Council for the Township of Douro-Dummer or the Committee of the Whole, you must complete this form and submit it to the Municipal Office. Please note that the deadline for delegation requests is 12-noon, on the Tuesday prior to the meeting date.

A copy of any presentation or supporting materials is also required to be submitted at 12-noon, on the Tuesday prior to the meeting date. The only formats accepted are as follows: PFD, PowerPoint, Word, Excel or Jpeg.

Please note that as per Procedural By-law 2022-21, only three Delegations shall be scheduled for each meeting. The time limit of 10 minutes shall be strictly enforced.

Name of Individual(s): Richard J. Taylor

*Note: Delegation(s) shall have no more than two (2) persons to speak on behalf of the delegation and 10 minutes to present. Council asks that delegations adhere to the 10-minute time limit.

Name of Organization: Richard J. Taylor, Barrister & Solicitor

Email: richard@richardtaylorlaw.ca

Phone number: (705) 876-7791

Nature of delegation request: Proposed severances associated with Demers Road, Township of Douro-Dummer. Petition of property owners (appended).

*Please attach a separate sheet if more room is required.

For the purposes of the *Freedom of Information and Protection of Privacy Act*, by submitting this form, I/we authorize and consent to the use by, or the disclosure, to any person or public body or publishing on the Municipal website any information that is contained in this submission and recognize that my/our name may become part of the public record.

Signature(s): [redacted]

Name: Richard J. Taylor

Name:

Please submit the completed application to:

Martina Chait-Hartwig, Acting Clerk
martinac@dourodummer.on.ca
Fax: 705-652-5044
Phone: 705-652-8392 Ext. 210

To be completed by Municipal staff:

Meeting Date: _____ *Time:* _____

PETITION

TO: The Township Council of the Municipality of Douro-Dummer

IN THE MATTER of Demers Road

WHEREAS it has been confirmed in writing that the Township accepts that Demers Road is a municipal road;

THEREFORE; it is herein petitioned that the Township of Douro-Dummer implement year-round maintenance in regard to the subject Demers Road, starting as soon as possible.

Name	Address	Contact Information (phone or e
Wayne Edwards	2075 Demers Rd.	[redacted]
Tosh Gierek	2076 Demers Rd	[redacted]
Mark & Breymann Russell	2059 Demers Rd.	[redacted]
Pete & Michelle Landriault	2100 Demers Rd.	[redacted]
Jeremy & Becky Downe	2113 Demers Rd.	[redacted]
Myke & Carolyn Healey Healy Hyslop	2000 Demers Rd.	[redacted]
KENNETH JAMES JOHNSON	2100 DEMERS	[redacted]
[redacted]		
As a [redacted] new resident / property owner of Demers Road, I fully support this motion [redacted]		
David Abrahamse [redacted]	2008 Demers rd.	[redacted]

Township of Douro-Dummer

Report and Capital Project Status

- Directed by Council and/or CAO
- Directed by the Province/legislation
- Directed by an Agency
- New items and updates are highlighted in Yellow

Report Status

Department	Date Requested	Directed By	Resolution/Direction	Est. Report Date
Corporate	May 3, 2022	Council	Future Gravel Resources	2025
Finance/Clerk	February 21, 2023	Council	Policy to allow for multi-year budgets	Summer 2024
Planning	June 7, 2022	~~Council/~~Province	Bill 109 & Bill 23 – Update to Site Plan Control By-law~~, Create Pre-Consultation By-law, ensure the language in Official Plan allows for Peer Review as part of Complete Application~~	Site Plan Control By-law Update – Approved on February 18th, 2025 Council Agenda Remaining Reports no Longer needed as recent Provincial legislation has removed these requirements.
Public Works/CAO	March 7, 2023	Council	Indacom Drive Lot 3	Deferred

Capital Project/Program Status

Department	Capital Project List	Status
Council	Council Chamber A/V Upgrades	Summer 2025
CAO Office	Computer Hardware – Corporate IT Requirement	Summer 2025
CAO Office	Consultant Fees – Facility Maintenance Plan	2025
CAO Office	Land Improvement – Tree Program	September 2025
Clerk/C.A.O.	Enbridge Franchise Renewal Agreement	Completed March 2025
Clerk	Computer Software – Record Management Software	Summer 2025
Clerk	Township Website Migration	Start date: Q2 2025
Finance	Asset Retirement Obligation Cost Study	Received February 2025
Finance	Asset Management Study and Data Updates	Summer 2025
Fire	Station 1 Building Review and Drawings	Due 2025

Fire	Protection Service Station 4 Pick-up Truck (2020)	Summer 2025
Fire	Pumper 1 and 4	Due 2026 - Delivery
Fire	Thermal Imaging Cameras	Received and in service February 2025
General Government	New Sloped Roof – Town Hall	Under Investigation
General Government	Computer Modernization	Ongoing
General Government	Finance Modernization	In progress – will continue into 2025
General Government	Computer IT Hardware Replacements	In progress
General Government	Storage Room Exterior Door Replacement	Due 2025
Municipal Office	Bldg Imp - Elevators	Due 2025
Parks and Recreation	Lime Kiln Restoration – 2022 Budget	Spring 2023
Parks and Recreation	Consultant Fees – Arena Facilities Future Ad-Hoc Committee	Fall 2023
Parks and Recreation	Energy Audit	In progress

Parks and Recreation	Equipment – Picnic tables and Tennis Court Wind Screens	In Process
Parks and Recreation	Floor Machines for Douro and Warsaw Community Centre	In progress
Parks and Recreation	North Park Parking Lot Expansion	Summer 2025
Planning	Zoning By-Law Update	On hold until Province Approves OP
Public Works	Gravel Pit Purchase	Ongoing
Public Works	Plow Truck	RFP Awarded – 2025 Delivery
Public Works	Consultant Fees – Road needs study incl Condition Assessment	Due 2025
Public Works	Equipment - Water Tank for Roads Vehicle	Due 2025
Public Works	**Gravel** 12th Line from forced Rd section to private lane 12th Line Rd from Hwy 7 to 12th Line S, Dummer 12th Line Rd from Hwy 7 to North limit Centre Dummer Road from 4th Line to Cty Rd 40 Centre Road from Douro 3rd line to Douro 5th line	Due 2025

	Centre Road from Douro 5th Line Rd to Highway 28 Cooney Island Rd from Douro 4th line to East limit Douro 4th Line Rd from Division Rd to Cooney Island Rd Douro 5th Line Rd from Centre Rd to Cty Rd 4 Douro 7th Line Rd from Centre Rd to Hickey Rd Douro 8th Line from Cty Rd 32 to Nassau Rd Douro Third Line from County Rd 4 to Cedar Cross Rd Douro Third Line from County Rd 4 to south limit Hickey Rd from Douro 7th to Cty Rd 32 Hickson Rd from County Rd 40 to west limit Oke Rd from Cty Rd 4 to Payne Line Rd Rusaw Lane from Cty Rd 40 to east limit	
Public Works	**Surface Treatment** 4th Line Road South Dummer from Clifford Rd to Cty Rd 8 Banks Avenue from County Rd 38 to east limit Campline Rd from Henderson to Birchview Rd Campline Rd from Henderson to Cty Rd 6	Due 2025

	Caves Road from Cty Rd 4 to Cooper Rd Clifford Road from South St to 3rd Line Mid Dummer Mill Line Road from Cty Rd 40 to Bridge Rock Rd from Cooper Rd to Douglas Rd Rock Rd from Douglas Rd to Rock Rd	

Township of Douro-Dummer

Report to Council
Re: Township Liquor Licence - Recreation Facilities-2025-02
From: Mike Mood
Date: April 15, 2025

Recommendation:
That the report Recreation Facilities-2025-02, dated April 15th,2025 regarding the Liquor License Renewal be received and that Council forfeits the renewal of the Township's Liquor License and proceeds with Option #2 – alternate solutions for alcohol sales.

Overview:

The Township currently holds a liquor license which allows for the sale and distribution of alcoholic beverages at our community centres. While this has generated revenue and served the social needs of the community, the potential legal and financial risks associated with holding this license have become more evident. As public safety concerns increase and the burden of liability grows, it is necessary for the Township to evaluate its position on alcohol sales and consider whether it is prudent to continue holding this license.

The Township currently holds a catering endorsed liquor license under the Liquor Licence Act for the operation of our Community Centres. As part of the renewal process, designated individuals must be listed as a signer on the liquor license. This person is responsible for ensuring that event complies with all relevant regulations and legal obligations under the Liquor Licence Act.

At present, there has been a growing concern among staff about the personal liabilities associated with being a signer on the liquor license, as well as Township liabilities for holding the liquor license. These concerns stem from the potential criminal, financial, and civil liabilities that a signer may incur in the event of non-compliance or violations related to the operation of the establishment.

The role of a signer on a liquor license carries substantial personal risks and liabilities, which include criminal liability, financial penalties, and civil lawsuits in the event of non-compliance. Staff have expressed concerns about the possibility of personal exposure in case of violations, such as serving minors, overserving intoxicated patrons, or other breaches of the regulations. At this time, no staff are willing to act as a singer to renew the Liquor License because of the liability risks associated with the role.

Analysis:

Issues and Risks associated with Retaining Liquor License

1. **Increased Liability and Legal Risk:**
    - **Alcohol-Related Incidents:** The Township assumes legal liability for any alcohol-related incident that occurs on its premises, such as accidents, injuries, or disturbances. This liability could extend to the Township itself, staff, or third-party contractors.

- **Increased Legal Costs:** The risk of lawsuits, claims, or regulatory violations may result in higher legal and insurance costs. In particular, the Township could face lawsuits for incidents related to over-service of alcohol, underage drinking, or accidents caused by intoxicated individuals.
- **Negligence Claims:** Should an alcohol-related incident occur, the Township may be deemed negligent if proper protocols (e.g., responsible alcohol service) are not strictly followed. This could result in significant financial and reputational damage.

2. **Financial Impact of Insurance, Staffing, Inventory and Supply Costs:**
   - **Insurance:** The Township's current insurance policy may face higher premiums due to the increased risk associated with alcohol-related events. This could strain the Township's budget, especially if premiums continue to rise.
   - **Staffing:** While holding the liquor license the Township is required to provide the staff to operate the bar. Staffing requirements change event to event depending on projected attendance. This can cause challenges with obtaining sufficient staff who are certified in responsible alcohol service (SMART Serve), which requires ongoing financial investment.
   - **Inventory:** The Township is required to purchase and maintain thousands of dollar's worth of inventory for events. Low frequency of events presents spoilage and the potential of shrinkage of stock in between events. The storage of inventory relies on large fridges to keep the product cool.
   - **Supplies:** The Township is responsible for adequate bar supplies for each event. This includes glasses, alcohol dispensers, ice and mix.

Events

From 2022 to 2024, the Township had a total of 25 events which included the sale of alcohol. The Township currently has five events booked for 2025 which include alcohol, three of which have already taken place. The chart below breaks down the revenues and expenses each year from 2022 through 2024:

Bar Operating Expenses-2022			
7 - Events	Supplies	$ 388.40	
	Wages	$ 1,251.00	
	Alcohol Purchases	$ 1,604.98	
Total Operating Expenses			$ 3,244.38

Bar Revenue			$ 4,106.19
Profit/Loss			**$ 861.82**
Bar Operating Expenses - 2023			
7-Events	Supplies	$ 348.10	
	Wages	$ 1,877.71	
	Alcohol Purchases	$ 1,919.63	
Total Operating Expenses			$ 4,145.44
Bar Revenue			$ 6,044.25
Profit/Loss			**$ 1,898.81**
Bar Operating Expenses - 2024			
11-Events	Supplies	$ 962.66	
	Wages	$ 3,039.20	
	Alcohol Purchases	$ 5,255.60	
Total Operating Expenses			$ 9,257.46
Bar Revenue			$ 9,849.56
Profit/Loss			**$ 592.10**

In the last three years, the township has provided this service for 7 to 11 different events with a range of annual net profits between $500 - $1,900. It should be noted that staff wages calculated for these events represent costs associated specifically on the date of the event and do not include staff coordination or management work. Further, the costs associated with providing these services is expected to increase as there is the potential for increased insurance premiums and rising minimum wage impacts. Finally, with a limited number of events annually, securing appropriately trained staff when required is growing more challenging and exposing the Township to potential risks for under experienced or under qualified staff making us even more vulnerable to liability concerns.

