

# 2021 Annual Report Hall's Glen Waste Transfer Station



Provisional Compliance Approval No. A341004

April 27, 2022

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 Environmental Compliance 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 2021 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.

The water level measurements indicated that the predominant direction of groundwater flow in all overburden and bedrock aquifers is to the southeast.

Although leachate impacts were evident in down-gradient groundwater monitors, the plume decreased in concentration (strength) at greater distances from the waste footprint. Migration of leachate into deeper portions of the bedrock aquifer is restricted due to upwards hydraulic gradients in the areas southeast of the waste mound. Non-waste related sources may be influencing groundwater quality in some areas of the Site.

Historical results have indicated sporadic detections of monochlorobenzene at MW05-1. In November of 2021 monochlorobenzene was detected at MW05-1 and MW05-2 at concentrations marginally greater than laboratory detection limits (and significantly less than ODWQS criteria). The concentrations of all other volatile organic compounds were reported below detectable limits in 2021 at all other wells.



Groundwater is interpreted to discharge to surface down-gradient of the waste mound during at least some times of the year. As such, groundwater quality data of those wells in the area of potential groundwater discharge to surface was compared to the Provincial Water Quality Objectives. Only marginal impacts were reported and were attributed, at least in part, to non-waste related sources such as saturated organic soils, decaying organic vegetation or naturally varying conditions.

Groundwater samples collected from MW08, MW09, MW10, MW11, MW12, and R1 were used to complete the Ministry of the Environment, Conservation and Parks Reasonable Use Concept compliance assessment. Given the RUC exceedances of various parameters were not wholly attributed to Site impacts, and the central location of wells MW08 through MW12, the Site complied with Guideline B-7 in 2021.

All elevated LIP concentrations have decreased (except alkalinity) at the location S1 and it is interpreted that adverse impacts to surface water from the Site have attenuated by the down-gradient Site boundary. S2 is most likely impacted by groundwater discharging into the nearby wetlands; however, due to the persistent dry nature of this location, samples were not able to be collected in 2021.

About 200 tonnes of waste was accepted at the Site in 2021 and transferred to the Peterborough Waste Management Facility. About 60.00 tonnes of blue box recycling and WEEE were diverted from the Site. Furthermore, 5.45 tonnes of MHSW, 17.32 tonnes of scrap metal, and 24.12 tonnes of organics were collected at the Site.

The Township managed the Site in compliance with the PC of A in 2021.

Recommendations have been made regarding the future operation of the Hall's Glen waste disposal site and work to be completed in 2022.



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 2021 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)

### 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 Regional 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 (NAD) 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 currently 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. 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  |

### 1.3 Scope of Work

The scope of the 2021 work program was based on the results of the 2020 groundwater monitoring program (GHD, 2021), 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)
- Evaluation of surface water quality against the PWQO
- An overview of site development and operations
- Preparation of this annual report

This report presents the results of the 2021 work program, provides an assessment of the current landfill impact of the Site on the surrounding groundwater and surface water environments, and a summary of the operational activities at the Site. Cambium has provided recommendations for the 2022 monitoring program and site operations based on the 2021 results and assessment.



## 2.0 Methodology

The 2021 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) 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 2021 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 borehole diameter. Each groundwater monitoring well to be sampled was purged of approximately three well bore volumes. For wells with low recovery, at least one saturated borehole volume was purged prior to sampling. Purged water was disposed on-site, down-gradient of each respective well.



- Samples were collected using dedicated polyethylene tubing equipped with inertial-lift foot valves.
- 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 June 24, June 28, and November 11 from the on-site monitoring wells listed below:

- 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 • MW 10-2 • MW 11-1 • MW 11-2 • MW 12-1 • MW 12-2
- MW 12-3 • MW 13-1 • MW 13-2

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 C. Laboratory Certificates of Analysis are in Appendix D. Photographs of each monitoring location are in Appendix E.

The following deviations from the monitoring program were noted:

- MW01-1 was dry, and wells MW02-1, MW02-2, and MW03-2 had insufficient water to provide a sufficient sample during the spring sampling event.
- MW01-2 and MW02-2 were dry, and MW02-1 had insufficient sampling volumes during the autumn sampling event.



Blind duplicate groundwater samples were collected from the following locations listed in Embedded Table 2 as part of the Quality Assurance/Quality Control (QA/QC) program. As these field duplicates equate to at least 10% of the total samples collected, this is an adequate QA/QC program for groundwater. In addition to these samples, the laboratory completes internal QA/QC. The results of the QA/QC program are presented in Section 4.1.

**Embedded Table 2 Groundwater QA/QC Duplicate Locations**

| Spring                | Autumn                |
|-----------------------|-----------------------|
| QA/QC #1: MW05-1      | QA/QC #1: MW06-1      |
| QA/QC #2: MW12-1      | QA/QC #2: MW04-1      |
| QA/QC #3: MW08-1      | QA/QC #3: MW11-2      |
| QA/QC VOCs #1: MW05-1 | QA/QC VOCs #1: MW06-1 |
| QA/QC VOCs #2: MW03-1 | QA/QC VOCs #2: MW11-2 |

Notes:

1. Extended VOC suite analysed on QA/QC VOC duplicates.

## 2.2 Residential Well Monitoring Program

Residential well sampling was completed on June 24, June 28, and November 11, 2021, at the locations listed below. The only deviation from the monitoring program was that no samples were collected from wells R2 and R3 as contact with the residents could not be made.

- R1
- R2
- R3
- R4

Well locations are on Figure 2. It is noted that R1 is a 0.05 m diameter PVC monitoring well that was installed to replace the abandoned R1 stone dug well that was sampled historically. 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, 2021). The record indicates that gravel overburden was encountered to a depth of 2.7 mbgs. Limestone bedrock extended from 2.7 mbgs 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 located east and west of the Site. Installation details and age of 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 (MECP, 2021)) and indicate that the wells are likely installed in bedrock and ranged in depth between 10.7 mbgs and 16.2 mbgs. Results from the residential well sampling are discussed in Section 4.2.5. Field data sheets are in Appendix C and Laboratory Certificates of Analysis as provided by Caduceon are in Appendix D.

### **2.3 Surface Water Monitoring Program**

The following tasks were completed as part of the 2021 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 collection of samples from on-site surface water sample stations S1 and S2 on June 24 and 28, and November 11. The following deviations from the monitoring program were noted:

- Stations S1 and S2 were dry in June.
- Station S2 was dry in November.

Surface water sampling locations are shown on Figure 2. The UTM coordinates for the monitoring locations are in Embedded Table 3. Surface water results are discussed in Section 4.3. Field data sheets are in Appendix C. Laboratory Certificates of Analysis provided by Caduceon are in Appendix D. Photographs of each surface water sample location are in Appendix E.

Blind duplicate surface water samples were collected from station S1 in November as part of the QA/QC program. As these field duplicates equate to at least 10% of the total samples obtained, this is an adequate QA/QC program for surface water. The results of the QA/QC program are presented in Section 4.1.

## 2.4 Landfill Gas Monitoring Program

Landfill gas monitoring was conducted at all existing groundwater monitoring wells in 2021 in conjunction with the spring and autumn monitoring events. 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.

Total combustible gas concentrations were measured at each location, prior to collecting groundwater levels or samples, using a portable gas meter calibrated to methane. LFG monitoring is conducted on a yearly basis at the Site; the LFG monitoring results for the 2021 monitoring program are discussed in Section 4.4.



## 2.5 Site Review and Operations Overview

Site operations were observed during site visits completed in June, and November 2021. During these visits, the items listed below were inspected on accessed areas of the Site and observations noted in the field file. In January 2022, the Township provided additional 2021 site operations information. Site inspection results are presented in Section 4.5.

- Litter control
- Condition and layout of recycling bins
- Status of monitoring well security
- Condition and layout of access roads, access gates
- Final cover integrity



### 3.0 Geological and Hydrogeological Context

#### 3.1 Topography and Drainage

The Site is in the Otonabee River tertiary watershed and the Indian River quaternary watershed. The surface water drainage systems on and near the Site have generally been characterized as stagnant and discontinuous. The local area around the Site is poorly drained and surface water generally pools and is interpreted to infiltrate into the subsurface or evaporate. A defined flow channel through the Site has not been observed by Cambium staff. Unevaluated wetlands are identified within the central area of the Site (east of the waste mound), and are located to the north, east and south of the Site. 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 of the area suggest surface water flow is generally south (during times of year when surface water flow occurs).

There are two surface water monitoring stations included in the existing monitoring program (labelled as S1 and S2). Both of these stations are 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 700 m southeast of the waste mound and adjacent to residential well R1.
- S2 is 200 m east of the waste mound and has historically monitored the background surface water quality for the Site. Station S2 is located 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. See Section 4.3 for more details.

The geospatial coordinates (NAD 83) for the surface water monitoring stations are outlined in Embedded Table 2. Flow and discharge rates measured during the monitoring events are



included in Appendix B. There was no staining observed at any of the surface water monitoring stations that would be indicative of leachate impacted groundwater discharge.

**Embedded Table 3 Coordinates of Surface Water Stations**

| Surface Water Station | UTM (Zone 17)  |
|-----------------------|----------------|
| S1                    | 729187 4933099 |
| S2                    | 728686 4933486 |

### 3.1.1 Precipitation Data

A review of the 2021 precipitation data for Trent U (Government of Canada, 2021) in comparison to the average precipitation data for 1981 to 2010 for Peterborough A (Government of Canada, 2015) indicated that the annual precipitation was normal; however, varied month to month. July and September were the wettest months of the year receiving almost double the climate normal precipitation. Conversely, the driest months of the year were May and August. 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 4. Refer to Appendix C for field sheets and climate data.

**Embedded Table 4 Historical and 2021 Precipitation Data**

| Sampling Date | Average Monthly Precipitation (mm) (1981 – 2010) | 2021 Precipitation (mm) | Precipitation During and Prior to Sampling (mm) |
|---------------|--|-------------------------|---|
| June 24       | 79.9   | 94.3                    | 2.7   |
| June 28       | 79.9   | 94.3                    | 32.0  |
| November 11   | 86.4   | 49.4                    | 0.0   |

## 3.2 Hydrogeology

Based on the assessment completed by GHD and prior consultants, the following summary of the hydrogeology of the Site is provided (GHD, 2021). 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 consist of 13 multi-level groundwater monitors at the Site. Available information indicates that the monitoring wells intercepted four water bearing units (an overburden aquifer and three bedrock aquifers; Appendix F). 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 and MW07-2
- 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 and MW12-1
- 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 aquifer system.

### **3.2.1 Well Records**

A well record search completed in 2021 indicated that there are 30 wells within 500 m of the Site (MECP, 2021)(Appendix G); 14 of the well records indicate they are used for domestic water supply, 14 of the records were for monitoring wells, and two records are for drilled test holes. The wells were reported to be from 4.3 to 44.8 mbgs and completed in bedrock (Appendix G). 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 and bedrock deposits 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 spring and autumn. The water level data were used to calculate the groundwater elevations summarized in Table 2 and shown on Figure 4 (overburden), Figure 5 (shallow bedrock) and Figure 6 (deep bedrock). Groundwater elevation contours and flow directions are shown on Figure 7 (overburden), Figure 8 (shallow bedrock) and Figure 9 (deep bedrock). The predominant direction of groundwater flow in all three aquifers is to the east/southeast. It is noted that a portion of flow in the deep aquifer radiates away to the north, west and south from well MW09-1.

Monitoring well MW13 was not included in the groundwater flow contour mapping since it has never been surveyed (and therefore groundwater elevations cannot be calculated).

The horizontal hydraulic gradient within each aquifer system typically ranged between 0 m/m and 0.024 m/m. It is noted that a high horizontal gradient was noted in the overburden aquifer within the eastern portion of the waste mound in June (0.163 m/m). Well MW02-2 was dry in the autumn, as such horizontal gradients within the waste mound could no be calculated. Embedded Table 5 provides a summary of the gradients measured:

**Embedded Table 5 Summary of Horizontal Hydraulic Gradients**

| Unit                                    | June                  | November              |
|---|-----------------------|-----------------------|
| <b>Overburden (southeast)</b>           | 0.163 m/m – 0.024 m/m | 0.018 m/m – 0.016 m/m |
| Shallow <b>Bedrock (east/southeast)</b> | 0.018 m/m – 0.005 m/m | 0.014 m/m – 0.004 m/m |
| Deep Bedrock (variable)                 | 0.007 m/m – 0.0 m/m   | 0.007 m/m – 0.0 m/m   |

### 3.2.3 Hydraulic Conductivity

Slug tests were conducted in 2009 by GHD on four wells in order 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 6 summarizes the results of the slug tests as reported by GHD (GHD, 2021) .

**Embedded Table 6 Summary of Hydraulic Conductivity**

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

### 3.2.4 Vertical Gradients

Vertical hydraulic gradients were calculated between several clustered wells at the Site (Table 3). In general, hydraulic gradients of the wells in close proximity to the waste mound are downwards (at MW03, MW04, MW05, MW06 and MW07), between overburden and the shallow bedrock aquifer. Further away from the waste mound, at wells MW08, MW09, MW10, MW11, and MW12, vertical gradients were upwards between shallow and deep bedrock aquifers. 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 and the consistent upwards vertical hydraulic gradients reported at wells MW08, MW09, MW10, MW11, and MW12 suggest that groundwater could discharge to surface during at least some times of the year.



### 3.3 Conceptual Site Model

The Site is underlain by a thin veneer of overburdening soils identified as silty-sand till. Underlying the soil is regionally extensive sedimentary rock of the Lindsay Formation of Middle Ordovician age, 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 soils in the area of the waste mound. Leachate laden groundwater migrates down into the overburden and bedrock aquifers, where it then migrates, generally, to the east/southeast. Infiltration of leachate laden groundwater into deeper bedrock aquifer units is restricted (as evidenced by the upwards vertical hydraulic gradients observed at wells MW08 through MW12). The vertical hydraulic gradients between the bedrock and overburden in the area of wells MW08 through MW12 have not been confirmed since there were no overburden monitors included at these locations. However, it is possible that groundwater discharges to surface during at least some periods of the year when conditions permit. Further, the consistent upwards vertical gradients suggest that deep bedrock groundwater quality at these wells may also be influenced by non-waste related sources.

Groundwater flow in the overburden and shallow bedrock aquifers is generally east to southeast off the Site. Groundwater flow in the deeper bedrock aquifer is also considered to be towards the southeast, but with variable portions of flow directed to the north and south in the area of MW09-1. Based on this conceptual model, primary receptors of leachate impacted water are downstream surface water systems and potentially groundwater users which draw on the overburden and shallow portions of the bedrock aquifer.



## 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 2021 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 at least one result was greater than five times the reported detection limit (RDL).

The duplicate analysis indicated that, while in general, the data between duplicate samples showed good correlation; the following parameters reported notable differences:

- Nitrate at MW12-1 and ammonia at MW08-1 in June
- Copper, lead, and chemical oxygen demand (COD) at MW06-1 and copper at S1 in November

There were many discrepancies between the parent and duplicate samples greater than 30% at MW04-1 in November:

|            |           |                                |           |                              |
|------------|-----------|--------------------------------|-----------|------------------------------|
| boron      | calcium   | chloride                       | manganese | magnesium                    |
| phosphorus | potassium | dissolved organic carbon (DOC) | hardness  | total dissolved solids (TDS) |
| COD        | sodium    | sulphate                       | ammonia   | conductivity                 |



Given that the groundwater samples at MW04-1 have persistently been cloudy with sediment, it was inferred the discrepancies were related to the quality of the sample and the difficulty collecting a true duplicate.

Similarly, discrepancies in the surface water samples were attributed to the shallow ponded nature of the surface water locations and the difficulty collecting a representative sample without disturbing sediments. Regardless, the concentrations in the duplicate and original samples for the identified parameters were within historical ranges (where there are enough datasets to establish historical range) except for the following:

- The chloride concentrations in the parent sample for MW04-1 in November were just above historic range; however, could be reasonable for the location.
- The COD concentrations in both the parent and duplicate samples for MW04-1 and MW06-1 in November were above historic range. Because both samples were elevated, the parent concentration is considered representative of water quality at this location.
- The phosphorus concentrations in both the parent and duplicate samples for MW04-1 in November were above historic range. Because both samples were elevated, the parent concentration is considered representative of water quality at this location.

Overall, the water quality data was considered suitable for its intended use, which was to identify changes in water quality and analyzed parameters present at concentrations that do not meet compliance criteria.

## **4.2 Groundwater Quality**

Groundwater analysis data for 2011 to 2021 are in Table 4 through Table 9.

To assess water quality impacts related to landfill site operations, the analytical results for groundwater samples collected on-site 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 during some times of the year, the results for groundwater samples collected from select monitors were also compared against the PWQO (MOEE, 1994b).



#### **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 located about 53 m and 105 m up-gradient/cross-gradient of the waste mound, respectively. These well locations are considered representative of background groundwater conditions of the Site due to their location and direction of groundwater flow. 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).

The water quality reported from MW01-1 shows that most metals are stable at this location. There may be some influence from road salts due to elevated and variable concentrations of sodium, magnesium, chloride and TDS. Phosphorus was reported at a concentration greater than historical ranges during the November sampling event. This location is within 10 m of the landfill access road, so road salt impacts are not unexpected. MW01-2 is historically dry and therefore there is no data for this well.

Monitoring well MW13-1 generally reports similar water quality as MW01-1. Monitoring well MW13-2 reports similar water quality to both MW01-1 and MW13-1; however, the concentration of parameters associated with road de-icing activities are generally lower (in addition to boron, cadmium, potassium). Chemical Oxygen Demand (COD) was reported at a concentration slightly greater than historical ranges during the November sampling event.

Overall, the water quality at these monitors remained representative of background conditions at the Site in 2021.

#### **4.2.2 Leachate Characteristics**

Nested wells MW02 were installed within the waste mound to capture leachate quality. These wells are regularly reported as or have insufficient supply for sample collection (as was the case during the 2021 sampling program). Nested wells MW05 and MW06 installed on the



down-gradient toe of the waste mound were used to characterize leachate characteristics at Site. Several Leachate Indicator Parameters (LIPs) have been identified at the Site. A parameter was considered a LIP if it has been regularly reported at concentrations greater than background water quality. The LIPs identified at the Site are outlined below in Embedded Table 7, and were identified if the average concentration from the leachate wells was X2 or greater than the average concentration from the background wells.

**Embedded Table 7 Leachate Indicator Parameters**

|         |           |           |            |           |
|---------|-----------|-----------|------------|-----------|
| arsenic | barium    | boron     | alkalinity | iron      |
| ammonia | manganese | magnesium | phosphorus | potassium |
| COD     | DOC       |           |            |           |

MW05-1 (shallow bedrock) generally reports lower concentrations of most parameters than MW05-2 (overburden) except for nitrate, nitrite, DOC, and sulphate, mostly non-LIPs. All LIPs are significantly elevated above background at both MW05 wells. Since 2019, there has been a slight increasing trend reported from both MW05-1 and MW05-2 for many LIPs; however, increasing trends are most pronounced at MW05-2. Slight increasing trends may be developing for arsenic, barium, boron, iron, COD, potassium and phosphorus at monitoring well MW05-2. However, other non-LIPs (such as chloride and zinc) may also be developing increasing trends of concentration. As such, the cause of the increasing concentration trends of LIPs may not be wholly related landfill leachate influences. Further, not all LIPs have been reported at increasing concentrations (such as manganese and magnesium which have developed decreasing and stable concentration trends, (respectively)). Historically, this location commonly reported concentrations that exceeded ODWQS criteria for iron, manganese, alkalinity, hardness, TDS, and DOC.

Similar to MW05-1, well MW06-1 reported lower concentrations for most parameters compared with MW06-2 with the exception of phosphorus, nitrate, nitrite, chloride, and phenols. All LIPs are significantly elevated above background monitoring wells concentrations at the MW06 wells. Some increasing trends of concentration were noted for select LIPs at the MW06 wells. The concentrations of chloride and nitrate (non-LIPs) may be developing an increasing trends



of concentration at the MW06 wells. As such, the cause of the increasing concentration trends of LIPs may not be wholly related landfill leachate influences. The parameters that commonly exceeded the ODWQS at MW06 are similar to those reported from MW05.

Concentrations for LIPs reported from MW05-1, MW05-2, MW06-1, and MW06-2 are all comparable and any variation trends reported from sampling event to sampling event are commonly reflected in each well. In general, MW06-1 reports the lowest LIP concentrations and MW05-2 reports the greatest LIP concentrations. Increasing trends of concentrations were noted for some LIPs at wells MW05 and MW06. However, other non-LIPs also reported increasing trends of concentrations (such as chloride, zinc and nitrate). Water quality at wells MW05 and MW06 could be influenced (at least partially) by non-waste related sources.

#### **4.2.3 Down-Gradient Groundwater Quality**

Nested wells MW03, MW04, MW07, MW08, MW09, MW10, MW11, and MW12 monitor groundwater conditions in the areas east and hydraulically down-gradient the waste mound.

Nested wells MW03 are located 10 m south of the waste mound. Most LIPs were elevated at MW03-2 (overburden) compared with background water quality; however, LIP concentrations reported from MW03-1 (installed in shallow bedrock) were comparable to background water quality for all LIPs. The vertical gradients calculated between the two monitors is slightly downwards; however, the water quality suggests that landfill leachate is not significantly impairing shallow bedrock groundwater conditions. It is assumed that the main component of groundwater flow in the overburden aquifer is horizontal and discharging to the wetlands down-gradient. The water quality in 2021 was generally consistent with historical concentrations with no increasing or decreasing trends.

Nested wells MW04 are located 70 m southeast of the waste mound. Many LIP concentrations reported from both MW04-1 (installed in shallow bedrock) and MW04-2 (installed in overburden) are comparable to background water quality; however, alkalinity concentrations for both wells exceed background and potassium, manganese, magnesium, boron, and ammonia concentrations at MW04-2 are commonly elevated when compared with background. All LIP concentrations are less than those reported from the leachate monitoring wells (MW05



and MW06) indicating that natural attenuation of landfill leachate is occurring between MW04 and the waste mound. In general, water quality in 2021 was consistent with historical concentrations with no increasing or decreasing trends; however, concentrations of phosphorus, COD, and chromium were all elevated compared with historical range in November 2021 at well MW04-1. Monitoring well MW04-2 reported an elevated concentration of COD in June, and an elevated concentration of phosphorus in November of 2021.

Nested wells MW07 are located 35 m east-southeast of the waste mound. In general, LIP concentrations are highly variable at this location and periodically exceed background water quality concentrations. The overburden (MW07-2) and shallow bedrock (MW07-1) wells both report elevated concentrations of LIPs when compared to background water quality. Given the close proximity to the waste mound, elevated LIP concentrations are not unexpected. LIP concentrations reported from the MW07 wells are less than those reported from the leachate characterization well, which indicates that natural attenuation of leachate is occurring on-site. The water quality in 2021 was generally consistent with historical concentrations with no increasing or decreasing trends; however, many parameters were elevated in the June 2021 sampling event and returned to normal ranges in November 2021. Further, lead and nitrate (non-LIPs) were reported at concentrations greater than historical ranges at wells MW07-1 and MW07-2 (respectively) during the November 2021 sampling event.

Nested wells MW08, MW09, MW10, and MW11 are all located approximately 250 to 300 m down-gradient of the waste mound in the east to southeastern direction. These locations include wells installed in the shallow and deep bedrock aquifers. In general, the LIP concentrations from these locations are all similar to one another and parameter concentration trends are commonly reflected in each well. LIP concentrations at these locations are considered to be generally stable and are comparable to concentrations reported from the background monitoring well locations, indicating that leachate impacts have naturally attenuated within 300 m down-gradient of the waste mound. The water quality in 2021 was generally consistent with historical concentrations.



The final nested wells are MW12 which are located 105 m southeast of the waste mound and 35 m southeast of 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.

Most LIP concentrations reported from the MW12 nested wells are less than those reported at MW04 and indicates that dilution/mitigation of leachate impacts is occurring between these two locations. LIP concentrations are generally reported the highest at wells MW12-1 and MW12-2. Monitoring well MW12-3 regularly reports the lowest LIP concentrations.

The water quality in 2021 was generally consistent with historical concentrations with no increasing or decreasing trends. Several LIPs were elevated above historical ranges in November 2021, however the cause of the elevated concentrations may not be wholly due to waste related sources.

#### **4.2.4 Volatile Organic Compounds**

Volatile Organic Compound (VOC) analyses were completed on all wells at least once in 2021. The analyzed parameters varied between wells and sampling seasons (see Table 1). All VOC concentrations were reported less than detectable limits at all wells, except from MW05-1 and MW05-2 during the November sampling event when monochlorobenze was detected (at concentrations of 0.6 ug/L and 0.8 ug/L). The concentrations of monochlorobenze detected at wells MW05-1 and MW05-2 were recorded just above detectable limits (of 0.5 ug/L), and were significantly less than the ODWQS criteria of 80 ug/L. Refer to Table 8 for VOC results.

#### **4.2.5 Residential Groundwater Quality**

To ensure that residential groundwater supplies in the area of the Site are not influenced from leachate, four residential wells are sampled as part of the monitoring program.

R1 lies within the Site boundaries approximately 620 m southeast of the waste mound. The original well was a stone dug well; however, this was abandoned in the summer of 2019 and replaced with a monitoring well installed to a similar depth within the overburden.



R2 lies approximately 750 m east-southeast of the waste mound on the eastern side of 5<sup>th</sup> Line Road North Dummer.

R3 and R4 lie hydraulically up-gradient of the waste mound approximately 500 m southwest and 435 m west, respectively.

In 2021, the only parameters to exceed ODQWS at R1 were iron (June) and manganese (both). Water quality at this location is variable but similar to (or of better quality) than that reported from wells MW08, MW09, MW10 and MW11. In 2021 all parameters reported from R1 were within historical ranges, with exception of phosphorus and COD during both sampling events.

R2 and R3 were unable to be sampled in 2021 as the owners could not be contacted. Historically, these locations each reported concentrations that periodically exceeded ODWQS criteria for copper, iron, lead, manganese, and TDS.

At R4, only TDS exceeded ODWQS criteria during both sampling events in 2021, as is common for this location. Additionally, chloride concentrations have occasionally exceeded ODWQS at this location historically.

In general, water quality at the residential wells is similar to the water quality reported at the background monitoring wells and are interpreted to not be affected by the Site operations.

#### **4.2.6 Groundwater/Surface Water Interaction**

As indicated by the Ministry in their 2014 memorandum, the shallow overburden aquifer may discharge to the wetland located southeast of the landfill and therefore, the groundwater from down-gradient overburden and shallow bedrock wells should be compared against the PWQO criteria (MOEE, 1994b) to determine that water quality will meet provincially regulated surface water standards. As discussed in Section 3.2.4, vertical gradients in the area of nested wells MW08, MW09, MW10, MW11 and MW12 are upwards. 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.



For boron concentrations, the Canadian Water Quality Guideline (CWQG) objective for the Protection of Aquatic Life of 1,500 µg/L (CCME, 2007), which is based on more current toxicological information, was used in replacement of the PWQO criteria.

Embedded Table 8 provides a summary of the exceedances in 2021. Refer to Table 9 for a full comparison.

**Embedded Table 8 Summary of 2021 PWQO/CWQG Exceedances at Select Monitors**

| Monitoring Well | Parameters                          |
|-----------------|-------------------------------------|
| MW08-2          | chromium, phosphorus, pH (high)     |
| MW09-2          | phosphorus, DO (low)                |
| MW10-2          | iron, phosphorus, phenols, DO (low) |
| MW11-2          | iron, phosphorus, DO (low)          |
| MW12-1          | phosphorus, phenols                 |

MW08-2, MW09-2, MW10-2, MW11-2 and MW11-2 are all installed in the area where groundwater may discharge to surface during some times of the year. Phosphorus was reported at concentrations greater than PWQO criteria at each well. It is noted that the concentration of phosphorus was reported elevated in the background monitoring well (MW01-1). Further the concentrations of phosphorus reported from wells MW01-1 was greater than that reported from well MW05-2 in November of 2021. These data indicate that the concentrations of phosphorus reported from the wells listed in Embedded Table 8 may be at least partially due to naturally varying conditions, and not wholly from waste related sources. The only other LIP to exceed the PWQO at these locations is iron. Iron consistently exceeds PWQO at MW10-2 and MW11-2 and is consistently slightly 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 may be, in part, attributed to this natural variation.

The chromium concentration reported in June 2021 at MW08-2 is considered to be anomalous and the chromium concentration reported in November 2021 had returned to normal range and complied with the PWQO. Chromium also not a LIP.



Similar to chromium, the elevated concentration of phenols at MW10-2 is considered to be anomalous. It is expected that phenol concentrations will return to normal range in the spring of 2022, but further monitoring is required. The elevated concentration of phenols at MW12-1 were only marginally greater than the PWQO criteria. Phenols are also not a LIP.

The elevated pH at MW08-2 reported by the lab was not observed during the pH reading in the field and is considered to be anomalous to the location.

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 environmental conditions and more specifically seasonal impacts. In summer months, cold groundwater discharging into warm surface water will reduce the temperature of the receiving body, thus reducing the surface water's ability to hold oxygen.

Comparing the water quality from the shallow wells of monitors MW08, MW09, MW10, MW11 and MW12 is included herein as a general reference for potential surface water quality. The results of the assessment indicate that phosphorus is elevated at these shallow bedrock wells; however, the source of the phosphorus may not be directly related to waste influences. Other parameter exceedances of the PWQO reported from these wells are considered minor.

#### **4.2.7 Groundwater Compliance Assessment**

The hydrogeological 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 off the Site in the overburden and bedrock aquifers. Migration of leachate into deeper bedrock aquifers is likely 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 Ontario Drinking Water Standards (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 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 towards the southeast, away from the waste mound. There are no overburden monitoring wells installed near the property boundary, with exception of R1. As such R1 is referenced as the RUC compliance well for the overburden.

The following parameters exceeded the RUC criteria at R1 the overburden aquifer in 2021 (Table 4):

- iron (June), manganese

The following parameters exceeded the RUC criteria within the shallow bedrock wells in 2021 (Table 4):

- MW08-2: DOC (June)
- MW09-2: none
- MW10-2: barium, iron (November), manganese
- MW11-2: barium, iron, manganese, DOC (June)
- MW12-1: barium

The following parameters exceeded the RUC criteria in the lower bedrock aquifer in 2021 (Table 5).

- MW08-1: manganese (November), iron (November)
- MW09-1: barium, manganese
- MW10-1: barium, manganese
- MW11-1: barium, manganese
- MW12-2: iron (November), manganese
- MW12-3: manganese (June)



The concentrations of barium, manganese, iron, and DOC were reported in excess of RUC criteria in 2021 from various bedrock wells (shallow and deep).

It is noted that barium is the only health related parameter reported at concentrations greater than RUC criteria (MOE, 2006). The concentrations of barium reported from the compliance wells listed herein are stable and are regularly reported to be less than the ODWQS criteria of 1 mg/L (with exception of the occasional elevated concentration).

Manganese, iron, and DOC are not health related parameters (MOE, 2006). The concentrations of DOC are stable and less than ODWQS criteria.

The concentrations of manganese are stable and less than ODWQS criteria except at R1 where manganese periodically greatly exceeds ODWQS, but is otherwise in compliance. The concentration of most parameters reported from R1 (including LIPs) are typically less than those reported from background water quality. Iron and manganese are occasionally reported at elevated concentrations from R1. Given the absence of other LIPs being reported at elevated concentrations, the occurrences of iron and manganese are considered to be non-waste related.

In summary, parameter concentrations reported at wells MW08, MW09, MW10, MW11, MW12, and R1 are generally stable and RUC criteria exceedances have been reported for select parameters at some of these wells. Wells MW08 through MW12 are centrally located within the Site, as such further attenuation of leachate influences in the groundwater is expected prior to migration off-site. R1 is the most down-gradient the waste mound and is located at the southeastern boundary of the Site. Influences from landfill leachate were not reported at R1 in 2021.

Residential well R2 was not sampled in 2021, however this well has not reported an influence from landfill leachate in the past.

The available information suggests that the leachate plume generated from the waste mound extends southeast of the waste mound. The leachate plume decreases in strength with distance away from the waste mound, indicating that natural attenuation processes are occurring on-site. No landfill leachate influences were noted at R1 in 2021 (or at R2 in the



past). The Site has been closed since 2005 and the leachate plume is considered stable. As such, the risk of landfill leachate influence off-site groundwater users is considered low to negligible.

#### **4.2.8 Groundwater Trigger Mechanism**

Based on the assessment completed by GHD in 2020, the following details pertain to the groundwater trigger mechanism (GHD, 2021). The groundwater trigger mechanism and contingency plan was derived from historical elevated VOC concentrations at down-gradient monitoring wells MW08 to MW11. The trigger mechanism criteria were developed as followed:

- VOC concentrations should not exceed 50% of the maximum acceptable concentration (MAC).
- VOC concentrations should not exceed 75% of the interim maximum acceptable concentration (IMAC).

##### **4.2.8.1 Trigger Locations**

Down-gradient monitoring wells MW08 to MW11 have been determined to be the primary trigger sampling points to monitoring groundwater impacts.

##### **4.2.8.2 Contingency Plan**

If a trigger value is exceeded, the following contingency actions should be initiated:

1. Collect a confirmatory sample at the specific location.
2. If a second exceedance is reported, sample the down-gradient wells to confirm that impacts are not migrating off-site. If exceedances are reported in the down-gradient monitors, collect an additional confirmatory sample.
3. If the impacts are determined to be migrating off-site, then the down-gradient private residential well owners must be notified. In addition, samples must be collected at the residential wells monthly for the parameter(s) of concern.



4. The Township must provide an alternative water supply to the residents (i.e. bottled water, temporary water supply, new well, etc.) until the exceedance of the trigger value subsides.
5. If impacted groundwater is migrating off-site (greater than Guideline B-7 values, MECP Table 2 Standards, or the ODWQS), remediation measures will need to be undertaken or additional buffer lands will need to be acquired.

#### 4.2.8.3 2021 Groundwater Assessment

No VOCs were detected from wells MW08 through MW11 in 2021; therefore, the Site was in compliance with the VOC groundwater trigger mechanism and no adverse effects from VOCs are interpreted in the groundwater down-gradient of the waste mound.

### 4.3 Surface Water Quality

The 2014 to 2021 surface water quality data are in Table 10. The surface water data have been compared with background water quality and historical data, and compliance was assessed using the PWQO (MOEE, 1994b).

#### 4.3.1 Background Surface Water Quality

Background surface water quality has been collected from the S2 location since the initiation of the surface water sampling program.

Historically, the water quality at S2 has reported the following parameters with concentrations elevated above PWQO criteria: copper, total phosphorus, phenols, and occasionally elevated (basic) pH. Due to dry conditions, a surface water sample was not able to be collected at S2 in 2021; however, it is noted that cadmium and iron exceeded PWQO criteria in November of 2020.

The legitimacy of station S2 to act as a background surface water monitoring station for the Site is questionable (Figure 2). Runoff generated from the waste mound generally flows in a southeastern direction; however, it is suspected that there is a component of radial flow in the area of 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.



Station S2 is also of poor quality since it established at a general ponded area of the Site that does not receive regular, sustained surface water flow. Between 2016 and 2021 only five samples have been collected from station S2, and they have reported variable water quality. As outlined in Section 4.5, Cambium recommends that the surface water sampling program be modified to account for current conditions at the Site.

#### **4.3.2 Downstream Surface Water Quality**

The location of S1 is 695 m southeast of the waste mound and has been historically interpreted to represent downstream surface water quality at the Site.

In general, the water quality reported from station S1 is of better quality than S2. The only parameter to consistently report elevated concentrations at S1 compared with S2 is alkalinity. No parameters were to exceed PWQO at S1 in November 2021 (location was dry in June 2021).

Station S2 is interpreted to be possibly influenced by runoff from the waste mound. Further, station S2 is a poor quality sampling location which regularly reports adverse data. Also, station S1 appears to be located in a separate flow catchment, and is therefore not considered to be downstream of the waste mound. As such, it is not unexpected that S2 would report higher concentrations of LIPs when compared to S1.

As outlined in Section 4.5, Cambium recommends that the surface water sampling program be modified to add a new surface water station in the area southeast of the waste mound (near the property boundary) to monitor downstream conditions. In this case station S1 will act as the background surface water quality monitoring location.

#### **4.4 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 approximately 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%



methane by volume to 17% methane by volume (50,000 ppm to 170,000 ppm) in air (Werner Sölken, 2021). The 2021 LFG results are included in Table 10 and Appendix C. Landfill gas measurements for methane, and hydrogen sulphide were recorded at all groundwater monitoring wells during the spring and autumn samplings events in 2021.

The only monitors to exhibit detectable concentrations of methane were nested monitors MW02, and MW12 in November. There were no detectable concentrations of hydrogen sulphide at any monitoring wells in 2021.

Methane concentrations were below the lower explosive limit at all monitoring wells except MW02-2 where concentrations were measured at 17% methane by volume. Given that MW02-2 is installed within the waste mound, high concentrations of methane were not unexpected. Caution should be taken when working around the waste mound, as concentrations in the autumn were within the lower explosive limit. 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).

#### **4.5 Adequacy of Monitoring Program**

Cambium has reviewed historical data and determined that reductions to the current environmental monitoring programs are appropriate. In general, historical and recent (2021) environmental monitoring data indicate the following:

- Site related impacts were generally stable in the overburden and bedrock groundwater aquifers on-site. Furthermore, natural attenuation is occurring as LIP concentrations decrease with distance from the waste mound. Some increasing trends in parameter concentrations have been noted at the monitoring wells located immediately adjacent the waste mound, however down-gradient water quality is generally stable. Increasing trends of some LIPs could be partially due to non-waste related sources.
- Iron and phosphorus concentrations were elevated greater than PWQO criteria in some down-gradient monitoring wells. Additionally, iron exceeded the RUC criteria at monitoring



wells MW10-2, MW11-2, and MW12-2 in 2021. It is noted that the concentration of phosphorus was reported elevated in the background monitoring well MW01-1 and R1 (indicating that the source of iron may be non-waste related). Further, iron concentrations can be elevated in stagnant areas due to natural reducing conditions caused by decaying organic vegetation; this indicates that elevated down-gradient concentrations of both parameters are at least partially due to naturally varying conditions, and not wholly from waste related sources.

- No VOCs were detected at any monitoring wells in 2021, with exception of MW05-1 and MW05-2. In November 2021, these wells reported detectable concentrations of monochlorobenzene marginally greater than laboratory detection limits (and significantly less than ODWQS criteria).
- The established groundwater trigger mechanism was not enacted in 2021.
- Surface water conditions at the Site do not allow for continuous collection of representative samples at the Site. Modifications to the established surface water monitoring program are warranted.
- Landfill gas readings are stable.

The Site has been closed to active on-site waste disposal operations since 2005. It is Cambium's opinion that sufficient data has been collected for groundwaters and landfill gas to indicate that generally stable concentration ranges have been established. Continuing the established monitoring program is considered excessive as off-site influences of landfill leachate have not been detected. Cambium proposes the following amendments to the established environmental monitoring program:

1. Groundwater and landfill gas monitoring frequencies be reduced to once annually (to be completed in the spring).
2. Wells MW03-1, MW03-2, MW04-1, MW04-2, MW07-1 and MW07-2 are located immediately down-gradient the waste mound to the southeast. These wells generally report elevated concentrations of LIPs, but at lower concentrations than the leachate



characterization wells (which is expected). These wells do not provide additional information that aids in determining Site compliance. Cambium recommends that monitoring of these wells is discontinued. All other monitoring wells and residential wells should remain in the sampling program (as listed below):

- 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    • R1            • R2            • R3            • R4

3. Samples collected from monitoring wells and residential wells should be analyzed for those parameters outlined in Column 2, Schedule 5 of the Landfill Standards (in addition to arsenic, manganese, phosphorus, potassium, and hardness).
4. Water levels should be measured from all monitoring wells once per year (spring).
5. Wells MW05-1 and MW05-2 should be analyzed for benzene, 1,4 dichlorobenzene, dichloromethane, toluene, vinyl chloride and monochlorobenzene once every five years. Sampling for VOCs should be discontinued at all other wells. The established groundwater trigger mechanism for VOC analysis should be discontinued.
6. Cambium recommends that an additional surface water station be established in the area southeast of the waste mound (near the property boundary) to monitor downstream conditions. Station S2 should continue to be monitored. The usefulness of sampling S2 should be reviewed regularly. Station S1 will act as the background surface water quality monitoring location. Surface water sampling should continue to occur twice a year.
7. The surface water samples should be analyzed for those parameters outlined in Column 4, Schedule 5 of the Landfill Standards (in addition to arsenic, barium, boron, potassium, manganese, magnesium, sodium, potassium, DOC, and hardness).



8. Cambium recommends that the reporting frequency be reduced from once annually to once every two years.
9. Groundwater is interpreted to discharge to surface during some times of the year (i.e., wet periods). However, sustained, reliable surface water sampling stations have not, and likely cannot be established in the future due to drainage conditions at the Site. Surface water results should be reviewed as a general reference of Site conditions, but not for determination of Site compliance. Cambium recommends that Site compliance continue to be assessed using Ministry Guideline B-7.

The groundwater, surface water, and landfill gas monitoring and reporting will continue to be completed as detailed in Table 1 until such time as approval has been granted from the District Manager and ultimately the Director as detailed in PC of A Condition 62.



## 5.0 Site Operations

This section summarizes operations as reported by the Township for 2021. Furthermore, this section 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, 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 to access the Site. A site attendant is present during the hours of operation. The hours of operation in 2021 were:



**Summer – May 1 to October 31**

Monday, Wednesday, Friday, 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 haulage 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.

Written records of the training completed are kept on-file as required by PC of A Condition 31. The Township reported that no training was completed in 2021.

**5.3 Site Inspections**

This section discusses observations during site inspections conducted by Cambium and summarizes information provided by the Township in 2021.



In 2021, 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, the 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. Minimal evidence of blown litter was observed during site visits in 2021.

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 2021. Furthermore, the waste mound was well vegetated, which is an effective erosion control measure. No seeps were noted during any site visits conducted in 2021.

## **5.4 Complaints and Incidents**

The Township reported that there were no complaints or incidents regarding the Site during the monitoring period.

## **5.5 Monitoring Well Security**

As part of the 2021 groundwater monitoring program, all monitoring wells listed in Table 1 were inspected and complied with R.R.O. 1990 Regulation 903 - Wells. Refer to Appendix E for photographs of the monitoring wells.

It is noted that monitoring well MW13 is not surveyed. It is recommended that these nested wells be surveyed as part of the 2022 work program to accurately calculate the water level elevation data for the location.

## **5.6 Materials Summary**

The following waste types are collected at the Site; refer to Figure 3 for the collection locations of each material.

- Domestic solid, non-hazardous waste
- Blue box recycling
- Organic waste
- Scrap metal and white goods



- Freon Appliances
- Mattresses and box-springs
- Brush
- Wood waste
- Waste Electrical and Electronic Equipment (WEEE)
- Propane tanks
- Used oil

The Township did not accept mattresses and box-springs at the Site in 2021 due to the COVID-19 pandemic.

### 5.6.1 Site Usage

Site usage, as documented by the Township, is summarized in Embedded Table 9. 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**

|                            | 2021   |
|----------------------------|--------|
| Household Garbage (tonnes) | 200.51 |

In addition to the above, the Township reported that the Site accepted the following tonnages in 2021:

- Clean wood: 27.61 tonnes
- C&D materials: 27.74 tonnes



## 5.6.2 Material Diversion

Embedded Table 10 provides a summary of the materials diverted from the Site in 2021, 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                      | 21.52  |               |
| Fibres                          | 29.58  |               |
| Blue Box Subtotal               |        | 51.10         |
| MHSW (July 24 and September 11) |        | 5.45          |
| Scrap Metal and White Goods     |        | 17.32         |
| WEEE                            |        | 8.90          |
| Organics                        |        | 24.12         |
| <b>TOTAL</b>                    |        | <b>106.89</b> |
| <b>Other</b>                    |        |               |
| Tires                           |        | 412 units     |
| Freon Appliances <sup>1</sup>   |        | 67 units      |

Notes:

1. Includes white goods quantities.

In 2021, the annual Environmental Day hosted by the County was cancelled due to the COVID-19 pandemic. Typically, this annual event would allow residents to dispose of the following items: polystyrene, media and car seats, hard cover books, paper shredding, carpet recycling, and durable plastics.

Embedded Table 11 summarizes additional waste the County manages and reports as diverted from within the Township in 2021.



### **Embedded Table 11 Summary of Divertible Materials - Private and Curbside**

|  |               |
|--|---------------|
| Curbside Recyclables Pick-up (entire Township) | 498.18 tonnes |
| Depot – Leaf and Yard Waste (Warsaw)           | 73.23 tonnes  |
| Curbside Leaf and Yard                         | 15.53 tonnes  |
| Campground Recyclables                         | 3.68 tonnes   |

**Notes:**

Curbside and Campground recyclable materials are hauled directly to 390 Pido Road  
Curbside Leaf and Yard and Organics materials are hauled to County's Harper Road  
Composting Facility

Leaf and Yard Waste Collected at the Warsaw Public Works Yard from Spring to Autumn

### **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 2021.

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

### **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 2021. 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 2021 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 southeast.
- Although leachate impacts were evident in the down-gradient monitors, the plume decreased in concentration (strength) at greater distances from the waste footprint. Upwards hydraulic gradients in the areas east of the waste mound restrict the downwards migration of leachate into deeper aquifer systems.
- Non-site related sources were, at least in part, contributing to the elevated iron and phosphorus concentrations in the down-gradient monitors, such as saturated organic soils and decaying organic vegetation.
- Groundwater samples from MW08, MW09, MW10, MW11, MW12, and R1 were used to complete the RUC assessment. Given the RUC exceedances of various parameters were not wholly attributed to Site impacts, the Site complied with Guideline B-7 (MOEE, 1994a) in 2021.
- Historical results have indicated sporadic detections of monochlorobenzene at MW05-1. In November of 2021 monochlorobenzene was detected at MW05-1 and MW05-2 at concentrations marginally greater than laboratory detection limits (and significantly less than ODWQS criteria). The concentration of all other volatile organic compounds were reported below detectable limits in 2021 at all other wells.
- All elevated LIP parameters have decreased (except alkalinity) by the location S1 and it is interpreted that adverse impacts to surface water from the Site have attenuated by the down-gradient Site boundary. S2 is most likely impacted by groundwater discharging into the nearby wetlands; however, due to the persistent dry nature of this location, samples were not able to be collected in 2021.



- About 200 tonnes of waste accepted at the Site in 2021 and transferred to the Peterborough Waste Management Facility.
- About 60.00 tonnes of blue box recycling and WEEE were diverted from the Site. Furthermore, 5.45 tonnes of MHSW, 17.32 tonnes of scrap metal, and 24.12 tonnes of organics were collected at the Site.
- The Township managed the Site in compliance with the PC of A.

Based on the results of the 2021 monitoring program, Cambium recommends the following:

1. Groundwater and landfill gas monitoring frequencies be reduced to once annually (to be completed in the spring).
2. Wells MW03-1, MW03-2, MW04-1, MW04-2, MW07-1 and MW07-2 are located immediately down-gradient the waste mound to the southeast. These wells generally report elevated concentrations of LIPs, but at lower concentrations than the leachate characterization wells (which is expected). These wells do not provide additional information that aids in determining Site compliance. Cambium recommends that monitoring of these wells is discontinued. All other monitoring wells and residential wells should remain in the sampling program (as listed below):

- 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    • R1            • R2            • R3            • R4

3. Samples collected from monitoring wells and residential wells should be analyzed for those parameters outlined in Column 2, Schedule 5 of the Landfill Standards (in addition to arsenic, manganese, phosphorus, potassium, and hardness).
4. Water levels should be measured from all monitoring wells once per year (spring)



5. Wells MW05-1 and MW05-2 should be analyzed for benzene, 1,4 dichlorobenzene, dichloromethane, toluene, vinyl chloride and monochlorobenzene once every five years. Sampling for VOCs should be discontinued at all other wells. The established groundwater trigger mechanism for VOC analysis should be discontinued.
6. Cambium recommends that an additional surface water station be established in the area southeast of the waste mound (near the property boundary) to monitor downstream conditions. Station S2 should continue to be monitored. The usefulness of sampling S2 should be reviewed regularly. Station S1 will act as the background surface water quality monitoring location. Surface water sampling should continue to occur twice a year.
7. The surface water samples should be analyzed for those parameters outlined in Column 4, Schedule 5 of the Landfill Standards (in addition to arsenic, barium, boron, potassium, manganese, magnesium, sodium, potassium, DOC, and hardness).
8. Cambium recommends that the reporting frequency be reduced from once annually to once every two years.
9. Groundwater is interpreted to discharge to surface during some times of the year (i.e., wet periods). However, sustained, reliable surface water sampling stations have not, and likely cannot be established in the future due to drainage conditions at the Site. Surface water results should be reviewed as a general reference of Site conditions, but not for determination of Site compliance. Cambium recommends that Site compliance continue to be assessed using Ministry Guideline B-7.



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

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

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## Appended Figures

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Fully accessible appended figures are available upon request.

**2021 ANNUAL REPORT  
HALL'S GLEN LANDFILL**  
THE CORPORATION OF THE  
TOWNSHIP OF DOURO - DUMMER  
1951 County Road 6  
Hall's Glen, Ontario

**LEGEND**

-  Highway
-  Major Road
-  Railroad
-  Watercourse
-  Water Area
-  Provincial Park
-  Wooded Area
-  Built Up Area
-  Lower Tier Municipality

Notes:  
- Base mapping features are © Queen's Printer of Ontario, 2019 (this does not constitute an endorsement by the Ministry of Natural Resources or the Ontario Government).  
- Distances on this plan are in metres and can be converted to feet by dividing by 0.3048.  
- Cambium Inc. makes every effort to ensure this map is free from errors but cannot be held responsible for any damages due to error or omissions. This map should not be used for navigation or legal purposes. It is intended for general reference use only.



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**REGIONAL LOCATION PLAN**

|              |           |             |                       |
|--------------|-----------|-------------|-----------------------|
| Project No.: | 12987-002 | Date:       | March 2022            |
| Scale:       | 1:300,000 | Rev.:       |                       |
| Created by:  | TLC       | Projection: | NAD 1983 UTM Zone 17N |
| Checked by:  | CM        | Figure:     | <b>1</b>              |



O:\GIS\MapDocs\12987-002\TDD - Hall's Glen\2022-01-05 FIG 1 - Regional Location Plan.mxd

**LEGEND**

-  Surface Water Location
-  Residential Well
-  Monitoring Well
-  Major Road
-  Minor Road
-  Contour 5m Interval (Major)
-  Contour 5m Interval (Minor)
-  Lot / Concession
-  Unevaluated Wetlands
-  Water Area
-  Wooded Area
-  Landfill Footprint
-  Site (approximately 48.5 ha.)

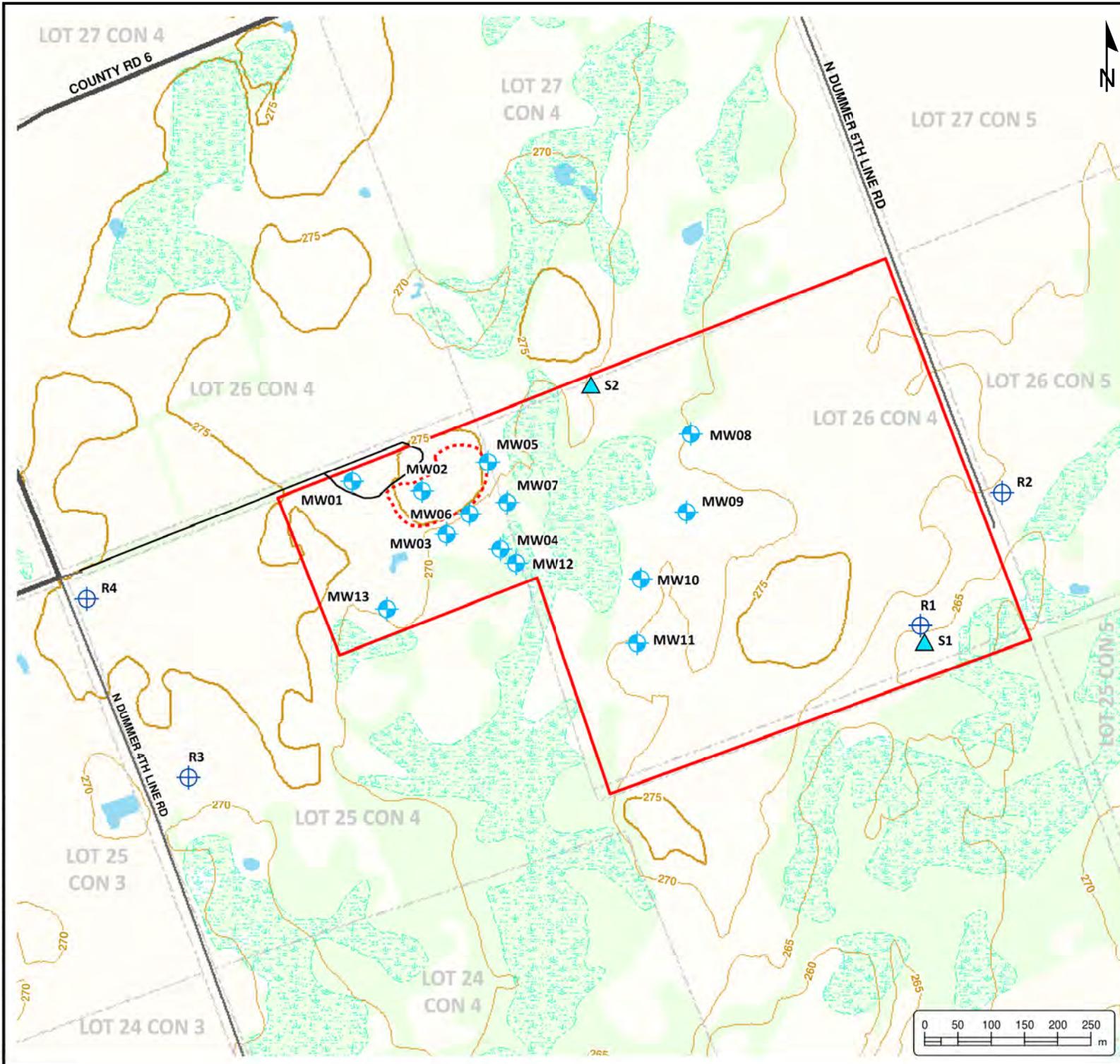
**Notes:**  
 - Base mapping features are © Queen's Printer of Ontario, 2019 (this does not constitute an endorsement by the Ministry of Natural Resources or the Ontario Government).  
 - Distances on this plan are in metres and can be converted to feet by dividing by 0.3048.  
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**SAMPLE LOCATION PLAN**

|              |           |             |            |
|--------------|-----------|-------------|------------|
| Project No.: | 12987-002 | Date:       | March 2022 |
| Scale:       | 1:8,000   | Rev.:       |            |
| Created by:  | TLC       | Checked by: | CM         |
| Figure:      | <b>2</b>  |             |            |



**LEGEND**

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

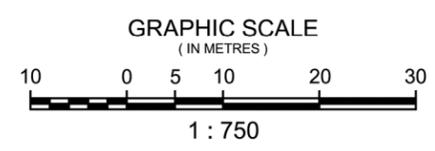


Notes:  
 1. Distances on this plan are in metres and can be converted to feet by dividing by 0.3048.

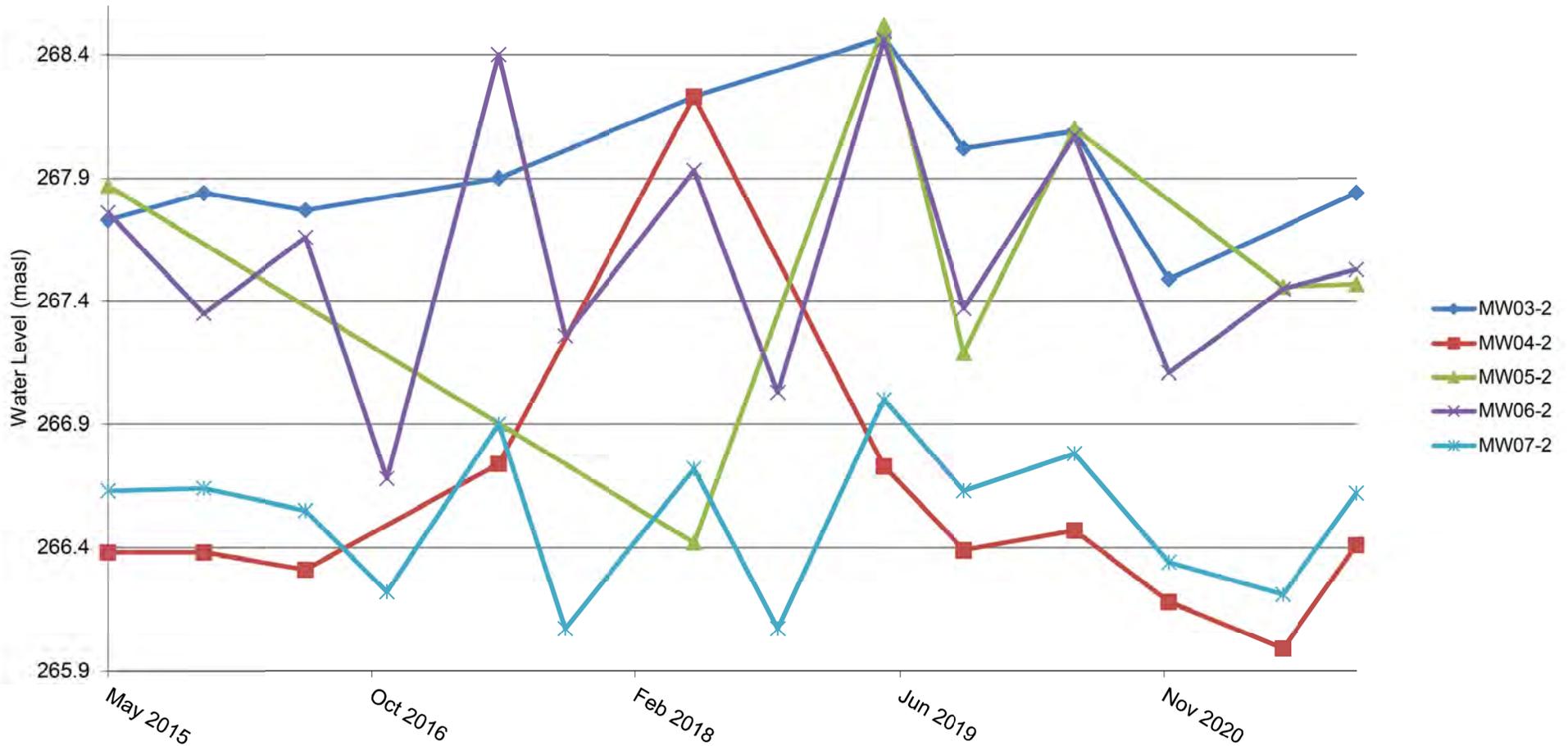


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|                            |                                   |
|----------------------------|-----------------------------------|
| <b>EXISTING CONDITIONS</b> |                                   |
| Project No.: 12987-002     | Date: March 2022                  |
| Horizontal Scale: 1:750    | Rev.:<br>Projection: UTM Zone 17N |
| Drawn By: TLC              | Checked By: CM                    |
| Figure: 3                  |                                   |



P:\12000 to 12999\12987-002 TDD - Hall's Glen\Graphics\Drawings\CAD\2022-02-07 Hall's Glen 2021 AMFL.dwg

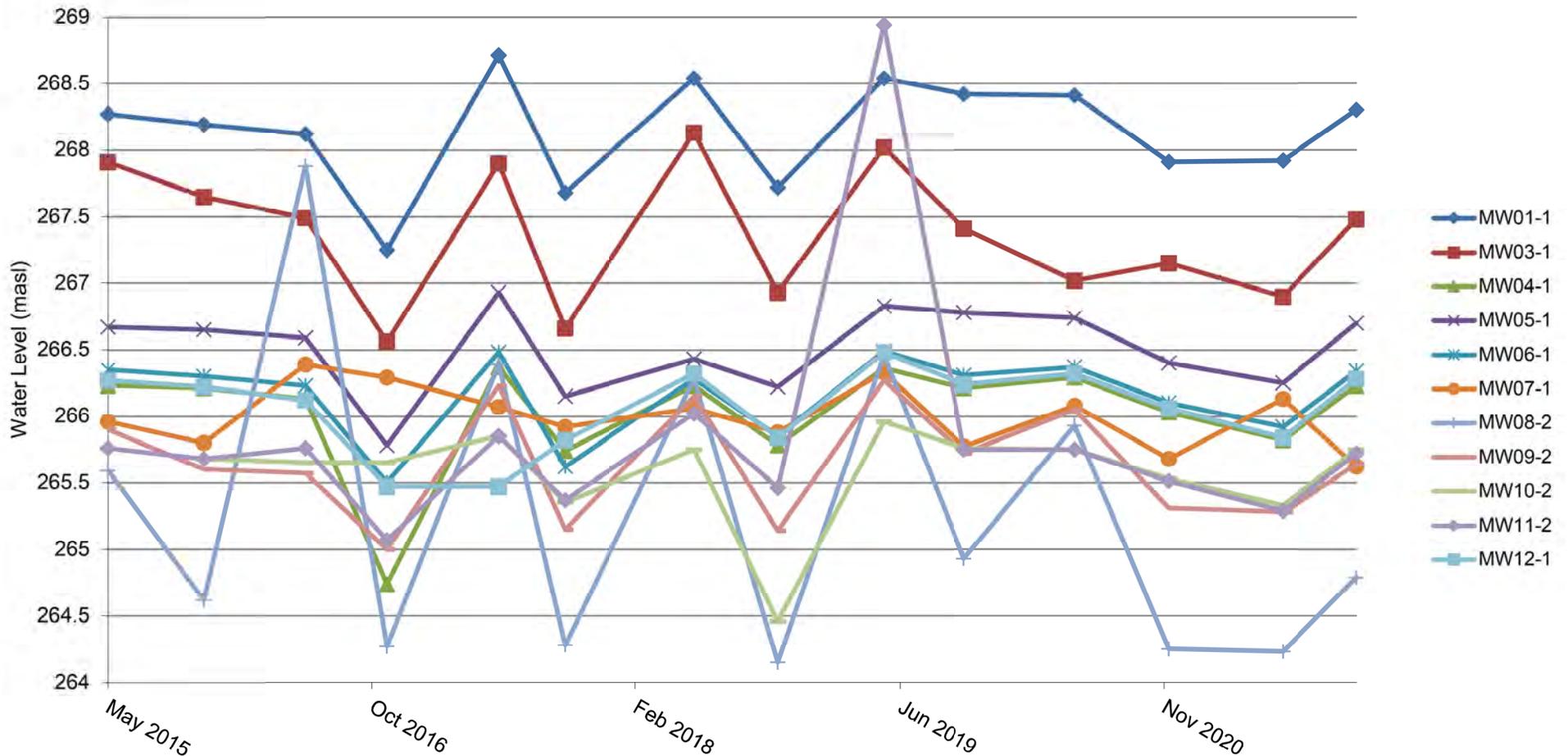


### Groundwater Elevations (Overburden)

Hall's Glen Waste Transfer Station  
 1951 County Road 6, Hall's Glen  
 The Corporation of the Township of Douro-Dummer

|                  |                    |
|------------------|--------------------|
| Figure:          | 4                  |
| Date:            | 20-Apr-22          |
| Project Manager: | Cameron MacDougall |
| Project No.:     | 12987-002          |



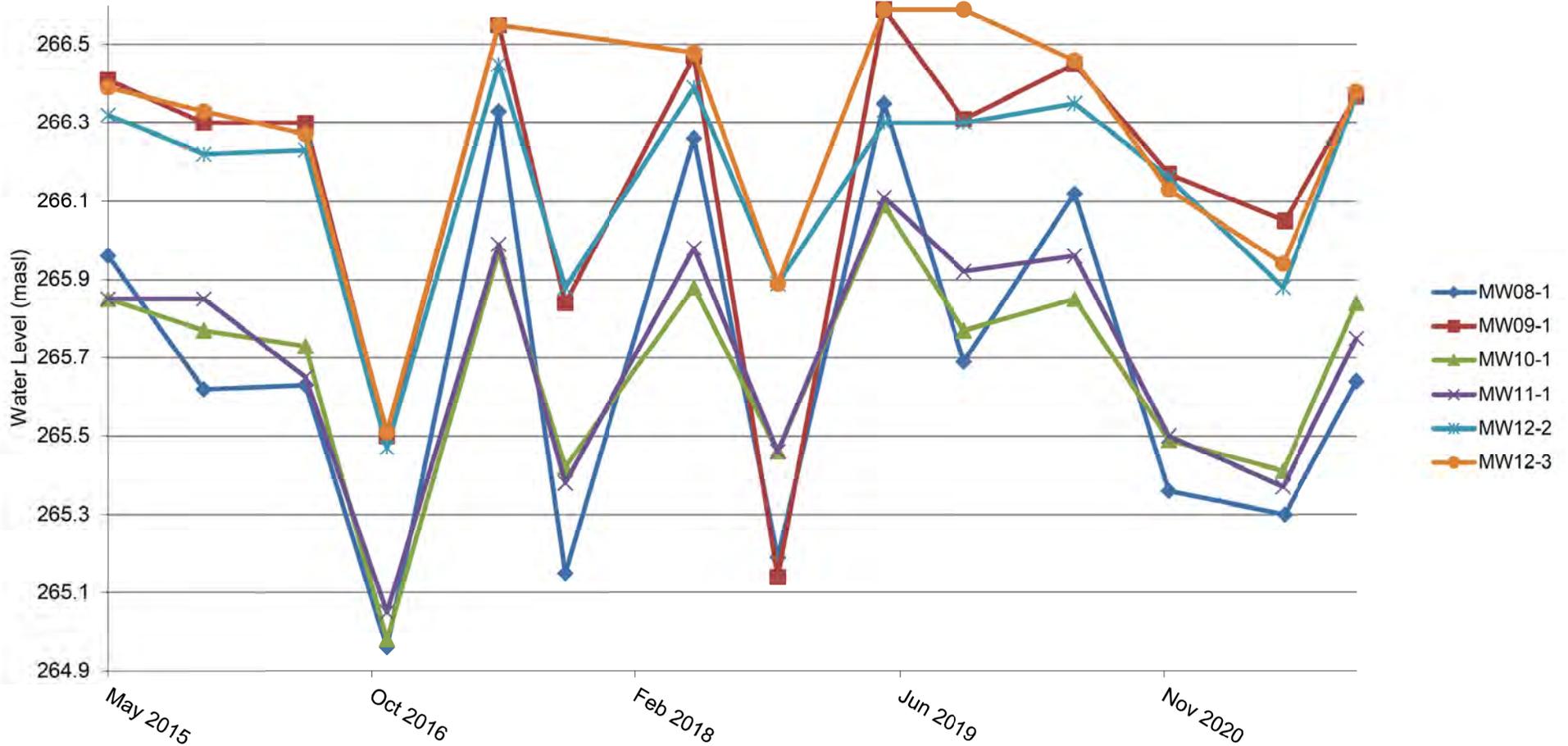


### Groundwater Elevations (Shallow Bedrock)

Hall's Glen Waste Transfer Station  
 1951 County Road 6, Hall's Glen  
 The Corporation of the Township of Douro-Dummer

|                  |                    |
|------------------|--------------------|
| Figure:          | 5                  |
| Date:            | 20-Apr-22          |
| Project Manager: | Cameron MacDougall |
| Project No.:     | 12987-002          |





### Groundwater Elevations (Deep Bedrock)

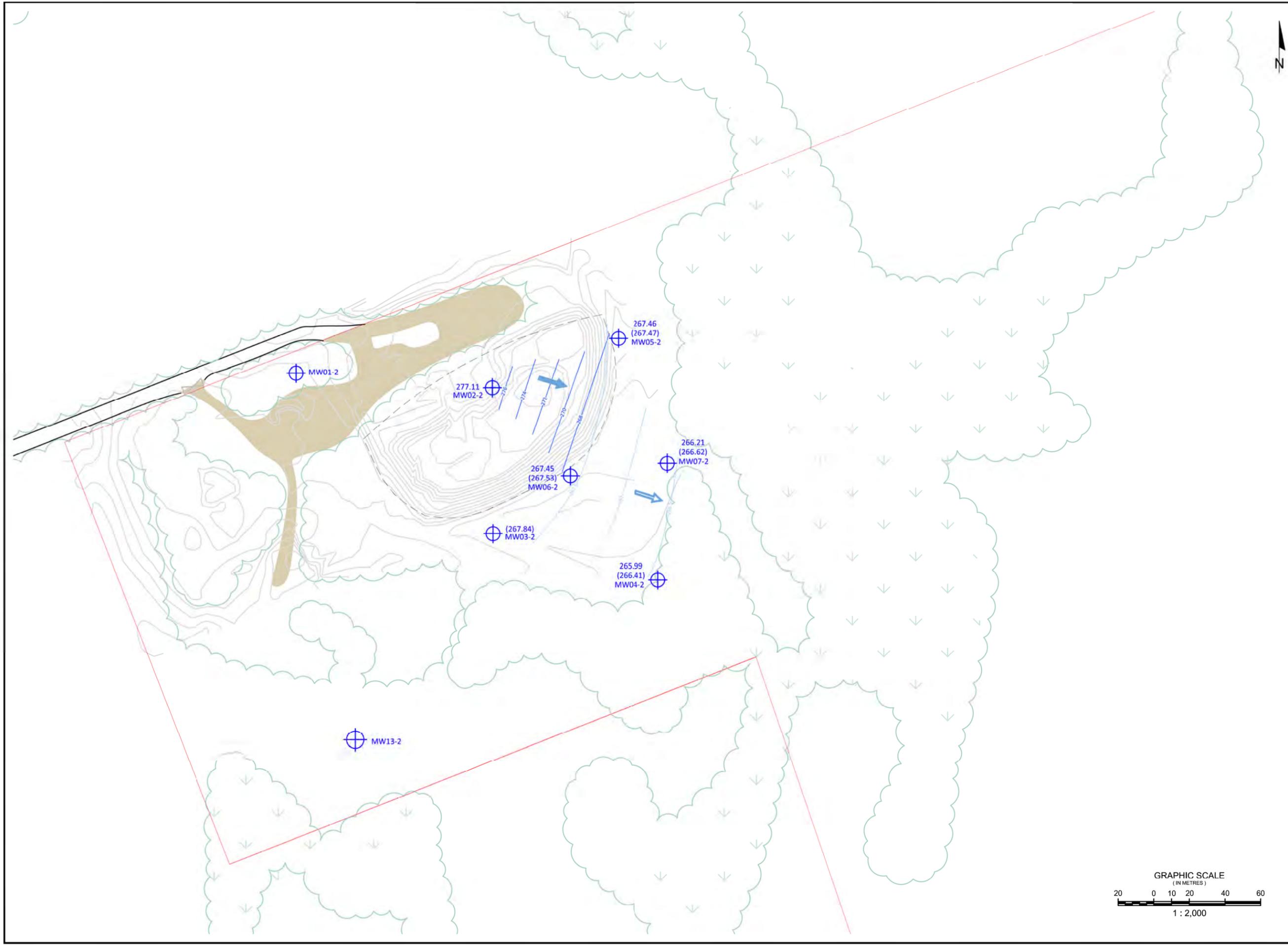
Hall's Glen Waste Transfer Station  
 1951 County Road 6, Hall's Glen  
 The Corporation of the Township of Douro-Dummer

|                  |                    |
|------------------|--------------------|
| Figure:          | <b>6</b>           |
| Date:            | 20-Apr-22          |
| Project Manager: | Cameron MacDougall |
| Project No.:     | 12987-002          |



LEGEND

-  Overburden Monitoring Well
-  266.25 Groundwater Elevation June 24 and 28, 2021
-  (266.70) Groundwater Elevation November 11, 2021
-  Groundwater Contour June 24 and 28, 2021
-  Groundwater Contour November 11, 2021
-  Topographic Contour
-  Site (approximate)
-  Approximate Landfill Footprint (1.3 ha)
-  Approximate Treeline
-  Wetland Area
-  Groundwater Flow Direction June 24 and 28, 2021
-  Groundwater Flow Direction November 11, 2021



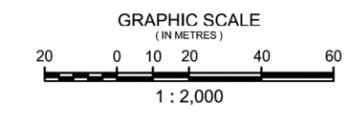
Notes:  
 1. Distances on this plan are in metres and can be converted to feet by dividing by 0.3048.



