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

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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.

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.

Respectfully submitted,

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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

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

- 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.

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.

- 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:

- 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.

- 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

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

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

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

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:

- 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,

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

- 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

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) .

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.

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.

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.

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.

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

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

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).

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

- 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.

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.

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

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.*

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).

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

(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).

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

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

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

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.

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.

- 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.

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:

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.

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

- 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.

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

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.

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.

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.

- 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.

- **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.

- **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).

- **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.

- **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.

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

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.

When preparing reports, Cambium considers applicable legislation, regulations, governmental guidelines and policies to the extent they are within its knowledge, but Cambium is not qualified to advise with respect to legal matters. The presentation of information regarding applicable legislation, regulations, governmental guidelines and policies is for information only and is not intended to and should not be interpreted as constituting a legal opinion concerning the work completed or conditions outlined in a report. All legal matters should be reviewed and considered by an appropriately qualified legal practitioner.

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.

Only conditions at the site and locations chosen for study by the client are evaluated; no adjacent or other properties are evaluated unless specifically requested by the client. Any physical or other aspects of the site chosen for study by the client, or any other matter not specifically addressed in a report prepared by Cambium, are beyond the scope of the work performed by Cambium and such matters have not been investigated or addressed.

Reliance

Cambium's services, work and reports may be relied on by the client and its corporate directors and officers, employees, and professional advisors. Cambium is not responsible for the use of its work or reports by any other party, or for the reliance on, or for any decision which is made by any party using the services or work performed by or a report prepared by Cambium without Cambium's express written consent. Any party that relies on services or work performed by Cambium or a report prepared by Cambium without Cambium's express written consent, does so at its own risk. No report of Cambium may be disclosed or referred to in any public document without Cambium's express prior written consent. Cambium specifically disclaims any liability or responsibility to any such party for any loss, damage, expense, fine, penalty or other such thing which may arise or result from the use of any information, recommendation or other matter arising from the services, work or reports provided by Cambium.