Alternate Solutions for Alcohol Sales

Given the concerns related to the growing liability, it is recommended that the Township explore alternative approaches to alcohol sales through partnerships with licensed third-party vendors, special occasion permits or service/community groups. Below are proposed alternatives:

1. **Third-Party Vendor Partnerships:**
    - **Outsource Liquor License to a Third Party:** Rather than holding the liquor license directly, the Township can allow licensed third-party vendors (e.g., local bars, restaurants, or event companies) to operate under their own liquor licenses at Township facilities. The Township would establish contracts with these vendors to ensure responsible alcohol service and minimize liability.
    - **Revenue Sharing Model:** The Township could negotiate a revenue-sharing arrangement with these third-party vendors, allowing the Township to retain some financial benefit from alcohol sales while transferring the responsibility for licensing, service, and liability to the vendor.
2. **Special Occasion Permits for Alcohol Sales:**
    - **Event-Specific Licensing:** For events where alcohol sales are required, the Township could consider allowing users the ability to obtain special occasion permits for alcohol sales. This model allows for greater flexibility and limits the duration of the Township's exposure to liability.
    - **SOP Management:** The Township could manage the selection of SOP's, ensuring that only reputable, insured, and experienced vendors are chosen for each event. This provides control over alcohol service while avoiding direct responsibility for the license.
3. **Sponsorship and Vendor Collaboration:**
    - **Collaborate with Local Breweries or Wineries:** The Township could collaborate with local breweries or wineries to host events featuring locally produced alcoholic beverages, while the vendor holds the liquor license. The Township could promote these collaborations as a way to support local businesses while reducing its involvement in alcohol licensing and sales.
    - **Co-Hosted Events:** Rather than selling alcohol directly, the Township could co-host events with local businesses where the business retains the

alcohol license, and the Township focuses on organizing and promoting the event itself.

Conclusion:

Considering the growing liability risks, insurance concerns, and no staff willing to be a signer, it is recommended that the Township not renew its liquor license. Instead, the Township should explore alternative solutions for alcohol sales through partnerships with licensed third-party vendors or special occasion permits, ensuring that alcohol sales are conducted responsibly and without the Township assuming liability. These alternatives allow the Township to continue hosting events that include alcohol, while minimizing risks.

Financial Impact:

When the Township averages the profits from 2022 – 2024, if the license is not renewed, there could be loss of revenue of approximately $1117.58 each year. This would be offset by reducing the Township's future liability risks.

Report Approval Details

Document Title:	Liquor License Renewal - Recreation Facilities-2025-02.docx
Attachments:	
Final Approval Date:	Apr 9, 2025

This report and all of its attachments were approved and signed as outlined below:

Martina Chait-Hartwig

Todd Davis

Recommendation:
That the report Treasurer-2025-10, dated April 15,2025, regarding Purchasing Report – April 2025 be received; and

That Husky Farm Equipment Limited be awarded the contract to supply and deliver the water storage tank for the public works vehicle.

Overview:
This report includes sole sourced quotation provided by Husky Farm Equipment Limited for award and approval.

Project Background – The current water tank is showing signs of age and experiencing continued defects, which have begun to affect its performance and reliability. Purchase of a new water tank helps with road maintenance, dust control and more. By having water readily available, the Public Works department can ensure that the road projects meet safety, environmental, and quality standards.

In accordance with the Purchasing Policy No. F–2, section Exception to Methods of Acquisition – Sole Source Procurement, subsection (ii), the Township opted to sole source the procurement due to the following key factors:

a. The steel tank needs customization (size, shape, specific coatings, or special features) that only the selected supplier can provide. The chosen supplier has an established reputation for delivering high-quality, long-lasting steel water tanks.

b. The steel tank must match up to existing fleet equipment. The supplier has proven experience in providing tanks that integrate seamlessly into the existing equipment, avoiding potential compatibility issues. The selected supplier has previously provided similar products to the neighbouring municipalities, demonstrating a high level of trust, experience, and efficiency.

Additionally, the U.S. tariffs could impact the pricing potentially affecting the project budget, if the procurement process is extended. The quotation from Husky Farm Equipment Limited can be regarded as competitive pricing for a short-term commitment.

Budget – $30,000.00

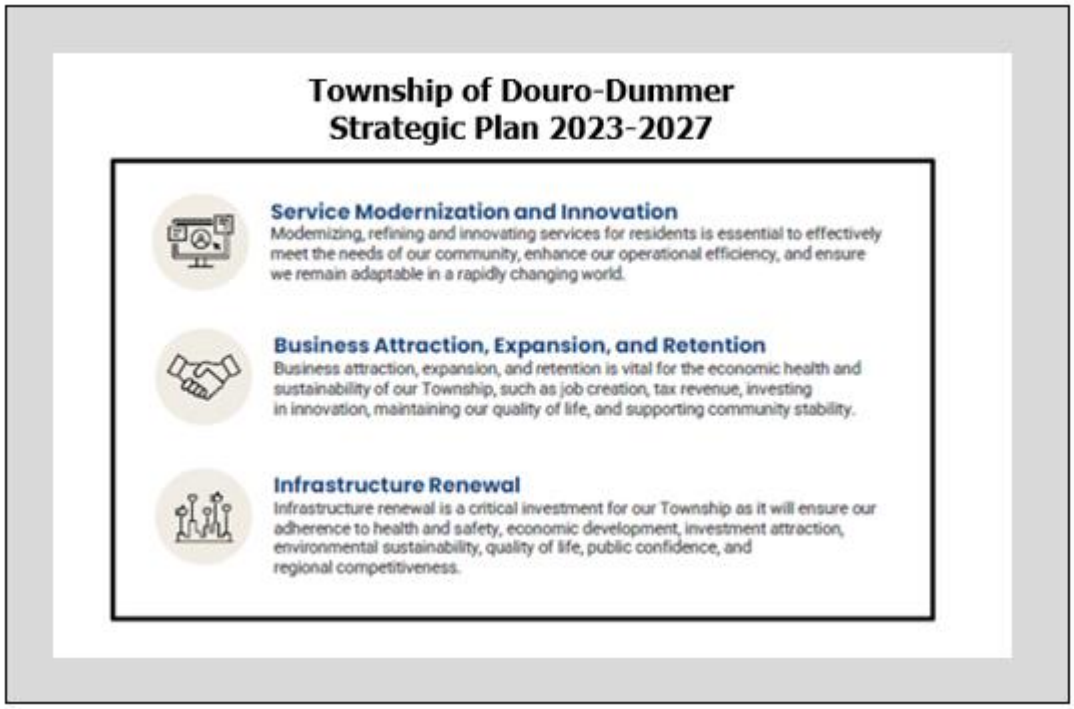
Award Amount – $36,161.74 – the quote received from Husky Farm Equipment totals $32,786 and a pump will also be required and is going to be purchased from an alternative vendor at a cost of $2,750. Therefore, after applicable taxes the total cost of the purchase will be $36,161.74.

The current water tank will be sold through GovDeals and has an estimated resale value of $5,000.00. The remaining $1,161.74 will be funded through the 2025 Public Works equipment budget. The table below summarizes the costs:

Water Storage Tank from Husky	$32,786.30
Add pump – to be sourced from alternative vendor	2,750.00
Subtotal	35,536.30
Applicable Taxes	625.44
Total Costs	**36,161.74**

Conclusion:
Husky Farm Equipment Limited stands out as a premier choice for the procurement of this steel water storage tank due to its established reputation for delivering high-quality, durable, and custom-fit products. The company has a strong understanding of the township's needs, extensive experience providing goods and services to neighboring municipalities, and the capability to meet all requirements, quality expectations, and deadlines, making them the preferred vendor for this purchase.

Financial Impact:
All projects will be funded with approved budgets.



Report Approval Details

Document Title:	Procurement Update - April 2025 - Treasurer-2025-10.docx
Attachments:	
Final Approval Date:	Apr 9, 2025

This report and all of its attachments were approved and signed as outlined below:

Martina Chait-Hartwig

Todd Davis

Township of Douro-Dummer

Report to Council
Re: 2024 Building Department Reserve Transfer Treasurer-2025-11
From: Paul Creamer
Date: April 15, 2025

Recommendation:
That the report Treasurer-2025-11, April 15, 2025, regarding the 2024 Building Department Reserve Transfer be received and that $104,038.80 be transferred from the Building Department Reserve to the Accumulated Surplus/Deficit Account.

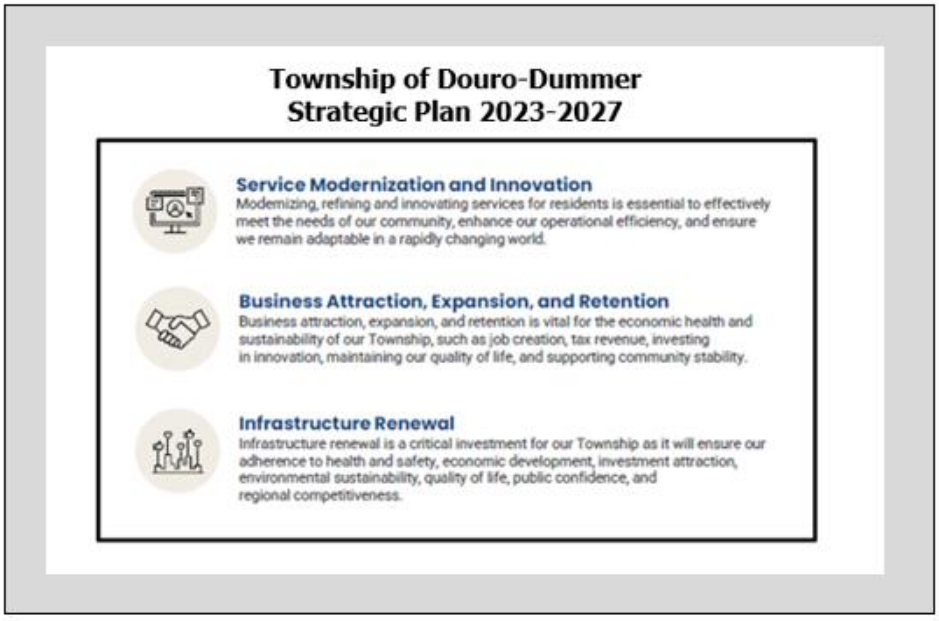
Overview:
At the March 18th, 2025, Council meeting, the Annual Building Department Financial Report was presented to Council. Upon preparation of the minutes of the meeting, it was determined that the part of the recommendation from staff which requested a reserve transfer in the amount of $104,038.80 from the Building Department Reserve to the Accumulated Surplus/Deficit account to cover the deficit was missed and no direction was given.

This report is seeking Council's approval on the transfer of reserve funds to offset the deficit amount.

The previous report is attached for reference.

Conclusion:
Report Treasurer-2025-06 shows that the Building Department ran an operating deficit of $104,038.80 in 2024. To offset the deficit, the amount will be transferred from the Building Department Reserve to the Accumulated Surplus/Deficit Account. This results in a closing reserve balance of $83,148.87 for 2024.

Financial Impact:
The purpose of this reserve is help offset years which have deficits and fund capital purchases.



Report Approval Details

Document Title:	2024 Building Department Reserve Transfer - Treasurer-2025-11.docx
Attachments:	- 2024 Annual Building Financial Report - Treasurer-2025-06.pdf
Final Approval Date:	Apr 9, 2025

This report and all of its attachments were approved and signed as outlined below:

Martina Chait-Hartwig

Todd Davis

Township of Douro-Dummer

Report to Council
Re: Annual Building Department Financial Report – 2024 Treasurer-2025-06
From: Paul Creamer
Date: March 18, 2025

Recommendation:
That the Annual Building Department Financial Report – 2024, Treasurer-2025-06, dated March 18, 2025, be received and that $104,038.80 be transferred from the Building Department reserve to the Accumulated Surplus/Deficit Account.