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OVERBURDEN GROUNDWATER CONFIGURATION

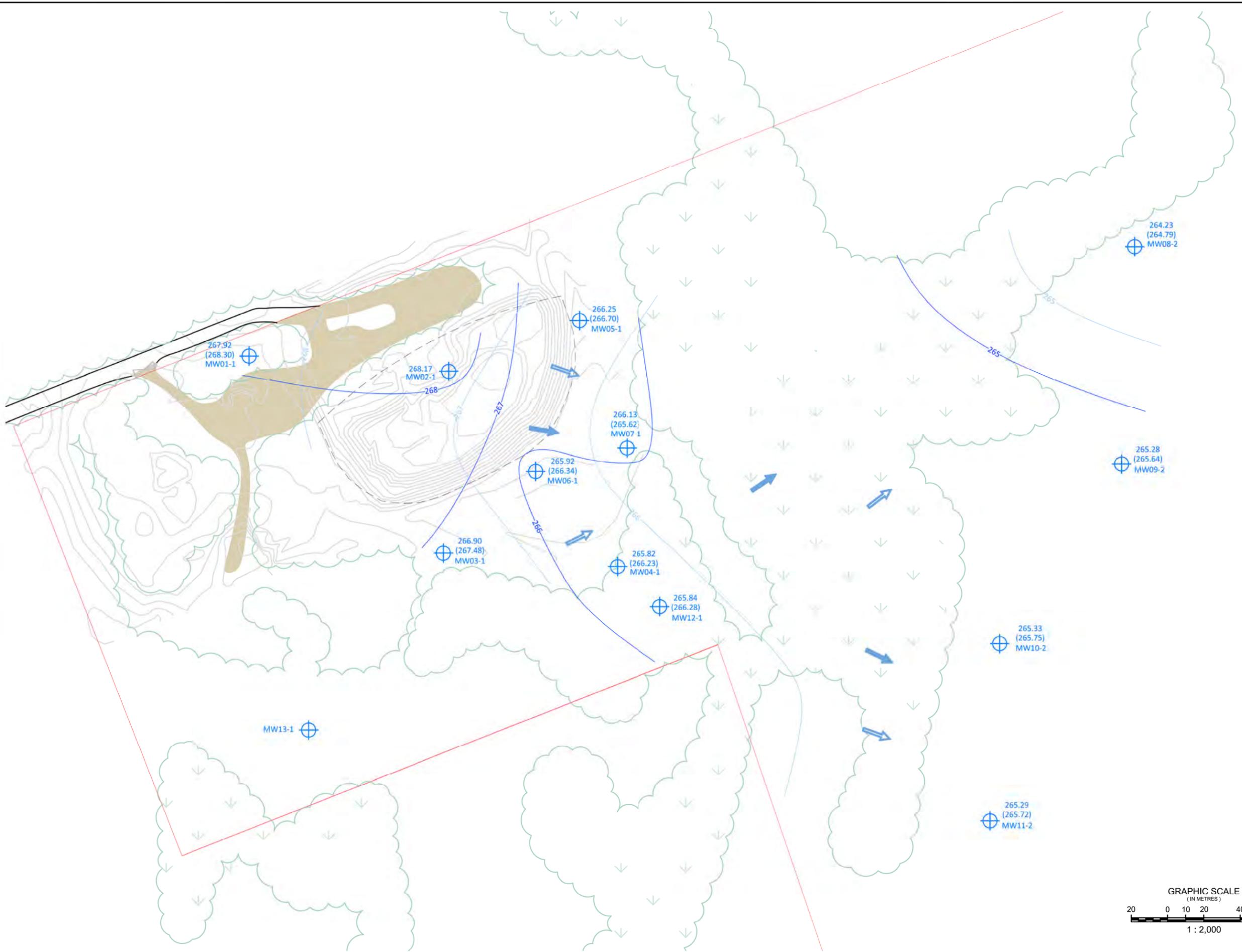
|                   |           |             |              |
|-------------------|-----------|-------------|--------------|
| Project No.:      | 12987-002 | Date:       | March 2022   |
| Horizontal Scale: | 1:2,000   | Rev.:       |              |
| Drawn By:         | TLC       | Projection: | UTM Zone 17N |
| Checked By:       | CM        | Figure:     | 7            |





LEGEND

-  Shallow Bedrock Monitoring Well
-  266.25 Groundwater Elevation June 24 and 28, 2021
-  (266.70) Groundwater Elevation November 11, 2021
-  Groundwater Contour June 24 and 28, 2021
-  Groundwater Contour November 11, 2021
-  Topographic Contour
-  Site (approximate)
-  Approximate Landfill Footprint (1.3 ha)
-  Approximate Treeline
-  Wetland Area
-  Groundwater Flow Direction June 24 and 28, 2021
-  Groundwater Flow Direction November 11, 2021

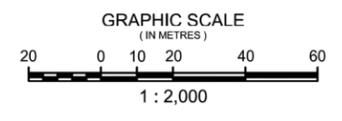


Notes:  
 1. Distances on this plan are in metres and can be converted to feet by dividing by 0.3048.

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SHALLOW BEDROCK  
 GROUNDWATER  
 CONFIGURATION

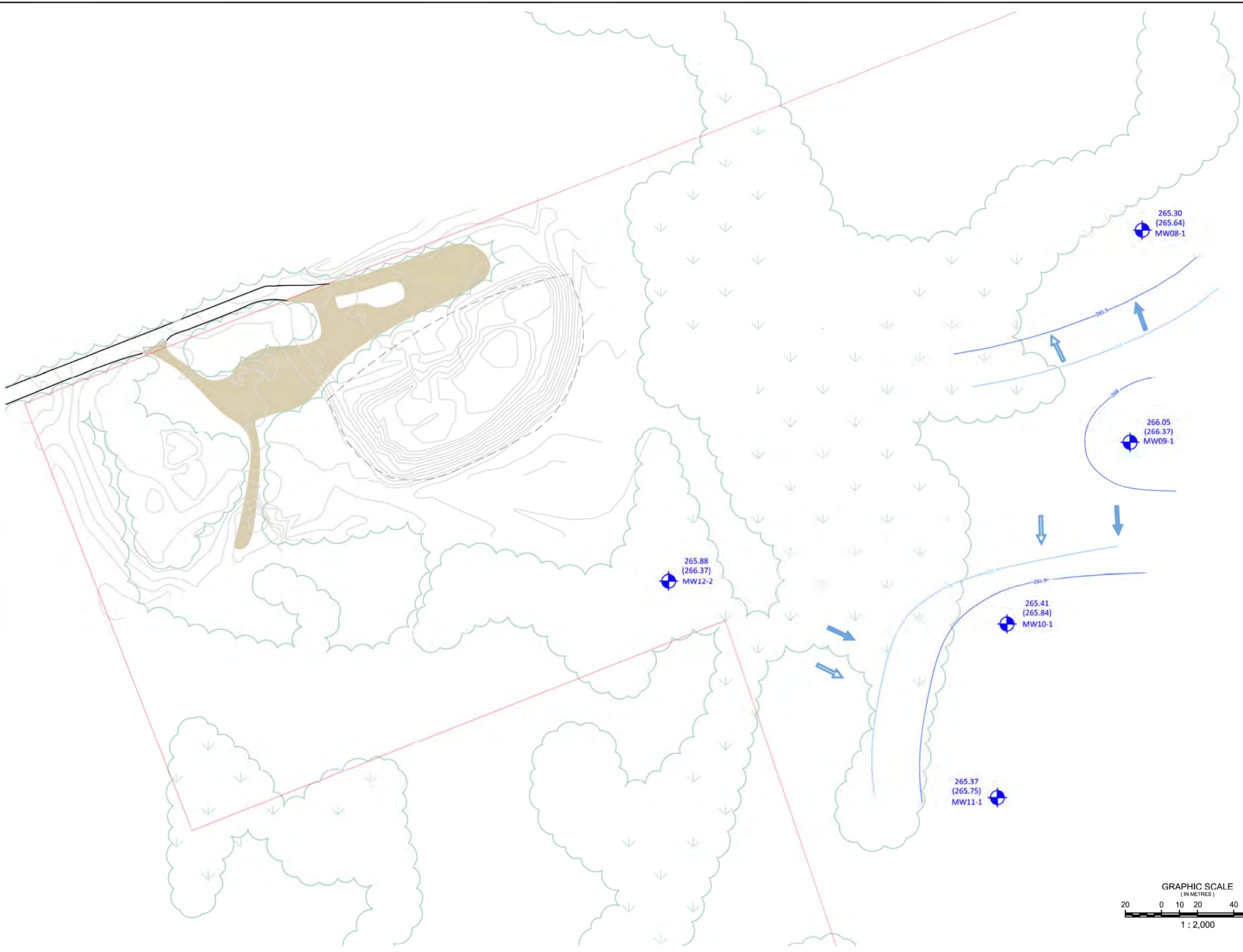
|                           |                    |
|---------------------------|--------------------|
| Project No.: 12987-002    | Date: March 2022   |
| Horizontal Scale: 1:2,000 | Rev.: UTM Zone 17N |
| Drawn By: TLC             | Checked By: CM     |
| Figure: 8                 |                    |





LEGEND

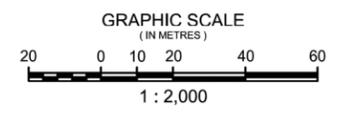
-  Deep Bedrock Monitoring Well
-  Groundwater Elevation June 24 and 28, 2021
-  Groundwater Elevation November 11, 2021
-  Groundwater Contour June 24 and 28, 2021
-  Groundwater Contour November 11, 2021
-  Topographic Contour
-  Site (approximate)
-  Approximate Landfill Footprint (1.3 ha)
-  Approximate Treeline
-  Wetland Area
-  Groundwater Flow Direction June 24 and 28, 2021
-  Groundwater Flow Direction November 11, 2021



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

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|   |                          |
|---|--------------------------|
| <b>DEEP BEDROCK<br/>GROUNDWATER<br/>CONFIGURATION</b> |                          |
| Project No.: 12987-002                                | Date: March 2022         |
| Horizontal Scale: 1:2,000                             | Projection: UTM Zone 17N |
| Drawn By: TLC   | Checked By: CM           |
| Figure: 9   |                          |





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## Appended Tables

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Fully accessible appended tables are available upon request.



## Table Notes

RDL - 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 beryllium, cadmium, copper, and lead depend on hardness

PWQO for aluminum depends on pH and background concentration

NV - No Value

"-" Parameter not analyzed or measured

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



**Table 1 Environmental Monitoring Program**

| Location   | Task  | Frequency                        | Analytical Parameters   |
|--|---|----------------------------------|---|
| <b>Groundwater</b>   |   |                                  |   |
| MW01-2, MW02-2,<br>MW03-2, MW04-2,<br>MW05-2, MW06-2,<br>MW07-2, MW08-2,<br>MW09-2, MW10-2,<br>MW11-2, MW12-1,<br>MW13-2<br>R1, R2, R3, R4<br>2 QA/QC Duplicates | <ul style="list-style-type: none"> <li>• Measure groundwater levels</li> <li>• Groundwater sampling</li> <li>• Field measurements (pH, temperature, ORP, dissolved oxygen, conductivity)</li> </ul> | Twice Annually (Spring & Autumn) | alkalinity, ammonia, arsenic, barium, boron, cadmium, calcium, chloride, chromium, conductivity, copper, iron, lead, magnesium, manganese, mercury, nitrite, nitrate, TKN, pH, total phosphorus, potassium, sodium, TDS, sulphate, zinc, COD, DOC, phenols, hardness<br><br>Benzene, i,4- Dichlorobenzene, Dichloromethane, Toluene, Vinyl Chloride |
| MW01-1, MW02-1,<br>MW03-1, MW04-1,<br>MW05-1, MW06-1,<br>MW07-1, MW08-1,<br>MW09-1, MW10-1,<br>MW11-1, MW12-2,<br>MW12-3, MW13-1<br>1 QA/QC Duplicate            | <ul style="list-style-type: none"> <li>• Measure groundwater levels</li> <li>• Groundwater sampling</li> <li>• Field measurements (pH, temperature, ORP, conductivity)</li> </ul>                   | Once Annually (Spring)           | alkalinity, ammonia, arsenic, barium, boron, cadmium, calcium, chloride, chromium, conductivity, copper, iron, lead, magnesium, manganese, mercury, nitrite, nitrate, TKN, pH, total phosphorus, potassium, sodium, TDS, sulphate, zinc, COD, DOC, phenols, hardness<br><br>Benzene, i,4- Dichlorobenzene, Dichloromethane, Toluene, Vinyl Chloride |
| MW01-1, MW02-1,<br>MW03-1, MW04-1,<br>MW05-1, MW06-1,<br>MW07-1, MW08-1,<br>MW09-1, MW10-1,<br>MW11-1, MW12-2,<br>MW12-3, MW13-1<br>1 QA/QC Duplicate            | <ul style="list-style-type: none"> <li>• Measure groundwater levels</li> <li>• Groundwater sampling</li> <li>• Field measurements (pH, temperature, ORP, conductivity)</li> </ul>                   | Once Annually (Autumn)           | alkalinity, ammonia, chloride, arsenic, barium, boron, cadmium, calcium, chloride, chromium, conductivity, copper, iron, lead, magnesium, manganese, mercury, nitrate, pH, phosphorus, potassium, sodium, TDS, sulphate, COD, DOC, phenols, zinc, hardness  |
| MW03-1, MW03-2,<br>MW04-1, MW04-2,<br>MW05-1, MW05-2,<br>MW06-1, MW06-2,<br>MW07-1, MW07-2,<br>MW11-1, MW11-2<br>R1, R2, R3, R4<br>2 QA/QC Duplicates            | <ul style="list-style-type: none"> <li>• VOCs</li> </ul>  | Twice Annually (Spring & Autumn) | Bromodichloromethane, Bromoform<br><br>Dibromochloromethane, Bromomethane, Carbon tetrachloride, Chloroethane, Chloroform, Chloromethane, 1,2-Dichlorobenzene, 1,3-Dichlorobenzene, 1,4-Dichlorobenzene, 1,1-Dichloroethane, 1,2-Dichloroethane,  |



|                             |  |                                  |   |
|-----------------------------|--|----------------------------------|---|
|                             |  |                                  | 1,1-Dichloroethylene, 1,2-Dichloropropane, trans-1,2-Dichloroethene, cis-1,2-Dichloroethene, cis-1,3-Dichloropropene, trans-1,3-Dichloropropene, Ethylenedibromide, Dichloromethane, Monochlorobenzene, Styrene, 1,1,2,2-Tetrachloroethane, Tetrachloroethene, Trichloroethylene, Vinyl Chloride, Trichlorofluoromethane, 1,1,1-Trichloroethane, 1,1,2-Trichloroethane, 1,1,1,2-Tetrachloroethane |
| All Wells                   | <ul style="list-style-type: none"> <li>Landfill Gas Measurements</li> </ul>  | Twice Annually (Spring & Autumn) | CH4 and H2S   |
| <b>Surface Water</b>        |  |                                  |   |
| S1, S2<br>1 QA/QC Duplicate | <ul style="list-style-type: none"> <li>Surface water sampling</li> <li>Flow estimates</li> <li>Field measurements (pH, temperature, conductivity, dissolved oxygen)</li> </ul> | Twice Annually (Spring & Autumn) | alkalinity, ammonia, arsenic, barium, boron, cadmium, chloride, chromium, conductivity, copper, iron, lead, dissolved mercury, nitrite, nitrate, TKN, pH, total phosphorus, TSS, TDS, sulphate, zinc, BOD, COD, phenols, hardness, unionized ammonia (field)  |

\*Dissolved mercury to be lab filtered with a 0.45 micron filter for all surface water samples.



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    | Well Diameter (mm) | Water Level Elevation (mASL) |           |           |
|---------|---------------|--------|-----------------------------|----------------------|-----------------------|-------------------|----------------|------------------|--------------------|------------------------------|-----------|-----------|
|         | mN            | mE     |                             |                      |                       |                   |                |                  |                    | 22-May-15                    | 19-Nov-15 | 31-May-16 |
| MW01-1  | 4933341       | 728326 | 271.24                      | 270.42               | 0.82                  | 7.65              | 6.83           | Limestone/Shale  | 50.8               | 268.27                       | 268.19    | 268.12    |
| MW01-2  |               |        | 271.24                      | 270.42               | 0.82                  | 2.74              | 1.92           | Clay/Gravel      | 38.1               | dry                          | dry       | dry       |
| MW02-1  | 4933327       | 728431 | 282.49                      | 282.27               | 0.22                  | 15.33             | 15.11          | Limestone/Shale  | 50.8               | dry                          | na        | dry       |
| MW02-2  |               |        | 282.53                      | 282.32               | 0.21                  | 5.45              | 5.24           | Sand/Gravel      | 50.8               | dry                          | dry       | dry       |
| MW03-1  | 4933262       | 728468 | 269.23                      | 268.57               | 0.66                  | 5.51              | 4.85           | Limestone        | 50.8               | 267.91                       | 267.65    | 267.49    |
| MW03-2  |               |        | 269.23                      | 268.74               | 0.49                  | 1.72              | 1.23           | Clay/Sand/Gravel | 38.1               | 267.73                       | 267.84    | 267.77    |
| MW04-1  | 4933239       | 728549 | 268.28                      | 267.36               | 0.92                  | 5.62              | 4.70           | Limestone/Shale  | 50.8               | 266.23                       | 266.21    | 266.13    |
| MW04-2  |               |        | 268.28                      | 267.43               | 0.85                  | 2.99              | 2.14           | Gravel/Limestone | 38.1               | 266.38                       | 266.38    | 266.31    |
| MW05-1  | 4933370       | 728530 | 271.35                      | -                    | Below Grade           | 7.68              | 7.68           | Limestone        | 50.8               | 266.67                       | 266.65    | 266.59    |
| MW05-2  |               |        | 271.35                      | 271.13               | 0.22                  | 4.38              | 4.16           | Clay/Sand/Gravel | 38.1               | 267.87                       | dry       | dry       |
| MW06-1  | 4933292       | 728502 | 271.01                      | 270.40               | 0.61                  | 7.85              | 7.24           | Limestone/Shale  | 50.8               | 266.35                       | 266.30    | 266.23    |
| MW06-2  |               |        | 271.01                      | 270.41               | 0.60                  | 5.13              | 4.53           | Sand/Gravel      | 38.1               | 267.76                       | 267.35    | 267.66    |
| MW07-1  | 4933309       | 728559 | 269.03                      | 268.24               | 0.79                  | 6.98              | 6.19           | Limestone        | 50.8               | 265.96                       | 265.80    | 266.39    |
| MW07-2  |               |        | 269.03                      | 268.29               | 0.74                  | 3.37              | 2.63           | Limestone        | 50.8               | 266.63                       | 266.64    | 266.55    |
| MW08-1  | 4933413       | 728836 | 270.74                      | 270.05               | 0.69                  | 11.31             | 10.62          | Limestone        | 50.8               | 265.96                       | 265.62    | 265.63    |
| MW08-2  |               |        | 270.74                      | 270.04               | 0.70                  | 7.70              | 7.00           | Limestone        | 50.8               | 265.59                       | 264.62    | 267.88    |
| MW09-1  | 4933295       | 728829 | 267.25                      | 266.57               | 0.68                  | 9.92              | 9.24           | Limestone        | 50.8               | 266.41                       | 266.30    | 266.30    |
| MW09-2  |               |        | 267.25                      | 266.57               | 0.68                  | 6.16              | 5.48           | Limestone        | 50.8               | 265.90                       | 265.60    | 265.57    |
| MW10-1  | 4933194       | 728760 | 267.97                      | 267.23               | 0.74                  | 9.89              | 9.15           | Limestone        | 50.8               | 265.85                       | 265.77    | 265.73    |
| MW10-2  |               |        | 267.97                      | 267.24               | 0.73                  | 6.65              | 5.92           | Limestone        | 50.8               | 265.76                       | 265.68    | 265.65    |
| MW11-1  | 4933098       | 728755 | 268.50                      | 267.80               | 0.70                  | 9.96              | 9.26           | Limestone        | 50.8               | 265.85                       | 265.85    | 265.65    |
| MW11-2  |               |        | 268.50                      | 267.78               | 0.72                  | 6.74              | 6.02           | Limestone        | 50.8               | 265.76                       | 265.68    | 265.76    |
| MW12-1  | 4933218       | 728573 | 268.00                      | 267.11               | 0.89                  | 6.84              | 5.95           | Limestone        | 50.8               | 266.27                       | 266.22    | 266.12    |
| MW12-2  |               |        | 268.00                      | 267.09               | 0.91                  | 10.21             | 9.30           | Limestone        | 50.8               | 266.32                       | 266.22    | 266.23    |
| MW12-3  |               |        | 268.00                      | 267.10               | 0.90                  | 13.09             | 12.19          | Limestone        | 50.8               | 266.39                       | 266.33    | 266.27    |
| MW13-1  | 4933149       | 728378 |                             |                      | 0.86                  | 6.04              | 5.18           | Limestone        | 50.8               | -                            | -         | -         |
| MW13-2  |               |        |                             |                      | 0.86                  | 3.76              | 2.90           | Gravel/Limestone | 50.8               | -                            | -         | -         |

Notes:

1. All measurements are reported relative to an assumed elevation of the site benchmark.
2. MW13 has not been surveyed and therefore water level elevations could not be determined



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    | Well Diameter (mm) | Water Level Elevation (mASL) |           |           |
|---------|---------------|--------|-----------------------------|----------------------|-----------------------|-------------------|----------------|------------------|--------------------|------------------------------|-----------|-----------|
|         | mN            | mE     |                             |                      |                       |                   |                |                  |                    | 01-Nov-16                    | 31-May-17 | 04-Oct-17 |
| MW01-1  | 4933341       | 728326 | 271.24                      | 270.42               | 0.82                  | 7.65              | 6.83           | Limestone/Shale  | 50.8               | 267.25                       | 268.71    | 267.68    |
| MW01-2  |               |        | 271.24                      | 270.42               | 0.82                  | 2.74              | 1.92           | Clay/Gravel      | 38.1               | dry                          | dry       | dry       |
| MW02-1  | 4933327       | 728431 | 282.49                      | 282.27               | 0.22                  | 15.33             | 15.11          | Limestone/Shale  | 50.8               | dry                          | dry       | dry       |
| MW02-2  |               |        | 282.53                      | 282.32               | 0.21                  | 5.45              | 5.24           | Sand/Gravel      | 50.8               | dry                          | dry       | dry       |
| MW03-1  | 4933262       | 728468 | 269.23                      | 268.57               | 0.66                  | 5.51              | 4.85           | Limestone        | 50.8               | 266.56                       | 267.90    | 266.66    |
| MW03-2  |               |        | 269.23                      | 268.74               | 0.49                  | 1.72              | 1.23           | Clay/Sand/Gravel | 38.1               | dry                          | 267.90    | dry       |
| MW04-1  | 4933239       | 728549 | 268.28                      | 267.36               | 0.92                  | 5.62              | 4.70           | Limestone/Shale  | 50.8               | 264.74                       | 266.37    | 265.74    |
| MW04-2  |               |        | 268.28                      | 267.43               | 0.85                  | 2.99              | 2.14           | Gravel/Limestone | 38.1               | dry                          | 266.74    | dry       |
| MW05-1  | 4933370       | 728530 | 271.35                      | -                    | Below Grade           | 7.68              | 7.68           | Limestone        | 50.8               | 265.78                       | 266.93    | 266.15    |
| MW05-2  |               |        | 271.35                      | 271.13               | 0.22                  | 4.38              | 4.16           | Clay/Sand/Gravel | 38.1               | dry                          | dry       | dry       |
| MW06-1  | 4933292       | 728502 | 271.01                      | 270.40               | 0.61                  | 7.85              | 7.24           | Limestone/Shale  | 50.8               | 265.50                       | 266.48    | 265.62    |
| MW06-2  |               |        | 271.01                      | 270.41               | 0.60                  | 5.13              | 4.53           | Sand/Gravel      | 38.1               | 266.68                       | 268.40    | 267.26    |
| MW07-1  | 4933309       | 728559 | 269.03                      | 268.24               | 0.79                  | 6.98              | 6.19           | Limestone        | 50.8               | 266.29                       | 266.07    | 265.92    |
| MW07-2  |               |        | 269.03                      | 268.29               | 0.74                  | 3.37              | 2.63           | Limestone        | 50.8               | 266.22                       | 266.90    | 266.07    |
| MW08-1  | 4933413       | 728836 | 270.74                      | 270.05               | 0.69                  | 11.31             | 10.62          | Limestone        | 50.8               | 264.96                       | 266.33    | 265.15    |
| MW08-2  |               |        | 270.74                      | 270.04               | 0.70                  | 7.70              | 7.00           | Limestone        | 50.8               | 264.27                       | 266.39    | 264.28    |
| MW09-1  | 4933295       | 728829 | 267.25                      | 266.57               | 0.68                  | 9.92              | 9.24           | Limestone        | 50.8               | 265.50                       | 266.55    | 265.84    |
| MW09-2  |               |        | 267.25                      | 266.57               | 0.68                  | 6.16              | 5.48           | Limestone        | 50.8               | 265.00                       | 266.23    | 265.15    |
| MW10-1  | 4933194       | 728760 | 267.97                      | 267.23               | 0.74                  | 9.89              | 9.15           | Limestone        | 50.8               | 264.98                       | 265.97    | 265.42    |
| MW10-2  |               |        | 267.97                      | 267.24               | 0.73                  | 6.65              | 5.92           | Limestone        | 50.8               | 265.65                       | 265.85    | 265.35    |
| MW11-1  | 4933098       | 728755 | 268.50                      | 267.80               | 0.70                  | 9.96              | 9.26           | Limestone        | 50.8               | 265.05                       | 265.99    | 265.38    |
| MW11-2  |               |        | 268.50                      | 267.78               | 0.72                  | 6.74              | 6.02           | Limestone        | 50.8               | 265.07                       | 265.85    | 265.37    |
| MW12-1  | 4933218       | 728573 | 268.00                      | 267.11               | 0.89                  | 6.84              | 5.95           | Limestone        | 50.8               | 265.47                       | 265.47    | 265.82    |
| MW12-2  |               |        | 268.00                      | 267.09               | 0.91                  | 10.21             | 9.30           | Limestone        | 50.8               | 265.47                       | 266.45    | 265.88    |
| MW12-3  |               |        | 268.00                      | 267.10               | 0.90                  | 13.09             | 12.19          | Limestone        | 50.8               | 265.51                       | 266.55    | na        |
| MW13-1  | 4933149       | 728378 |                             |                      | 0.86                  | 6.04              | 5.18           | Limestone        | 50.8               | -                            | -         | -         |
| MW13-2  |               |        |                             |                      | 0.86                  | 3.76              | 2.90           | Gravel/Limestone | 50.8               | -                            | -         | -         |

Notes:

1. All measurements are reported relative to an assumed elevation of the site benchmark.
2. MW13 has not been surveyed and therefore water level elevations could not be determined



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    | Well Diameter (mm) | Water Level Elevation (mASL) |                      |           |
|---------|---------------|--------|-----------------------------|----------------------|-----------------------|-------------------|----------------|------------------|--------------------|------------------------------|----------------------|-----------|
|         | mN            | mE     |                             |                      |                       |                   |                |                  |                    | June 6/7, 2018               | November 11/12, 2018 | 30-May-19 |
| MW01-1  | 4933341       | 728326 | 271.24                      | 270.42               | 0.82                  | 7.65              | 6.83           | Limestone/Shale  | 50.8               | 268.54                       | 267.72               | 268.54    |
| MW01-2  |               |        | 271.24                      | 270.42               | 0.82                  | 2.74              | 1.92           | Clay/Gravel      | 38.1               | dry                          | dry                  | dry       |
| MW02-1  | 4933327       | 728431 | 282.49                      | 282.27               | 0.22                  | 15.33             | 15.11          | Limestone/Shale  | 50.8               | dry                          | dry                  | dry       |
| MW02-2  |               |        | 282.53                      | 282.32               | 0.21                  | 5.45              | 5.24           | Sand/Gravel      | 50.8               | dry                          | dry                  | dry       |
| MW03-1  | 4933262       | 728468 | 269.23                      | 268.57               | 0.66                  | 5.51              | 4.85           | Limestone        | 50.8               | 268.13                       | 266.93               | 268.02    |
| MW03-2  |               |        | 269.23                      | 268.74               | 0.49                  | 1.72              | 1.23           | Clay/Sand/Gravel | 38.1               | 268.23                       | dry                  | 268.47    |
| MW04-1  | 4933239       | 728549 | 268.28                      | 267.36               | 0.92                  | 5.62              | 4.70           | Limestone/Shale  | 50.8               | 266.23                       | 265.78               | 266.36    |
| MW04-2  |               |        | 268.28                      | 267.43               | 0.85                  | 2.99              | 2.14           | Gravel/Limestone | 38.1               | 268.23                       | dry                  | 266.73    |
| MW05-1  | 4933370       | 728530 | 271.35                      | -                    | Below Grade           | 7.68              | 7.68           | Limestone        | 50.8               | 266.43                       | 266.22               | 266.83    |
| MW05-2  |               |        | 271.35                      | 271.13               | 0.22                  | 4.38              | 4.16           | Clay/Sand/Gravel | 38.1               | 266.42                       | dry                  | 268.52    |
| MW06-1  | 4933292       | 728502 | 271.01                      | 270.40               | 0.61                  | 7.85              | 7.24           | Limestone/Shale  | 50.8               | 266.28                       | 265.85               | 266.49    |
| MW06-2  |               |        | 271.01                      | 270.41               | 0.60                  | 5.13              | 4.53           | Sand/Gravel      | 38.1               | 267.93                       | 267.03               | 268.46    |
| MW07-1  | 4933309       | 728559 | 269.03                      | 268.24               | 0.79                  | 6.98              | 6.19           | Limestone        | 50.8               | 266.06                       | 265.88               | 266.33    |
| MW07-2  |               |        | 269.03                      | 268.29               | 0.74                  | 3.37              | 2.63           | Limestone        | 50.8               | 266.72                       | 266.07               | 267.00    |
| MW08-1  | 4933413       | 728836 | 270.74                      | 270.05               | 0.69                  | 11.31             | 10.62          | Limestone        | 50.8               | 266.26                       | 265.19               | 266.35    |
| MW08-2  |               |        | 270.74                      | 270.04               | 0.70                  | 7.70              | 7.00           | Limestone        | 50.8               | 266.28                       | 264.15               | 266.46    |
| MW09-1  | 4933295       | 728829 | 267.25                      | 266.57               | 0.68                  | 9.92              | 9.24           | Limestone        | 50.8               | 266.47                       | 265.14               | 266.59    |
| MW09-2  |               |        | 267.25                      | 266.57               | 0.68                  | 6.16              | 5.48           | Limestone        | 50.8               | 266.15                       | 265.14               | 266.27    |
| MW10-1  | 4933194       | 728760 | 267.97                      | 267.23               | 0.74                  | 9.89              | 9.15           | Limestone        | 50.8               | 265.88                       | 265.46               | 266.09    |
| MW10-2  |               |        | 267.97                      | 267.24               | 0.73                  | 6.65              | 5.92           | Limestone        | 50.8               | 265.75                       | 264.46               | 265.96    |
| MW11-1  | 4933098       | 728755 | 268.50                      | 267.80               | 0.70                  | 9.96              | 9.26           | Limestone        | 50.8               | 265.98                       | 265.46               | 266.11    |
| MW11-2  |               |        | 268.50                      | 267.78               | 0.72                  | 6.74              | 6.02           | Limestone        | 50.8               | 266.02                       | 265.46               | 268.94    |
| MW12-1  | 4933218       | 728573 | 268.00                      | 267.11               | 0.89                  | 6.84              | 5.95           | Limestone        | 50.8               | 266.32                       | 265.84               | 266.48    |
| MW12-2  |               |        | 268.00                      | 267.09               | 0.91                  | 10.21             | 9.30           | Limestone        | 50.8               | 266.39                       | 265.89               | 266.30    |
| MW12-3  |               |        | 268.00                      | 267.10               | 0.90                  | 13.09             | 12.19          | Limestone        | 50.8               | 266.48                       | 265.89               | 266.59    |
| MW13-1  | 4933149       | 728378 |                             |                      | 0.86                  | 6.04              | 5.18           | Limestone        | 50.8               | -                            | -                    | -         |
| MW13-2  |               |        |                             |                      | 0.86                  | 3.76              | 2.90           | Gravel/Limestone | 50.8               | -                            | -                    | -         |

Notes:

1. All measurements are reported relative to an assumed elevation of the site benchmark.
2. MW13 has not been surveyed and therefore water level elevations could not be determined



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    | Well Diameter (mm) | Water Level Elevation (mASL) |           |           |
|---------|---------------|--------|-----------------------------|----------------------|-----------------------|-------------------|----------------|------------------|--------------------|------------------------------|-----------|-----------|
|         | mN            | mE     |                             |                      |                       |                   |                |                  |                    | 29-Oct-19                    | 26-May-20 | 20-Nov-20 |
| MW01-1  | 4933341       | 728326 | 271.24                      | 270.42               | 0.82                  | 7.65              | 6.83           | Limestone/Shale  | 50.8               | 268.42                       | 268.41    | 267.91    |
| MW01-2  |               |        | 271.24                      | 270.42               | 0.82                  | 2.74              | 1.92           | Clay/Gravel      | 38.1               | dry                          | -         | -         |
| MW02-1  | 4933327       | 728431 | 282.49                      | 282.27               | 0.22                  | 15.33             | 15.11          | Limestone/Shale  | 50.8               | dry                          | -         | -         |
| MW02-2  |               |        | 282.53                      | 282.32               | 0.21                  | 5.45              | 5.24           | Sand/Gravel      | 50.8               | dry                          | -         | -         |
| MW03-1  | 4933262       | 728468 | 269.23                      | 268.57               | 0.66                  | 5.51              | 4.85           | Limestone        | 50.8               | 267.41                       | 267.02    | 267.15    |
| MW03-2  |               |        | 269.23                      | 268.74               | 0.49                  | 1.72              | 1.23           | Clay/Sand/Gravel | 38.1               | 268.02                       | 268.09    | 267.49    |
| MW04-1  | 4933239       | 728549 | 268.28                      | 267.36               | 0.92                  | 5.62              | 4.70           | Limestone/Shale  | 50.8               | 266.21                       | 266.29    | 266.03    |
| MW04-2  |               |        | 268.28                      | 267.43               | 0.85                  | 2.99              | 2.14           | Gravel/Limestone | 38.1               | 266.39                       | 266.47    | 266.18    |
| MW05-1  | 4933370       | 728530 | 271.35                      | -                    | Below Grade           | 7.68              | 7.68           | Limestone        | 50.8               | 266.78                       | 266.74    | 266.40    |
| MW05-2  |               |        | 271.35                      | 271.13               | 0.22                  | 4.38              | 4.16           | Clay/Sand/Gravel | 38.1               | 267.19                       | 268.10    | -         |
| MW06-1  | 4933292       | 728502 | 271.01                      | 270.40               | 0.61                  | 7.85              | 7.24           | Limestone/Shale  | 50.8               | 266.31                       | 266.37    | 266.10    |
| MW06-2  |               |        | 271.01                      | 270.41               | 0.60                  | 5.13              | 4.53           | Sand/Gravel      | 38.1               | 267.37                       | 268.07    | 267.11    |
| MW07-1  | 4933309       | 728559 | 269.03                      | 268.24               | 0.79                  | 6.98              | 6.19           | Limestone        | 50.8               | 265.77                       | 266.08    | 265.68    |
| MW07-2  |               |        | 269.03                      | 268.29               | 0.74                  | 3.37              | 2.63           | Limestone        | 50.8               | 266.63                       | 266.78    | 266.34    |
| MW08-1  | 4933413       | 728836 | 270.74                      | 270.05               | 0.69                  | 11.31             | 10.62          | Limestone        | 50.8               | 265.69                       | 266.12    | 265.36    |
| MW08-2  |               |        | 270.74                      | 270.04               | 0.70                  | 7.70              | 7.00           | Limestone        | 50.8               | 264.93                       | 265.93    | 264.25    |
| MW09-1  | 4933295       | 728829 | 267.25                      | 266.57               | 0.68                  | 9.92              | 9.24           | Limestone        | 50.8               | 266.31                       | 266.45    | 266.17    |
| MW09-2  |               |        | 267.25                      | 266.57               | 0.68                  | 6.16              | 5.48           | Limestone        | 50.8               | 265.72                       | 266.05    | 265.31    |
| MW10-1  | 4933194       | 728760 | 267.97                      | 267.23               | 0.74                  | 9.89              | 9.15           | Limestone        | 50.8               | 265.77                       | 265.85    | 265.49    |
| MW10-2  |               |        | 267.97                      | 267.24               | 0.73                  | 6.65              | 5.92           | Limestone        | 50.8               | 265.76                       | 265.75    | 265.53    |
| MW11-1  | 4933098       | 728755 | 268.50                      | 267.80               | 0.70                  | 9.96              | 9.26           | Limestone        | 50.8               | 265.92                       | 265.96    | 265.50    |
| MW11-2  |               |        | 268.50                      | 267.78               | 0.72                  | 6.74              | 6.02           | Limestone        | 50.8               | 265.75                       | 265.75    | 265.51    |
| MW12-1  | 4933218       | 728573 | 268.00                      | 267.11               | 0.89                  | 6.84              | 5.95           | Limestone        | 50.8               | 266.24                       | 266.32    | 266.06    |
| MW12-2  |               |        | 268.00                      | 267.09               | 0.91                  | 10.21             | 9.30           | Limestone        | 50.8               | 266.30                       | 266.35    | 266.16    |
| MW12-3  |               |        | 268.00                      | 267.10               | 0.90                  | 13.09             | 12.19          | Limestone        | 50.8               | 266.59                       | 266.46    | 266.13    |
| MW13-1  | 4933149       | 728378 |                             |                      | 0.86                  | 6.04              | 5.18           | Limestone        | 50.8               | -                            | -         | -         |
| MW13-2  |               |        |                             |                      | 0.86                  | 3.76              | 2.90           | Gravel/Limestone | 50.8               | -                            | -         | -         |

Notes:

1. All measurements are reported relative to an assumed elevation of the site benchmark.
2. MW13 has not been surveyed and therefore water level elevations could not be determined



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    | Well Diameter (mm) | Water Level Elevation (mASL) |           |
|---------|---------------|--------|-----------------------------|----------------------|-----------------------|-------------------|----------------|------------------|--------------------|------------------------------|-----------|
|         | mN            | mE     |                             |                      |                       |                   |                |                  |                    | 6/24 and 28/2021             | 11-Nov-21 |
| MW01-1  | 4933341       | 728326 | 271.24                      | 270.42               | 0.82                  | 7.65              | 6.83           | Limestone/Shale  | 50.8               | 267.92                       | 268.30    |
| MW01-2  |               |        | 271.24                      | 270.42               | 0.82                  | 2.74              | 1.92           | Clay/Gravel      | 38.1               | -                            | -         |
| MW02-1  | 4933327       | 728431 | 282.49                      | 282.27               | 0.22                  | 15.33             | 15.11          | Limestone/Shale  | 50.8               | 268.17                       | -         |
| MW02-2  |               |        | 282.53                      | 282.32               | 0.21                  | 5.45              | 5.24           | Sand/Gravel      | 50.8               | -                            | -         |
| MW03-1  | 4933262       | 728468 | 269.23                      | 268.57               | 0.66                  | 5.51              | 4.85           | Limestone        | 50.8               | 266.90                       | 267.48    |
| MW03-2  |               |        | 269.23                      | 268.74               | 0.49                  | 1.72              | 1.23           | Clay/Sand/Gravel | 38.1               | -                            | 267.84    |
| MW04-1  | 4933239       | 728549 | 268.28                      | 267.36               | 0.92                  | 5.62              | 4.70           | Limestone/Shale  | 50.8               | 265.82                       | 266.23    |
| MW04-2  |               |        | 268.28                      | 267.43               | 0.85                  | 2.99              | 2.14           | Gravel/Limestone | 38.1               | 265.99                       | 266.41    |
| MW05-1  | 4933370       | 728530 | 271.35                      | -                    | Below Grade           | 7.68              | 7.68           | Limestone        | 50.8               | 266.25                       | 266.70    |
| MW05-2  |               |        | 271.35                      | 271.13               | 0.22                  | 4.38              | 4.16           | Clay/Sand/Gravel | 38.1               | 267.46                       | 267.47    |
| MW06-1  | 4933292       | 728502 | 271.01                      | 270.40               | 0.61                  | 7.85              | 7.24           | Limestone/Shale  | 50.8               | 265.92                       | 266.34    |
| MW06-2  |               |        | 271.01                      | 270.41               | 0.60                  | 5.13              | 4.53           | Sand/Gravel      | 38.1               | 267.45                       | 267.53    |
| MW07-1  | 4933309       | 728559 | 269.03                      | 268.24               | 0.79                  | 6.98              | 6.19           | Limestone        | 50.8               | 266.13                       | 265.62    |
| MW07-2  |               |        | 269.03                      | 268.29               | 0.74                  | 3.37              | 2.63           | Limestone        | 50.8               | 266.21                       | 266.62    |
| MW08-1  | 4933413       | 728836 | 270.74                      | 270.05               | 0.69                  | 11.31             | 10.62          | Limestone        | 50.8               | 265.30                       | 265.64    |
| MW08-2  |               |        | 270.74                      | 270.04               | 0.70                  | 7.70              | 7.00           | Limestone        | 50.8               | 264.23                       | 264.79    |
| MW09-1  | 4933295       | 728829 | 267.25                      | 266.57               | 0.68                  | 9.92              | 9.24           | Limestone        | 50.8               | 266.05                       | 266.37    |
| MW09-2  |               |        | 267.25                      | 266.57               | 0.68                  | 6.16              | 5.48           | Limestone        | 50.8               | 265.28                       | 265.64    |
| MW10-1  | 4933194       | 728760 | 267.97                      | 267.23               | 0.74                  | 9.89              | 9.15           | Limestone        | 50.8               | 265.41                       | 265.84    |
| MW10-2  |               |        | 267.97                      | 267.24               | 0.73                  | 6.65              | 5.92           | Limestone        | 50.8               | 265.33                       | 265.75    |
| MW11-1  | 4933098       | 728755 | 268.50                      | 267.80               | 0.70                  | 9.96              | 9.26           | Limestone        | 50.8               | 265.37                       | 265.75    |
| MW11-2  |               |        | 268.50                      | 267.78               | 0.72                  | 6.74              | 6.02           | Limestone        | 50.8               | 265.29                       | 265.72    |
| MW12-1  | 4933218       | 728573 | 268.00                      | 267.11               | 0.89                  | 6.84              | 5.95           | Limestone        | 50.8               | 265.84                       | 266.28    |
| MW12-2  |               |        | 268.00                      | 267.09               | 0.91                  | 10.21             | 9.30           | Limestone        | 50.8               | 265.88                       | 266.37    |
| MW12-3  |               |        | 268.00                      | 267.10               | 0.90                  | 13.09             | 12.19          | Limestone        | 50.8               | 265.94                       | 266.38    |
| MW13-1  | 4933149       | 728378 |                             |                      | 0.86                  | 6.04              | 5.18           | Limestone        | 50.8               | -                            | -         |
| MW13-2  |               |        |                             |                      | 0.86                  | 3.76              | 2.90           | Gravel/Limestone | 50.8               | -                            | -         |

Notes:

1. All measurements are reported relative to an assumed elevation of the site benchmark.
2. MW13 has not been surveyed and therefore water level elevations could not be determined



**Table 3 - Vertical Hydraulic Gradients**

| Monitor | Geologic Unit in Which Screen is Completed | Difference in Elevation of Bottom of Screen | Vertical Gradient (+ downward gradient, - upward gradient) |           |                  |           |
|---------|--|---|--|-----------|------------------|-----------|
|         |  |   | 26-May-20  | 20-Nov-20 | 6/24 and 28/2021 | 11-Nov-21 |
| MW01-1  | Limestone/Shale                            | -4.91                                       | -  | -         | -                | -         |
| 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      |
| MW03-2  | Clay/Sand/Gravel                           |   |  |           |                  |           |
| MW04-1  | Limestone/Shale                            | -2.63                                       | 0.07   | 0.06      | 0.06             | 0.07      |
| MW04-2  | Gravel/Limestone                           |   |  |           |                  |           |
| MW05-1  | Limestone                                  | -3.30                                       | 0.41   | -         | 0.37             | 0.23      |
| MW05-2  | Clay/Sand/Gravel                           |   |  |           |                  |           |
| MW06-1  | Limestone/Shale                            | -2.72                                       | 0.62   | 0.37      | 0.56             | 0.44      |
| MW06-2  | Sand/Gravel                                |   |  |           |                  |           |
| MW07-1  | Limestone                                  | -3.61                                       | 0.19   | 0.18      | 0.02             | 0.28      |
| MW07-2  | Clay/Gravel                                |   |  |           |                  |           |
| MW08-1  | Limestone                                  | -3.61                                       | -0.05  | -0.31     | -0.30            | -0.24     |
| MW08-2  | Gravel/Sand                                |   |  |           |                  |           |
| MW09-1  | Limestone                                  | -3.76                                       | -0.11  | -0.23     | -0.20            | -0.19     |
| MW09-2  | Gravel                                     |   |  |           |                  |           |
| MW10-1  | Limestone                                  | -3.24                                       | -0.03  | 0.01      | -0.02            | -0.03     |
| MW10-2  | Gravel                                     |   |  |           |                  |           |
| MW11-1  | Limestone                                  | -3.22                                       | -0.07  | 0.00      | -0.02            | -0.01     |
| MW11-2  | Gravel                                     |   |  |           |                  |           |
| MW12-1  | Gravel                                     | -3.37                                       | -0.01  | -0.03     | -0.01            | -0.03     |
| MW12-2  | Limestone                                  |   |  |           |                  |           |
| MW12-1  | Gravel                                     | -6.25                                       | -0.02  | -0.01     | -0.02            | -0.02     |
| MW12-3  | Limestone                                  |   |  |           |                  |           |
| MW12-2  | Limestone                                  | -2.88                                       | 0.04   | -0.01     | -0.02            | 0.00      |
| MW12-3  | Limestone                                  |   |  |           |                  |           |
| MW13-1  | Gravel                                     | -   | -  | -         | -                | -         |
| MW13-2  | Limestone                                  | -   | -  | -         | -                | -         |

Note:

1. All measurements are in meters unless otherwise stated.
2. Positive value indicates a downward vertical gradient and a negative value indicates an upward vertical gradient.



Table 4 - Groundwater Quality - Overburden

| Unit  | RDL   | Hall's Glen OB RUC | ODWQS   | Location Date | MW03-2     |  |
|---|-------|--------------------|---------|---------------|------------|------------|------------|------------|------------|------------|------------|--|
|   |       |                    |         |               | 2011-11-01 | 2012-05-24 | 2013-06-12 | 2013-11-05 | 2014-06-25 | 2014-11-11 | 2015-05-22 |  |
| <b>Metals</b>                               |       |                    |         |               |            |            |            |            |            |            |            |  |
| Arsenic (Filtered)                          | µg/L  | 0.1                | 6.4     | 25            | -          | -          | -          | -          | -          | 1.3        | 0.7        |  |
| Barium (Filtered)                           | µg/L  | 0.01               | 353     | 1000          | 598        | 576        | 455        | 480        | 375        | 596        | 494        |  |
| Boron (Filtered)                            | µg/L  | 0.2                | 2523    | 5000          | 315        | 343        | 326        | 324        | 355        | 397        | 420        |  |
| Calcium (Filtered)                          | µg/L  | 10                 |         |               | 241,000    | 193,000    | 177,000    | 183,000    | 122,000    | 235,000    | 192,000    |  |
| Cadmium (Filtered)                          | µg/L  | 0.003              |         | 5             | -          | -          | -          | -          | -          | 0.003      | 0.009      |  |
| Chloride (Filtered)                         | µg/L  | 200                | 153350  | 250000        | 35,000     | 17,000     | 12,000     | 18,000     | 28,000     | 28,000     | 26,000     |  |
| Chromium (III+VI) (Filtered)                | µg/L  | 0.03               |         | 50            | -          | -          | -          | -          | -          | 0.22       | 0.18       |  |
| Copper (Filtered)                           | µg/L  | 0.02               |         | 1000          | -          | -          | -          | -          | -          | 1.28       | 1.7        |  |
| Iron (Filtered)                             | µg/L  | 2                  | 160     | 300           | 25,500     | 22,300     | 19,300     | 7270       | 7850       | 14,600     | 9160       |  |
| Lead (Filtered)                             | µg/L  | 0.01               |         | 10            | -          | -          | -          | -          | -          | 0.04       | 0.01       |  |
| Manganese (Filtered)                        | µg/L  | 0.01               | 25.93   | 50            | -          | -          | -          | -          | -          | 6210       | 4860       |  |
| Magnesium (Filtered)                        | µg/L  | 1                  |         |               | 31,000     | 26,700     | 22,200     | 26,800     | 18,300     | 26,600     | 23,200     |  |
| Mercury (Filtered)                          | µg/L  | 0.01               |         | 1             | -          | -          | -          | -          | -          | -          | -          |  |
| Phosphorus (Filtered)                       | µg/L  | 3                  |         |               | -          | -          | -          | -          | -          | -          | <30        |  |
| Potassium (Filtered)                        | µg/L  | 2                  |         |               | -          | -          | -          | -          | -          | 24,800     | 20,000     |  |
| Sodium (Filtered)                           | µg/L  | 10                 | 118100  | 200000        | 43,200     | 34,600     | 45,400     | 88,100     | 126,000    | 29,500     | 65,800     |  |
| Zinc (Filtered)                             | µg/L  | 2                  |         | 5000          | -          | -          | -          | -          | -          | 2          | 3          |  |
| <b>Inorganics</b>                           |       |                    |         |               |            |            |            |            |            |            |            |  |
| Alkalinity (as CaCO3)                       | mg/L  | 2                  | 395     | 500           | 685        | 650        | 615        | 772        | 689        | 717        | 655        |  |
| Hardness (as CaCO3) (Filtered)              | mg/L  | 1                  | 425     | 500           | -          | -          | -          | -          | -          | -          | -          |  |
| Solids - Total Dissolved (TDS)              | mg/L  | 3                  | 459     | 500           | 849        | 760        | 786        | 920        | 830        | 851        | 809        |  |
| Oxygen Demand - Chemical (COD)              | mg/L  | 5                  |         |               | 70         | 48         | 44         | 22         | 28         | 27         | 33         |  |
| Solids - Total Suspended (TSS)              | mg/L  | 2                  |         |               | 47         | -          | -          | -          | -          | -          | 26         |  |
| Organic Carbon - Dissolved (DOC) (Filtered) | mg/L  | 0.2                | 4.05    | 5             | 4.4        | 11.3       | 4          | 10         | 11.5       | 8.9        | -          |  |
| Oxygen Demand - Biological (BOD)            | mg/L  | 2                  |         |               | <2         | -          | -          | -          | -          | -          | <4         |  |
| Phenols (4AAP)                              | mg/L  | 0.001              |         |               | -          | -          | -          | -          | -          | -          | 0.002      |  |
| Sulphate                                    | mg/L  | 0.2                | 259     | 500           | 17         | 24         | 59         | 23         | 95         | 50         | 80         |  |
| Ammonia                                     | mg/L  | 0.01               |         |               | 1          | 2.3        | 0.8        | 0.6        | 2.5        | 2.5        | 3.2        |  |
| Nitrate (as N)                              | mg/L  | 0.05               | 3.34    | 10            | <0.05      | 0.59       | <0.06      | 0.19       | <0.06      | 0.32       | 0.09       |  |
| Nitrite (as N)                              | mg/L  | 0.03               |         | 1             | <0.06      | -          | -          | -          | -          | -          | <0.03      |  |
| Total Kjeldahl Nitrogen (TKN)               | mg/L  | 0.1                |         |               | -          | -          | -          | -          | -          | -          | 3.4        |  |
| Conductivity (lab)                          | µS/cm | 1                  |         |               | 1350       | 1220       | 1230       | 1470       | 1360       | 1360       | 1280       |  |
| pH (Lab)                                    | -     | 0.05               | 6.5-8.5 | 6.5-8.5       | 7.82       | 7.51       | 7.59       | 7.85       | 7.47       | 7.99       | 7.89       |  |
| <b>Field</b>                                |       |                    |         |               |            |            |            |            |            |            |            |  |
| DO (Field)                                  | mg/L  |                    |         |               | -          | -          | -          | -          | -          | -          | -          |  |
| Redox Potential (Field)                     | mV    |                    |         |               | -          | -          | -          | -          | -          | -          | -          |  |
| Temp (Field)                                | °C    |                    |         |               | -          | -          | -          | -          | -          | -          | -          |  |
| Conductivity (field)                        | µS/cm |                    |         |               | -          | -          | -          | -          | -          | -          | -          |  |
| pH (Field)                                  | -     |                    |         | 6.5-8.5       | -          | -          | -          | -          | -          | -          | -          |  |



Table 4 - Groundwater Quality - Overburden

| Unit  | RDL   | Hall's Glen OB RUC | ODWQS   | Location | MW03-2     |     |
|---|-------|--------------------|---------|----------|------------|------------|------------|------------|------------|------------|------------|------------|-----|
|   |       |                    |         | Date     | 2015-11-19 | 2016-05-30 | 2019-05-30 | 2019-10-29 | 2019-11-08 | 2020-05-26 | 2020-11-18 | 2021-11-11 |     |
| <b>Metals</b>                               |       |                    |         |          |            |            |            |            |            |            |            |            |     |
| Arsenic (Filtered)                          | µg/L  | 0.1                | 6.4     | 25       | 1          | 0.4        | 0.2        | 0.3        | 0.3        | 0.3        | 0.3        | 0.3        | 0.3 |
| Barium (Filtered)                           | µg/L  | 0.01               | 353     | 1000     | 475        | 402        | 175        | 237        | 237        | 157        | 240        | 320        |     |
| Boron (Filtered)                            | µg/L  | 0.2                | 2523    | 5000     | 305        | 303        | 563        | 827        | 827        | 466        | 408        | 550        |     |
| Calcium (Filtered)                          | µg/L  | 10                 |         |          | 229,000    | 191,000    | 246,000    | 325,000    | 325,000    | 222,000    | 296,000    | 296,000    |     |
| Cadmium (Filtered)                          | µg/L  | 0.003              |         | 5        | 0.013      | 0.004      | 0.018      | 0.03       | 0.03       | 0.039      | 0.078      | 0.057      |     |
| Chloride (Filtered)                         | µg/L  | 200                | 153350  | 250000   | 28,000     | 12,000     | 37,000     | 100,000    | 100,000    | 54,000     | 59,000     | 67,700     |     |
| Chromium (III+VI) (Filtered)                | µg/L  | 0.03               |         | 50       | 0.22       | 0.54       | 0.19       | 0.3        | 0.3        | 0.32       | 0.58       | <1         |     |
| Copper (Filtered)                           | µg/L  | 0.02               |         | 1000     | 0.74       | 1.75       | 1.1        | 3.1        | 3.1        | 2          | 6.1        | 2          |     |
| Iron (Filtered)                             | µg/L  | 2                  | 160     | 300      | 4410       | 4820       | 132        | 20         | 20         | 28         | 1390       | 147        |     |
| Lead (Filtered)                             | µg/L  | 0.01               |         | 10       | 0.16       | 0.07       | 0.02 - 7   | 0.03       | 0.03       | 0.01       | 1.27       | 0.06       |     |
| Manganese (Filtered)                        | µg/L  | 0.01               | 25.93   | 50       | 4530       | 3180       | 3240       | 52         | 52         | 822        | 1010       | 1400       |     |
| Magnesium (Filtered)                        | µg/L  | 1                  |         |          | 22,300     | 21,600     | 22,000     | 24,400     | 24,400     | 27,200     | 24,100     | 28,500     |     |
| Mercury (Filtered)                          | µg/L  | 0.01               |         | 1        | <0.01      | 0.01       | <10        | <10        | <10        | 20         | <10        | <0.02      |     |
| Phosphorus (Filtered)                       | µg/L  | 3                  |         |          | <30        | 8          | 0.02       | -          | 110        | 270        | 560        | 90         |     |
| Potassium (Filtered)                        | µg/L  | 2                  |         |          | 20,100     | 19,100     | 16,900     | 21,100     | 21,100     | 22,900     | 26,600     | 25,100     |     |
| Sodium (Filtered)                           | µg/L  | 10                 | 118100  | 200000   | 26,600     | 57,700     | 38,300     | 43,300     | 43,300     | 107,000    | 45,700     | 59,200     |     |
| Zinc (Filtered)                             | µg/L  | 2                  |         | 5000     | 3          | 4          | 3          | 4          | 4          | <2         | 5          | <5         |     |
| <b>Inorganics</b>                           |       |                    |         |          |            |            |            |            |            |            |            |            |     |
| Alkalinity (as CaCO3)                       | mg/L  | 2                  | 395     | 500      | 380        | 286        | 538        | 559        | 559        | 674        | 841        | 745        |     |
| Hardness (as CaCO3) (Filtered)              | mg/L  | 1                  | 425     | 500      | -          | -          | -          | -          | -          | -          | -          | 857        |     |
| Solids - Total Dissolved (TDS)              | mg/L  | 3                  | 459     | 500      | 671        | 389        | 677        | 1120       | 1120       | 814        | 900        | 907        |     |
| Oxygen Demand - Chemical (COD)              | mg/L  | 5                  |         |          | 35         | 26         | 11         | 20         | 20         | 26         | <8         | 40         |     |
| Solids - Total Suspended (TSS)              | mg/L  | 2                  |         |          | 29         | 10         | 713        | 183        | 183        | 379        | 1200       | -          |     |
| Organic Carbon - Dissolved (DOC) (Filtered) | mg/L  | 0.2                | 4.05    | 5        | -          | -          | -          | -          | -          | -          | -          | 10.1       |     |
| Oxygen Demand - Biological (BOD)            | mg/L  | 2                  |         |          | <4         | <4         | <4         | <4         | <4         | 14         | 5          | -          |     |
| Phenols (4AAP)                              | mg/L  | 0.001              |         |          | <0.002     | 0.004      | <0.001     | 0.002      | 0.002      | <0.001     | <0.001     | <0.002     |     |
| Sulphate                                    | mg/L  | 0.2                | 259     | 500      | 84         | 35         | 70         | 210        | 210        | 89         | 62         | 51         |     |
| Ammonia                                     | mg/L  | 0.01               |         |          | 0.6        | 1.9        | 0.7        | 0.1        | 0.1        | 0.6        | 1.5        | 0.62       |     |
| Nitrate (as N)                              | mg/L  | 0.05               | 3.34    | 10       | 1.23       | 0.12       | 1.01       | 5.39       | 5.39       | 1.76       | 5.18       | 0.42       |     |
| Nitrite (as N)                              | mg/L  | 0.03               |         | 1        | <0.03      | <0.03      | 0.33       | 0.03       | 0.03       | 0.05       | 0.49       | <0.05      |     |
| Total Kjeldahl Nitrogen (TKN)               | mg/L  | 0.1                |         |          | 0.6        | 2.3        | 0.6        | <0.5       | <0.5       | 1.3        | 2.2        | 1.7        |     |
| Conductivity (lab)                          | µS/cm | 1                  |         |          | 1120       | 710        | 1110       | 1630       | 1630       | 1360       | 1360       | 1660       |     |
| pH (Lab)                                    | -     | 0.05               | 6.5-8.5 | 6.5-8.5  | 7.46       | 7.86       | 7.42       | 7.58       | 7.58       | 7.36       | 7.63       | 7.53       |     |
| <b>Field</b>                                |       |                    |         |          |            |            |            |            |            |            |            |            |     |
| DO (Field)                                  | mg/L  |                    |         |          | -          | -          | 3.7        | -          | -          | -          | 7.2        | 4.28       |     |
| Redox Potential (Field)                     | mV    |                    |         |          | -          | -          | 86         | -          | -          | -          | 29         | 85         |     |
| Temp (Field)                                | °C    |                    |         |          | -          | -          | 11.3       | -          | -          | 13.6       | 10         | 9.7        |     |
| Conductivity (field)                        | µS/cm |                    |         |          | -          | -          | 490        | -          | -          | -          | 973        | 671        |     |
| pH (Field)                                  | -     |                    |         | 6.5-8.5  | -          | -          | 7          | -          | -          | 6.9        | 7.1        | 6.78       |     |





Table 4 - Groundwater Quality - Overburden

| Unit  | RDL   | Hall's Glen OB RUC | ODWQS   | Location | MW04-2     | MW04-2         | MW04-2     | MW04-2     | MW04-2     | MW04-2     | MW04-2     | MW04-2     |  |
|---|-------|--------------------|---------|----------|------------|----------------|------------|------------|------------|------------|------------|------------|--|
|   |       |                    |         | Date     | 2017-10-04 | 2019-05-30     | 2019-10-29 | 2019-11-11 | 2020-05-26 | 2020-11-18 | 2021-06-24 | 2021-11-11 |  |
| <b>Metals</b>                               |       |                    |         |          |            |                |            |            |            |            |            |            |  |
| Arsenic (Filtered)                          | µg/L  | 0.1                | 6.4     | 25       | <0.2       | <0.2           | <0.2       | <0.2       | <0.2       | <0.2       | 0.1        | <0.1       |  |
| Barium (Filtered)                           | µg/L  | 0.01               | 353     | 1000     | 177        | 87.7           | 156        | 156        | 90         | 128        | 136        | 160        |  |
| Boron (Filtered)                            | µg/L  | 0.2                | 2523    | 5000     | 45         | 34             | 36         | 36         | 22         | 34         | 33         | 41         |  |
| Calcium (Filtered)                          | µg/L  | 10                 |         |          | 128,000    | 92,900         | 120,000    | 120,000    | 90,800     | 115,000    | 122,000    | 121,000    |  |
| Cadmium (Filtered)                          | µg/L  | 0.003              |         | 5        | 0.007      | <0.003 - 0.003 | 0.004      | 0.004      | <0.003     | 0.004      | <0.015     | <0.015     |  |
| Chloride (Filtered)                         | µg/L  | 200                | 153350  | 250000   | 70,000     | 2000           | 34,000     | 34,000     | 5000       | 53,000     | 26,200     | 31,400     |  |
| Chromium (III+VI) (Filtered)                | µg/L  | 0.03               |         | 50       | 0.24       | 0.13           | 0.18       | 0.18       | 0.2        | 0.25       | <1         | <1         |  |
| Copper (Filtered)                           | µg/L  | 0.02               |         | 1000     | 0.96       | 0.2            | 1.4        | 1.4        | 0.7        | 0.8        | 4          | 1.7        |  |
| Iron (Filtered)                             | µg/L  | 2                  | 160     | 300      | <7         | <7             | <7         | <7         | <7         | 11         | 135        | <5         |  |
| Lead (Filtered)                             | µg/L  | 0.01               |         | 10       | <0.01      | <0.01          | 0.02       | 0.02       | 0.01       | 0.04       | 0.28       | 0.04       |  |
| Manganese (Filtered)                        | µg/L  | 0.01               | 25.93   | 50       | 1.13       | 0.41           | 0.99       | 0.99       | 0.73       | 2.54       | 20         | 2          |  |
| Magnesium (Filtered)                        | µg/L  | 1                  |         |          | 4240       | 2200           | 3750       | 3750       | 2640       | 3240       | 4040       | 3960       |  |
| Mercury (Filtered)                          | µg/L  | 0.01               |         | 1        | <10        | <10            | <10        | <10        | 20         | <10        | <0.02      | <0.02      |  |
| Phosphorus (Filtered)                       | µg/L  | 3                  |         |          | <30        | <0.01          | -          | 390        | 550        | 520        | 420        | 1270       |  |
| Potassium (Filtered)                        | µg/L  | 2                  |         |          | 2170       | 729            | 1560       | 1560       | 911        | 1280       | 1600       | 2000       |  |
| Sodium (Filtered)                           | µg/L  | 10                 | 118100  | 200000   | 26,000     | 5320           | 24,400     | 24,400     | 7430       | 16,100     | 16,300     | 26,000     |  |
| Zinc (Filtered)                             | µg/L  | 2                  |         | 5000     | <2         | <2             | 2          | 2          | <2         | <2         | <5         | <5         |  |
| <b>Inorganics</b>                           |       |                    |         |          |            |                |            |            |            |            |            |            |  |
| Alkalinity (as CaCO3)                       | mg/L  | 2                  | 395     | 500      | 302        | 218            | 287        | 287        | 382        | 490        | 263        | 270        |  |
| Hardness (as CaCO3) (Filtered)              | mg/L  | 1                  | 425     | 500      | -          | -              | -          | -          | -          | -          | 322        | 319        |  |
| Solids - Total Dissolved (TDS)              | mg/L  | 3                  | 459     | 500      | 463        | 186            | 374        | 374        | 251        | 406        | 308        | 334        |  |
| Oxygen Demand - Chemical (COD)              | mg/L  | 5                  |         |          | <8         | <8             | <8         | <8         | 10         | <8         | 42         | 13         |  |
| Solids - Total Suspended (TSS)              | mg/L  | 2                  |         |          | 5          | 653            | 1130       | 1130       | 3020       | 1420       | -          | -          |  |
| Organic Carbon - Dissolved (DOC) (Filtered) | mg/L  | 0.2                | 4.05    | 5        | -          | -              | -          | -          | -          | -          | 3.4        | 1.7        |  |
| Oxygen Demand - Biological (BOD)            | mg/L  | 2                  |         |          | 10         | <4             | <4         | <4         | 4          | <4         | -          | -          |  |
| Phenols (4AAP)                              | mg/L  | 0.001              |         |          | <0.001     | <0.001         | <0.001     | <0.001     | 0.001      | <0.001     | <0.002     | <0.002     |  |
| Sulphate                                    | mg/L  | 0.2                | 259     | 500      | 13         | <2             | 6          | 6          | 4          | 13         | 13         | 10         |  |
| Ammonia                                     | mg/L  | 0.01               |         |          | <0.1       | <0.1           | <0.1       | <0.1       | <0.1       | <0.1       | 0.02       | 0.03       |  |
| Nitrate (as N)                              | mg/L  | 0.05               | 3.34    | 10       | 0.68       | <0.06          | 0.45       | 0.45       | <0.06      | 1.49       | 0.55       | 0.49       |  |
| Nitrite (as N)                              | mg/L  | 0.03               |         | 1        | <0.03      | <0.03          | <0.03      | <0.03      | <0.03      | <0.03      | <0.05      | <0.05      |  |
| Total Kjeldahl Nitrogen (TKN)               | mg/L  | 0.1                |         |          | <0.5       | <0.5           | <0.5       | <0.5       | <0.5       | <0.5       | 0.3        | 0.5        |  |
| Conductivity (lab)                          | µS/cm | 1                  |         |          | 769        | 320            | 705        | 705        | 415        | 680        | 594        | 644        |  |
| pH (Lab)                                    | -     | 0.05               | 6.5-8.5 | 6.5-8.5  | 7.94       | 7.77           | 7.93       | 7.93       | 7.79       | 7.76       | 7.8        | 7.75       |  |
| <b>Field</b>                                |       |                    |         |          |            |                |            |            |            |            |            |            |  |
| DO (Field)                                  | mg/L  |                    |         |          | -          | 8.6            | 10.5       | -          | -          | 8.5        | 9.71       | 7.53       |  |
| Redox Potential (Field)                     | mV    |                    |         |          | -          | -23            | 134        | -          | -          | 32         | 145        | 28         |  |
| Temp (Field)                                | °C    |                    |         |          | -          | 10.3           | 10.3       | -          | 13         | 10.6       | 9          | 9.5        |  |
| Conductivity (field)                        | µS/cm |                    |         |          | -          | 295            | 565        | -          | -          | 458        | 569        | 277        |  |
| pH (Field)                                  | -     |                    |         | 6.5-8.5  | -          | 7.8            | 8.1        | -          | 7.6        | 7.6        | 7.53       | 7.1        |  |



Table 4 - Groundwater Quality - Overburden

|   | Unit  | RDL   | Hall's Glen OB RUC | ODWQS   | Location | MW05-2     | MW05-2     | MW05-2     | MW05-2     |
|---|-------|-------|--------------------|---------|----------|------------|------------|------------|------------|
|   |       |       |                    |         | Date     | 2019-05-30 | 2020-05-26 | 2021-06-24 | 2021-11-11 |
| <b>Metals</b>                               |       |       |                    |         |          |            |            |            |            |
| Arsenic (Filtered)                          | µg/L  | 0.1   | 6.4                | 25      |          | 0.7        | 1.4        | 3.1        | 4.2        |
| Barium (Filtered)                           | µg/L  | 0.01  | 353                | 1000    |          | 667        | 700        | 910        | 936        |
| Boron (Filtered)                            | µg/L  | 0.2   | 2523               | 5000    |          | 401        | 427        | 662        | 477        |
| Calcium (Filtered)                          | µg/L  | 10    |                    |         |          | 281,000    | 264,000    | 269,000    | 245,000    |
| Cadmium (Filtered)                          | µg/L  | 0.003 |                    | 5       |          | 0.012      | 0.017      | <0.029     | <0.015     |
| Chloride (Filtered)                         | µg/L  | 200   | 153350             | 250000  |          | 93,000     | 110,000    | 172,000    | 149,000    |
| Chromium (III+VI) (Filtered)                | µg/L  | 0.03  |                    | 50      |          | 0.72       | 0.79       | 1          | 1          |
| Copper (Filtered)                           | µg/L  | 0.02  |                    | 1000    |          | 1.6        | 1          | 2.3        | 2          |
| Iron (Filtered)                             | µg/L  | 2     | 160                | 300     |          | 13,300     | 26,100     | 34,400     | 42,100     |
| Lead (Filtered)                             | µg/L  | 0.01  |                    | 10      |          | <3 - 0.14  | 0.11       | 2.49       | 0.2        |
| Manganese (Filtered)                        | µg/L  | 0.01  | 25.93              | 50      |          | 6610       | 8520       | 6230       | 4300       |
| Magnesium (Filtered)                        | µg/L  | 1     |                    |         |          | 27,800     | 29,000     | 33,400     | 26,800     |
| Mercury (Filtered)                          | µg/L  | 0.01  |                    | 1       |          | <10        | 20         | <0.02      | <0.02      |
| Phosphorus (Filtered)                       | µg/L  | 3     |                    |         |          | 0.14       | 320        | 410        | 760        |
| Potassium (Filtered)                        | µg/L  | 2     |                    |         |          | 24,400     | 27,200     | 41,800     | 40,700     |
| Sodium (Filtered)                           | µg/L  | 10    | 118100             | 200000  |          | 63,600     | 77,100     | 117,000    | 83,800     |
| Zinc (Filtered)                             | µg/L  | 2     |                    | 5000    |          | 4          | 6          | 6          | 7          |
| <b>Inorganics</b>                           |       |       |                    |         |          |            |            |            |            |
| Alkalinity (as CaCO3)                       | mg/L  | 2     | 395                | 500     |          | 806        | 780        | 826        | 700        |
| Hardness (as CaCO3) (Filtered)              | mg/L  | 1     | 425                | 500     |          | -          | -          | 810        | 723        |
| Solids - Total Dissolved (TDS)              | mg/L  | 3     | 459                | 500     |          | 934        | 900        | 1080       | 983        |
| Oxygen Demand - Chemical (COD)              | mg/L  | 5     |                    |         |          | 47         | 62         | 113        | 160        |
| Solids - Total Suspended (TSS)              | mg/L  | 2     |                    |         |          | 124        | 800        | -          | -          |
| Organic Carbon - Dissolved (DOC) (Filtered) | mg/L  | 0.2   | 4.05               | 5       |          | -          | -          | 14.1       | 10.5       |
| Oxygen Demand - Biological (BOD)            | mg/L  | 2     |                    |         |          | 6          | 66         | -          | -          |
| Phenols (4AAP)                              | mg/L  | 0.001 |                    |         |          | 0.005      | 0.005      | <0.002     | <0.002     |
| Sulphate                                    | mg/L  | 0.2   | 259                | 500     |          | 9          | 9          | 7          | 9          |
| Ammonia                                     | mg/L  | 0.01  |                    |         |          | 11         | 13.6       | 26.4       | 23.2       |
| Nitrate (as N)                              | mg/L  | 0.05  | 3.34               | 10      |          | 0.23       | 0.07       | 0.2        | 0.1        |
| Nitrite (as N)                              | mg/L  | 0.03  |                    | 1       |          | <0.03      | <0.03      | <0.05      | <0.05      |
| Total Kjeldahl Nitrogen (TKN)               | mg/L  | 0.1   |                    |         |          | 11.8       | 13.5       | 30.3       | 30.4       |
| Conductivity (lab)                          | µS/cm | 1     |                    |         |          | 1600       | 1560       | 1960       | 1790       |
| pH (Lab)                                    | -     | 0.05  | 6.5-8.5            | 6.5-8.5 |          | 6.86       | 7.18       | 7.67       | 7.56       |
| <b>Field</b>                                |       |       |                    |         |          |            |            |            |            |
| DO (Field)                                  | mg/L  |       |                    |         |          | 9.6        | -          | 6.67       | 6.47       |
| Redox Potential (Field)                     | mV    |       |                    |         |          | 101        | -          | 140        | 121        |
| Temp (Field)                                | °C    |       |                    |         |          | 12.1       | 13.1       | 9.3        | 8.5        |
| Conductivity (field)                        | µS/cm |       |                    |         |          | 1236       | -          | 1962       | 786        |
| pH (Field)                                  | -     |       |                    | 6.5-8.5 |          | 7          | 6.7        | 7.15       | 6.63       |