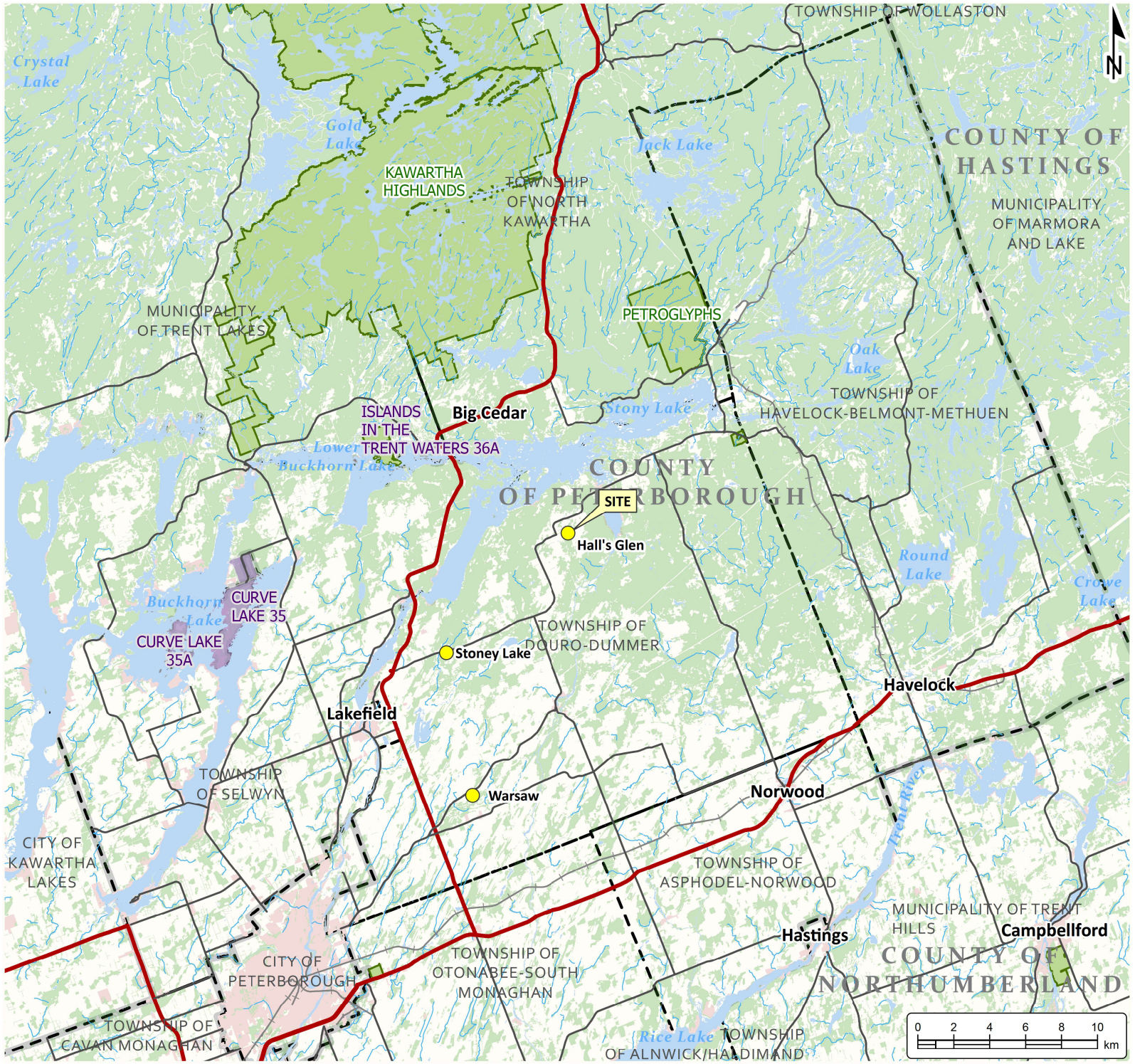
Limitation of Liability

Potential liability to the client arising out of the report is limited to the amount of Cambium's professional liability insurance coverage. Cambium shall only be liable for direct damages to the extent caused by Cambium's negligence and/or breach of contract. Cambium shall not be liable for consequential damages.

Personal Liability