Overview:
Each year the Township is required to post an annual Building Department report as per subsection 7(4) of the Ontario Building Code Act.

The following table summarizes the financials for the Building Department for 2024:

Opening Reserve Balance		$249,825.83
Indirect Costs		
Overhead	$10,536.43	
Staffing	$18,219.59	
Total Indirect Costs	$28,756.02	
Direct Costs	$488,795.38	
Total Operating Expenses		$517,551.40
Revenue		
2024 Permits Initiated	$670,077.78	
2024 Admin Fees & Other Revenues	$24,087.50	
Deferred Revenue	(280,652.68)	
Total Revenue		$413,512.60
Operating Surplus/Deficit		**($104,038.80)**
Transfer from Reserve for Capital Asset Purchases		($62,638.16)
Closing Reserve Balance		**$83,148.87**

New accounting legislation PS 3400 that took effect as of 2024 year end, requires revenue to only be recognized after the work has been completed. For the Building Department, this means that revenues from permits are not fully recognized until they are closed. 2024 is the first year we are deferring revenue to reflect work not completed and to ensure compliance with the updated regulations. Since there are no deferred revenue from prior periods to offset, 2024 revenues are expected to be lower than previous years.

Conclusion:
The report shows that the Building Department ran an operating deficit of $104,038.80 in 2024. In order to offset the deficit, the amount will be transferred from the Building Department Reserve to the Accumulated Surplus/Deficit Account. This results in a closing reserve balance of $83,148.87 for 2024.

Financial Impact:
The purpose of this reserve is help offset years that have deficits and fund capital purchases.

Report Approval Details

Document Title:	2024 Annual Building Financial Report - Treasurer-2025-06.docx
Attachments:	
Final Approval Date:	Mar 13, 2025

This report and all of its attachments were approved and signed as outlined below:

Todd Davis

Township of Douro-Dummer

Report to Council
Re: Request to Stop-up, Close and Sell Unopened Road Southwest of White Lake
Clerk's Office-2025-11
From: Martina Chait-Hartwig
Date: April 15, 2025

Recommendation:
That the Report Clerk's Office-2025-11 dated April 15, 2025, regarding a request to stop-up, close and sell an unopened road southwest of White Lake be received and that direction be given to staff on whether to initiated the public consultation process for the request.

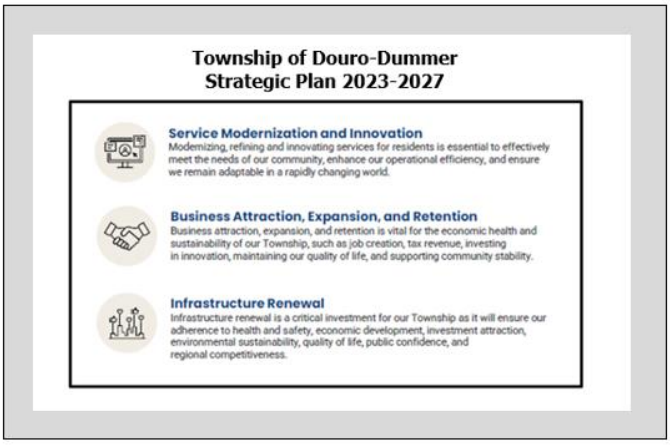
Overview:
Staff have received a request to stop up and close an unopened road in Concession 6 which is believed to travel to the southwest through Lots 22, 23 and 24 in the Dummer Ward. This unopened road is set out in By-law 351-1875 (copy attached) using chain and link measurements, but it has not been surveyed using modern methods. The approximate location of the unopened road is shown on the attached GIS map.

Township Policy T-6 (copy attached) provides that requests of this nature be forwarded to Council for direction on whether to proceed with a circulation of the request to solicit input from the adjacent property owners as well as stakeholders such as the County of Peterborough, HydroOne and Otonabee Region Conservation Authority and others who may have an interest or concern with the request.

As per the attached letter from Mr. Boyce and Ms. Johnston, they are aware of Policy T6 policy and the associated costs related to the request.

Conclusion:
While we are currently unsure of the exact location of the unopened road, it does not appear to be of benefit to the Township.

Financial Impact:
The cost of this circulation will be assumed- according to the Policy- by the Township and will involve some staff time, materials and postage. Should Council chose to proceed with the request after the circulation, all costs are the responsibility of the requestor.



Report Approval Details

Document Title:	Request to Stop-up, Close and Sell unopened Road South East of White Lake - Clerk's Office-2025-11.docx
Attachments:	- Attention Douro-Dummer Township Council_1.pdf - GIS Map.pdf - Township of Dummer By-law No. 351-1875.pdf
Final Approval Date:	Apr 10, 2025

This report and all of its attachments were approved and signed as outlined below:

Todd Davis

Attention Douro-Dummer Township Council,

We are bringing this matter forward to council to propose the closure and sale of the unopened road off Patterson Road in Douro-Dummer township. The unopened road starts at Patterson Road and proceeds south west across lots 24, 23, 22 in the 6th Concession.
We are purchasing this land in the Douro-Dummer township, in hopes to build our future home and having this road closed will allow us to do so and have the privacy and tranquility that come with it.
We understand that the neighbouring properties are to be Notified as well as the public regarding the stop up and close if you choose to proceed. As well as a deposit of $2,600 paid to the township.
We are also aware of the steps to be taken moving forward, such as a survey of the road to be closed as well as being given an appraised value of the road to buy from the township.
We truly hope you can work with us to make this property into our forever home....

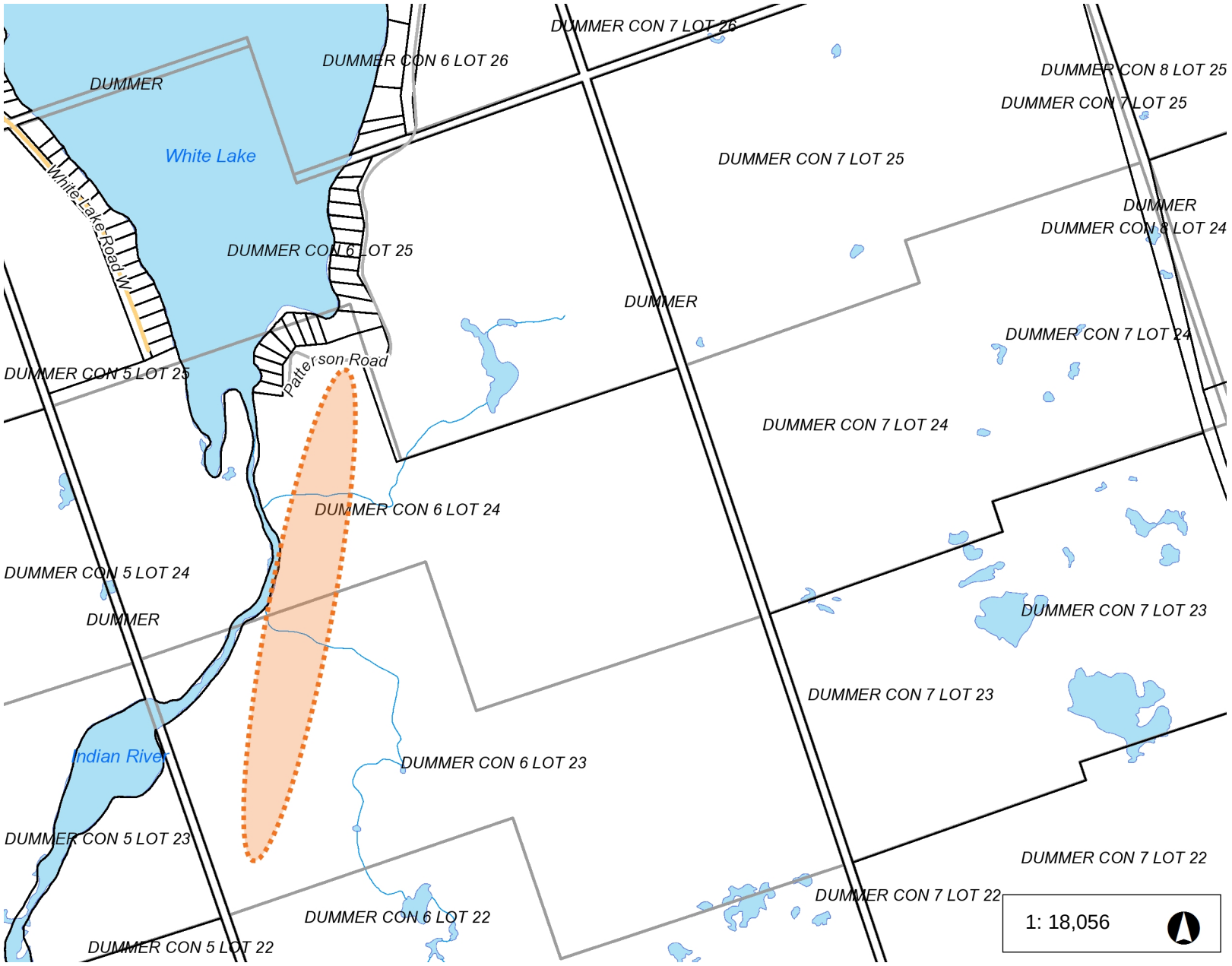
Thank you,

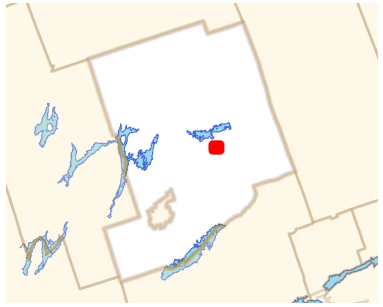
Sean Boyce & Emily Johnston

Scanned with CamScanner

County of Peterborough

GIS Viewer





Legend

Roads < 50,000
- PRIV ; Private; PRIV
- City Arterial
- City Collector and Local
- City Owned Unclassified
- Provincial
- County
- Township
- Water Access Only

Outside Roads < 50,000
- Major Roads
- Local Roads

Peterborough Proposed Bypas
First Nations
Parcel Fabric
Lots and Concessions
Parcel First Nations - Canada I

Rivers
- Intermittent
- Permanent

Lakes - Local Scale
Municipal Boundary - Upper Ti
- <all other values>
- COUNTY OF PETERBOROUGH

Notes

1: 18,056

917.2 0 458.62 917.2 Meters

WGS_1984_Web_Mercator_Auxiliary_Sphere

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This map is a user generated static output from an Internet mapping site and is for reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable.
THIS MAP IS NOT TO BE USED FOR NAVIGATION

$38.57 26 required for said Section.

(Sgd) Thos. Geo. Choate
Reeve

W. Dorling
Clerk

By-laws No 351.

Passed 28th August 1875

A By-laws to establish four roads in Dummer.

The Municipal Council of the Corporation of Dummer hereby enacts that the following Roads be established. Viz.

I Commencing on the line between the 7th and 8th Concessions at a point northerly 19 and 15 links from the original post marking lots 31 and 32; thence N 50° W 7 chains and 17 links; thence N 73° 30', W 11 chains 89 links; thence N 59° 30', W 7 chains 49 links; thence N 82°, W 3 chains 14 links; thence N 26° 15', W 8 chains 31 links; thence N 22° 30', E 3 chains 50 links; thence N 46°, W 4 chains 55 links; thence W 3 chains 43 links; thence N 57° 15', W 6 chains 79 links to the edge of Stoney Lake

II Commencing on the line between the 8th and 9th Concession at a point 19 chains and 50 links northerly from the southern limits of the 26th lot; thence N 31° 30', W 13 chains; thence N 3° 15', W 6 chains 67 links; thence North 19°, W 4 chains; thence N 1° 30', W 13 chains 31 links; thence N 11° 30', W 5 chains 77 links to the Northern limit of lot number 27 at 2 chains and 8 links easterly from Concession line; thence N 31°, W 2 chains 90 links to Concession line at 5 chains northerly from southern limits of lot 28.