Table 4 - Groundwater Quality - Overburden

|   |       | Hall's Glen OB RUC | ODWQS   | Location | MW06-2     | MW06-2 |
|---|-------|--------------------|---------|----------|------------|------------|------------|------------|------------|------------|------------|------------|------------|--------|
| Unit  | RDL   |                    |         | Date     | 2016-11-01 | 2017-10-04 | 2019-05-30 | 2019-10-29 | 2019-11-08 | 2020-05-26 | 2020-11-18 | 2021-06-24 | 2021-11-11 |        |
| <b>Metals</b>                               |       |                    |         |          |            |            |            |            |            |            |            |            |            |        |
| Arsenic (Filtered)                          | µg/L  | 0.1                | 6.4     | 25       | 1.4        | 1.4        | 1.6        | 1.2        | 1.2        | 0.6        | 1          | 2.4        | 1.7        |        |
| Barium (Filtered)                           | µg/L  | 0.01               | 353     | 1000     | 499        | 529        | 685        | 467        | 467        | 544        | 401        | 699        | 540        |        |
| Boron (Filtered)                            | µg/L  | 0.2                | 2523    | 5000     | 876        | 688        | 831        | 753        | 753        | 739        | 557        | 1080       | 833        |        |
| Calcium (Filtered)                          | µg/L  | 10                 |         |          | 271,000    | 344,000    | 372,000    | 322,000    | 322,000    | 342,000    | 305,000    | 310,000    | 268,000    |        |
| Cadmium (Filtered)                          | µg/L  | 0.003              |         | 5        | 0.011      | 0.005      | 0.012      | 0.016      | 0.016      | 0.014      | 0.014      | <0.029     | <0.015     |        |
| Chloride (Filtered)                         | µg/L  | 200                | 153350  | 250000   | 140,000    | 130,000    | 80,000     | 110,000    | 110,000    | 92,000     | 140,000    | 167,000    | 98,800     |        |
| Chromium (III+VI) (Filtered)                | µg/L  | 0.03               |         | 50       | 1.4        | 1.81       | 1.18       | 0.8        | 0.8        | 1.13       | 1.04       | 2          | 8          |        |
| Copper (Filtered)                           | µg/L  | 0.02               |         | 1000     | 1.81       | 4.18       | 5.4        | 8.7        | 8.7        | 5.1        | 14.5       | 7.4        | 1.6        |        |
| Iron (Filtered)                             | µg/L  | 2                  | 160     | 300      | 4360       | 8920       | 15,600     | 3860       | 3860       | 7210       | 4590       | 21,700     | 9810       |        |
| Lead (Filtered)                             | µg/L  | 0.01               |         | 10       | 0.03       | 0.02       | 0.2 - 13   | 0.01       | <0.01      | 0.02       | 0.09       | 0.46       | 0.04       |        |
| Manganese (Filtered)                        | µg/L  | 0.01               | 25.93   | 50       | 7320       | 10,500     | 8400       | 5340       | 5340       | 8490       | 6340       | 8580       | 7250       |        |
| Magnesium (Filtered)                        | µg/L  | 1                  |         |          | 43,000     | 43,400     | 48,000     | 30,800     | 30,800     | 42,400     | 33,100     | 47,100     | 35,700     |        |
| Mercury (Filtered)                          | µg/L  | 0.01               |         | 1        | 0.01       | <10        | <10        | 20         | 20         | 40         | <10        | <0.02      | <0.02      |        |
| Phosphorus (Filtered)                       | µg/L  | 3                  |         |          | 23         | <30        | 0.2        | -          | 60         | 80         | 40         | 40         | 30         |        |
| Potassium (Filtered)                        | µg/L  | 2                  |         |          | 48,400     | 36,000     | 40,300     | 33,900     | 33,900     | 38,400     | 33,400     | 51,400     | 43,700     |        |
| Sodium (Filtered)                           | µg/L  | 10                 | 118100  | 200000   | 135,000    | 107,000    | 109,000    | 101,000    | 101,000    | 90,800     | 91,000     | 158,000    | 101,000    |        |
| Zinc (Filtered)                             | µg/L  | 2                  |         | 5000     | 6          | <2         | 5          | <2         | <2         | 3          | 3          | 6          | <5         |        |
| <b>Inorganics</b>                           |       |                    |         |          |            |            |            |            |            |            |            |            |            |        |
| Alkalinity (as CaCO3)                       | mg/L  | 2                  | 395     | 500      | 1050       | 1048       | 792        | 951        | 951        | 1090       | 973        | 1120       | 878        |        |
| Hardness (as CaCO3) (Filtered)              | mg/L  | 1                  | 425     | 500      | -          | -          | -          | -          | -          | -          | -          | 969        | 817        |        |
| Solids - Total Dissolved (TDS)              | mg/L  | 3                  | 459     | 500      | 1300       | 1710       | 1010       | 1240       | 1240       | 1370       | 1200       | 1350       | 1100       |        |
| Oxygen Demand - Chemical (COD)              | mg/L  | 5                  |         |          | 82         | 99         | 70         | 68         | 68         | 102        | 98         | 119        | 73         |        |
| Solids - Total Suspended (TSS)              | mg/L  | 2                  |         |          | 11         | 29         | 228        | 110        | 110        | 115        | 92         | -          | -          |        |
| Organic Carbon - Dissolved (DOC) (Filtered) | mg/L  | 0.2                | 4.05    | 5        | -          | -          | -          | -          | -          | -          | -          | 22.3       | 17.7       |        |
| Oxygen Demand - Biological (BOD)            | mg/L  | 2                  |         |          | <4         | <4         | <4         | 21         | 21         | 6          | <4         | -          | -          |        |
| Phenols (4AAP)                              | mg/L  | 0.001              |         |          | 0.002      | 0.005      | 0.006      | 0.006      | 0.006      | 0.005      | <0.001     | <0.002     | <0.002     |        |
| Sulphate                                    | mg/L  | 0.2                | 259     | 500      | 55         | 210        | 170        | 61         | 61         | 150        | 64         | 83         | 65         |        |
| Ammonia                                     | mg/L  | 0.01               |         |          | 25.4       | 18.7       | 22.1       | 23.3       | 23.3       | 31.8       | 27         | 43         | 28.4       |        |
| Nitrate (as N)                              | mg/L  | 0.05               | 3.34    | 10       | <0.06      | 0.08       | <0.06      | 3.72       | 3.72       | <0.06      | 0.14       | 0.06       | <0.05      |        |
| Nitrite (as N)                              | mg/L  | 0.03               |         | 1        | <0.03      | <0.03      | <0.03      | 0.04       | 0.04       | <0.03      | <0.03      | <0.05      | <0.05      |        |
| Total Kjeldahl Nitrogen (TKN)               | mg/L  | 0.1                |         |          | 26.2       | 22.6       | 22.5       | 25.4       | 25.4       | 32.8       | 28.7       | 48         | 30.8       |        |
| Conductivity (lab)                          | µS/cm | 1                  |         |          | 2170       | 2490       | 1640       | 2010       | 2010       | 2190       | 1940       | 2440       | 1990       |        |
| pH (Lab)                                    | -     | 0.05               | 6.5-8.5 | 6.5-8.5  | 7.31       | 7.25       | 6.98       | 7.6        | 7.6        | 7.25       | 7.67       | 7.54       | 7.64       |        |
| <b>Field</b>                                |       |                    |         |          |            |            |            |            |            |            |            |            |            |        |
| DO (Field)                                  | mg/L  |                    |         |          | -          | -          | 3.3        | 11.8       | -          | -          | 7.4        | 8.96       | 8.02       |        |
| Redox Potential (Field)                     | mV    |                    |         |          | -          | -          | -88        | 55         | -          | -          | -72        | 162        | 102        |        |
| Temp (Field)                                | °C    |                    |         |          | -          | -          | 11.7       | 10.9       | -          | 12.9       | 10.6       | 10         | 9.7        |        |
| Conductivity (field)                        | µS/cm |                    |         |          | -          | -          | 1953       | 832        | -          | -          | 973        | 2433       | 788        |        |
| pH (Field)                                  | -     |                    |         | 6.5-8.5  | -          | -          | 6.9        | 6.7        | -          | 6.6        | 7          | 7.29       | 6.83       |        |





Table 4 - Groundwater Quality - Overburden

| Unit  | RDL   | Hall's Glen OB RUC | ODWQS   | Location | MW07-2     | MW07-2         | MW07-2     | MW07-2     | MW07-2     | MW07-2     | MW07-2     | MW07-2     |  |
|---|-------|--------------------|---------|----------|------------|----------------|------------|------------|------------|------------|------------|------------|--|
|   |       |                    |         | Date     | 2017-10-04 | 2019-05-30     | 2019-10-29 | 2019-11-11 | 2020-05-26 | 2020-11-18 | 2021-06-24 | 2021-11-11 |  |
| <b>Metals</b>                               |       |                    |         |          |            |                |            |            |            |            |            |            |  |
| Arsenic (Filtered)                          | µg/L  | 0.1                | 6.4     | 25       | <0.2       | <0.2           | 0.4        | 0.4        | <0.2       | <0.2       | 0.2        | 0.2        |  |
| Barium (Filtered)                           | µg/L  | 0.01               | 353     | 1000     | 375        | 87.6           | 211        | 211        | 83.8       | 183        | 416        | 364        |  |
| Boron (Filtered)                            | µg/L  | 0.2                | 2523    | 5000     | 260        | 55             | 138        | 138        | 46         | 62         | 324        | 294        |  |
| Calcium (Filtered)                          | µg/L  | 10                 |         |          | 190,000    | 72,100         | 130,000    | 130,000    | 74,600     | 134,000    | 200,000    | 177,000    |  |
| Cadmium (Filtered)                          | µg/L  | 0.003              |         | 5        | <0.003     | <0.003 - 0.003 | 0.003      | 0.003      | <0.003     | <0.003     | <0.015     | <0.015     |  |
| Chloride (Filtered)                         | µg/L  | 200                | 153350  | 250000   | 76,000     | 6000           | 35,000     | 35,000     | 10,000     | 53,000     | 104,000    | 80,300     |  |
| Chromium (III+VI) (Filtered)                | µg/L  | 0.03               |         | 50       | 0.78       | 0.17           | 0.3        | 0.3        | 0.19       | 0.34       | <1         | 9          |  |
| Copper (Filtered)                           | µg/L  | 0.02               |         | 1000     | 3.72       | 0.7            | 3.1        | 3.1        | 0.6        | 1.5        | 4.6        | 3.9        |  |
| Iron (Filtered)                             | µg/L  | 2                  | 160     | 300      | 12         | 8              | <7         | <7         | <7         | 16         | 51         | 31         |  |
| Lead (Filtered)                             | µg/L  | 0.01               |         | 10       | 0.01       | <3 - 0.02      | 0.03       | 0.03       | <0.01      | 0.07       | 0.25       | 0.3        |  |
| Manganese (Filtered)                        | µg/L  | 0.01               | 25.93   | 50       | 1.16       | 0.92           | 0.29       | 0.29       | 0.3        | 2.94       | 22         | 7          |  |
| Magnesium (Filtered)                        | µg/L  | 1                  |         |          | 16,100     | 3710           | 10,100     | 10,100     | 3180       | 7130       | 21,300     | 16,900     |  |
| Mercury (Filtered)                          | µg/L  | 0.01               |         | 1        | <10        | <10            | 20         | 20         | <10        | <10        | <0.02      | <0.02      |  |
| Phosphorus (Filtered)                       | µg/L  | 3                  |         |          | 180        | 0.02           | -          | 60         | 90         | 60         | 80         | 50         |  |
| Potassium (Filtered)                        | µg/L  | 2                  |         |          | 8690       | 1330           | 5410       | 5410       | 631        | 2600       | 10,300     | 8200       |  |
| Sodium (Filtered)                           | µg/L  | 10                 | 118100  | 200000   | 50,200     | 17,300         | 29,800     | 29,800     | 12,600     | 17,000     | 82,800     | 69,900     |  |
| Zinc (Filtered)                             | µg/L  | 2                  |         | 5000     | <2         | 2              | <2         | <2         | <2         | <2         | <5         | <5         |  |
| <b>Inorganics</b>                           |       |                    |         |          |            |                |            |            |            |            |            |            |  |
| Alkalinity (as CaCO3)                       | mg/L  | 2                  | 395     | 500      | 530        | 191            | 322        | 322        | 212        | 397        | 510        | 474        |  |
| Hardness (as CaCO3) (Filtered)              | mg/L  | 1                  | 425     | 500      | -          | -              | -          | -          | -          | -          | 588        | 511        |  |
| Solids - Total Dissolved (TDS)              | mg/L  | 3                  | 459     | 500      | 791        | 209            | 451        | 451        | 223        | 611        | 659        | 659        |  |
| Oxygen Demand - Chemical (COD)              | mg/L  | 5                  |         |          | 23         | <8             | <8         | <8         | 10         | <8         | 33         | 33         |  |
| Solids - Total Suspended (TSS)              | mg/L  | 2                  |         |          | <2         | 148            | 178        | 178        | 264        | 323        | -          | -          |  |
| Organic Carbon - Dissolved (DOC) (Filtered) | mg/L  | 0.2                | 4.05    | 5        | -          | -              | -          | -          | -          | -          | 9.1        | 6.7        |  |
| Oxygen Demand - Biological (BOD)            | mg/L  | 2                  |         |          | 7          | <4             | <4         | <4         | <4         | <4         | -          | -          |  |
| Phenols (4AAP)                              | mg/L  | 0.001              |         |          | 0.001      | <0.001         | <0.001     | <0.001     | 0.002      | <0.001     | <0.002     | <0.002     |  |
| Sulphate                                    | mg/L  | 0.2                | 259     | 500      | 47         | 11             | 15         | 15         | 5          | 19         | 37         | 29         |  |
| Ammonia                                     | mg/L  | 0.01               |         |          | 0.4        | <0.1           | <0.1       | <0.1       | <0.1       | <0.1       | 0.39       | 0.06       |  |
| Nitrate (as N)                              | mg/L  | 0.05               | 3.34    | 10       | 0.19       | 0.08           | 1.36       | 1.36       | <0.06      | 1.62       | 0.48       | 4.96       |  |
| Nitrite (as N)                              | mg/L  | 0.03               |         | 1        | <0.03      | <0.03          | <0.03      | <0.03      | <0.03      | <0.03      | <0.05      | <0.05      |  |
| Total Kjeldahl Nitrogen (TKN)               | mg/L  | 0.1                |         |          | <0.5       | <0.5           | <0.5       | <0.5       | <0.5       | <0.5       | 0.9        | 0.7        |  |
| Conductivity (lab)                          | µS/cm | 1                  |         |          | 1240       | 331            | 691        | 691        | 383        | 840        | 1220       | 1220       |  |
| pH (Lab)                                    | -     | 0.05               | 6.5-8.5 | 6.5-8.5  | 7.81       | 7.84           | 7.92       | 7.92       | 7.95       | 7.78       | 7.72       | 7.8        |  |
| <b>Field</b>                                |       |                    |         |          |            |                |            |            |            |            |            |            |  |
| DO (Field)                                  | mg/L  |                    |         |          | -          | 9.8            | 9.8        | -          | -          | 10.2       | 6.88       | 7.35       |  |
| Redox Potential (Field)                     | mV    |                    |         |          | -          | 63             | 86         | -          | -          | 31         | 132        | 135        |  |
| Temp (Field)                                | °C    |                    |         |          | -          | 11.3           | 11.1       | -          | 14.4       | 9.4        | 11.1       | 9          |  |
| Conductivity (field)                        | µS/cm |                    |         |          | -          | 370            | 1662       | -          | -          | 579        | 1048       | 503        |  |
| pH (Field)                                  | -     |                    |         | 6.5-8.5  | -          | 7.7            | 6.7        | -          | 7.1        | 8          | 7.51       | 6.98       |  |





Table 4 - Groundwater Quality - Overburden

| Unit  | RDL   | Hall's Glen OB RUC | ODWQS   | Location | R1         |
|---|-------|--------------------|---------|----------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
|   |       |                    |         | Date     | 2017-02-24 | 2017-05-31 | 2017-10-04 | 2019-10-29 | 2019-10-29 | 2020-05-26 | 2020-11-18 | 2020-11-18 | 2021-06-28 | 2021-11-11 |
| <b>Metals</b>                               |       |                    |         |          |            |            |            |            |            |            |            |            |            |            |
| Arsenic (Filtered)                          | µg/L  | 0.1                | 6.4     | 25       | <0.2       | <0.2       | <0.2       | 0.5        | 0.5        | <0.2       | <0.2       | <0.2       | 0.3        | 0.2        |
| Barium (Filtered)                           | µg/L  | 0.01               | 353     | 1000     | 81.6       | 63.6       | 92.9       | 262        | 262        | 76.8       | 175        | 175        | 165        | 144        |
| Boron (Filtered)                            | µg/L  | 0.2                | 2523    | 5000     | 5          | 13         | 38         | 100        | 100        | 13         | 33         | 33         | 20         | 12         |
| Calcium (Filtered)                          | µg/L  | 10                 |         |          | 110,000    | 85,300     | 107,000    | 111,000    | 111,000    | 83,300     | 131,000    | 131,000    | 123,000    | 112,000    |
| Cadmium (Filtered)                          | µg/L  | 0.003              |         | 5        | 0.01       | 0.01       | 0.026      | 0.131      | 0.131      | 0.015      | 0.005      | 0.005      | 0.054      | 0.02       |
| Chloride (Filtered)                         | µg/L  | 200                | 153350  | 250000   | 120,000    | 50,000     | 46,000     | 55,000     | 55,000     | 58,000     | 92,000     | 92,000     | 51,700     | 70,900     |
| Chromium (III+VI) (Filtered)                | µg/L  | 0.03               |         | 50       | 0.54       | 0.73       | 0.69       | 1.59       | 1.59       | 0.17       | 0.89       | 0.89       | 1          | <1         |
| Copper (Filtered)                           | µg/L  | 0.02               |         | 1000     | 0.66       | 0.84       | 0.87       | 4.4        | 4.4        | 0.9        | 1.1        | 1.1        | 2.5        | 0.8        |
| Iron (Filtered)                             | µg/L  | 2                  | 160     | 300      | 43         | <7         | 102        | 664        | 664        | <7         | 22         | 22         | 577        | 150        |
| Lead (Filtered)                             | µg/L  | 0.01               |         | 10       | 0.08       | 0.03       | 1.81       | 1.34       | 1.34       | 0.02       | 0.03       | 0.03       | 0.83       | 0.26       |
| Manganese (Filtered)                        | µg/L  | 0.01               | 25.93   | 50       | 2.37       | 0.3        | 27.1       | 3270       | 3270       | 0.33       | 3.43       | 3.43       | 940        | 726        |
| Magnesium (Filtered)                        | µg/L  | 1                  |         |          | 3550       | 2600       | 3920       | 7540       | 7540       | 2980       | -          | 4910       | 4640       | 3750       |
| Mercury (Filtered)                          | µg/L  | 0.01               |         | 1        | <0.01      | <10        | -          | -          | -          | <10        | -          | -          | <0.02      | <0.02      |
| Phosphorus (Filtered)                       | µg/L  | 3                  |         |          | <30 - 20   | <30        | -          | -          | 74         | <30        | -          | -          | 960        | 2070       |
| Potassium (Filtered)                        | µg/L  | 2                  |         |          | 756        | 897        | 1460       | 4300       | 4300       | 870        | 1920       | 1920       | 1500       | 1000       |
| Sodium (Filtered)                           | µg/L  | 10                 | 118100  | 200000   | 63,000     | 35,900     | 30,400     | 31,000     | 31,000     | 36,000     | 45,900     | 45,900     | 36,500     | 45,200     |
| Zinc (Filtered)                             | µg/L  | 2                  |         | 5000     | 3          | 5          | 12         | 10         | 10         | 4          | 3          | 3          | <5         | <5         |
| <b>Inorganics</b>                           |       |                    |         |          |            |            |            |            |            |            |            |            |            |            |
| Alkalinity (as CaCO3)                       | mg/L  | 2                  | 395     | 500      | 212        | 207        | 299        | 273        | 273        | 1710       | 298        | 298        | 254        | 259        |
| Hardness (as CaCO3) (Filtered)              | mg/L  | 1                  | 425     | 500      | -          | -          | -          | -          | -          | -          | -          | -          | 327        | 295        |
| Solids - Total Dissolved (TDS)              | mg/L  | 3                  | 459     | 500      | 463        | 326        | 403        | 423        | 423        | 337        | 460        | 460        | 353        | 382        |
| Oxygen Demand - Chemical (COD)              | mg/L  | 5                  |         |          | <8         | <8         | 10         | <8         | <8         | <8         | <8         | <8         | 450        | 82         |
| Solids - Total Suspended (TSS)              | mg/L  | 2                  |         |          | <2         | -          | -          | -          | -          | -          | -          | -          | -          | -          |
| Organic Carbon - Dissolved (DOC) (Filtered) | mg/L  | 0.2                | 4.05    | 5        | -          | 2          | 4          | 1          | 1          | 3          | 1          | 1          | 3.7        | 2.8        |
| Oxygen Demand - Biological (BOD)            | mg/L  | 2                  |         |          | <4         | -          | -          | -          | -          | -          | -          | -          | -          | -          |
| Phenols (4AAP)                              | mg/L  | 0.001              |         |          | <0.001     | <0.002     | -          | -          | -          | <0.002     | -          | -          | <0.002     | <0.002     |
| Sulphate                                    | mg/L  | 0.2                | 259     | 500      | 14         | 5          | 5          | 18         | 18         | 4          | 15         | 15         | 10         | 10         |
| Ammonia                                     | mg/L  | 0.01               |         |          | <0.1       | <0.1       | 0.2        | <0.1       | <0.1       | <0.1       | <0.1       | <0.1       | 0.08       | <0.01      |
| Nitrate (as N)                              | mg/L  | 0.05               | 3.34    | 10       | 0.26       | 0.29       | -          | 1.43       | 1.43       | 0.09       | 1.78       | 1.78       | 1.58       | 0.39       |
| Nitrite (as N)                              | mg/L  | 0.03               |         | 1        | <0.03      | <0.03      | 0.68       | -          | -          | <0.03      | -          | -          | <0.05      | <0.05      |
| Total Kjeldahl Nitrogen (TKN)               | mg/L  | 0.1                |         |          | <0.5       | <0.5       | -          | -          | -          | <0.5       | -          | -          | 1.1        | 2.4        |
| Conductivity (lab)                          | µS/cm | 1                  |         |          | 817        | 546        | 680        | 721        | 721        | 611        | 864        | 864        | 679        | 732        |
| pH (Lab)                                    | -     | 0.05               | 6.5-8.5 | 6.5-8.5  | 7.9        | 7.88       | 7.61       | 7.93       | 7.93       | 8.03       | 8.13       | 8.14       | 7.74       | 8.03       |
| <b>Field</b>                                |       |                    |         |          |            |            |            |            |            |            |            |            |            |            |
| DO (Field)                                  | mg/L  |                    |         |          | -          | -          | -          | -          | -          | -          | -          | -          | 4.89       | 4.1        |
| Redox Potential (Field)                     | mV    |                    |         |          | -          | -          | -          | -          | -          | -          | -          | -          | 125        | 8          |
| Temp (Field)                                | °C    |                    |         |          | -          | -          | -          | -          | -          | -          | -          | -          | 10.4       | 9.4        |
| Conductivity (field)                        | µS/cm |                    |         |          | -          | -          | -          | -          | -          | -          | -          | -          | 678        | 319        |
| pH (Field)                                  | -     |                    |         | 6.5-8.5  | -          | -          | -          | -          | -          | -          | -          | -          | 7.18       | 7.06       |



**Table 5 - Groundwater Quality - Shallow Bedrock**

|   | Unit  | RDL   | Hall's Glen BR RUC | ODWQS          | Location Date | MW01-1<br>2011-11-01 | MW01-1<br>2012-05-24 | MW01-1<br>2012-10-24 | MW01-1<br>2013-06-12 | MW01-1<br>2013-11-05 | MW01-1<br>2014-06-25 | MW01-1<br>2014-11-14 |
|---|-------|-------|--------------------|----------------|---------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| <b>Metals</b>                               |       |       |                    |                |               |                      |                      |                      |                      |                      |                      |                      |
| Arsenic (Filtered)                          | µg/L  | 0.1   | <b>6.4</b>         | <b>25</b>      |               | -                    | -                    | -                    | -                    | -                    | -                    | 1                    |
| Barium (Filtered)                           | µg/L  | 0.01  | <b>390</b>         | <b>1000</b>    |               | 307                  | 287                  | 304                  | 254                  | 250                  | 283                  | 251                  |
| Boron (Filtered)                            | µg/L  | 0.2   | <b>2529</b>        | <b>5000</b>    |               | 85.5                 | 92.9                 | 101                  | 80.7                 | 80.1                 | 90.3                 | 109                  |
| Calcium (Filtered)                          | µg/L  | 10    |                    |                |               | 170,000              | 154,000              | 147,000              | 137,000              | 139,000              | 150,000              | 146,000              |
| Cadmium (Filtered)                          | µg/L  | 0.003 |                    | <b>5</b>       |               | -                    | -                    | -                    | -                    | -                    | -                    | 0.007                |
| Chloride (Filtered)                         | µg/L  | 200   | <b>195000</b>      | <b>250000</b>  |               | 170,000              | 150,000              | 150,000              | 170,000              | 180,000              | 180,000              | 160,000              |
| Chromium (III+VI) (Filtered)                | µg/L  | 0.03  |                    | <b>50</b>      |               | -                    | -                    | -                    | -                    | -                    | -                    | 4.44                 |
| Copper (Filtered)                           | µg/L  | 0.02  |                    | <b>1000</b>    |               | -                    | -                    | -                    | -                    | -                    | -                    | 3.12                 |
| Iron (Filtered)                             | µg/L  | 2     | <b>154</b>         | <b>300</b>     |               | 6                    | 7                    | <3                   | 4                    | <3                   | 2                    | <2                   |
| Lead (Filtered)                             | µg/L  | 0.01  |                    | <b>10</b>      |               | -                    | -                    | -                    | -                    | -                    | -                    | 0.03                 |
| Manganese (Filtered)                        | µg/L  | 0.01  | <b>25.08</b>       | <b>50</b>      |               | -                    | -                    | -                    | -                    | -                    | -                    | 0.21                 |
| Magnesium (Filtered)                        | µg/L  | 1     |                    |                |               | 13,800               | 15,000               | 13,600               | 13,200               | 13,000               | 14,000               | 14,000               |
| Mercury (Filtered)                          | µg/L  | 0.01  |                    | <b>1</b>       |               | -                    | -                    | -                    | -                    | -                    | -                    | -                    |
| Phosphorus (Filtered)                       | µg/L  | 3     |                    |                |               | -                    | -                    | -                    | -                    | -                    | -                    | -                    |
| Potassium (Filtered)                        | µg/L  | 2     |                    |                |               | -                    | -                    | -                    | -                    | -                    | -                    | 6200                 |
| Sodium (Filtered)                           | µg/L  | 10    | <b>136400</b>      | <b>200000</b>  |               | 79,500               | 84,000               | 74,900               | 80,500               | 73,600               | 59,800               | 79,500               |
| Zinc (Filtered)                             | µg/L  | 2     |                    | <b>5000</b>    |               | -                    | -                    | -                    | -                    | -                    | -                    | 3                    |
| <b>Inorganics</b>                           |       |       |                    |                |               |                      |                      |                      |                      |                      |                      |                      |
| Alkalinity (as CaCO3)                       | mg/L  | 2     | <b>388</b>         | <b>500</b>     |               | 298                  | 338                  | 318                  | 283                  | 318                  | 309                  | 338                  |
| Hardness (as CaCO3) (Filtered)              | mg/L  | 1     | <b>445</b>         | <b>500</b>     |               | -                    | -                    | -                    | -                    | -                    | -                    | -                    |
| Solids - Total Dissolved (TDS)              | mg/L  | 3     | <b>647</b>         | <b>500</b>     |               | <b>737</b>           | <b>710</b>           | <b>771</b>           | <b>680</b>           | <b>757</b>           | <b>700</b>           | <b>723</b>           |
| Oxygen Demand - Chemical (COD)              | mg/L  | 5     |                    |                |               | <8                   | <8                   | 10                   | 9                    | <8                   | <8                   | 90                   |
| Solids - Total Suspended (TSS)              | mg/L  | 2     |                    |                |               | <2                   | -                    | -                    | -                    | -                    | -                    | -                    |
| Organic Carbon - Dissolved (DOC) (Filtered) | mg/L  | 0.2   | <b>3.5</b>         | <b>5</b>       |               | 2.2                  | 2.6                  | 2.2                  | 2                    | <b>5.7</b>           | <b>4.2</b>           | 1.3                  |
| Oxygen Demand - Biological (BOD)            | mg/L  | 2     |                    |                |               | <2                   | -                    | -                    | -                    | -                    | -                    | -                    |
| Phenols (4AAP)                              | mg/L  | 0.001 |                    |                |               | -                    | -                    | -                    | -                    | -                    | -                    | -                    |
| Sulphate                                    | mg/L  | 0.2   | <b>270</b>         | <b>500</b>     |               | 77                   | 78                   | 80                   | 74                   | 73                   | 69                   | 73                   |
| Ammonia                                     | mg/L  | 0.01  |                    |                |               | <0.1                 | <0.1                 | 0.1                  | <0.1                 | <0.1                 | 0.1                  | <0.1                 |
| Nitrate (as N)                              | mg/L  | 0.05  | <b>4.22</b>        | <b>10</b>      |               | <b>4.34</b>          | <b>4.13</b>          | 4.03                 | 3.66                 | 3.62                 | 3.15                 | 3.1                  |
| Nitrite (as N)                              | mg/L  | 0.03  |                    | <b>1</b>       |               | <0.06                | -                    | -                    | -                    | -                    | -                    | -                    |
| Total Kjeldahl Nitrogen (TKN)               | mg/L  | 0.1   |                    |                |               | -                    | -                    | -                    | -                    | -                    | -                    | -                    |
| Conductivity (lab)                          | µS/cm | 1     |                    |                |               | 1160                 | 1250                 | 1250                 | 1180                 | 1250                 | 1170                 | 1190                 |
| pH (Lab)                                    | -     | 0.05  | <b>6.5-8.5</b>     | <b>6.5-8.5</b> |               | 8.03                 | 7.91                 | 7.8                  | 7.87                 | 8.12                 | 7.96                 | 7.99                 |
| <b>Field</b>                                |       |       |                    |                |               |                      |                      |                      |                      |                      |                      |                      |
| DO (Field)                                  | mg/L  |       |                    |                |               | -                    | -                    | -                    | -                    | -                    | -                    | -                    |
| Redox Potential (Field)                     | mV    |       |                    |                |               | -                    | -                    | -                    | -                    | -                    | -                    | -                    |
| Temp (Field)                                | °C    |       |                    |                |               | -                    | -                    | -                    | -                    | -                    | -                    | -                    |
| Conductivity (field)                        | µS/cm |       |                    |                |               | -                    | -                    | -                    | -                    | -                    | -                    | -                    |
| pH (Field)                                  | -     |       |                    | <b>6.5-8.5</b> |               | -                    | -                    | -                    | -                    | -                    | -                    | -                    |



Table 5 - Groundwater Quality - Shallow Bedrock

| Unit  | RDL   | Hall's Glen BR RUC | ODWQS          | Location       | MW01-1     | MW01-1     | MW01-1     | MW01-1     | MW01-1     | MW01-1      | MW01-1     |  |
|---|-------|--------------------|----------------|----------------|------------|------------|------------|------------|------------|-------------|------------|--|
|   |       |                    |                | Date           | 2015-05-22 | 2015-11-19 | 2016-05-30 | 2016-11-01 | 2017-05-31 | 2017-10-04  | 2019-05-30 |  |
| <b>Metals</b>                               |       |                    |                |                |            |            |            |            |            |             |            |  |
| Arsenic (Filtered)                          | µg/L  | 0.1                | <b>6.4</b>     | <b>25</b>      | <0.2       | <0.2       | <0.2       | <0.2       | <0.2       | <0.2        | <0.2       |  |
| Barium (Filtered)                           | µg/L  | 0.01               | <b>350</b>     | <b>1000</b>    | 281        | 259        | 273        | 271        | 269        | 248         | 282        |  |
| Boron (Filtered)                            | µg/L  | 0.2                | <b>2529</b>    | <b>5000</b>    | 113        | 82.4       | 139        | 149        | 134        | 114         | 93         |  |
| Calcium (Filtered)                          | µg/L  | 10                 |                |                | 156,000    | 152,000    | 183,000    | 159,000    | 169,000    | 158,000     | 175,000    |  |
| Cadmium (Filtered)                          | µg/L  | 0.003              |                | <b>5</b>       | 0.017      | 0.004      | <0.003     | 0.005      | 0.003      | <0.003      | <0.003     |  |
| Chloride (Filtered)                         | µg/L  | 200                | <b>195000</b>  | <b>250000</b>  | 150,000    | 140,000    | 160,000    | 160,000    | 170,000    | 170,000     | 180,000    |  |
| Chromium (III+VI) (Filtered)                | µg/L  | 0.03               |                | <b>50</b>      | 0.12       | 0.07       | 0.38       | 0.63       | 0.63       | 0.6         | 0.17       |  |
| Copper (Filtered)                           | µg/L  | 0.02               |                | <b>1000</b>    | 2.79       | 1.76       | 1.31       | 1.83       | 1.26       | 1.26        | 0.9        |  |
| Iron (Filtered)                             | µg/L  | 2                  | <b>154</b>     | <b>300</b>     | <2         | <7         | <7         | <7         | 14         | <7          | <7         |  |
| Lead (Filtered)                             | µg/L  | 0.01               |                | <b>10</b>      | 0.05       | 0.03       | 0.04       | 0.16       | 0.03       | <0.01       | 0.01       |  |
| Manganese (Filtered)                        | µg/L  | 0.01               | <b>25.08</b>   | <b>50</b>      | 0.29       | 0.56       | 0.03       | 12.9       | 0.15       | 6.28        | 0.03       |  |
| Magnesium (Filtered)                        | µg/L  | 1                  |                |                | 16,000     | 12,300     | 14,800     | 14,500     | 15,600     | 14,600      | 15,000     |  |
| Mercury (Filtered)                          | µg/L  | 0.01               |                | <b>1</b>       | <0.01      | <0.01      | <0.01      | <0.01      | <10        | -           | <10        |  |
| Phosphorus (Filtered)                       | µg/L  | 3                  |                |                | 140        | -          | <30        | -          | <30        | -           | 40         |  |
| Potassium (Filtered)                        | µg/L  | 2                  |                |                | 5230       | 4600       | 5300       | 5780       | 5150       | 4920        | 5560       |  |
| Sodium (Filtered)                           | µg/L  | 10                 | <b>136400</b>  | <b>200000</b>  | 79,600     | 69,300     | 83,600     | 79,100     | 72,800     | 68,900      | 73,000     |  |
| Zinc (Filtered)                             | µg/L  | 2                  |                | <b>5000</b>    | 5          | 3          | <2         | 4          | 5          | 8           | <2         |  |
| <b>Inorganics</b>                           |       |                    |                |                |            |            |            |            |            |             |            |  |
| Alkalinity (as CaCO3)                       | mg/L  | 2                  | <b>388</b>     | <b>500</b>     | 346        | 336        | 338        | 322        | 317        | 302         | 272        |  |
| Hardness (as CaCO3) (Filtered)              | mg/L  | 1                  | <b>445</b>     | <b>500</b>     | -          | -          | -          | -          | -          | -           | -          |  |
| Solids - Total Dissolved (TDS)              | mg/L  | 3                  | <b>647</b>     | <b>500</b>     | <b>831</b> | <b>711</b> | <b>686</b> | <b>737</b> | <b>771</b> | <b>834</b>  | <b>711</b> |  |
| Oxygen Demand - Chemical (COD)              | mg/L  | 5                  |                |                | 11         | <8         | 12         | <8         | <8         | <8          | <8         |  |
| Solids - Total Suspended (TSS)              | mg/L  | 2                  |                |                | -          | -          | -          | -          | -          | -           | -          |  |
| Organic Carbon - Dissolved (DOC) (Filtered) | mg/L  | 0.2                | <b>3.5</b>     | <b>5</b>       | 2.6        | 2.2        | 2.3        | 2          | 2          | 2           | -          |  |
| Oxygen Demand - Biological (BOD)            | mg/L  | 2                  |                |                | -          | -          | -          | -          | -          | -           | -          |  |
| Phenols (4AAP)                              | mg/L  | 0.001              |                |                | 0.005      | -          | 0.004      | -          | <0.002     | -           | 0.006      |  |
| Sulphate                                    | mg/L  | 0.2                | <b>270</b>     | <b>500</b>     | 83         | 73         | 81         | 81         | 81         | 81          | 79         |  |
| Ammonia                                     | mg/L  | 0.01               |                |                | <0.1       | <0.1       | <0.1       | 0.2        | <0.1       | <0.1        | <0.1       |  |
| Nitrate (as N)                              | mg/L  | 0.05               | <b>4.22</b>    | <b>10</b>      | 3.22       | 3.05       | 3.02       | 3.37       | 2.24       | -           | 2.29       |  |
| Nitrite (as N)                              | mg/L  | 0.03               |                | <b>1</b>       | <0.03      | -          | <0.03      | -          | <0.03      | <b>2.63</b> | <0.03      |  |
| Total Kjeldahl Nitrogen (TKN)               | mg/L  | 0.1                |                |                | <0.5       | -          | <0.5       | -          | <0.5       | -           | <0.5       |  |
| Conductivity (lab)                          | µS/cm | 1                  |                |                | 1250       | 1200       | 1270       | 1300       | 1180       | 1220        | 1150       |  |
| pH (Lab)                                    | -     | 0.05               | <b>6.5-8.5</b> | <b>6.5-8.5</b> | 7.98       | 7.69       | 8.15       | 7.9        | 7.91       | 7.69        | 7.53       |  |
| <b>Field</b>                                |       |                    |                |                |            |            |            |            |            |             |            |  |
| DO (Field)                                  | mg/L  |                    |                |                | -          | -          | -          | -          | -          | -           | 6.4        |  |
| Redox Potential (Field)                     | mV    |                    |                |                | -          | -          | -          | -          | -          | -           | 164        |  |
| Temp (Field)                                | °C    |                    |                |                | -          | -          | -          | -          | -          | -           | 8.9        |  |
| Conductivity (field)                        | µS/cm |                    |                |                | -          | -          | -          | -          | -          | -           | 767        |  |
| pH (Field)                                  | -     |                    |                | <b>6.5-8.5</b> | -          | -          | -          | -          | -          | -           | 7.7        |  |



Table 5 - Groundwater Quality - Shallow Bedrock

| Unit  | RDL   | Hall's Glen BR RUC | ODWQS          | Location       | MW01-1     | MW01-1        | MW01-1     | MW01-1     | MW01-1     | MW01-1     | MW03-1     |  |
|---|-------|--------------------|----------------|----------------|------------|---------------|------------|------------|------------|------------|------------|--|
|   |       |                    |                | Date           | 2019-10-29 | 2019-11-08    | 2020-05-26 | 2020-11-18 | 2021-06-24 | 2021-11-11 | 2011-11-01 |  |
| <b>Metals</b>                               |       |                    |                |                |            |               |            |            |            |            |            |  |
| Arsenic (Filtered)                          | µg/L  | 0.1                | <b>6.4</b>     | <b>25</b>      | <0.2       | 0.17          | <0.2       | <0.2       | <0.1       | 0.1        | -          |  |
| Barium (Filtered)                           | µg/L  | 0.01               | <b>390</b>     | <b>1000</b>    | 278        | 1.4           | 243        | 227        | 233        | 245        | 208        |  |
| Boron (Filtered)                            | µg/L  | 0.2                | <b>2529</b>    | <b>5000</b>    | 105        | <7            | 98         | 102        | 73         | 93         | 118        |  |
| Calcium (Filtered)                          | µg/L  | 10                 |                |                | 178,000    | 5450          | 178,000    | 177,000    | 165,000    | 156,000    | 186,000    |  |
| Cadmium (Filtered)                          | µg/L  | 0.003              |                | <b>5</b>       | 0.003      | <b>14,200</b> | 0.009      | 0.003      | <0.015     | <0.015     | -          |  |
| Chloride (Filtered)                         | µg/L  | 200                | <b>195000</b>  | <b>250000</b>  | 170,000    | <0.2          | 190,000    | 180,000    | 175,000    | 153,000    | 97,000     |  |
| Chromium (III+VI) (Filtered)                | µg/L  | 0.03               |                | <b>50</b>      | 0.17       | 1.85          | 0.19       | 0.87       | 4          | 1          | -          |  |
| Copper (Filtered)                           | µg/L  | 0.02               |                | <b>1000</b>    | 1.4        | <b>69,400</b> | 1.9        | 1.6        | 1.3        | 1.2        | -          |  |
| Iron (Filtered)                             | µg/L  | 2                  | <b>154</b>     | <b>300</b>     | <7         | 0.14          | <7         | <7         | <5         | <5         | 10         |  |
| Lead (Filtered)                             | µg/L  | 0.01               |                | <b>10</b>      | 0.14       | -             | 0.02       | 0.01       | 0.13       | 0.09       | -          |  |
| Manganese (Filtered)                        | µg/L  | 0.01               | <b>25.08</b>   | <b>50</b>      | 1.85       | -             | 0.02       | 1.09       | <1         | <1         | -          |  |
| Magnesium (Filtered)                        | µg/L  | 1                  |                |                | 14,200     | -             | 17,500     | 15,200     | 13,700     | 14,900     | 8420       |  |
| Mercury (Filtered)                          | µg/L  | 0.01               |                | <b>1</b>       | -          | 0.003         | <b>10</b>  | -          | <0.02      | <0.02      | -          |  |
| Phosphorus (Filtered)                       | µg/L  | 3                  |                |                | -          | <100          | 13         | -          | 60         | 880        | -          |  |
| Potassium (Filtered)                        | µg/L  | 2                  |                |                | 5450       | <2            | 5000       | 5170       | 4500       | 5600       | -          |  |
| Sodium (Filtered)                           | µg/L  | 10                 | <b>136400</b>  | <b>200000</b>  | 69,400     | -             | 87,800     | 75,500     | 83,300     | 83,800     | 54,000     |  |
| Zinc (Filtered)                             | µg/L  | 2                  |                | <b>5000</b>    | <2         | -             | 2          | 3          | <5         | <5         | -          |  |
| <b>Inorganics</b>                           |       |                    |                |                |            |               |            |            |            |            |            |  |
| Alkalinity (as CaCO3)                       | mg/L  | 2                  | <b>388</b>     | <b>500</b>     | 261        | 261           | 297        | 304        | 313        | 292        | <b>414</b> |  |
| Hardness (as CaCO3) (Filtered)              | mg/L  | 1                  | <b>445</b>     | <b>500</b>     | -          | -             | -          | -          | <b>469</b> | <b>451</b> | -          |  |
| Solids - Total Dissolved (TDS)              | mg/L  | 3                  | <b>647</b>     | <b>500</b>     | <b>666</b> | <b>666</b>    | <b>746</b> | <b>737</b> | <b>680</b> | <b>627</b> | <b>680</b> |  |
| Oxygen Demand - Chemical (COD)              | mg/L  | 5                  |                |                | <8         | <8            | <8         | <8         | <5         | 16         | 23         |  |
| Solids - Total Suspended (TSS)              | mg/L  | 2                  |                |                | -          | -             | -          | -          | -          | -          | <2         |  |
| Organic Carbon - Dissolved (DOC) (Filtered) | mg/L  | 0.2                | <b>3.5</b>     | <b>5</b>       | <1         | <b>178</b>    | 2          | 2          | 2.2        | 1.1        | <b>4.6</b> |  |
| Oxygen Demand - Biological (BOD)            | mg/L  | 2                  |                |                | -          | -             | -          | -          | -          | -          | <2         |  |
| Phenols (4AAP)                              | mg/L  | 0.001              |                |                | -          | 2.4           | <0.002     | -          | <0.002     | <0.002     | -          |  |
| Sulphate                                    | mg/L  | 0.2                | <b>270</b>     | <b>500</b>     | 74         | <1            | 90         | 87         | 79         | 63         | 34         |  |
| Ammonia                                     | mg/L  | 0.01               |                |                | <0.1       | 170           | <0.1       | <0.1       | 0.04       | 0.06       | 1.7        |  |
| Nitrate (as N)                              | mg/L  | 0.05               | <b>4.22</b>    | <b>10</b>      | 2.4        | 0.105         | 2.92       | 2.84       | 2.54       | 1.85       | 0.61       |  |
| Nitrite (as N)                              | mg/L  | 0.03               |                | <b>1</b>       | -          | 0.278         | <0.03      | -          | <0.05      | -          | <0.06      |  |
| Total Kjeldahl Nitrogen (TKN)               | mg/L  | 0.1                |                |                | -          | 74            | <0.5       | -          | 0.3        | -          | -          |  |
| Conductivity (lab)                          | µS/cm | 1                  |                |                | 1150       | 1150          | 1210       | 1250       | 1260       | 1170       | 1110       |  |
| pH (Lab)                                    | -     | 0.05               | <b>6.5-8.5</b> | <b>6.5-8.5</b> | 7.98       | 7.98          | 7.79       | 7.81       | 7.73       | 7.85       | 8          |  |
| <b>Field</b>                                |       |                    |                |                |            |               |            |            |            |            |            |  |
| DO (Field)                                  | mg/L  |                    |                |                | 6.6        | -             | -          | 9.6        | 5.17       | 9.03       | -          |  |
| Redox Potential (Field)                     | mV    |                    |                |                | 75         | -             | -          | 2          | 151        | 173        | -          |  |
| Temp (Field)                                | °C    |                    |                |                | 10.8       | -             | 16.3       | 10.7       | 10.9       | 10.7       | -          |  |
| Conductivity (field)                        | µS/cm |                    |                |                | 9          | -             | -          | 885        | 1216       | 435        | -          |  |
| pH (Field)                                  | -     |                    |                | <b>6.5-8.5</b> | 6.5        | -             | 7.5        | 7.5        | 7.04       | 7.18       | -          |  |





Table 5 - Groundwater Quality - Shallow Bedrock

|   |       | Hall's Glen BR RUC | ODWQS   | Location | MW03-1     | MW03-1 |
|---|-------|--------------------|---------|----------|------------|------------|------------|------------|------------|------------|------------|------------|------------|--------|
| Unit  |       | RDL                |         | Date     | 2016-11-01 | 2017-10-04 | 2019-05-30 | 2019-10-29 | 2019-11-08 | 2020-05-26 | 2020-11-18 | 2021-06-24 | 2021-11-11 |        |
| <b>Metals</b>                               |       |                    |         |          |            |            |            |            |            |            |            |            |            |        |
| Arsenic (Filtered)                          | µg/L  | 0.1                | 6.4     | 25       | <0.2       | <0.2       | <0.2       | <0.2       | 0.19       | <0.2       | <0.2       | <0.1       | <0.1       |        |
| Barium (Filtered)                           | µg/L  | 0.01               | 350     | 1000     | 203        | 82.9       | 83.6       | 118        | 1.6        | 120        | 105        | 112        | 186        |        |
| Boron (Filtered)                            | µg/L  | 0.2                | 2529    | 5000     | 87         | 33         | 25         | 50         | <7         | 107        | 40         | 29         | 54         |        |
| Calcium (Filtered)                          | µg/L  | 10                 |         |          | 205,000    | 92,600     | 106,000    | 137,000    | 3590       | 120,000    | 118,000    | 132,000    | 169,000    |        |
| Cadmium (Filtered)                          | µg/L  | 0.003              |         | 5        | 0.025      | 0.006      | <0.003     | 0.012      | 3350       | 0.016      | 0.007      | <0.015     | <0.015     |        |
| Chloride (Filtered)                         | µg/L  | 200                | 195000  | 250000   | 110,000    | 32,000     | 24,000     | 56,000     | <0.2       | 57,000     | 43,000     | 73,800     | 104,000    |        |
| Chromium (III+VI) (Filtered)                | µg/L  | 0.03               |         | 50       | 0.54       | 0.83       | 0.18       | 0.19       | 6.2        | 0.24       | 0.75       | <1         | <1         |        |
| Copper (Filtered)                           | µg/L  | 0.02               |         | 1000     | 0.98       | 1.1        | 0.4        | 1.6        | 43,000     | 0.5        | 1.2        | 1.2        | 0.7        |        |
| Iron (Filtered)                             | µg/L  | 2                  | 154     | 300      | 10         | 12         | <7         | <7         | 0.05       | 8          | <7         | 16         | <5         |        |
| Lead (Filtered)                             | µg/L  | 0.01               |         | 10       | 0.12       | 0.01       | 0.01       | 0.05       | <500       | 0.01       | 0.01       | 0.07       | <0.04      |        |
| Manganese (Filtered)                        | µg/L  | 0.01               | 25.08   | 50       | 32.8       | 6.11       | 0.24       | 6.2        | <500       | 21.9       | 3.96       | 1          | 4          |        |
| Magnesium (Filtered)                        | µg/L  | 1                  |         |          | 5780       | 3280       | 2960       | 3350       | <500       | 5100       | 4130       | 4190       | 5140       |        |
| Mercury (Filtered)                          | µg/L  | 0.01               |         | 1        | <0.01      | -          | <10        | -          | 0.012      | 20         | -          | <0.02      | <0.02      |        |
| Phosphorus (Filtered)                       | µg/L  | 3                  |         |          | -          | -          | <30        | -          | <100       | 3          | -          | 20         | 30         |        |
| Potassium (Filtered)                        | µg/L  | 2                  |         |          | 4780       | 4170       | 2860       | 3590       | 4          | 5120       | 4750       | 3300       | 5100       |        |
| Sodium (Filtered)                           | µg/L  | 10                 | 136400  | 200000   | 57,300     | 16,500     | 21,100     | 43,000     | <500       | 30,400     | 30,200     | 25,200     | 59,500     |        |
| Zinc (Filtered)                             | µg/L  | 2                  |         | 5000     | 5          | 4          | 7          | 4          | <200       | 2          | <2         | <5         | <5         |        |
| <b>Inorganics</b>                           |       |                    |         |          |            |            |            |            |            |            |            |            |            |        |
| Alkalinity (as CaCO3)                       | mg/L  | 2                  | 388     | 500      | 406        | 278        | 248        | 330        | 330        | 364        | 343        | 266        | 347        |        |
| Hardness (as CaCO3) (Filtered)              | mg/L  | 1                  | 445     | 500      | -          | -          | -          | -          | -          | -          | -          | 347        | 443        |        |
| Solids - Total Dissolved (TDS)              | mg/L  | 3                  | 647     | 500      | 849        | 394        | 294        | 534        | 534        | 480        | 451        | 378        | 558        |        |
| Oxygen Demand - Chemical (COD)              | mg/L  | 5                  |         |          | 8          | <8         | <8         | <8         | <8         | 14         | <8         | <5         | 11         |        |
| Solids - Total Suspended (TSS)              | mg/L  | 2                  |         |          | -          | -          | -          | -          | -          | -          | -          | -          | -          |        |
| Organic Carbon - Dissolved (DOC) (Filtered) | mg/L  | 0.2                | 3.5     | 5        | 5          | 2          | -          | 2          | 137        | 6          | 2          | 2.9        | 2.5        |        |
| Oxygen Demand - Biological (BOD)            | mg/L  | 2                  |         |          | -          | -          | -          | -          | -          | -          | -          | -          | -          |        |
| Phenols (4AAP)                              | mg/L  | 0.001              |         |          | -          | -          | <0.001     | -          | 2.51       | <0.002     | -          | <0.002     | <0.002     |        |
| Sulphate                                    | mg/L  | 0.2                | 270     | 500      | 39         | 9          | 9          | 20         | 2          | 24         | 14         | 11         | 27         |        |
| Ammonia                                     | mg/L  | 0.01               |         |          | <0.1       | 0.3        | <0.1       | <0.1       | 56         | 3.1        | <0.1       | <0.01      | 0.01       |        |
| Nitrate (as N)                              | mg/L  | 0.05               | 4.22    | 10       | 2.97       | -          | 1.41       | 2.51       | 0.05       | 1.22       | 1.26       | 1.48       | 1.64       |        |
| Nitrite (as N)                              | mg/L  | 0.03               |         | 1        | -          | 1.74       | <0.03      | -          | 0.118      | 0.07       | -          | <0.05      | <0.05      |        |
| Total Kjeldahl Nitrogen (TKN)               | mg/L  | 0.1                |         |          | -          | -          | <0.5       | -          | 20         | 3.3        | -          | 0.2        | 0.4        |        |
| Conductivity (lab)                          | µS/cm | 1                  |         |          | 1300       | 666        | 526        | 920        | 920        | 876        | 772        | 726        | 1040       |        |
| pH (Lab)                                    | -     | 0.05               | 6.5-8.5 | 6.5-8.5  | 7.59       | 7.51       | 7.34       | 7.9        | 7.9        | 7.5        | 7.39       | 7.74       | 7.68       |        |
| <b>Field</b>                                |       |                    |         |          |            |            |            |            |            |            |            |            |            |        |
| DO (Field)                                  | mg/L  |                    |         |          | -          | -          | 3.7        | 9.5        | -          | -          | 4.8        | 9.56       | 5.73       |        |
| Redox Potential (Field)                     | mV    |                    |         |          | -          | -          | 29         | 49         | -          | -          | 28         | 132        | 69         |        |
| Temp (Field)                                | °C    |                    |         |          | -          | -          | 11.7       | 10.9       | -          | 13.1       | 10.5       | 10         | 10.1       |        |
| Conductivity (field)                        | µS/cm |                    |         |          | -          | -          | 729        | 621        | -          | -          | 514        | 653        | 378        |        |
| pH (Field)                                  | -     |                    |         |          | -          | -          | 7.4        | 6.7        | -          | 7          | 7.6        | 7.84       | 6.99       |        |





Table 5 - Groundwater Quality - Shallow Bedrock

|   | Unit  | RDL   | Hall's Glen BR RUC | ODWQS          | Location Date | MW04-1<br>2016-05-30 | MW04-1<br>2016-11-01 | MW04-1<br>2017-10-04 | MW04-1<br>2019-05-30 | MW04-1<br>2019-10-29 | MW04-1<br>2019-11-11 | MW04-1<br>2020-05-26 | MW04-1<br>2020-11-18 | MW04-1<br>2021-06-24 | MW04-1<br>2021-11-11 |
|---|-------|-------|--------------------|----------------|---------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| <b>Metals</b>                               |       |       |                    |                |               |                      |                      |                      |                      |                      |                      |                      |                      |                      |                      |
| Arsenic (Filtered)                          | µg/L  | 0.1   | <b>6.4</b>         | <b>25</b>      |               | <0.2                 | 0.8                  | <0.2                 | <0.2                 | 0.2                  | 0.2                  | <0.2                 | <0.2                 | <0.1                 | <0.1                 |
| Barium (Filtered)                           | µg/L  | 0.01  | <b>350</b>         | <b>1000</b>    |               | 117                  | 114                  | 131                  | 115                  | 193                  | 193                  | 125                  | 143                  | 124                  | 174                  |
| Boron (Filtered)                            | µg/L  | 0.2   | <b>2529</b>        | <b>5000</b>    |               | 103                  | 563                  | 63                   | 69                   | 79                   | 79                   | 81                   | 49                   | 66                   | 81                   |
| Calcium (Filtered)                          | µg/L  | 10    |                    |                |               | 123,000              | 28,600               | 131,000              | 118,000              | 214,000              | 214,000              | 124,000              | 157,000              | 125,000              | 166,000              |
| Cadmium (Filtered)                          | µg/L  | 0.003 |                    | <b>5</b>       |               | 0.021                | 0.012                | 0.017                | 0.006                | 0.045                | 0.045                | 0.017                | 0.006                | 0.015                | <0.015               |
| Chloride (Filtered)                         | µg/L  | 200   | <b>195000</b>      | <b>250000</b>  |               | 39,000               | 42,000               | 75,000               | 51,000               | 90,000               | 90,000               | 47,000               | 57,000               | 54,000               | 96,200               |
| Chromium (III+VI) (Filtered)                | µg/L  | 0.03  |                    | <b>50</b>      |               | 0.32                 | 0.54                 | 0.7                  | 0.13                 | 0.13                 | 0.13                 | 0.18                 | 0.96                 | <1                   | 5                    |
| Copper (Filtered)                           | µg/L  | 0.02  |                    | <b>1000</b>    |               | 1.14                 | 0.45                 | 0.65                 | 0.5                  | 0.9                  | 0.9                  | 0.8                  | 1                    | 1.3                  | 0.5                  |
| Iron (Filtered)                             | µg/L  | 2     | <b>154</b>         | <b>300</b>     |               | <7                   | <7                   | 21                   | 12                   | 125                  | 125                  | 50                   | 21                   | 34                   | <5                   |
| Lead (Filtered)                             | µg/L  | 0.01  |                    | <b>10</b>      |               | 0.03                 | 0.05                 | 0.1                  | 0.01                 | 0.02                 | 0.02                 | 0.03                 | 0.02                 | 0.14                 | <0.04                |
| Manganese (Filtered)                        | µg/L  | 0.01  | <b>25.08</b>       | <b>50</b>      |               | <b>249</b>           | <b>3.25</b>          | <b>175</b>           | <b>168</b>           | <b>69.4</b>          | <b>69.4</b>          | <b>212</b>           | <b>50.9</b>          | <b>147</b>           | <b>106</b>           |
| Magnesium (Filtered)                        | µg/L  | 1     |                    |                |               | 5250                 | 6610                 | 5280                 | 4940                 | 7480                 | 7480                 | 6270                 | 5310                 | 5530                 | 6510                 |
| Mercury (Filtered)                          | µg/L  | 0.01  |                    | <b>1</b>       |               | 0.04                 | <0.01                | -                    | <10                  | -                    | -                    | <b>10</b>            | -                    | <0.02                | <0.02                |
| Phosphorus (Filtered)                       | µg/L  | 3     |                    |                |               | <30                  | -                    | -                    | <30                  | -                    | -                    | 4                    | -                    | 20                   | 4780                 |
| Potassium (Filtered)                        | µg/L  | 2     |                    |                |               | 4950                 | 2230                 | 5090                 | 5640                 | 5670                 | 5670                 | 4740                 | 4750                 | 4800                 | 5800                 |
| Sodium (Filtered)                           | µg/L  | 10    | <b>136400</b>      | <b>200000</b>  |               | 31,100               | <b>146,000</b>       | 32,100               | 37,000               | 49,200               | 49,200               | 35,100               | 36,000               | 31,400               | 52,800               |
| Zinc (Filtered)                             | µg/L  | 2     |                    | <b>5000</b>    |               | 2                    | 4                    | 2                    | 3                    | <2                   | <2                   | <2                   | <2                   | <5                   | <5                   |
| <b>Inorganics</b>                           |       |       |                    |                |               |                      |                      |                      |                      |                      |                      |                      |                      |                      |                      |
| Alkalinity (as CaCO3)                       | mg/L  | 2     | <b>388</b>         | <b>500</b>     |               | 302                  | 325                  | 325                  | 291                  | 378                  | 378                  | 329                  | <b>390</b>           | 296                  | 351                  |
| Hardness (as CaCO3) (Filtered)              | mg/L  | 1     | <b>445</b>         | <b>500</b>     |               | -                    | -                    | -                    | -                    | -                    | -                    | -                    | -                    | 335                  | 441                  |
| Solids - Total Dissolved (TDS)              | mg/L  | 3     | <b>647</b>         | <b>500</b>     |               | 417                  | 463                  | 500                  | 434                  | <b>597</b>           | <b>597</b>           | 389                  | 469                  | 392                  | <b>541</b>           |
| Oxygen Demand - Chemical (COD)              | mg/L  | 5     |                    |                |               | 10                   | <8                   | 8                    | <8                   | <8                   | <8                   | 8                    | <8                   | <5                   | 157                  |
| Solids - Total Suspended (TSS)              | mg/L  | 2     |                    |                |               | -                    | -                    | -                    | -                    | -                    | -                    | -                    | -                    | -                    | -                    |
| Organic Carbon - Dissolved (DOC) (Filtered) | mg/L  | 0.2   | <b>3.5</b>         | <b>5</b>       |               | 2.2                  | <1                   | 2                    | -                    | 3                    | 3                    | 2                    | 2                    | <b>4</b>             | 2.8                  |
| Oxygen Demand - Biological (BOD)            | mg/L  | 2     |                    |                |               | -                    | -                    | -                    | -                    | -                    | -                    | -                    | -                    | -                    | -                    |
| Phenols (4AAP)                              | mg/L  | 0.001 |                    |                |               | 0.004                | -                    | -                    | 0.002                | -                    | -                    | <0.002               | -                    | <0.002               | <0.002               |
| Sulphate                                    | mg/L  | 0.2   | <b>270</b>         | <b>500</b>     |               | 15                   | 31                   | 14                   | 22                   | 42                   | 42                   | 15                   | 12                   | 15                   | 26                   |
| Ammonia                                     | mg/L  | 0.01  |                    |                |               | 0.5                  | <0.1                 | 0.6                  | 1.2                  | 0.4                  | 0.4                  | 1                    | 0.4                  | 0.8                  | 0.92                 |
| Nitrate (as N)                              | mg/L  | 0.05  | <b>4.22</b>        | <b>10</b>      |               | 1.38                 | 0.12                 | -                    | 1.19                 | 2.14                 | 2.14                 | 1.1                  | 2.65                 | 1.56                 | 0.64                 |
| Nitrite (as N)                              | mg/L  | 0.03  |                    | <b>1</b>       |               | <0.03                | -                    | <b>1.17</b>          | <0.03                | -                    | -                    | <0.03                | -                    | <0.05                | -                    |
| Total Kjeldahl Nitrogen (TKN)               | mg/L  | 0.1   |                    |                |               | 0.7                  | -                    | -                    | 1.1                  | -                    | -                    | 1.2                  | -                    | 1                    | -                    |
| Conductivity (lab)                          | µS/cm | 1     |                    |                |               | 729                  | 798                  | 841                  | 713                  | 1050                 | 1050                 | 725                  | 862                  | 750                  | 1010                 |
| pH (Lab)                                    | -     | 0.05  | <b>6.5-8.5</b>     | <b>6.5-8.5</b> |               | 7.94                 | 8.2                  | 7.44                 | 8.08                 | 7.57                 | 7.57                 | 7.52                 | 7.26                 | 7.63                 | 7.58                 |
| <b>Field</b>                                |       |       |                    |                |               |                      |                      |                      |                      |                      |                      |                      |                      |                      |                      |
| DO (Field)                                  | mg/L  |       |                    |                |               | -                    | -                    | -                    | 4.1                  | 7.5                  | -                    | -                    | 5.2                  | 4.06                 | 4                    |
| Redox Potential (Field)                     | mV    |       |                    |                |               | -                    | -                    | -                    | -9                   | 138                  | -                    | -                    | -7                   | 140                  | 45                   |
| Temp (Field)                                | °C    |       |                    |                |               | -                    | -                    | -                    | 8.5                  | 10                   | -                    | 12.9                 | 9.2                  | 8                    | 9                    |
| Conductivity (field)                        | µS/cm |       |                    |                |               | -                    | -                    | -                    | 477                  | 723                  | -                    | -                    | 547                  | 735                  | 431                  |
| pH (Field)                                  | -     |       |                    |                |               | -                    | -                    | -                    | 7.6                  | 7.9                  | -                    | 7.2                  | 7.5                  | 7.87                 | 6.8                  |





**Table 5 - Groundwater Quality - Shallow Bedrock**

|   |       | Hall's Glen BR RUC | ODWQS          | Location       | MW05-1        | MW05-1        | MW05-1        | MW05-1        | MW05-1        | MW05-1      | MW05-1        | MW05-1        | MW05-1        |
|---|-------|--------------------|----------------|----------------|---------------|---------------|---------------|---------------|---------------|-------------|---------------|---------------|---------------|
|   |       |                    |                | Date           | 2016-11-01    | 2017-10-04    | 2019-05-30    | 2019-10-29    | 2019-11-11    | 2020-05-26  | 2020-11-18    | 2021-06-24    | 2021-11-11    |
| Unit  | RDL   |                    |                |                |               |               |               |               |               |             |               |               |               |
| <b>Metals</b>                               |       |                    |                |                |               |               |               |               |               |             |               |               |               |
| Arsenic (Filtered)                          | µg/L  | 0.1                | <b>6.4</b>     | <b>25</b>      | 3.1           | 3.2           | 1.1           | 3.5           | 3.5           | 0.4         | 2.1           | 3             | 2.3           |
| Barium (Filtered)                           | µg/L  | 0.01               | <b>350</b>     | <b>1000</b>    | <b>541</b>    | <b>469</b>    | <b>434</b>    | <b>664</b>    | <b>664</b>    | <b>504</b>  | <b>512</b>    | <b>911</b>    | <b>612</b>    |
| Boron (Filtered)                            | µg/L  | 0.2                | <b>2529</b>    | <b>5000</b>    | 430           | 303           | 213           | 340           | 340           | 276         | 304           | 502           | 359           |
| Calcium (Filtered)                          | µg/L  | 10                 |                |                | 223,000       | 243,000       | 203,000       | 249,000       | 249,000       | 230,000     | 225,000       | 255,000       | 215,000       |
| Cadmium (Filtered)                          | µg/L  | 0.003              |                | <b>5</b>       | <0.003        | <0.003        | <0.003        | 0.003         | <0.003        | 0.007       | 0.009         | <0.015        | <0.015        |
| Chloride (Filtered)                         | µg/L  | 200                | <b>195000</b>  | <b>250000</b>  | 150,000       | 87,000        | 29,000        | 120,000       | 120,000       | 83,000      | 110,000       | 147,000       | 80,700        |
| Chromium (III+VI) (Filtered)                | µg/L  | 0.03               |                | <b>50</b>      | 1.06          | 1.05          | 0.33          | 0.9           | 0.9           | 0.54        | 1.11          | 1             | <1            |
| Copper (Filtered)                           | µg/L  | 0.02               |                | <b>1000</b>    | 0.52          | 0.23          | 0.3           | 1.1           | 1.1           | 1.8         | 0.6           | 0.2           | 1             |
| Iron (Filtered)                             | µg/L  | 2                  | <b>154</b>     | <b>300</b>     | <b>23,100</b> | <b>21,400</b> | <b>11,100</b> | <b>32,600</b> | <b>32,600</b> | <b>3740</b> | <b>25,000</b> | <b>44,500</b> | <b>32,000</b> |
| Lead (Filtered)                             | µg/L  | 0.01               |                | <b>10</b>      | 0.03          | <0.01         | 0.02          | 0.05          | 0.05          | 0.01        | 0.03          | 0.11          | 0.13          |
| Manganese (Filtered)                        | µg/L  | 0.01               | <b>25.08</b>   | <b>50</b>      | <b>1960</b>   | <b>1720</b>   | <b>1170</b>   | <b>2680</b>   | <b>2680</b>   | <b>2590</b> | <b>2000</b>   | <b>3120</b>   | <b>2310</b>   |
| Magnesium (Filtered)                        | µg/L  | 1                  |                |                | 19,000        | 20,200        | 15,500        | 22,900        | 22,900        | 22,700      | 20,000        | 26,500        | 20,000        |
| Mercury (Filtered)                          | µg/L  | 0.01               |                | <b>1</b>       | <0.01         | -             | <10           | -             | -             | <b>20</b>   | -             | <0.02         | <0.02         |
| Phosphorus (Filtered)                       | µg/L  | 3                  |                |                | -             | -             | 40            | -             | -             | 3           | -             | 1100          | 260           |
| Potassium (Filtered)                        | µg/L  | 2                  |                |                | 24,800        | 19,800        | 16,100        | 32,200        | 32,200        | 21,800      | 25,100        | 30,000        | 25,500        |
| Sodium (Filtered)                           | µg/L  | 10                 | <b>136400</b>  | <b>200000</b>  | 69,700        | 58,100        | 36,500        | 80,200        | 80,200        | 55,100      | 64,300        | 85,000        | 57,900        |
| Zinc (Filtered)                             | µg/L  | 2                  |                | <b>5000</b>    | 15            | 2             | 2             | 2             | 2             | <2          | 2             | <5            | <5            |
| <b>Inorganics</b>                           |       |                    |                |                |               |               |               |               |               |             |               |               |               |
| Alkalinity (as CaCO3)                       | mg/L  | 2                  | <b>388</b>     | <b>500</b>     | <b>619</b>    | <b>738</b>    | <b>536</b>    | <b>653</b>    | <b>653</b>    | <b>609</b>  | <b>661</b>    | <b>757</b>    | <b>588</b>    |
| Hardness (as CaCO3) (Filtered)              | mg/L  | 1                  | <b>445</b>     | <b>500</b>     | -             | -             | -             | -             | -             | -           | -             | <b>746</b>    | <b>620</b>    |
| Solids - Total Dissolved (TDS)              | mg/L  | 3                  | <b>647</b>     | <b>500</b>     | <b>934</b>    | <b>1000</b>   | <b>574</b>    | <b>874</b>    | <b>874</b>    | <b>711</b>  | <b>823</b>    | <b>946</b>    | <b>761</b>    |
| Oxygen Demand - Chemical (COD)              | mg/L  | 5                  |                |                | 40            | 36            | 17            | 47            | 47            | 39          | 49            | 134           | 80            |
| Solids - Total Suspended (TSS)              | mg/L  | 2                  |                |                | -             | -             | -             | -             | -             | -           | -             | -             | -             |
| Organic Carbon - Dissolved (DOC) (Filtered) | mg/L  | 0.2                | <b>3.5</b>     | <b>5</b>       | <b>14</b>     | <b>19</b>     | -             | <b>14</b>     | <b>14</b>     | <b>14</b>   | <b>12</b>     | <b>13.4</b>   | <b>10.6</b>   |
| Oxygen Demand - Biological (BOD)            | mg/L  | 2                  |                |                | -             | -             | -             | -             | -             | -           | -             | -             | -             |
| Phenols (4AAP)                              | mg/L  | 0.001              |                |                | -             | -             | 0.002         | -             | -             | 0.005       | -             | <0.002        | <0.002        |
| Sulphate                                    | mg/L  | 0.2                | <b>270</b>     | <b>500</b>     | 10            | 21            | 12            | 7             | 7             | 13          | 10            | 8             | 10            |
| Ammonia                                     | mg/L  | 0.01               |                |                | 14.3          | 9.7           | 5.8           | 14.5          | 14.5          | 6.9         | 11.3          | 16.4          | 13.6          |
| Nitrate (as N)                              | mg/L  | 0.05               | <b>4.22</b>    | <b>10</b>      | 0.62          | -             | 0.71          | 0.24          | 0.24          | 0.24        | 0.53          | 0.09          | 0.12          |
| Nitrite (as N)                              | mg/L  | 0.03               |                | <b>1</b>       | -             | 0.24          | <0.03         | -             | -             | <0.03       | -             | <0.05         | -             |
| Total Kjeldahl Nitrogen (TKN)               | mg/L  | 0.1                |                |                | -             | -             | 6.2           | -             | -             | 6.4         | -             | 21.5          | -             |
| Conductivity (lab)                          | µS/cm | 1                  |                |                | 1570          | 1660          | 980           | 1510          | 1510          | 1200        | 1470          | 1730          | 1400          |
| pH (Lab)                                    | -     | 0.05               | <b>6.5-8.5</b> | <b>6.5-8.5</b> | 7.22          | 7.25          | 7.44          | 7.21          | 7.21          | 7.48        | 7.31          | 7.35          | 7.38          |
| <b>Field</b>                                |       |                    |                |                |               |               |               |               |               |             |               |               |               |
| DO (Field)                                  | mg/L  |                    |                |                | -             | -             | 7.2           | 9             | -             | -           | 5.2           | 1.58          | 4.76          |
| Redox Potential (Field)                     | mV    |                    |                |                | -             | -             | -72           | 44            | -             | -           | -66           | 96            | 123           |
| Temp (Field)                                | °C    |                    |                |                | -             | -             | 10.2          | 11.3          | -             | 12.8        | 9.1           | 9             | 8.6           |
| Conductivity (field)                        | µS/cm |                    |                |                | -             | -             | 958           | 1124          | -             | -           | 973           | 1747          | 600           |
| pH (Field)                                  | -     |                    |                | <b>6.5-8.5</b> | -             | -             | 7.1           | 6.1           | -             | 6.9         | 7.4           | 7.08          | 6.55          |