The client expressly agrees that Cambium employees shall have no personal liability to the client with respect to a claim, whether in contract, tort and/or other cause of action in law. Furthermore, the client agrees that it will bring no proceedings nor take any action in any court of law against Cambium employees in their personal capacity.

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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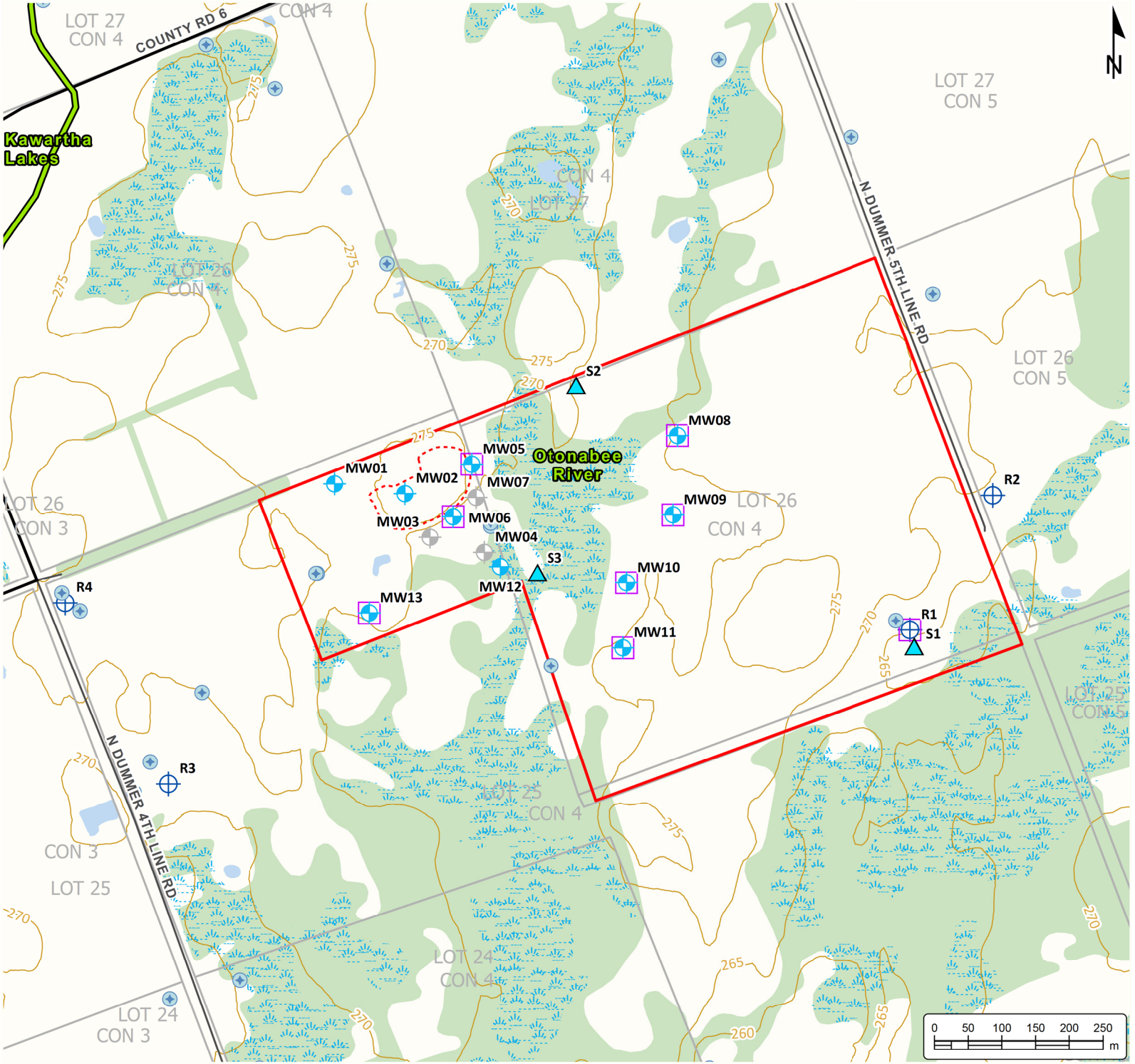