III Commencing on the line between the 8th and 9th Concessions at a point northerly 15 chains and 58 links from the southern limits of lot number 21; thence N 38° 30', W 7 chains 36 links; thence N 67°, W 3 chains; thence N 53° 15'

W 3 chains 98 links; thence N 20° W 6 chains and 3 links; thence N 45° W 6 chains 41 links; thence N 16° W 8 chains 21 links; thence N 10° 45' E 4 chains; thence N 27° 30' E 6 chains 58 links; thence N 8° W 4 chains; thence N 2° 30' E 7 chains; thence N 21° E 9 chains 73 links to Concession line northerly 114 chains and 90 links from the original post marking the Southern limit of Lot 23

Commencing on the line between the Sixth and Seventh Concessions, and at the Northern limit of the 29th Lot then northerly as follows, 13° 15' W 15 chains 11 links; thence N 72° 30' W 18 chains; thence N 13° 15 W 4 chains more or less to the Stony Lake road; thence from the above commencing point Southerly as follows, S 73° 15' E 16 chains 49 links along the said Concession line; thence S 5° W 3 chains 3 links; thence S 12° 30' W 3 chains 44 links; thence S 10° W 60 chains; thence S 30° W 9 chains 68 links; thence S 3° W 3 chains 94 links; thence S 32° W 32 chains 80 links; thence S 21° W 7 chains 34 links; thence S 42° W 7 chains 26 links; thence S 10° W 16 chains; thence S 41° W 24 chains 80 links; thence S 32° 30' W 3 chains 5 links; thence 67° W 28 chains 94 links; thence S 45° W 26 chains; thence S 42° W 10 chains 6 links; thence S 56° 30' W 2 chains 80 links; thence 52° 30' W 5 chains 13 links; thence S 46° W 10 chains 8 links; thence S 37° W 15 chains 80 links; thence S 48° W 6 chains 34 links; thence South 56° W 2 chains; thence S 50° 30' W 10 chains thence S 58° 30' W 16 chains 64 links; thence S 42° W 4 chains 68 links; thence S 65° W 6 chains; thence N 23° W 3 chains 13 links to the line between the 3rd and 4th Concessions; thence northerly along said Concession line 3 chains 63 links to centre of new road and lines between lots 19 and 20; thence S 77° W 13 chains 18 links to Indian River; thence N 85° W 3 chains 16 links across the Indian River; thence S 88° W 3 chains 60 links to present travelled road leading to Peterborough;

All the foregoing lines of road to be 66 feet in width, and the marked and posted lines to be the centres thereof, and in accordance with plans and reports of John Reid P.L.S.

(Sgd) Thos Geo Choate
Reeve

W. Darling
Clerk

Bylaws No 352.

Passed 28 August 1875.

A Bylaw to authorize the Reeve to appoint an Arbitrator and for other purposes.

The Municipal Council of the Corporation of Dummer hereby enacts:-

1 That the Reeve be appointed a Commissioner to arrange with and settle with Mr Christopher Bell for land taken for a road.

11 That in the event of no such settlement becoming possible that the Reeve is hereby authorized to appoint an Arbitrator to act in behalf of the Municipality

(Sgd) Thos: Geo: Choate
Reeve

W. Darling
Clerk

Bylaws No 353

Passed 28th Aug. '75

A Bylaw to provide for the payments of certain sums of money.

The Municipal Council of the Corporation of the Township of Dummer enacts that the following sums of money be paid Viz:

That that the sum of Five 25/100 dollars be paid to Hugh Grain for Premium on Town & Agricultural Hall Warrants

Road Allowance Closure Requests

Approved by: Council
Approval Date: October 20, 2009
Effective Date: October 20, 2009
Revision Date: November 2, 2010

Policy Statement

To provide a clearly defined method for the processing of requests for
Road Allowance Closures

Purpose: This policy will clearly define the steps for the processing of requests for road allowance closures.

Application: This policy shall apply to any staff person or Council member dealing with a request for road allowance closure. Any persons making a request for a road allowance closure.

Definitions: None

Exclusions: None

References & Related Policies:

Consequences of Non-Compliance: It is important that all requests for road allowance closures are processed in compliance with the appropriate procedures as set out by the municipality. Failure to comply with this policy may result in disciplinary action against the offending individual.

Review Cycle: This policy shall be reviewed as required.

Procedures

- **All requests for closure of unopened/unused road allowances shall be made in writing to the Council, giving details of allowance to be closed and reasons for requesting such.**
- **It shall be a clear direction of Council that requests for road allowance closures be generally discouraged.**
- **Requests for closure of any road allowance along or leading up to water will not be considered.**
- If Council does consider the closure of any allowance, the Municipality shall, before making any commitment on the closure, notify all property owners within 1,000 feet, of the request, and ask for input and/or objections.
- If after this circulation no objections are received and Council wishes to proceed, the person making the request will be required to place on deposit with the Township, $2,600 prior to the process commencing.
- The person(s) making the request shall be responsible for all municipal and other costs** involved in the closure, and if the $2,600 is insufficient, shall be required to provide additional funds on request, to cover the total cost.
- If objections are received, to the closure, Council shall hear the objections and decide whether such are valid and whether to proceed with the closure proceedings.
- If Council decides not to proceed, their decision is final, and no closure request of a similar nature shall be considered for a one year period thereafter – at which time, if the request is resubmitted, notification of the property owners within 1000 feet shall again take place.
- If the road allowance is closed and to be deeded to the adjacent property owner(s), the sale price at the fair market value as established by someone qualified to provide, at a minimum, an opinion of value of the property to be sold.
- All requests shall be dealt with at the discretion of council.

** staff/administration, legal, advertising*, surveying, and (the appraisal and purchase of) land Costs

* advertising of the Notice of Road Closure shall comply with the Township's Provision of Notice policy

Township of Douro-Dummer

Report to Council
Re: Fire Protection Grant 2024-2025
Clerk's Office-2025-12
From: Martina Chait-Hartwig
Date: April 15, 2025

Recommendation:
That the Report Clerk's Office-2025-12, dated April 15, 2025, regarding the 2024-2025 Fire Protection Grant be received and that Council approve the spending of the additional funds ($361.73) on the purchase of particulate style hoods as outlined in the initial grant application.

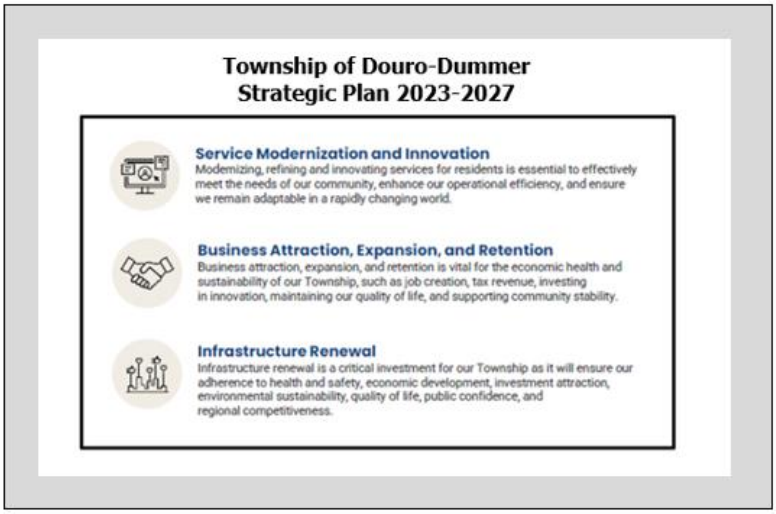
Overview:
In September 2024, the Fire Department applied for a Fire Protection Grant from the Province of Ontario. This grant is designed to support firefighter cancer prevention programs. In March 2025, we were alerted that the Fire Department would be receiving $32,921.80 from the grant. These funds are going to be used to purchase particulate style hoods for decontamination at the scene followed by advanced cleaning at the fire stations.

Staff were able to enter into the funding agreement with the Province under Section 4 of the Delegated Powers and Duties By-laws.

The Department has recently received a letter from the Office of the Fire Marshal alerting us to a small amount of additional funds being granted to the Department.

Conclusion
To receive the additional funds ($361.73), the Office of the Fire Marshal is requesting that Council pass a resolution of support for these extra funds to be spent on the project listed above. Once the Office receives the Resolution they will send the Department a new transfer payment agreement for the additional funds.

Financial Impact:
The approval of the recommendation will result in the Fire Department obtaining additional funds to support their purchase of particulate style hoods. This will increase the grant to $33,283.53.



Report Approval Details

Document Title:	Fire Protection Grant Top-Up Payment - Clerk's Office-2025-12.docx
Attachments:	- Fire Grant Letter - March 31, 2025.pdf
Final Approval Date:	Apr 10, 2025

This report and all of its attachments were approved and signed as outlined below:

Todd Davis

Ministry of the Solicitor General
Office of the Fire Marshal

25 Morton Shulman Avenue
Toronto ON M3M 0B1
Tel: 647-329-1100
Fax: 647-329-1143

Ministère du Solliciteur général
Bureau du commissaire des incendies

25, avenue Morton Shulman
Toronto ON M3M 0B1
Tél. : 647-329-1100
Téléc. : 647-329-1143

Ontario

March 31, 2025

Chuck Pedersen
Fire Chief
Township of Douro/Dummer
P.O. Box 92, 894 South Street
Warsaw, ON K0L3A0

Sent via email to:
cpedersen@dourodummer.on.ca

Dear Chuck Pedersen,

Further to ongoing discussions regarding the Fire Protection Grant (2024-2025), I am writing to confirm that the fire service has agreed (in principle) to utilizing its additional grant allocation to support its intended purpose as outlined below.

The Township of Douro/Dummer will be provided an additional amount of **$361.73** to support the following approved project:

The funding request is to purchase particulate style hoods for each station, this will replace their front-line standard type of hood and is to support initial decontamination at the scene, followed by advanced cleaning and drying at the fire stations.

This aligns with the intended purpose of the Fire Protection Grant.

As part of this process, formalization of the additional grant allocation and a Transfer Payment Agreement is required and will be tabled by you for your municipal council at its next meeting.

The Office of the Fire Marshal will reach out to finalize and execute the Transfer Payment Agreement once municipal council has had the opportunity to approve your proposal for spending the additional funds provided.

Sincerely,

C Clark

Carrie Clark, Deputy Fire Marshal

Ministry of the Solicitor General
Office of the Fire Marshal

25 Morton Shulman Avenue
Toronto ON M3M 0B1
Tel: 647-329-1100
Fax: 647-329-1143

Ministère du Solliciteur général
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25, avenue Morton Shulman
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Tél. : 647-329-1100
Téléc. : 647-329-1143

Ontario

March 31, 2025

Chuck Pedersen
Fire Chief
Township of Douro/Dummer
P.O. Box 92, 894 South Street
Warsaw, ON K0L3A0

Instructions to the Municipal Representative:

Please complete and submit a copy of this document to our office at ofmgrants@ontario.ca by no later than April 14, 2025.

I hereby accept the grant allocation and proposed strategy for utilization, pending approval by Township of Douro/Dummer as outlined above.

Print Name:	Title:	Signature:	Date:
TODD DAVIS	CAO		Apr. 8/25

Township of Douro-Dummer

Report to Council
Re: C.A.O.-2025-06
From: Todd Davis
Date: April 15, 2025

Recommendation:

That the report C.A.O.-2025-06, dated April 15, 2025 regarding the Ice Storm update be received for information.

Overview:

On Friday, March 28, 2025, the Township of Douro Dummer declared a Significant Weather Event in anticipation of the impending freezing rain / ice storm anticipated to impact the community the following day and through-out the weekend. As predicted the storm arrived and, in its wake, significant damage was done that resulted in blocked roads, fallen trees and limbs, downed utility lines, and widespread power outages that impacted 100% of our community. In consultation with the Fire Chief and CAO, the Mayor declared a State of Emergency Sunday, March 30.

The Township's first priority in this type of emergency is to ensure that we open roads for emergency access. This was achieved by the coordinated efforts of Public Works staff and our firefighters. Staff do not work within hydro line related trees, due to the inherit risk of injury. Public Works and other internal departments with trained staff and contractors continued by establishing two lanes of traffic and roadway clean-up, that continues at this time. To support the work of Hydro One in assessing the damage, Township Fire Fighters documented all roads and areas of roads with downed utility lines, highlighting hydro specific spots as a priority. All roads including private roads are accessible for emergency access.