Table 5 - Groundwater Quality - Shallow Bedrock

|   |       | Hall's Glen BR RUC | ODWQS          | Location       | MW06-1      | MW06-1      | MW06-1      | MW06-1      | MW06-1        | MW06-1      | MW06-1      | MW06-1     | MW06-1      | MW06-1 |
|---|-------|--------------------|----------------|----------------|-------------|-------------|-------------|-------------|---------------|-------------|-------------|------------|-------------|--------|
| Unit  |       | RDL                |                | Date           | 2016-11-01  | 2017-10-04  | 2019-05-30  | 2019-10-29  | 2019-11-08    | 2020-05-26  | 2020-11-18  | 2021-06-24 | 2021-11-11  |        |
| <b>Metals</b>                               |       |                    |                |                |             |             |             |             |               |             |             |            |             |        |
| Arsenic (Filtered)                          | µg/L  | 0.1                | <b>6.4</b>     | <b>25</b>      | 0.6         | 0.4         | 0.2         | 0.4         | 0.29          | 0.3         | 0.4         | 0.3        | 0.2         |        |
| Barium (Filtered)                           | µg/L  | 0.01               | <b>350</b>     | <b>1000</b>    | 331         | 268         | <b>402</b>  | 337         | 1.4           | 330         | 278         | 233        | 262         |        |
| Boron (Filtered)                            | µg/L  | 0.2                | <b>2529</b>    | <b>5000</b>    | 263         | 198         | 246         | 227         | 1340          | 207         | 176         | 87         | 79          |        |
| Calcium (Filtered)                          | µg/L  | 10                 |                |                | 191,000     | 151,000     | 198,000     | 217,000     | 16,400        | 172,000     | 172,000     | 151,000    | 189,000     |        |
| Cadmium (Filtered)                          | µg/L  | 0.003              |                | <b>5</b>       | <0.003      | 0.003       | <0.003      | 0.005       | <b>11,000</b> | 0.006       | <0.003      | <0.015     | <0.015      |        |
| Chloride (Filtered)                         | µg/L  | 200                | <b>195000</b>  | <b>250000</b>  | 120,000     | 94,000      | 130,000     | 120,000     | 0.4           | 92,000      | 120,000     | 124,000    | 167,000     |        |
| Chromium (III+VI) (Filtered)                | µg/L  | 0.03               |                | <b>50</b>      | 0.66        | 0.83        | 0.31        | 0.29        | <b>1460</b>   | 0.26        | 0.8         | <1         | <1          |        |
| Copper (Filtered)                           | µg/L  | 0.02               |                | <b>1000</b>    | 0.37        | 0.17        | 0.3         | 1.4         | <b>60,900</b> | 0.3         | 1.8         | 1.4        | 0.4         |        |
| Iron (Filtered)                             | µg/L  | 2                  | <b>154</b>     | <b>300</b>     | <b>2320</b> | <b>1320</b> | <b>684</b>  | <b>1340</b> | 0.26          | <b>410</b>  | <b>1630</b> | <b>717</b> | <b>1100</b> |        |
| Lead (Filtered)                             | µg/L  | 0.01               |                | <b>10</b>      | 0.14        | 0.18        | 0.2         | 0.26        | <500          | 0.13        | 0.15        | 0.15       | 0.08        |        |
| Manganese (Filtered)                        | µg/L  | 0.01               | <b>25.08</b>   | <b>50</b>      | <b>1270</b> | <b>1150</b> | <b>1530</b> | <b>1460</b> | <500          | <b>1720</b> | <b>1380</b> | <b>698</b> | <b>721</b>  |        |
| Magnesium (Filtered)                        | µg/L  | 1                  |                |                | 12,100      | 10,100      | 13,800      | 11,000      | <500          | 13,900      | 11,500      | 8040       | 8340        |        |
| Mercury (Filtered)                          | µg/L  | 0.01               |                | <b>1</b>       | <0.01       | -           | <10         | -           | 0.005         | <b>20</b>   | -           | <0.02      | <0.02       |        |
| Phosphorus (Filtered)                       | µg/L  | 3                  |                |                | -           | -           | 140         | -           | 9000          | 5           | -           | 280        | 400         |        |
| Potassium (Filtered)                        | µg/L  | 2                  |                |                | 15,000      | 12,000      | 18,300      | 16,400      | 4             | 16,800      | 14,800      | 8600       | 8300        |        |
| Sodium (Filtered)                           | µg/L  | 10                 | <b>136400</b>  | <b>200000</b>  | 68,300      | 62,200      | 71,400      | 60,900      | <500          | 75,100      | 63,500      | 64,200     | 74,300      |        |
| Zinc (Filtered)                             | µg/L  | 2                  |                | <b>5000</b>    | 2           | 5           | 3           | 4           | <200          | <2          | 3           | <5         | <5          |        |
| <b>Inorganics</b>                           |       |                    |                |                |             |             |             |             |               |             |             |            |             |        |
| Alkalinity (as CaCO3)                       | mg/L  | 2                  | <b>388</b>     | <b>500</b>     | <b>485</b>  | <b>490</b>  | <b>468</b>  | <b>429</b>  | <b>429</b>    | <b>470</b>  | <b>454</b>  | 342        | 347         |        |
| Hardness (as CaCO3) (Filtered)              | mg/L  | 1                  | <b>445</b>     | <b>500</b>     | -           | -           | -           | -           | -             | -           | -           | 411        | <b>508</b>  |        |
| Solids - Total Dissolved (TDS)              | mg/L  | 3                  | <b>647</b>     | <b>500</b>     | <b>754</b>  | <b>654</b>  | <b>749</b>  | <b>671</b>  | <b>671</b>    | <b>617</b>  | <b>749</b>  | <b>544</b> | <b>694</b>  |        |
| Oxygen Demand - Chemical (COD)              | mg/L  | 5                  |                |                | 17          | 17          | 25          | 11          | 11            | 16          | 19          | 31         | 51          |        |
| Solids - Total Suspended (TSS)              | mg/L  | 2                  |                |                | -           | -           | -           | -           | -             | -           | -           | -          | -           |        |
| Organic Carbon - Dissolved (DOC) (Filtered) | mg/L  | 0.2                | <b>3.5</b>     | <b>5</b>       | <b>8</b>    | <b>6</b>    | -           | <b>6</b>    | <b>217</b>    | <b>7</b>    | <b>5</b>    | <b>4.1</b> | 1.6         |        |
| Oxygen Demand - Biological (BOD)            | mg/L  | 2                  |                |                | -           | -           | -           | -           | -             | -           | -           | -          | -           |        |
| Phenols (4AAP)                              | mg/L  | 0.001              |                |                | -           | -           | 0.006       | -           | 0.5           | <0.002      | -           | <0.002     | <0.002      |        |
| Sulphate                                    | mg/L  | 0.2                | <b>270</b>     | <b>500</b>     | 49          | 37          | 44          | 43          | 6             | 37          | 33          | 29         | 47          |        |
| Ammonia                                     | mg/L  | 0.01               |                |                | 4.4         | 4.5         | 6.6         | 9           | 120           | 7.3         | 6.7         | 2.84       | 3.19        |        |
| Nitrate (as N)                              | mg/L  | 0.05               | <b>4.22</b>    | <b>10</b>      | 0.26        | -           | 0.65        | 0.5         | 0.227         | <0.06       | 0.12        | 1.5        | 1.55        |        |
| Nitrite (as N)                              | mg/L  | 0.03               |                | <b>1</b>       | -           | 0.11        | 0.28        | -           | 0.337         | <0.03       | -           | <0.05      | -           |        |
| Total Kjeldahl Nitrogen (TKN)               | mg/L  | 0.1                |                |                | -           | -           | 6.6         | -           | 43            | 6.8         | -           | 4.7        | -           |        |
| Conductivity (lab)                          | µS/cm | 1                  |                |                | 1350        | 1180        | 1260        | 1210        | 1210          | 1130        | 1300        | 1020       | 1280        |        |
| pH (Lab)                                    | -     | 0.05               | <b>6.5-8.5</b> | <b>6.5-8.5</b> | 7.63        | 7.45        | 7.21        | 7.94        | 7.94          | 7.6         | 7.49        | 7.59       | 7.62        |        |
| <b>Field</b>                                |       |                    |                |                |             |             |             |             |               |             |             |            |             |        |
| DO (Field)                                  | mg/L  |                    |                |                | -           | -           | 4.2         | 10.1        | -             | -           | 5.3         | 4.72       | 3.61        |        |
| Redox Potential (Field)                     | mV    |                    |                |                | -           | -           | -60         | -           | -             | -           | -20         | 143        | 83          |        |
| Temp (Field)                                | °C    |                    |                |                | -           | -           | 11.2        | 10.8        | -             | 13.8        | 9.8         | 10.2       | 9.4         |        |
| Conductivity (field)                        | µS/cm |                    |                |                | -           | -           | 918         | 919         | -             | -           | 1407        | 1023       | 553         |        |
| pH (Field)                                  | -     |                    |                |                | -           | -           | 7.2         | 6.9         | -             | 7           | 7.5         | 6.97       | 6.78        |        |





Table 5 - Groundwater Quality - Shallow Bedrock

|   | Unit  | RDL   | Hall's Glen BR RUC | ODWQS   | Location Date | MW07-1 2016-05-30 | MW07-1 2016-11-01 | MW07-1 2017-10-04 | MW07-1 2019-05-30 | MW07-1 2019-10-29 | MW07-1 2019-11-11 | MW07-1 2020-05-26 | MW07-1 2020-11-18 | MW07-1 2021-06-24 | MW07-1 2021-11-11 |
|---|-------|-------|--------------------|---------|---------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| <b>Metals</b>                               |       |       |                    |         |               |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |
| Arsenic (Filtered)                          | µg/L  | 0.1   | 6.4                | 25      |               | 0.7               | <0.2              | 0.8               | 0.5               | 0.8               | 0.8               | 0.6               | 0.7               | 0.5               | 1.1               |
| Barium (Filtered)                           | µg/L  | 0.01  | 390                | 1000    |               | 111               | 148               | 119               | 136               | 128               | 128               | 133               | 130               | 162               | 24                |
| Boron (Filtered)                            | µg/L  | 0.2   | 2529               | 5000    |               | 600               | 79                | 483               | 516               | 445               | 445               | 482               | 432               | 533               | 571               |
| Calcium (Filtered)                          | µg/L  | 10    |                    |         |               | 31,700            | 153,000           | 32,000            | 34,000            | 40,100            | 40,100            | 32,300            | 35,400            | 36,900            | 34,500            |
| Cadmium (Filtered)                          | µg/L  | 0.003 |                    | 5       |               | 0.006             | <0.003            | 0.016             | 0.003             | 0.016             | 0.016             | 0.004             | 0.011             | <0.015            | 0.053             |
| Chloride (Filtered)                         | µg/L  | 200   | 195000             | 250000  |               | 42,000            | 100,000           | 46,000            | 47,000            | 45,000            | 45,000            | 51,000            | 48,000            | 53,600            | 53,100            |
| Chromium (III+VI) (Filtered)                | µg/L  | 0.03  |                    | 50      |               | 0.4               | 0.61              | 0.68              | 0.13              | 0.17              | 0.17              | 0.12              | 0.81              | <1                | 4                 |
| Copper (Filtered)                           | µg/L  | 0.02  |                    | 1000    |               | 0.26              | 0.81              | 0.45              | <0.2              | 0.5               | 0.5               | 0.5               | 0.9               | 1.5               | 4.5               |
| Iron (Filtered)                             | µg/L  | 2     | 154                | 300     |               | 24                | 12                | 108               | 7                 | 9                 | 9                 | <7                | <7                | 88                | <5                |
| Lead (Filtered)                             | µg/L  | 0.01  |                    | 10      |               | <0.01             | 0.04              | 0.28              | 0.03              | 0.03              | 0.03              | 0.02              | 0.06              | 0.26              | 14.9              |
| Manganese (Filtered)                        | µg/L  | 0.01  | 25.08              | 50      |               | 0.22              | 8.7               | 24.9              | 0.76              | 8.31              | 8.31              | 0.21              | 2.71              | 6                 | 1                 |
| Magnesium (Filtered)                        | µg/L  | 1     |                    |         |               | 7440              | 5520              | 7020              | 7590              | 7520              | 7520              | 8370              | 7820              | 8900              | 9390              |
| Mercury (Filtered)                          | µg/L  | 0.01  |                    | 1       |               | <0.01             | <0.01             | -                 | <10               | -                 | -                 | 10                | -                 | <0.02             | 0.04              |
| Phosphorus (Filtered)                       | µg/L  | 3     |                    |         |               | <30               | -                 | -                 | 40                | -                 | -                 | <3                | -                 | 1910              | 1050              |
| Potassium (Filtered)                        | µg/L  | 2     |                    |         |               | 2310              | 3910              | 2240              | 2250              | 2550              | 2550              | 2160              | 2290              | 2300              | 2900              |
| Sodium (Filtered)                           | µg/L  | 10    | 136400             | 200000  |               | 159,000           | 47,800            | 141,000           | 151,000           | 152,000           | 152,000           | 163,000           | 143,000           | 157,000           | 163,000           |
| Zinc (Filtered)                             | µg/L  | 2     |                    | 5000    |               | <2                | 3                 | 6                 | 2                 | <2                | <2                | 3                 | 7                 | <5                | <5                |
| <b>Inorganics</b>                           |       |       |                    |         |               |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |
| Alkalinity (as CaCO3)                       | mg/L  | 2     | 388                | 500     |               | 330               | 322               | 337               | 370               | 328               | 328               | 359               | 367               | 336               | 316               |
| Hardness (as CaCO3) (Filtered)              | mg/L  | 1     | 445                | 500     |               | -                 | -                 | -                 | -                 | -                 | -                 | -                 | -                 | 129               | 125               |
| Solids - Total Dissolved (TDS)              | mg/L  | 3     | 647                | 500     |               | 457               | 569               | 489               | 474               | 469               | 469               | 489               | 466               | 421               | 433               |
| Oxygen Demand - Chemical (COD)              | mg/L  | 5     |                    |         |               | <8                | <8                | <8                | 65                | <8                | <8                | <8                | <8                | 125               | 76                |
| Solids - Total Suspended (TSS)              | mg/L  | 2     |                    |         |               | -                 | -                 | -                 | -                 | -                 | -                 | -                 | -                 | -                 | -                 |
| Organic Carbon - Dissolved (DOC) (Filtered) | mg/L  | 0.2   | 3.5                | 5       |               | 1.5               | 3                 | 2                 | -                 | 2                 | 2                 | 1                 | 1                 | 4.5               | 2.4               |
| Oxygen Demand - Biological (BOD)            | mg/L  | 2     |                    |         |               | -                 | -                 | -                 | -                 | -                 | -                 | -                 | -                 | -                 | -                 |
| Phenols (4AAP)                              | mg/L  | 0.001 |                    |         |               | 0.004             | -                 | -                 | 0.002             | -                 | -                 | 0.003             | -                 | <0.002            | <0.002            |
| Sulphate                                    | mg/L  | 0.2   | 270                | 500     |               | 30                | 17                | 31                | 34                | 33                | 33                | 32                | 29                | 31                | 30                |
| Ammonia                                     | mg/L  | 0.01  |                    |         |               | <0.1              | <0.1              | 0.1               | <0.1              | 0.1               | 0.1               | <0.1              | <0.1              | 0.04              | 0.06              |
| Nitrate (as N)                              | mg/L  | 0.05  | 4.22               | 10      |               | <0.06             | 1.67              | -                 | 0.13              | 0.25              | 0.25              | 0.17              | 0.23              | 0.19              | 0.19              |
| Nitrite (as N)                              | mg/L  | 0.03  |                    | 1       |               | <0.03             | -                 | 0.07              | <0.03             | -                 | -                 | <0.03             | -                 | <0.05             | -                 |
| Total Kjeldahl Nitrogen (TKN)               | mg/L  | 0.1   |                    |         |               | <0.5              | -                 | -                 | <0.5              | -                 | -                 | <0.5              | -                 | 1.3               | -                 |
| Conductivity (lab)                          | µS/cm | 1     |                    |         |               | 791               | 979               | 816               | 808               | 844               | 844               | 790               | 808               | 802               | 822               |
| pH (Lab)                                    | -     | 0.05  | 6.5-8.5            | 6.5-8.5 |               | 8.28              | 7.75              | 8.27              | 7.92              | 8.12              | 8.12              | 8.08              | 8.08              | 8.16              | 8.16              |
| <b>Field</b>                                |       |       |                    |         |               |                   |                   |                   |                   |                   |                   |                   |                   |                   |                   |
| DO (Field)                                  | mg/L  |       |                    |         |               | -                 | -                 | -                 | 6                 | 10.6              | -                 | -                 | 5.4               | 9.94              | 6.7               |
| Redox Potential (Field)                     | mV    |       |                    |         |               | -                 | -                 | -                 | 56                | 51                | -                 | -                 | 22                | 138               | 121               |
| Temp (Field)                                | °C    |       |                    |         |               | -                 | -                 | -                 | 10.1              | 10.3              | -                 | 12.8              | 9.4               | 11.1              | 9.3               |
| Conductivity (field)                        | µS/cm |       |                    |         |               | -                 | -                 | -                 | 590               | 597               | -                 | -                 | 524               | 800               | 354               |
| pH (Field)                                  | -     |       |                    | 6.5-8.5 |               | -                 | -                 | -                 | 8                 | 7.3               | -                 | 7.4               | 8.1               | 8.71              | 7.73              |





Table 5 - Groundwater Quality - Shallow Bedrock

|   |       | Hall's Glen BR RUC | ODWQS   | Location | MW08-2     | MW08-2     | MW08-2         | MW08-2     | MW08-2     | MW08-2     | MW08-2     | MW08-2     | MW08-2     |
|---|-------|--------------------|---------|----------|------------|------------|----------------|------------|------------|------------|------------|------------|------------|
| Unit  | RDL   |                    |         | Date     | 2017-05-31 | 2017-10-04 | 2019-05-30     | 2019-10-29 | 2019-11-08 | 2020-05-26 | 2020-11-18 | 2021-06-24 | 2021-11-11 |
| <b>Metals</b>                               |       |                    |         |          |            |            |                |            |            |            |            |            |            |
| Arsenic (Filtered)                          | µg/L  | 0.1                | 6.4     | 25       | <0.2       | <0.2       | <0.2           | <0.2       | <0.2       | <0.2       | <0.2       | <0.1       | <0.1       |
| Barium (Filtered)                           | µg/L  | 0.01               | 390     | 1000     | 87.5       | 148        | 53.1           | 158        | 158        | 81.1       | 162        | 135        | 168        |
| Boron (Filtered)                            | µg/L  | 0.2                | 2529    | 5000     | 20         | 31         | 14             | 50         | 50         | 26         | 23         | 15         | 28         |
| Calcium (Filtered)                          | µg/L  | 10                 |         |          | 81,900     | 118,000    | 103,000        | 127,000    | 127,000    | 80,100     | 145,000    | 114,000    | 119,000    |
| Cadmium (Filtered)                          | µg/L  | 0.003              |         | 5        | <0.003     | 0.005      | <0.003 - 0.003 | 0.005      | 0.005      | 0.025      | <0.003     | <0.015     | <0.015     |
| Chloride (Filtered)                         | µg/L  | 200                | 195000  | 250000   | 45,000     | 68,000     | 3000           | 69,000     | 69,000     | 9000       | 120,000    | 65,500     | 67,500     |
| Chromium (III+VI) (Filtered)                | µg/L  | 0.03               |         | 50       | 0.61       | 0.67       | 0.27           | 0.25       | 0.25       | 0.26       | 0.31       | 73         | <1         |
| Copper (Filtered)                           | µg/L  | 0.02               |         | 1000     | 0.48       | 0.87       | 0.3            | 0.8        | 0.8        | 1.4        | 1.1        | 0.8        | 1          |
| Iron (Filtered)                             | µg/L  | 2                  | 154     | 300      | <7         | <7         | 7              | 10         | 10         | 24         | 15         | 19         | <5         |
| Lead (Filtered)                             | µg/L  | 0.01               |         | 10       | <0.01      | <0.01      | <3 - 0.02      | 0.03       | 0.03       | 0.09       | 0.04       | 0.13       | 0.03       |
| Manganese (Filtered)                        | µg/L  | 0.01               | 25.08   | 50       | 1.75       | 1.89       | 0.74           | 4.33       | 4.33       | 4.34       | 0.97       | 4          | 2          |
| Magnesium (Filtered)                        | µg/L  | 1                  |         |          | 2620       | 4140       | 2820           | 3820       | 3820       | 2680       | 5280       | 4060       | 4140       |
| Mercury (Filtered)                          | µg/L  | 0.01               |         | 1        | <10        | <10        | <10            | <10        | <10        | 10         | <10        | <0.02      | <0.02      |
| Phosphorus (Filtered)                       | µg/L  | 3                  |         |          | <30        | <30        | 0.02           | -          | 30         | <30        | <30        | 100        | 110        |
| Potassium (Filtered)                        | µg/L  | 2                  |         |          | 817        | 1370       | 472            | 1400       | 1400       | 738        | 1210       | 1000       | 1800       |
| Sodium (Filtered)                           | µg/L  | 10                 | 136400  | 200000   | 30,500     | 36,500     | 3740           | 36,800     | 36,800     | 23,500     | 29,400     | 38,300     | 44,000     |
| Zinc (Filtered)                             | µg/L  | 2                  |         | 5000     | <2         | <2         | 2              | 3          | 3          | 9          | <2         | <5         | <5         |
| <b>Inorganics</b>                           |       |                    |         |          |            |            |                |            |            |            |            |            |            |
| Alkalinity (as CaCO3)                       | mg/L  | 2                  | 388     | 500      | 221        | 300        | 235            | 272        | 272        | 235        | 283        | 276        | 275        |
| Hardness (as CaCO3) (Filtered)              | mg/L  | 1                  | 445     | 500      | -          | -          | -              | -          | -          | -          | -          | 302        | 316        |
| Solids - Total Dissolved (TDS)              | mg/L  | 3                  | 647     | 500      | 297        | 443        | 257            | 434        | 434        | 240        | 480        | 364        | 389        |
| Oxygen Demand - Chemical (COD)              | mg/L  | 5                  |         |          | <8         | <8         | <8             | <8         | <8         | 16         | <8         | 7          | 10         |
| Solids - Total Suspended (TSS)              | mg/L  | 2                  |         |          | 17         | <2         | 23             | 37         | 37         | 20         | 22         | -          | -          |
| Organic Carbon - Dissolved (DOC) (Filtered) | mg/L  | 0.2                | 3.5     | 5        | -          | -          | -              | -          | -          | -          | -          | 3.7        | 2.7        |
| Oxygen Demand - Biological (BOD)            | mg/L  | 2                  |         |          | <4         | 5          | <4             | <4         | <4         | <4         | <4         | -          | -          |
| Phenols (4AAP)                              | mg/L  | 0.001              |         |          | <0.001     | <0.001     | 0.002          | <0.001     | <0.001     | <0.001     | <0.001     | <0.002     | <0.002     |
| Sulphate                                    | mg/L  | 0.2                | 270     | 500      | 3          | 10         | 7              | 12         | 12         | 6          | 10         | 9          | 10         |
| Ammonia                                     | mg/L  | 0.01               |         |          | <0.1       | <0.1       | <0.1           | <0.1       | <0.1       | <0.1       | <0.1       | <0.01      | <0.01      |
| Nitrate (as N)                              | mg/L  | 0.05               | 4.22    | 10       | <0.06      | 0.35       | <0.06          | 0.66       | 0.66       | 0.15       | 0.67       | 0.74       | 0.41       |
| Nitrite (as N)                              | mg/L  | 0.03               |         | 1        | <0.03      | <0.03      | <0.03          | <0.03      | <0.03      | <0.03      | <0.03      | <0.05      | <0.05      |
| Total Kjeldahl Nitrogen (TKN)               | mg/L  | 0.1                |         |          | <0.5       | <0.5       | <0.5           | <0.5       | <0.5       | <0.5       | <0.5       | 0.4        | 0.3        |
| Conductivity (lab)                          | µS/cm | 1                  |         |          | 535        | 781        | 429            | 748        | 748        | 452        | 838        | 700        | 744        |
| pH (Lab)                                    | -     | 0.05               | 6.5-8.5 | 6.5-8.5  | 7.88       | 7.63       | 7.66           | 8.12       | 8.12       | 7.85       | 7.81       | 7.94       | 8.27       |
| <b>Field</b>                                |       |                    |         |          |            |            |                |            |            |            |            |            |            |
| DO (Field)                                  | mg/L  |                    |         |          | -          | -          | 3.4            | 8.8        | -          | -          | 11.3       | 13.26      | 2.49       |
| Redox Potential (Field)                     | mV    |                    |         |          | -          | -          | 196            | 79         | -          | -          | 135        | 140        | -73        |
| Temp (Field)                                | °C    |                    |         |          | -          | -          | 8.5            | 13.4       | -          | 16.4       | 6.2        | 9.3        | 9.2        |
| Conductivity (field)                        | µS/cm |                    |         |          | -          | -          | 419            | 803        | -          | -          | 486        | 652        | 334        |
| pH (Field)                                  | -     |                    |         |          | -          | -          | 7.7            | 6.1        | -          | 8.1        | 8.6        | 8.78       | 7.27       |





Table 5 - Groundwater Quality - Shallow Bedrock

| Unit  | RDL   | Hall's Glen BR RUC | ODWQS          | Location       | MW09-2     | MW09-2         | MW09-2     | MW09-2     | MW09-2      | MW09-2     | MW09-2     | MW09-2     |  |
|---|-------|--------------------|----------------|----------------|------------|----------------|------------|------------|-------------|------------|------------|------------|--|
|   |       |                    |                | Date           | 2017-10-04 | 2019-05-30     | 2019-10-29 | 2019-11-08 | 2020-05-26  | 2020-11-18 | 2021-06-28 | 2021-11-11 |  |
| <b>Metals</b>                               |       |                    |                |                |            |                |            |            |             |            |            |            |  |
| Arsenic (Filtered)                          | µg/L  | 0.1                | <b>6.4</b>     | <b>25</b>      | 0.3        | 0.3            | <0.2       | <0.2       | 0.4         | <0.2       | 0.2        | 0.1        |  |
| Barium (Filtered)                           | µg/L  | 0.01               | <b>390</b>     | <b>1000</b>    | 258        | 158            | 184        | 184        | 285         | 176        | 210        | 203        |  |
| Boron (Filtered)                            | µg/L  | 0.2                | <b>2529</b>    | <b>5000</b>    | 84         | 26             | 65         | 65         | 143         | 39         | 40         | 45         |  |
| Calcium (Filtered)                          | µg/L  | 10                 |                |                | 107,000    | 105,000        | 121,000    | 121,000    | 80,800      | 126,000    | 124,000    | 119,000    |  |
| Cadmium (Filtered)                          | µg/L  | 0.003              |                | <b>5</b>       | <0.003     | <0.003 - 0.003 | 0.003      | <0.003     | 0.007       | 0.01       | <0.015     | <0.015     |  |
| Chloride (Filtered)                         | µg/L  | 200                | <b>195000</b>  | <b>250000</b>  | 70,000     | 66,000         | 73,000     | 73,000     | 50,000      | 77,000     | 88,500     | 70,500     |  |
| Chromium (III+VI) (Filtered)                | µg/L  | 0.03               |                | <b>50</b>      | 0.71       | 0.15           | 0.16       | 0.16       | 0.23        | 0.28       | <1         | <1         |  |
| Copper (Filtered)                           | µg/L  | 0.02               |                | <b>1000</b>    | 0.4        | 0.8            | 1.4        | 1.4        | <0.2        | 4.2        | 0.6        | 0.4        |  |
| Iron (Filtered)                             | µg/L  | 2                  | <b>154</b>     | <b>300</b>     | <b>205</b> | <b>293</b>     | 38         | 38         | <b>302</b>  | 15         | 87         | 43         |  |
| Lead (Filtered)                             | µg/L  | 0.01               |                | <b>10</b>      | <0.01      | <3 - 0.02      | 0.02       | 0.02       | 0.01        | 0.04       | 0.03       | <0.02      |  |
| Manganese (Filtered)                        | µg/L  | 0.01               | <b>25.08</b>   | <b>50</b>      | 15.9       | <b>29.1</b>    | 4.64       | 4.64       | <b>33.2</b> | 3.31       | 3          | 3          |  |
| Magnesium (Filtered)                        | µg/L  | 1                  |                |                | 5780       | 3890           | 3820       | 3820       | 8760        | 4270       | 4640       | 4550       |  |
| Mercury (Filtered)                          | µg/L  | 0.01               |                | <b>1</b>       | <10        | <10            | <10        | <10        | <10         | <10        | <0.02      | <0.02      |  |
| Phosphorus (Filtered)                       | µg/L  | 3                  |                |                | <30        | 0.02           | -          | <30        | <30         | <30        | 40         | 20         |  |
| Potassium (Filtered)                        | µg/L  | 2                  |                |                | 2600       | 2160           | 2570       | 2570       | 2740        | 2650       | 2300       | 2700       |  |
| Sodium (Filtered)                           | µg/L  | 10                 | <b>136400</b>  | <b>200000</b>  | 45,700     | 42,900         | 46,500     | 46,500     | 44,400      | 44,600     | 55,600     | 48,200     |  |
| Zinc (Filtered)                             | µg/L  | 2                  |                | <b>5000</b>    | <2         | 3              | 3          | 3          | 2           | <2         | <5         | <5         |  |
| <b>Inorganics</b>                           |       |                    |                |                |            |                |            |            |             |            |            |            |  |
| Alkalinity (as CaCO3)                       | mg/L  | 2                  | <b>388</b>     | <b>500</b>     | 274        | 241            | 260        | 260        | 233         | 295        | 271        | 280        |  |
| Hardness (as CaCO3) (Filtered)              | mg/L  | 1                  | <b>445</b>     | <b>500</b>     | -          | -              | -          | -          | -           | -          | 329        | 315        |  |
| Solids - Total Dissolved (TDS)              | mg/L  | 3                  | <b>647</b>     | <b>500</b>     | 420        | 214            | 414        | 414        | 311         | 437        | 432        | 409        |  |
| Oxygen Demand - Chemical (COD)              | mg/L  | 5                  |                |                | 10         | <8             | <8         | <8         | <8          | <8         | <5         | 11         |  |
| Solids - Total Suspended (TSS)              | mg/L  | 2                  |                |                | <2         | 66             | 2          | 2          | 6           | 2          | -          | -          |  |
| Organic Carbon - Dissolved (DOC) (Filtered) | mg/L  | 0.2                | <b>3.5</b>     | <b>5</b>       | -          | -              | -          | -          | -           | -          | 3.3        | 2.4        |  |
| Oxygen Demand - Biological (BOD)            | mg/L  | 2                  |                |                | <4         | <4             | <4         | <4         | <4          | <4         | -          | -          |  |
| Phenols (4AAP)                              | mg/L  | 0.001              |                |                | <0.001     | 0.003          | <0.001     | <0.001     | <0.001      | <0.001     | <0.002     | <0.002     |  |
| Sulphate                                    | mg/L  | 0.2                | <b>270</b>     | <b>500</b>     | 14         | 16             | 11         | 11         | 10          | 10         | 13         | 13         |  |
| Ammonia                                     | mg/L  | 0.01               |                |                | 0.1        | <0.1           | <0.1       | <0.1       | <0.1        | <0.1       | 0.03       | 0.03       |  |
| Nitrate (as N)                              | mg/L  | 0.05               | <b>4.22</b>    | <b>10</b>      | 0.37       | <0.06          | 0.93       | 0.93       | <0.06       | 1.17       | 1.21       | 0.73       |  |
| Nitrite (as N)                              | mg/L  | 0.03               |                | <b>1</b>       | <0.03      | <0.03          | <0.03      | <0.03      | <0.03       | <0.03      | <0.05      | <0.05      |  |
| Total Kjeldahl Nitrogen (TKN)               | mg/L  | 0.1                |                |                | <0.5       | <0.5           | <0.1       | <0.5       | <0.5        | <0.5       | 0.2        | 0.2        |  |
| Conductivity (lab)                          | µS/cm | 1                  |                |                | 719        | 653            | 737        | 737        | 591         | 791        | 821        | 780        |  |
| pH (Lab)                                    | -     | 0.05               | <b>6.5-8.5</b> | <b>6.5-8.5</b> | 7.57       | 8              | 8.11       | 8.11       | 7.9         | 7.91       | 7.69       | 7.66       |  |
| <b>Field</b>                                |       |                    |                |                |            |                |            |            |             |            |            |            |  |
| DO (Field)                                  | mg/L  |                    |                |                | -          | 3.6            | 4.1        | -          | -           | 5          | 2.63       | 2.91       |  |
| Redox Potential (Field)                     | mV    |                    |                |                | -          | -125           | -86        | -          | -           | 60         | 160        | 30         |  |
| Temp (Field)                                | °C    |                    |                |                | -          | 10.3           | 14.1       | -          | 1.7         | 7.4        | 10.7       | 9.8        |  |
| Conductivity (field)                        | µS/cm |                    |                |                | -          | 404            | 655        | -          | -           | 471        | 792        | 332        |  |
| pH (Field)                                  | -     |                    |                | <b>6.5-8.5</b> | -          | 7.7            | 7.4        | -          | 7.6         | 8          | 7.08       | 7.01       |  |





Table 5 - Groundwater Quality - Shallow Bedrock

|   |       | Hall's Glen BR RUC | ODWQS   | Location | MW10-2     | MW10-2     | MW10-2         | MW10-2     | MW10-2     | MW10-2     | MW10-2     | MW10-2     | MW10-2     |
|---|-------|--------------------|---------|----------|------------|------------|----------------|------------|------------|------------|------------|------------|------------|
|   |       |                    |         | Date     | 2017-05-31 | 2017-10-04 | 2019-05-30     | 2019-10-29 | 2019-11-08 | 2020-05-26 | 2020-11-18 | 2021-06-24 | 2021-11-11 |
| Metals                                      | Unit  | RDL                |         |          |            |            |                |            |            |            |            |            |            |
| Arsenic (Filtered)                          | µg/L  | 0.1                | 6.4     | 25       | <0.2       | <0.2       | <0.2 - 0.2     | <0.2       | <0.2       | <0.2       | <0.2       | 0.3        | <0.1       |
| Barium (Filtered)                           | µg/L  | 0.01               | 390     | 1000     | 459        | 506        | 626            | 580        | 580        | 491        | 416        | 510        | 574        |
| Boron (Filtered)                            | µg/L  | 0.2                | 2529    | 5000     | 123        | 131        | 118            | 145        | 145        | 106        | 96         | 109        | 125        |
| Calcium (Filtered)                          | µg/L  | 10                 |         |          | 91,200     | 104,000    | 117,000        | 129,000    | 129,000    | 98,500     | 99,900     | 118,000    | 119,000    |
| Cadmium (Filtered)                          | µg/L  | 0.003              |         | 5        | <0.003     | 0.004      | <0.003 - 0.003 | 0.003      | <0.003     | <0.003     | <0.003     | <0.015     | <0.015     |
| Chloride (Filtered)                         | µg/L  | 200                | 195000  | 250000   | 48,000     | 51,000     | 48,000         | 48,000     | 48,000     | 54,000     | 53,000     | 59,600     | 58,700     |
| Chromium (III+VI) (Filtered)                | µg/L  | 0.03               |         | 50       | 0.68       | 0.59       | 0.14           | 0.12       | 0.12       | 0.16       | 0.22       | <1         | <1         |
| Copper (Filtered)                           | µg/L  | 0.02               |         | 1000     | 0.27       | 0.15       | 0.3            | <0.2       | <0.2       | 0.4        | 0.8        | 1.2        | 0.6        |
| Iron (Filtered)                             | µg/L  | 2                  | 154     | 300      | 3340       | 3370       | 6910           | 4030       | 4030       | 886        | 3290       | <5         | 5280       |
| Lead (Filtered)                             | µg/L  | 0.01               |         | 10       | <0.01      | <0.01      | 0.12 - 20      | 0.01       | <0.01      | <0.01      | 0.04       | 0.46       | <0.02      |
| Manganese (Filtered)                        | µg/L  | 0.01               | 25.08   | 50       | 97.3       | 60.1       | 171            | 54.4       | 54.4       | 95.1       | 58         | 38         | 42         |
| Magnesium (Filtered)                        | µg/L  | 1                  |         |          | 11,300     | 11,000     | 11,200         | 10,900     | 10,900     | 12,700     | 10,400     | 11,400     | 11,300     |
| Mercury (Filtered)                          | µg/L  | 0.01               |         | 1        | <10        | <10        | <10            | <10        | <10        | 10         | <10        | <0.02      | <0.02      |
| Phosphorus (Filtered)                       | µg/L  | 3                  |         |          | <30        | 30         | 0.12           | -          | 60         | 40         | 80         | 110        | 90         |
| Potassium (Filtered)                        | µg/L  | 2                  |         |          | 2580       | 2600       | 2420           | 2690       | 2690       | 2460       | 2600       | 2000       | 2500       |
| Sodium (Filtered)                           | µg/L  | 10                 | 136400  | 200000   | 8990       | 6070       | 7470           | 5540       | 5540       | 9830       | 6930       | 6100       | 6500       |
| Zinc (Filtered)                             | µg/L  | 2                  |         | 5000     | <2         | <2         | 5              | <2         | <2         | 2          | <2         | <5         | <5         |
| Inorganics                                  |       |                    |         |          |            |            |                |            |            |            |            |            |            |
| Alkalinity (as CaCO3)                       | mg/L  | 2                  | 388     | 500      | 171        | 233        | 243            | 245        | 245        | 243        | 258        | 260        | 250        |
| Hardness (as CaCO3) (Filtered)              | mg/L  | 1                  | 445     | 500      | -          | -          | -              | -          | -          | -          | -          | 342        | 343        |
| Solids - Total Dissolved (TDS)              | mg/L  | 3                  | 647     | 500      | 269        | 406        | 334            | 354        | 354        | 389        | 351        | 343        | 351        |
| Oxygen Demand - Chemical (COD)              | mg/L  | 5                  |         |          | <8         | <8         | <8             | <8         | <8         | 8          | <8         | 53         | 9          |
| Solids - Total Suspended (TSS)              | mg/L  | 2                  |         |          | 118        | 10         | 50             | 55         | 55         | 42         | 56         | -          | -          |
| Organic Carbon - Dissolved (DOC) (Filtered) | mg/L  | 0.2                | 3.5     | 5        | -          | -          | -              | -          | -          | -          | -          | 2.8        | 2.6        |
| Oxygen Demand - Biological (BOD)            | mg/L  | 2                  |         |          | <4         | 4          | <4             | <4         | <4         | 4          | <4         | -          | -          |
| Phenols (4AAP)                              | mg/L  | 0.001              |         |          | 0.004      | <0.001     | <0.001         | <0.001     | <0.001     | <0.001     | 0.001      | <0.002     | 0.013      |
| Sulphate                                    | mg/L  | 0.2                | 270     | 500      | 12         | 9          | 8              | 7          | 7          | 10         | 6          | 10         | 9          |
| Ammonia                                     | mg/L  | 0.01               |         |          | 0.5        | 1          | 0.8            | 1.1        | 1.1        | 0.9        | 1          | 0.93       | 1.04       |
| Nitrate (as N)                              | mg/L  | 0.05               | 4.22    | 10       | 0.08       | <0.06      | 0.08           | 0.08       | 0.08       | <0.06      | <0.06      | 0.07       | <0.05      |
| Nitrite (as N)                              | mg/L  | 0.03               |         | 1        | 0.03       | <0.03      | 0.07           | 0.04       | 0.04       | <0.03      | <0.03      | <0.05      | <0.05      |
| Total Kjeldahl Nitrogen (TKN)               | mg/L  | 0.1                |         |          | 0.8        | 1.1        | 0.7            | 1.1        | 1.1        | 0.8        | 1          | 1          | 1.1        |
| Conductivity (lab)                          | µS/cm | 1                  |         |          | 483        | 631        | 599            | 621        | 621        | 618        | 623        | 660        | 675        |
| pH (Lab)                                    | -     | 0.05               | 6.5-8.5 | 6.5-8.5  | 7.92       | 7.67       | 7.54           | 8.03       | 8.03       | 7.83       | 7.79       | 7.83       | 7.68       |
| Field                                       |       |                    |         |          |            |            |                |            |            |            |            |            |            |
| DO (Field)                                  | mg/L  |                    |         |          | -          | -          | 3.6            | 4          | -          | -          | 4.2        | 2.87       | 2.81       |
| Redox Potential (Field)                     | mV    |                    |         |          | -          | -          | -109           | -115       | -          | -          | -148       | -15        | 19         |
| Temp (Field)                                | °C    |                    |         |          | -          | -          | 10.6           | 13.8       | -          | 15.1       | 6.7        | 9          | 10.3       |
| Conductivity (field)                        | µS/cm |                    |         |          | -          | -          | 442            | 518        | -          | -          | 364        | 665        | 297        |
| pH (Field)                                  | -     |                    |         | 6.5-8.5  | -          | -          | 7.6            | 7.6        | -          | 7.7        | 7.9        | 8.45       | 7.38       |





Table 5 - Groundwater Quality - Shallow Bedrock

|   |       | Hall's Glen BR RUC | ODWQS          | Location       | MW11-2      | MW11-2           | MW11-2     | MW11-2     | MW11-2      | MW11-2      | MW11-2      | MW11-2      |
|---|-------|--------------------|----------------|----------------|-------------|------------------|------------|------------|-------------|-------------|-------------|-------------|
| Unit  | RDL   |                    |                | Date           | 2017-10-04  | 2019-05-30       | 2019-10-29 | 2019-11-08 | 2020-05-26  | 2020-11-18  | 2021-06-24  | 2021-11-11  |
| <b>Metals</b>                               |       |                    |                |                |             |                  |            |            |             |             |             |             |
| Arsenic (Filtered)                          | µg/L  | 0.1                | <b>6.4</b>     | <b>25</b>      | <0.2        | <0.2             | 0.7        | 0.7        | <0.2        | <0.2        | <0.1        | <0.1        |
| Barium (Filtered)                           | µg/L  | 0.01               | <b>350</b>     | <b>1000</b>    | <b>449</b>  | 381              | 40.8       | 40.8       | <b>504</b>  | 358         | <b>528</b>  | <b>528</b>  |
| Boron (Filtered)                            | µg/L  | 0.2                | <b>2529</b>    | <b>5000</b>    | 123         | 85               | 176        | 176        | 150         | 164         | 127         | 143         |
| Calcium (Filtered)                          | µg/L  | 10                 |                |                | 93,800      | 96,600           | 147,000    | 147,000    | 102,000     | 93,400      | 117,000     | 113,000     |
| Cadmium (Filtered)                          | µg/L  | 0.003              |                | <b>5</b>       | <0.003      | <0.003 - 0.003   | 0.005      | 0.005      | 0.005       | <0.003      | <0.015      | <0.015      |
| Chloride (Filtered)                         | µg/L  | 200                | <b>195000</b>  | <b>250000</b>  | 36,000      | 14,000           | 33,000     | 33,000     | 21,000      | 43,000      | 52,000      | 41,000      |
| Chromium (III+VI) (Filtered)                | µg/L  | 0.03               |                | <b>50</b>      | 0.53        | 0.59             | 0.2        | 0.2        | 0.18        | 0.21        | <1          | <1          |
| Copper (Filtered)                           | µg/L  | 0.02               |                | <b>1000</b>    | 0.19        | <0.2             | 1.1        | 1.1        | 0.5         | 0.4         | 0.8         | 0.3         |
| Iron (Filtered)                             | µg/L  | 2                  | <b>154</b>     | <b>300</b>     | <b>2130</b> | <b>1550</b>      | 124        | 124        | <b>2130</b> | <b>1060</b> | <b>3030</b> | <b>2750</b> |
| Lead (Filtered)                             | µg/L  | 0.01               |                | <b>10</b>      | 0.01        | <b>0.01 - 12</b> | 0.02       | 0.02       | 0.03        | 0.04        | 0.06        | <0.02       |
| Manganese (Filtered)                        | µg/L  | 0.01               | <b>25.08</b>   | <b>50</b>      | <b>29.6</b> | 24.5             | 14.7       | 14.7       | <b>31.4</b> | 19.8        | <b>35</b>   | <b>33</b>   |
| Magnesium (Filtered)                        | µg/L  | 1                  |                |                | 8590        | 7400             | 22,100     | 221,000    | 12,700      | 12,300      | 11,300      | 11,100      |
| Mercury (Filtered)                          | µg/L  | 0.01               |                | <b>1</b>       | <10         | <10              | <10        | <10        | <b>30</b>   | <10         | <0.02       | <0.02       |
| Phosphorus (Filtered)                       | µg/L  | 3                  |                |                | 40          | <0.01            | -          | 40         | <30         | 30          | 80          | 80          |
| Potassium (Filtered)                        | µg/L  | 2                  |                |                | 2280        | 1990             | 7590       | 7590       | 2860        | 3720        | 2300        | 2800        |
| Sodium (Filtered)                           | µg/L  | 10                 | <b>136400</b>  | <b>200000</b>  | 5300        | 6300             | 76,700     | 76,700     | 8390        | 6200        | 7300        | 6700        |
| Zinc (Filtered)                             | µg/L  | 2                  |                | <b>5000</b>    | 3           | 4                | 4          | 4          | 8           | <2          | <5          | <5          |
| <b>Inorganics</b>                           |       |                    |                |                |             |                  |            |            |             |             |             |             |
| Alkalinity (as CaCO3)                       | mg/L  | 2                  | <b>388</b>     | <b>500</b>     | 255         | 224              | 242        | 242        | 227         | 242         | 271         | 250         |
| Hardness (as CaCO3) (Filtered)              | mg/L  | 1                  | <b>445</b>     | <b>500</b>     | -           | -                | -          | -          | -           | -           | 339         | 329         |
| Solids - Total Dissolved (TDS)              | mg/L  | 3                  | <b>647</b>     | <b>500</b>     | 391         | 274              | 320        | 320        | 274         | 343         | 342         | 329         |
| Oxygen Demand - Chemical (COD)              | mg/L  | 5                  |                |                | 8           | <8               | <8         | <8         | 13          | <8          | <5          | 8           |
| Solids - Total Suspended (TSS)              | mg/L  | 2                  |                |                | 3           | 5                | 6          | 6          | 8           | 17          | -           | -           |
| Organic Carbon - Dissolved (DOC) (Filtered) | mg/L  | 0.2                | <b>3.5</b>     | <b>5</b>       | -           | -                | -          | -          | -           | -           | <b>4.4</b>  | 2.2         |
| Oxygen Demand - Biological (BOD)            | mg/L  | 2                  |                |                | <4          | <4               | <4         | <4         | 7           | <4          | -           | -           |
| Phenols (4AAP)                              | mg/L  | 0.001              |                |                | <0.001      | <0.001           | <0.001     | <0.001     | 0.002       | 0.001       | <0.002      | <0.002      |
| Sulphate                                    | mg/L  | 0.2                | <b>270</b>     | <b>500</b>     | 7           | 6                | 10         | 10         | 17          | 9           | 11          | 10          |
| Ammonia                                     | mg/L  | 0.01               |                |                | 0.9         | 0.5              | 0.9        | 0.9        | 0.7         | 0.9         | 0.95        | 0.96        |
| Nitrate (as N)                              | mg/L  | 0.05               | <b>4.22</b>    | <b>10</b>      | <0.06       | <0.06            | 0.18       | 0.18       | 0.13        | <0.06       | 0.07        | <0.05       |
| Nitrite (as N)                              | mg/L  | 0.03               |                | <b>1</b>       | <0.03       | <0.03            | <0.03      | <0.03      | <0.03       | <0.03       | <0.05       | <0.05       |
| Total Kjeldahl Nitrogen (TKN)               | mg/L  | 0.1                |                |                | 0.9         | <0.5             | 1          | 1          | 0.6         | 0.8         | 1           | 1.1         |
| Conductivity (lab)                          | µS/cm | 1                  |                |                | 603         | 465              | 584        | 584        | 520         | 547         | 659         | 633         |
| pH (Lab)                                    | -     | 0.05               | <b>6.5-8.5</b> | <b>6.5-8.5</b> | 7.63        | 8.09             | 8.1        | 8.1        | 7.76        | 7.77        | 7.81        | 7.8         |
| <b>Field</b>                                |       |                    |                |                |             |                  |            |            |             |             |             |             |
| DO (Field)                                  | mg/L  |                    |                |                | -           | 4                | 5.7        | -          | -           | 6.4         | 1.55        | 7.98        |
| Redox Potential (Field)                     | mV    |                    |                |                | -           | -93              | -122       | -          | -           | -60         | 136         | 15          |
| Temp (Field)                                | °C    |                    |                |                | -           | 9.1              | 12.5       | -          | 15.1        | 4.9         | 7.7         | 9           |
| Conductivity (field)                        | µS/cm |                    |                |                | -           | 345              | 528        | -          | -           | 350         | 672         | 286         |
| pH (Field)                                  | -     |                    |                | <b>6.5-8.5</b> | -           | 7.8              | 7.7        | -          | 7.6         | 8.3         | 7.26        | 7.37        |





Table 5 - Groundwater Quality - Shallow Bedrock

| Unit  | RDL   | Hall's Glen BR RUC | ODWQS          | Location       | MW12-1     | MW12-1         | MW12-1     | MW12-1     | MW12-1     | MW12-1     | MW12-1     | MW12-1     |  |
|---|-------|--------------------|----------------|----------------|------------|----------------|------------|------------|------------|------------|------------|------------|--|
|   |       |                    |                | Date           | 2017-10-04 | 2019-05-30     | 2019-10-29 | 2019-11-11 | 2020-05-26 | 2020-11-18 | 2021-06-24 | 2021-11-11 |  |
| <b>Metals</b>                               |       |                    |                |                |            |                |            |            |            |            |            |            |  |
| Arsenic (Filtered)                          | µg/L  | 0.1                | <b>6.4</b>     | <b>25</b>      | <0.2       | <0.2           | 0.8        | 0.8        | <0.2       | <0.2       | <0.1       | <0.1       |  |
| Barium (Filtered)                           | µg/L  | 0.01               | <b>350</b>     | <b>1000</b>    | 152        | <b>713</b>     | 230        | 230        | <b>621</b> | 311        | <b>743</b> | <b>994</b> |  |
| Boron (Filtered)                            | µg/L  | 0.2                | <b>2529</b>    | <b>5000</b>    | 83         | 104            | 99         | 99         | 106        | 110        | 121        | 156        |  |
| Calcium (Filtered)                          | µg/L  | 10                 |                |                | 122,000    | 126,000        | 117,000    | 117,000    | 115,000    | 113,000    | 116,000    | 106,000    |  |
| Cadmium (Filtered)                          | µg/L  | 0.003              |                | <b>5</b>       | <0.003     | <0.003 - 0.003 | 0.003      | 0.003      | <0.003     | <0.003     | <0.015     | <0.015     |  |
| Chloride (Filtered)                         | µg/L  | 200                | <b>195000</b>  | <b>250000</b>  | 54,000     | 51,000         | 44,000     | 44,000     | 55,000     | 44,000     | 40,700     | 39,400     |  |
| Chromium (III+VI) (Filtered)                | µg/L  | 0.03               |                | <b>50</b>      | 0.58       | 0.16           | 0.13       | 0.13       | 0.13       | 0.28       | <1         | <1         |  |
| Copper (Filtered)                           | µg/L  | 0.02               |                | <b>1000</b>    | 0.16       | <0.2           | 0.5        | 0.5        | 0.3        | 0.4        | <0.1       | <0.1       |  |
| Iron (Filtered)                             | µg/L  | 2                  | <b>154</b>     | <b>300</b>     | 18         | 10             | 19         | 19         | 20         | 24         | <5         | <5         |  |
| Lead (Filtered)                             | µg/L  | 0.01               |                | <b>10</b>      | <0.01      | <0.01          | 0.01       | 0.01       | 0.01       | 0.03       | 0.09       | <0.02      |  |
| Manganese (Filtered)                        | µg/L  | 0.01               | <b>25.08</b>   | <b>50</b>      | 15.6       | 3.52           | 20.1       | 20.1       | 5.18       | 16.4       | 3          | 3          |  |
| Magnesium (Filtered)                        | µg/L  | 1                  |                |                | 6760       | 11,500         | 7580       | 7580       | 12,900     | 9820       | 13,400     | 14,300     |  |
| Mercury (Filtered)                          | µg/L  | 0.01               |                | <b>1</b>       | <10        | <10            | <10        | <10        | <b>30</b>  | <10        | <0.02      | <0.02      |  |
| Phosphorus (Filtered)                       | µg/L  | 3                  |                |                | <30        | <0.01          | -          | <30        | <30        | <30        | 20         | 10         |  |
| Potassium (Filtered)                        | µg/L  | 2                  |                |                | 2100       | 3280           | 2250       | 2250       | 3340       | 2780       | 3100       | 3500       |  |
| Sodium (Filtered)                           | µg/L  | 10                 | <b>136400</b>  | <b>200000</b>  | 12,300     | 13,700         | 12,000     | 12,000     | 16,900     | 11,200     | 11,700     | 10,600     |  |
| Zinc (Filtered)                             | µg/L  | 2                  |                | <b>5000</b>    | <2         | 3              | 3          | 3          | 2          | <2         | <5         | <5         |  |
| <b>Inorganics</b>                           |       |                    |                |                |            |                |            |            |            |            |            |            |  |
| Alkalinity (as CaCO3)                       | mg/L  | 2                  | <b>388</b>     | <b>500</b>     | 283        | 284            | 265        | 265        | 278        | 253        | 271        | 241        |  |
| Hardness (as CaCO3) (Filtered)              | mg/L  | 1                  | <b>445</b>     | <b>500</b>     | -          | -              | -          | -          | -          | -          | 345        | 325        |  |
| Solids - Total Dissolved (TDS)              | mg/L  | 3                  | <b>647</b>     | <b>500</b>     | 460        | 403            | 403        | 403        | 397        | 351        | 338        | 336        |  |
| Oxygen Demand - Chemical (COD)              | mg/L  | 5                  |                |                | <8         | <8             | <8         | <8         | <8         | <8         | 7          | 13         |  |
| Solids - Total Suspended (TSS)              | mg/L  | 2                  |                |                | <2         | 42             | 38         | 38         | 8          | 8          | -          | -          |  |
| Organic Carbon - Dissolved (DOC) (Filtered) | mg/L  | 0.2                | <b>3.5</b>     | <b>5</b>       | -          | -              | -          | -          | -          | -          | 2.2        | 1.9        |  |
| Oxygen Demand - Biological (BOD)            | mg/L  | 2                  |                |                | <4         | <4             | <4         | <4         | 5          | <4         | -          | -          |  |
| Phenols (4AAP)                              | mg/L  | 0.001              |                |                | <0.001     | <0.001         | <0.001     | <0.001     | 0.002      | <0.001     | 0.004      | 0.006      |  |
| Sulphate                                    | mg/L  | 0.2                | <b>270</b>     | <b>500</b>     | 24         | 22             | 28         | 28         | 23         | 25         | 20         | 26         |  |
| Ammonia                                     | mg/L  | 0.01               |                |                | 0.1        | 0.1            | <0.1       | <0.1       | <0.1       | 0.1        | 0.14       | 0.16       |  |
| Nitrate (as N)                              | mg/L  | 0.05               | <b>4.22</b>    | <b>10</b>      | <0.06      | <0.06          | <0.06      | <0.06      | <0.06      | <0.06      | 0.08       | <0.05      |  |
| Nitrite (as N)                              | mg/L  | 0.03               |                | <b>1</b>       | <0.03      | <0.03          | <0.03      | <0.03      | <0.03      | <0.03      | <0.05      | <0.05      |  |
| Total Kjeldahl Nitrogen (TKN)               | mg/L  | 0.1                |                |                | <0.5       | <0.5           | <0.5       | <0.5       | <0.5       | <0.5       | 0.2        | 0.2        |  |
| Conductivity (lab)                          | µS/cm | 1                  |                |                | 710        | 675            | 649        | 649        | 684        | 595        | 650        | 647        |  |
| pH (Lab)                                    | -     | 0.05               | <b>6.5-8.5</b> | <b>6.5-8.5</b> | 7.8        | 7.42           | 7.92       | 7.92       | 7.71       | 7.91       | 7.85       | 7.91       |  |
| <b>Field</b>                                |       |                    |                |                |            |                |            |            |            |            |            |            |  |
| DO (Field)                                  | mg/L  |                    |                |                | -          | 3              | 5.9        | -          | -          | 6.5        | 2.83       | 3.6        |  |
| Redox Potential (Field)                     | mV    |                    |                |                | -          | -92            | -149       | -          | -          | -128       | -38        | 11         |  |
| Temp (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)                                  | -     |                    |                | <b>6.5-8.5</b> | -          | 7.6            | 7.6        | -          | 7.3        | 8.1        | 7.2        | 7.45       |  |



Table 6 - Groundwater Quality - Deep Bedrock

|   | Unit  | RDL   | Hall's Glen BR RUC | ODWQS          | Location | MW08-1     | MW08-1     | MW08-1      | MW08-1     | MW08-1      | MW08-1      |
|---|-------|-------|--------------------|----------------|----------|------------|------------|-------------|------------|-------------|-------------|
|   |       |       |                    |                | Date     | 2012-05-18 | 2012-10-09 | 2013-06-10  | 2013-11-05 | 2014-06-26  | 2014-11-06  |
| <b>Metals</b>                               |       |       |                    |                |          |            |            |             |            |             |             |
| Arsenic (Filtered)                          | µg/L  | 0.1   | <b>6.4</b>         | <b>25</b>      |          | -          | -          | -           | -          | -           | 0.3         |
| Barium (Filtered)                           | µg/L  | 0.01  | <b>390</b>         | <b>1000</b>    |          | 118        | 112        | 103         | 110        | 107         | 103         |
| Boron (Filtered)                            | µg/L  | 0.2   | <b>2529</b>        | <b>5000</b>    |          | 92.1       | 86.6       | 92.7        | 80.4       | 92.6        | 76          |
| Calcium (Filtered)                          | µg/L  | 10    |                    |                |          | 112,000    | 108,000    | 94,300      | 103,000    | 100,000     | 106,000     |
| Cadmium (Filtered)                          | µg/L  | 0.003 |                    | <b>5</b>       |          | -          | -          | -           | -          | -           | 0.014       |
| Chloride (Filtered)                         | µg/L  | 200   | <b>195000</b>      | <b>250000</b>  |          | 65,000     | 69,000     | 74,000      | 71,000     | 75,000      | 75,000      |
| Chromium (III+VI) (Filtered)                | µg/L  | 0.03  |                    | <b>50</b>      |          | -          | -          | -           | -          | -           | 2.35        |
| Copper (Filtered)                           | µg/L  | 0.02  |                    | <b>1000</b>    |          | -          | -          | -           | -          | -           | 2.48        |
| Iron (Filtered)                             | µg/L  | 2     | <b>154</b>         | <b>300</b>     |          | 41         | <b>531</b> | <b>1200</b> | <b>250</b> | <b>3030</b> | <b>184</b>  |
| Lead (Filtered)                             | µg/L  | 0.01  |                    | <b>10</b>      |          | -          | -          | -           | -          | -           | 0.51        |
| Manganese (Filtered)                        | µg/L  | 0.01  | <b>25.08</b>       | <b>50</b>      |          | -          | -          | -           | -          | -           | <b>30.6</b> |
| Magnesium (Filtered)                        | µg/L  | 1     |                    |                |          | 9260       | 9150       | 9240        | 9030       | 11,300      | 9620        |
| Mercury (Filtered)                          | µg/L  | 0.01  |                    | <b>1</b>       |          | -          | -          | -           | -          | -           | -           |
| Phosphorus (Filtered)                       | µg/L  | 10    |                    |                |          | -          | -          | -           | -          | -           | -           |
| Potassium (Filtered)                        | µg/L  | 2     |                    |                |          | -          | -          | -           | -          | -           | 3840        |
| Sodium (Filtered)                           | µg/L  | 10    | <b>136400</b>      | <b>200000</b>  |          | 43,800     | 42,600     | 39,400      | 42,000     | 45,100      | 46,600      |
| Zinc (Filtered)                             | µg/L  | 2     |                    | <b>5000</b>    |          | -          | -          | -           | -          | -           | 5           |
| <b>Inorganics</b>                           |       |       |                    |                |          |            |            |             |            |             |             |
| Alkalinity (as CaCO3)                       | mg/L  | 2     | <b>388</b>         | <b>500</b>     |          | 298        | 290        | 281         | 274        | 309         | 309         |
| Hardness (as CaCO3) (Filtered)              | mg/L  | 1     | <b>445</b>         | <b>500</b>     |          | -          | -          | -           | -          | -           | -           |
| Solids - Total Dissolved (TDS)              | mg/L  | 3     | <b>647</b>         | <b>500</b>     |          | 454        | 471        | 426         | 434        | 440         | 457         |
| Oxygen Demand - Chemical (COD)              | mg/L  | 5     |                    |                |          | 13         | 9          | <8          | <8         | <8          | <8          |
| Solids - Total Suspended (TSS)              | mg/L  |       |                    |                |          | -          | -          | -           | -          | -           | -           |
| Organic Carbon - Dissolved (DOC) (Filtered) | mg/L  | 0.2   | <b>3.5</b>         | <b>5</b>       |          | 1.8        | 1.5        | 2.5         | 3.1        | 2.7         | 2.8         |
| Oxygen Demand - Biological (BOD)            | mg/L  |       |                    |                |          | -          | -          | -           | -          | -           | -           |
| Phenols (4AAP)                              | mg/L  | 0.002 |                    |                |          | -          | -          | -           | -          | -           | -           |
| Sulphate                                    | mg/L  | 0.2   | <b>270</b>         | <b>500</b>     |          | 16         | 17         | 16          | 18         | 15          | 16          |
| Ammonia                                     | mg/L  | 0.01  |                    |                |          | <0.1       | <0.1       | <0.1        | <0.1       | 0.1         | 0.2         |
| Nitrate (as N)                              | mg/L  | 0.05  | <b>4.22</b>        | <b>10</b>      |          | 0.26       | 0.08       | 0.16        | 0.06       | 0.09        | <0.06       |
| Nitrite (as N)                              | mg/L  | 0.03  |                    | <b>1</b>       |          | -          | -          | -           | -          | -           | -           |
| Total Kjeldahl Nitrogen (TKN)               | mg/L  | 0.1   |                    |                |          | -          | -          | -           | -          | -           | -           |
| Conductivity (lab)                          | µS/cm | 1     |                    |                |          | 784        | 820        | 784         | 771        | 793         | 791         |
| pH (Lab)                                    | -     | 0.05  | <b>6.5-8.5</b>     | <b>6.5-8.5</b> |          | 7.89       | 8.02       | 7.96        | 8.16       | 7.5         | 8.09        |
| <b>Field</b>                                |       |       |                    |                |          |            |            |             |            |             |             |
| DO (Field)                                  | mg/L  |       |                    |                |          | -          | -          | -           | -          | -           | -           |
| Redox Potential (Field)                     | mV    |       |                    |                |          | -          | -          | -           | -          | -           | -           |
| Temp (Field)                                | °C    |       |                    |                |          | -          | -          | -           | -          | -           | -           |
| Conductivity (field)                        | µS/cm |       |                    |                |          | -          | -          | -           | -          | -           | -           |
| pH (Field)                                  | -     |       |                    | <b>6.5-8.5</b> |          | -          | -          | -           | -          | -           | -           |



Table 6 - Groundwater Quality - Deep Bedrock

|   | Unit  | RDL   | Hall's Glen BR RUC | ODWQS          | Location | MW08-1     | MW08-1      | MW08-1      | MW08-1      | MW08-1     | MW08-1     |
|---|-------|-------|--------------------|----------------|----------|------------|-------------|-------------|-------------|------------|------------|
|   |       |       |                    |                | Date     | 2015-05-22 | 2016-05-30  | 2016-10-31  | 2017-05-31  | 2017-10-04 | 2019-05-30 |
| <b>Metals</b>                               |       |       |                    |                |          |            |             |             |             |            |            |
| Arsenic (Filtered)                          | µg/L  | 0.1   | <b>6.4</b>         | <b>25</b>      |          | <0.2       | 3.5         | 0.9         | 2.1         | 0.6        | <0.2       |
| Barium (Filtered)                           | µg/L  | 0.01  | <b>350</b>         | <b>1000</b>    |          | 101        | 110         | 97.8        | 122         | 105        | 106        |
| Boron (Filtered)                            | µg/L  | 0.2   | <b>2529</b>        | <b>5000</b>    |          | 82         | 128         | 91          | 116         | 105        | 114        |
| Calcium (Filtered)                          | µg/L  | 10    |                    |                |          | 103,000    | 118,000     | 110,000     | 115,000     | 108,000    | 125,000    |
| Cadmium (Filtered)                          | µg/L  | 0.003 |                    | <b>5</b>       |          | 0.005      | <0.003      | 0.004       | 0.017       | <0.003     | <0.003     |
| Chloride (Filtered)                         | µg/L  | 200   | <b>195000</b>      | <b>250000</b>  |          | 71,000     | 71,000      | 70,000      | 78,000      | 79,000     | 83,000     |
| Chromium (III+VI) (Filtered)                | µg/L  | 0.03  |                    | <b>50</b>      |          | 0.1        | 0.37        | 0.38        | 0.81        | 0.66       | 0.12       |
| Copper (Filtered)                           | µg/L  | 0.02  |                    | <b>1000</b>    |          | 3.49       | 0.2         | 0.88        | 3.92        | 0.36       | 0.9        |
| Iron (Filtered)                             | µg/L  | 2     | <b>154</b>         | <b>300</b>     |          | 28         | <b>3890</b> | <b>1040</b> | <b>3820</b> | <b>881</b> | 16         |
| Lead (Filtered)                             | µg/L  | 0.01  |                    | <b>10</b>      |          | 0.01       | 0.02        | 0.03        | 2.11        | <0.01      | 0.01       |
| Manganese (Filtered)                        | µg/L  | 0.01  | <b>25.08</b>       | <b>50</b>      |          | 9.63       | <b>190</b>  | <b>97.7</b> | <b>188</b>  | <b>156</b> | 5.23       |
| Magnesium (Filtered)                        | µg/L  | 1     |                    |                |          | 9820       | 10,500      | 10,100      | 11,600      | 11,200     | 11,700     |
| Mercury (Filtered)                          | µg/L  | 0.01  |                    | <b>1</b>       |          | <0.01      | <0.01       | <0.01       | <b>10</b>   | -          | <10        |
| Phosphorus (Filtered)                       | µg/L  | 10    |                    |                |          | <30        | <30         | -           | <30         | -          | -          |
| Potassium (Filtered)                        | µg/L  | 2     |                    |                |          | 3200       | 3490        | 3220        | 3810        | 3410       | 3770       |
| Sodium (Filtered)                           | µg/L  | 10    | <b>136400</b>      | <b>200000</b>  |          | 44,500     | 48,400      | 43,800      | 45,500      | 44,200     | 48,400     |
| Zinc (Filtered)                             | µg/L  | 2     |                    | <b>5000</b>    |          | 2          | <2          | 4           | 8           | 2          | 3          |
| <b>Inorganics</b>                           |       |       |                    |                |          |            |             |             |             |            |            |
| Alkalinity (as CaCO3)                       | mg/L  | 2     | <b>388</b>         | <b>500</b>     |          | 304        | 314         | 299         | 313         | 294        | 284        |
| Hardness (as CaCO3) (Filtered)              | mg/L  | 1     | <b>445</b>         | <b>500</b>     |          | -          | -           | -           | -           | -          | -          |
| Solids - Total Dissolved (TDS)              | mg/L  | 3     | <b>647</b>         | <b>500</b>     |          | 440        | 437         | 457         | 454         | 460        | 489        |
| Oxygen Demand - Chemical (COD)              | mg/L  | 5     |                    |                |          | 13         | 9           | <8          | <8          | 8          | <8         |
| Solids - Total Suspended (TSS)              | mg/L  |       |                    |                |          | -          | -           | -           | -           | -          | -          |
| Organic Carbon - Dissolved (DOC) (Filtered) | mg/L  | 0.2   | <b>3.5</b>         | <b>5</b>       |          | <1         | 2           | <b>4</b>    | 1           | 2          | -          |
| Oxygen Demand - Biological (BOD)            | mg/L  |       |                    |                |          | -          | -           | -           | -           | -          | -          |
| Phenols (4AAP)                              | mg/L  | 0.002 |                    |                |          | <0.002     | 0.004       | -           | 0.006       | -          | 0.001      |
| Sulphate                                    | mg/L  | 0.2   | <b>270</b>         | <b>500</b>     |          | 17         | 15          | 13          | 15          | 16         | 18         |
| Ammonia                                     | mg/L  | 0.01  |                    |                |          | <0.1       | <0.1        | <0.1        | <0.1        | 0.1        | <0.1       |
| Nitrate (as N)                              | mg/L  | 0.05  | <b>4.22</b>        | <b>10</b>      |          | 0.25       | 0.08        | 0.13        | <0.06       | -          | <0.06      |
| Nitrite (as N)                              | mg/L  | 0.03  |                    | <b>1</b>       |          | <0.03      | <0.03       | -           | <0.03       | 0.11       | <0.03      |
| Total Kjeldahl Nitrogen (TKN)               | mg/L  | 0.1   |                    |                |          | <0.5       | <0.5        | -           | 0.5         | -          | <0.5       |
| Conductivity (lab)                          | µS/cm | 1     |                    |                |          | 788        | 816         | 824         | 792         | 814        | 795        |
| pH (Lab)                                    | -     | 0.05  | <b>6.5-8.5</b>     | <b>6.5-8.5</b> |          | 7.92       | 8.07        | 7.99        | 7.83        | 7.83       | 7.53       |
| <b>Field</b>                                |       |       |                    |                |          |            |             |             |             |            |            |
| DO (Field)                                  | mg/L  |       |                    |                |          | -          | -           | -           | -           | -          | 4.8        |
| Redox Potential (Field)                     | mV    |       |                    |                |          | -          | -           | -           | -           | -          | 198        |
| Temp (Field)                                | °C    |       |                    |                |          | -          | -           | -           | -           | -          | 9.2        |
| Conductivity (field)                        | µS/cm |       |                    |                |          | -          | -           | -           | -           | -          | 570        |
| pH (Field)                                  | -     |       |                    |                |          | -          | -           | -           | -           | -          | 7.7        |