2024 ANNUAL REPORT

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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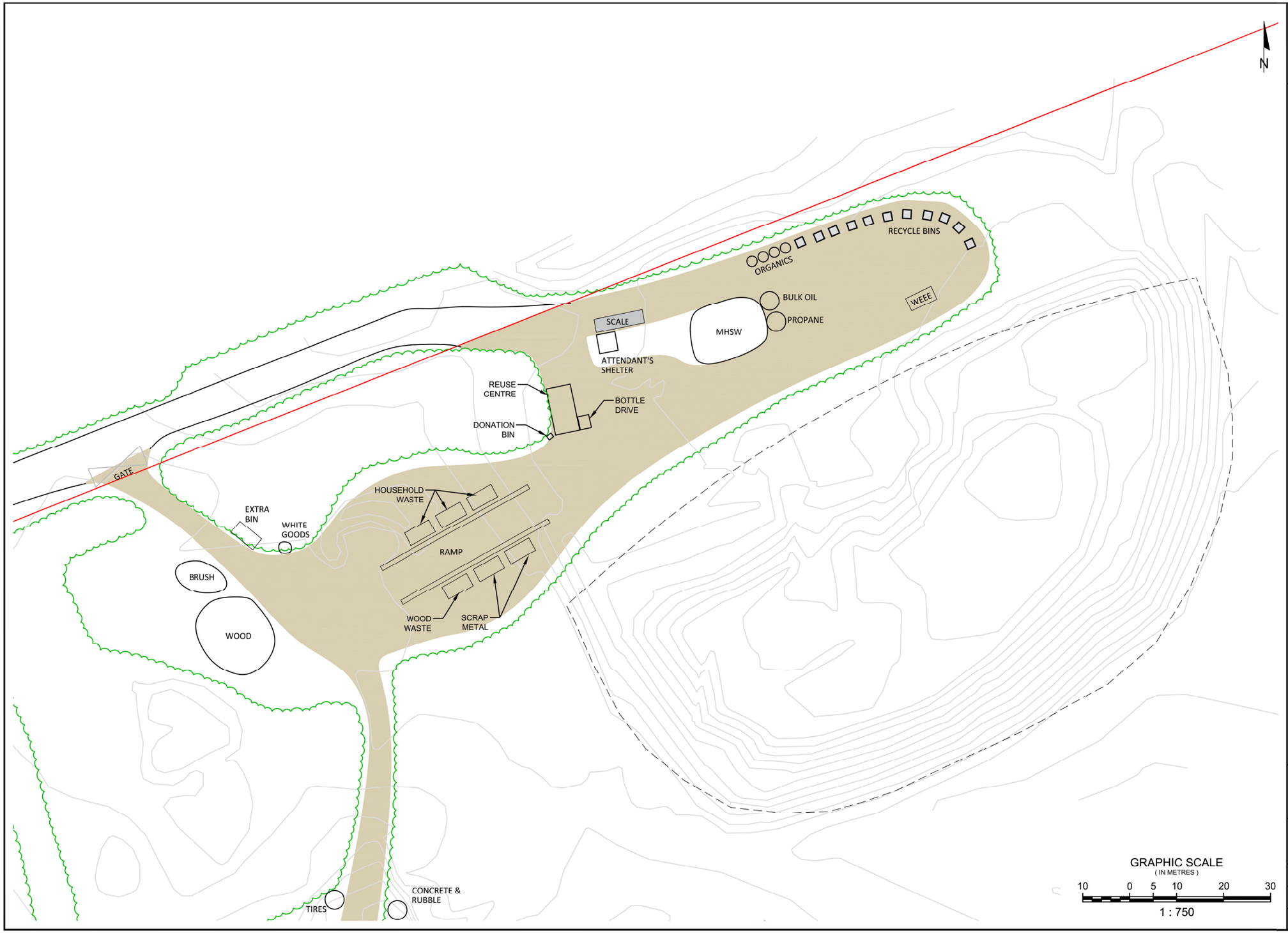

2024 ANNUAL REPORT
HALL'S GLEN WASTE TRANSFER STATION

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

Notes:
1. Distances on this plan are in metres and can be converted to feet by dividing by 0.3048.