The Township's second order of responsibility is to assess the state of the community and our facilities and ensure we have ability to offer warming, communications and hygiene for residents without power. In the first 72 hours post-storm all facilities in Douro-Dummer were without power which limited our ability to provide consistent and comprehensive services. Working with the City of Peterborough and Peterborough County, warming centres were established in several public spaces in the City and at the Norwood Community Centre. These spaces were available to all and anecdotally staff can confirm that there was some uptake both in the City of Peterborough and Norwood by Douro-Dummer residents. The Township was able to establish a smaller scale warming and device charging centre at Townhall and as the week progressed and areas were being repowered, the library was able to offer a secondary location extended days and hours.

In the Township's initial assessment, none of our buildings were physically damaged in the storm. We lost power to all of our facilities, including all fire stations. Townhall lost telephone access and established a temporary phone number until our traditional contact lines were reestablished on April 7th. Our parks suffered marginal damages primarily down tree limbs with the most significant damages happening on the Robert Johnson Eco-Forest Trail. A tree service contractor was retained to remove all tree

limbs that posed a risk to public safety in our parks and this work was completed in several locations. The Warsaw Firehall playground and Johnson Trail remain closed until further assessments and work can be completed to ensure they are safe for the public.

As our residents clean up their properties and are repowered with hydro, the Township has modified the operations of the Hall's Glen Transfer Station. We are accepting brush and spoiled food waste free of charge and have provided additional days with extended hours using additional staff to help manage volumes. In addition, there are several other locations in the City of Peterborough and Peterborough County to drop off food waste and yard waste free of charge. At this time, the Township does not intend to offer curbside pick up for yard waste, brush and debris related to the storm event. We did not provide this service in the aftermath of the2022 Derecho Weather event, and this is also consistent with the surrounding Townships and County. Built-up urban and settlement areas like the City of Peterborough are providing this service.

Using the Township's social media channels and the corporate website, staff provided several updates daily related to the ice storm. The wealth of information and directions for assistance have been well received, regularly shared and effective for our community. Staff will continue to send out ice storm related content and information while the community continues its clean up.

Clean up efforts remain on-going and as our road infrastructure saw the most significant impacts, it will take the longest period to recover. The Township will continue to contract road clearing work when appropriate to local third-party organizations. Parks staff continue to be reassigned to Public Works to assist with chainsaw and wood chipping work. As well, the Township has called back all outside seasonal workers (2 from Parks and 1 from Public Works) four weeks early when available to further assist with the clean up. Public Works has hired a trained contract employee on a casual basis to assist with clean up. This represents a limited response using mostly Township resources and acknowledges that it will take time to complete this work and, in some instances, put our regular service delivery behind schedule. There are further resources available from the local and regional private sector or through the Province of Ontario, however speeding up our clean up work does cost significantly more.

Currently the threshold to be eligible to be considered for financial assistance from the province requires that dedicated clean up costs need to exceed 3% of our annual operating budget which is approximately $200,000 in expenditure. Based on the work and costs to date, and projecting the work to be done, there is significant risk that even with paid third-party contractors doing most of the work we could struggle to meet the minimum threshold to be considered for reimbursement. Should Council determine that they would like to alter our level of service delivery or want to take more expenditure to

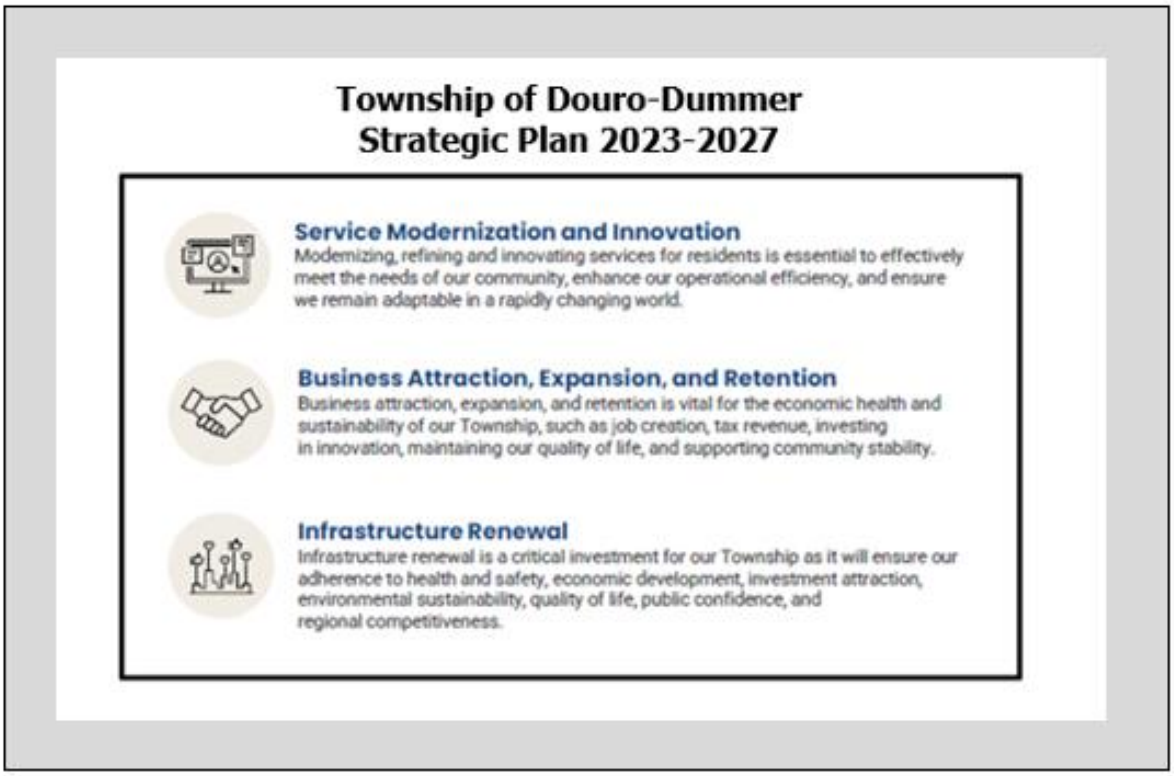
restore the community on a more aggressive timeline, staff request that they provide this direction through resolution.

Conclusion:

This report is intended to be a high-level overview of Township response to the 2025 Ice Storm and expect once the State of Emergency has been ended and clean up is well underway to bring a more fulsome report with full costs, impacts, positive experiences and areas for improvement. To date while there have been significant impacts to our public properties and many privately owned properties, there has not been significant damage to Township equipment or our owned infrastructure.

Financial Impact:

At this time costs are being tracked but the full impact will depend on the service level and expenditures as directed by Council.



Minutes
Peterborough County OPP Detachment Board
Monday, February 24, 2025 - 1:00 PM
Hybrid Committee Room and Electronic

Present:	Chair John Braybrook, Councillor, Trent Lakes Vice-Chair Heather Watson, Mayor, Douro-Dummer Member Caroline Goodenough, Provincial Appointee Member Brian Henry, Councillor, Selwyn Member Carolyn Amyotte, North Kawartha Member Hart Webb, Deputy Mayor, Havelock-Belmont-Methuen Member Patrick Wilford, Mayor, Asphodel-Norwood
OPP Representatives Present	Chris Galeazza, Detachment Commander, Peterborough County OPP Angie Kerr, Staff Sergeant, Peterborough County OPP
Regrets:	Member Joe Taylor, Mayor, Otonabee-South Monaghan Appointee Laurie Carr, Chief, Hiawatha First Nation Appointee Jeffrey Jacobs, Deputy Chief, Curve Lake First Nation
Staff Present:	Emmanuel Pinto, Board Administrator, Peterborough County Sheridan Graham, CAO, Peterborough County Kari Stevenson, Director of Legislative Services/Clerk, Peterborough County Shae-Lyn Burnett, Administrative Services Assistant, Legislative Services. Peterborough County

1. Opening Ceremonies

1.1 Call to Order

The Chair called the meeting to order at 1:00p.m.

1.2 Roll Call

Emmanuel Pinto, Board Administrator conducted the Roll Call. A quorum was deemed to be present.

1.3 Land Acknowledgement and Moment of Reflection

The Chair asked for the Land Acknowledgement video to be played and led the board in a Moment of Reflection.

1.4 Member Recognition

Chair Braybrook recognized and congratulated Peterborough County OPP Detachment Commander Chris Galeazza for receiving the King Charles III Coronation Medal.

2. Disclosure of a Conflict of Interest

2.1 The Chair reminded members of the board of their obligation to declare a Conflict of Interest. None were declared.

3. Approval of Agenda

3.1 Resolution No. 14-2025

Moved by Member Webb
Seconded by Member Goodenough

That the agenda be approved as printed.

Carried

4. Adoption of Minutes

4.1 Peterborough OPP Detachment Board Minutes of January 27, 2025

Resolution No. 15-2025

Moved by Member Wilford
Seconded by Member Amyotte

That the minutes of the January 27, 2025 Peterborough County OPP Detachment Board meeting be approved.

Carried

5. Business Arising Out of a Previous Meeting

5.1 Meeting Protocol Refresher Training
Kari Stevenson, Director of Legislative Services/Clerk, Peterborough County

Kari Stevenson reviewed the protocols and procedures of OPP Detachment Board meetings with references to the Terms of Reference, parliamentary procedure, and the Community Safety and Wellbeing Plan, 2019. She also reviewed the role of the Chair and Board Administrator.
Members were given the opportunity to ask specific questions.

Resolution No. 16-2025

Moved by Member Henry
Seconded by Member Goodenough

Recommendation: That the Board receive the presentation from Kari Stevenson, Director of Legislative Services/Clerk, Peterborough County regarding Meeting Protocol Training.

Carried

5.2 Peterborough Situation Tables Background Report
Inspector Chris Galeazza, Detachment Commander, Peterborough County OPP

Resolution No. 17-2025

Moved by Member Webb
Seconded by Member Amyotte

Recommendation: That the Board receive the report from Inspector Chris Galeazza, Detachment Commander, Peterborough County OPP, regarding the Peterborough Situation Table.

Carried

5.3 Peterborough OPP Community Engagement Background Report
Inspector Chris Galeazza, Detachment Commander, Peterborough County OPP

Resolution No. 18-2025

Moved by Member Henry
Seconded by Member Wilford

That the Board receive the report from Inspector Chris Galeazza, Detachment Commander, Peterborough County OPP, regarding the OPP Community Engagement Budgetary Request.

Carried

6. Delegations and Presentations

7. Reports/Correspondence

7.1 OPP Board Draft Budget
Jennifer Stover, CFO/CIO/Deputy CAO, Peterborough County

Resolution No. 19-2025

Moved by Vice-Chair Watson
Seconded by Member Amyotte

That the Peterborough County OPP Detachment Board allocate $7,000 to OPP Detachment Community Engagement efforts in the 2025 Budget.

Carried

Resolution No. 20-2025

Moved by Vice-Chair Watson
Seconded by Member Henry

That the Peterborough County OPP Detachment Board allocated $8,000 as a stop-gap measure in the 2025 budget towards the Peterborough Situation Tables and;

That this resolution be sent to the Peterborough Community Safety and Wellbeing Table, Peterborough Police Services Board, and Township of Cavan Monaghan to consider supporting.

Carried

Resolution No. 21-2025

Moved by Member Henry
Seconded by Member Webb

That the Board receive the report from Peterborough County's CFO/CIO/Deputy CAO regarding the OPP Board Draft Budget for information;

That a stabilization reserve be established with annual surpluses contributing to the reserve, and deficits being drawn from the reserve;

That the reserve balance not exceed 10% of the annual budget;

That any amounts in excess of the reserve balance be returned to the member municipalities to offset the following year contribution; and

That the draft budget be brought back to the next meeting for approval.