Table 6 - Groundwater Quality - Deep Bedrock

| Unit  | RDL   | Hall's Glen BR RUC | ODWQS          | Location       | MW08-1     | MW08-1      | MW08-1        | MW08-1     | MW08-1      | MW08-1     | MW08-1     |  |
|---|-------|--------------------|----------------|----------------|------------|-------------|---------------|------------|-------------|------------|------------|--|
|   |       |                    |                | Date           | 2019-05-30 | 2019-10-29  | 2019-11-08    | 2020-05-26 | 2020-11-18  | 2021-06-28 | 2021-11-11 |  |
| <b>Metals</b>                               |       |                    |                |                |            |             |               |            |             |            |            |  |
| Arsenic (Filtered)                          | µg/L  | 0.1                | <b>6.4</b>     | <b>25</b>      | <0.2       | <0.2        | 0.16          | <0.2       | <0.2        | 0.4        | 0.3        |  |
| Barium (Filtered)                           | µg/L  | 0.01               | <b>350</b>     | <b>1000</b>    | 106        | 106         | 0.9           | 94.8       | 97.6        | 109        | 119        |  |
| Boron (Filtered)                            | µg/L  | 0.2                | <b>2529</b>    | <b>5000</b>    | 114        | 102         | 18            | 101        | 99          | 79         | 63         |  |
| Calcium (Filtered)                          | µg/L  | 10                 |                |                | 125,000    | 121,000     | 3640          | 105,000    | 111,000     | 115,000    | 118,000    |  |
| Cadmium (Filtered)                          | µg/L  | 0.003              |                | <b>5</b>       | <0.003     | 0.009       | <b>11,300</b> | <0.003     | 0.003       | <0.015     | <0.015     |  |
| Chloride (Filtered)                         | µg/L  | 200                | <b>195000</b>  | <b>250000</b>  | 83,000     | 78,000      | <0.2          | 86,000     | 85,000      | 84,100     | 72,100     |  |
| Chromium (III+VI) (Filtered)                | µg/L  | 0.03               |                | <b>50</b>      | 0.12       | 0.16        | <b>83.7</b>   | 0.17       | 0.77        | <1         | <1         |  |
| Copper (Filtered)                           | µg/L  | 0.02               |                | <b>1000</b>    | 0.9        | 0.9         | <b>45,900</b> | 0.8        | 1.2         | 2.2        | 0.5        |  |
| Iron (Filtered)                             | µg/L  | 2                  | <b>154</b>     | <b>300</b>     | 16         | 18          | 0.14          | 17         | 19          | 10         | <b>885</b> |  |
| Lead (Filtered)                             | µg/L  | 0.01               |                | <b>10</b>      | <0.01      | 0.14        | -             | <0.01      | <0.01       | 0.08       | 0.02       |  |
| Manganese (Filtered)                        | µg/L  | 0.01               | <b>25.08</b>   | <b>50</b>      | 5.23       | <b>83.7</b> | -             | 4.05       | <b>56.4</b> | 17         | <b>260</b> |  |
| Magnesium (Filtered)                        | µg/L  | 1                  |                |                | 11,700     | 11,300      | -             | 12,000     | 11,400      | 10,200     | 8050       |  |
| Mercury (Filtered)                          | µg/L  | 0.01               |                | <b>1</b>       | <10        | -           | 0.009         | <b>10</b>  | -           | <0.02      | <0.02      |  |
| Phosphorus (Filtered)                       | µg/L  | 10                 |                |                | <30        | -           | 200           | <3         | -           | 50         | 60         |  |
| Potassium (Filtered)                        | µg/L  | 2                  |                |                | 3770       | 3640        | 3             | 3150       | 3580        | 3000       | 2900       |  |
| Sodium (Filtered)                           | µg/L  | 10                 | <b>136400</b>  | <b>200000</b>  | 48,400     | 45,900      | -             | 52,100     | 48,500      | 53,400     | 49,700     |  |
| Zinc (Filtered)                             | µg/L  | 2                  |                | <b>5000</b>    | 3          | 3           | -             | 4          | <2          | <5         | <5         |  |
| <b>Inorganics</b>                           |       |                    |                |                |            |             |               |            |             |            |            |  |
| Alkalinity (as CaCO3)                       | mg/L  | 2                  | <b>388</b>     | <b>500</b>     | 284        | 274         | 274           | 290        | 287         | 273        | 277        |  |
| Hardness (as CaCO3) (Filtered)              | mg/L  | 1                  | <b>445</b>     | <b>500</b>     | -          | -           | -             | -          | -           | 329        | 328        |  |
| Solids - Total Dissolved (TDS)              | mg/L  | 3                  | <b>647</b>     | <b>500</b>     | 489        | 454         | 454           | 451        | 440         | 433        | 408        |  |
| Oxygen Demand - Chemical (COD)              | mg/L  | 5                  |                |                | <8         | <8          | <8            | <8         | <8          | <5         | 16         |  |
| Solids - Total Suspended (TSS)              | mg/L  |                    |                |                | -          | -           | -             | -          | -           | -          | -          |  |
| Organic Carbon - Dissolved (DOC) (Filtered) | mg/L  | 0.2                | <b>3.5</b>     | <b>5</b>       | -          | <1          | <b>121</b>    | 2          | 1           | 2.8        | 2.2        |  |
| Oxygen Demand - Biological (BOD)            | mg/L  |                    |                |                | -          | -           | -             | -          | -           | -          | -          |  |
| Phenols (4AAP)                              | mg/L  | 0.002              |                |                | 0.001      | -           | <0.06         | <0.002     | -           | <0.002     | <0.002     |  |
| Sulphate                                    | mg/L  | 0.2                | <b>270</b>     | <b>500</b>     | 18         | 19          | <1            | 19         | 18          | 20         | 12         |  |
| Ammonia                                     | mg/L  | 0.01               |                |                | <0.1       | 0.2         | 78            | <0.1       | <0.1        | 0.02       | 0.01       |  |
| Nitrate (as N)                              | mg/L  | 0.05               | <b>4.22</b>    | <b>10</b>      | <0.06      | <0.06       | 0.102         | <0.06      | <0.06       | 0.22       | 0.46       |  |
| Nitrite (as N)                              | mg/L  | 0.03               |                | <b>1</b>       | <0.03      | -           | 0.106         | <0.03      | -           | <0.05      | -          |  |
| Total Kjeldahl Nitrogen (TKN)               | mg/L  | 0.1                |                |                | <0.5       | -           | 19            | <0.5       | -           | 0.2        | -          |  |
| Conductivity (lab)                          | µS/cm | 1                  |                |                | 795        | 801         | 801           | 794        | 791         | 822        | 778        |  |
| pH (Lab)                                    | -     | 0.05               | <b>6.5-8.5</b> | <b>6.5-8.5</b> | 7.53       | 7.94        | 7.94          | 7.84       | 7.73        | 7.77       | 7.92       |  |
| <b>Field</b>                                |       |                    |                |                |            |             |               |            |             |            |            |  |
| DO (Field)                                  | mg/L  |                    |                |                | -          | 3.7         | -             | -          | 7.7         | 3.15       | 2.3        |  |
| Redox Potential (Field)                     | mV    |                    |                |                | -          | 21          | -             | -          | 119         | 221        | -72        |  |
| Temp (Field)                                | °C    |                    |                |                | -          | 12.2        | -             | 15.2       | 5.8         | 11.1       | 9          |  |
| Conductivity (field)                        | µS/cm |                    |                |                | -          | 695         | -             | -          | 460         | 792        | 335        |  |
| pH (Field)                                  | -     |                    |                | <b>6.5-8.5</b> | -          | <b>6.4</b>  | -             | 7.7        | 8.4         | 7.04       | 7.24       |  |





Table 6 - Groundwater Quality - Deep Bedrock

| Unit  | RDL   | Hall's Glen BR RUC | ODWQS          | Location       | MW09-1      | MW09-1       | MW09-1     | MW09-1        | MW09-1      | MW09-1      | MW09-1     | MW09-1     |
|---|-------|--------------------|----------------|----------------|-------------|--------------|------------|---------------|-------------|-------------|------------|------------|
|   |       |                    |                | Date           | 2017-10-04  | 2019-05-30   | 2019-10-29 | 2019-11-0E    | 2020-05-26  | 2020-11-18  | 2021-06-28 | 2021-11-11 |
| <b>Metals</b>                               |       |                    |                |                |             |              |            |               |             |             |            |            |
| Arsenic (Filtered)                          | µg/L  | 0.1                | <b>6.4</b>     | <b>25</b>      | <0.2        | <0.2         | <0.2       | 0.16          | <0.2        | <0.2        | <0.1       | <0.1       |
| Barium (Filtered)                           | µg/L  | 0.01               | <b>350</b>     | <b>1000</b>    | <b>772</b>  | <b>688</b>   | <b>570</b> | <0.2          | <b>689</b>  | <b>612</b>  | <b>768</b> | <b>897</b> |
| Boron (Filtered)                            | µg/L  | 0.2                | <b>2529</b>    | <b>5000</b>    | 549         | 590          | 491        | 8             | 531         | 468         | 571        | 569        |
| Calcium (Filtered)                          | µg/L  | 10                 |                |                | 56,900      | 58,700       | 55,700     | 5320          | 53,000      | 57,500      | 51,600     | 53,700     |
| Cadmium (Filtered)                          | µg/L  | 0.003              |                | <b>5</b>       | <0.003      | <0.003       | <0.003     | <b>18,900</b> | <0.003      | <0.003      | <0.015     | <0.015     |
| Chloride (Filtered)                         | µg/L  | 200                | <b>195000</b>  | <b>250000</b>  | 28,000      | 16,000       | 18,000     | <0.2          | 16,000      | 15,000      | 15,200     | 16,200     |
| Chromium (III+VI) (Filtered)                | µg/L  | 0.03               |                | <b>50</b>      | 0.63        | 0.15         | 0.16       | <b>70</b>     | 0.17        | 0.67        | 7          | <1         |
| Copper (Filtered)                           | µg/L  | 0.02               |                | <b>1000</b>    | <0.02       | <0.2         | <0.2       | <b>42,600</b> | 0.4         | <0.2        | <0.1       | <0.1       |
| Iron (Filtered)                             | µg/L  | 2                  | <b>154</b>     | <b>300</b>     | 9           | <7           | 8          | 0.01          | 15          | <7          | 40         | <5         |
| Lead (Filtered)                             | µg/L  | 0.01               |                | <b>10</b>      | <0.01       | <0.01 - 0.01 | 0.01       | -             | <0.01       | <0.01       | 0.07       | <0.02      |
| Manganese (Filtered)                        | µg/L  | 0.01               | <b>25.08</b>   | <b>50</b>      | <b>90.4</b> | <b>82</b>    | <b>70</b>  | -             | <b>69.9</b> | <b>58.3</b> | <b>64</b>  | <b>41</b>  |
| Magnesium (Filtered)                        | µg/L  | 1                  |                |                | 22,000      | 22,700       | 18,900     | -             | 24,400      | 20,800      | 22,900     | 22,100     |
| Mercury (Filtered)                          | µg/L  | 0.01               |                | <b>1</b>       | -           | <10          | -          | <0.003        | <10         | -           | <0.02      | <0.02      |
| Phosphorus (Filtered)                       | µg/L  | 10                 |                |                | -           | <30          | -          | 700           | <3          | -           | 60         | 40         |
| Potassium (Filtered)                        | µg/L  | 2                  |                |                | 5380        | 6170         | 5320       | <2            | 5330        | 5420        | 5400       | 5600       |
| Sodium (Filtered)                           | µg/L  | 10                 | <b>136400</b>  | <b>200000</b>  | 50,000      | 51,700       | 42,600     | -             | 56,200      | 47,000      | 54,400     | 52,500     |
| Zinc (Filtered)                             | µg/L  | 2                  |                | <b>5000</b>    | <2          | <2           | <2         | -             | <2          | <2          | <5         | <5         |
| <b>Inorganics</b>                           |       |                    |                |                |             |              |            |               |             |             |            |            |
| Alkalinity (as CaCO3)                       | mg/L  | 2                  | <b>388</b>     | <b>500</b>     | 292         | 271          | 241        | 241           | 258         | 335         | 236        | 239        |
| Hardness (as CaCO3) (Filtered)              | mg/L  | 1                  | <b>445</b>     | <b>500</b>     | -           | -            | -          | -             | -           | -           | 223        | 225        |
| Solids - Total Dissolved (TDS)              | mg/L  | 3                  | <b>647</b>     | <b>500</b>     | 366         | 391          | 323        | 323           | 337         | 320         | 315        | 326        |
| Oxygen Demand - Chemical (COD)              | mg/L  | 5                  |                |                | 34          | 34           | 24         | 24            | 37          | 35          | 33         | 35         |
| Solids - Total Suspended (TSS)              | mg/L  |                    |                |                | -           | -            | -          | -             | -           | -           | -          | -          |
| Organic Carbon - Dissolved (DOC) (Filtered) | mg/L  | 0.2                | <b>3.5</b>     | <b>5</b>       | 2           | -            | <1         | <b>55.7</b>   | 1           | 1           | 2.6        | 1.8        |
| Oxygen Demand - Biological (BOD)            | mg/L  |                    |                |                | -           | -            | -          | -             | -           | -           | -          | -          |
| Phenols (4AAP)                              | mg/L  | 0.002              |                |                | -           | <0.001       | -          | <0.06         | 0.003       | -           | 0.009      | 0.013      |
| Sulphate                                    | mg/L  | 0.2                | <b>270</b>     | <b>500</b>     | 53          | 41           | 42         | <1            | 63          | 66          | 55         | 46         |
| Ammonia                                     | mg/L  | 0.01               |                |                | 0.7         | 0.7          | 0.7        | 18            | 0.6         | 0.7         | 0.65       | 0.64       |
| Nitrate (as N)                              | mg/L  | 0.05               | <b>4.22</b>    | <b>10</b>      | -           | <0.06        | <0.06      | 0.491         | <0.06       | <0.06       | <0.05      | <0.05      |
| Nitrite (as N)                              | mg/L  | 0.03               |                | <b>1</b>       | <0.06       | <0.03        | -          | 0.57          | <0.03       | -           | <0.05      | -          |
| Total Kjeldahl Nitrogen (TKN)               | mg/L  | 0.1                |                |                | -           | 0.5          | -          | 42            | 0.6         | -           | 0.7        | -          |
| Conductivity (lab)                          | µS/cm | 1                  |                |                | 617         | 605          | 561        | 561           | 592         | 598         | 607        | 628        |
| pH (Lab)                                    | -     | 0.05               | <b>6.5-8.5</b> | <b>6.5-8.5</b> | 8.02        | 7.41         | 7.23       | 8.23          | 7.73        | 8.24        | 7.84       | 7.82       |
| <b>Field</b>                                |       |                    |                |                |             |              |            |               |             |             |            |            |
| DO (Field)                                  | mg/L  |                    |                |                | -           | 3.7          | 2.8        | -             | -           | 3.7         | 6.1        | 3.33       |
| Redox Potential (Field)                     | mV    |                    |                |                | -           | -195         | -220       | -             | -           | -288        | 119        | -96        |
| Temp (Field)                                | °C    |                    |                |                | -           | 10.5         | 13.2       | -             | 14.8        | 7.3         | 10.8       | 9.4        |
| Conductivity (field)                        | µS/cm |                    |                |                | -           | 420          | 533        | -             | -           | 361         | 622        | 271        |
| pH (Field)                                  | -     |                    |                | <b>6.5-8.5</b> | -           | 7.9          | 7.6        | -             | 7.5         | 7.7         | 7.83       | 7.82       |





Table 6 - Groundwater Quality - Deep Bedrock

| Unit  | RDL   | Hall's Glen BR RUC | ODWQS          | Location       | MW10-1     | MW10-1       | MW10-1     | MW10-1        | MW10-1     | MW10-1     | MW10-1     | MW10-1     |  |
|---|-------|--------------------|----------------|----------------|------------|--------------|------------|---------------|------------|------------|------------|------------|--|
|   |       |                    |                | Date           | 2017-10-04 | 2019-05-30   | 2019-10-29 | 2019-11-0E    | 2020-05-26 | 2020-11-18 | 2021-06-24 | 2021-11-11 |  |
| <b>Metals</b>                               |       |                    |                |                |            |              |            |               |            |            |            |            |  |
| Arsenic (Filtered)                          | µg/L  | 0.1                | <b>6.4</b>     | <b>25</b>      | <0.2       | <0.2         | <0.2       | 0.14          | <0.2       | <0.2       | <0.1       | <0.1       |  |
| Barium (Filtered)                           | µg/L  | 0.01               | <b>350</b>     | <b>1000</b>    | <b>823</b> | <b>839</b>   | <b>803</b> | <0.2          | <b>848</b> | <b>662</b> | <b>944</b> | <b>888</b> |  |
| Boron (Filtered)                            | µg/L  | 0.2                | <b>2529</b>    | <b>5000</b>    | 217        | 260          | 273        | 14            | 221        | 201        | 184        | 193        |  |
| Calcium (Filtered)                          | µg/L  | 10                 |                |                | 98,400     | 103,000      | 91,900     | 4590          | 90,900     | 96,300     | 105,000    | 98,500     |  |
| Cadmium (Filtered)                          | µg/L  | 0.003              |                | <b>5</b>       | <0.003     | <0.003       | <0.003     | <b>20,500</b> | <0.003     | <0.003     | <0.015     | <0.015     |  |
| Chloride (Filtered)                         | µg/L  | 200                | <b>195000</b>  | <b>250000</b>  | 53,000     | 51,000       | 49,000     | <0.2          | 53,000     | 51,000     | 54,200     | 48,400     |  |
| Chromium (III+VI) (Filtered)                | µg/L  | 0.03               |                | <b>50</b>      | 0.65       | 0.13         | 0.14       | <b>136</b>    | 0.18       | 0.71       | <1         | <1         |  |
| Copper (Filtered)                           | µg/L  | 0.02               |                | <b>1000</b>    | 0.16       | <0.2         | <0.2       | <b>13,000</b> | 0.2        | 0.3        | 0.1        | <0.1       |  |
| Iron (Filtered)                             | µg/L  | 2                  | <b>154</b>     | <b>300</b>     | 10         | 85           | 14         | <0.01         | 48         | 23         | 18         | 17         |  |
| Lead (Filtered)                             | µg/L  | 0.01               |                | <b>10</b>      | <0.01      | <0.01 - 0.01 | 0.01       | -             | <0.01      | 0.02       | 0.05       | <0.02      |  |
| Manganese (Filtered)                        | µg/L  | 0.01               | <b>25.08</b>   | <b>50</b>      | <b>137</b> | <b>173</b>   | <b>136</b> | -             | <b>119</b> | <b>124</b> | <b>62</b>  | <b>102</b> |  |
| Magnesium (Filtered)                        | µg/L  | 1                  |                |                | 18,300     | 20,700       | 20,500     | -             | 21,500     | 20,100     | 17,700     | 17,400     |  |
| Mercury (Filtered)                          | µg/L  | 0.01               |                | <b>1</b>       | -          | <10          | -          | <0.003        | <b>20</b>  | -          | <0.02      | <0.02      |  |
| Phosphorus (Filtered)                       | µg/L  | 10                 |                |                | -          | <30          | -          | 200           | 3          | -          | 30         | <10        |  |
| Potassium (Filtered)                        | µg/L  | 2                  |                |                | 4003       | 4690         | 4590       | <2            | 3870       | 4460       | 3500       | 3700       |  |
| Sodium (Filtered)                           | µg/L  | 10                 | <b>136400</b>  | <b>200000</b>  | 11,600     | 13,200       | 13,000     | -             | 14,100     | 12,900     | 11,200     | 11,500     |  |
| Zinc (Filtered)                             | µg/L  | 2                  |                | <b>5000</b>    | <2         | 4            | <2         | -             | 6          | 3          | <5         | <5         |  |
| <b>Inorganics</b>                           |       |                    |                |                |            |              |            |               |            |            |            |            |  |
| Alkalinity (as CaCO3)                       | mg/L  | 2                  | <b>388</b>     | <b>500</b>     | 223        | 245          | 232        | 232           | 233        | 241        | 251        | 236        |  |
| Hardness (as CaCO3) (Filtered)              | mg/L  | 1                  | <b>445</b>     | <b>500</b>     | -          | -            | -          | -             | -          | -          | 335        | 317        |  |
| Solids - Total Dissolved (TDS)              | mg/L  | 3                  | <b>647</b>     | <b>500</b>     | 414        | 400          | 334        | 334           | 377        | 351        | 336        | 337        |  |
| Oxygen Demand - Chemical (COD)              | mg/L  | 5                  |                |                | 8          | <8           | <8         | <8            | <8         | <8         | <5         | 10         |  |
| Solids - Total Suspended (TSS)              | mg/L  |                    |                |                | -          | -            | -          | -             | -          | -          | -          | -          |  |
| Organic Carbon - Dissolved (DOC) (Filtered) | mg/L  | 0.2                | <b>3.5</b>     | <b>5</b>       | 1          | -            | <1         | <b>91.9</b>   | 1          | 1          | 2.8        | 1.4        |  |
| Oxygen Demand - Biological (BOD)            | mg/L  |                    |                |                | -          | -            | -          | -             | -          | -          | -          | -          |  |
| Phenols (4AAP)                              | mg/L  | 0.002              |                |                | -          | 0.002        | -          | <0.06         | <0.002     | -          | <0.002     | 0.002      |  |
| Sulphate                                    | mg/L  | 0.2                | <b>270</b>     | <b>500</b>     | 31         | 25           | 23         | <1            | 25         | 25         | 23         | 20         |  |
| Ammonia                                     | mg/L  | 0.01               |                |                | 0.3        | 0.2          | 0.2        | 49            | 0.2        | 0.3        | 0.15       | 0.18       |  |
| Nitrate (as N)                              | mg/L  | 0.05               | <b>4.22</b>    | <b>10</b>      | -          | <0.06        | <0.06      | 0.273         | <0.06      | <0.06      | <0.05      | <0.05      |  |
| Nitrite (as N)                              | mg/L  | 0.03               |                | <b>1</b>       | <0.06      | <0.03        | -          | 0.803         | <0.03      | -          | <0.05      | -          |  |
| Total Kjeldahl Nitrogen (TKN)               | mg/L  | 0.1                |                |                | -          | <0.5         | -          | 23            | <0.5       | -          | 0.1        | -          |  |
| Conductivity (lab)                          | µS/cm | 1                  |                |                | 643        | 616          | 608        | 608           | 623        | 631        | 648        | 649        |  |
| pH (Lab)                                    | -     | 0.05               | <b>6.5-8.5</b> | <b>6.5-8.5</b> | 7.77       | 7.74         | 8.16       | 8.16          | 7.8        | 7.91       | 7.76       | 7.8        |  |
| <b>Field</b>                                |       |                    |                |                |            |              |            |               |            |            |            |            |  |
| DO (Field)                                  | mg/L  |                    |                |                | -          | 4            | 3.6        | -             | -          | 3.4        | 2.59       | 2.07       |  |
| Redox Potential (Field)                     | mV    |                    |                |                | -          | -70          | -126       | -             | -          | -238       | -118       | 15         |  |
| Temp (Field)                                | °C    |                    |                |                | -          | 10.2         | 13.2       | -             | 14.1       | 6.6        | 8.9        | 9.4        |  |
| Conductivity (field)                        | µS/cm |                    |                |                | -          | 447          | 556        | -             | -          | 373        | 648        | 284        |  |
| pH (Field)                                  | -     |                    |                | <b>6.5-8.5</b> | -          | 7.8          | 7.5        | -             | 7.7        | 8.1        | 8.15       | 7.32       |  |





Table 6 - Groundwater Quality - Deep Bedrock

| Unit  | RDL   | Hall's Glen BR RUC | ODWQS   | Location | MW11-1     |
|---|-------|--------------------|---------|----------|------------|------------|------------|------------|------------|------------|------------|------------|
|   |       |                    |         | Date     | 2017-10-04 | 2019-05-30 | 2019-10-29 | 2019-11-0E | 2020-05-26 | 2020-11-18 | 2021-06-24 | 2021-11-11 |
| <b>Metals</b>                               |       |                    |         |          |            |            |            |            |            |            |            |            |
| Arsenic (Filtered)                          | µg/L  | 0.1                | 6.4     | 25       | <0.2       | <0.2       | <0.2       | 0.18       | <0.2       | <0.2       | <0.1       | <0.1       |
| Barium (Filtered)                           | µg/L  | 0.01               | 350     | 1000     | 434        | 460        | 446        | <0.2       | 683        | 1740       | 570        | 748        |
| Boron (Filtered)                            | µg/L  | 0.2                | 2529    | 5000     | 511        | 362        | 396        | 19         | 331        | 438        | 610        | 442        |
| Calcium (Filtered)                          | µg/L  | 10                 |         |          | 99,900     | 101,000    | 90,600     | 4230       | 90,300     | 101,000    | 79,200     | 91,900     |
| Cadmium (Filtered)                          | µg/L  | 0.003              |         | 5        | <0.003     | <0.003     | <0.003     | 20,700     | 0.005      | <0.003     | <0.015     | <0.015     |
| Chloride (Filtered)                         | µg/L  | 200                | 195000  | 250000   | 33,000     | 29,000     | 35,000     | <0.2       | 34,000     | 28,000     | 27,900     | 35,700     |
| Chromium (III+VI) (Filtered)                | µg/L  | 0.03               |         | 50       | 0.77       | 0.18       | 0.18       | 85.3       | 0.41       | 0.67       | <1         | <1         |
| Copper (Filtered)                           | µg/L  | 0.02               |         | 1000     | 0.18       | <0.2       | <0.2       | 12,300     | 0.4        | <0.2       | <0.1       | <0.1       |
| Iron (Filtered)                             | µg/L  | 2                  | 154     | 300      | 16         | 42         | 19         | 0.08       | 14         | <7         | 116        | 48         |
| Lead (Filtered)                             | µg/L  | 0.01               |         | 10       | <0.01      | 0.03       | 0.08       | <500       | 0.02       | <0.01      | 0.07       | <0.02      |
| Manganese (Filtered)                        | µg/L  | 0.01               | 25.08   | 50       | 86.4       | 62.9       | 85.3       | <500       | 68         | 64.3       | 86         | 55         |
| Magnesium (Filtered)                        | µg/L  | 1                  |         |          | 25,800     | 19,400     | 20,700     | <500       | 22,800     | 27,300     | 34,400     | 25,600     |
| Mercury (Filtered)                          | µg/L  | 0.01               |         | 1        | -          | <10        | -          | <0.003     | 10         | -          | <0.02      | <0.02      |
| Phosphorus (Filtered)                       | µg/L  | 10                 |         |          | -          | -          | -          | 900        | 6          | -          | 180        | 170        |
| Potassium (Filtered)                        | µg/L  | 2                  |         |          | 4800       | 4260       | 4230       | <2         | 3880       | 5000       | 5400       | 4500       |
| Sodium (Filtered)                           | µg/L  | 10                 | 136400  | 200000   | 14,600     | 12,800     | 12,300     | <500       | 14,700     | 15,900     | 19,800     | 15,800     |
| Zinc (Filtered)                             | µg/L  | 2                  |         | 5000     | 2          | 3          | <2         | <200       | 7          | <2         | <5         | <5         |
| <b>Inorganics</b>                           |       |                    |         |          |            |            |            |            |            |            |            |            |
| Alkalinity (as CaCO3)                       | mg/L  | 2                  | 388     | 500      | 263        | 260        | 248        | 248        | 241        | 290        | 271        | 243        |
| Hardness (as CaCO3) (Filtered)              | mg/L  | 1                  | 445     | 500      | -          | -          | -          | -          | -          | -          | 339        | 335        |
| Solids - Total Dissolved (TDS)              | mg/L  | 3                  | 647     | 500      | 409        | 400        | 334        | 334        | 391        | 346        | 346        | 360        |
| Oxygen Demand - Chemical (COD)              | mg/L  | 5                  |         |          | 10         | 9          | 11         | 11         | 11         | 10         | 65         | 58         |
| Solids - Total Suspended (TSS)              | mg/L  |                    |         |          | -          | -          | -          | -          | -          | -          | -          | -          |
| Organic Carbon - Dissolved (DOC) (Filtered) | mg/L  | 0.2                | 3.5     | 5        | 2          | -          | <1         | 90.6       | 2          | <1         | 3          | 2.3        |
| Oxygen Demand - Biological (BOD)            | mg/L  |                    |         |          | -          | -          | -          | -          | -          | -          | -          | -          |
| Phenols (4AAP)                              | mg/L  | 0.002              |         |          | -          | <0.001     | -          | <0.06      | <0.002     | -          | <0.002     | 0.008      |
| Sulphate                                    | mg/L  | 0.2                | 270     | 500      | 54         | 37         | 29         | <1         | 43         | 64         | 62         | 49         |
| Ammonia                                     | mg/L  | 0.01               |         |          | 1          | 0.7        | 0.9        | 35         | 0.8        | 0.8        | 0.88       | 1.03       |
| Nitrate (as N)                              | mg/L  | 0.05               | 4.22    | 10       | -          | <0.06      | <0.06      | 0.396      | <0.06      | <0.06      | <0.05      | <0.05      |
| Nitrite (as N)                              | mg/L  | 0.03               |         | 1        | <0.06      | <0.03      | -          | 0.446      | <0.03      | -          | <0.05      | -          |
| Total Kjeldahl Nitrogen (TKN)               | mg/L  | 0.1                |         |          | -          | 0.5        | -          | 29         | 0.9        | -          | 1.6        | -          |
| Conductivity (lab)                          | µS/cm | 1                  |         |          | 663        | 643        | 598        | 598        | 607        | 657        | 666        | 693        |
| pH (Lab)                                    | -     | 0.05               | 6.5-8.5 | 6.5-8.5  | 7.84       | 7.78       | 8.22       | 8.22       | 7.83       | 8.09       | 7.91       | 7.69       |
| <b>Field</b>                                |       |                    |         |          |            |            |            |            |            |            |            |            |
| DO (Field)                                  | mg/L  |                    |         |          | -          | 3.8        | 4.4        | -          | -          | 3.6        | 12.42      | 9.36       |
| Redox Potential (Field)                     | mV    |                    |         |          | -          | -95        | -125       | -          | -          | -235       | 5          | 15         |
| Temp (Field)                                | °C    |                    |         |          | -          | 9.5        | 12.9       | -          | 14.5       | 6.2        | 8.3        | 9          |
| Conductivity (field)                        | µS/cm |                    |         |          | -          | 435        | 589        | -          | -          | 386        | 655        | 294        |
| pH (Field)                                  | -     |                    |         | 6.5-8.5  | -          | 7.8        | 7.7        | -          | 7.7        | 8          | 8.76       | 7.8        |





Table 6 - Groundwater Quality - Deep Bedrock

|   |       | Hall's Glen BR RUC | ODWQS          | Location       | MW12-2       | MW12-2     | MW12-2     |
|---|-------|--------------------|----------------|----------------|------------|------------|------------|------------|------------|------------|--------------|------------|------------|
|   |       |                    |                | Date           | 2016-11-01 | 2017-10-04 | 2019-05-30 | 2019-10-29 | 2019-11-11 | 2020-05-26 | 2020-11-18   | 2021-06-24 | 2021-11-11 |
| Unit  | RDL   |                    |                |                |            |            |            |            |            |            |              |            |            |
| <b>Metals</b>                               |       |                    |                |                |            |            |            |            |            |            |              |            |            |
| Arsenic (Filtered)                          | µg/L  | 0.1                | <b>6.4</b>     | <b>25</b>      | <0.2       | <0.2       | <0.2       | <0.2       | <0.2       | <0.2       | <0.2         | 0.6        | 4.8        |
| Barium (Filtered)                           | µg/L  | 0.01               | <b>350</b>     | <b>1000</b>    | 209        | 183        | 252        | 204        | 204        | 195        | 180          | 195        | 130        |
| Boron (Filtered)                            | µg/L  | 0.2                | <b>2529</b>    | <b>5000</b>    | 514        | 429        | 609        | 548        | 548        | 621        | 566          | 674        | 175        |
| Calcium (Filtered)                          | µg/L  | 10                 |                |                | 91,600     | 96,100     | 111,000    | 115,000    | 115,000    | 82,300     | 86,000       | 78,000     | 102,000    |
| Cadmium (Filtered)                          | µg/L  | 0.003              |                | <b>5</b>       | <0.003     | <0.003     | <0.003     | <0.003     | <0.003     | <0.003     | <0.003       | <0.015     | 0.021      |
| Chloride (Filtered)                         | µg/L  | 200                | <b>195000</b>  | <b>250000</b>  | 39,000     | 41,000     | 38,000     | 37,000     | 37,000     | 34,000     | 32,000       | 32,200     | 43,200     |
| Chromium (III+VI) (Filtered)                | µg/L  | 0.03               |                | <b>50</b>      | 0.41       | 0.59       | 0.35       | 0.23       | 0.23       | 0.2        | 0.58         | <1         | <1         |
| Copper (Filtered)                           | µg/L  | 0.02               |                | <b>1000</b>    | 0.75       | 0.13       | <0.2       | <0.2       | <0.2       | 0.3        | <0.2         | <0.1       | 1.1        |
| Iron (Filtered)                             | µg/L  | 2                  | <b>154</b>     | <b>300</b>     | 54         | 33         | 143        | 7          | 7          | 38         | 15           | <5         | <b>917</b> |
| Lead (Filtered)                             | µg/L  | 0.01               |                | <b>10</b>      | 0.05       | <0.01      | 0.46       | 0.1        | 0.1        | 0.01       | <0.01        | 1.7        | 8.15       |
| Manganese (Filtered)                        | µg/L  | 0.01               | <b>25.08</b>   | <b>50</b>      | <b>181</b> | <b>164</b> | <b>139</b> | <b>148</b> | <b>148</b> | <b>110</b> | <b>96.81</b> | <b>114</b> | <b>292</b> |
| Magnesium (Filtered)                        | µg/L  | 1                  |                |                | 20,900     | 21,500     | 24,700     | 26,800     | 26,800     | 31,200     | 27,000       | 29,100     | 18,800     |
| Mercury (Filtered)                          | µg/L  | 0.01               |                | <b>1</b>       | <0.01      | -          | <10        | -          | -          | <b>10</b>  | -            | <0.02      | <0.02      |
| Phosphorus (Filtered)                       | µg/L  | 10                 |                |                | -          | -          | 30         | -          | 400        | 3          | -            | 170        | 1010       |
| Potassium (Filtered)                        | µg/L  | 2                  |                |                | 3520       | 3200       | 3750       | 4160       | 4160       | 3560       | 3700         | 3500       | 2000       |
| Sodium (Filtered)                           | µg/L  | 10                 | <b>136400</b>  | <b>200000</b>  | 37,000     | 36,700     | 41,400     | 45,700     | 45,700     | 47,900     | 39,000       | 46,800     | 45,700     |
| Zinc (Filtered)                             | µg/L  | 2                  |                | <b>5000</b>    | 11         | <2         | 4          | 3          | 3          | 3          | 4            | <5         | 7          |
| <b>Inorganics</b>                           |       |                    |                |                |            |            |            |            |            |            |              |            |            |
| Alkalinity (as CaCO3)                       | mg/L  | 2                  | <b>388</b>     | <b>500</b>     | 270        | 264        | 294        | 285        | 285        | 303        | 291          | 300        | 284        |
| Hardness (as CaCO3) (Filtered)              | mg/L  | 1                  | <b>445</b>     | <b>500</b>     | -          | -          | -          | -          | -          | -          | -            | 315        | 331        |
| Solids - Total Dissolved (TDS)              | mg/L  | 3                  | <b>647</b>     | <b>500</b>     | 440        | 457        | 463        | 417        | 417        | 394        | 431          | 399        | 390        |
| Oxygen Demand - Chemical (COD)              | mg/L  | 5                  |                |                | <8         | <8         | 8          | 18         | 18         | 23         | <8           | 16         | 98         |
| Solids - Total Suspended (TSS)              | mg/L  |                    |                |                | -          | -          | -          | -          | -          | -          | -            | -          | -          |
| Organic Carbon - Dissolved (DOC) (Filtered) | mg/L  | 0.2                | <b>3.5</b>     | <b>5</b>       | <1         | 1          | -          | <1         | <1         | 1          | 1            | <b>3.9</b> | 1.6        |
| Oxygen Demand - Biological (BOD)            | mg/L  |                    |                |                | -          | -          | -          | -          | -          | -          | -            | -          | -          |
| Phenols (4AAP)                              | mg/L  | 0.002              |                |                | -          | -          | 0.001      | -          | -          | <0.002     | -            | <0.002     | <0.002     |
| Sulphate                                    | mg/L  | 0.2                | <b>270</b>     | <b>500</b>     | 72         | 71         | 72         | 78         | 78         | 75         | 80           | 79         | 33         |
| Ammonia                                     | mg/L  | 0.01               |                |                | 0.1        | 0.3        | 0.3        | 0.4        | -          | 0.4        | 0.4          | 0.44       | 0.31       |
| Nitrate (as N)                              | mg/L  | 0.05               | <b>4.22</b>    | <b>10</b>      | 0.1        | -          | <0.06      | <0.06      | <0.06      | <0.06      | <0.06        | 0.06       | <0.05      |
| Nitrite (as N)                              | mg/L  | 0.03               |                | <b>1</b>       | -          | <0.06      | <0.03      | -          | -          | <0.03      | -            | <0.05      | -          |
| Total Kjeldahl Nitrogen (TKN)               | mg/L  | 0.1                |                |                | -          | -          | <0.5       | -          | -          | <0.5       | -            | 0.6        | -          |
| Conductivity (lab)                          | µS/cm | 1                  |                |                | 758        | 750        | 740        | 730        | 730        | 732        | 708          | 763        | 746        |
| pH (Lab)                                    | -     | 0.05               | <b>6.5-8.5</b> | <b>6.5-8.5</b> | 7.85       | 8.03       | 7.62       | 7.95       | 7.95       | 7.73       | 7.79         | 7.92       | 7.93       |
| <b>Field</b>                                |       |                    |                |                |            |            |            |            |            |            |              |            |            |
| DO (Field)                                  | mg/L  |                    |                |                | -          | -          | 4.1        | 6.5        | -          | -          | 5.4          | 6.76       | 5.98       |
| Redox Potential (Field)                     | mV    |                    |                |                | -          | -          | -55        | -106       | -          | -          | -151         | -4         | 43         |
| Temp (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)                                  | -     |                    |                |                | -          | -          | 7.7        | 7.5        | -          | 7.3        | 7.6          | 7.87       | 7.2        |





Table 6 - Groundwater Quality - Deep Bedrock

| Unit  | RDL   | Hall's Glen BR RUC | ODWQS          | Location       | MW12-3      | MW12-3     | MW12-3     | MW12-3       | MW12-3       | MW12-3      | MW12-3     | MW12-3     | MW12-3     |           |
|---|-------|--------------------|----------------|----------------|-------------|------------|------------|--------------|--------------|-------------|------------|------------|------------|-----------|
|   |       |                    |                | Date           | 2016-11-01  | 2017-10-04 | 2019-05-30 | 2019-10-29   | 2019-11-11   | 2020-05-26  | 2020-11-18 | 2021-06-24 | 2021-11-11 |           |
| <b>Metals</b>                               |       |                    |                |                |             |            |            |              |              |             |            |            |            |           |
| Arsenic (Filtered)                          | µg/L  | 0.1                | <b>6.4</b>     | <b>25</b>      | <0.2        | <0.2       | <0.2       | <0.2         | <0.2         | <0.2        | <0.2       | <0.2       | <0.1       | <0.1      |
| Barium (Filtered)                           | µg/L  | 0.01               | <b>350</b>     | <b>1000</b>    | 48.6        | 29.1       | 39.9       | 66.4         | 66.4         | 34          | 29.2       | 31         | 30         | 30        |
| Boron (Filtered)                            | µg/L  | 0.2                | <b>2529</b>    | <b>5000</b>    | 108         | 79         | 90         | 143          | 143          | 77          | 69         | 83         | 83         | 83        |
| Calcium (Filtered)                          | µg/L  | 10                 |                |                | 129,000     | 134,000    | 162,000    | 140,000      | 140,000      | 127,000     | 134,000    | 133,000    | 127,000    | 127,000   |
| Cadmium (Filtered)                          | µg/L  | 0.003              |                | <b>5</b>       | <0.003      | 0.004      | <0.003     | <0.003       | <0.003       | 0.003       | 0.003      | <0.015     | <0.015     | <0.015    |
| Chloride (Filtered)                         | µg/L  | 200                | <b>195000</b>  | <b>250000</b>  | 52,000      | 60,000     | 55,000     | 51,000       | 51,000       | 52,000      | 47,000     | 48,600     | 44,500     | 44,500    |
| Chromium (III+VI) (Filtered)                | µg/L  | 0.03               |                | <b>50</b>      | 0.36        | 0.55       | 0.26       | 0.15         | 0.15         | 0.09        | 0.72       | <1         | 4          | 4         |
| Copper (Filtered)                           | µg/L  | 0.02               |                | <b>1000</b>    | 0.36        | 0.13       | <0.2       | <0.2         | <0.2         | 0.4         | 0.3        | 0.1        | <0.1       | <0.1      |
| Iron (Filtered)                             | µg/L  | 2                  | <b>154</b>     | <b>300</b>     | <b>368</b>  | 13         | 54         | 99           | 99           | <7          | 56         | 19         | 44         | 44        |
| Lead (Filtered)                             | µg/L  | 0.01               |                | <b>10</b>      | 0.03        | 0.03       | 0.26       | 0.03         | 0.03         | 0.02        | <0.01      | 0.08       | 0.08       | 0.08      |
| Manganese (Filtered)                        | µg/L  | 0.01               | <b>25.08</b>   | <b>50</b>      | <b>83.1</b> | 11.1       | 14.5       | <b>50.23</b> | <b>50.23</b> | <b>62.7</b> | 19.3       | <b>34</b>  | <b>24</b>  | <b>24</b> |
| Magnesium (Filtered)                        | µg/L  | 1                  |                |                | 5720        | 5500       | 6180       | 8910         | 8910         | 5490        | 5370       | 5830       | 5430       | 5430      |
| Mercury (Filtered)                          | µg/L  | 0.01               |                | <b>1</b>       | <0.01       | -          | <10        | -            | -            | <b>10</b>   | -          | <0.02      | <0.02      | <0.02     |
| Phosphorus (Filtered)                       | µg/L  | 10                 |                |                | -           | -          | <30        | -            | <100         | <3          | -          | 40         | 730        | 730       |
| Potassium (Filtered)                        | µg/L  | 2                  |                |                | 1850        | 1710       | 1940       | 2060         | 2060         | 1650        | 1660       | 1600       | 1800       | 1800      |
| Sodium (Filtered)                           | µg/L  | 10                 | <b>136400</b>  | <b>200000</b>  | 14,400      | 14,400     | 15,700     | 18,800       | 18,800       | 16,100      | 13,200     | 16,000     | 16,200     | 16,200    |
| Zinc (Filtered)                             | µg/L  | 2                  |                | <b>5000</b>    | 4           | 3          | 8          | <2           | <2           | <2          | <2         | <5         | <5         | <5        |
| <b>Inorganics</b>                           |       |                    |                |                |             |            |            |              |              |             |            |            |            |           |
| Alkalinity (as CaCO3)                       | mg/L  | 2                  | <b>388</b>     | <b>500</b>     | 276         | 277        | 290        | 272          | 272          | 296         | 334        | 283        | 263        | 263       |
| Hardness (as CaCO3) (Filtered)              | mg/L  | 1                  | <b>445</b>     | <b>500</b>     | -           | -          | -          | -            | -            | -           | -          | 356        | 340        | 340       |
| Solids - Total Dissolved (TDS)              | mg/L  | 3                  | <b>647</b>     | <b>500</b>     | 443         | 486        | 443        | 391          | 391          | 403         | 394        | 362        | 361        | 361       |
| Oxygen Demand - Chemical (COD)              | mg/L  | 5                  |                |                | <8          | <8         | <8         | <8           | <8           | <8          | <8         | <5         | 32         | 32        |
| Solids - Total Suspended (TSS)              | mg/L  |                    |                |                | -           | -          | -          | -            | -            | -           | -          | -          | -          | -         |
| Organic Carbon - Dissolved (DOC) (Filtered) | mg/L  | 0.2                | <b>3.5</b>     | <b>5</b>       | <1          | 1          | -          | 1            | 1            | 1           | 1          | 3.5        | 1.6        | 1.6       |
| Oxygen Demand - Biological (BOD)            | mg/L  |                    |                |                | -           | -          | -          | -            | -            | -           | -          | -          | -          | -         |
| Phenols (4AAP)                              | mg/L  | 0.002              |                |                | -           | -          | 0.001      | -            | -            | <0.002      | -          | <0.002     | <0.002     | <0.002    |
| Sulphate                                    | mg/L  | 0.2                | <b>270</b>     | <b>500</b>     | 21          | 25         | 26         | 24           | 24           | 23          | 21         | 23         | 23         | 23        |
| Ammonia                                     | mg/L  | 0.01               |                |                | <0.1        | <0.1       | <0.1       | <0.1         | -            | <0.1        | <0.1       | 0.02       | 0.05       | 0.05      |
| Nitrate (as N)                              | mg/L  | 0.05               | <b>4.22</b>    | <b>10</b>      | 0.27        | -          | <0.06      | <0.06        | <0.06        | <0.06       | <0.06      | <0.05      | <0.05      | <0.05     |
| Nitrite (as N)                              | mg/L  | 0.03               |                | <b>1</b>       | -           | <0.06      | <0.03      | -            | -            | <0.03       | -          | <0.05      | -          | -         |
| Total Kjeldahl Nitrogen (TKN)               | mg/L  | 0.1                |                |                | -           | -          | <0.5       | -            | -            | <0.5        | -          | 0.2        | -          | -         |
| Conductivity (lab)                          | µS/cm | 1                  |                |                | 729         | 737        | 711        | 694          | 694          | 681         | 663        | 696        | 694        | 694       |
| pH (Lab)                                    | -     | 0.05               | <b>6.5-8.5</b> | <b>6.5-8.5</b> | 7.86        | 7.77       | 8.06       | 7.75         | 7.75         | 7.68        | 7.7        | 7.75       | 7.72       | 7.72      |
| <b>Field</b>                                |       |                    |                |                |             |            |            |              |              |             |            |            |            |           |
| DO (Field)                                  | mg/L  |                    |                |                | -           | -          | 5.7        | 10.8         | -            | -           | 4.5        | 3.52       | 2.63       | 2.63      |
| Redox Potential (Field)                     | mV    |                    |                |                | -           | -          | 147        | -51          | -            | -           | -59        | -5         | 12         | 12        |
| Temp (Field)                                | °C    |                    |                |                | -           | -          | 10.1       | 9.5          | -            | 14.1        | 9.6        | 7.2        | 8.7        | 8.7       |
| Conductivity (field)                        | µS/cm |                    |                |                | -           | -          | 510        | 572          | -            | -           | 446        | 694        | 300        | 300       |
| pH (Field)                                  | -     |                    |                | <b>6.5-8.5</b> | -           | -          | 7.7        | 7.7          | -            | 7.4         | 7.5        | 7.48       | 7.15       | 7.15      |













Table 7 - Groundwater Quality - Residential Wells

| Unit  | RDL   | ODWQS | Location | R4         |         |
|---|-------|-------|----------|------------|------------|------------|------------|------------|------------|------------|------------|------------|---------|
|   |       |       | Date     | 2017-10-04 | 2019-05-30 | 2019-10-29 | 2019-10-29 | 2020-05-26 | 2020-11-18 | 2020-11-18 | 2021-06-28 | 2021-11-11 |         |
| <b>Metals</b>                               |       |       |          |            |            |            |            |            |            |            |            |            |         |
| Arsenic (Filtered)                          | µg/L  | 0.1   | 25       | <0.2       | 0.3        | <0.2       | <0.2       | <0.2       | <0.2       | <0.2       | <0.2       | C.1        | 0.2     |
| Barium (Filtered)                           | µg/L  | 0.01  | 1000     | 152        | 117        | 141        | 141        | 114        | 125        | 125        | 125        | 128        | 122     |
| Boron (Filtered)                            | µg/L  | 0.2   | 5000     | 32         | 16         | 29         | 29         | 16         | 31         | 31         | 31         | 20         | 26      |
| Calcium (Filtered)                          | µg/L  | 10    |          | 133,000    | 128,000    | 120,000    | 120,000    | 116,000    | 126,000    | 126,000    | 126,000    | 127,000    | 113,000 |
| Cadmium (Filtered)                          | µg/L  | 0.003 | 5        | 0.005      | 0.004      | 0.011      | 0.011      | 0.007      | 0.007      | 0.007      | 0.007      | <0.015     | <0.015  |
| Chloride (Filtered)                         | µg/L  | 200   | 250000   | 280,000    | 52,000     | 210,000    | 210,000    | 210,000    | 220,000    | 220,000    | 220,000    | 183,000    | 126,000 |
| Chromium (III+VI) (Filtered)                | µg/L  | 0.03  | 50       | 0.85       | 0.25       | 0.58       | 0.58       | 0.29       | 1.23       | 1.23       | 1.23       | 2          | <1      |
| Copper (Filtered)                           | µg/L  | 0.02  | 1000     | 19.76      | 109        | 86.2       | 86.2       | 70.5       | 169        | 169        | 169        | 117        | 96.2    |
| Iron (Filtered)                             | µg/L  | 2     | 300      | 19         | <7         | 14         | 14         | 11         | 8          | 8          | 8          | 6          | <5      |
| Lead (Filtered)                             | µg/L  | 0.01  | 10       | 0.64       | 2.29 - 9   | 1.43       | 1.43       | 1.56       | 2.69       | 2.69       | 2.69       | 2.32       | 2.6     |
| Manganese (Filtered)                        | µg/L  | 0.01  | 50       | 0.73       | 0.1        | 0.61       | 0.61       | 0.42       | 0.22       | 0.22       | 0.22       | <1         | <1      |
| Magnesium (Filtered)                        | µg/L  | 1     |          | 4200       | 3290       | 3290       | 3290       | 3750       | -          | -          | 3290       | 3870       | 3200    |
| Mercury (Filtered)                          | µg/L  | 0.01  | 1        | -          | <10        | -          | -          | <10        | -          | -          | -          | <0.02      | <0.02   |
| Phosphorus total (P2O5)                     | µg/L  | 10    |          | -          | 9          | -          | 23         | <30        | -          | -          | -          | 10         | 30      |
| Potassium (Filtered)                        | µg/L  | 2     |          | 3120       | 3260       | 3220       | 3220       | 2950       | 3160       | 3160       | 3160       | 2800       | 2700    |
| Sodium (Filtered)                           | µg/L  | 10    | 200000   | 186,000    | 34,600     | 153,000    | 153,000    | 138,000    | 165,000    | 165,000    | 165,000    | 121,000    | 123,000 |
| Zinc (Filtered)                             | µg/L  | 2     | 5000     | 14         | 2.29 - 23  | 37         | 37         | 31         | 30         | 30         | 30         | 45         | 28      |
| <b>Inorganics</b>                           |       |       |          |            |            |            |            |            |            |            |            |            |         |
| Alkalinity (as CaCO3)                       | mg/L  | 2     | 500      | 403        | 288        | 336        | 336        | 304        | 347        | 347        | 347        | 267        | 338     |
| Hardness (as CaCO3) (Filtered)              | mg/L  | 1     | 500      | -          | -          | -          | -          | -          | -          | -          | -          | 333        | 294     |
| Solids - Total Dissolved (TDS)              | mg/L  | 3     | 500      | 880        | 411        | 726        | 726        | 629        | 797        | 797        | 797        | 605        | 563     |
| Oxygen Demand - Chemical (COD)              | mg/L  | 5     |          | 9          | 25         | <8         | <8         | <8         | 18         | 18         | 18         | <5         | 8       |
| Organic Carbon - Dissolved (DOC) (Filtered) | mg/L  | 0.2   | 5        | 3          | 5          | 1          | 1          | 2          | 4          | 4          | 4          | 2          | 2.1     |
| Phenols (4AAP)                              | mg/L  | 0.002 |          | -          | <0.002     | -          | -          | 0.002      | -          | -          | -          | <0.002     | <0.002  |
| Sulphate                                    | mg/L  | 0.2   | 500      | 18         | 13         | 17         | 17         | 10         | 14         | 14         | 14         | 12         | 10      |
| Ammonia                                     | mg/L  | 0.01  |          | <0.1       | <0.1       | <0.1       | <0.1       | <0.1       | <0.1       | <0.1       | <0.1       | <0.01      | <0.01   |
| Nitrate (as N)                              | mg/L  | 0.05  | 10       | -          | 3.15       | 1.59       | 1.59       | 0.56       | 220        | 2.12       | 2.12       | 1.38       | 0.97    |
| Nitrite (as N)                              | mg/L  | 0.03  | 1        | 0.61       | <0.03      | -          | -          | <0.03      | -          | -          | -          | <0.05      | <0.05   |
| Total Kjeldahl Nitrogen (TKN)               | mg/L  | 0.1   |          | -          | <0.5       | -          | -          | <0.5       | -          | -          | -          | 0.2        | 0.2     |
| Conductivity (lab)                          | µS/cm | 1     |          | 1610       | 743        | 1290       | 1290       | 1130       | 1340       | 1340       | 1340       | 1300       | 1050    |
| pH (Lab)                                    | -     | 0.05  | 6.5-8.5  | 7.39       | 8.01       | 7.75       | 7.75       | 7.72       | 7.85       | 7.85       | 7.85       | 7.87       | 8.21    |
| <b>Field</b>                                |       |       |          |            |            |            |            |            |            |            |            |            |         |
| DO (Field)                                  | mg/L  |       |          | -          | -          | -          | -          | -          | -          | -          | -          | 8.86       | 8.16    |
| Redox Potential (Field)                     | mV    |       |          | -          | -          | -          | -          | -          | -          | -          | -          | 145        | 17      |
| Temp (Field)                                | °C    |       |          | -          | -          | -          | -          | -          | -          | -          | -          | 13.4       | 19.1    |
| Conductivity (field)                        | µS/cm |       |          | -          | -          | -          | -          | -          | -          | -          | -          | 1046       | 425     |
| pH (Field)                                  | -     |       | 6.5-8.5  | -          | -          | -          | -          | -          | -          | -          | -          | 7.36       | 7.22    |



Table 8 - Groundwater Quality - VOCs

| Unit RDL                          |      | ODWQS | Location Date | MW01-1 5/22/15 | MW01-1 5/30/16 | MW01-1 5/31/17 | MW01-1 5/30/19 | MW01-1 5/26/20 | MW01-1 6/24/21 |
|-----------------------------------|------|-------|---------------|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>BTEX</b>                       |      |       |               |                |                |                |                |                |                |
| Benzene                           | ug/L | 0.5   | 1             | <0.5           | <0.5           | <0.5           | <0.5           | <0.5           | <0.5           |
| Toluene                           | ug/L | 0.5   | 60            | <0.5           | <0.5           | <0.5           | -              | <0.5           | <0.5           |
| Ethylbenzene                      | ug/L | 0.5   | 140           | <0.5           | -              | <0.5           | -              | -              | -              |
| Xylene (m & p)                    | ug/L | 0.5   |               | <0.5           | -              | <0.5           | -              | -              | -              |
| Xylene (o)                        | ug/L | 0.5   |               | <0.5           | -              | <0.5           | -              | -              | -              |
| Xylene Tctal                      | ug/L | 0.5   | 90            | <0.5           | -              | <0.5           | -              | -              | -              |
| <b>VOCs</b>                       |      |       |               |                |                |                |                |                |                |
| Monochlorobenzene (Chlorobenzene) | ug/L | 0.2   |               | <0.5           | -              | <0.5           | -              | -              | <0.5           |
| Acetone                           | ug/L | 30    |               | -              | -              | -              | -              | -              | -              |
| Bromodichloromethane              | ug/L | 0.5   |               | <0.5           | -              | <0.5           | -              | -              | -              |
| Bromoform                         | ug/L | 0.5   |               | <0.5           | -              | <0.5           | -              | -              | -              |
| Bromomethane                      | ug/L | 0.5   |               | <0.5           | -              | <0.5           | -              | -              | -              |
| Carbon tetrachloride              | ug/L | 0.2   | 2             | <0.2           | -              | <0.2           | -              | -              | -              |
| Chloroform                        | ug/L | 0.5   |               | <0.5           | -              | <0.5           | -              | -              | -              |
| Chloroethane                      | ug/L | 3     |               | <5             | -              | <5             | -              | -              | -              |
| Chloromethane                     | ug/L | 2     |               | <5             | -              | <5             | -              | -              | -              |
| Dibromochloromethane              | ug/L | 0.5   |               | <0.5           | -              | <0.5           | -              | -              | -              |
| Dibromoethylene, 1,2-trans-       | ug/L |       |               | -              | -              | <0.5           | -              | -              | -              |
| Dichlorobenzene, 1,2-             | ug/L | 0.5   | 200           | <0.5           | -              | <0.5           | -              | -              | -              |
| Dichlorobenzene, 1,3-             | ug/L | 0.5   |               | <0.5           | -              | <0.5           | -              | -              | -              |
| Dichlorodifluoromethane           | ug/L | 2     |               | -              | -              | -              | -              | -              | -              |
| Dichlorobenzene, 1,4-             | ug/L | 0.5   | 5             | <0.5           | <0.5           | <0.5           | -              | <0.5           | <0.5           |
| Dichloroethane, 1,1-              | ug/L | 0.5   |               | <0.5           | -              | <0.5           | -              | -              | -              |
| Dichloroethane, 1,2-              | ug/L | 0.5   | 5             | <0.5           | -              | <0.5           | -              | -              | -              |
| Dichloroethylene, 1,1-            | ug/L | 0.5   | 14            | <0.5           | -              | <0.5           | -              | -              | -              |
| Dichloroethylene, 1,2-trans-      | ug/L | 0.5   |               | <0.5           | -              | -              | -              | -              | -              |
| Dichloroethylene, 1,2-cis-        | ug/L | 0.5   |               | <0.5           | -              | <0.5           | -              | -              | -              |
| Dichloropropane, 1,2-             | ug/L | 0.5   |               | <0.5           | -              | <0.5           | -              | -              | -              |
| Dichloropropene, 1,3-cis-         | ug/L | 0.5   |               | <0.5           | -              | <0.5           | -              | -              | -              |
| Dichloropropene, 1,3-trans-       | ug/L | 0.5   |               | <0.5           | -              | <0.5           | -              | -              | -              |
| Dichloropropene, 1,3-(cis+trans)  | ug/L | 0.5   |               | -              | -              | -              | -              | -              | -              |
| Ethylene dibromide                | ug/L | 0.2   |               | <0.2           | -              | <0.2           | -              | -              | -              |
| Hexane                            | ug/L | 5     |               | -              | -              | -              | -              | -              | -              |
| Methyl Ethyl Ketone               | ug/L | 20    |               | -              | -              | -              | -              | -              | -              |
| Methyl Isobutyl Ketone            | ug/L | 20    |               | -              | -              | -              | -              | -              | -              |
| Methylene chloride                | ug/L | 0.5   | 50            | <0.5           | <0.5           | <0.5           | -              | <0.5           | <5             |
| Methyl tert-Butyl Ether           | ug/L | 2     |               | -              | -              | -              | -              | -              | -              |
| Styrene                           | ug/L | 0.5   |               | <0.5           | -              | <0.5           | -              | -              | -              |
| Tetrachloroethane, 1,1,2,2-       | ug/L | 0.5   |               | <0.5           | -              | <0.5           | -              | -              | -              |
| Tetrachloroethane, 1,1,1,2-       | ug/L | 0.5   |               | <0.5           | -              | <0.5           | -              | -              | -              |
| Tetrachloroethylene               | ug/L | 0.5   | 10            | <0.5           | -              | <0.5           | -              | -              | -              |
| Trichloroethane, 1,1,1-           | ug/L | 0.5   |               | <0.5           | -              | <0.5           | -              | -              | -              |
| Trichloroethane, 1,1,2-           | ug/L | 0.5   |               | <0.5           | -              | <0.5           | -              | -              | -              |
| Trichloroethylene                 | ug/L | 0.5   | 5             | <0.5           | -              | <0.5           | -              | -              | -              |
| Trichlorofluoromethane            | ug/L | 5     |               | <5             | -              | <5             | -              | -              | -              |
| Vinyl chloride                    | ug/L | 0.2   | 1             | <0.2           | <0.2           | <0.2           | -              | <0.2           | <0.2           |





Table 8 - Groundwater Quality - VOCs

| Unit RDL                          |      | ODWQS | Location Date | MW03-1 5/30/16 | MW03-1 11/01/16 | MW03-1 10/04/17 | MW03-1 5/30/19 | MW03-1 11/08/19 | MW03-1 5/26/20 | MW03-1 11/18/20 | MW03-1 6/24/21 | MW03-1 11/11/21 |
|-----------------------------------|------|-------|---------------|----------------|-----------------|-----------------|----------------|-----------------|----------------|-----------------|----------------|-----------------|
| <b>BTEX</b>                       |      |       |               |                |                 |                 |                |                 |                |                 |                |                 |
| Benzene                           | ug/L | 0.5   | 1             | <0.5           | <0.5            | <0.5            | <0.5           | <5              | <0.5           | <0.5            | <0.5           | <0.5            |
| Toluene                           | ug/L | 0.5   | 60            | <0.5           | <0.5            | <0.5            | <0.5           | <0.5            | <0.5           | <0.5            | <0.5           | <0.5            |
| Ethylbenzene                      | ug/L | 0.5   | 140           | <0.5           | <0.5            | <0.5            | <0.5           | <0.5            | <0.5           | <0.5            | -              | <0.5            |
| Xylene (m & p)                    | ug/L | 0.5   |               | <0.5           | <0.5            | <0.5            | <0.5           | -               | <0.5           | <0.5            | -              | <1              |
| Xylene (o)                        | ug/L | 0.5   |               | <0.5           | <0.5            | <0.5            | <0.5           | -               | <0.5           | <0.5            | -              | <0.5            |
| Xylene Tctal                      | ug/L | 0.5   | 90            | <0.5           | <0.5            | <0.5            | <0.5           | -               | <0.5           | <0.5            | -              | <1.1            |
| <b>VOCs</b>                       |      |       |               |                |                 |                 |                |                 |                |                 |                |                 |
| Monochlorobenzene (Chlorobenzene) | ug/L | 0.2   |               | <0.5           | <0.5            | <0.5            | <0.5           | <0.5            | <0.5           | <0.5            | <0.5           | <0.5            |
| Acetone                           | µg/L | 30    |               | -              | -               | -               | -              | -               | -              | -               | -              | <30             |
| Bromodichloromethane              | ug/L | 0.5   |               | <0.5           | <0.5            | <0.5            | <0.5           | <0.5            | <0.5           | <0.5            | <2             | <2              |
| Bromoform                         | ug/L | 0.5   |               | <0.5           | <0.5            | <0.5            | <0.5           | <5              | <0.5           | <0.5            | <5             | <5              |
| Bromomethane                      | ug/L | 0.5   |               | 0.6            | <0.5            | <0.5            | <0.5           | <0.5            | <0.5           | <0.5            | <0.5           | <0.5            |
| Carbon tetrachloride              | ug/L | 0.2   | 2             | <0.2           | <0.2            | <0.2            | <0.2           | <0.5            | <0.2           | <0.2            | <0.2           | <0.2            |
| Chloroform                        | ug/L | 0.5   |               | <0.5           | <0.5            | <0.5            | <0.5           | <0.5            | <0.5           | <0.5            | <1             | <1              |
| Chloroethane                      | µg/L | 3     |               | <5             | <5              | <5              | <5             | <0.5            | <5             | <5              | <3             | <3              |
| Chloromethane                     | µg/L | 2     |               | <5             | <5              | <5              | <5             | <0.5            | <5             | <5              | <2             | <2              |
| Dibromochloromethane              | ug/L | 0.5   |               | <0.5           | <0.5            | <0.5            | <0.5           | <0.5            | <0.5           | <0.5            | <2             | <2              |
| Dibromoethylene, 1,2-trans-       | ug/L |       |               | -              | -               | <0.5            | <0.5           | <0.2            | <0.5           | <0.5            | -              | -               |
| Dichlorobenzene, 1,2-             | ug/L | 0.5   | 200           | <0.5           | <0.5            | <0.5            | <0.5           | <0.5            | <0.5           | <0.5            | <0.5           | <0.5            |
| Dichlorobenzene, 1,3-             | ug/L | 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              |
| Dichlorobenzene, 1,4-             | ug/L | 0.5   | 5             | <0.5           | <0.5            | <0.5            | <0.5           | <0.5            | <0.5           | <0.5            | <0.5           | <0.5            |
| Dichloroethane, 1,1-              | ug/L | 0.5   |               | <0.5           | <0.5            | <0.5            | <0.5           | <0.5            | <0.5           | <0.5            | <0.5           | <0.5            |
| Dichloroethane, 1,2-              | ug/L | 0.5   | 5             | <0.5           | <0.5            | <0.5            | <0.5           | <0.5            | <0.5           | <0.5            | <0.5           | <0.5            |
| Dichloroethylene, 1,1-            | ug/L | 0.5   | 14            | <0.5           | <0.5            | <0.5            | <0.5           | <0.5            | <0.5           | <0.5            | <0.5           | <0.5            |
| Dichloroethylene, 1,2-trans-      | µg/L | 0.5   |               | <0.5           | <0.5            | -               | -              | -               | -              | -               | <0.5           | <0.5            |
| Dichloroethylene, 1,2-cis-        | ug/L | 0.5   |               | <0.5           | <0.5            | <0.5            | <0.5           | <0.5            | <0.5           | <0.5            | <0.5           | <0.5            |
| Dichloropropane, 1,2-             | ug/L | 0.5   |               | <0.5           | <0.5            | <0.5            | <0.5           | <0.5            | <0.5           | <0.5            | <0.5           | <0.5            |
| Dichloropropene, 1,3-cis-         | ug/L | 0.5   |               | <0.5           | <0.5            | <0.5            | <0.5           | <0.5            | <0.5           | <0.5            | -              | <0.5            |
| Dichloropropene, 1,3-trans-       | ug/L | 0.5   |               | <0.5           | <0.5            | <0.5            | <0.5           | <0.5            | <0.5           | <0.5            | <0.5           | <0.5            |
| Dichloropropene, 1,3-(cis+trans)  | µg/L | 0.5   |               | -              | -               | -               | -              | -               | -              | -               | <0.5           | <0.5            |
| Ethylene dibromide                | ug/L | 0.2   |               | <0.2           | <0.2            | <0.2            | <0.2           | <0.5            | <0.2           | <0.2            | <0.2           | <0.2            |
| Hexane                            | µg/L | 5     |               | -              | -               | -               | -              | -               | -              | -               | -              | <5              |
| Methyl Ethyl Ketone               | µg/L | 20    |               | -              | -               | -               | -              | -               | -              | -               | -              | <20             |
| Methyl Isobutyl Ketone            | µg/L | 20    |               | -              | -               | -               | -              | -               | -              | -               | -              | <20             |
| Methylene chloride                | ug/L | 0.5   | 50            | <0.5           | <0.5            | <0.5            | <0.5           | <0.5            | <0.5           | <0.5            | <5             | <5              |
| Methyl tert-Butyl Ether           | µg/L | 2     |               | -              | -               | -               | -              | -               | -              | -               | -              | <2              |
| Styrene                           | ug/L | 0.5   |               | <0.5           | <0.5            | <0.5            | <0.5           | <0.2            | <0.5           | <0.5            | <0.5           | <0.5            |
| Tetrachloroethane, 1,1,2,2-       | ug/L | 0.5   |               | <0.5           | <0.5            | <0.5            | <0.5           | <5              | <0.5           | <0.5            | <0.5           | <0.5            |
| Tetrachloroethane, 1,1,1,2-       | ug/L | 0.5   |               | <0.5           | <0.5            | <0.5            | <0.5           | -               | <0.5           | <0.5            | <0.5           | <0.5            |
| Tetrachloroethylene               | ug/L | 0.5   | 10            | <0.5           | <0.5            | <0.5            | <0.5           | <0.5            | <0.5           | <0.5            | <0.5           | <0.5            |
| Trichloroethane, 1,1,1-           | ug/L | 0.5   |               | <0.5           | <0.5            | <0.5            | <0.5           | <0.5            | <0.5           | <0.5            | <0.5           | <0.5            |
| Trichloroethane, 1,1,2-           | ug/L | 0.5   |               | <0.5           | <0.5            | <0.5            | <0.5           | -               | <0.5           | <0.5            | <0.5           | <0.5            |
| Trichloroethylene                 | ug/L | 0.5   | 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             | <0.5            | <5             | <5              | <5             | <5              |
| Vinyl chloride                    | ug/L | 0.2   | 1             | <0.2           | <0.2            | <0.2            | <0.2           | <0.5            | <0.2           | <0.2            | <0.2           | <0.2            |





