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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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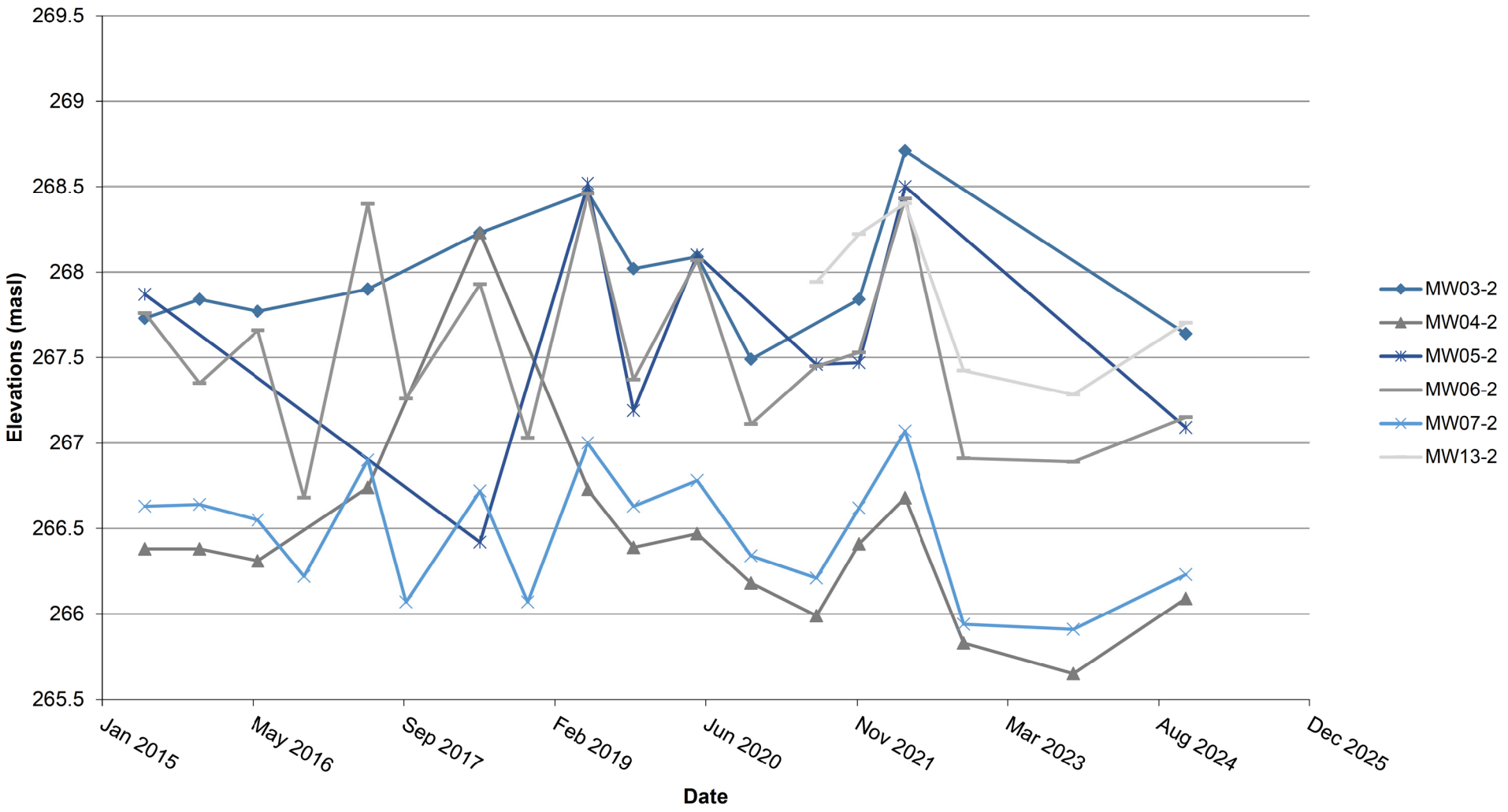
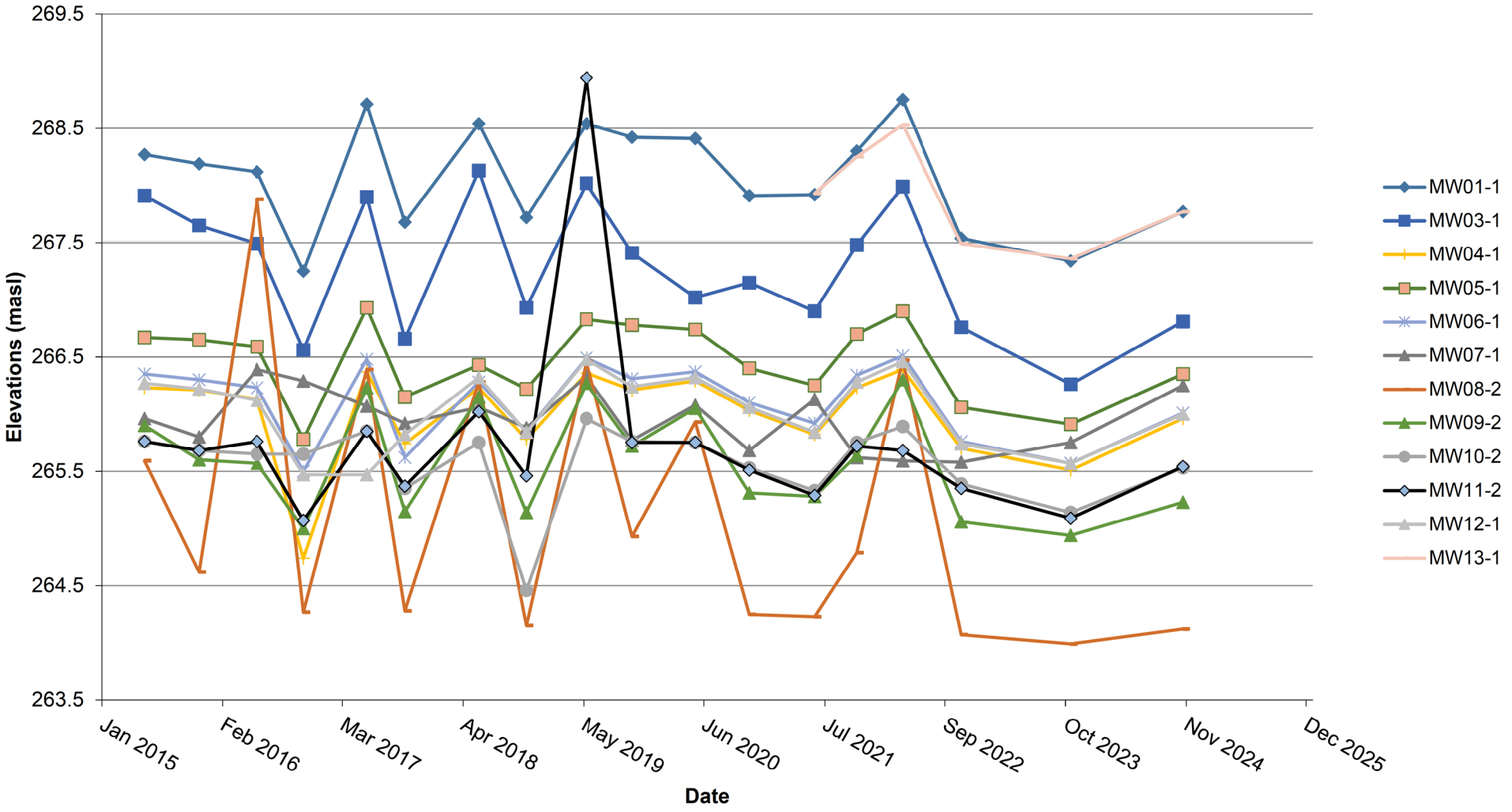