Carried

7.2 Peterborough County OPP Detachment January 2025 Report
Inspector Chris Galeazza, Detachment Commander, Peterborough County OPP Detachment

Resolution No. 22-2025

Moved by Member Webb
Seconded by Member Henry

That the Board request that the Detachment Commander present the crime statistics report quarterly going forward.

Carried

Resolution No. 23-2025

Moved by Vice-Chair Watson
Seconded by Member Amyotte

That the Board receive the OPP January 2025 Report for information.

Carried

8. By-laws

8.1 By-Law 2025-01 being "Procedural By-Law" (The Board moved to approve the changes recommended to the current Procedural By-Law 2024-01 at the January 25, 2025 Meeting).

Resolution No. 24-2025

Moved by Member Amyotte
Seconded by Member Henry

That the Board adopt By-Law 2025-01, "Procedural By-Law" and Repeal By-Law 2024-01 being, "Procedural By-Law".

Carried

9. Notice of Motion

10. Information Items

11. Closed Meeting

Under the authority of the Community Safety and Policing Act, 2019, S.O. 2019, c. 1, Sched. 1, S.44(2) to consider:

(k) information that section 8 of the *Municipal Freedom of Information and Protection of Privacy Act* would authorize a refusal to disclose if it were contained in a record

Resolution No. 25-2025

Moved by Member Amyotte
Seconded by Vice-Chair Watson

That the Board move into Closed Session at 3:00p.m. under Section 44(2) of the Community Safety and Policing Act, 2019, S.O. 2019, c.1, Sched. 1, S.44(2) to consider; (k) information that section 8 of the Municipal Freedom of Information and Protection of Privacy Act would authorize a refusal to disclose if it were contained in a record.

Carried

12. Business Arising from Closed Session

13. Adjournment

13.1 The next meeting is scheduled for March 24, 2025

13.2 Adjournment

Resolution No. 26-2025

Moved by Member Goodenough
Seconded by Member Amyotte

That the Board meeting adjourn at 3:23 p.m.

Carried

Board Chair, John Braybrook

E. Pinto

Board Administrator, Emmanuel Pinto

Attn: Member Municipalities of the Peterborough County OPP Detachment Board

RE: 2025-03-24 2025 Peterborough County OPP Detachment Board Budget Letter to Municipal Members

Dear Detachment Board Member Municipalities,

At the March 24, 2025 Meeting of the Peterborough County OPP Detachment Board, the following resolution was passed:

Resolution 30-2025

That the Peterborough County OPP Board recommends the 2025 budget for approval; and

That the 2025 budget be sent to the participating municipalities for their respective Council approval.

Moved by Member Amyotte
Seconded by Member Webb
CARRIED.

I am attaching the budget and the report from County CFO Jennifer Stover that was presented to our board for further information on each item.

Per Section 17 of the Board's Terms of Reference and Section 71 of the Community Safety and Policing Act, 2019, the board is requesting consideration by your municipal council and approval to fund the board in the amount of $7,138.00 per municipality.

If you have any further questions, please do not hesitate to contact me.

Sincerely,

E. Pinto

Emmanuel Pinto, Board Administrator
oppboard@ptbocounty.ca
705-743-0380 x2510

CC:
jbraybrook@trentlakes.ca
John Braybrook, Chair, Peterborough County OPP Detachment Board

Report to Peterborough County OPP Detachment Board

To: Chair & Members
From: Jennifer Stover, CFO/CIO/Deputy CAO, Peterborough County
Date: March 24, 2025
Report # CTY2025-03
Re: OPP Board Draft Budget

Recommendation:

That the Peterborough County OPP Board recommends the 2025 budget for approval; and

That the 2025 budget be sent to the participating municipalities for their respective Council approval.

Financial Implications:

Appendix A is a proposed budget for discussion purposes only. Staff will adjust the budget accordingly based on input from the Board. Each line item of the expense budget is detailed below with the assumptions used in developing the draft budget or options for the Board to consider.

Peterborough County Purchase of Services

Peterborough County has agreed to provide administrative support to the Board at a cost of $700 per month for a total of $8,400.

OAPSB Membership

Cost of membership is 0.21 per household, plus tax.

Insurance

Current cost of insurance is $4,068. The draft budget assumes a 5% increase when the insurance is renewed in October.

Mileage

The budget for mileage has been established using the following assumptions:

- The CRA rate will be used to establish the per km rate
- Township Council members will be reimbursed by the respective municipality
- Public and Provincial appointees will be eligible for reimbursement of mileage to attend meetings
- There will be a maximum of six (6) meetings per year (4 quarterly meetings, and 2 special meetings), and that no eligible Board member will be travelling more than 100km to attend

Per Diem

Similar to mileage, the per diem budget assumes that the Township Council members will be reimbursed by their respective municipalities.

It also assumes a total of six (6) meetings per year, and a stipend of $100 per meeting will be paid for appointees. This rate is consistent with the per diem rate paid to County Council members for appointments on Boards. This budget also includes a one-time payment of $300 for the 2024 Provincial appointee.

OAPSB Conference

The Ontario Association of Police Services Board conference is occurring June 3-5 in London, Ontario. The draft budget assumes that two (2) Board members would attend the conference at an estimated cost of $2,200 per member to cover registration, hotel, food and travel.

Zone 3 OAPSB Expenses

A budget of $500 has been assumed to cover the cost of the Chair attending these meetings.

Public Engagement/Advertising

This budget typically would be considered to support the cost of advertising for community applicants, conducting surveys etc.. The draft budget assumes zero, with the understanding that Peterborough County could provide these types of services in-kind with existing resources.

Community Engagement for Local OPP Events

The OPP attends numerous events within the community and schools. This budget is to purchase give-aways and other items to support community engagement and enforce positive relationships with the police.

Community Safety and Wellbeing Table Funding

This is traditionally covered through Provincial grants. The Provincial grant expires on March 31, 2025. With the election occurring in late February it is unclear when or if this grant will be renewed. The budgeted funding allows for a few months of continued support while the outcome of the grant is pending.

If the grant is renewed, retroactive to April 1st, then these funds will not be required and will form part of the year end surplus. In the event that the grant is not renewed, then other sustainable funding sources will be required.

Special Projects / Contingency

It is assumed that all Board members will provide their own technology (phone, computer etc) and that there will not be a requirement to purchase any. Peterborough County will provide Board members with access, in kind, to SharePoint for agendas, minutes and document management.

It is recommended that a small contingency budget (included as $3,000) be allocated for the development of such items as strategic plans, annual reports, other consulting services or unforeseen expenses that the Board may wish to consider.

Revenues

In accordance with the Terms of Reference, the total expenses will be shared equally among the seven member municipalities. Based on the draft budget, that would equate to $7,138 each.

Surplus or Deficit

At the end of any given fiscal year, the Board will either be in a surplus (spent less than budget) or deficit (spent more than budget) position.

It is recommended that a reserve be established such that the surplus amounts can be used to grow the reserve, and deficit amounts can be funded by drawing from the reserve. Additionally, should there be a year where the Board wishes to fund a one-time special initiative, the reserve may be used.

It is further recommended that the reserve balance not exceed 10% of the total budget. Should the circumstance arise where the reserve exceeds this limit, the excess funds will be returned, in equal amounts, to the member municipalities to offset their contribution in the next fiscal year.

Appendices:

Appendix A: Draft 2025 Budget

Submitted by:

_____

Jennifer Stover, CFO/CIO/Deputy CAO
Peterborough County

Peterborough OPP Detachment Board
2025 Draft Budget

Revenue	
Municipal Contributions	$ 49,965
Total Revenue	**$ 49,965**
Expenditures	
Peterborough County Purchase of Services	$ 8,400
OAPSB Membership	$ 7,750
Insurance	$ 4,275
Mileage	$ 2,740
Per Diem	$ 3,900
OAPSB Conference	$ 4,400
Zone 3 OAPSB Meetings	$ 500
Public Engagement/Advertising	$ -
Community Engagement for Local OPP Events	$ 7,000
Communuty Safety and Wellbeing Table Funding	$ 8,000
Special Projects / Contingency	$ 3,000
Total Expenditures	**$ 49,965**
Cost per member municipality	**$ 7,138**

The Corporation of the Township of Douro-Dummer

By-law 2025-13

Being a By-Law to provide for the adoption of tax rates and to further provide for penalty and interest in default of payment for 2025

Whereas the Municipal Act, 2001, S.O. 2001, c.25 Section 290 (1) provides that a local municipality shall in each year prepare and adopt a budget including estimates of all sums required during the year for the purposes of the municipality;

And Whereas the Municipal Act, 2001, S.O. 2001, c.25 Section 312 (2) provides that for the purposes of raising the general local municipality levy, a local municipality shall, each year, pass a by-law levying a separate tax rate, as specified in the by-law, on the assessment in each property class in the local municipality rate-able for local municipality purposes;

And Whereas the Municipal Act, 2001, S.O., 2001, c. 25 Section 312 (6) (2) provides that the tax rates on the different classes of property must be in the same proportion to each other as the tax ratios established under Section 308 for the property classes are to each other;

And Whereas certain regulations requires reductions in certain tax rates for certain classes or subclasses of property;

Now Therefore the Council of the Corporation of the Township of Douro-Dummer hereby enacts as follows:

1. That the estimates of all sums required during the year 2025 for the purposes of the municipality requiring a levy of **$7,395,601** be hereby adopted.

2. That the tax rates in Schedule A be applied against the whole of the assessment for real property for Municipal, Education and County purposes.

3. That every owner shall be taxed according to the municipal tax rates in this by-law and such tax rates shall become due and payable in two installments as follows:

   50% of the final Residential and Commercial/Industrial levy becomes due and payable on the 30th day of June 2025 and the balance of the final levy, rounded up to the next whole dollar shall become due and payable on the 30th day of September 2025 and non-payment of the amount, as

noted, on the dates stated in accordance with this section shall constitute default. Any adjustments for the 2025 taxation year, either increases or decreases, shall be applied to the calculated installments and the net amount adjusted accordingly.

4. On all taxes of the levy, which are in default on the 1st day of default, a penalty of 1.25% shall be added and thereafter a penalty of 1.25% per month, or part thereof will be added each and every month, the default continues, until December 31st, 2025.

5. Penalties and interest added in default shall become due and payable and shall be collected as if the same had originally been imposed and formed part of such unpaid tax levy.

6. The collector may mail or cause the same to be mailed to the residence or place of business of such person indicated on the last revised assessment roll, a written or printed notice specifying the amount of taxes payable.

7. That taxes are payable to the Township of Douro-Dummer.

Passed in open council this 15th day of April, 2025.

_____
Mayor, Heather Watson

_____
Clerk, Martina Chait-Hartwig

Schedule A- By-law 2025-013

Property Class/Subclass	RTC/RTQ	County Rate	Township Rate	Education Rate	Total Rate
Residential	RT	0.00441128	0.00458464	0.00153000	0.01052592
	RF	0.00441128	0.00458464	0.00153000	0.01052592
	RG	0.00441128	0.00458464	0.00153000	0.01052592
	RP	0.00441128	0.00458464	0.00153000	0.01052592
Farmland	FT	0.00110282	0.00114616	0.00038250	0.00263148
Managed Forest	TT	0.00110282	0.00114616	0.00038250	0.00263148
New Multi-Residential	NT	0.00441128	0.00458464	0.00153000	0.01052592
Multi-Residential	MT	0.00441128	0.00458464	0.00153000	0.01052592
	MP	0.00441128	0.00458464	0.00153000	0.01052592
Commercial	CT	0.00484624	0.00503669	0.00880000	0.01868293
	ST	0.00484624	0.00503669	0.00880000	0.01868293
	CG	0.00484624	0.00503669	0.00880000	0.01868293
	CH	0.00484624	0.00503669	0.00980000	0.01968293
	CP	0.00484624	0.00503669	0.00880000	0.01868293
Small Scale On-Farm	C7	0.00484624	0.00503669	0.00220000	0.01208293
	C0	0.00484624	0.00503669	0.00220000	0.01208293
Excess Land	CU	0.00339236	0.00352568	0.00880000	0.01571804
	SU	0.00339236	0.00352568	0.00880000	0.01571804
	CV	0.00339236	0.00352568	0.00980000	0.01671804
Vacant Land	CX	0.00339236	0.00352568	0.00880000	0.01571804
	CJ	0.00339236	0.00352568	0.00980000	0.01671804
	CY	0.00339236	0.00352568	0.00980000	0.01671804
	CR	0.00339236	0.00352568	0.00880000	0.01571804
	CZ	0.00339236	0.00352568	0.00880000	0.01571804
Industrial	IT	0.00680749	0.00707502	0.00880000	0.02268251
	IH	0.00680749	0.00707502	0.01250000	0.02638251
	IF	0.00680749	0.00707502	0.01250000	0.02638251
Small Scale On-Farm	I7	0.00680749	0.00707502	0.00220000	0.01608251
	I0	0.00680749	0.00707502	0.00220000	0.01608251
Excess Land	IU	0.00442487	0.00459876	0.00880000	0.01782363
	IK	0.00442487	0.00459876	0.01250000	0.02152363
Vacant Land	IX	0.00442487	0.00459876	0.00880000	0.01782363
	IJ	0.00442487	0.00459876	0.01250000	0.02152363
	IZ	0.00442487	0.00459876	0.00880000	0.01782363
Aggregate Extraction	VT	0.00553930	0.00575693	0.00511000	0.01640623
	VP	0.00553930	0.00575693	0.00511000	0.01640623
Landfill	HF	0.00445540	0.00463049	0.00980000	0.01888589
Pipeline	PT	0.00414043	0.00430314	0.00880000	0.01724357

The Corporation of the Township of Douro-Dummer

By-law Number 2025-14

Being a By-Law to stop up, to close and sell to the abutting land owners or their respective nominees those lands and premises more particularly described in Schedule "A" annexed hereto.