Table 8 - Groundwater Quality - VOCs

| Unit RDL                          |      | ODWQS | Location Date | MW06-1 5/30/16 | MW06-1 11/01/16 | MW06-1 10/04/17 | MW06-1 5/30/19 | MW06-1 11/08/19 | MW06-1 5/26/20 | MW06-1 11/18/20 | MW06-1 6/24/21 | MW06-1 11/11/21 |
|-----------------------------------|------|-------|---------------|----------------|-----------------|-----------------|----------------|-----------------|----------------|-----------------|----------------|-----------------|
| <b>BTEX</b>                       |      |       |               |                |                 |                 |                |                 |                |                 |                |                 |
| Benzene                           | ug/L | 0.5   | 1             | <0.5           | <0.5            | <0.5            | <0.5           | <5              | <0.5           | <0.5            | <0.5           | <0.5            |
| Toluene                           | ug/L | 0.5   | 60            | <0.5           | <0.5            | <0.5            | <0.5           | <0.5            | <0.5           | <0.5            | <0.5           | <0.5            |
| Ethylbenzene                      | ug/L | 0.5   | 140           | <0.5           | <0.5            | <0.5            | <0.5           | <0.5            | <0.5           | <0.5            | -              | <0.5            |
| Xylene (m & p)                    | ug/L | 0.5   |               | <0.5           | <0.5            | <0.5            | <0.5           | -               | <0.5           | <0.5            | -              | <1              |
| Xylene (o)                        | ug/L | 0.5   |               | <0.5           | <0.5            | <0.5            | <0.5           | -               | <0.5           | <0.5            | -              | <0.5            |
| Xylene Tctal                      | ug/L | 0.5   | 90            | <0.5           | <0.5            | <0.5            | <0.5           | -               | <0.5           | <0.5            | -              | <1.1            |
| <b>VOCs</b>                       |      |       |               |                |                 |                 |                |                 |                |                 |                |                 |
| Monochlorobenzene (Chlorobenzene) | ug/L | 0.2   |               | <0.5           | <0.5            | <0.5            | <0.5           | <0.5            | <0.5           | <0.5            | <0.5           | <0.5            |
| Acetone                           | µg/L | 30    |               | -              | -               | -               | -              | -               | -              | -               | -              | <30             |
| Bromodichloromethane              | ug/L | 0.5   |               | <0.5           | <0.5            | <0.5            | <0.5           | <0.5            | <0.5           | <0.5            | <2             | <2              |
| Bromoform                         | ug/L | 0.5   |               | <0.5           | <0.5            | <0.5            | <0.5           | <5              | <0.5           | <0.5            | <5             | <5              |
| Bromomethane                      | ug/L | 0.5   |               | <0.5           | <0.5            | <0.5            | <0.5           | <0.5            | <0.5           | <0.5            | <0.5           | <0.5            |
| Carbon tetrachloride              | ug/L | 0.2   | 2             | <0.2           | <0.2            | <0.2            | <0.2           | <0.5            | <0.2           | <0.2            | <0.2           | <0.2            |
| Chloroform                        | ug/L | 0.5   |               | <0.5           | <0.5            | <0.5            | <0.5           | <0.5            | <0.5           | <0.5            | <1             | <1              |
| Chloroethane                      | µg/L | 3     |               | <5             | <5              | <5              | <5             | <0.5            | <5             | <5              | <3             | <3              |
| Chloromethane                     | µg/L | 2     |               | <5             | <5              | <5              | <5             | <0.5            | <5             | <5              | <2             | <2              |
| Dibromochloromethane              | ug/L | 0.5   |               | <0.5           | <0.5            | <0.5            | <0.5           | <0.5            | <0.5           | <0.5            | <2             | <2              |
| Dibromoethylene, 1,2-trans-       | ug/L |       |               | -              | -               | <0.5            | <0.5           | <0.2            | <0.5           | <0.5            | -              | -               |
| Dichlorobenzene, 1,2-             | ug/L | 0.5   | 200           | <0.5           | <0.5            | <0.5            | <0.5           | <0.5            | <0.5           | <0.5            | <0.5           | <0.5            |
| Dichlorobenzene, 1,3-             | ug/L | 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              |
| Dichlorobenzene, 1,4-             | ug/L | 0.5   | 5             | <0.5           | <0.5            | <0.5            | <0.5           | <0.5            | <0.5           | <0.5            | <0.5           | <0.5            |
| Dichloroethane, 1,1-              | ug/L | 0.5   |               | <0.5           | <0.5            | <0.5            | <0.5           | <0.5            | <0.5           | <0.5            | <0.5           | <0.5            |
| Dichloroethane, 1,2-              | ug/L | 0.5   | 5             | <0.5           | <0.5            | <0.5            | <0.5           | <0.5            | <0.5           | <0.5            | <0.5           | <0.5            |
| Dichloroethylene, 1,1-            | ug/L | 0.5   | 14            | <0.5           | <0.5            | <0.5            | <0.5           | <0.5            | <0.5           | <0.5            | <0.5           | <0.5            |
| Dichloroethylene, 1,2-trans-      | µg/L | 0.5   |               | <0.5           | <0.5            | -               | -              | -               | -              | -               | <0.5           | <0.5            |
| Dichloroethylene, 1,2-cis-        | ug/L | 0.5   |               | <0.5           | <0.5            | <0.5            | <0.5           | <0.5            | <0.5           | <0.5            | <0.5           | <0.5            |
| Dichloropropane, 1,2-             | ug/L | 0.5   |               | <0.5           | <0.5            | <0.5            | <0.5           | <0.5            | <0.5           | <0.5            | <0.5           | <0.5            |
| Dichloropropene, 1,3-cis-         | ug/L | 0.5   |               | <0.5           | <0.5            | <0.5            | <0.5           | <0.5            | <0.5           | <0.5            | -              | <0.5            |
| Dichloropropene, 1,3-trans-       | ug/L | 0.5   |               | <0.5           | <0.5            | <0.5            | <0.5           | <0.5            | <0.5           | <0.5            | <0.5           | <0.5            |
| Dichloropropene, 1,3-(cis+trans)  | µg/L | 0.5   |               | -              | -               | -               | -              | -               | -              | -               | <0.5           | <0.5            |
| Ethylene dibromide                | ug/L | 0.2   |               | <0.2           | <0.2            | <0.2            | <0.2           | <0.5            | <0.2           | <0.2            | <0.2           | <0.2            |
| Hexane                            | µg/L | 5     |               | -              | -               | -               | -              | -               | -              | -               | -              | <5              |
| Methyl Ethyl Ketone               | µg/L | 20    |               | -              | -               | -               | -              | -               | -              | -               | -              | <20             |
| Methyl Isobutyl Ketone            | µg/L | 20    |               | -              | -               | -               | -              | -               | -              | -               | -              | <20             |
| Methylene chloride                | ug/L | 0.5   | 50            | <0.5           | <0.5            | <0.5            | <0.5           | <0.5            | <0.5           | <0.5            | <5             | <5              |
| Methyl tert-Butyl Ether           | µg/L | 2     |               | -              | -               | -               | -              | -               | -              | -               | -              | <2              |
| Styrene                           | ug/L | 0.5   |               | <0.5           | <0.5            | <0.5            | <0.5           | <0.2            | <0.5           | <0.5            | <0.5           | <0.5            |
| Tetrachloroethane, 1,1,2,2-       | ug/L | 0.5   |               | <0.5           | <0.5            | <0.5            | <0.5           | <5              | <0.5           | <0.5            | <0.5           | <0.5            |
| Tetrachloroethane, 1,1,1,2-       | ug/L | 0.5   |               | <0.5           | <0.5            | <0.5            | <0.5           | -               | <0.5           | <0.5            | <0.5           | <0.5            |
| Tetrachloroethylene               | ug/L | 0.5   | 10            | <0.5           | <0.5            | <0.5            | <0.5           | <0.5            | <0.5           | <0.5            | <0.5           | <0.5            |
| Trichloroethane, 1,1,1-           | ug/L | 0.5   |               | <0.5           | <0.5            | <0.5            | <0.5           | <0.5            | <0.5           | <0.5            | <0.5           | <0.5            |
| Trichloroethane, 1,1,2-           | ug/L | 0.5   |               | <0.5           | <0.5            | <0.5            | <0.5           | -               | <0.5           | <0.5            | <0.5           | <0.5            |
| Trichloroethylene                 | ug/L | 0.5   | 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             | <0.5            | <5             | <5              | <5             | <5              |
| Vinyl chloride                    | ug/L | 0.2   | 1             | <0.2           | <0.2            | <0.2            | <0.2           | <0.5            | <0.2           | <0.2            | <0.2           | <0.2            |























Table 8 - Groundwater Quality - VOCs

| Unit                              | RDL  | ODWQS | Location<br>Date | MW11-1  | MW11-1   | MW11-1  | MW11-1   | MW11-1   | MW11-1  | MW11-1   | MW11-1  |
|-----------------------------------|------|-------|------------------|---------|----------|---------|----------|----------|---------|----------|---------|
|                                   |      |       |                  | 5/30/16 | 10/31/16 | 5/31/17 | 10/04/17 | 11/08/19 | 5/26/20 | 11/18/20 | 6/24/21 |
| <b>BTEX</b>                       |      |       |                  |         |          |         |          |          |         |          |         |
| Benzene                           | ug/L | 0.5   | 1                | <0.5    | <0.5     | <0.5    | <0.5     | <5       | <0.5    | <0.5     | <0.5    |
| Toluene                           | ug/L | 0.5   | 60               | <0.5    | <0.5     | <0.5    | <0.5     | <0.5     | <0.5    | <0.5     | <0.5    |
| Ethylbenzene                      | ug/L | 0.5   | 140              | <0.5    | <0.5     | <0.5    | <0.5     | <0.5     | <0.5    | -        | <0.5    |
| Xylene (m & p)                    | ug/L | 0.5   |                  | <0.5    | <0.5     | <0.5    | <0.5     | -        | <0.5    | <0.5     | <1      |
| Xylene (o)                        | ug/L | 0.5   |                  | <0.5    | <0.5     | <0.5    | <0.5     | -        | <0.5    | <0.5     | <0.5    |
| Xylene Tctal                      | ug/L | 0.5   | 90               | <0.5    | <0.5     | <0.5    | <0.5     | -        | <0.5    | <0.5     | <1.1    |
| <b>VOCs</b>                       |      |       |                  |         |          |         |          |          |         |          |         |
| Monochlorobenzene (Chlorobenzene) | ug/L | 0.2   |                  | <0.5    | <0.5     | <0.5    | <0.5     | <0.5     | <0.5    | <0.5     | <0.5    |
| Acetone                           | µg/L | 30    |                  | -       | -        | -       | -        | -        | -       | -        | <30     |
| Bromodichloromethane              | ug/L | 0.5   |                  | <0.5    | <0.5     | <0.5    | <0.5     | <0.5     | <0.5    | <2       | <2      |
| Bromoform                         | ug/L | 0.5   |                  | <0.5    | <0.5     | <0.5    | <0.5     | <5       | <0.5    | <5       | <5      |
| Bromomethane                      | ug/L | 0.5   |                  | <0.5    | <0.5     | <0.5    | <0.5     | <0.5     | <0.5    | <0.5     | <0.5    |
| Carbon tetrachloride              | ug/L | 0.2   | 2                | <0.2    | <0.2     | <0.2    | <0.2     | <0.5     | <0.2    | <0.2     | <0.2    |
| Chloroform                        | ug/L | 0.5   |                  | <0.5    | <0.5     | <0.5    | <0.5     | <0.5     | <0.5    | <1       | <1      |
| Chloroethane                      | µg/L | 3     |                  | <5      | <5       | <5      | <5       | <5       | <5      | <3       | <3      |
| Chloromethane                     | µg/L | 2     |                  | <5      | <5       | <5      | <5       | <5       | <5      | <2       | <2      |
| Dibromochloromethane              | ug/L | 0.5   |                  | <0.5    | <0.5     | <0.5    | <0.5     | <0.5     | <0.5    | <2       | <2      |
| Dibromoethylene, 1,2-trans-       | ug/L |       |                  | -       | -        | <0.5    | <0.5     | <0.5     | <0.5    | -        | -       |
| Dichlorobenzene, 1,2-             | ug/L | 0.5   | 200              | <0.5    | <0.5     | <0.5    | <0.5     | <0.5     | <0.5    | <0.5     | <0.5    |
| Dichlorobenzene, 1,3-             | ug/L | 0.5   |                  | <0.5    | <0.5     | <0.5    | <0.5     | <0.5     | <0.5    | <0.5     | <0.5    |
| Dichlorodifluoromethane           | µg/L | 2     |                  | -       | -        | -       | -        | -        | -       | -        | <2      |
| Dichlorobenzene, 1,4-             | ug/L | 0.5   | 5                | <0.5    | <0.5     | <0.5    | <0.5     | <0.5     | <0.5    | <0.5     | <0.5    |
| Dichloroethane, 1,1-              | ug/L | 0.5   |                  | <0.5    | <0.5     | <0.5    | <0.5     | <0.5     | <0.5    | <0.5     | <0.5    |
| Dichloroethane, 1,2-              | ug/L | 0.5   | 5                | <0.5    | <0.5     | <0.5    | <0.5     | <0.5     | <0.5    | <0.5     | <0.5    |
| Dichloroethylene, 1,1-            | ug/L | 0.5   | 14               | <0.5    | <0.5     | <0.5    | <0.5     | <0.5     | <0.5    | <0.5     | <0.5    |
| Dichloroethylene, 1,2-trans-      | µg/L | 0.5   |                  | <0.5    | <0.5     | -       | -        | -        | -       | <0.5     | <0.5    |
| Dichloroethylene, 1,2-cis-        | ug/L | 0.5   |                  | <0.5    | <0.5     | <0.5    | <0.5     | <0.5     | <0.5    | <0.5     | <0.5    |
| Dichloropropane, 1,2-             | ug/L | 0.5   |                  | <0.5    | <0.5     | <0.5    | <0.5     | <0.5     | <0.5    | <0.5     | <0.5    |
| Dichloropropene, 1,3-cis-         | ug/L | 0.5   |                  | <0.5    | <0.5     | <0.5    | <0.5     | <0.5     | <0.5    | -        | <0.5    |
| Dichloropropene, 1,3-trans-       | ug/L | 0.5   |                  | <0.5    | <0.5     | <0.5    | <0.5     | <0.5     | <0.5    | <0.5     | <0.5    |
| Dichloropropene, 1,3-(cis+trans)  | µg/L | 0.5   |                  | -       | -        | -       | -        | -        | -       | <0.5     | <0.5    |
| Ethylene dibromide                | ug/L | 0.2   |                  | <0.2    | <0.2     | <0.2    | <0.2     | <0.5     | <0.2    | <0.2     | <0.2    |
| Hexane                            | µg/L | 5     |                  | -       | -        | -       | -        | -        | -       | -        | <5      |
| Methyl Ethyl Ketone               | µg/L | 20    |                  | -       | -        | -       | -        | -        | -       | -        | <20     |
| Methyl Isobutyl Ketone            | µg/L | 20    |                  | -       | -        | -       | -        | -        | -       | -        | <20     |
| Methylene chloride                | ug/L | 0.5   | 50               | <0.5    | <0.5     | <0.5    | <0.5     | <0.5     | <0.5    | <5       | <5      |
| Methyl tert-Butyl Ether           | µg/L | 2     |                  | -       | -        | -       | -        | -        | -       | -        | <2      |
| Styrene                           | ug/L | 0.5   |                  | <0.5    | <0.5     | <0.5    | <0.5     | <0.2     | <0.5    | <0.5     | <0.5    |
| Tetrachloroethane, 1,1,2,2-       | ug/L | 0.5   |                  | <0.5    | <0.5     | <0.5    | <0.5     | <5       | <0.5    | <0.5     | <0.5    |
| Tetrachloroethane, 1,1,1,2-       | ug/L | 0.5   |                  | <0.5    | <0.5     | <0.5    | <0.5     | -        | <0.5    | <0.5     | <0.5    |
| Tetrachloroethylene               | ug/L | 0.5   | 10               | <0.5    | <0.5     | <0.5    | <0.5     | <0.5     | <0.5    | <0.5     | <0.5    |
| Trichloroethane, 1,1,1-           | ug/L | 0.5   |                  | <0.5    | <0.5     | <0.5    | <0.5     | <0.5     | <0.5    | <0.5     | <0.5    |
| Trichloroethane, 1,1,2-           | ug/L | 0.5   |                  | <0.5    | <0.5     | <0.5    | <0.5     | -        | <0.5    | <0.5     | <0.5    |
| Trichloroethylene                 | ug/L | 0.5   | 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      |
| Vinyl chloride                    | ug/L | 0.2   | 1                | <0.2    | <0.2     | <0.2    | <0.2     | <0.5     | <0.2    | <0.2     | <0.2    |





Table 8 - Groundwater Quality - VOCs

| Unit                              | RDL  | ODWQS | Location | MW11-2  | MW11-2   | MW11-2  | MW11-2   | MW11-2  | MW11-2   | MW11-2  |
|-----------------------------------|------|-------|----------|---------|----------|---------|----------|---------|----------|---------|
|                                   |      |       | Date     | 5/31/17 | 10/04/17 | 5/30/19 | 11/08/19 | 5/26/20 | 11/18/20 | 6/24/21 |
| <b>BTEX</b>                       |      |       |          |         |          |         |          |         |          |         |
| Benzene                           | ug/L | 0.5   | 1        | <0.5    | <0.5     | <0.5    | <0.5     | <0.5    | <0.5     | <0.5    |
| Toluene                           | ug/L | 0.5   | 60       | <0.5    | <0.5     | <0.5    | <0.5     | <0.5    | <0.5     | <0.5    |
| Ethylbenzene                      | ug/L | 0.5   | 140      | <0.5    | <0.5     | <0.5    | <0.5     | <0.5    | -        | <0.5    |
| Xylene (m & p)                    | ug/L | 0.5   |          | <0.5    | <0.5     | <0.5    | <0.5     | <0.5    | -        | <1      |
| Xylene (o)                        | ug/L | 0.5   |          | <0.5    | <0.5     | <0.5    | <0.5     | <0.5    | -        | <0.5    |
| Xylene Tctal                      | ug/L | 0.5   | 90       | <0.5    | <0.5     | <0.5    | <0.5     | <0.5    | -        | <1.1    |
| <b>VOCs</b>                       |      |       |          |         |          |         |          |         |          |         |
| Monochlorobenzene (Chlorobenzene) | ug/L | 0.2   |          | <0.5    | <0.5     | <0.5    | <0.5     | <0.5    | <0.5     | <0.5    |
| Acetone                           | µg/L | 30    |          | -       | -        | -       | -        | -       | -        | <30     |
| Bromodichloromethane              | ug/L | 0.5   |          | <0.5    | <0.5     | <0.5    | <0.5     | <0.5    | <2       | <2      |
| Bromoform                         | ug/L | 0.5   |          | <0.5    | <0.5     | <0.5    | <0.5     | <0.5    | <5       | <5      |
| Bromomethane                      | ug/L | 0.5   |          | <0.5    | <0.5     | <0.5    | <0.5     | <0.5    | <0.5     | <0.5    |
| Carbon tetrachloride              | ug/L | 0.2   | 2        | <0.2    | <0.2     | <0.2    | <0.2     | <0.2    | <0.2     | <0.2    |
| Chloroform                        | ug/L | 0.5   |          | <0.5    | <0.5     | <0.5    | <0.5     | <0.5    | <1       | <1      |
| Chloroethane                      | µg/L | 3     |          | <5      | <5       | <5      | <5       | <5      | <3       | <3      |
| Chloromethane                     | µg/L | 2     |          | <5      | <5       | <5      | <5       | <5      | <2       | <2      |
| Dibromochloromethane              | ug/L | 0.5   |          | <0.5    | <0.5     | <0.5    | <0.5     | <0.2    | <2       | <2      |
| Dibromoethylene, 1,2-trans-       | ug/L |       |          | <0.5    | <0.5     | <0.5    | <0.5     | <0.5    | -        | -       |
| Dichlorobenzene, 1,2-             | ug/L | 0.5   | 200      | <0.5    | <0.5     | <0.5    | <0.5     | <5      | <0.5     | <0.5    |
| Dichlorobenzene, 1,3-             | ug/L | 0.5   |          | <0.5    | <0.5     | <0.5    | <0.5     | <0.5    | <0.5     | <0.5    |
| Dichlorodifluoromethane           | µg/L | 2     |          | -       | -        | -       | -        | -       | -        | <2      |
| Dichlorobenzene, 1,4-             | ug/L | 0.5   | 5        | <0.5    | <0.5     | <0.5    | <0.5     | <5      | <0.5     | <0.5    |
| Dichloroethane, 1,1-              | ug/L | 0.5   |          | <0.5    | <0.5     | <0.5    | <0.5     | <0.5    | <0.5     | <0.5    |
| Dichloroethane, 1,2-              | ug/L | 0.5   | 5        | <0.5    | <0.5     | <0.5    | <0.5     | <0.5    | <0.5     | <0.5    |
| Dichloroethylene, 1,1-            | ug/L | 0.5   | 14       | <0.5    | <0.5     | <0.5    | <0.5     | <0.5    | <0.5     | <0.5    |
| Dichloroethylene, 1,2-trans-      | µg/L | 0.5   |          | -       | -        | -       | -        | -       | <0.5     | <0.5    |
| Dichloroethylene, 1,2-cis-        | ug/L | 0.5   |          | <0.5    | <0.5     | <0.5    | <0.5     | <0.5    | <0.5     | <0.5    |
| Dichloropropane, 1,2-             | ug/L | 0.5   |          | <0.5    | <0.5     | <0.5    | <0.5     | <0.5    | <0.5     | <0.5    |
| Dichloropropene, 1,3-cis-         | ug/L | 0.5   |          | <0.5    | <0.5     | <0.5    | <0.5     | <0.5    | -        | <0.5    |
| Dichloropropene, 1,3-trans-       | ug/L | 0.5   |          | <0.5    | <0.5     | <0.5    | <0.5     | <0.5    | <0.5     | <0.5    |
| Dichloropropene, 1,3-(cis+trans)  | µg/L | 0.5   |          | -       | -        | -       | -        | -       | <0.5     | <0.5    |
| Ethylene dibromide                | ug/L | 0.2   |          | <0.2    | <0.2     | <0.2    | <0.2     | <0.5    | <0.2     | <0.2    |
| Hexane                            | µg/L | 5     |          | -       | -        | -       | -        | -       | -        | <5      |
| Methyl Ethyl Ketone               | µg/L | 20    |          | -       | -        | -       | -        | -       | -        | <20     |
| Methyl Isobutyl Ketone            | µg/L | 20    |          | -       | -        | -       | -        | -       | -        | <20     |
| Methylene chloride                | ug/L | 0.5   | 50       | <0.5    | <0.5     | <0.5    | <0.5     | <0.5    | <5       | <5      |
| Methyl tert-Butyl Ether           | µg/L | 2     |          | -       | -        | -       | -        | -       | -        | <2      |
| Styrene                           | ug/L | 0.5   |          | <0.5    | <0.5     | <0.5    | <0.5     | <0.2    | <0.5     | <0.5    |
| Tetrachloroethane, 1,1,2,2-       | ug/L | 0.5   |          | <0.5    | <0.5     | <0.5    | <0.5     | <0.5    | <0.5     | <0.5    |
| Tetrachloroethane, 1,1,1,2-       | ug/L | 0.5   |          | <0.5    | <0.5     | <0.5    | <0.5     | <0.5    | <0.5     | <0.5    |
| Tetrachloroethylene               | ug/L | 0.5   | 10       | <0.5    | <0.5     | <0.5    | <0.5     | <0.5    | <0.5     | <0.5    |
| Trichloroethane, 1,1,1-           | ug/L | 0.5   |          | <0.5    | <0.5     | <0.5    | <0.5     | <0.5    | <0.5     | <0.5    |
| Trichloroethane, 1,1,2-           | ug/L | 0.5   |          | <0.5    | <0.5     | <0.5    | <0.5     | <0.5    | <0.5     | <0.5    |
| Trichloroethylene                 | ug/L | 0.5   | 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      |
| Vinyl chloride                    | ug/L | 0.2   | 1        | <0.2    | <0.2     | <0.2    | <0.2     | <0.5    | <0.2     | <0.2    |





Table 8 - Groundwater Quality - VOCs

| Unit                              | RDL  | ODWQS | Location | MW12-3  | MW12-3  | MW12-3  | MW12-3  | MW12-3  |
|-----------------------------------|------|-------|----------|---------|---------|---------|---------|---------|
|                                   |      |       | Date     | 5/22/15 | 5/31/16 | 5/30/19 | 5/26/20 | 6/24/21 |
| <b>BTEX</b>                       |      |       |          |         |         |         |         |         |
| Benzene                           | ug/L | 0.5   | 1        | <0.5    | <0.5    | <0.5    | <0.5    | <0.5    |
| Toluene                           | ug/L | 0.5   | 60       | <0.5    | <0.5    | <0.5    | <0.5    | <0.5    |
| Ethylbenzene                      | ug/L | 0.5   | 140      | -       | -       | -       | -       | -       |
| Xylene (m & p)                    | ug/L | 0.5   |          | -       | -       | -       | -       | -       |
| Xylene (o)                        | ug/L | 0.5   |          | -       | -       | -       | -       | -       |
| Xylene Tctal                      | ug/L | 0.5   | 90       | -       | -       | -       | -       | -       |
| <b>VOCs</b>                       |      |       |          |         |         |         |         |         |
| Monochlorobenzene (Chlorobenzene) | ug/L | 0.2   |          | -       | -       | -       | -       | <0.5    |
| Acetone                           | ug/L | 30    |          | -       | -       | -       | -       | -       |
| Bromodichloromethane              | ug/L | 0.5   |          | -       | -       | -       | -       | -       |
| Bromoform                         | ug/L | 0.5   |          | -       | -       | -       | -       | -       |
| Bromomethane                      | ug/L | 0.5   |          | -       | -       | -       | -       | -       |
| Carbon tetrachloride              | ug/L | 0.2   | 2        | -       | -       | -       | -       | -       |
| Chloroform                        | ug/L | 0.5   |          | -       | -       | -       | -       | -       |
| Chloroethane                      | ug/L | 3     |          | -       | -       | -       | -       | -       |
| Chloromethane                     | ug/L | 2     |          | -       | -       | -       | -       | -       |
| Dibromochloromethane              | ug/L | 0.5   |          | -       | -       | -       | -       | -       |
| Dibromoethylene, 1,2-trans-       | ug/L |       |          | -       | -       | -       | -       | -       |
| Dichlorobenzene, 1,2-             | ug/L | 0.5   | 200      | -       | -       | -       | -       | -       |
| Dichlorobenzene, 1,3-             | ug/L | 0.5   |          | -       | -       | -       | -       | -       |
| Dichlorodifluoromethane           | ug/L | 2     |          | -       | -       | -       | -       | -       |
| Dichlorobenzene, 1,4-             | ug/L | 0.5   | 5        | <0.5    | <0.5    | <0.5    | <0.5    | <0.5    |
| Dichloroethane, 1,1-              | ug/L | 0.5   |          | -       | -       | -       | -       | -       |
| Dichloroethane, 1,2-              | ug/L | 0.5   | 5        | -       | -       | -       | -       | -       |
| Dichloroethylene, 1,1-            | ug/L | 0.5   | 14       | -       | -       | -       | -       | -       |
| Dichloroethylene, 1,2-trans-      | ug/L | 0.5   |          | -       | -       | -       | -       | -       |
| Dichloroethylene, 1,2-cis-        | ug/L | 0.5   |          | -       | -       | -       | -       | -       |
| Dichloropropane, 1,2-             | ug/L | 0.5   |          | -       | -       | -       | -       | -       |
| Dichloropropene, 1,3-cis-         | ug/L | 0.5   |          | -       | -       | -       | -       | -       |
| Dichloropropene, 1,3-trans-       | ug/L | 0.5   |          | -       | -       | -       | -       | -       |
| Dichloropropene, 1,3-(cis+trans)  | ug/L | 0.5   |          | -       | -       | -       | -       | -       |
| Ethylene dibromide                | ug/L | 0.2   |          | -       | -       | -       | -       | -       |
| Hexane                            | ug/L | 5     |          | -       | -       | -       | -       | -       |
| Methyl Ethyl Ketone               | ug/L | 20    |          | -       | -       | -       | -       | -       |
| Methyl Isobutyl Ketone            | ug/L | 20    |          | -       | -       | -       | -       | -       |
| Methylene chloride                | ug/L | 0.5   | 50       | <0.5    | <0.5    | <0.5    | <0.5    | <5      |
| Methyl tert-Butyl Ether           | ug/L | 2     |          | -       | -       | -       | -       | -       |
| Styrene                           | ug/L | 0.5   |          | -       | -       | -       | -       | -       |
| Tetrachloroethane, 1,1,2,2-       | ug/L | 0.5   |          | -       | -       | -       | -       | -       |
| Tetrachloroethane, 1,1,1,2-       | ug/L | 0.5   |          | -       | -       | -       | -       | -       |
| Tetrachloroethylene               | ug/L | 0.5   | 10       | -       | -       | -       | -       | -       |
| Trichloroethane, 1,1,1-           | ug/L | 0.5   |          | -       | -       | -       | -       | -       |
| Trichloroethane, 1,1,2-           | ug/L | 0.5   |          | -       | -       | -       | -       | -       |
| Trichloroethylene                 | ug/L | 0.5   | 5        | -       | -       | -       | -       | -       |
| Trichlorofluoromethane            | ug/L | 5     |          | -       | -       | -       | -       | -       |
| Vinyl chloride                    | ug/L | 0.2   | 1        | <0.2    | <0.2    | <0.2    | <0.2    | <0.2    |





















Table 9 - Groundwater Quality - PWQO Comparison

| Unit  | RDL   | PWQO  | Location | MW08-2     | MW08-2     | MW08-2     | MW08-2     |
|---|-------|-------|----------|------------|------------|------------|------------|
|   |       |       | Date     | 2012-05-18 | 2012-10-09 | 2013-06-10 | 2013-11-05 |
| <b>Metals</b>                               |       |       |          |            |            |            |            |
| Arsenic (Filtered)                          | µg/L  | 0.1   | 5        | -          | -          | -          | -          |
| Barium (Filtered)                           | µg/L  | 0.01  |          | 122        | 197        | 107        | 161        |
| Boron (Filtered)                            | µg/L  | 0.2   | 200      | 15.3       | 35.7       | 11.1       | 27.4       |
| Calcium (Filtered)                          | µg/L  | 10    |          | 98,000     | 131,000    | 85,100     | 113,000    |
| Cadmium (Filtered)                          | µg/L  | 0.003 | 0.1 0.5  | -          | -          | -          | -          |
| Chloride (Filtered)                         | µg/L  | 200   |          | 48,000     | 110,000    | 56,000     | 69,000     |
| Chromium (III+VI) (Filtered)                | µg/L  | 0.03  | 8.9      | -          | -          | -          | -          |
| Copper (Filtered)                           | µg/L  | 0.02  | 1 5      | -          | -          | -          | -          |
| Iron (Filtered)                             | µg/L  | 2     | 300      | 18         | <3         | 20         | 12         |
| Lead (Filtered)                             | µg/L  | 0.01  | 1 3 5    | -          | -          | -          | -          |
| Manganese (Filtered)                        | µg/L  | 0.01  |          | -          | -          | -          | -          |
| Magnesium (Filtered)                        | µg/L  | 1     |          | 3410       | 5020       | 2680       | 4140       |
| Mercury (Filtered)                          | µg/L  | 0.01  | 0.2      | -          | -          | -          | -          |
| Phosphorus (Filtered)                       | µg/L  | 3     | 30       | -          | -          | -          | -          |
| Potassium (Filtered)                        | µg/L  | 2     |          | -          | -          | -          | -          |
| Sodium (Filtered)                           | µg/L  | 10    |          | 28,800     | 50,700     | 29,500     | 35,900     |
| Zinc (Filtered)                             | µg/L  | 2     | 20       | -          | -          | -          | -          |
| <b>Inorganics</b>                           |       |       |          |            |            |            |            |
| Alkalinity (as CaCO3)                       | mg/L  | 2     |          | 258        | 279        | 226        | 267        |
| Hardness (as CaCO3) (Filtered)              | mg/L  | 1     |          | -          | -          | -          | -          |
| Solids - Total Dissolved (TDS)              | mg/L  | 3     |          | 363        | 529        | 366        | 423        |
| Oxygen Demand - Chemical (COD)              | mg/L  | 5     |          | 15         | <8         | 14         | 10         |
| Solids - Total Suspended (TSS)              | mg/L  | 2     |          | -          | -          | -          | -          |
| Organic Carbon - Dissolved (DOC) (Filtered) | mg/L  | 0.2   |          | 2.4        | 1.4        | 4.7        | 5.3        |
| Oxygen Demand - Biological (BOD)            | mg/L  | 2     |          | -          | -          | -          | -          |
| Phenols (4AAP)                              | mg/L  | 0.001 | 0.001    | -          | -          | -          | -          |
| Sulphate                                    | mg/L  | 0.2   |          | 10         | 19         | 1.3        | 21         |
| Ammonia                                     | mg/L  | 0.01  |          | <0.1       | 0.2        | <0.1       | <0.1       |
| Nitrate (as N)                              | mg/L  | 0.05  |          | 0.44       | 1.22       | 0.1        | 0.35       |
| Nitrite (as N)                              | mg/L  | 0.03  |          | -          | -          | -          | -          |
| Total Kjeldahl Nitrogen (TKN)               | mg/L  | 0.1   |          | -          | -          | -          | -          |
| Conductivity (lab)                          | µS/cm | 1     |          | 657        | 929        | 604        | 757        |
| pH (Lab)                                    | -     | 0.05  | 6.5-8.5  | 7.87       | 8.07       | 7.91       | 8.23       |
| <b>Field</b>                                |       |       |          |            |            |            |            |
| DO (Field)                                  | mg/L  |       | 5        | -          | -          | -          | -          |
| Redox Potential (Field)                     | mV    |       |          | -          | -          | -          | -          |
| Temp (Field)                                | °C    |       |          | -          | -          | -          | -          |
| Conductivity (field)                        | µS/cm |       |          | -          | -          | -          | -          |
| pH (Field)                                  | -     |       | 6.5-8.5  | -          | -          | -          | -          |



Table 9 - Groundwater Quality - PWQO Comparison

| Unit  | RDL   | PWQO  | Location | MW08-2     |
|---|-------|-------|----------|------------|------------|------------|------------|------------|------------|------------|
|   |       |       | Date     | 2014-06-26 | 2014-11-06 | 2015-05-22 | 2016-05-30 | 2016-10-31 | 2017-05-31 | 2017-10-04 |
| <b>Metals</b>                               |       |       |          |            |            |            |            |            |            |            |
| Arsenic (Filtered)                          | µg/L  | 0.1   | 5        | -          | 0.4        | <0.2       | <0.2       | <0.2       | <0.2       | <0.2       |
| Barium (Filtered)                           | µg/L  | 0.01  |          | 116        | 184        | 88         | 113        | 197        | 87.5       | 148        |
| Boron (Filtered)                            | µg/L  | 0.2   | 200      | 13.8       | 29.6       | 10         | 18         | 32         | 20         | 31         |
| Calcium (Filtered)                          | µg/L  | 10    |          | 97,500     | 125,000    | 84,100     | 116,000    | 156,000    | 81,900     | 118,000    |
| Cadmium (Filtered)                          | µg/L  | 0.003 | 0.1 0.5  | -          | 0.004      | <0.003     | <0.003     | 0.004      | <0.003     | 0.005      |
| Chloride (Filtered)                         | µg/L  | 200   |          | 38,000     | 74,000     | 24,000     | 55,000     | 150,000    | 45,000     | 68,000     |
| Chromium (III+VI) (Filtered)                | µg/L  | 0.03  | 8.9      | -          | 2.7        | 0.28       | 0.34       | 0.34       | 0.61       | 0.67       |
| Copper (Filtered)                           | µg/L  | 0.02  | 1 5      | -          | 1.89       | 0.4        | 0.91       | 0.89       | 0.48       | 0.87       |
| Iron (Filtered)                             | µg/L  | 2     | 300      | 6          | 15         | 20         | 8          | 26         | <7         | <7         |
| Lead (Filtered)                             | µg/L  | 0.01  | 1 3 5    | -          | 0.1        | <0.01      | 0.02       | 0.04       | <0.01      | <0.01      |
| Manganese (Filtered)                        | µg/L  | 0.01  |          | -          | 9.1        | 3.25       | 0.82       | 4.47       | 1.75       | 1.89       |
| Magnesium (Filtered)                        | µg/L  | 1     |          | 3260       | 4620       | 2950       | 3430       | 5410       | 2620       | 4140       |
| Mercury (Filtered)                          | µg/L  | 0.01  | 0.2      | -          | -          | 0.01       | <0.01      | <0.01      | <10        | <10        |
| Phosphorus (Filtered)                       | µg/L  | 3     | 30       | -          | -          | <30        | 6          | <30        | <30        | <30        |
| Potassium (Filtered)                        | µg/L  | 2     |          | -          | 2220       | 1000       | 979        | 1710       | 817        | 1370       |
| Sodium (Filtered)                           | µg/L  | 10    |          | 23,900     | 43,200     | 23,500     | 28,700     | 60,700     | 30,500     | 36,500     |
| Zinc (Filtered)                             | µg/L  | 2     | 20       | -          | 2          | <2         | <2         | 3          | <2         | <2         |
| <b>Inorganics</b>                           |       |       |          |            |            |            |            |            |            |            |
| Alkalinity (as CaCO3)                       | mg/L  | 2     |          | 208        | 305        | 254        | 261        | 285        | 221        | 300        |
| Hardness (as CaCO3) (Filtered)              | mg/L  | 1     |          | -          | -          | -          | -          | -          | -          | -          |
| Solids - Total Dissolved (TDS)              | mg/L  | 3     |          | 354        | 491        | 294        | 380        | 629        | 297        | 443        |
| Oxygen Demand - Chemical (COD)              | mg/L  | 5     |          | 8          | <8         | 10         | <8         | 16         | <8         | <8         |
| Solids - Total Suspended (TSS)              | mg/L  | 2     |          | -          | -          | <2         | <2         | <2         | 17         | <2         |
| Organic Carbon - Dissolved (DOC) (Filtered) | mg/L  | 0.2   |          | 3.9        | 2.5        | -          | -          | -          | -          | -          |
| Oxygen Demand - Biological (BOD)            | mg/L  | 2     |          | -          | -          | <4         | <4         | <4         | <4         | 5          |
| Phenols (4AAP)                              | mg/L  | 0.001 | 0.001    | -          | -          | <0.001     | 0.002      | 0.001      | <0.001     | <0.001     |
| Sulphate                                    | mg/L  | 0.2   |          | 6.8        | 16         | 8          | 8          | 17         | 3          | 10         |
| Ammonia                                     | mg/L  | 0.01  |          | 0.2        | 0.1        | <0.1       | <0.1       | <0.1       | <0.1       | <0.1       |
| Nitrate (as N)                              | mg/L  | 0.05  |          | 0.24       | 0.53       | 0.16       | 0.46       | 1.33       | <0.06      | 0.35       |
| Nitrite (as N)                              | mg/L  | 0.03  |          | -          | -          | <0.03      | <0.03      | <0.03      | <0.03      | <0.03      |
| Total Kjeldahl Nitrogen (TKN)               | mg/L  | 0.1   |          | -          | -          | <0.5       | <0.5       | <0.5       | <0.5       | <0.5       |
| Conductivity (lab)                          | µS/cm | 1     |          | 615        | 807        | 559        | 700        | 1040       | 535        | 781        |
| pH (Lab)                                    | -     | 0.05  | 6.5-8.5  | 8.29       | 8.1        | 7.93       | 8.08       | 7.86       | 7.88       | 7.63       |
| <b>Field</b>                                |       |       |          |            |            |            |            |            |            |            |
| DO (Field)                                  | mg/L  |       | 5        | -          | -          | -          | -          | -          | -          | -          |
| Redox Potential (Field)                     | mV    |       |          | -          | -          | -          | -          | -          | -          | -          |
| Temp (Field)                                | °C    |       |          | -          | -          | -          | -          | -          | -          | -          |
| Conductivity (field)                        | µS/cm |       |          | -          | -          | -          | -          | -          | -          | -          |
| pH (Field)                                  | -     |       | 6.5-8.5  | -          | -          | -          | -          | -          | -          | -          |



Table 9 - Groundwater Quality - PWQO Comparison

| Unit  | RDL   | PWQO  | Location | MW08-2         | MW08-2     | MW08-2     | MW08-2     | MW08-2     | MW08-2     | MW08-2     |         |
|---|-------|-------|----------|----------------|------------|------------|------------|------------|------------|------------|---------|
|   |       |       | Date     | 2019-05-30     | 2019-10-29 | 2019-11-08 | 2020-05-26 | 2020-11-18 | 2021-06-24 | 2021-11-11 |         |
| <b>Metals</b>                               |       |       |          |                |            |            |            |            |            |            |         |
| Arsenic (Filtered)                          | µg/L  | 0.1   | 5        | <0.2           | <0.2       | <0.2       | <0.2       | <0.2       | <0.2       | <0.1       | <0.1    |
| Barium (Filtered)                           | µg/L  | 0.01  |          | 53.1           | 158        | 158        | 81.1       | 162        | 135        | 168        | 168     |
| Boron (Filtered)                            | µg/L  | 0.2   | 200      | 14             | 50         | 50         | 26         | 23         | 15         | 28         | 28      |
| Calcium (Filtered)                          | µg/L  | 10    |          | 103,000        | 127,000    | 127,000    | 80,100     | 145,000    | 114,000    | 119,000    | 119,000 |
| Cadmium (Filtered)                          | µg/L  | 0.003 | 0.1 0.5  | <0.003 - 0.003 | 0.005      | 0.005      | 0.025      | <0.003     | <0.015     | <0.015     | <0.015  |
| Chloride (Filtered)                         | µg/L  | 200   |          | 3000           | 69,000     | 69,000     | 9000       | 120,000    | 65,500     | 67,500     | 67,500  |
| Chromium (III+VI) (Filtered)                | µg/L  | 0.03  | 8.9      | 0.27           | 0.25       | 0.25       | 0.26       | 0.31       | 73         | <1         | <1      |
| Copper (Filtered)                           | µg/L  | 0.02  | 1 5      | 0.3            | 0.8        | 0.8        | 1.4        | 1.1        | 0.8        | 1          | 1       |
| Iron (Filtered)                             | µg/L  | 2     | 300      | 7              | 10         | 10         | 24         | 15         | 19         | <5         | <5      |
| Lead (Filtered)                             | µg/L  | 0.01  | 1 3 5    | <3 - 0.02      | 0.03       | 0.03       | 0.09       | 0.04       | 0.13       | 0.03       | 0.03    |
| Manganese (Filtered)                        | µg/L  | 0.01  |          | 0.74           | 4.33       | 4.33       | 4.34       | 0.97       | 4          | 2          | 2       |
| Magnesium (Filtered)                        | µg/L  | 1     |          | 2820           | 3820       | 3820       | 2680       | 5280       | 4060       | 4140       | 4140    |
| Mercury (Filtered)                          | µg/L  | 0.01  | 0.2      | <10            | <10        | <10        | 10         | <10        | <0.02      | <0.02      | <0.02   |
| Phosphorus (Filtered)                       | µg/L  | 3     | 30       | 0.02           | -          | 30         | <30        | <30        | 100        | 110        | 110     |
| Potassium (Filtered)                        | µg/L  | 2     |          | 472            | 1400       | 1400       | 738        | 1210       | 1000       | 1800       | 1800    |
| Sodium (Filtered)                           | µg/L  | 10    |          | 3740           | 36,800     | 36,800     | 23,500     | 29,400     | 38,300     | 44,000     | 44,000  |
| Zinc (Filtered)                             | µg/L  | 2     | 20       | 2              | 3          | 3          | 9          | <2         | <5         | <5         | <5      |
| <b>Inorganics</b>                           |       |       |          |                |            |            |            |            |            |            |         |
| Alkalinity (as CaCO3)                       | mg/L  | 2     |          | 235            | 272        | 272        | 235        | 283        | 276        | 275        | 275     |
| Hardness (as CaCO3) (Filtered)              | mg/L  | 1     |          | -              | -          | -          | -          | -          | 302        | 316        | 316     |
| Solids - Total Dissolved (TDS)              | mg/L  | 3     |          | 257            | 434        | 434        | 240        | 480        | 364        | 389        | 389     |
| Oxygen Demand - Chemical (COD)              | mg/L  | 5     |          | <8             | <8         | <8         | 18         | <8         | 7          | 10         | 10      |
| Solids - Total Suspended (TSS)              | mg/L  | 2     |          | 23             | 37         | 37         | 20         | 22         | -          | -          | -       |
| Organic Carbon - Dissolved (DOC) (Filtered) | mg/L  | 0.2   |          | -              | -          | -          | -          | -          | 3.7        | 2.7        | 2.7     |
| Oxygen Demand - Biological (BOD)            | mg/L  | 2     |          | <4             | <4         | <4         | <4         | <4         | -          | -          | -       |
| Phenols (4AAP)                              | mg/L  | 0.001 | 0.001    | 0.002          | <0.001     | <0.001     | <0.001     | <0.001     | <0.002     | <0.002     | <0.002  |
| Sulphate                                    | mg/L  | 0.2   |          | 7              | 12         | 12         | 6          | 10         | 9          | 10         | 10      |
| Ammonia                                     | mg/L  | 0.01  |          | <0.1           | <0.1       | <0.1       | <0.1       | <0.1       | <0.01      | <0.01      | <0.01   |
| Nitrate (as N)                              | mg/L  | 0.05  |          | <0.06          | 0.66       | 0.66       | 0.15       | 0.67       | 0.74       | 0.41       | 0.41    |
| Nitrite (as N)                              | mg/L  | 0.03  |          | <0.03          | <0.03      | <0.03      | <0.03      | <0.03      | <0.05      | <0.05      | <0.05   |
| Total Kjeldahl Nitrogen (TKN)               | mg/L  | 0.1   |          | <0.5           | <0.5       | <0.5       | <0.5       | <0.5       | 0.4        | 0.3        | 0.3     |
| Conductivity (lab)                          | µS/cm | 1     |          | 429            | 748        | 748        | 452        | 838        | 700        | 744        | 744     |
| pH (Lab)                                    | -     | 0.05  | 6.5-8.5  | 7.66           | 8.12       | 8.12       | 7.85       | 7.81       | 7.94       | 8.27       | 8.27    |
| <b>Field</b>                                |       |       |          |                |            |            |            |            |            |            |         |
| DO (Field)                                  | mg/L  |       | 5        | 3.4            | 6.8        | -          | -          | 11.3       | 13.26      | 2.49       | 2.49    |
| Redox Potential (Field)                     | mV    |       |          | 196            | 79         | -          | -          | 135        | 140        | -73        | -73     |
| Temp (Field)                                | °C    |       |          | 8.5            | 13.4       | -          | 16.4       | 6.2        | 9.3        | 9.2        | 9.2     |
| Conductivity (field)                        | µS/cm |       |          | 419            | 803        | -          | -          | 486        | 652        | 334        | 334     |
| pH (Field)                                  | -     |       | 6.5-8.5  | 7.7            | 6.1        | -          | 8.1        | 8.6        | 8.78       | 7.27       | 7.27    |





Table 9 - Groundwater Quality - PWQO Comparison

| Unit  | RDL   | PWQO  | Location | MW09-2     | MW09-2     | MW09-2         | MW09-2     | MW09-2     | MW09-2     | MW09-2     | MW09-2     | MW09-2     |
|---|-------|-------|----------|------------|------------|----------------|------------|------------|------------|------------|------------|------------|
|   |       |       | Date     | 2017-05-31 | 2017-10-04 | 2019-05-30     | 2019-10-29 | 2019-11-08 | 2020-05-26 | 2020-11-18 | 2021-06-28 | 2021-11-11 |
| <b>Metals</b>                               |       |       |          |            |            |                |            |            |            |            |            |            |
| Arsenic (Filtered)                          | µg/L  | 0.1   | 5        | 0.2        | 0.3        | 0.3            | <0.2       | <0.2       | 0.4        | <0.2       | 0.2        | 0.1        |
| Barium (Filtered)                           | µg/L  | 0.01  |          | 117        | 258        | 158            | 184        | 184        | 285        | 176        | 210        | 203        |
| Boron (Filtered)                            | µg/L  | 0.2   | 200      | 26         | 84         | 26             | 65         | 65         | 143        | 39         | 40         | 45         |
| Calcium (Filtered)                          | µg/L  | 10    |          | 83,700     | 107,000    | 105,000        | 121,000    | 121,000    | 80,800     | 126,000    | 124,000    | 119,000    |
| Cadmium (Filtered)                          | µg/L  | 0.003 | 0.1 0.5  | 0.008      | <0.003     | <0.003 - 0.003 | 0.003      | <0.003     | 0.007      | 0.01       | <0.015     | <0.015     |
| Chloride (Filtered)                         | µg/L  | 200   |          | 35,000     | 70,000     | 66,000         | 73,000     | 73,000     | 50,000     | 77,000     | 88,500     | 70,500     |
| Chromium (III+VI) (Filtered)                | µg/L  | 0.03  | 8.9      | 0.54       | 0.71       | 0.15           | 0.16       | 0.16       | 0.23       | 0.28       | <1         | <1         |
| Copper (Filtered)                           | µg/L  | 0.02  | 1 5      | 2.42       | 0.4        | 0.8            | 1.4        | 1.4        | <0.2       | 4.2        | 0.6        | 0.4        |
| Iron (Filtered)                             | µg/L  | 2     | 300      | 87         | 205        | 293            | 38         | 38         | 302        | 15         | 87         | 43         |
| Lead (Filtered)                             | µg/L  | 0.01  | 1 3 5    | <0.01      | <0.01      | <3 - 0.02      | 0.02       | 0.02       | 0.01       | 0.04       | 0.03       | <0.02      |
| Manganese (Filtered)                        | µg/L  | 0.01  |          | 22         | 15.9       | 29.1           | 4.64       | 4.64       | 33.2       | 3.31       | 3          | 3          |
| Magnesium (Filtered)                        | µg/L  | 1     |          | 3120       | 5780       | 3890           | 3820       | 3820       | 8760       | 4270       | 4640       | 4550       |
| Mercury (Filtered)                          | µg/L  | 0.01  | 0.2      | 10         | <10        | <10            | <10        | <10        | <10        | <10        | <0.02      | <0.02      |
| Phosphorus (Filtered)                       | µg/L  | 3     | 30       | <30        | <30        | 0.02           | -          | <30        | <30        | <30        | 40         | 20         |
| Potassium (Filtered)                        | µg/L  | 2     |          | 1910       | 2600       | 2160           | 2570       | 2570       | 2740       | 2650       | 2300       | 2700       |
| Sodium (Filtered)                           | µg/L  | 10    |          | 32,600     | 45,700     | 42,900         | 46,500     | 46,500     | 44,400     | 44,600     | 55,600     | 48,200     |
| Zinc (Filtered)                             | µg/L  | 2     | 20       | 2          | <2         | 3              | 3          | 3          | 2          | <2         | <5         | <5         |
| <b>Inorganics</b>                           |       |       |          |            |            |                |            |            |            |            |            |            |
| Alkalinity (as CaCO3)                       | mg/L  | 2     |          | 226        | 274        | 241            | 260        | 260        | 233        | 295        | 271        | 280        |
| Hardness (as CaCO3) (Filtered)              | mg/L  | 1     |          | -          | -          | -              | -          | -          | -          | -          | 329        | 315        |
| Solids - Total Dissolved (TDS)              | mg/L  | 3     |          | 314        | 420        | 214            | 414        | 414        | 311        | 437        | 432        | 409        |
| Oxygen Demand - Chemical (COD)              | mg/L  | 5     |          | <8         | 10         | <8             | <8         | <8         | <8         | <8         | <5         | 11         |
| Solids - Total Suspended (TSS)              | mg/L  | 2     |          | 3          | <2         | 66             | 2          | 2          | 6          | 2          | -          | -          |
| Organic Carbon - Dissolved (DOC) (Filtered) | mg/L  | 0.2   |          | -          | -          | -              | -          | -          | -          | -          | 3.3        | 2.4        |
| Oxygen Demand - Biological (BOD)            | mg/L  | 2     |          | <4         | <4         | <4             | <4         | <4         | <4         | <4         | -          | -          |
| Phenols (4AAP)                              | mg/L  | 0.001 | 0.001    | 0.006      | <0.001     | 0.003          | <0.001     | <0.001     | <0.001     | <0.001     | <0.002     | <0.002     |
| Sulphate                                    | mg/L  | 0.2   |          | 20         | 14         | 16             | 11         | 11         | 10         | 10         | 13         | 13         |
| Ammonia                                     | mg/L  | 0.01  |          | <0.1       | 0.1        | <0.1           | <0.1       | <0.1       | <0.1       | <0.1       | 0.03       | 0.03       |
| Nitrate (as N)                              | mg/L  | 0.05  |          | 0.1        | 0.37       | <0.06          | 0.93       | 0.93       | <0.06      | 1.17       | 1.21       | 0.73       |
| Nitrite (as N)                              | mg/L  | 0.03  |          | <0.03      | <0.03      | <0.03          | <0.03      | <0.03      | <0.03      | <0.03      | <0.05      | <0.05      |
| Total Kjeldahl Nitrogen (TKN)               | mg/L  | 0.1   |          | <0.5       | <0.5       | <0.5           | <0.1       | <0.5       | <0.5       | <0.5       | 0.2        | 0.2        |
| Conductivity (lab)                          | µS/cm | 1     |          | 560        | 719        | 653            | 737        | 737        | 591        | 791        | 821        | 780        |
| pH (Lab)                                    | -     | 0.05  | 6.5-8.5  | 7.75       | 7.57       | 8              | 8.11       | 8.11       | 7.9        | 7.91       | 7.69       | 7.66       |
| <b>Field</b>                                |       |       |          |            |            |                |            |            |            |            |            |            |
| DO (Field)                                  | mg/L  |       | 5        | -          | -          | 3.6            | 4.1        | -          | -          | 5          | 2.63       | 2.91       |
| Redox Potential (Field)                     | mV    |       |          | -          | -          | -125           | -86        | -          | -          | 60         | 160        | 30         |
| Temp (Field)                                | °C    |       |          | -          | -          | 10.3           | 14.1       | -          | 1.7        | 7.4        | 10.7       | 9.8        |
| Conductivity (field)                        | µS/cm |       |          | -          | -          | 404            | 655        | -          | -          | 471        | 792        | 332        |
| pH (Field)                                  | -     |       | 6.5-8.5  | -          | -          | 7.7            | 7.4        | -          | 7.6        | 8          | 7.08       | 7.01       |





Table 9 - Groundwater Quality - PWQO Comparison

| Unit  | RDL   | PWQO  | Location | MW10-2     | MW10-2     | MW10-2         | MW10-2     | MW10-2     | MW10-2     | MW10-2     | MW10-2     | MW10-2     | MW10-2 |
|---|-------|-------|----------|------------|------------|----------------|------------|------------|------------|------------|------------|------------|--------|
|   |       |       | Date     | 2017-05-31 | 2017-10-04 | 2019-05-30     | 2019-10-29 | 2019-11-08 | 2020-05-26 | 2020-11-18 | 2021-06-24 | 2021-11-11 |        |
| <b>Metals</b>                               |       |       |          |            |            |                |            |            |            |            |            |            |        |
| 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        | <0.1   |
| Barium (Filtered)                           | µg/L  | 0.01  |          | 459        | 506        | 626            | 580        | 580        | 491        | 416        | 510        | 574        |        |
| Boron (Filtered)                            | µg/L  | 0.2   | 200      | 123        | 131        | 118            | 145        | 145        | 106        | 96         | 109        | 125        |        |
| Calcium (Filtered)                          | µg/L  | 10    |          | 91,200     | 104,000    | 117,000        | 129,000    | 129,000    | 98,500     | 99,900     | 118,000    | 119,000    |        |
| Cadmium (Filtered)                          | µg/L  | 0.003 | 0.1 0.5  | <0.003     | 0.004      | <0.003 - 0.003 | 0.003      | <0.003     | <0.003     | <0.003     | <0.015     | <0.015     |        |
| Chloride (Filtered)                         | µg/L  | 200   |          | 48,000     | 51,000     | 48,000         | 48,000     | 48,000     | 54,000     | 53,000     | 59,600     | 56,700     |        |
| Chromium (III+VI) (Filtered)                | µg/L  | 0.03  | 8.9      | 0.68       | 0.59       | 0.14           | 0.12       | 0.12       | 0.16       | 0.22       | <1         | <1         |        |
| Copper (Filtered)                           | µg/L  | 0.02  | 1 5      | 0.27       | 0.15       | 0.3            | <0.2       | <0.2       | 0.4        | 0.8        | 1.2        | 0.6        |        |
| Iron (Filtered)                             | µg/L  | 2     | 300      | 3340       | 3370       | 6910           | 4030       | 4030       | 886        | 3290       | <5         | 5280       |        |
| Lead (Filtered)                             | µg/L  | 0.01  | 1 3 5    | <0.01      | <0.01      | 0.12 - 20      | 0.01       | <0.01      | <0.01      | 0.04       | 0.46       | <0.02      |        |
| Manganese (Filtered)                        | µg/L  | 0.01  |          | 97.3       | 60.1       | 171            | 54.4       | 54.4       | 95.1       | 58         | 38         | 42         |        |
| Magnesium (Filtered)                        | µg/L  | 1     |          | 11,300     | 11,000     | 11,200         | 10,900     | 10,900     | 12,700     | 10,400     | 11,400     | 11,300     |        |
| Mercury (Filtered)                          | µg/L  | 0.01  | 0.2      | <10        | <10        | <10            | <10        | <10        | 10         | <10        | <0.02      | <0.02      |        |
| Phosphorus (Filtered)                       | µg/L  | 3     | 30       | <30        | 30         | 0.12           | -          | 60         | 40         | 80         | 110        | 90         |        |
| Potassium (Filtered)                        | µg/L  | 2     |          | 2580       | 2600       | 2420           | 2690       | 2690       | 2460       | 2600       | 2000       | 2500       |        |
| Sodium (Filtered)                           | µg/L  | 10    |          | 8990       | 6070       | 7470           | 5540       | 5540       | 9830       | 6930       | 6100       | 6500       |        |
| Zinc (Filtered)                             | µg/L  | 2     | 20       | <2         | <2         | 5              | <2         | <2         | 2          | <2         | <5         | <5         |        |
| <b>Inorganics</b>                           |       |       |          |            |            |                |            |            |            |            |            |            |        |
| Alkalinity (as CaCO3)                       | mg/L  | 2     |          | 171        | 233        | 243            | 245        | 245        | 243        | 258        | 260        | 250        |        |
| Hardness (as CaCO3) (Filtered)              | mg/L  | 1     |          | -          | -          | -              | -          | -          | -          | -          | 342        | 343        |        |
| Solids - Total Dissolved (TDS)              | mg/L  | 3     |          | 269        | 406        | 334            | 354        | 354        | 389        | 351        | 343        | 351        |        |
| Oxygen Demand - Chemical (COD)              | mg/L  | 5     |          | <8         | <8         | <8             | <8         | <8         | 8          | <8         | 53         | 9          |        |
| Solids - Total Suspended (TSS)              | mg/L  | 2     |          | 118        | 10         | 50             | 55         | 55         | 42         | 56         | -          | -          |        |
| Organic Carbon - Dissolved (DOC) (Filtered) | mg/L  | 0.2   |          | -          | -          | -              | -          | -          | -          | -          | 2.8        | 2.6        |        |
| Oxygen Demand - Biological (BOD)            | mg/L  | 2     |          | <4         | 4          | <4             | <4         | <4         | 4          | <4         | -          | -          |        |
| Phenols (4AAP)                              | mg/L  | 0.001 | 0.001    | 0.004      | <0.001     | <0.001         | <0.001     | <0.001     | <0.001     | 0.001      | <0.002     | 0.013      |        |
| Sulphate                                    | mg/L  | 0.2   |          | 12         | 9          | 8              | 7          | 7          | 10         | 6          | 10         | 9          |        |
| Ammonia                                     | mg/L  | 0.01  |          | 0.5        | 1          | 0.8            | 1.1        | 1.1        | 0.9        | 1          | 0.93       | 1.04       |        |
| Nitrate (as N)                              | mg/L  | 0.05  |          | 0.08       | <0.06      | 0.08           | 0.08       | 0.08       | <0.06      | <0.06      | 0.07       | <0.05      |        |
| Nitrite (as N)                              | mg/L  | 0.03  |          | 0.03       | <0.03      | 0.07           | 0.04       | 0.04       | <0.03      | <0.03      | <0.05      | <0.05      |        |
| Total Kjeldahl Nitrogen (TKN)               | mg/L  | 0.1   |          | 0.8        | 1.1        | 0.7            | 1.1        | 1.1        | 0.8        | 1          | 1          | 1.1        |        |
| Conductivity (lab)                          | µS/cm | 1     |          | 483        | 631        | 599            | 621        | 621        | 618        | 623        | 660        | 675        |        |
| pH (Lab)                                    | -     | 0.05  | 6.5-8.5  | 7.92       | 7.67       | 7.54           | 8.03       | 8.03       | 7.83       | 7.79       | 7.83       | 7.68       |        |
| <b>Field</b>                                |       |       |          |            |            |                |            |            |            |            |            |            |        |
| DO (Field)                                  | mg/L  |       | 5        | -          | -          | 3.6            | 4          | -          | -          | 4.2        | 2.87       | 2.81       |        |
| Redox Potential (Field)                     | mV    |       |          | -          | -          | -109           | -115       | -          | -          | -148       | -15        | 19         |        |
| Temp (Field)                                | °C    |       |          | -          | -          | 10.6           | 13.8       | -          | 15.1       | 6.7        | 9          | 10.3       |        |
| Conductivity (field)                        | µS/cm |       |          | -          | -          | 442            | 518        | -          | -          | 364        | 665        | 297        |        |
| pH (Field)                                  | -     |       | 6.5-8.5  | -          | -          | 7.6            | 7.6        | -          | 7.7        | 7.9        | 8.45       | 7.38       |        |





Table 9 - Groundwater Quality - PWQO Comparison

| Unit  | RDL   | PWQO  | Location | MW11-2     | MW11-2     | MW11-2         | MW11-2     | MW11-2     | MW11-2     | MW11-2     | MW11-2     | MW11-2     | MW11-2 |
|---|-------|-------|----------|------------|------------|----------------|------------|------------|------------|------------|------------|------------|--------|
|   |       |       | Date     | 2017-05-31 | 2017-10-04 | 2019-05-30     | 2019-10-29 | 2019-11-08 | 2020-05-26 | 2020-11-18 | 2021-06-24 | 2021-11-11 |        |
| <b>Metals</b>                               |       |       |          |            |            |                |            |            |            |            |            |            |        |
| Arsenic (Filtered)                          | µg/L  | 0.1   | 5        | <0.2       | <0.2       | <0.2           | 0.7        | 0.7        | <0.2       | <0.2       | <0.1       | <0.1       |        |
| Barium (Filtered)                           | µg/L  | 0.01  |          | 419        | 449        | 381            | 40.8       | 40.8       | 504        | 358        | 528        | 528        |        |
| Boron (Filtered)                            | µg/L  | 0.2   | 200      | 515        | 123        | 85             | 176        | 176        | 150        | 164        | 127        | 143        |        |
| Calcium (Filtered)                          | µg/L  | 10    |          | 90,100     | 93,800     | 96,600         | 147,000    | 147,000    | 102,000    | 93,400     | 117,000    | 113,000    |        |
| Cadmium (Filtered)                          | µg/L  | 0.003 | 0.1 0.5  | <0.003     | <0.003     | <0.003 - 0.003 | 0.005      | 0.005      | 0.005      | <0.003     | <0.015     | <0.015     |        |
| Chloride (Filtered)                         | µg/L  | 200   |          | 26,000     | 36,000     | 14,000         | 33,000     | 33,000     | 21,000     | 43,000     | 52,000     | 41,000     |        |
| Chromium (III+VI) (Filtered)                | µg/L  | 0.03  | 8.9      | 0.68       | 0.53       | 0.59           | 0.2        | 0.2        | 0.18       | 0.21       | <1         | <1         |        |
| Copper (Filtered)                           | µg/L  | 0.02  | 1 5      | 0.22       | 0.19       | <0.2           | 1.1        | 1.1        | 0.5        | 0.4        | 0.8        | 0.3        |        |
| Iron (Filtered)                             | µg/L  | 2     | 300      | 11         | 2130       | 1550           | 124        | 124        | 2130       | 1060       | 3030       | 2750       |        |
| Lead (Filtered)                             | µg/L  | 0.01  | 1 3 5    | <0.01      | 0.01       | 0.01 - 12      | 0.02       | 0.02       | 0.03       | 0.04       | 0.06       | <0.02      |        |
| Manganese (Filtered)                        | µg/L  | 0.01  |          | 84.2       | 29.6       | 24.5           | 14.7       | 14.7       | 31.4       | 19.8       | 35         | 33         |        |
| Magnesium (Filtered)                        | µg/L  | 1     |          | 25,200     | 8590       | 7400           | 22,100     | 221,000    | 12,700     | 12,300     | 11,300     | 11,100     |        |
| Mercury (Filtered)                          | µg/L  | 0.01  | 0.2      | <10        | <10        | <10            | <10        | <10        | 30         | <10        | <0.02      | <0.02      |        |
| Phosphorus (Filtered)                       | µg/L  | 3     | 30       | <30        | 40         | <0.01          | -          | 40         | <30        | 30         | 80         | 80         |        |
| Potassium (Filtered)                        | µg/L  | 2     |          | 4710       | 2280       | 1990           | 7590       | 7590       | 2860       | 3720       | 2300       | 2800       |        |
| Sodium (Filtered)                           | µg/L  | 10    |          | 15,400     | 5300       | 6300           | 76,700     | 76,700     | 8390       | 6200       | 7300       | 6700       |        |
| Zinc (Filtered)                             | µg/L  | 2     | 20       | <2         | 3          | 4              | 4          | 4          | 8          | <2         | <5         | <5         |        |
| <b>Inorganics</b>                           |       |       |          |            |            |                |            |            |            |            |            |            |        |
| Alkalinity (as CaCO3)                       | mg/L  | 2     |          | 265        | 255        | 224            | 242        | 242        | 227        | 242        | 271        | 250        |        |
| Hardness (as CaCO3) (Filtered)              | mg/L  | 1     |          | -          | -          | -              | -          | -          | -          | -          | 339        | 329        |        |
| Solids - Total Dissolved (TDS)              | mg/L  | 3     |          | 400        | 391        | 274            | 320        | 320        | 274        | 343        | 342        | 329        |        |
| Oxygen Demand - Chemical (COD)              | mg/L  | 5     |          | <8         | 8          | <8             | <8         | <8         | 13         | <8         | <5         | 8          |        |
| Solids - Total Suspended (TSS)              | mg/L  | 2     |          | -          | 3          | 5              | 6          | 6          | 8          | 17         | -          | -          |        |
| Organic Carbon - Dissolved (DOC) (Filtered) | mg/L  | 0.2   |          | <1         | -          | -              | -          | -          | -          | -          | 4.4        | 2.2        |        |
| Oxygen Demand - Biological (BOD)            | mg/L  | 2     |          | -          | <4         | <4             | <4         | <4         | 7          | <4         | -          | -          |        |
| Phenols (4AAP)                              | mg/L  | 0.001 | 0.001    | <0.002     | <0.001     | <0.001         | <0.001     | <0.001     | 0.002      | 0.001      | <0.002     | <0.002     |        |
| Sulphate                                    | mg/L  | 0.2   |          | 63         | 7          | 6              | 10         | 10         | 17         | 9          | 11         | 10         |        |
| Ammonia                                     | mg/L  | 0.01  |          | 0.9        | 0.9        | 0.5            | 0.9        | 0.9        | 0.7        | 0.9        | 0.95       | 0.96       |        |
| Nitrate (as N)                              | mg/L  | 0.05  |          | <0.06      | <0.06      | <0.06          | 0.18       | 0.18       | 0.13       | <0.06      | 0.07       | <0.05      |        |
| Nitrite (as N)                              | mg/L  | 0.03  |          | <0.03      | <0.03      | <0.03          | <0.03      | <0.03      | <0.03      | <0.03      | <0.05      | <0.05      |        |
| Total Kjeldahl Nitrogen (TKN)               | mg/L  | 0.1   |          | 1.1        | 0.9        | <0.5           | 1          | 1          | 0.6        | 0.8        | 1          | 1.1        |        |
| Conductivity (lab)                          | µS/cm | 1     |          | 658        | 603        | 465            | 584        | 584        | 520        | 547        | 659        | 633        |        |
| pH (Lab)                                    | -     | 0.05  | 6.5-8.5  | 7.91       | 7.63       | 8.09           | 8.1        | 8.1        | 7.76       | 7.77       | 7.81       | 7.8        |        |
| <b>Field</b>                                |       |       |          |            |            |                |            |            |            |            |            |            |        |
| DO (Field)                                  | mg/L  |       | 5        | -          | -          | 4              | 5.7        | -          | -          | 6.4        | 1.55       | 7.98       |        |
| Redox Potential (Field)                     | mV    |       |          | -          | -          | -93            | -122       | -          | -          | -60        | 136        | 15         |        |
| Temp (Field)                                | °C    |       |          | -          | -          | 9.1            | 12.5       | -          | 15.1       | 4.9        | 7.7        | 9          |        |
| Conductivity (field)                        | µS/cm |       |          | -          | -          | 345            | 528        | -          | -          | 350        | 672        | 286        |        |
| pH (Field)                                  | -     |       | 6.5-8.5  | -          | -          | 7.8            | 7.7        | -          | 7.6        | 8.3        | 7.26       | 7.37       |        |