Groundwater Elevations (Overburden)

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

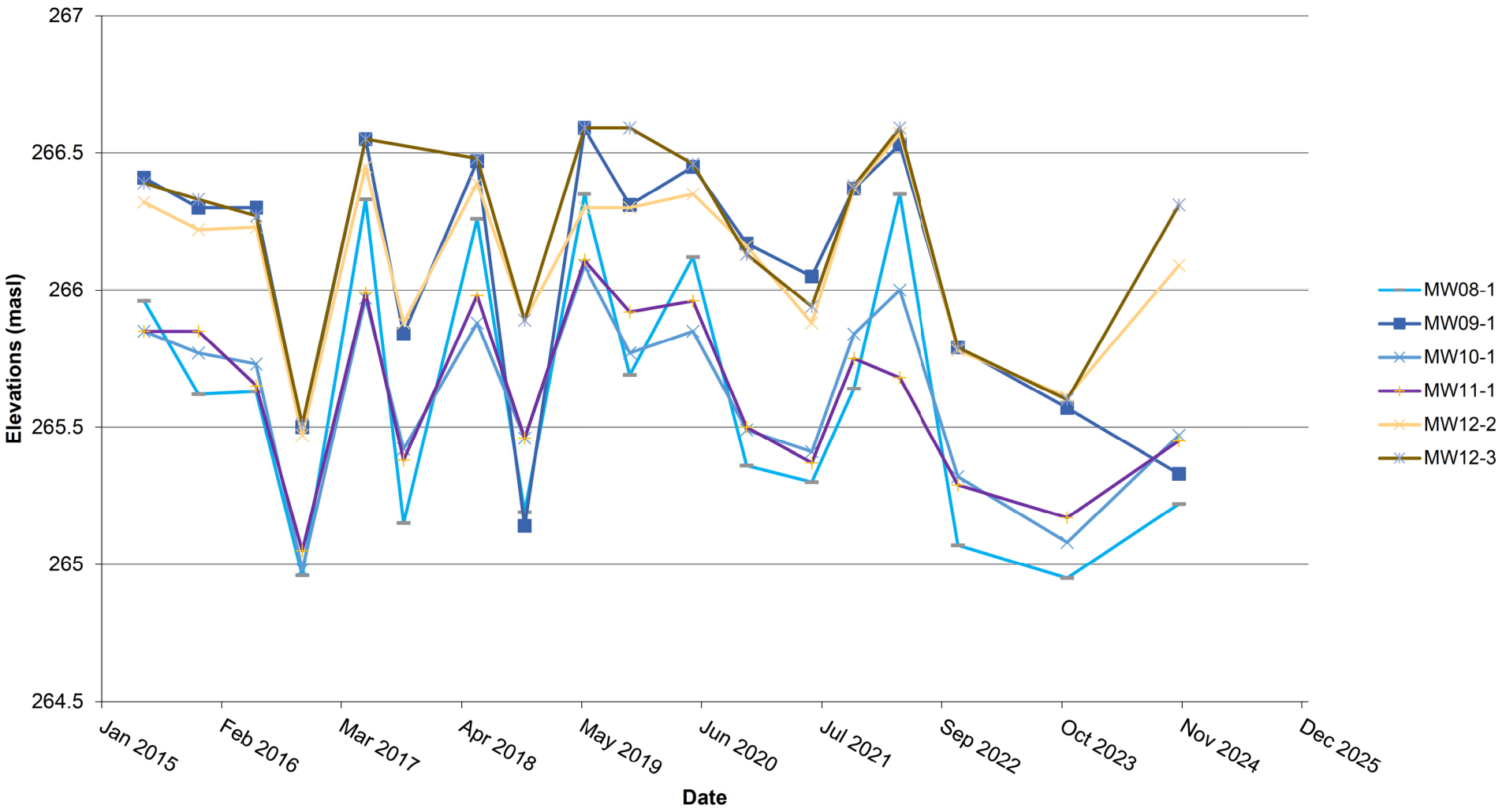


Groundwater Elevations (Shallow Bedrock)