Whereas it is deemed expedient and in the interests of The Corporation of the Township of Douro-Dummer, hereinafter called the Corporation, that those lands and premises more particularly described in Schedule "A" attached hereto be closed and stopped up, and the lands sold to the adjoining land owners or their respective nominees;

And Whereas the Council for the said Corporation has heard in person or by their counsel, solicitor, or agent, all person claiming that their land will be prejudicially affected by this By-Law and who applied to be heard;

And Whereas no person will be deprived of the means of ingress and egress to and from their lands or place of residence;

Now Therefore, the Council of the Corporation of the Township of Douro-Dummer enacts as follows:

1. That upon and after the passing of this By-Law all those lands and premises more particularly described in Schedule "A" annexed hereto be and the same are hereby stopped up and closed.

2. All those lands and premises more particularly described in Schedule "A" annexed hereto and stopped up and closed shall be sold to the adjoining or abutting owner or owners or any of them or their respective nominees.

3. The Mayor and Clerk of The Corporation of the Township of Douro-Dummer are hereby authorized to sign and execute such deeds or other instruments as may be necessary to effect a conveyance or conveyances of those lands and premises more particularly described in Schedule "A" annexed hereto and which have been stopped up and closed.

Passed in open Council this 15th day of April, 2025.

_____
Mayor, Heather Watson

_____
Clerk, Martina Chait-Hartwig

Schedule "A"

In the geographic Township of Dummer, in the Township of Douro-Dummer in the County of Peterborough, Province of Ontario, being composed of parts of a road allowance between Concession 5 and 6, in Lot 31, and designated as Part 1 and Part 2 on Registered Plan 45R-17795, deposited on January 14, 2025.

SCHEDULE

PART	LOT	CONCESSION	PIN	AREA
1	PART OF THE ROAD ALLOANCE BETWEEN CONCESSIONS 5 AND 6		PART OF 28188-0052	10 sq m.
2				49 sq m.

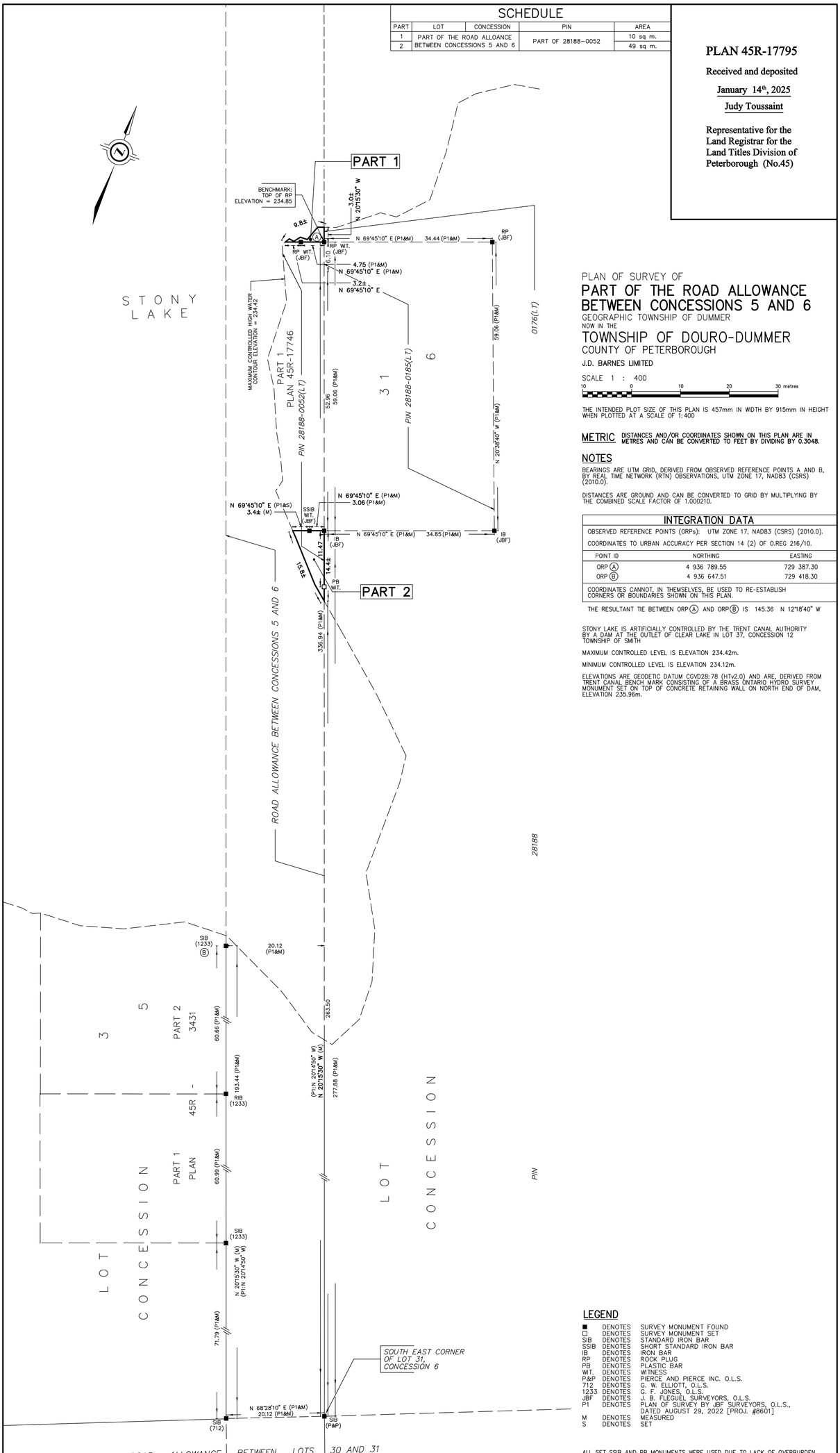
PLAN 45R-17795

Received and deposited

January 14th, 2025

Judy Toussaint

Representative for the Land Registrar for the Land Titles Division of Peterborough (No.45)



PLAN OF SURVEY OF

PART OF THE ROAD ALLOWANCE BETWEEN CONCESSIONS 5 AND 6

GEOGRAPHIC TOWNSHIP OF DUMMER

NOW IN THE

TOWNSHIP OF DOURO-DUMMER

COUNTY OF PETERBOROUGH

J.D. BARNES LIMITED

SCALE 1 : 400

10 0 10 20 30 metres

THE INTENDED PLOT SIZE OF THIS PLAN IS 457mm IN WIDTH BY 915mm IN HEIGHT WHEN PLOTTED AT A SCALE OF 1: 400

METRIC DISTANCES AND/OR COORDINATES SHOWN ON THIS PLAN ARE IN METRES AND CAN BE CONVERTED TO FEET BY DIVIDING BY 0.3048.

NOTES

BEARINGS ARE UTM GRID, DERIVED FROM OBSERVED REFERENCE POINTS A AND B, BY REAL TIME NETWORK (RTN) OBSERVATIONS, UTM ZONE 17, NAD83 (CSRS) (2010.0).

DISTANCES ARE GROUND AND CAN BE CONVERTED TO GRID BY MULTIPLYING BY THE COMBINED SCALE FACTOR OF 1.000210.

INTEGRATION DATA

OBSERVED REFERENCE POINTS (ORPs): UTM ZONE 17, NAD83 (CSRS) (2010.0).

COORDINATES TO URBAN ACCURACY PER SECTION 14 (2) OF O.REG 216/10.

POINT ID	NORTHING	EASTING
ORP (A)	4 936 789.55	729 387.30
ORP (B)	4 936 647.51	729 418.30

COORDINATES CANNOT, IN THEMSELVES, BE USED TO RE-ESTABLISH CORNERS OR BOUNDARIES SHOWN ON THIS PLAN.

THE RESULTANT TIE BETWEEN ORP (A) AND ORP (B) IS 145.36 N 12°18'40" W

STONY LAKE IS ARTIFICIALLY CONTROLLED BY THE TRENT CANAL AUTHORITY BY A DAM AT THE OUTLET OF CLEAR LAKE IN LOT 37, CONCESSION 12 TOWNSHIP OF SMITH

MAXIMUM CONTROLLED LEVEL IS ELEVATION 234.42m.

MINIMUM CONTROLLED LEVEL IS ELEVATION 234.12m.

ELEVATIONS ARE GEODETIC DATUM CGVD28: 78 (HTv2.0) AND ARE, DERIVED FROM TRENT CANAL BENCH MARK CONSISTING OF A BRASS ONTARIO HYDRO SURVEY MONUMENT SET ON TOP OF CONCRETE RETAINING WALL ON NORTH END OF DAM, ELEVATION 235.96m.

LEGEND

■	DENOTES	SURVEY MONUMENT FOUND
□	DENOTES	SURVEY MONUMENT SET
SIB	DENOTES	STANDARD IRON BAR
SSIB	DENOTES	SHORT STANDARD IRON BAR
IB	DENOTES	IRON BAR
RP	DENOTES	ROCK PLUG
PB	DENOTES	PLASTIC BAR
WIT.	DENOTES	WITNESS
P&P	DENOTES	PIERCE AND PIERCE INC. O.L.S.
712	DENOTES	G. W. ELLIOTT, O.L.S.
1233	DENOTES	G. F. JONES, O.L.S.
JBF	DENOTES	J. B. FLEGUEL SURVEYORS, O.L.S.
P1	DENOTES	PLAN OF SURVEY BY JBF SURVEYORS, O.L.S., DATED AUGUST 29, 2022 [PROJ. #8601]
M	DENOTES	MEASURED
S	DENOTES	SET

ALL SET SSIB AND PB MONUMENTS WERE USED DUE TO LACK OF OVERBURDEN AND/OR PROXIMITY OF UNDERGROUND UTILITIES IN ACCORDANCE WITH SECTION 11 (4) OF O.REG. 525/91.

SURVEYOR'S CERTIFICATE

I CERTIFY THAT:

1. THIS SURVEY AND PLAN ARE CORRECT AND IN ACCORDANCE WITH THE SURVEYS ACT, THE SURVEYORS ACT AND THE LAND TITLES ACT AND THE REGULATIONS MADE UNDER THEM.
2. THE SURVEY WAS COMPLETED ON DECEMBER 19, 2024.