Table 9 - Groundwater Quality - PWQO Comparison

| Unit  | RDL   | PWQO  | Location | MW12-1     | MW12-1         | MW12-1     | MW12-1     | MW12-1     | MW12-1     | MW12-1     | MW12-1     |  |
|---|-------|-------|----------|------------|----------------|------------|------------|------------|------------|------------|------------|--|
|   |       |       | Date     | 2017-10-04 | 2019-05-30     | 2019-10-29 | 2019-11-11 | 2020-05-26 | 2020-11-18 | 2021-06-24 | 2021-11-11 |  |
| <b>Metals</b>                               |       |       |          |            |                |            |            |            |            |            |            |  |
| Arsenic (Filtered)                          | µg/L  | 0.1   | 5        | <0.2       | <0.2           | 0.8        | 0.8        | <0.2       | <0.2       | <0.1       | <0.1       |  |
| Barium (Filtered)                           | µg/L  | 0.01  |          | 152        | 713            | 230        | 230        | 621        | 311        | 743        | 994        |  |
| Boron (Filtered)                            | µg/L  | 0.2   | 200      | 83         | 104            | 99         | 99         | 106        | 110        | 121        | 156        |  |
| Calcium (Filtered)                          | µg/L  | 10    |          | 122,000    | 126,000        | 117,000    | 117,000    | 115,000    | 113,000    | 116,000    | 106,000    |  |
| Cadmium (Filtered)                          | µg/L  | 0.003 | 0.1 0.5  | <0.003     | <0.003 - 0.003 | 0.003      | 0.003      | <0.003     | <0.003     | <0.015     | <0.015     |  |
| Chloride (Filtered)                         | µg/L  | 200   |          | 54,000     | 51,000         | 44,000     | 44,000     | 55,000     | 44,000     | 40,700     | 39,400     |  |
| Chromium (III+VI) (Filtered)                | µg/L  | 0.03  | 8.9      | 0.58       | 0.16           | 0.13       | 0.13       | 0.13       | 0.28       | <1         | <1         |  |
| Copper (Filtered)                           | µg/L  | 0.02  | 1 5      | 0.16       | <0.2           | 0.5        | 0.5        | 0.3        | 0.4        | <0.1       | <0.1       |  |
| Iron (Filtered)                             | µg/L  | 2     | 300      | 18         | 10             | 19         | 19         | 20         | 24         | <5         | <5         |  |
| Lead (Filtered)                             | µg/L  | 0.01  | 1 3 5    | <0.01      | <0.01          | 0.01       | 0.01       | 0.01       | 0.03       | 0.09       | <0.02      |  |
| Manganese (Filtered)                        | µg/L  | 0.01  |          | 15.6       | 3.52           | 20.1       | 20.1       | 5.18       | 16.4       | 3          | 3          |  |
| Magnesium (Filtered)                        | µg/L  | 1     |          | 6760       | 11,500         | 7580       | 7580       | 12,900     | 9820       | 13,400     | 14,300     |  |
| Mercury (Filtered)                          | µg/L  | 0.01  | 0.2      | <10        | <10            | <10        | <10        | 30         | <10        | <0.02      | <0.02      |  |
| Phosphorus (Filtered)                       | µg/L  | 3     | 30       | <30        | <0.01          | -          | <30        | <30        | <30        | 20         | 10         |  |
| Potassium (Filtered)                        | µg/L  | 2     |          | 2100       | 3280           | 2250       | 2250       | 3340       | 2780       | 3100       | 3500       |  |
| Sodium (Filtered)                           | µg/L  | 10    |          | 12,300     | 13,700         | 12,000     | 12,000     | 16,900     | 11,200     | 11,700     | 10,600     |  |
| Zinc (Filtered)                             | µg/L  | 2     | 20       | <2         | 3              | 3          | 3          | 2          | <2         | <5         | <5         |  |
| <b>Inorganics</b>                           |       |       |          |            |                |            |            |            |            |            |            |  |
| Alkalinity (as CaCO3)                       | mg/L  | 2     |          | 283        | 284            | 265        | 265        | 278        | 253        | 271        | 241        |  |
| Hardness (as CaCO3) (Filtered)              | mg/L  | 1     |          | -          | -              | -          | -          | -          | -          | 345        | 325        |  |
| Solids - Total Dissolved (TDS)              | mg/L  | 3     |          | 460        | 403            | 403        | 403        | 397        | 351        | 338        | 336        |  |
| Oxygen Demand - Chemical (COD)              | mg/L  | 5     |          | <8         | <8             | <8         | <8         | <8         | <8         | 7          | 13         |  |
| Solids - Total Suspended (TSS)              | mg/L  | 2     |          | <2         | 42             | 38         | 38         | 8          | 8          | -          | -          |  |
| Organic Carbon - Dissolved (DOC) (Filtered) | mg/L  | 0.2   |          | -          | -              | -          | -          | -          | -          | 2.2        | 1.9        |  |
| Oxygen Demand - Biological (BOD)            | mg/L  | 2     |          | <4         | <4             | <4         | <4         | 5          | <4         | -          | -          |  |
| Phenols (4AAP)                              | mg/L  | 0.001 | 0.001    | <0.001     | <0.001         | <0.001     | <0.001     | 0.002      | <0.001     | 0.004      | 0.006      |  |
| Sulphate                                    | mg/L  | 0.2   |          | 24         | 22             | 28         | 28         | 23         | 25         | 20         | 26         |  |
| Ammonia                                     | mg/L  | 0.01  |          | 0.1        | 0.1            | <0.1       | <0.1       | <0.1       | 0.1        | 0.14       | 0.16       |  |
| Nitrate (as N)                              | mg/L  | 0.05  |          | <0.06      | <0.06          | <0.06      | <0.06      | <0.06      | <0.06      | 0.08       | <0.05      |  |
| Nitrite (as N)                              | mg/L  | 0.03  |          | <0.03      | <0.03          | <0.03      | <0.03      | <0.03      | <0.03      | <0.05      | <0.05      |  |
| Total Kjeldahl Nitrogen (TKN)               | mg/L  | 0.1   |          | <0.5       | <0.5           | <0.5       | <0.5       | <0.5       | <0.5       | 0.2        | 0.2        |  |
| Conductivity (lab)                          | µS/cm | 1     |          | 710        | 675            | 649        | 649        | 684        | 595        | 650        | 647        |  |
| pH (Lab)                                    | -     | 0.05  | 6.5-8.5  | 7.8        | 7.42           | 7.92       | 7.92       | 7.71       | 7.91       | 7.85       | 7.91       |  |
| <b>Field</b>                                |       |       |          |            |                |            |            |            |            |            |            |  |
| DO (Field)                                  | mg/L  |       | 5        | -          | 3              | 5.9        | -          | -          | 6.5        | 2.83       | 3.6        |  |
| Redox Potential (Field)                     | mV    |       |          | -          | -92            | -149       | -          | -          | -128       | -38        | 11         |  |
| Temp (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 10 - Surface Water Quality

| Unit                             | RDL   | Hall's Glen SW | PWQO   | Location | S1         | S1         | S1         | S1         | S1         | S1         |
|----------------------------------|-------|----------------|--------|----------|------------|------------|------------|------------|------------|------------|
|                                  |       |                |        | Date     | 2011-11-01 | 2012-05-18 | 2013-06-10 | 2013-11-04 | 2014-06-26 | 2014-11-06 |
| <b>Metals</b>                    |       |                |        |          |            |            |            |            |            |            |
| Arsenic                          | µg/L  | 0.1            | 0.2    | 5        | -          | -          | -          | -          | -          | <0.2       |
| Barium                           | µg/L  | 0.02           | 157    |          | -          | -          | -          | -          | -          | 137        |
| Boron                            | µg/L  | 0.2            | 50     | 200      | -          | -          | -          | -          | -          | 20         |
| Calcium                          | µg/L  | 10             | 146500 |          | -          | -          | -          | -          | -          | -          |
| Cadmium                          | µg/L  | 0.003          | 0.016  | 0.1 0.5  | -          | -          | -          | -          | -          | 0.008      |
| Chloride                         | µg/L  | 200            | 77500  |          | 75,000     | 52,000     | 48,000     | 50,000     | 50,000     | 72,000     |
| Chromium (III+VI)                | µg/L  | 0.03           | 0.33   | 8.9      | -          | -          | -          | -          | -          | <0.03      |
| Copper                           | µg/L  | 0.02           | 1.6    | 1 5      | -          | -          | -          | -          | -          | 0.58       |
| Iron                             | µg/L  | 2              | 46     | 300      | 36         | 42         | 5          | 9          | <2         | 12         |
| Lead                             | µg/L  | 0.01           | 0.08   | 1 3 5    | -          | -          | -          | -          | -          | 0.05       |
| Manganese                        | µg/L  | 0.01           | 4.1    |          | -          | -          | -          | -          | -          | -          |
| Magnesium                        | µg/L  | 1              | 4680   |          | -          | -          | -          | -          | -          | -          |
| Mercury (Filtered)               | µg/L  | 0.01           | 10     | 0.2      | -          | -          | -          | -          | -          | <0.01      |
| Phosphorus total (P2O5)          | µg/L  | 3              | 37.5   | 30       | 90         | <30        | 80         | <30        | <30        | 60         |
| Potassium                        | µg/L  | 2              | 4010   |          | -          | -          | -          | -          | -          | -          |
| Sodium                           | µg/L  | 10             | 42500  |          | -          | -          | -          | -          | -          | -          |
| Zinc                             | µg/L  | 2              | 4      | 20       | -          | -          | -          | -          | -          | 2          |
| <b>Inorganics</b>                |       |                |        |          |            |            |            |            |            |            |
| Alkalinity (as CaCO3)            | mg/L  | 2              | 316    |          | 262        | 231        | 225        | 218        | 271        | 288        |
| Hardness (as CaCO3)              | mg/L  | 1              |        |          | -          | -          | -          | -          | -          | -          |
| Solids - Total Dissolved (TDS)   | mg/L  | 3              | 483    |          | 474        | 337        | 360        | 329        | 360        | 440        |
| Oxygen Demand - Chemical (COD)   | mg/L  | 5              | 11     |          | 11         | <8         | <8         | 8          | <8         | 12         |
| Solids - Total Suspended (TSS)   | mg/L  | 2              | 56     |          | <2         | 6          | 2          | <2         | <2         | <2         |
| Oxygen Demand - Biological (BOD) | mg/L  | 2              | 4      |          | <2         | <4         | <4         | <4         | <2         | <4         |
| Phenols (4AAP)                   | mg/L  | 0.001          | 0.003  | 0.001    | <0.001     | 0.002      | <0.001     | <0.001     | 0.002      | <0.001     |
| Sulphate                         | mg/L  | 0.2            | 26     |          | 30         | 5.2        | 3.1        | 23         | 2.9        | 16         |
| Ammonia, Unionized (Field)       | mg/L  | 0.01           |        | 0.02     | -          | -          | -          | -          | -          | -          |
| Ammonia                          | mg/L  | 0.01           | 0.2    |          | 0.3        | <0.1       | 0.3        | <0.1       | <0.1       | 0.1        |
| Nitrate (as N)                   | mg/L  | 0.05           | 1.27   |          | 1          | 0.48       | 0.59       | 0.34       | 0.82       | 0.64       |
| Nitrite (as N)                   | mg/L  | 0.03           | 0.03   |          | <0.06      | <0.06      | <0.03      | <0.03      | <0.03      | <0.03      |
| Total Kjeldahl Nitrogen (TKN)    | mg/L  | 0.1            | 0.5    |          | 1.5        | <0.5       | 0.6        | <0.5       | <0.5       | <0.5       |
| Conductivity (lab)               | µS/cm | 1              | 848    |          | 774        | 601        | 595        | 625        | 656        | 749        |
| pH (Lab)                         | -     | 0.05           |        | 6.5-8.5  | 8.06       | 8          | 7.91       | 8.19       | 8.08       | 8          |
| <b>Field</b>                     |       |                |        |          |            |            |            |            |            |            |
| DO (Field)                       | mg/L  |                |        | 5        | -          | -          | -          | -          | -          | -          |
| Redox Potential (Field)          | mV    |                |        |          | -          | -          | -          | -          | -          | -          |
| Temp (Field)                     | °C    |                |        |          | -          | -          | -          | -          | -          | -          |
| Conductivity (field)             | µS/cm |                |        |          | -          | -          | -          | -          | -          | -          |
| pH (Field)                       | -     |                |        | 6.5-8.5  | -          | -          | -          | -          | -          | -          |



Table 10 - Surface Water Quality

| Unit                             | RDL   | Hall's Glen SW | PWQO          | Location       | S1         | S1         | S1          | S1           | S1          | S1         | S1          | S1         |  |
|----------------------------------|-------|----------------|---------------|----------------|------------|------------|-------------|--------------|-------------|------------|-------------|------------|--|
|                                  |       |                |               | Date           | 2015-05-22 | 2015-11-19 | 2016-05-16  | 2019-05-30   | 2019-10-29  | 2020-05-26 | 2020-11-18  | 2021-11-11 |  |
| <b>Metals</b>                    |       |                |               |                |            |            |             |              |             |            |             |            |  |
| Arsenic                          | µg/L  | 0.1            | <b>0.2</b>    | <b>5</b>       | <0.2       | <0.2       | <0.2        | <0.2         | <b>0.3</b>  | -          | <0.2        | 0.1        |  |
| Barium                           | µg/L  | 0.02           | <b>157</b>    |                | 82.2       | 137        | 78.7        | 76.4         | 115         | -          | 132         | 94         |  |
| Boron                            | µg/L  | 0.2            | <b>50</b>     | <b>200</b>     | 14.8       | 23         | 13          | 17           | 25          | -          | <b>52</b>   | 24         |  |
| Calcium                          | µg/L  | 10             | <b>146500</b> |                | 97,000     | 121,000    | 101,000     | 96,700       | 98,700      | -          | 117,000     | -          |  |
| Cadmium                          | µg/L  | 0.003          | <b>0.016</b>  | <b>0.1 0.5</b> | 0.006      | 0.01       | 0.005       | 0.005        | <b>0.03</b> | -          | 0.008       | <0.015     |  |
| Chloride                         | µg/L  | 200            | <b>77500</b>  |                | 59,000     | 64,000     | 61,000      | 56,000       | 33,000      | -          | 63,000      | 71,800     |  |
| Chromium (III+VI)                | µg/L  | 0.03           | <b>0.33</b>   | <b>8.9</b>     | 0.06       | 0.2        | <b>0.53</b> | 0.16         | 0.16        | -          | <b>0.46</b> | <1         |  |
| Copper                           | µg/L  | 0.02           | <b>1.6</b>    | <b>1 5</b>     | 0.68       | 1.12       | 0.58        | 0.7          | <b>3.9</b>  | -          | 0.9         | 0.6        |  |
| Iron                             | µg/L  | 2              | <b>46</b>     | <b>300</b>     | 43         | 26         | 23          | 10           | 42          | -          | <b>68</b>   | 27         |  |
| Lead                             | µg/L  | 0.01           | <b>0.08</b>   | <b>1 3 5</b>   | 0.01       | 0.07       | 0.04        | <0.01        | <b>0.29</b> | -          | 0.07        | 0.03       |  |
| Manganese                        | µg/L  | 0.01           | <b>4.1</b>    |                | 0.8        | 1.07       | 0.74        | 3.06         | <b>29.9</b> | -          | <b>13</b>   | -          |  |
| Magnesium                        | µg/L  | 1              | <b>4680</b>   |                | 3350       | 4300       | 3490        | 3270         | 3850        | -          | 4590        | -          |  |
| Mercury (Filtered)               | µg/L  | 0.01           | <b>10</b>     | <b>0.2</b>     | <0.01      | <0.01      | <0.01       | <10          | <10         | -          | <10         | <0.02      |  |
| Phosphorus total (P2O5)          | µg/L  | 3              | <b>37.5</b>   | <b>30</b>      | 12         | <30        | <30         | 6            | <b>48</b>   | -          | 9           | 20         |  |
| Potassium                        | µg/L  | 2              | <b>4010</b>   |                | 941        | 1660       | 1010        | 1510         | 2290        | -          | 1730        | -          |  |
| Sodium                           | µg/L  | 10             | <b>42500</b>  |                | 34,400     | 36,500     | 35,500      | 35,300       | 22,200      | -          | 33,700      | -          |  |
| Zinc                             | µg/L  | 2              | <b>4</b>      | <b>20</b>      | 4          | 3          | 5           | 3            | <b>12</b>   | -          | 3           | <5         |  |
| <b>Inorganics</b>                |       |                |               |                |            |            |             |              |             |            |             |            |  |
| Alkalinity (as CaCO3)            | mg/L  | 2              | <b>316</b>    |                | 253        | 273        | 225         | 240          | 245         | -          | 267         | 277        |  |
| Hardness (as CaCO3)              | mg/L  | 1              |               |                | -          | -          | -           | -            | -           | -          | -           | 275        |  |
| Solids - Total Dissolved (TDS)   | mg/L  | 3              | <b>483</b>    |                | 374        | 431        | 383         | 366          | 354         | -          | 406         | 385        |  |
| Oxygen Demand - Chemical (COD)   | mg/L  | 5              | <b>11</b>     |                | 9          | 10         | <8          | <8           | <b>16</b>   | -          | <8          | <b>13</b>  |  |
| Solids - Total Suspended (TSS)   | mg/L  | 2              | <b>56</b>     |                | 4          | <2         | <2          | 5            | 2           | -          | 4           | <3         |  |
| Oxygen Demand - Biological (BOD) | mg/L  | 2              | <b>4</b>      |                | <4         | <4         | <4          | <4           | <b>16</b>   | -          | <4          | <3         |  |
| Phenols (4AAP)                   | mg/L  | 0.001          | <b>0.003</b>  | <b>0.001</b>   | <0.001     | 0.001      | <0.001      | <b>0.004</b> | <b>0.01</b> | -          | <0.001      | <0.001     |  |
| Sulphate                         | mg/L  | 0.2            | <b>26</b>     |                | <1         | 15         | 6           | 4            | 17          | -          | 17          | 8          |  |
| Ammonia, Unionized (Field)       | mg/L  | 0.01           |               | <b>0.02</b>    | -          | -          | -           | <0.005       | <0.005      | <0.005     | <0.005      | <0.01      |  |
| Ammonia                          | mg/L  | 0.01           | <b>0.2</b>    |                | <0.1       | <0.1       | <0.1        | <0.1         | <0.1        | -          | <0.1        | 0.01       |  |
| Nitrate (as N)                   | mg/L  | 0.05           | <b>1.27</b>   |                | 0.32       | 0.54       | 0.44        | 0.18         | 1           | -          | <b>2.24</b> | 0.23       |  |
| Nitrite (as N)                   | mg/L  | 0.03           | <b>0.03</b>   |                | <0.03      | <0.03      | <0.03       | <0.03        | <0.03       | -          | <0.03       | <0.05      |  |
| Total Kjeldahl Nitrogen (TKN)    | mg/L  | 0.1            | <b>0.5</b>    |                | <0.5       | <0.5       | <0.5        | <0.5         | <0.5        | -          | <0.5        | 0.3        |  |
| Conductivity (lab)               | µS/cm | 1              | <b>848</b>    |                | 642        | 746        | 651         | 603          | 587         | -          | 717         | 738        |  |
| pH (Lab)                         | -     | 0.05           |               | <b>6.5-8.5</b> | 7.92       | 7.79       | 8.1         | 8.09         | 7.85        | -          | 7.61        | 7.99       |  |
| <b>Field</b>                     |       |                |               |                |            |            |             |              |             |            |             |            |  |
| DO (Field)                       | mg/L  |                |               | <b>5</b>       | -          | -          | -           | 5.9          | 5.71        | 8.29       | 10.2        | 6.58       |  |
| Redox Potential (Field)          | mV    |                |               |                | -          | -          | -           | -            | 180         | 145        | 120         | 10         |  |
| Temp (Field)                     | °C    |                |               |                | -          | -          | -           | 13.8         | 12.2        | 18         | 2.7         | 8.8        |  |
| Conductivity (field)             | µS/cm |                |               |                | -          | -          | -           | 505          | 441         | 517        | 375         | 324        |  |
| pH (Field)                       | -     |                |               | <b>6.5-8.5</b> | -          | -          | -           | 7.75         | 7.92        | 7.55       | <b>8.81</b> | 7.22       |  |



Table 10 - Surface Water Quality

| Unit                             | RDL   | Hall's Glen SW | PWQO   | Location | S2         |  |
|----------------------------------|-------|----------------|--------|----------|------------|------------|------------|------------|------------|------------|------------|------------|--|
|                                  |       |                |        | Date     | 2014-11-06 | 2015-05-22 | 2015-11-19 | 2016-05-16 | 2019-05-30 | 2019-10-29 | 2020-05-26 | 2020-11-18 |  |
| <b>Metals</b>                    |       |                |        |          |            |            |            |            |            |            |            |            |  |
| Arsenic                          | µg/L  | 0.1            | 0.2    | 5        | 0.5        | <0.2       | 0.6        | 0.2        | <0.2       | 0.5        | -          | 0.8        |  |
| Barium                           | µg/L  | 0.02           | 157    |          | 110        | 108        | 109        | 91.5       | 59.3       | 115        | -          | 106        |  |
| Boron                            | µg/L  | 0.2            | 50     | 200      | 19.7       | 17.9       | 16.5       | 16         | 13         | 30         | -          | 52         |  |
| Calcium                          | µg/L  | 10             | 146500 |          | -          | 97,800     | 107,000    | 95,500     | 89,500     | 106,000    | -          | 111,000    |  |
| Cadmium                          | µg/L  | 0.003          | 0.016  | 0.1 0.5  | 0.015      | 0.006      | 0.022      | 0.006      | 0.003      | 0.071      | -          | 0.111      |  |
| Chloride                         | µg/L  | 200            | 77500  |          | 98,000     | 34,000     | 84,000     | 29,000     | 67,000     | 36,000     | -          | 33,000     |  |
| Chromium (III+VI)                | µg/L  | 0.03           | 0.33   | 8.9      | <0.03      | 0.05       | 0.15       | 0.48       | 0.12       | 0.32       | -          | 0.65       |  |
| Copper                           | µg/L  | 0.02           | 1.6    | 1 5      | 0.69       | 1.02       | 1.65       | 1.4        | 0.7        | 4.4        | -          | 5          |  |
| Iron                             | µg/L  | 2              | 46     | 300      | 30         | 42         | 51         | 44         | 20         | 25         | -          | 316        |  |
| Lead                             | µg/L  | 0.01           | 0.08   | 1 3 5    | 0.06       | <0.01      | 0.08       | 0.07       | <0.01      | 0.17       | -          | 0.48       |  |
| Manganese                        | µg/L  | 0.01           | 4.1    |          | -          | 15.2       | 30.8       | 7.05       | 14.3       | 28.6       | -          | 63.5       |  |
| Magnesium                        | µg/L  | 1              | 4680   |          | -          | 3830       | 4030       | 3480       | 2900       | 4670       | -          | 4800       |  |
| Mercury (Filtered)               | µg/L  | 0.01           | 10     | 0.2      | <0.01      | <0.01      | <0.01      | <0.01      | <10        | <10        | -          | <10        |  |
| Phosphorus total (P2O5)          | µg/L  | 3              | 37.5   | 30       | 50         | 21         | <30        | <30        | 8          | 404        | -          | 136        |  |
| Potassium                        | µg/L  | 2              | 4010   |          | -          | 2330       | 2690       | 1940       | 1070       | 6100       | -          | 7130       |  |
| Sodium                           | µg/L  | 10             | 42500  |          | -          | 22,100     | 54,600     | 19,400     | 42,800     | 20,300     | -          | 15,500     |  |
| Zinc                             | µg/L  | 2              | 4      | 20       | 4          | 5          | 8          | 7          | 3          | 9          | -          | 15         |  |
| <b>Inorganics</b>                |       |                |        |          |            |            |            |            |            |            |            |            |  |
| Alkalinity (as CaCO3)            | mg/L  | 2              | 316    |          | 257        | 269        | 251        | 222        | 235        | 168        | -          | 220        |  |
| Hardness (as CaCO3)              | mg/L  | 1              |        |          | -          | -          | -          | -          | -          | -          | -          | -          |  |
| Solids - Total Dissolved (TDS)   | mg/L  | 3              | 483    |          | 483        | 351        | 446        | 346        | 363        | 489        | -          | 423        |  |
| Oxygen Demand - Chemical (COD)   | mg/L  | 5              | 11     |          | 38         | 9          | 18         | <8         | 11         | 60         | -          | 58         |  |
| Solids - Total Suspended (TSS)   | mg/L  | 2              | 56     |          | 6          | <2         | 3          | 2          | <2         | 28         | -          | 34         |  |
| Oxygen Demand - Biological (BOD) | mg/L  | 2              | 4      |          | 4          | <4         | <4         | <4         | <4         | 23         | -          | 10         |  |
| Phenols (4AAP)                   | mg/L  | 0.001          | 0.003  | 0.001    | <0.001     | 0.001      | 0.002      | 0.001      | 0.003      | 0.011      | -          | 0.002      |  |
| Sulphate                         | mg/L  | 0.2            | 26     |          | 42         | 2          | 26         | 9          | 7          | 89         | -          | 54         |  |
| Ammonia, Unionized (Field)       | mg/L  | 0.01           |        | 0.02     | -          | -          | -          | -          | <0.005     | <0.005     | <0.005     | <0.005     |  |
| Ammonia                          | mg/L  | 0.01           | 0.2    |          | <0.1       | <0.1       | <0.1       | <0.1       | <0.1       | 0.3        | -          | <0.1       |  |
| Nitrate (as N)                   | mg/L  | 0.05           | 1.27   |          | <0.06      | <0.06      | 0.13       | 0.21       | <0.06      | 10.3       | -          | 0.49       |  |
| Nitrite (as N)                   | mg/L  | 0.03           | 0.03   |          | <0.03      | <0.03      | <0.03      | <0.03      | <0.03      | 1.16       | -          | 0.05       |  |
| Total Kjeldahl Nitrogen (TKN)    | mg/L  | 0.1            | 0.5    |          | 0.7        | <0.5       | <0.5       | <0.5       | <0.5       | 1.1        | -          | 0.7        |  |
| Conductivity (lab)               | µS/cm | 1              | 848    |          | 793        | 591        | 779        | 551        | 638        | 675        | -          | 604        |  |
| pH (Lab)                         | -     | 0.05           |        | 6.5-8.5  | 8.07       | 7.98       | 7.88       | 8.24       | 7.7        | 7.72       | -          | 7.72       |  |
| <b>Field</b>                     |       |                |        |          |            |            |            |            |            |            |            |            |  |
| DO (Field)                       | mg/L  |                |        | 5        | -          | -          | -          | -          | 7.3        | 5.06       | 6.04       | 10.5       |  |
| Redox Potential (Field)          | mV    |                |        |          | -          | -          | -          | -          | -          | 190        | 151        | 100        |  |
| Temp (Field)                     | °C    |                |        |          | -          | -          | -          | -          | 14.9       | 13.9       | 18.1       | 0.4        |  |
| Conductivity (field)             | µS/cm |                |        |          | -          | -          | -          | -          | 555        | 648        | 498        | 305        |  |
| pH (Field)                       | -     |                |        | 6.5-8.5  | -          | -          | -          | -          | 7.52       | 7.74       | 7.5        | 9.36       |  |









**Table 12 - Monthly Summary of Accepted Materials**

|              | <b>Waste<br/>(tonnes)</b> | <b>Containers<br/>(tonnes)</b> | <b>Fibres<br/>(tonnes)</b> | <b>Mattresses<br/>(tonnes)</b> | <b>MHSW<br/>(tonnes)</b> | <b>Organics<br/>(tonnes)</b> | <b>WEEE<br/>(tonnes)</b> |
|--------------|---------------------------|--------------------------------|----------------------------|--------------------------------|--------------------------|------------------------------|--------------------------|
| January      | 229.27                    | 1.61                           | 1.54                       | -                              | -                        | 1.43                         | -                        |
| February     |                           | 1.26                           | 1.12                       | -                              | -                        | 2.22                         | -                        |
| March        |                           | 1.11                           | 2.01                       | -                              | -                        | 1.40                         | -                        |
| April        | 310.61                    | 1.54                           | 2.07                       | -                              | -                        | 2.00                         | 1.62                     |
| May          |                           | 1.49                           | 3.44                       | -                              | -                        | 1.19                         | 1.31                     |
| June         |                           | 1.49                           | 3.05                       | -                              | -                        | 0.82                         | -                        |
| July         | 317.98                    | 3.60                           | 3.46                       | -                              | -                        | 4.11                         | 2.30                     |
| August       |                           | 2.68                           | 3.89                       | -                              | -                        | 2.76                         | -                        |
| September    |                           | 2.28                           | 2.96                       | -                              | -                        | 3.51                         | 1.84                     |
| October      | 243.67                    | 2.15                           | 2.20                       | -                              | -                        | 2.74                         | 1.83                     |
| November     |                           | 1.11                           | 2.08                       | -                              | -                        | 0.92                         | -                        |
| December     |                           | 1.21                           | 1.75                       | -                              | -                        | 1.02                         | -                        |
| <b>Total</b> | <b>1101.53</b>            | <b>21.52</b>                   | <b>29.58</b>               | <b>0.04</b>                    | <b>5.45</b>              | <b>24.12</b>                 | <b>8.90</b>              |



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## **Appendix A**

### **Monitoring and Screening Checklist**

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Fully accessible appended items are available upon request.

## Appendix D-Monitoring and Screening Checklist

### General Information and Instructions

**General Information: The checklist is to be completed, and submitted with the Monitoring Report.**

**Instructions:** A complete checklist consists of:

- (a) a completed and signed checklist, including any additional pages of information which can be attached as needed to provide further details where indicated.
- (b) completed contact information for the Competent Environmental Practitioner (CEP)
- (c) self-declaration that CEP(s) meet(s) the qualifications as set out below and in Section 1.2 of the Technical Guidance Document.

**Definition of Groundwater CEP:**

For groundwater, the CEP must have expertise in hydrogeology and meet one of the following:

- (a) the person holds a licence, limited licence or temporary licence under the *Professional Engineers Act*; or
- (b) the person holds a certificate of registration under the *Professional Geoscientists Act, 2000* and is a practicing member, temporary, member or limited member of the Association of Professional Geoscientists of Ontario. O. Reg. 66/08, s. 2..

**Definition of Surface water CEP:**

A CEP for surface water assessments is a scientist, professional engineer or professional geoscientist as described in (a) and (b) above with demonstrated experience and post-secondary education, either a diploma or degree, in hydrology, aquatic ecology, limnology, aquatic biology, physical geography with specialization in surface water, and/or water resource management.

The type of scientific work that a CEP performs must be consistent with that person's education and experience. If an individual has appropriate training and credentials in both groundwater and surface water and is responsible for both areas of expertise, the CEP may then complete and validate both sections of the checklist.

| <b>Monitoring Report and Site Information</b>   |   |
|---|---|
| <b>Waste Disposal Site (WDS) Name</b>   | Hall's Glen Waste Transfer Station  |
| <b>Location (e.g. street address, lot, concession)</b>  | Lot 25, Concession 84 geographic Township of Dummer, 1951 Regional Road 6 |
| <b>GPS Location (taken within the property boundary at front gate/ front entry)</b>                   | Zone 17, 727911 m east, 4933207 m north, North American Datum (NAD) 83    |
| <b>Municipality</b>   | Township of Douro-Dummer  |
| <b>Client and/or Site Owner</b>   | Corporation of the Township of Duoro-Dummer                               |
| <b>Monitoring Period (Year)</b>   | 2021  |
| This Monitoring Report is being submitted under the following:  |   |
| <b>Environmental Compliance Approval (ECA) Number (formerly "Certificate of Approval" (C of A)) :</b> | A341004   |
| <b>Director's Order No.:</b>  |   |
| <b>Provincial Officer's Order No.:</b>  |   |

|  |   |   |  |
|--|---|---|--|
| <b>Other:</b>  |   |   |  |
| <b>Report Submission Frequency</b>   | <input checked="" type="radio"/> Annual<br><input type="radio"/> Other  |   |  |
| <b>The site is:<br/>(Operation Status)</b>   | <input type="radio"/> Open<br><input type="radio"/> Inactive<br><input checked="" type="radio"/> Closed   |   |  |
| <b>Is there an active waste transfer station at the site?</b>  | <input checked="" type="radio"/> Yes<br><input type="radio"/> No  |   |  |
| <b>Does this WDS have a Closure Plan?</b>  | <input type="radio"/> Not yet submitted<br><input type="radio"/> Submitted and under review<br><input checked="" type="radio"/> Submitted and approved  |   |  |
| <b>Total Approved Capacity</b>   |   | Units   | Cubic Metres   |
| <b>Maximum Approved Fill Rate</b>  |   | Units   |  |
| <b>Total Waste Received within Monitoring Period (Year)</b>  | 1,101.53  | Units   | Tonnes   |
| <b>Total Waste Received within Monitoring Period (Year)</b><br><i>Describe the methodology used to determine this quantity</i> | Weighed   |   |  |
| <b>Estimated Remaining Capacity</b>  |   | Units   | Cubic Metres   |
| <b>Estimated Remaining Capacity</b><br><i>Describe the methodology used to determine this quantity</i>                         |   |   |  |
| <b>Estimated Remaining Capacity</b><br><i>Date Last Determined</i>   |   |   |  |
| <b>Non-Hazardous Approved Waste Types</b>  | <input checked="" type="checkbox"/> Domestic<br><input type="checkbox"/> Industrial, Commercial & Institutional (IC&I)<br><input checked="" type="checkbox"/> Source Separated Organics (Green Bin)<br><input type="checkbox"/> Tires | <input type="checkbox"/> Contaminated Soil<br><input type="checkbox"/> Wood Waste<br><input checked="" type="checkbox"/> Blue Box Material<br><input type="checkbox"/> Processed Organics<br><input type="checkbox"/> Leaf and Yard Waste | <input type="checkbox"/> Food Processing/Preparation Operations Waste<br><input type="checkbox"/> Hauled Sewage<br>Other: Mattresses, MHSW, WEEE |
| <b>Subject Waste Approved Waste Classes:<br/>Hazardous &amp; Liquid Industrial</b><br><i>(separate waste classes by comma)</i> | Municipal Special and Hazardous Wastes (MHSW) including Waste Class Nos. 112, 121, 122, 145, 146, 147, 148, 212, 213, 221, 242, 252, 261, 263, 269, 312, and 331 used by residents to transport MHSW                                  |   |  |

|  |  |  |             |
|--|--|--|-------------|
| <b>Year Site Opened</b><br><i>(enter the Calendar Year only)</i>                           | 1977   | <b>Current ECA Issue Date</b>  | 22-Aug-2016 |
| <b>Is your Site required to submit Financial Assurance?</b>                                |  | <input type="radio"/> Yes<br><input checked="" type="radio"/> No   |             |
| <b>Describe how your WDS is designed.</b>  |  | <input checked="" type="radio"/> Natural Attenuation only <input type="radio"/> Fully engineered Facility<br><input type="radio"/> Partially engineered Facility |             |
| <b>Does your Site have an approved Contaminant Attenuation Zone?</b>                       |  | <input type="radio"/> Yes<br><input checked="" type="radio"/> No   |             |
| <b>If closed, specify ECA, control or authorizing document closure date:</b>               |  | 22-May-1996  |             |
| <b>Has the nature of the operations at the site changed during this monitoring period?</b> | <input type="radio"/> Yes<br><input checked="" type="radio"/> No |  |             |
| <b>If yes, provide details:</b>  |  |  |             |

|   |   |
|---|---|
| <p>Have any measurements been taken since the last reporting period that indicate landfill gas volumes have exceeded the MOE limits for subsurface or adjacent buildings? (i.e. exceeded the LEL for methane)</p> | <p><input type="radio"/> Yes</p> <p><input checked="" type="radio"/> No</p> |
|---|---|

**Groundwater WDS Verification:**

Based on all available information about the site and site knowledge, it is my opinion that:

**Sampling and Monitoring Program Status:**

|   |   |  |
|---|---|--|
| <p>1) The monitoring program continues to effectively characterize site conditions and any groundwater discharges from the site. All monitoring wells are confirmed to be in good condition and are secure:</p> | <p><input checked="" type="radio"/> Yes</p> <p><input type="radio"/> No</p> |  |
|---|---|--|

|   |   |  |
|---|---|--|
| <p>2) All groundwater, leachate and landfill gas sampling and monitoring for the monitoring period being reported on was successfully completed as required by ECA or other relevant authorizing/control document(s):</p> | <p><input checked="" type="radio"/> Yes</p> <p><input type="radio"/> No</p> <p><input type="radio"/> Not Applicable</p> | <p>If no, list exceptions below or attach information.</p> |
|---|---|--|

| Groundwater Sampling Location | Description/Explanation for change (change in name or location, additions, deletions) | Date |
|-------------------------------|---|------|
|                               |   |      |
|                               |   |      |

|  |  |  |
|--|--|--|
|  |  |  |
|  |  |  |

|  |  |
|--|--|
| <b>3) a) Some or all groundwater, leachate and landfill gas sampling and monitoring requirements have been established or defined outside of a ministry ECA, authorizing, or control document.</b> | <input type="radio"/> Yes<br><input checked="" type="radio"/> No<br><input type="radio"/> Not Applicable |
|--|--|

|   |  |  |
|---|--|--|
| <b>b) If yes, the sampling and monitoring identified under 3(a) for the monitoring period being reported on was successfully completed in accordance with established protocols, frequencies, locations, and parameters developed as per the Technical Guidance Document:</b> | <input type="radio"/> Yes<br><input type="radio"/> No<br><input checked="" type="radio"/> Not Applicable | If no, list exceptions below or attach additional information. |
|---|--|--|

| Groundwater Sampling Location | Description/Explanation for change (change in name or location, additions, deletions) | Date |
|-------------------------------|---|------|
|                               |   |      |
|                               |   |      |
|                               |   |      |
|                               |   |      |
|                               |   |      |

|   |  |  |
|---|--|--|
| <p>4) All field work for groundwater investigations was done in accordance with Standard Operating Procedures (SOP) as established/outlined per the Technical Guidance Document (including internal/external QA/QC requirements) (Note: A SOP can be from a published source, developed internally by the site owner's consultant, or adopted by the consultant from another organization):</p> | <p><input checked="" type="radio"/> Yes<br/><input type="radio"/> No</p> |  |
| <p><b>Sampling and Monitoring Program Results/WDS Conditions and Assessment:</b></p>  |  |  |
| <p>5) The site has an adequate buffer, Contaminant Attenuation Zone (CAZ) and/or contingency plan in place. Design and operational measures, including the size and configuration of any CAZ, are adequate to prevent potential human health impacts and impairment of the environment.</p>   | <p><input checked="" type="radio"/> Yes<br/><input type="radio"/> No</p> |  |
| <p>6) The site meets compliance and assessment criteria.</p>  | <p><input checked="" type="radio"/> Yes<br/><input type="radio"/> No</p> |  |
| <p>7) The site continues to perform as anticipated. There have been no unusual trends/changes in measured leachate and groundwater levels or concentrations.</p>  | <p><input checked="" type="radio"/> Yes<br/><input type="radio"/> No</p> |  |

|  |   |                                |  |
|--|---|--------------------------------|--|
| <p>1) Is one or more of the following risk reduction practices in place at the site:</p> <p>(a) There is minimal reliance on natural attenuation of leachate due to the presence of an effective waste liner and active leachate collection/ treatment; or</p> <p>(b) There is a predictive monitoring program in-place (modeled indicator concentrations projected over time for key locations); or</p> <p>(c) The site meets the following two conditions (typically achieved after 15 years or longer of site operation):</p> <p><i>i.</i>The site has developed stable leachate mound(s) and stable leachate plume geometry/ concentrations; and</p> <p><i>ii.</i>Seasonal and annual water levels and water quality fluctuations are well understood.</p> | <p><input checked="" type="radio"/> Yes</p> <p><input type="radio"/> No</p>   | <p>Note which practice(s):</p> | <p><input type="checkbox"/> (a)</p> <p><input type="checkbox"/> (b)</p> <p><input checked="" type="checkbox"/> (c)</p> |
| <p>9) Have trigger values for contingency plans or site remedial actions been exceeded (where they exist):</p>   | <p><input type="radio"/> Yes</p> <p><input type="radio"/> No</p> <p><input checked="" type="radio"/> Not Applicable</p> |                                |  |

**Groundwater CEP Declaration:**

I am a licensed professional Engineer or a registered professional geoscientist in Ontario with expertise in hydrogeology, as defined in Appendix D under Instructions. Where additional expertise was needed to evaluate the site monitoring data, I have relied on individuals who I believe to be experts in the relevant discipline, who have co-signed the compliance monitoring report or monitoring program status report, and who have provided evidence to me of their credentials.

I have examined the applicable Environmental Compliance Approval and any other environmental authorizing or control documents that apply to the site. I have read and followed the Monitoring and Reporting for Waste Disposal Sites Groundwater and Surface Water Technical Guidance Document (MOE, 2010, or as amended), and associated monitoring and sampling guidance documents, as amended from time to time. I have reviewed all of the data collected for the above-referenced site for the monitoring period(s) identified in this checklist. Except as otherwise agreed with the ministry for certain parameters, all of the analytical work has been undertaken by a laboratory which is accredited for the parameters analysed to *ISO/IEC 17025:2005 (E)- General requirements for the competence of testing and calibration laboratories*, or as amended from time to time by the ministry.

If any exceptions or potential concerns have been noted in the questions in the checklist attached to this declaration, it is my opinion that these exceptions and concerns are minor in nature and will be rectified for the next monitoring/reporting period. Where this is not the case, the circumstances concerning the exception or potential concern and my client's proposed action have been documented in writing to the Ministry of the Environment District Manager in a letter from me dated:

## Recommendations:

Based on my technical review of the monitoring results for the waste disposal site:

No changes to the monitoring program are recommended

The following change(s) to the monitoring program is/are recommended:

Refer to Section 4.5 of the Report. Various reductions to the environmental monitoring program have been proposed.

No Changes to site design and operation are recommended

The following change(s) to the site design and operation is/are recommended:

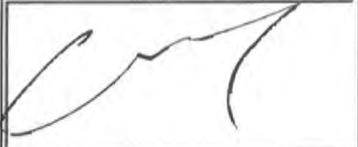
Name:

Cameron MacDougall, P.Geo.,

Seal:

Add Image



|  |   |                 |              |
|--|---|-----------------|--------------|
| <b>Signature:</b>  |   | <b>Date:</b>    | 25-Apr-2022  |
| <b>CEP Contact Information:</b>  | Cameron MacDougall, P.Geo.  |                 |              |
| <b>Company:</b>  | Cambium Inc.  |                 |              |
| <b>Address:</b>  | 194 Sophia Street<br>Peterborough, ON<br>K9H 1E5                                  |                 |              |
| <b>Telephone No.:</b>  | 705-742-7900 ext 212  | <b>Fax No.:</b> | 705-742-7907 |
| <b>E-mail Address:</b>   | cameron.macdougall@cambium-inc.com  |                 |              |
| <b>Co-signers for additional expertise provided:</b>   |   |                 |              |
| <b>Signature:</b>  |   | <b>Date:</b>    |              |
| <b>Signature:</b>  |   | <b>Date:</b>    |              |
| <b>Surface Water WDS Verification:</b>   |   |                 |              |
| <b>Provide the name of surface water body/bodies potentially receiving the WDS effluent and the approximate distance to the waterbody (including the nearest surface water body/bodies to the site):</b> |   |                 |              |
| <b>Name (s)</b>  | un-named wetland that discharges to Indian River and ultimately to Otanabee River |                 |              |

|             |  |
|-------------|--|
| Distance(s) | 200 m east of the existing waste disposal area |
|-------------|--|

Based on all available information and site knowledge, it is my opinion that:

**Sampling and Monitoring Program Status:**

|   |  |   |
|---|--|---|
| 1) The current surface water monitoring program continues to effectively characterize the surface water conditions, and includes data that relates upstream/background and downstream receiving water conditions: | <input type="radio"/> Yes<br><input checked="" type="radio"/> No | S2 is continually dry and cannot be sampled. Cambium recommends that the surface water sampling program be modified to move station S2 further south of the waste mound to act as a down-stream station (in this case station S1 will act as the background surface water quality monitoring location). |
|---|--|---|

|   |  |   |
|---|--|---|
| 2) All surface water sampling for the monitoring period being reported was successfully completed in accordance with the ECA or relevant authorizing/control document(s) (if applicable): | <input type="radio"/> Yes<br><input checked="" type="radio"/> No<br><input type="radio"/> Not applicable | If no, specify below or provide details in an attachment. |
|---|--|---|

| Surface Water Sampling Location | Description/Explanation for change (change in name or location, additions, deletions)   | Date        |
|---------------------------------|---|-------------|
| S1                              | A northeast/southwest trending ridge separates station S1 from direct runoff generated from the waste mound; therefore, it represents background SW quality | 20-Apr-2022 |
| S2                              | S2 should be moved further south of the waste mound where it is commonly wet to act as a down-stream station  |             |
|                                 |   |             |
|                                 |   |             |

|   |  |
|---|--|
| 3) a) Some or all surface water sampling and monitoring program requirements for the monitoring period have been established outside of a ministry ECA or authorizing/control document. | <input type="radio"/> Yes<br><input checked="" type="radio"/> No<br><input type="radio"/> Not Applicable |
|---|--|

|   |  |   |
|---|--|---|
| b) If yes, all surface water sampling and monitoring identified under 3 (a) was successfully completed in accordance with the established program from the site, including sampling protocols, frequencies, locations and parameters) as developed per the Technical Guidance Document: | <input type="radio"/> Yes<br><input type="radio"/> No<br><input checked="" type="radio"/> Not Applicable | If no, specify below or provide details in an attachment. |
|---|--|---|

| Surface Water Sampling Location | Description/Explanation for change<br>(change in name or location, additions, deletions) | Date |
|---------------------------------|--|------|
|                                 |  |      |
|                                 |  |      |
|                                 |  |      |
|                                 |  |      |

|  |   |  |
|--|---|--|
| <p>4) All field work for surface water investigations was done in accordance with SOP, including internal/external QA/QC requirements, as established/outlined as per the Technical Guidance Document, MOE 2010, or as amended. (Note: A SOP can be from a published source, developed internally by the site owner's consultant, or adopted by the consultant from another organization):</p> | <p><input checked="" type="radio"/> Yes</p> <p><input type="radio"/> No</p> |  |
|--|---|--|

**Sampling and Monitoring Program Results/WDS Conditions and Assessment:**

|  |   |
|--|---|
| <p>5) The receiving water body meets surface water-related compliance criteria and assessment criteria: i.e., there are no exceedances of criteria, based on MOE legislation, regulations, Water Management Policies, Guidelines and Provincial Water Quality Objectives and other assessment criteria (e.g., CWQGs, APVs), as noted in Table A or Table B in the Technical Guidance Document (Section 4.6):</p> | <p><input checked="" type="radio"/> Yes</p> <p><input type="radio"/> No</p> |
|--|---|

If no, list parameters that exceed criteria outlined above and the amount/percentage of the exceedance as per the table on the following page or provide details in an attachment:

| Parameter  | Compliance or Assessment Criteria or Background                             | Amount by which Compliance or Assessment Criteria or Background Exceeded |
|--|---|--|
| e.g. Nickel  | e.g. ECA limit, PWQO, background  | e.g. X% above PWQO   |
|  |   |  |
|  |   |  |
|  |   |  |
|  |   |  |
| <p>6) In my opinion, any exceedances listed in Question 5 are the result of non-WDS related influences (such as background, road salting, sampling site conditions)?</p> | <p><input checked="" type="radio"/> Yes</p> <p><input type="radio"/> No</p> |  |

|  |  |   |
|--|--|---|
| <p>7) All monitoring program surface water parameter concentrations fall within a stable or decreasing trend. The site is not characterized by historical ranges of concentrations above assessment and compliance criteria.</p>                 | <p><input checked="" type="radio"/> Yes</p> <p><input type="radio"/> No</p>  |   |
| <p>8) For the monitoring program parameters, does the water quality in the groundwater zones adjacent to surface water receivers exceed assessment or compliance criteria (e.g., PWQOs, CWQGs, or toxicity values for aquatic biota (APVs)):</p> | <p><input checked="" type="radio"/> Yes</p> <p><input type="radio"/> No</p> <p><input type="radio"/> Not Known</p> <p><input type="radio"/> Not Applicable</p> | <p>See report Section 4.2.6 of the report for details</p> |
| <p>9) Have trigger values for contingency plans or site remedial actions been exceeded (where they exist):</p>   | <p><input type="radio"/> Yes</p> <p><input checked="" type="radio"/> No</p> <p><input type="radio"/> Not Applicable</p>  |   |

## Surface Water CEP Declaration:

I, the undersigned hereby declare that I am a Competent Environmental Practitioner as defined in Appendix D under Instructions, holding the necessary level of experience and education to design surface water monitoring and sampling programs, conduct appropriate surface water investigations and interpret the related data as it pertains to the site for this monitoring period.

I have examined the applicable Environmental Compliance Approval and any other environmental authorizing or control documents that apply to the site. I have read and followed the Monitoring and Reporting for Waste Disposal Sites Groundwater and Surface Water Technical Guidance Document (MOE, 2010, or as amended) and associated monitoring and sampling guidance documents, as amended from time to time. I have reviewed all of the data collected for the above-referenced site for the monitoring period(s) identified in this checklist. Except as otherwise agreed with the ministry for certain parameters, all of the analytical work has been undertaken by a laboratory which is accredited for the parameters analysed to ISO/IEC 17025:2005 (E)- General requirements for the competence of testing and calibration laboratories, or as amended from time to time by the ministry.

If any exceptions or potential concerns have been noted in the questions in the checklist attached to this declaration, it is my opinion that these exceptions and concerns are minor in nature or will be rectified for future monitoring events. Where this is not the case, the circumstances concerning the exception or potential concern and my client's proposed action have been documented in writing to the Ministry of the Environment District Manager in a letter from me dated:

## Recommendations:

Based on my technical review of the monitoring results for the waste disposal site:

|   |  |
|---|--|
| <p><input type="radio"/> No Changes to the monitoring program are recommended</p> <p><input checked="" type="radio"/> The following change(s) to the monitoring program is/are recommended:</p>               | <p>Refer to Section 4.5 of the Report. Cambium has recommended that an additional surface water sampling station be added in order to further characterize surface water conditions. Station S1 should be reviewed as the background station, and the need to include station S2 in the monitoring program should be reviewed regularly.</p> |
| <p><input checked="" type="radio"/> No changes to the site design and operation are recommended</p> <p><input type="radio"/> The following change(s) to the site design and operation is/are recommended:</p> |  |

|                                 |  |                   |
|---------------------------------|--|-------------------|
| <b>CEP Signature</b>            |  |                   |
| <b>Relevant Discipline</b>      | Physical Geography   |                   |
| <b>Date:</b>                    | 25-Apr-2022  |                   |
| <b>CEP Contact Information:</b> | Cameron MacDougall P.Geo.,   |                   |
| <b>Company:</b>                 | Cambium Inc.   |                   |
| <b>Address:</b>                 | 194 Sophia Street<br>Peterborough, Ontario<br>K9H 1E5                            |                   |
| <b>Telephone No.:</b>           | 705-742-7900 x212  |                   |
| <b>Fax No.:</b>                 | 705-742-7907   |                   |
| <b>E-mail Address:</b>          | cameron.macdougall@cambium-inc.com   |                   |
| <b>Save As</b>                  |  | <b>Print Form</b> |



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**Appendix B**  
**Provisional Compliance Approval No. A341004**

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Fully accessible appended items are available upon request.



AMENDED PROVISIONAL CERTIFICATE OF APPROVAL  
WASTE DISPOSAL SITE  
NUMBER A341004  
Issue Date: May 26, 2011

The Corporation of the Township of Douro-Dummer  
894 South St  
Post Office Box, No. 92  
Warsaw, Ontario  
K0L 3A0

Site Location: Hall's Glen Waste Transfer Station  
1951 County Road 6  
Lot 25, Concession 4, Dummer Ward  
Douro-Dummer Township, County of Peterborough

*You have applied in accordance with Section 27 of the Environmental Protection Act for approval of:*

for the use and operation of a waste transfer station and a household hazardous waste depot at the closed Hall's Glen landfill site with a total site area of 48.5 hectares.

*For the purpose of this Certificate of Approval and the terms and conditions specified below, the following definitions apply:*

1.  
"Certificate" means this entire *Provisional Certificate of Approval* document, issued in accordance with section 39 of the *EPA*, and includes any schedules to it, the application and the supporting documentation listed in Schedule "A";

"County" means the County of Peterborough.

"Director" means any *Ministry* employee appointed in writing by the *Minister* pursuant to section 5 of the *EPA* as a Director for the purposes of Part V of the *EPA*;

"District Manager" means the *District Manager* of the local district office of the *Ministry* in which the *Site* is geographically located;

"EPA" means *Environmental Protection Act*, R.S.O. 1990, c. E. 19, as amended;

"Ministry" means the Ministry of the Environment;

"Operator" means any person, other than the Owner's employees, authorized by the *Owner* as having the charge, management or control of any aspect of the site;

"Owner" means any person that is responsible for the establishment or operation of the site being approved by this *Certificate*, and includes Township of Douro-Dummer, and its successors and assigns;

"OWRA" means the *Ontario Water Resources Act*, R.S.O. 1990, c. O-40, as amended from time to time;

"PA" means the *Pesticides Act*, R.S.O. 1990, c. P-11, as amend from time to time;

"Provincial Officer" means any person designated in writing by the *Minister* as a Provincial Officer pursuant to section 5 of the *OWRA* or section 5 of the *EPA* or section 17 of *PA*.

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"*Regional Director*" means the Regional Director of the local Regional Office of the *Ministry* in which the *Site* is located;

"*Reg. 347*" means Regulation 347, R.R.O. 1990, made under the *EPA*, as amended from time to time;

"*Site*" means the closed Landfill Site, Transfer Station and Household Hazardous Waste Collection operations being approved under this Certificate of Approval, at the Hall's Glen landfill site located on Part Lot 25, Concession 4, Township of Douro-Dummer, County of Peterborough.

"*Township*" means the Corporation of the Township of Douro-Dummer.

"*Trained personnel*" means knowledgeable in the following through instruction and/or practice:

- i. relevant waste management legislation, regulations and guidelines;
- ii. major environmental concerns pertaining to the waste to be handled;
- iii. occupational health and safety concerns pertaining to the processes and wastes to be handled;
- iv. management procedures including the use and operation of equipment for the processes and wastes to be handled;
- v. emergency response procedures;
- vi. specific written procedures for the control of nuisance conditions;
- vii. specific written procedures for refusal of unacceptable waste loads;
- viii. the requirements of this *Certificate*.

"*Waste electrical and electronic equipment (WEEE)*" means devices listed in Schedules 1 through 7 of *Ontario Regulation 393/04*.

*You are hereby notified that this approval is issued to you subject to the terms and conditions outlined below:*

### **TERMS AND CONDITIONS**

#### **GENERAL**

##### **Compliance**

2. The *Owner* and *Operator* shall ensure compliance with all the conditions of this *Certificate* and shall ensure that any person authorized to carry out work on or operate any aspect of the *Site* is notified of this *Certificate* and the conditions herein and shall take all reasonable measures to ensure any such person complies with the same.

3. Any person authorized to carry out work on or operate any aspect of the *Site* shall comply with the conditions of this *Certificate*.

##### **Build, etc. in Accordance**

4. Except as otherwise provided by this *Certificate*, the *Site* shall be designed, developed, built, operated and maintained in accordance with the applications for this *Certificate* and all supporting documentation listed in Schedule "A".

##### **Interpretation**

5. Where there is a conflict between a provision of any document, including the application, referred to in this *Certificate*, and the conditions of this *Certificate*, the conditions in this *Certificate* shall take precedence.

6. Where there is a conflict between the application and a provision in any documents listed in Schedule "A", the application shall take precedence, unless it is clear that the purpose of the document was to amend the application and that the *Ministry* approved the amendment.

7. Where there is a conflict between any two documents listed in Schedule "A", other than the application, the document bearing the most recent date shall take precedence.

8. The requirements of this *Certificate* are severable. If any requirement of this *Certificate*, or the application of any requirement of this *Certificate* to any circumstance, is held invalid or unenforceable, the application of such requirement to

other circumstances and the remainder of this *Certificate* shall not be affected thereby.

### **Other Legal Obligations**

9. The issuance of, and compliance with the conditions of, this *Certificate* does not:

- a. relieve any person of any obligation to comply with any provision of any applicable statute, regulation or other legal requirement; or
- b. limit in any way the authority of the *Ministry* to require certain steps be taken or to require the *Owner* and *Operator* to furnish any further information related to compliance with this *Certificate*;

### **Adverse Effects**

10. The *Owner* and *Operator* shall take steps to minimize and ameliorate immediately any adverse effect on the natural environment or impairment of water quality resulting from the *Site*, including such accelerated or additional monitoring as may be necessary to determine the nature and extent of the effect or impairment.

11. Despite an *Owner*, *Operator* or any other person fulfilling any obligations imposed by this *Certificate*, the person remains responsible for any contravention of any other condition of this *Certificate* or any applicable statute, regulation, or other legal requirement resulting from any act or omission that caused the adverse effect to the natural environment or impairment of water quality.

### **Change of Owner**

12. The *Owner* shall notify the *Director* in writing, and forward a copy of the notification to the *District Manager*, within 30 days of the occurrence of any changes:

- a. the ownership of the *Site*
- b. the *Operator* of the *Site*;
- c. the address of the *Owner* or *Operator*;
- d. the partners, where the *Owner* is or at any time becomes a partnership and a copy of the most recent declaration filed under the *Business Names Act*, R.S.O. 1990, c. B-17 shall be included in the notification;
- e. the name of the corporation where the *Owner* is or at any time becomes a corporation, other than a municipal corporation, and a copy of the most current information filed under the *Corporations Information Act*, R.S.O. 1990, C-39 shall be included in the notification; or

13. No portion of this *Site* shall be transferred or encumbered prior to or after closing of the *Site* unless the *Director* is notified in advance and sufficient financial assurance is deposited with the *Ministry* to ensure that these conditions will be carried out. In the event of any change in *Ownership* of the *Site*, other than change to a successor municipality, the *Owner* shall notify the successor of and provide the successor with a copy of this *Certificate*, and the *Owner* shall provide a copy of the notification to the *District Manager* and the *Director*.

### **Waste Transfer Site (TS)**

14. Only waste from households within the Township of Douro-Dummer, the Township of North Kawartha, and the Township of Havelock-Belmont-Methuen shall be accepted at this Waste Transfer Site.

15. The TS shall not receive or transfer more than 250 cubic metres of waste per day.

16. The TS shall only operate as follows:

(a) from Canada Day to Labour Day, the TS will operate on Sundays, Mondays and Fridays from 2:00 p.m. until 6:00 p.m., on Saturdays and Wednesdays from 9:00 a.m. to 6:00 p.m. and on holiday weekends (Sunday or Monday) may remain open until 8:00 p.m.;

(b) from Labour Day to Thanksgiving Day, the TS will operate on Sundays, Mondays, Wednesdays, Fridays and Saturdays from 2:00 p.m. until 6:00 p.m.;

(c) from Thanksgiving Day to Victoria Day, the TS will operate on Sundays, Wednesdays and Saturdays from 2:00 p.m.

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until 5:00 p.m.; and

(d) from Victoria Day to Canada Day, the TS will operate on Sundays, Mondays, Wednesdays, Fridays and Saturdays from 2:00 p.m. until 6:00 p.m.

where the Owner may change operational hours of the Site, if he is granted written approval by the District Manager.

17. All wastes transferred off the site may only be handled by parties who bear proper licensing and a valid Certificate of Approval from the Ministry of Environment to do so.

18. All wastes stored by the transfer station shall be segregated into solid non-hazardous waste, polystyrene recyclables, cardboard recyclables, multi-material recyclables, white goods, tires, brush, metals, and construction and demolition materials.

19. All solid, non-hazardous waste and recyclables must be stored in bins that are clearly marked and segregated.

20. For solid, non-hazardous waste, the following stipulations apply:

- (a) At no time shall there be more than 125 cubic metres of solid, non-hazardous waste stored at the TS;
- (b) No solid, non-hazardous waste may be stored outside of the designated bin;
- (c) All solid, non-hazardous wastes may only be stored at the TS for a maximum of Thirty (30) days or until the 125 cubic metre storage maximum is reached.

21. For all recyclable materials, the following stipulations apply:

- (a) At no time shall there be more than 120 cubic metres of recyclable materials stored at the TS;
- (b) No recyclable materials may be stored outside of their designated bins;
- (c) All recyclable materials may only be stored at the TS for a maximum of Thirty (30) days or until the 120 cubic metre storage maximum is reached.

22. For all other wastes, the following stipulations apply:

- (a) At no time shall there be more than 200 cubic metres of tire waste stored at the TS;
- (b) At no time shall there be more than 300 cubic metres of brush and wood waste stored at the TS;
- (c) At no time shall there be more than 300 cubic metres of metal waste stored at the TS;
- (d) At no time shall there be more than 300 cubic metres of white goods stored at the TS;
- (e) At no time shall there be more than 300 cubic metres of construction and demolition waste at the TS.

23. No waste oil shall be stored in containers which do not indicate the type of waste stored therein, or which are not suitable in design or construction.

24. (a) The amount of waste oil stored at the Site at any one time shall not exceed two thousand (2000) litres.

(b) At least once per year all accumulated waste oil shall be removed from the Site.

25. All waste oil transferred from the Site must be done so by a company with a valid Certificate of Approval for a Waste Management System.

26. No waste oil shall be deposited at the Site unless an authorized attendant is on duty.

27. The Township shall ensure that trained staff are on duty at all times when the Site is open to ensure proper supervision of all activities.

28. Prior to being accepted at the Site, all incoming waste shall be inspected by the Township, and shall only be permitted to enter the Site if the Site is approved to accept that type of waste.

29. If any Unacceptable Waste is discovered on-site, that waste shall immediately be disposed of in accordance with Ontario Regulation 347, R.R.O. 1990, as amended from time to time.

### **Staff Training**

30. All operators of the Site shall be trained with respect to the following:

- (a) the terms, conditions and operating requirements of this Certificate;
- (b) operation and management of the TS, or areas within the TS, as per the specific job requirements of each individual operator, and which may include procedures for receiving, screening, refusal, and handling of waste;
- (c) shipping and manifesting procedures, if such functions fall within the job requirements of the individual operator;
- (d) the Site plan and location of relevant equipment, including that for emergencies and spills;
- (e) an outline of the responsibilities of Site personnel including roles and responsibilities during emergencies and spills;
- (f) Spill Emergency and Contingency Plan equipment and procedures;
- (g) any environmental and occupational health and safety concerns pertaining to the waste to be processed;
- (h) emergency first-aid information;
- (i) relevant waste management legislation and regulations, including the *EPA* and *Ontario Regulation 347*;
- (j) information recording procedures;
- (k) Equipment and Site Inspection procedures; and
- (l) procedures for recording and responding to public complaints.

31. The Owner shall maintain a written record at the Site which shall include (as a minimum) the following:

- (a) the date of training;
- (b) the name and signature of the person who has been trained; and
- (c) a description of the training provided.

### **Equipment and site inspection**

32. The Township shall conduct regular inspections of the equipment, buildings, facilities and security fencing and barriers to ensure that all are maintained in good working order and secure at all times. Any deficiencies detected during these regular inspections shall be promptly corrected. A written record shall be maintained at the Site, which includes the following:

- (a) name and signature of trained personnel conducting the inspection;
- (b) date and time of the inspection;
- (c) list of equipment inspected and all deficiencies observed;

- (d) a detailed description of the maintenance activity;
- (e) date and time of maintenance activity; and
- (f) recommendations for remedial action and actions undertaken.

#### **Nuisance impact control**

33. The Owner shall routinely conduct visual inspections of the Site to ensure that no off-site impacts such as vermin, vectors, odour, dust, and litter, result from the operation of the Site. A written record shall be maintained at the Site, which includes the following:

- (a) name and signature of trained personnel conducting the inspection;
- (b) date and time of the inspection;
- (c) list of any nuisance impacts observed;
- (d) date, time and detailed description of remedial action taken in order to control the nuisance; and
- (e) recommendations for any preventative measures that can be taken to prevent future reoccurrences.

#### **Record Keeping**

34. The Owner shall maintain a written record at the Site containing (as a minimum) the following information:

- (a) the date of record;
- (b) the quantity and types of waste received;
- (c) the receiving Site for product shipped from the Site;
- (d) the quantity and type of any rejected wastes;
- (e) the Equipment and Site inspection report;
- (f) details on any complaints regarding Site operations, including (as a minimum) the following information:
  - (i) the nature of the complaint;
  - (ii) the date and time of the complaint;
  - (iii) the name, address and telephone number of the complainant; and
  - (iv) any resulting contacts and remedial action taken;
- (g) details on all spills, fires, upsets or other problems encountered during the operation of the Site, and all actions taken to remediate the problem; and
- (h) records of staff training.

#### **Spills and emergency responses**

35. All spills, upsets and fires shall be immediately reported to the **Ministry's Spills Action Centre at 1-800-268-6060** and a written record shall be made as to the nature of the spill or upset, and the action taken for clean-up, correction and prevention of future occurrences.

36. The Owner shall immediately take all measures necessary to contain and clean up any spill or leak which may result from the operation at this Site.

### **Site Closure**

37. Upon commissioning of the TS, the Township must begin implementing a detailed closure plan of the existing landfill disposal area, all in accordance with the report submitted to the MOEE Peterborough District Office listed in Schedule "A".

38. Within ten (10) days after closure of the Site, the Company shall notify the Director, in writing, that the Site has been closed in accordance with the approved Closure Plan.

39. At a time when the Township is prepared to terminate the use of this facility as a transfer station, the Township must begin implementing a closure plan, all in accordance with the items listed in Schedule "A".

### **HOUSEHOLD HAZARDOUS WASTE COLLECTION FACILITY (MHSW)**

40. The Site shall only accept waste for bulking and temporary storage pending transfer to an approved carrier for disposal elsewhere, the following household hazardous wastes: Waste Class Nos. 112, 121, 122, 145, 146, 147, 148, 212, 213, 221, 242, 252, 261, 263, 269, 312 and 331 as described in the Ministry document "New Ontario Waste Classes" dated January, 1986.

41. (a) The MHSW depot shall not receive more than 20 cubic metres of MHSW per day; and

(b) The MHSW depot shall not store in excess of 50 cubic metres of MHSW on site.

42. MHSW shall not be stored at the Site for longer than one hundred eighty (180) days, unless the consent of the District Manager has been obtained.

43. All household hazardous waste received and stored must be managed in accordance with Ontario Regulation 347, R.R.O. 1990, as amended, and with the Ministry of Environment document entitled "Household Hazardous Waste Collection and Facility Guidelines" dated May 1993.

44. All storage of liquid wastes shall be in accordance with this Ministry's publication "Guidelines of Environmental Protection Measures at Chemical Storage Facilities", dated October 1978 as amended.

45. All MHSW shall be stored in secondary containment that is adequate to contain any spills or leaks. Segregated secondary containment shall be provided for incompatible types of waste.

46. Incoming MHSW shall be inspected by Competent personnel, prior to being accepted at the Site, to ensure that the Site is approved to accept that type of waste.

47. All containers shall be clearly labeled indicating the type and nature of the hazardous waste stored as required by regulation. All points of access to the Site shall be posted to warn that the area contains hazardous materials.

48. No radioactive wastes shall be accepted at this Site.

49. Oil and oil-based paints which have been manufactured prior to 1972; or whose manufacturing date cannot be determined, may contain PCBs and shall be handled as follows:

(a) The oil and oil-based paints shall not be mixed (bulked) with other paints prior to testing. Paints which are lab-packed are not considered to be mixed under this Certificate;

(b) The oil and oil-based paints shall be tested by a certified laboratory for PCB content and shall be handled in the manner outlined in Condition 49(c) if found to contain PCBs;

(c) If the oil and oil-based paints are found to have PCBs at or above levels identified in Condition 49(d), it shall be

**CONTENT COPY OF ORIGINAL**

forthwith reported to the District Manager and shall be managed in accordance with Regulation 362 and stored or removed from the Site to an approved PCB storage site, in accordance with written instructions from the District Manager; and

(d) The oil and oil-based paints shall not be distributed for reuse if they have any measurable PCB content. The oil and oil-based paint is considered to be a PCB waste, if measured levels are equal to or greater than 50 parts per million.

50. Except for oil based paints that become classified as PCB Waste, paints may be offered for reuse to the public. Records shall be kept of the type, volume and recipient of paint returned to the public.

51. The County shall maintain, at the Site, a log book which records daily, the following information:

- (a) date of record;
- (b) types, quantities and source of MHSW received;
- (c) quantities of MHSW stored at the Site;
- (d) quantities and destination of MHSW shipped from the Site; and
- (e) quantities of waste returned to the public as noted in Condition 55.

52. In this Notice, the term "waste generators" means those households within the County of Peterborough.

53. (a) The MHSW Depot shall be operated and maintained in accordance with the plans and specifications

contained in the documents listed in this Certificate, including Items 18 and 19 in Schedule "A", subject to the Conditions of this Certificate.

(b) Incidental waste which does not conform to Condition 53(a) above shall either be:

- (i) returned to the generator; or
- (ii) in the absence of a known generator, characterized and managed in accordance with Ontario Regulation 347.

(c) A detailed record shall be made of any incidental waste discovered at the Facilities, including but not limited to:

- (i) the date;
- (ii) the type of waste;
- (iii) the amount of waste;
- (iv) the condition of the container; and
- (v) how the waste was managed.

(d) All biomedical waste (waste class 312) received at the Site shall be managed in accordance with the Operator's "Operations Manual for Handling and Storage of Biohazard Sharps or Needles" prepared in accordance with the Ministry document entitled "Guideline C-4: The Management of Biomedical Waste in Ontario" dated November 2009, as amended. This waste shall be limited to waste generated by residents of the County of Peterborough from households only.

54. Waste received at the Depot shall be stored in accordance with the "County of Peterborough Municipal Hazardous or Special Waste (MHSW) Facility Operations Manual update 28 May, 2010", submitted under Items 18 and 19 of Schedule "A" in such a manner that:

- (a) all liquid wastes shall be stored in secondary containment that meets the requirements of the Ministry document entitled "Guidelines for Environmental Protection Measures at Chemical and Waste Storage Facilities" dated May 2007, as amended;
- (b) containers and/or storage areas containing flammable and/or ignitable materials shall be adequately grounded;
- (c) storage containers shall be clearly labelled indicating the type and nature of the hazardous waste stored as required by applicable legislation;
- (d) incompatible waste types shall be segregated during storage;
- (e) all waste being transported from the Depot shall be transported in accordance with Ontario Regulation 347 and the

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Environmental Protection Act.

55. The Operator shall not offer household hazardous waste for reuse unless:

- (a) the waste is in its original packaging, and the label on the package is legible;
- (b) the waste has been inspected by trained personnel to ensure the waste meets the requirements for reuse for that specific waste type; and
- (c) the waste is one of the following:
  - (i) household cleaners, wheel and tire cleaners, other than bleach or ammonia;
  - (ii) varsol, turpentine, thinners, linseed oil;
  - (iii) polishes and waxes;
  - (iv) adhesives (tile and wood), glue (contact cement);
  - (v) caulking, grout, mortar (cement), drywall compound;
  - (vi) citronella (liquid or wax), lamp oil;
  - (vii) aerosols (hairspray, air fresheners, cleaners);
  - (viii) motor oil (auto marine, lawnmower), provided the original container has never been opened;
  - (ix) antifreeze, provided the original container has never been opened;
  - (x) barbecue starting fluid, windshield washer fluid and CLR
  - (xi) other items as determined by the Operator provided they comply with the conditions of this Certificate.
  - (xi) waste paint, subject to the requirements of Condition 56 below;

56. The Operator shall only offer waste paint for reuse provided that the following conditions are met:

- (a) the waste paint is contained in the original manufacturer's container;
- (b) the original manufacturer's label containing product information use and product hazards is clearly legible;
- (c) the original manufacturer's container is in an undamaged state such that the material may be transported without risk of leaks or spills; and
- (d) the Operator does not suspect the paint to have been manufactured prior to 1972.

57. The Operator shall only accept hazardous waste under the following restrictions:

- (a) no waste shall be received from waste generators where the generator's activities include waste management;
- (b) the Operator may only receive up to 60 kg of hazardous waste per visit;
- (c) the Operator may only receive up to a maximum of 300 litres of liquid industrial waste per visit;
- (d) no hazardous waste shall be received in containers greater than 25 litres in size;
- (e) no liquid industrial waste shall be received in containers greater than 25 litres in size;
- (f) all containers shall be closed, secured and maintained so that under normal conditions of transport, including handling, there will be no accidental release of waste;
- (g) no broken or leaking containers, or containers otherwise unsuitable for the type of waste they contain, shall be accepted at the MHSW Depot;

58. An area for the acceptance, storage and preparation for transport for recycling, of waste electrical and electronic equipment (WEEE), and subsequent transfer of such wastes by an approved carrier for disposal elsewhere shall be operated in accordance with the following:

- (a) the materials shall be stored: in a roll-off bin (covered), a trailer or other suitable shelter; in an orderly fashion, to avoid breakage (broken materials shall be placed in containers), such that WEEE is sheltered from rain and snow, and as provided under the contractual agreement with the MOE approved program plan administrators.
- (b) maximum storage volume is 40 cubic yards;
- (c) the Site Plan submitted annually shall show the location of the storage area;
- (d) a log shall be kept of the firm used for the transportation and the destination where the waste will be consolidated for recycling, re-use, refurbishment or disposal as per the WEEE Program Plan and in accordance with the Conditions of this Certificate.

### **ORGANICS COLLECTION SYSTEM**

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59. The *County* shall operate the organics collection waste system in accordance with Items 14 through 17 listed in Schedule "A".

60. The *County* shall retain a record of the following information at the Site the following information:

- (i) dates the collection system are emptied;
- (ii) approximate volume transferred to the collection truck per load; and;
- (iii) record of any spills that occur during emptying and a description outlining any remediation measures that were implemented.

61. The organics collection program shall be operated and maintained in such a manner that does not pose a danger or health risk to the environment or public.

### ANNUAL REPORT

62. By March 31, 2012 and on an annual basis thereafter, a written report shall be prepared for the previous calendar year ("*Annual Report*"). The Annual Report shall be submitted to the *District Manager* on March 31 of each year and retained at *Site* and shall include, at a minimum, the following information:

- a. a detailed monthly summary of the type and quantity of all incoming and outgoing wastes and the destination of all outgoing wastes;
- b. any environmental and operational problems, that could negatively impact the environment, encountered during the operation and during the facility inspections and any mitigative actions taken;
- c. any changes to the Emergency Response (Contingency) Plan,
- d. any changes to the Design and Operation Report (Manual) that have been approved by the *Director* since the last *Annual Report*; and
- e. any recommendations to minimize environmental impacts from the operation and to improve *Site* operations and monitoring programs in this regard.

### Schedule "A"

This Schedule "A" forms part of Provisional Certificate of Approval No. A341004.

- 1. Letter (with attachments) dated January 15, 2001, from M. Cant of Totten Sims Hubicki Associates to M. Williams of MOE Re: Township of Douro-Dummer Hall's Landfill Site Certificate of Approval # A341004.
- 2. Letter (with attachments) dated February 27, 2001, from M. Cant of Totten Sims Hubicki Associates to E. Zaltsberg of MOE Re: Township of Douro-Dummer Hall's Glen Landfill Site MOE Reference #7347-4TMUP.
- 3. Application for a Provisional Certificate of Approval for a Waste Disposal Site. Cover letter dated June 25, 2002, sent from Mr. Michael Cant of Totten Sims Hubicki Associates to M. Williams, MOEE.
- 4. "Hall's Glen Landfill Site: Closure Report" dated May 15, 2002, sent from Mr. Michael Cant of Totten Sims Hubicki Associates to Mr. David Clifford of the Township of Douro-Dummer.
- 5. Hall's Glen Landfill Site Transfer Station: Design, Operation, Maintenance and Closure Report" dated June 24, 2002, sent from Mr. Michael Cant of Totten Sims Hubicki Associates to Mr. David Clifford of the Township of Douro-Dummer.
- 6. Application for a Provisional Certificate of Approval for a Waste Disposal Site dated May 14, 2003 and signed by Mr. David Clifford, CAO, Corporation of the Township of Douro-Dummer including all attached supporting information.
- 7. Application for a Provisional Certificate of Approval for a Waste Disposal Site dated September 1, 2005 and signed by Mr. David Clifford, CAO, The Corporation of the Township of Douro-Dummer including all attached supporting information and documentation.
- 8. Document entitled "*County of Peterborough: Household Hazardous Waste (MHSW) Facility Operations Manual*" dated August 10, 2005.