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

CAMBIUM

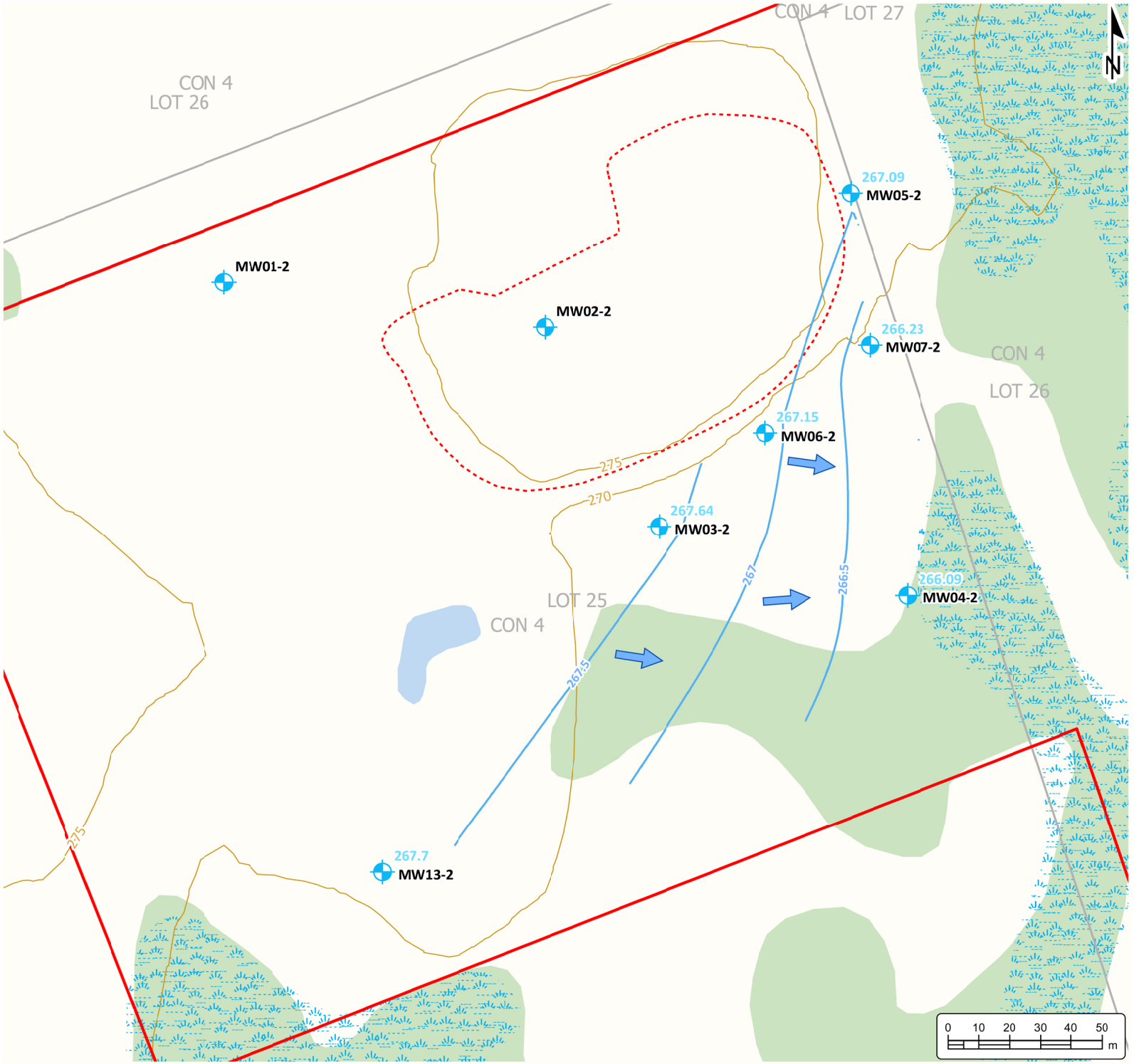


Groundwater Elevations (Deep Bedrock)

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

CAMBIUM



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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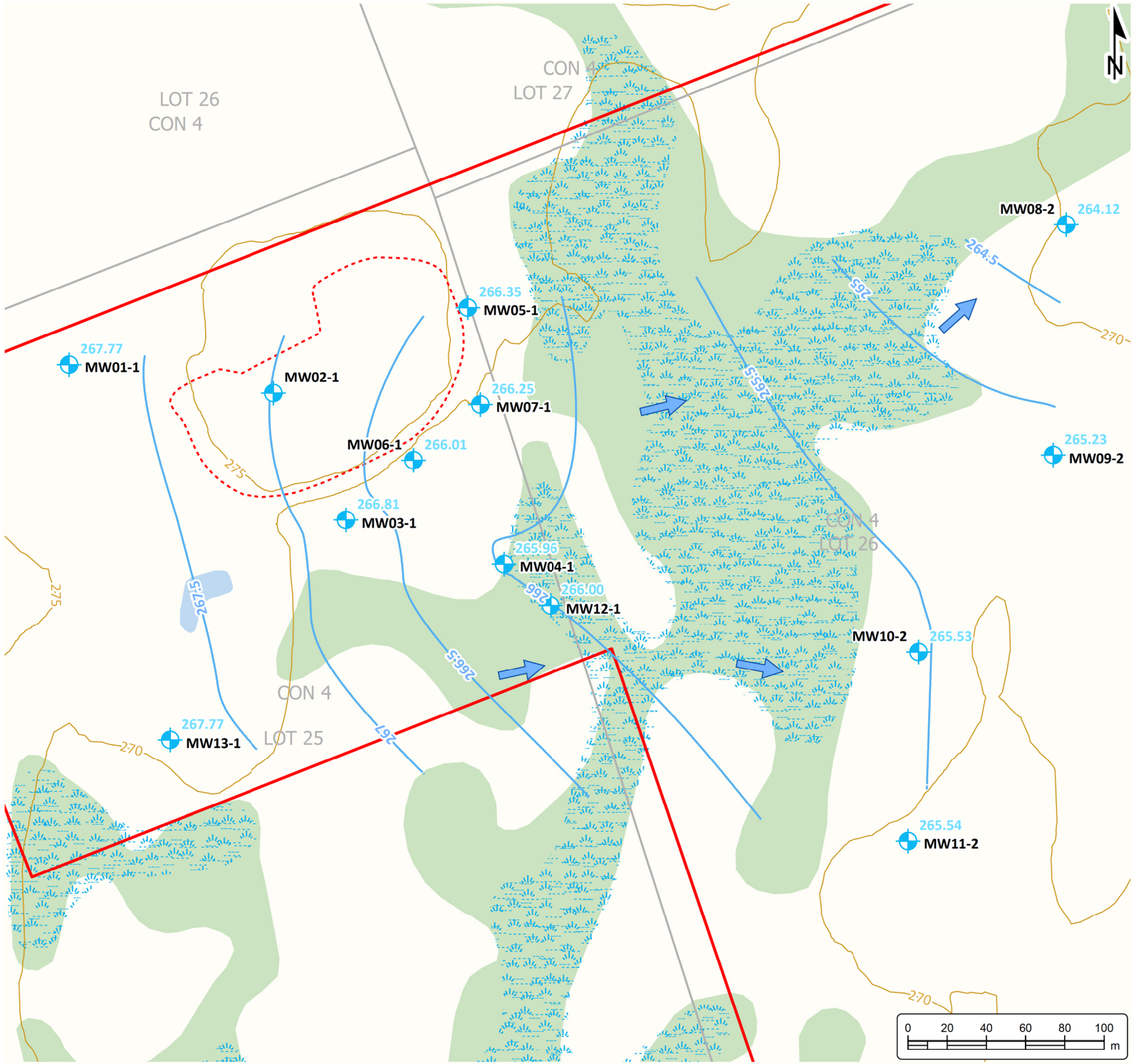