DECEMBER 20, 2024
DATE

SHAWN M. O'CONNOR
ONTARIO LAND SURVEYOR

THIS PLAN OF SURVEY RELATES TO AOLS PLAN SUBMISSION FORM NUMBER V-92128

Elliott and Parr (PETERBOROUGH) A Division of J. D. Barnes Limited
SURVEYING MAPPING GIS
211 SHERBROOKE ST PETERBOROUGH, ON K9J 2N2
T: (705) 745-8444 F: (705) 745-5314 www.jdbarnes.com

DRAWN BY:	CHECKED BY:	REFERENCE NO.:
JK	SMO	24-19-142-00
FILE: E&P DUR 6-31		DATED: 12/20/2024
		PLOTTED: 2024-12-20

FILE: G:\24-19-142\00\Drawing\24-19-142-00_PLAN.dgn

The Corporation of the Township of Douro-Dummer

By-law Number 2025-15

Being a By-Law to stop up, to close and sell to the abutting landowners or their respective nominees those lands and premises more particularly described in Schedule "A" annexed hereto.

Whereas it is deemed expedient and in the interests of The Corporation of the Township of Douro-Dummer, hereinafter called the Corporation, that those lands and premises more particularly described in Schedule "A" attached hereto be closed and stopped up, and the lands sold to the adjoining land owners or their respective nominees;

And Whereas the Council for the said Corporation has heard in person or by their counsel, solicitor, or agent, all person claiming that their land will be prejudicially affected by this By-Law and who applied to be heard;

And Whereas, it is deemed expedient and in the interests the Corporation, that those lands and premises more particularly described in Schedule "B" attached hereto be purchased and hereby incorporated into the Township of Douro-Dummer Road System;

And Whereas no person will be deprived of the means of ingress and egress to and from their lands or place of residence;

Now Therefore, the Council of the Corporation of the Township of Douro-Dummer enacts as follows:

1. That upon and after the passing of this By-Law all those lands and premises more particularly described in Schedule "A" annexed hereto be and the same are hereby stopped up and closed.

2. All those lands and premises more particularly described in Schedule "A" annexed hereto and stopped up and closed shall be sold to the adjoining or abutting owner or owners or any of them or their respective nominees.

3. All those lands and premises more particularly designated in Schedule "B" be purchased from the landowner and incorporated into the Township Road System once the sale is complete.

4. The Mayor and Clerk of The Corporation of the Township of Douro-Dummer are hereby authorized to sign and execute such deeds or other instruments as may be necessary to effect a conveyance or conveyances of those lands and premises more particularly described in Schedule "A" annexed hereto and which have been stopped up and closed and the lands described in Schedule "B" which are to be purchased and incorporated into the road system.

Passed in open Council this 15th day of April, 2025.

_____
Mayor, Heather Watson

_____
Clerk, Martina Chait-Hartwig

Schedule "A"

In the geographic Township of Dummer, in the Township of Douro-Dummer in the County of Peterborough, Province of Ontario, being composed of parts of a road in Concession 11, Lots 1 and 2, and designated as Part 6 and Part 7 on Registered Plan 45R-16743, deposited on January 2, 2019.

Schedule "B"

In the geographic Township of Dummer, in the Township of Douro-Dummer in the County of Peterborough, Province of Ontario, being composed of parts of lots in Concession 11, Lots 1 and 2, and designated as Parts 1, 2 and 3 on Registered Plan 45R-17820, deposited on February 27, 2025.

SCHEDULE				
PART	LOT	CON	INST/PIN	AREA
1	PART OF LOT 1	11	PART OF 28199–0127	3 302 sq.m
2	PART OF LOTS 1 AND 2	11	PART OF 28199–0163	9 176 sq.m
3	PART OF LOT 2	11	PART OF 28199–0127	1 698 sq.m

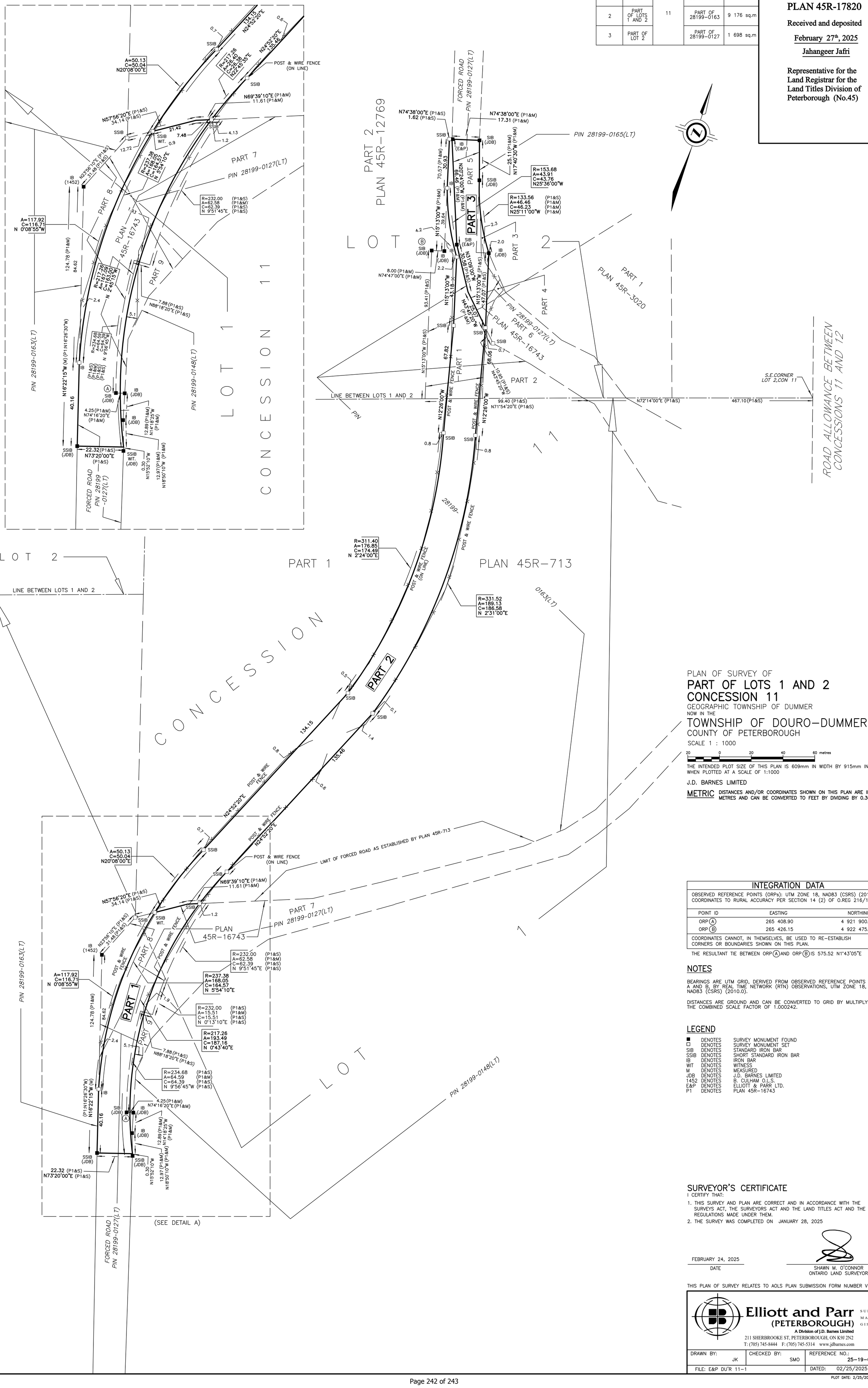
PLAN 45R-17820

Received and deposited

February 27th, 2025

Jahangeer Jafri

Representative for the Land Registrar for the Land Titles Division of Peterborough (No.45)



PLAN OF SURVEY OF

PART OF LOTS 1 AND 2 CONCESSION 11

GEOGRAPHIC TOWNSHIP OF DUMMER

NOW IN THE

TOWNSHIP OF DOURO–DUMMER

COUNTY OF PETERBOROUGH

SCALE 1 : 1000

20 0 20 40 60 metres

THE INTENDED PLOT SIZE OF THIS PLAN IS 609mm IN WIDTH BY 915mm IN HEIGHT WHEN PLOTTED AT A SCALE OF 1:1000

J.D. BARNES LIMITED

METRIC DISTANCES AND/OR COORDINATES SHOWN ON THIS PLAN ARE IN METRES AND CAN BE CONVERTED TO FEET BY DIVIDING BY 0.3048.

INTEGRATION DATA		
OBSERVED REFERENCE POINTS (ORPs): UTM ZONE 18, NAD83 (CSRS) (2010.0). COORDINATES TO RURAL ACCURACY PER SECTION 14 (2) OF O.REG 216/10.		
POINT ID	EASTING	NORTHING
ORP (A)	265 408.90	4 921 900.53
ORP (B)	265 426.15	4 922 475.93
COORDINATES CANNOT, IN THEMSELVES, BE USED TO RE–ESTABLISH CORNERS OR BOUNDARIES SHOWN ON THIS PLAN.		

THE RESULTANT TIE BETWEEN ORP (A) AND ORP (B) IS 575.52 N1°43'05"E

NOTES

BEARINGS ARE UTM GRID, DERIVED FROM OBSERVED REFERENCE POINTS A AND B, BY REAL TIME NETWORK (RTN) OBSERVATIONS, UTM ZONE 18, NAD83 (CSRS) (2010.0).

DISTANCES ARE GROUND AND CAN BE CONVERTED TO GRID BY MULTIPLYING BY THE COMBINED SCALE FACTOR OF 1.000242.

LEGEND

■	DENOTES	SURVEY MONUMENT FOUND
□	DENOTES	SURVEY MONUMENT SET
SIB	DENOTES	STANDARD IRON BAR
SSIB	DENOTES	SHORT STANDARD IRON BAR
IB	DENOTES	IRON BAR
WIT	DENOTES	WITNESS
M	DENOTES	MEASURED
JDB	DENOTES	J.D. BARNES LIMITED
1452	DENOTES	B. CULHAM O.L.S.
E&P	DENOTES	ELLIOTT & PARR LTD.
P1	DENOTES	PLAN 45R–16743

SURVEYOR'S CERTIFICATE

I CERTIFY THAT:

1. THIS SURVEY AND PLAN ARE CORRECT AND IN ACCORDANCE WITH THE SURVEYS ACT, THE SURVEYORS ACT AND THE LAND TITLES ACT AND THE REGULATIONS MADE UNDER THEM.
2. THE SURVEY WAS COMPLETED ON JANUARY 28, 2025

FEBRUARY 24, 2025
DATE

SHAWN M. O'CONNOR
ONTARIO LAND SURVEYOR

THIS PLAN OF SURVEY RELATES TO AOLS PLAN SUBMISSION FORM NUMBER V–92148

Elliott and Parr (PETERBOROUGH) SURVEYING MAPPING GIS
A Division of J.D. Barnes Limited
211 SHERBROOKE ST, PETERBOROUGH, ON K9J 2N2
T: (705) 745-8444 F: (705) 745-5314 www.jdbarnes.com

DRAWN BY:	CHECKED BY:	REFERENCE NO.:
JK	SMO	25–19–002–00
FILE: E&P DU'R 11–1		DATED: 02/25/2025

PLOT DATE: 2/25/2025 2:14 PM

FILE: G:\25-19-002\00\Drawing\25-19-002-00_PLAN.dwg

The Corporation of the Township of Douro-Dummer

By-law Number 2024-16

Being a By-law of The Corporation of the Township of Douro-Dummer to confirm the proceedings of the Special and Regular Council Meetings of Council held on the 15th day of April 2025

The Municipal Council of The Corporation of the Township of Douro-Dummer Enacts as follows:

1. **That** the action of the Council at its Special and Regular Council Meetings held on 15th April 2025, in respect to each motion, resolution, and other action passed and taken by the Council at its said meeting is, except where prior approval of the Local Planning Appeal Tribunal is required, hereby approved, ratified, and confirmed.

2. **That** the Mayor and the proper officers of the Township are hereby authorized to do all things necessary to obtain approvals where required, and to execute all documents as may be necessary in that behalf and the Clerk is hereby authorized and directed to affix the Corporate Seal to all such documents.

Passed in Open Council this 15th day of April, 2025.

_____
Mayor, Heather Watson

_____
Clerk, Martina Chait-Hartwig