2024 ANNUAL REPORT

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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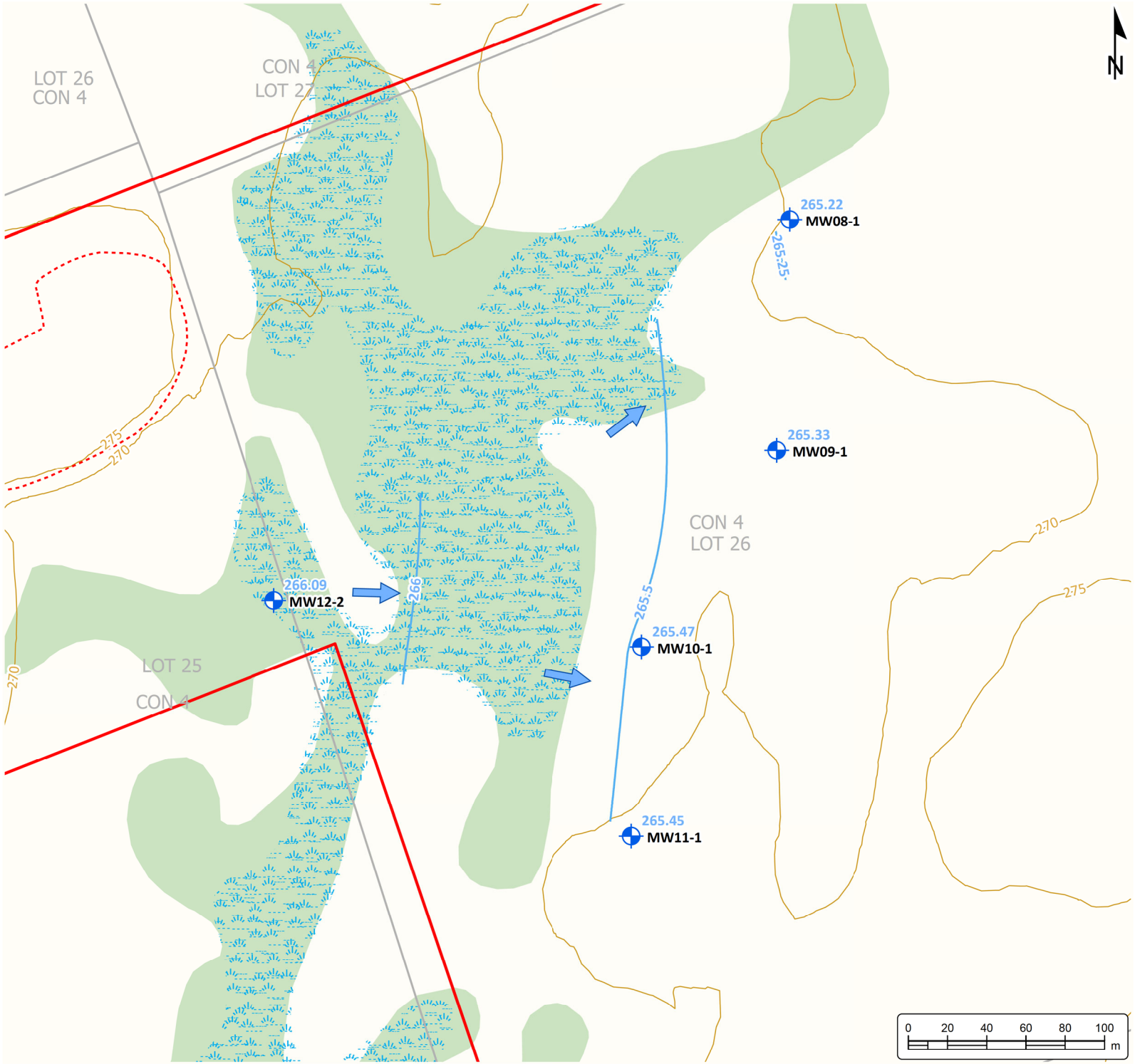

2024 ANNUAL REPORT

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

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
				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
				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	<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	<0.5	0.6	<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	<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	<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	<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	<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	<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	<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	<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	<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	<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	<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	<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	<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	<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	<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	<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	<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	<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	<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	<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	<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	<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	<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	<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	<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	<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	<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	<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	<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	<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	<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	<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	<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	<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	<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	<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	<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	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

CAMBIUM

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

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#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**

Appendices

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**