## CONTENT COPY OF ORIGINAL

9. Letter dated August 30, 2005 to Mr. James O'Mara, Director, Environmental Assessment and Approvals Branch, Ministry of Environment from Mr. Michael Cant, Manager, Solid Waste, Totten Sims Hubicki Associates. Re: Amendment for Certificate of Approval No. A341004 including all attachments.
10. Letter dated October 11, 2005 to Mr. Matthew Chisholm, Application Processor, Ministry of Environment, from Mr. Michael Cant, Manager, Solid Waste, Totten Sims Hubicki Associates. Re: Application for Approval of a Waste Disposal Site, MOE Reference No. 2960-6FTPZG.
11. Letter dated January 24, 2006 to Mr. David Lee, Waste Evaluator, Ministry of Environment, from Mr. Michael Cant, TSH Associates, Re: Draft Notice of Amendment for Certificate of Approval No. A341004.
12. Application for a Provisional Certificate of Approval for a Waste Disposal Site for the Hall's Glen Landfill Site dated November 14, 2006 .
13. Figure 1 entitled "Revised Site Plan" dated November 2006, prepared by Totten Sims Hubicki Associates Limited.
14. Letter dated March 20, 2007 to Dale I. Gable, Senior Review Engineer, Ministry of the Environment from David Clifford, CAO, The Corporation of the Township of Douro-Dummer.
15. Letter dated March 30, 2007 to Dale I. Gable, Senior Review Engineer, Ministry of the Environment from Sherry Arcaro, Manager of Environmental Services, County of Peterborough.
16. Letter dated June 12, 2007 to David Clifford, CAO, The Corporation of the Township of Douro-Dummer from David Lee, Waste Evaluator, Ministry of the Environment.
17. Letter dated August 10, 2007 to David Lee, Waste Evaluator, Ministry of the Environment from Sherry Acaro, Manager of Environmental Services, County of Peterborough including attached site plan, and description of organic collection system entitled "*County of Peterborough Depot Organics Collection System Description*".
18. Application for a Provisional Certificate of Approval for a Waste Disposal Site dated June 14, 2010, signed by David Clifford, Chief Administrative Officer, The Corporation of the Township of Douro-Dummer, including all documents attached to this application.
19. E-mail dated June 18, 2010, including all attachments to the e-mail, from Laurie Westaway, County of Peterborough (Project Technical Information Contact) to Nihar Bhatt, Ontario Ministry of the Environment, providing electronic copies of the appendices to the Operations Manual for the Site.

*The reasons for the imposition of these terms and conditions are as follows:*

- 1. The reason for Condition 1 is to simplify the wording of the subsequent conditions and define the specific meaning of terms as used in this Provisional Certificate of Approval.*
- 2. The reasons for Conditions 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 and 13 are to clarify the legal rights and responsibilities of the Owner and Operator.*
- 3. The reason for Conditions 14 through 22 is to ensure that the types and amounts of waste received at the Site, the storage locations and disposal of the waste are in accordance with that considered by the Director and approved under this Certificate.*
- 4. The reason for the conditions 23 through 39 is to ensure that the waste transfer station are managed in a manner that protects the environment and the health and safety of the public.*
- 5. The reason for Conditions 40 through 48 is to ensure that the Household Hazardous Waste Depot is operated in a manner which does not result in a nuisance or a hazard to the health and safety of the environment or public.*
- 6. The reason for Condition 49, 50 and 51 to ensure PCB waste is handled in an environmentally acceptable manner in accordance with Ontario Regulation 363. This ensures protection of the natural environment and public health and safety.*

7. The reason for Conditions 14 and 52 is to define the generators from which waste will be accepted.

9. The reason for Conditions 53, 55, 56 and 57 is to ensure that only acceptable waste is received at the Household Hazardous Waste Depot, and to ensure all waste received is handled in an appropriate manner.

10. The reason for Conditions 54 is to ensure that all waste is handled in an appropriate manner, and that any spills are handled in an appropriate manner.

11. The reason for Condition 59, 60 and 61 is to ensure that the organic collection system is operated in a manner which does not result in a hazard or nuisance to the natural environment or any person.

12. The reasons for Condition 62 is to ensure that regular review of site development, operations and monitoring data is documented and any possible improvements to site design, operations or monitoring programs are identified. An annual report is an important tool used in reviewing site activities and for determining the effectiveness of site design.

**This Provisional Certificate of Approval revokes and replaces Certificate(s) of Approval No. A341004 issued on October 8, 1980.**

In accordance with Section 139 of the *Environmental Protection Act*, R.S.O. 1990, Chapter E-19, as amended, you may by written notice served upon me and the Environmental Review Tribunal within 15 days after receipt of this Notice, require a hearing by the Tribunal. Section 142 of the *Environmental Protection Act*, provides that the Notice requiring the hearing shall state:

1. The portions of the approval or each term or condition in the approval in respect of which the hearing is required, and;
2. The grounds on which you intend to rely at the hearing in relation to each portion appealed.

*The Notice should also include:*

3. The name of the appellant;
4. The address of the appellant;
5. The Certificate of Approval number;
6. The date of the Certificate of Approval;
7. The name of the Director;
8. The municipality within which the waste disposal site is located;

*And the Notice should be signed and dated by the appellant.*

*This Notice must be served upon:*

The Secretary\*  
Environmental Review Tribunal  
655 Bay Street, 15th Floor  
Toronto, Ontario  
M5G 1E5

AND

The Director  
Section 39, *Environmental Protection Act*  
Ministry of the Environment  
2 St. Clair Avenue West, Floor 12A  
Toronto, Ontario  
M4V 1L5

\* Further information on the Environmental Review Tribunal's requirements for an appeal can be obtained directly from the Tribunal at: Tel: (416) 314-4600, Fax: (416) 314-4506 or [www.ert.gov.on.ca](http://www.ert.gov.on.ca)

*The above noted waste disposal site is approved under Section 39 of the Environmental Protection Act.*

DATED AT TORONTO this 26th day of May, 2011

Tesfaye Gebrezghi, P.Eng.  
Director  
Section 39, *Environmental Protection Act*

AT/

c: District Manager, MOE Peterborough  
Laurie Westaway, County of Peterborough

Content Copy Of Original



Ministry of the Environment and Climate Change  
Ministère de l'Environnement et de l'Action en matière de changement  
climatique

**AMENDMENT TO ENVIRONMENTAL COMPLIANCE APPROVAL**

NUMBER A341004

Notice No. 1

Issue Date: August 22, 2016

The Corporation of the Township of Douro-Dummer  
894 South St P.O. Box 92  
Post Office Box, No. 92  
Warsaw, Ontario  
K0L 3A0

Site Location: Hall's Glen Closed Landfill Site and Transfer Station  
1951 County Road 6  
Lot 25, Concession 4, Dummer Ward  
Douro-Dummer Township, County of Peterborough

*You are hereby notified that I have amended Approval No. A341004 issued on May 26, 2011 for a waste transfer station and a household hazardous waste depot at the closed Hall's Glen landfill site , as follows:*

**I. For the purposes of this Approval, the following definitions are hereby added:**

*"Household Hazardous Waste Collection Facility" or "MHSW"* means the 20 feet by 40 feet area of the *Site* used for the transfer of hazardous and liquid industrial wastes listed under this Approval;

*"MHSW Operator"* means the County of Peterborough authorized by the *Owner* as having charge, management or control of any aspect of the *MHSW* ;

*"Waste Transfer Site" or "TS"* means the area of the *Site* used for the transfer of municipal waste, including solid non-hazardous commercial and industrial waste and recyclable materials as listed in Schedules 1 and 2 of Ontario Regulation 101/94, as well as waste categories 251, 252, 253 and 254 as described in the New Ontario Waste Classes, dated January, 1986, limited to waste oil of domestic origin only

**II. Conditions 16, 24 (a), 40, 53 (a) and 54 of this Approval are hereby revoked and replaced by:**

16. The TS shall only operate as follows:

(a) Summer (May 1st to October 31st) - Mondays, Wednesdays, Fridays and Saturdays: 10:00 a.m. to 2:00 p.m. ; Sundays: 10:00 a.m. to 6 p.m.

(b) Winter (November 1st to April 30) - Wednesdays, Saturdays and Sundays: 10 a.m. to 2 p.m.

24. (a) The amount of waste oil stored at the *Site* at any one time shall not exceed two thousand two hundred and seventy litres (2,270 L).

40. (1) (a) The *Site* shall only accept waste for bulking and temporary storage pending transfer to

an approved carrier disposal elsewhere, the following household hazardous wastes: Waste Class no. 112, 121, 122, 145, 146, 147, 148, 212, 213, 221, 242, 252, 261, 263, 269, 312 and 331 as described in the Ministry document "New Ontario Waste Classes" dated January 1986.

(b) The *Owner* shall accept the wastes listed under Conditions 40 (1) (a) and 58 during the hours of operation specified in Condition 16 of this Approval.

(2) The *Owner* is approved to hold *County* environmental day event(s), as operated by the *MHSW Operator*, to accept the wastes listed under Conditions 40 (1) (a) and 58. The *MHSW Operator* shall notify the *Owner* and the *District Manager*, in writing, fifteen (15) days in advance of the details of such an event. The event(s) shall be held subject to the terms and conditions of this Approval, and in accordance with the documents identified in Schedule "A".

53. (a) The *MHSW* Depot shall be operated and maintained in accordance with the updated *MHSW* Site Plan and Operational Manual identified in Appendix C of Item 20 of Schedule "A", as well as previous plans and specifications contained in Items 18 and 19 of Schedule "A", subject to the Conditions of this Approval.

54. Waste received at the *MHSW* Depot shall be stored in accordance with the updated *MHSW* Site Plan and Operational Manual identified in Appendix C of Item 20 of Schedule "A", as well as previous documentation submitted under Items 18 and 19 of Schedule "A" in a manner such that:

(a) all liquid wastes shall be stored in secondary containment that meets the requirements of the *Ministry* document entitled "Guidelines for Environmental Protection Measures at Chemical and Waste Storage Facilities" dated May 2007, as amended;

(b) containers and/or storage areas containing flammable and/or ignitable materials shall be adequately grounded;

(c) storage containers shall be clearly labelled indicating the type and nature of the hazardous waste stored as required by applicable legislation;

(d) all batteries shall be stored in a manner which prevents leakage;

(e) incompatible waste types shall be segregated during storage;

(f) all waste being transported from the Depot shall be transported in accordance with Ontario Regulation 347 and the Environmental Protection Act.

### **III. The following Item is hereby added to Schedule "A":**

20. Letter by GHD Limited, dated January 7, 2016 and signed by Steven Gagne and Nyle McIlveen, including all appendices and attached documentation.

### **IV. The reasons for this amendment to the Approval are as follows:**

1. The reason for Conditions 16 and 24 (a) is to change the hours of operation of the *Site*, and waste oil storage limit, as requested by The Corporation of the Township of Douro-Dummer

2. The reason for Conditions 40, 53 and 54 is to recognize changes to the *Household Hazardous Waste Collection Facility*, as requested by The Township of the Douro-Dummer and the County of

Peterborough.

**This Notice shall constitute part of the approval issued under Approval No. A341004 dated May 26, 2011**

*In accordance with Section 139 of the Environmental Protection Act, you may by written Notice served upon me and the Environmental Review Tribunal within 15 days after receipt of this Notice, require a hearing by the Tribunal. Section 142 of the Environmental Protection Act provides that the Notice requiring the hearing shall state:*

1. The portions of the environmental compliance approval or each term or condition in the environmental compliance approval in respect of which the hearing is required, and;
2. The grounds on which you intend to rely at the hearing in relation to each portion appealed.

*Pursuant to subsection 139(3) of the Environmental Protection Act, a hearing may not be required with respect to any terms and conditions in this environmental compliance approval, if the terms and conditions are substantially the same as those contained in an approval that is amended or revoked by this environmental compliance approval.*

*The Notice should also include:*

3. The name of the appellant;
4. The address of the appellant;
5. The environmental compliance approval number;
6. The date of the environmental compliance approval;
7. The name of the Director, and;
8. The municipality or municipalities within which the project is to be engaged in.

*And the Notice should be signed and dated by the appellant.*

*This Notice must be served upon:*

The Secretary\*  
Environmental Review Tribunal  
655 Bay Street, Suite 1500  
Toronto, Ontario  
M5G 1E5

AND

The Director appointed for the  
purposes of Part II.1 of the  
Environmental Protection Act  
Ministry of the Environment and  
Climate Change  
135 St. Clair Avenue West, 1st Floor  
Toronto, Ontario  
M4V 1P5

**\* Further information on the Environmental Review Tribunal's requirements for an appeal can be obtained directly from the Tribunal at: Tel: (416) 212-6349, Fax: (416) 326-5370 or [www.ert.gov.on.ca](http://www.ert.gov.on.ca)**

*The above noted activity is approved under s.20.3 of Part II.1 of the Environmental Protection Act.*

DATED AT TORONTO this 22nd day of August, 2016

Dale Gable, P.Eng.  
Director  
appointed for the purposes of Part II.1 of  
the *Environmental Protection Act*

MT/

c: District Manager, MOECC Peterborough  
Nyle McIlveen, GHD, The Corporation of the Township of Douro-Dummer



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## **Appendix C**

### **Field and Precipitation Data**

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Fully accessible appended items are available upon request.



LOCATION: Halls Glen WDS

DATE: June 24 and 28, 2021

WEATHER (SAMPLE DAY): 18°C Sun 27°C

PROJECT NUMBER: 12987-002

SAMPLED BY: N. Morin, M. Pion and R. Doyle

WEATHER (PREVIOUS DAY): 19°C Sun

FIELD SHEET – GROUNDWATER DEVELOPMENT & SAMPLING

| Sample Location | Water Level | B.H. Depth (m) | B.H. Dia. (mm) | Stick – Up (m) | Purge Volumes (L) |                | Temp (°C) | pH (units) | Cond. (µS/cm) | DO (mg/L) | ORP (mV) | CH4 (% lcl) | H2S (ppm) | Observations |        |          |       |                             |
|-----------------|-------------|----------------|----------------|----------------|-------------------|----------------|-----------|------------|---------------|-----------|----------|-------------|-----------|--------------|--------|----------|-------|-----------------------------|
|                 |             |                |                |                | Needed            | Actual         |           |            |               |           |          |             |           | Clarity      | Colour | Odour    | Sheen | Other                       |
| MW01-1          | 3.32        | 7.65           | 50.8           | 0.82           | 26                | Dry x 1<br>8   | 10.9      | 7.04       | 1216          | 5.17      | 151      | < 1         | <0.1      | Clear        | None   | None     | None  |                             |
| MW01-2          | Dry         | 2.74           | 38.1           | 0.82           | -                 | -              | -         | -          | -             | -         | -        | <1          | <0.1      | -            | -      | -        | -     |                             |
| MW02-1          | 14.32       | 15.33          | 50.8           | 0.22           | 6                 | -              | -         | -          | -             | -         | -        | <1          | <0.1      | -            | -      | -        | -     | Insufficient volumes        |
| MW02-2          | Dry         | 5.45           | 50.8           | 0.21           | -                 | -              | -         | -          | -             | -         | -        | <1          | <0.1      | -            | -      | -        | -     |                             |
| MW03-1          | 2.33        | 5.51           | 50.8           | 0.66           | 19                | Dry x 1<br>7   | 10.0      | 7.84       | 653           | 9.56      | 132      | <1          | <0.1      | Clear        | None   | None     | None  | QA/QC #5 (VOCs)             |
| MW03-2          | Dry         | 1.72           | 38.1           | 0.49           | -                 | -              | -         | -          | -             | -         | -        | <1          | <0.1      | -            | -      | -        | -     |                             |
| MW04-1          | 2.46        | 5.62           | 50.8           | 0.92           | 19                | 19             | 8.0       | 7.87       | 735           | 4.06      | 140      | <1          | <0.1      | Clear        | None   | None     | None  |                             |
| MW04-2          | 2.29        | 2.99           | 38.1           | 0.85           | 4                 | 4              | 9.0       | 7.53       | 569           | 9.71      | 145      | <1          | <0.1      | Cloudy       | Brown  | None     | None  |                             |
| MW05-1          | 5.10        | 7.68           | 50.8           | 0.00           | 15                | 15             | 9.0       | 7.08       | 1747          | 1.58      | 96       | <1          | <0.1      | Cloudy       | Grey   | Leachate | None  | QA/QC #1 + QA/QC # 4 (VOCs) |
| MW05-2          | 3.89        | 4.38           | 38.1           | 0.22           | 1.5               | Dry x1<br>0.75 | 9.3       | 7.15       | 1962          | 6.67      | 140      | <1          | <0.1      | Cloudy       | Yellow | Leachate | None  |                             |
| MW06-1          | 5.09        | 7.85           | 50.8           | 0.61           | 16                | 16             | 10.2      | 6.97       | 1023          | 4.72      | 143      | <1          | <0.1      | Clear        | None   | None     | None  | Ants in well                |
| MW06-2          | 3.56        | 5.13           | 38.1           | 0.60           | 6                 | 6              | 10.0      | 7.29       | 2433          | 8.96      | 162      | <1          | <0.1      | Clear        | None   | None     | None  | Ants in well                |
| MW07-1          | 2.90        | 6.98           | 50.8           | 0.79           | 24                | Dry x1<br>8    | 11.1      | 8.71       | 800           | 9.94      | 138      | <1          | <0.1      | Cloudy       | Grey   | None     | None  |                             |
| MW07-2          | 2.82        | 3.37           | 50.8           | 0.74           | 4                 | 4              | 11.1      | 7.51       | 1048          | 6.88      | 132      | <1          | <0.1      | Cloudy       | Grey   | None     | None  |                             |
| MW08-1          | 5.44        | 11.31          | 50.8           | 0.69           | 35                | Dry x1<br>20   | 11.1      | 7.04       | 792           | 3.15      | 221      | <1          | <0.1      | Clear        | None   | None     | None  | QA/QC #3                    |
| MW08-2          | 6.51        | 7.70           | 50.8           | 0.70           | 7                 | Dry x1<br>3    | 9.3       | 8.78       | 652           | 13.26     | 140      | <1          | <0.1      | Cloudy       | Brown  | None     | None  |                             |



LOCATION: Halls Glen WDS

DATE: June 24 and 28, 2021

WEATHER (SAMPLE DAY): 18°C Sun 27°C

PROJECT NUMBER: 12987-002

SAMPLED BY: N. Morin, M. Pion and R. Doyle

WEATHER (PREVIOUS DAY): 19°C Sun

FIELD SHEET – GROUNDWATER DEVELOPMENT & SAMPLING

| Sample Location | Water Level | B.H. Depth (m) | B.H. Dia. (mm) | Stick – Up (m) | Purge Volumes (L) |              | Temp (°C) | pH (units) | Cond. (µS/cm) | DO (mg/L) | ORP (mV) | CH4 (% lcl) | H2S (ppm) | Observations |        |        |       |                   |
|-----------------|-------------|----------------|----------------|----------------|-------------------|--------------|-----------|------------|---------------|-----------|----------|-------------|-----------|--------------|--------|--------|-------|-------------------|
|                 |             |                |                |                | Needed            | Actual       |           |            |               |           |          |             |           | Clarity      | Colour | Odour  | Sheen | Other             |
| MW09-1          | 1.20        | 9.92           | 50.8           | 0.68           | 48                | Dry x1<br>18 | 10.8      | 7.83       | 622           | 6.10      | 119      | <1          | <0.1      | Cloudy       | None   | Sulfur | None  |                   |
| MW09-2          | 1.97        | 6.16           | 50.8           | 0.68           | 24                | 24           | 10.7      | 7.08       | 792           | 2.63      | 160      | <1          | <0.1      | Clear        | None   | Sulfur | None  |                   |
| MW10-1          | 2.56        | 9.89           | 50.8           | 0.74           | 44                | 44           | 8.9       | 8.15       | 648           | 2.59      | -118     | <1          | <0.1      | Clear        | None   | Sulfur | None  |                   |
| MW10-2          | 2.64        | 6.65           | 50.8           | 0.73           | 24                | 24           | 9.0       | 8.45       | 665           | 2.87      | -15      | <1          | <0.1      | Cloudy       | Brown  | None   | None  |                   |
| MW11-1          | 3.13        | 9.96           | 50.8           | 0.70           | 42                | Dry x1<br>15 | 8.3       | 8.76       | 655           | 12.42     | 5        | <1          | <0.1      | Cloudy       | Black  | Sulfur | None  |                   |
| MW11-2          | 3.21        | 6.74           | 50.8           | 0.72           | 21                | 21           | 7.7       | 7.26       | 672           | 1.55      | 136      | <1          | <0.1      | Clear        | None   | None   | None  |                   |
| MW12-1          | 2.16        | 6.84           | 50.8           | 0.89           | 28                | 28           | 9.4       | 7.20       | 651           | 2.83      | -38      | <1          | <0.1      | Clear        | None   | Sulfur | None  | QA/QC #2          |
| MW12-2          | 2.12        | 10.21          | 50.8           | 0.91           | 48                | 48           | 8.1       | 7.87       | 748           | 6.76      | -4       | <1          | <0.1      | Clear        | None   | Sulfur | None  |                   |
| MW12-3          | 2.06        | 13.09          | 50.8           | 0.90           | 66                | 66           | 7.2       | 7.48       | 694           | 3.52      | -5       | <1          | <0.1      | Clear        | None   | Sulfur | None  |                   |
| MW13-1          | 2.14        | 6.04           | 50.8           | 0.86           | 24                | 24           | 10.1      | 7.23       | 848           | 7.01      | 135      | <1          | <0.1      | Clear        | None   | None   | None  |                   |
| MW13-2          | 2.02        | 3.76           | 50.8           | 0.86           | 9                 | Dry x1<br>6  | 12.4      | 7.23       | 715           | 6.56      | 131      | <1          | <0.1      | Cloudy       | Grey   | None   | None  |                   |
| R1              | -           | 5.65           | -              | 1.00           | -                 | Dry x1<br>10 | 10.4      | 7.18       | 678           | 4.89      | 125      | -           | -         | Opaque       | Brown  | None   | None  | Monitoring Well   |
| R2              | -           | -              | -              | -              | -                 | -            | -         | -          | -             | -         | -        | -           | -         | -            | -      | -      | -     | Resident Not Home |
| R3              | -           | -              | -              | -              | -                 | -            | -         | -          | -             | -         | -        | -           | -         | -            | -      | -      | -     | Resident Not Home |
| R4              | -           | -              | -              | -              | 20                | 20           | 13.4      | 7.36       | 1046          | 8.86      | 145      | -           | -         | Clear        | None   | None   | None  |                   |



LOCATION: Halls Glen WDS

DATE: November 11, 2021

WEATHER (SAMPLE DAY): 2°C Overcast 8°C

PROJECT NUMBER: 12987-002

SAMPLED BY: N. Morin, M. Pion and W. Verduyn

WEATHER (PREVIOUS DAY): 8°C Sun

FIELD SHEET – GROUNDWATER DEVELOPMENT & SAMPLING

| Sample Location | Water Level | B.H. Depth (m) | B.H. Dia. (mm) | Stick – Up (m) | Purge Volumes (L) |                 | Temp (°C) | pH (units) | Cond. (µS/cm) | DO (mg/L) | ORP (mV) | CH4 (% lel) | H2S (ppm) | Observations |           |          |       |  |
|-----------------|-------------|----------------|----------------|----------------|-------------------|-----------------|-----------|------------|---------------|-----------|----------|-------------|-----------|--------------|-----------|----------|-------|--|
|                 |             |                |                |                | Needed            | Actual          |           |            |               |           |          |             |           | Clarity      | Colour    | Odour    | Sheen | Other  |
| MW01-1          | 2.94        | 7.65           | 50.8           | 0.82           | 29                | Dry x 1<br>10   | 10.7      | 7.18       | 435           | 9.03      | 173      | <1          | <0.1      | Clear        | None      | None     | None  | O2: 20.9 % vol<br>CO2: 0.0 % vol                         |
| MW01-2          | Dry         | 2.74           | 38.1           | 0.82           | -                 | -               | -         | -          | -             | -         | -        | <1          | <0.1      | -            | -         | -        | -     | O2: 20.9 % vol<br>CO2: 0.0 % vol<br>Dry                  |
| MW02-1          | 14.06       | 15.33          | 50.8           | 0.22           | -                 | -               | -         | -          | -             | -         | -        | 20.6        | <0.1      | -            | -         | -        | -     | O2: 20.9 % vol<br>CO2: 0.2 % vol<br>Insufficient Volumes |
| MW02-2          | Dry         | 5.45           | 50.8           | 0.21           | -                 | -               | -         | -          | -             | -         | -        | 17% vol     | <0.1      | -            | -         | -        | -     | Dry, went into alarm<br>O2: 18.4 % vol<br>CO2: 3.4 % vol |
| MW03-1          | 1.75        | 5.51           | 50.8           | 0.66           | 23                | Dry x 1<br>10   | 10.1      | 6.99       | 378           | 5.73      | 69       | <1          | <0.1      | Clear        | None      | None     | None  | O2: 20.9 % vol<br>CO2: 0.2 % vol                         |
| MW03-2          | 1.39        | 1.72           | 38.1           | 0.49           | 1.25              | 1.25            | 9.7       | 6.78       | 671           | 4.28      | 85       | <1          | <0.1      | Cloudy       | None      | None     | None  | O2: 20.9 % vol<br>CO2: 0.0 % vol                         |
| MW04-1          | 2.05        | 5.62           | 50.8           | 0.92           | 22                | 22              | 9.0       | 6.80       | 431           | 4.00      | 45       | <1          | <0.1      | Clear        | None      | None     | None  | QA/QC #2<br>O2: 20.9 % vol<br>CO2: 0.0 % vol             |
| MW04-2          | 1.87        | 2.99           | 38.1           | 0.85           | 4.00              | 4.00            | 9.5       | 7.10       | 277           | 7.53      | 28       | <1          | <0.1      | Opaque       | Brown     | None     | None  | O2: 20.9 % vol<br>CO2: 0.0 % vol                         |
| MW05-1          | 4.65        | 7.68           | 50.8           | 0.00           | 19                | 19              | 8.6       | 6.55       | 600           | 4.76      | 123      | <1          | <0.1      | Opaque       | Red-brown | None     | None  | O2: 20.9 % vol<br>CO2: 0.0 % vol                         |
| MW05-2          | 3.88        | 4.38           | 38.1           | 0.22           | 1.75              | Dry x 1<br>1.25 | 8.5       | 6.63       | 786           | 6.47      | 121      | <1          | <0.1      | Opaque       | Grey      | None     | None  | O2: 20.9 % vol<br>CO2: 0.0 % vol                         |
| MW06-1          | 4.67        | 7.85           | 50.8           | 0.61           | 20                | 20              | 9.4       | 6.78       | 553           | 3.61      | 83       | <1          | <0.1      | Clear        | None      | None     | None  | QA/QC #1<br>O2: 20.9 % vol<br>CO2: 0.0 % vol             |
| MW06-2          | 3.48        | 5.13           | 38.1           | 0.60           | 6                 | 6               | 9.7       | 6.83       | 788           | 8.02      | 102      | <1          | <0.1      | Clear        | None      | Leachate | None  | O2: 20.9 % vol<br>CO2: 0.0 % vol                         |
| MW07-1          | 3.41        | 6.98           | 50.8           | 0.79           | 22                | Dry x 1<br>8    | 9.3       | 7.73       | 354           | 6.70      | 121      | <1          | <0.1      | Opaque       | Grey      | None     | None  | O2: 20.9 % vol<br>CO2: 0.0 % vol                         |
| MW07-2          | 2.41        | 3.37           | 50.8           | 0.74           | 6                 | 6               | 9.0       | 6.98       | 503           | 7.35      | 135      | <1          | <0.1      | Cloudy       | Grey      | None     | None  | O2: 20.9 % vol<br>CO2: 0.5 % vol                         |
| MW08-1          | 5.10        | 11.31          | 50.8           | 0.69           | 38                | 38              | 9.0       | 7.24       | 335           | 2.30      | -72      | <1          | <0.1      | Clear        | None      | None     | None  | O2: 20.6 % vol<br>CO2: 0.0 % vol                         |



LOCATION: Halls Glen WDS

DATE: November 11, 2021

WEATHER (SAMPLE DAY): 2°C Overcast 8°C

PROJECT NUMBER: 12987-002

SAMPLED BY: N. Morin, M. Pion and  
W. Verduyn

WEATHER (PREVIOUS DAY): 8°C Sun

FIELD SHEET – GROUNDWATER DEVELOPMENT & SAMPLING

| Sample Location | Water Level | B.H. Depth (m) | B.H. Dia. (mm) | Stick – Up (m) | Purge Volumes (L) |               | Temp (°C) | pH (units) | Cond. (µS/cm) | DO (mg/L) | ORP (mV) | CH4 (% lcl) | H2S (ppm) | Observations |           |          |       |   |
|-----------------|-------------|----------------|----------------|----------------|-------------------|---------------|-----------|------------|---------------|-----------|----------|-------------|-----------|--------------|-----------|----------|-------|---|
|                 |             |                |                |                | Needed            | Actual        |           |            |               |           |          |             |           | Clarity      | Colour    | Odour    | Sheen | Other                                       |
| MW08-2          | 5.95        | 7.70           | 50.8           | 0.70           | 11                | 11            | 9.2       | 7.27       | 334           | 2.49      | -73      | <1          | <0.1      | Clear        | None      | None     | None  | O2: 20.6 % vol<br>CO2: 0.0 % vol            |
| MW09-1          | 0.88        | 9.92           | 50.8           | 0.68           | 56                | Dry x 1<br>18 | 9.4       | 7.82       | 271           | 3.33      | -96      | <1          | <0.1      | Clear        | Grey      | Sulphur  | None  | O2: 20.9 % vol<br>CO2: 0.0 % vol            |
| MW09-2          | 1.61        | 6.16           | 50.8           | 0.68           | 28                | 28            | 9.8       | 7.01       | 332           | 2.91      | 30       | <1          | <0.1      | Clear        | None      | None     | None  | O2: 20.9 % vol<br>CO2: 0.0 % vol            |
| MW10-1          | 2.13        | 9.89           | 50.8           | 0.74           | 48                | 48            | 9.4       | 7.32       | 284           | 2.07      | 15       | <1          | <0.1      | Clear        | None      | None     | None  | O2: 20.6 % vol<br>CO2: 0.0 % vol            |
| MW10-2          | 2.22        | 6.65           | 50.8           | 0.73           | 27                | 27            | 10.3      | 7.38       | 297           | 2.81      | 19       | <1          | <0.1      | Cloudy       | None      | Sulphur  | None  | O2: 20.8 % vol<br>CO2: 0.0 % vol            |
| MW11-1          | 2.75        | 9.96           | 50.8           | 0.70           | 44                | Dry x 1<br>15 | 9.0       | 7.80       | 294           | 9.36      | 15       | <1          | <0.1      | Cloudy       | Black     | Leachate | None  | O2: 20.6 % vol<br>CO2: 0.0 % vol            |
| MW11-2          | 2.78        | 6.74           | 50.8           | 0.72           | 25                | Dry x 1<br>15 | 9.0       | 7.37       | 286           | 7.98      | 15       | <1          | <0.1      | Clear        | None      | None     | None  | QA/QC#3<br>O2: 20.6 % vol<br>CO2: 0.0 % vol |
| MW12-1          | 1.72        | 6.84           | 50.8           | 0.89           | 32                | 32            | 9.4       | 7.45       | 280           | 3.60      | 11       | 1           | <0.1      | Clear        | None      | Sulphur  | None  | O2: 19.6 % vol<br>CO2: 0.5 % vol            |
| MW12-2          | 1.63        | 10.21          | 50.8           | 0.91           | 53                | Dry x 1<br>20 | 8.9       | 7.20       | 331           | 5.98      | 43       | 17          | <0.1      | Opaque       | Grey      | Leachate | None  | O2: 19.6 % vol<br>CO2: 0.5 % vol            |
| MW12-3          | 1.62        | 13.09          | 50.8           | 0.90           | 70                | 70            | 8.7       | 7.15       | 300           | 2.63      | 12       | 1           | <0.1      | Cloudy       | Grey      | None     | None  | O2: 20.6 % vol<br>CO2: 0.2 % vol            |
| MW13-1          | 1.82        | 6.04           | 50.8           | 0.86           | 26                | 26            | 10.6      | 7.00       | 412           | 5.20      | 57       | <1          | <0.1      | Clear        | None      | None     | None  | O2: 20.9 % vol<br>CO2: 0.0 % vol            |
| MW13-2          | 1.74        | 3.76           | 50.8           | 0.86           | 13                | 13            | 10.1      | 6.90       | 353           | 2.51      | 45       | <1          | <0.1      | Clear        | None      | None     | None  | O2: 20.9 % vol<br>CO2: 0.0 % vol            |
| R1              | -           | 5.65           | -              | -              | -                 | -             | 9.4       | 7.06       | 319           | 4.10      | 8        | -           | -         | Opaque       | Red-brown | None     | None  |   |
| R2              | -           | -              | -              | -              | -                 | -             | -         | -          | -             | -         | -        | -           | -         | -            | -         | -        | -     | Resident not home                           |
| R3              | -           | -              | -              | -              | -                 | -             | -         | -          | -             | -         | -        | -           | -         | -            | -         | -        | -     | Resident not home                           |



LOCATION: Halls Glen WDS

DATE: November 11, 2021

WEATHER (SAMPLE DAY): 2°C Overcast 8°C

PROJECT NUMBER: 12987-002

SAMPLED BY: N. Morin, M. Pion and  
W. Verduyn

WEATHER (PREVIOUS DAY): 8°C Sun

FIELD SHEET – GROUNDWATER DEVELOPMENT & SAMPLING

| Sample Location | Water Level | B.H. Depth (m) | B.H. Dia. (mm) | Stick - Up (m) | Purge Volumes (L) |        | Temp (°C) | pH (units) | Cond. (µS/cm) | DO (mg/L) | ORP (mV) | CH4 (% lcl) | H2S (ppm) | Observations |        |       |       |  |
|-----------------|-------------|----------------|----------------|----------------|-------------------|--------|-----------|------------|---------------|-----------|----------|-------------|-----------|--------------|--------|-------|-------|--|
|                 |             |                |                |                | Needed            | Actual |           |            |               |           |          |             |           | Clarity      | Colour | Odour | Sheen | Other  |
| R4              | -           | -              | -              | -              | -                 | -      | 19.1      | 7.22       | 425           | 8.16      | 17       | -           | -         | Clear        | None   | None  | None  | Taken from kitchen – tap had been used by resident |







Daily Data Report for June 2021

PETERBOROUGH TRENT U
ONTARIO
Current Station Operator: ECCC - MSC

Latitude: 44°21'00.000" N Longitude: 78°18'00.000" W Elevation: 216.00 m
Climate ID: 6166456 WMO ID: 71672 TC ID: TPQ

Table with 12 columns: DAY, Max Temp (°C), Min Temp (°C), Mean Temp (°C), Heat Deg Days, Cool Deg Days, Total Rain (mm), Total Snow (cm), Total Precip (mm), Snow on Grnd (cm), Dir of Max Gust (10's deg), Spd of Max Gust (km/h). Rows include daily data from 01 to 30 and a Sum row.



Daily Data Report for November 2021

PETERBOROUGH TRENT U
ONTARIO
Current Station Operator: ECCC - MSC

Latitude: 44°21'00.000" N Longitude: 78°18'00.000" W Elevation: 216.00 m
Climate ID: 6166456 WMO ID: 71672 TC ID: TPQ

Table with 12 columns: DAY, Max Temp (°C), Min Temp (°C), Mean Temp (°C), Heat Deg Days, Cool Deg Days, Total Rain (mm), Total Snow (cm), Total Precip (mm), Snow on Grnd (cm), Dir of Max Gust (10's deg), Spd of Max Gust (km/h). Rows include daily data from 01 to 30 and a Sum row.



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## **Appendix D**

### **Laboratory Certificates of Analysis**

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Fully accessible appended items are available upon request.

C.O.C.: G103644

REPORT No. B21-19679 (i)

Rev. 1

**Report To:**

**Cambium Environmental**  
 194 Sophia St.,  
 Peterborough ON K9H 1E5 Canada

**Attention:** Cameron MacDougall

**Caduceon Environmental Laboratories**

285 Dalton Ave  
 Kingston Ontario K7K 6Z1  
 Tel: 613-544-2001  
 Fax: 613-544-2770

DATE RECEIVED: 25-Jun-21

JOB/PROJECT NO.: Halls Glen WDS

DATE REPORTED: 22-Apr-22

P.O. NUMBER: 12987-002

SAMPLE MATRIX: Groundwater

WATERWORKS NO.

| Parameter                  | Units    | R.L.     | Reference Method | Date/Site Analyzed | Client I.D. | MW1-I       | MW4-I       | MW4-II      | MW12-I      |
|----------------------------|----------|----------|------------------|--------------------|-------------|-------------|-------------|-------------|-------------|
|                            |          |          |                  |                    | Sample I.D. | B21-19679-1 | B21-19679-2 | B21-19679-3 | B21-19679-4 |
| Date Collected             |          |          |                  |                    | 24-Jun-21   | 24-Jun-21   | 24-Jun-21   | 24-Jun-21   | 24-Jun-21   |
| Alkalinity(CaCO3) to pH4.5 | mg/L     | 5        | SM 2320B         | 28-Jun-21/O        | 313         | 296         | 263         | 271         |             |
| Conductivity @25°C         | µmho/cm  | 1        | SM 2510B         | 28-Jun-21/O        | 1260        | 750         | 594         | 650         |             |
| pH @25°C                   | pH Units |          | SM 4500H         | 28-Jun-21/O        | 7.73        | 7.63        | 7.80        | 7.85        |             |
| Total Dissolved Solids     | mg/L     | 3        | SM 2540D         | 05-Jul-21/O        | 680         | 392         | 308         | 338         |             |
| Dissolved Organic Carbon   | mg/L     | 0.2      | EPA 415.2        | 28-Jun-21/O        | 2.2         | 4.0         | 3.4         | 2.2         |             |
| COD                        | mg/L     | 5        | SM5220C          | 28-Jun-21/K        | < 5         | < 5         | 42          | 7           |             |
| Phenolics                  | mg/L     | 0.002    | MOEE 3179        | 28-Jun-21/K        | < 0.002     | < 0.002     | < 0.002     | 0.004       |             |
| Chloride                   | mg/L     | 0.5      | SM4110C          | 28-Jun-21/O        | 175         | 54.0        | 26.2        | 40.7        |             |
| Ammonia (N)-Total          | mg/L     | 0.01     | SM4500-NH3 H     | 29-Jun-21/K        | 0.04        | 0.80        | 0.02        | 0.14        |             |
| Sulphate                   | mg/L     | 1        | SM4110C          | 28-Jun-21/O        | 79          | 15          | 13          | 20          |             |
| Nitrite (N)                | mg/L     | 0.05     | SM4110C          | 28-Jun-21/O        | < 0.05      | < 0.05      | < 0.05      | < 0.05      |             |
| Nitrate (N)                | mg/L     | 0.05     | SM4110C          | 28-Jun-21/O        | 2.54        | 1.56        | 0.55        | 0.08        |             |
| Total Kjeldahl Nitrogen    | mg/L     | 0.1      | E3516.2          | 02-Jul-21/K        | 0.3         | 1.0         | 0.3         | 0.2         |             |
| Mercury                    | mg/L     | 0.00002  | SM 3112 B        | 29-Jun-21/O        | < 0.00002   | < 0.00002   | < 0.00002   | < 0.00002   |             |
| Hardness (as CaCO3)        | mg/L     | 1        | SM 3120          | 28-Jun-21/O        | 469         | 335         | 322         | 345         |             |
| Arsenic                    | mg/L     | 0.0001   | EPA 200.8        | 29-Jun-21/O        | < 0.0001    | < 0.0001    | 0.0001      | < 0.0001    |             |
| Barium                     | mg/L     | 0.001    | SM 3120          | 28-Jun-21/O        | 0.233       | 0.124       | 0.136       | 0.743       |             |
| Boron                      | mg/L     | 0.005    | SM 3120          | 28-Jun-21/O        | 0.073       | 0.066       | 0.033       | 0.121       |             |
| Cadmium                    | mg/L     | 0.000015 | EPA 200.8        | 29-Jun-21/O        | < 0.000015  | 0.000015    | < 0.000015  | < 0.000015  |             |
| Calcium                    | mg/L     | 0.02     | SM 3120          | 28-Jun-21/O        | 165         | 125         | 122         | 116         |             |
| Chromium                   | mg/L     | 0.001    | EPA 200.8        | 29-Jun-21/O        | 0.004       | < 0.001     | < 0.001     | < 0.001     |             |
| Copper                     | mg/L     | 0.0001   | EPA 200.8        | 29-Jun-21/O        | 0.0013      | 0.0013      | 0.0040      | < 0.0001    |             |
| Iron                       | mg/L     | 0.005    | SM 3120          | 28-Jun-21/O        | < 0.005     | 0.034       | 0.135       | < 0.005     |             |
| Lead                       | mg/L     | 0.00002  | EPA 200.8        | 29-Jun-21/O        | 0.00013     | 0.00014     | 0.00028     | 0.00009     |             |
| Magnesium                  | mg/L     | 0.02     | SM 3120          | 28-Jun-21/O        | 13.7        | 5.53        | 4.04        | 13.4        |             |
| Manganese                  | mg/L     | 0.001    | SM 3120          | 28-Jun-21/O        | < 0.001     | 0.147       | 0.020       | 0.003       |             |
| Phosphorus-Total           | mg/L     | 0.01     | E3516.2          | 02-Jul-21/K        | 0.06        | 0.02        | 0.42        | 0.02        |             |



R.L. = Reporting Limit

Test methods may be modified from specified reference method unless indicated by an \*

Site Analyzed=K-Kingston, W-Windsor, O-Ottawa, R-Richmond Hill, B-Barrie

Michelle Dubien  
 Lab Manager

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REPORT No. B21-19679 (i)

Rev. 1

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**Attention:** Cameron MacDougall

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285 Dalton Ave  
 Kingston Ontario K7K 6Z1  
 Tel: 613-544-2001  
 Fax: 613-544-2770

DATE RECEIVED: 25-Jun-21

JOB/PROJECT NO.: Halls Glen WDS

DATE REPORTED: 22-Apr-22

P.O. NUMBER: 12987-002

SAMPLE MATRIX: Groundwater

WATERWORKS NO.

| Parameter             | Units   | R.L.  | Reference Method | Date/Site Analyzed | Client I.D. | MW1-I          | MW4-I   | MW4-II  | MW12-I  |         |
|-----------------------|---------|-------|------------------|--------------------|-------------|----------------|---------|---------|---------|---------|
|                       |         |       |                  |                    | Sample I.D. | Date Collected |         |         |         |         |
| Potassium             | mg/L    | 0.1   | SM 3120          | 28-Jun-21/O        | B21-19679-1 | 24-Jun-21      | 4.5     | 4.8     | 1.6     | 3.1     |
| Sodium                | mg/L    | 0.2   | SM 3120          | 28-Jun-21/O        | B21-19679-2 | 24-Jun-21      | 83.3    | 31.4    | 16.3    | 11.7    |
| Zinc                  | mg/L    | 0.005 | SM 3120          | 28-Jun-21/O        | B21-19679-3 | 24-Jun-21      | < 0.005 | < 0.005 | < 0.005 | < 0.005 |
| Anion Sum             | meq/L   |       | Calc.            | 30-Jun-21/O        | B21-19679-4 | 24-Jun-21      | 13.0    | 7.87    | 6.30    | 6.99    |
| Cation Sum            | meq/L   |       | Calc.            | 30-Jun-21/O        |             |                | 13.1    | 8.24    | 7.18    | 7.49    |
| % Difference          | %       |       | Calc.            | 30-Jun-21/O        |             |                | 0.346   | 2.32    | 6.49    | 3.42    |
| Ion Ratio             | AS/CS   |       | Calc.            | 30-Jun-21/O        |             |                | 0.993   | 0.955   | 0.878   | 0.934   |
| TDS(ion sum calc.)    | mg/L    | 1     | Calc.            | 30-Jun-21/O        |             |                | 708     | 415     | 341     | 368     |
| Conductivity (calc.)  | µmho/cm |       | Calc.            | 30-Jun-21/O        |             |                | 1251    | 761     | 635     | 687     |
| Langelier Index(25°C) | S.I.    |       | Calc.            | 30-Jun-21/O        |             |                | 0.960   | 0.736   | 0.855   | 0.894   |



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 Peterborough ON K9H 1E5 Canada

**Attention:** Cameron MacDougall

**Caduceon Environmental Laboratories**

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 Kingston Ontario K7K 6Z1  
 Tel: 613-544-2001  
 Fax: 613-544-2770

DATE RECEIVED: 25-Jun-21

JOB/PROJECT NO.: Halls Glen WDS

DATE REPORTED: 22-Apr-22

P.O. NUMBER: 12987-002

SAMPLE MATRIX: Groundwater

WATERWORKS NO.

| Client I.D.    | GW_QAQC5    | MW12-II     | MW12-III    | MW3-I       |
|----------------|-------------|-------------|-------------|-------------|
| Sample I.D.    | B21-19679-5 | B21-19679-6 | B21-19679-7 | B21-19679-8 |
| Date Collected | 24-Jun-21   | 24-Jun-21   | 24-Jun-21   | 24-Jun-21   |

| Parameter                  | Units    | R.L.     | Reference Method | Date/Site Analyzed | GW_QAQC5   | MW12-II    | MW12-III   | MW3-I      |
|----------------------------|----------|----------|------------------|--------------------|------------|------------|------------|------------|
| Alkalinity(CaCO3) to pH4.5 | mg/L     | 5        | SM 2320B         | 28-Jun-21/O        | 269        | 300        | 283        | 266        |
| Conductivity @25°C         | µmho/cm  | 1        | SM 2510B         | 28-Jun-21/O        | 653        | 763        | 696        | 726        |
| pH @25°C                   | pH Units |          | SM 4500H         | 28-Jun-21/O        | 7.76       | 7.92       | 7.75       | 7.74       |
| Total Dissolved Solids     | mg/L     | 3        | SM 2540D         | 05-Jul-21/O        | 339        | 399        | 362        | 378        |
| Dissolved Organic Carbon   | mg/L     | 0.2      | EPA 415.2        | 28-Jun-21/O        | 2.3        | 3.9        | 3.5        | 2.9        |
| COD                        | mg/L     | 5        | SM5220C          | 28-Jun-21/K        | 8          | 16         | < 5        | < 5        |
| Phenolics                  | mg/L     | 0.002    | MOEE 3179        | 28-Jun-21/K        | 0.003      | < 0.002    | < 0.002    | < 0.002    |
| Chloride                   | mg/L     | 0.5      | SM4110C          | 28-Jun-21/O        | 41.7       | 32.2       | 48.6       | 73.8       |
| Ammonia (N)-Total          | mg/L     | 0.01     | SM4500-NH3-H     | 29-Jun-21/K        | 0.14       | 0.44       | 0.02       | < 0.01     |
| Sulphate                   | mg/L     | 1        | SM4110C          | 28-Jun-21/O        | 26         | 79         | 23         | 11         |
| Nitrite (N)                | mg/L     | 0.05     | SM4110C          | 28-Jun-21/O        | < 0.05     | < 0.05     | < 0.05     | < 0.05     |
| Nitrate (N)                | mg/L     | 0.05     | SM4110C          | 28-Jun-21/O        | 0.72       | 0.06       | < 0.05     | 1.48       |
| Total Kjeldahl Nitrogen    | mg/L     | 0.1      | E3516.2          | 02-Jul-21/K        | 0.2        | 0.6        | 0.2        | 0.2        |
| Mercury                    | mg/L     | 0.00002  | SM 3112 B        | 29-Jun-21/O        | < 0.00002  | < 0.00002  | < 0.00002  | < 0.00002  |
| Hardness (as CaCO3)        | mg/L     | 1        | SM 3120          | 28-Jun-21/O        | 334        | 315        | 356        | 347        |
| Arsenic                    | mg/L     | 0.0001   | EPA 200.8        | 29-Jun-21/O        | < 0.0001   | 0.0006     | < 0.0001   | < 0.0001   |
| Barium                     | mg/L     | 0.001    | SM 3120          | 28-Jun-21/O        | 0.719      | 0.195      | 0.031      | 0.112      |
| Boron                      | mg/L     | 0.005    | SM 3120          | 28-Jun-21/O        | 0.119      | 0.674      | 0.083      | 0.029      |
| Cadmium                    | mg/L     | 0.000015 | EPA 200.8        | 29-Jun-21/O        | < 0.000015 | < 0.000015 | < 0.000015 | < 0.000015 |
| Calcium                    | mg/L     | 0.02     | SM 3120          | 28-Jun-21/O        | 112        | 78.0       | 133        | 132        |
| Chromium                   | mg/L     | 0.001    | EPA 200.8        | 29-Jun-21/O        | < 0.001    | < 0.001    | < 0.001    | < 0.001    |
| Copper                     | mg/L     | 0.0001   | EPA 200.8        | 29-Jun-21/O        | < 0.0001   | < 0.0001   | 0.0001     | 0.0012     |
| Iron                       | mg/L     | 0.005    | SM 3120          | 28-Jun-21/O        | < 0.005    | < 0.005    | 0.019      | 0.016      |
| Lead                       | mg/L     | 0.00002  | EPA 200.8        | 29-Jun-21/O        | 0.00008    | 0.00170    | 0.00008    | 0.00007    |
| Magnesium                  | mg/L     | 0.02     | SM 3120          | 28-Jun-21/O        | 13.2       | 29.1       | 5.83       | 4.19       |
| Manganese                  | mg/L     | 0.001    | SM 3120          | 28-Jun-21/O        | 0.003      | 0.114      | 0.034      | 0.001      |
| Phosphorus-Total           | mg/L     | 0.01     | E3516.2          | 02-Jul-21/K        | < 0.01     | 0.17       | 0.04       | 0.02       |



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Site Analyzed=K-Kingston, W-Windsor, O-Ottawa, R-Richmond Hill, B-Barrie

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DATE RECEIVED: 25-Jun-21

JOB/PROJECT NO.: Halls Glen WDS

DATE REPORTED: 22-Apr-22

P.O. NUMBER: 12987-002

SAMPLE MATRIX: Groundwater

WATERWORKS NO.

| Parameter             | Units   | R.L.  | Reference Method | Date/Site Analyzed | Client I.D. | GW_QAQC5       | MW12-II     | MW12-III    | MW3-I       |
|-----------------------|---------|-------|------------------|--------------------|-------------|----------------|-------------|-------------|-------------|
|                       |         |       |                  |                    | Sample I.D. | Date Collected | B21-19679-5 | B21-19679-6 | B21-19679-7 |
| Potassium             | mg/L    | 0.1   | SM 3120          | 28-Jun-21/O        |             | 3.0            | 3.5         | 1.6         | 3.3         |
| Sodium                | mg/L    | 0.2   | SM 3120          | 28-Jun-21/O        |             | 11.6           | 46.8        | 16.0        | 25.2        |
| Zinc                  | mg/L    | 0.005 | SM 3120          | 28-Jun-21/O        |             | < 0.005        | < 0.005     | < 0.005     | < 0.005     |
| Anion Sum             | meq/L   |       | Calc.            | 30-Jun-21/O        |             | 7.15           | 8.60        | 7.51        | 7.72        |
| Cation Sum            | meq/L   |       | Calc.            | 30-Jun-21/O        |             | 7.27           | 8.45        | 7.86        | 8.11        |
| % Difference          | %       |       | Calc.            | 30-Jun-21/O        |             | 0.798          | 0.914       | 2.29        | 2.48        |
| Ion Ratio             | AS/CS   |       | Calc.            | 30-Jun-21/O        |             | 0.984          | 1.02        | 0.955       | 0.952       |
| TDS(ion sum calc.)    | mg/L    | 1     | Calc.            | 30-Jun-21/O        |             | 369            | 450         | 398         | 409         |
| Conductivity (calc.)  | µmho/cm |       | Calc.            | 30-Jun-21/O        |             | 683            | 783         | 732         | 766         |
| Langelier Index(25°C) | S.I.    |       | Calc.            | 30-Jun-21/O        |             | 0.786          | 0.827       | 0.873       | 0.822       |



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Michelle Dubien  
 Lab Manager

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C.O.C.: G103644

REPORT No. B21-19679 (i)

Rev. 1

**Report To:**

**Cambium Environmental**  
 194 Sophia St.,  
 Peterborough ON K9H 1E5 Canada

**Attention:** Cameron MacDougall

**Caduceon Environmental Laboratories**

285 Dalton Ave  
 Kingston Ontario K7K 6Z1  
 Tel: 613-544-2001  
 Fax: 613-544-2770

DATE RECEIVED: 25-Jun-21

JOB/PROJECT NO.: Halls Glen WDS

DATE REPORTED: 22-Apr-22

P.O. NUMBER: 12987-002

SAMPLE MATRIX: Groundwater

WATERWORKS NO.

| Client I.D.    | MW6-I        | MW6-II       | MW5-II       | MW5-I        |
|----------------|--------------|--------------|--------------|--------------|
| Sample I.D.    | B21-19679-10 | B21-19679-11 | B21-19679-12 | B21-19679-13 |
| Date Collected | 24-Jun-21    | 24-Jun-21    | 24-Jun-21    | 24-Jun-21    |

| Parameter                  | Units    | R.L.     | Reference Method | Date/Site Analyzed |            |            |            |            |
|----------------------------|----------|----------|------------------|--------------------|------------|------------|------------|------------|
| Alkalinity(CaCO3) to pH4.5 | mg/L     | 5        | SM 2320B         | 28-Jun-21/O        | 342        | 1120       | 826        | 757        |
| Conductivity @25°C         | µmho/cm  | 1        | SM 2510B         | 28-Jun-21/O        | 1020       | 2440       | 1960       | 1730       |
| pH @25°C                   | pH Units |          | SM 4500H         | 28-Jun-21/O        | 7.59       | 7.54       | 7.67       | 7.35       |
| Total Dissolved Solids     | mg/L     | 3        | SM 2540D         | 05-Jul-21/O        | 544        | 1350       | 1080       | 946        |
| Dissolved Organic Carbon   | mg/L     | 0.2      | EPA 415.2        | 28-Jun-21/O        | 4.1        | 22.3       | 14.1       | 13.4       |
| COD                        | mg/L     | 5        | SM5220C          | 28-Jun-21/K        | 31         | 119        | 113        | 134        |
| Phenolics                  | mg/L     | 0.002    | MOEE 3179        | 28-Jun-21/K        | < 0.002    | < 0.002    | < 0.002    | < 0.002    |
| Chloride                   | mg/L     | 0.5      | SM4110C          | 28-Jun-21/O        | 124        | 167        | 172        | 147        |
| Ammonia (N)-Total          | mg/L     | 0.01     | SM4500-NH3-H     | 29-Jun-21/K        | 2.84       | 43.0       | 26.4       | 16.4       |
| Sulphate                   | mg/L     | 1        | SM4110C          | 28-Jun-21/O        | 29         | 83         | 7          | 8          |
| Nitrite (N)                | mg/L     | 0.05     | SM4110C          | 28-Jun-21/O        | < 0.05     | < 0.05     | < 0.05     | < 0.05     |
| Nitrate (N)                | mg/L     | 0.05     | SM4110C          | 28-Jun-21/O        | 1.50       | 0.06       | 0.20       | 0.09       |
| Total Kjeldahl Nitrogen    | mg/L     | 0.1      | E3516.2          | 02-Jul-21/K        | 4.7        | 48.0       | 30.3       | 21.5       |
| Mercury                    | mg/L     | 0.00002  | SM 3112 B        | 29-Jun-21/O        | < 0.00002  | < 0.00002  | < 0.00002  | < 0.00002  |
| Hardness (as CaCO3)        | mg/L     | 1        | SM 3120          | 28-Jun-21/O        | 411        | 969        | 810        | 746        |
| Arsenic                    | mg/L     | 0.0001   | EPA 200.8        | 29-Jun-21/O        | 0.0003     | 0.0024     | 0.0031     | 0.0030     |
| Barium                     | mg/L     | 0.001    | SM 3120          | 28-Jun-21/O        | 0.233      | 0.699      | 0.910      | 0.911      |
| Boron                      | mg/L     | 0.005    | SM 3120          | 28-Jun-21/O        | 0.087      | 1.08       | 0.662      | 0.502      |
| Cadmium                    | mg/L     | 0.000015 | EPA 200.8        | 29-Jun-21/O        | < 0.000015 | < 0.000029 | < 0.000029 | < 0.000015 |
| Calcium                    | mg/L     | 0.02     | SM 3120          | 28-Jun-21/O        | 151        | 310        | 269        | 255        |
| Chromium                   | mg/L     | 0.001    | EPA 200.8        | 29-Jun-21/O        | < 0.001    | 0.002      | 0.001      | 0.001      |
| Copper                     | mg/L     | 0.0001   | EPA 200.8        | 29-Jun-21/O        | 0.0014     | 0.0074     | 0.0023     | 0.0002     |
| Iron                       | mg/L     | 0.005    | SM 3120          | 28-Jun-21/O        | 0.717      | 21.7       | 34.4       | 44.5       |
| Lead                       | mg/L     | 0.00002  | EPA 200.8        | 29-Jun-21/O        | 0.00015    | 0.00046    | 0.00249    | 0.00011    |
| Magnesium                  | mg/L     | 0.02     | SM 3120          | 28-Jun-21/O        | 8.04       | 47.1       | 33.4       | 26.5       |
| Manganese                  | mg/L     | 0.001    | SM 3120          | 28-Jun-21/O        | 0.698      | 8.58       | 6.23       | 3.12       |



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**Attention:** Cameron MacDougall

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285 Dalton Ave  
 Kingston Ontario K7K 6Z1  
 Tel: 613-544-2001  
 Fax: 613-544-2770

DATE RECEIVED: 25-Jun-21

JOB/PROJECT NO.: Halls Glen WDS

DATE REPORTED: 22-Apr-22

P.O. NUMBER: 12987-002

SAMPLE MATRIX: Groundwater

WATERWORKS NO.

| Client I.D.    | MW6-I        | MW6-II       | MW5-II       | MW5-I        |
|----------------|--------------|--------------|--------------|--------------|
| Sample I.D.    | B21-19679-10 | B21-19679-11 | B21-19679-12 | B21-19679-13 |
| Date Collected | 24-Jun-21    | 24-Jun-21    | 24-Jun-21    | 24-Jun-21    |

| Parameter             | Units   | R.L.  | Reference Method | Date/Site Analyzed |         |       |       |         |
|-----------------------|---------|-------|------------------|--------------------|---------|-------|-------|---------|
| Phosphorus-Total      | mg/L    | 0.01  | E3516.2          | 02-Jul-21/K        | 0.28    | 0.04  | 0.41  | 1.10    |
| Potassium             | mg/L    | 0.1   | SM 3120          | 28-Jun-21/O        | 8.6     | 51.4  | 41.8  | 30.0    |
| Sodium                | mg/L    | 0.2   | SM 3120          | 28-Jun-21/O        | 64.2    | 158   | 117   | 85.0    |
| Zinc                  | mg/L    | 0.005 | SM 3120          | 28-Jun-21/O        | < 0.005 | 0.006 | 0.006 | < 0.005 |
| Anion Sum             | meq/L   |       | Calc.            | 30-Jun-21/O        | 11.0    | 28.7  | 21.5  | 19.4    |
| Cation Sum            | meq/L   |       | Calc.            | 30-Jun-21/O        | 11.5    | 32.1  | 26.3  | 23.0    |
| % Difference          | %       |       | Calc.            | 30-Jun-21/O        | 1.95    | 5.48  | 10.0  | 8.46    |
| Ion Ratio             | AS/CS   |       | Calc.            | 30-Jun-21/O        | 0.962   | 0.896 | 0.818 | 0.844   |
| TDS(ion sum calc.)    | mg/L    | 1     | Calc.            | 30-Jun-21/O        | 595     | 1572  | 1210  | 1074    |
| Conductivity (calc.)  | µmho/cm |       | Calc.            | 30-Jun-21/O        | 1074    | 2430  | 1980  | 1733    |
| Langelier Index(25°C) | S.I.    |       | Calc.            | 30-Jun-21/O        | 0.830   | 1.57  | 1.50  | 1.12    |



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285 Dalton Ave  
Kingston Ontario K7K 6Z1  
Tel: 613-544-2001  
Fax: 613-544-2770

DATE RECEIVED: 25-Jun-21

JOB/PROJECT NO.: Halls Glen WDS

DATE REPORTED: 22-Apr-22

P.O. NUMBER: 12987-002

SAMPLE MATRIX: Groundwater

WATERWORKS NO.

| Client I.D.    | GW_QAQC1     | MW7-11       | MW10-I       | MW10-2       |
|----------------|--------------|--------------|--------------|--------------|
| Sample I.D.    | B21-19679-14 | B21-19679-16 | B21-19679-17 | B21-19679-18 |
| Date Collected | 24-Jun-21    | 24-Jun-21    | 24-Jun-21    | 24-Jun-21    |

| Parameter                  | Units    | R.L.     | Reference Method | Date/Site Analyzed |            |            |            |            |
|----------------------------|----------|----------|------------------|--------------------|------------|------------|------------|------------|
| Alkalinity(CaCO3) to pH4.5 | mg/L     | 5        | SM 2320B         | 28-Jun-21/O        | 755        | 510        | 251        | 260        |
| Conductivity @25°C         | µmho/cm  | 1        | SM 2510B         | 28-Jun-21/O        | 1710       | 1220       | 648        | 660        |
| pH @25°C                   | pH Units |          | SM 4500H         | 28-Jun-21/O        | 7.35       | 7.72       | 7.76       | 7.83       |
| Total Dissolved Solids     | mg/L     | 3        | SM 2540D         | 05-Jul-21/O        | 939        | 659        | 336        | 343        |
| Dissolved Organic Carbon   | mg/L     | 0.2      | EPA 415.2        | 28-Jun-21/O        | 14.3       | 9.1        | 2.8        | 2.8        |
| COD                        | mg/L     | 5        | SM5220C          | 28-Jun-21/K        | 164        | 33         | < 5        | 53         |
| Phenolics                  | mg/L     | 0.002    | MOEE 3179        | 28-Jun-21/K        | < 0.002    | < 0.002    | < 0.002    | < 0.002    |
| Chloride                   | mg/L     | 0.5      | SM4110C          | 28-Jun-21/O        | 146        | 104        | 54.2       | 59.6       |
| Ammonia (N)-Total          | mg/L     | 0.01     | SM4500-NH3-H     | 29-Jun-21/K        | 16.2       | 0.39       | 0.15       | 0.93       |
| Sulphate                   | mg/L     | 1        | SM4110C          | 28-Jun-21/O        | 7          | 37         | 23         | 10         |
| Nitrite (N)                | mg/L     | 0.05     | SM4110C          | 28-Jun-21/O        | < 0.05     | < 0.05     | < 0.05     | < 0.05     |
| Nitrate (N)                | mg/L     | 0.05     | SM4110C          | 28-Jun-21/O        | 0.11       | 0.48       | < 0.05     | 0.07       |
| Total Kjeldahl Nitrogen    | mg/L     | 0.1      | E3516.2          | 02-Jul-21/K        | 21.0       | 0.9        | 0.1        | 1.0        |
| Mercury                    | mg/L     | 0.00002  | SM 3112 B        | 29-Jun-21/O        | < 0.00002  | < 0.00002  | < 0.00002  | < 0.00002  |
| Hardness (as CaCO3)        | mg/L     | 1        | SM 3120          | 28-Jun-21/O        | 753        | 588        | 335        | 342        |
| Arsenic                    | mg/L     | 0.0001   | EPA 200.8        | 29-Jun-21/O        | 0.0030     | 0.0002     | < 0.0001   | 0.0003     |
| Barium                     | mg/L     | 0.001    | SM 3120          | 28-Jun-21/O        | 0.918      | 0.416      | 0.944      | 0.510      |
| Boron                      | mg/L     | 0.005    | SM 3120          | 28-Jun-21/O        | 0.502      | 0.324      | 0.184      | 0.109      |
| Cadmium                    | mg/L     | 0.000015 | EPA 200.8        | 29-Jun-21/O        | < 0.000015 | < 0.000015 | < 0.000015 | < 0.000015 |
| Calcium                    | mg/L     | 0.02     | SM 3120          | 28-Jun-21/O        | 257        | 200        | 105        | 118        |
| Chromium                   | mg/L     | 0.001    | EPA 200.8        | 29-Jun-21/O        | 0.001      | < 0.001    | < 0.001    | < 0.001    |
| Copper                     | mg/L     | 0.0001   | EPA 200.8        | 29-Jun-21/O        | 0.0002     | 0.0046     | 0.0001     | 0.0012     |
| Iron                       | mg/L     | 0.005    | SM 3120          | 28-Jun-21/O        | 44.6       | 0.051      | 0.018      | < 0.005    |
| Lead                       | mg/L     | 0.00002  | EPA 200.8        | 29-Jun-21/O        | 0.00010    | 0.00025    | 0.00005    | 0.00046    |
| Magnesium                  | mg/L     | 0.02     | SM 3120          | 28-Jun-21/O        | 26.8       | 21.3       | 17.7       | 11.4       |
| Manganese                  | mg/L     | 0.001    | SM 3120          | 28-Jun-21/O        | 3.14       | 0.022      | 0.062      | 0.038      |



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JOB/PROJECT NO.: Halls Glen WDS

DATE REPORTED: 22-Apr-22

P.O. NUMBER: 12987-002

SAMPLE MATRIX: Groundwater

WATERWORKS NO.

|                       |              |              |              |              |
|-----------------------|--------------|--------------|--------------|--------------|
| <b>Client I.D.</b>    | GW_QAQC1     | MW7-11       | MW10-1       | MW10-2       |
| <b>Sample I.D.</b>    | B21-19679-14 | B21-19679-16 | B21-19679-17 | B21-19679-18 |
| <b>Date Collected</b> | 24-Jun-21    | 24-Jun-21    | 24-Jun-21    | 24-Jun-21    |

| Parameter             | Units   | R.L.  | Reference Method | Date/Site Analyzed |         |         |         |         |
|-----------------------|---------|-------|------------------|--------------------|---------|---------|---------|---------|
|                       |         |       |                  |                    |         |         |         |         |
| Phosphorus-Total      | mg/L    | 0.01  | E3516.2          | 02-Jul-21/K        | 1.36    | 0.08    | 0.03    | 0.11    |
| Potassium             | mg/L    | 0.1   | SM 3120          | 28-Jun-21/O        | 30.2    | 10.3    | 3.5     | 2.0     |
| Sodium                | mg/L    | 0.2   | SM 3120          | 28-Jun-21/O        | 85.7    | 82.8    | 11.2    | 6.1     |
| Zinc                  | mg/L    | 0.005 | SM 3120          | 28-Jun-21/O        | < 0.005 | < 0.005 | < 0.005 | < 0.005 |
| Anion Sum             | meq/L   |       | Calc.            | 30-Jun-21/O        | 19.4    | 13.9    | 7.04    | 7.11    |
| Cation Sum            | meq/L   |       | Calc.            | 30-Jun-21/O        | 23.2    | 15.6    | 7.29    | 7.21    |
| % Difference          | %       |       | Calc.            | 30-Jun-21/O        | 9.02    | 5.81    | 1.69    | 0.722   |
| Ion Ratio             | AS/CS   |       | Calc.            | 30-Jun-21/O        | 0.834   | 0.890   | 0.967   | 0.986   |
| TDS(ion sum calc.)    | mg/L    | 1     | Calc.            | 30-Jun-21/O        | 1074    | 761     | 366     | 365     |
| Conductivity (calc.)  | µmho/cm |       | Calc.            | 30-Jun-21/O        | 1735    | 1326    | 689     | 694     |
| Langelier Index(25°C) | S.I.    |       | Calc.            | 30-Jun-21/O        | 1.13    | 1.25    | 0.728   | 0.864   |



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P.O. NUMBER: 12987-002

SAMPLE MATRIX: Groundwater

WATERWORKS NO.

| Parameter                  | Units    | R.L.     | Reference Method | Date/Site Analyzed | Client I.D. | MW11-I       | MW11-II      | MW7-I        | MW8-II       |
|----------------------------|----------|----------|------------------|--------------------|-------------|--------------|--------------|--------------|--------------|
|                            |          |          |                  |                    | Sample I.D. | B21-19679-19 | B21-19679-20 | B21-19679-21 | B21-19679-22 |
| Date Collected             |          |          |                  |                    | 24-Jun-21   | 24-Jun-21    | 24-Jun-21    | 24-Jun-21    | 24-Jun-21    |
| Alkalinity(CaCO3) to pH4.5 | mg/L     | 5        | SM 2320B         | 28-Jun-21/O        | 271         | 271          | 336          | 276          |              |
| Conductivity @25°C         | µmho/cm  | 1        | SM 2510B         | 28-Jun-21/O        | 666         | 659          | 802          | 700          |              |
| pH @25°C                   | pH Units |          | SM 4500H         | 28-Jun-21/O        | 7.91        | 7.81         | 8.16         | 7.94         |              |
| Total Dissolved Solids     | mg/L     | 3        | SM 2540D         | 05-Jul-21/O        | 346         | 342          | 421          | 364          |              |
| Dissolved Organic Carbon   | mg/L     | 0.2      | EPA 415.2        | 28-Jun-21/O        | 3.0         | 4.4          | 4.5          | 3.7          |              |
| COD                        | mg/L     | 5        | SM5220C          | 28-Jun-21/K        | 65          | < 5          | 125          | 7            |              |
| Phenolics                  | mg/L     | 0.002    | MOEE 3179        | 28-Jun-21/K        | < 0.002     | < 0.002      | < 0.002      | < 0.002      |              |
| Chloride                   | mg/L     | 0.5      | SM4110C          | 28-Jun-21/O        | 27.9        | 52.0         | 53.6         | 65.5         |              |
| Ammonia (N)-Total          | mg/L     | 0.01     | SM4500-NH3-H     | 29-Jun-21/K        | 0.88        | 0.95         | 0.04         | < 0.01       |              |
| Sulphate                   | mg/L     | 1        | SM4110C          | 28-Jun-21/O        | 62          | 11           | 31           | 9            |              |
| Nitrite (N)                | mg/L     | 0.05     | SM4110C          | 28-Jun-21/O        | < 0.05      | < 0.05       | < 0.05       | < 0.05       |              |
| Nitrate (N)                | mg/L     | 0.05     | SM4110C          | 28-Jun-21/O        | < 0.05      | 0.07         | 0.19         | 0.74         |              |
| Total Kjeldahl Nitrogen    | mg/L     | 0.1      | E3516.2          | 02-Jul-21/K        | 1.6         | 1.0          | 1.3          | 0.4          |              |
| Mercury                    | mg/L     | 0.00002  | SM 3112 B        | 29-Jun-21/O        | < 0.00002   | < 0.00002    | < 0.00002    | < 0.00002    |              |
| Hardness (as CaCO3)        | mg/L     | 1        | SM 3120          | 28-Jun-21/O        | 339         | 339          | 129          | 302          |              |
| Arsenic                    | mg/L     | 0.0001   | EPA 200.8        | 29-Jun-21/O        | < 0.0001    | < 0.0001     | 0.0005       | < 0.0001     |              |
| Barium                     | mg/L     | 0.001    | SM 3120          | 28-Jun-21/O        | 0.570       | 0.528        | 0.162        | 0.135        |              |
| Boron                      | mg/L     | 0.005    | SM 3120          | 28-Jun-21/O        | 0.610       | 0.127        | 0.533        | 0.015        |              |
| Cadmium                    | mg/L     | 0.000015 | EPA 200.8        | 29-Jun-21/O        | < 0.000015  | < 0.000015   | < 0.000015   | < 0.000015   |              |
| Calcium                    | mg/L     | 0.02     | SM 3120          | 28-Jun-21/O        | 79.2        | 117          | 36.9         | 114          |              |
| Chromium                   | mg/L     | 0.001    | EPA 200.8        | 29-Jun-21/O        | < 0.001     | < 0.001      | < 0.001      | 0.073        |              |
| Copper                     | mg/L     | 0.0001   | EPA 200.8        | 29-Jun-21/O        | < 0.0001    | 0.0008       | 0.0015       | 0.0008       |              |
| Iron                       | mg/L     | 0.005    | SM 3120          | 28-Jun-21/O        | 0.116       | 3.03         | 0.088        | 0.019        |              |
| Lead                       | mg/L     | 0.00002  | EPA 200.8        | 29-Jun-21/O        | 0.00007     | 0.00006      | 0.00026      | 0.00013      |              |
| Magnesium                  | mg/L     | 0.02     | SM 3120          | 28-Jun-21/O        | 34.4        | 11.3         | 8.90         | 4.06         |              |
| Manganese                  | mg/L     | 0.001    | SM 3120          | 28-Jun-21/O        | 0.086       | 0.035        | 0.006        | 0.004        |              |



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Site Analyzed=K-Kingston, W-Windsor, O-Ottawa, R-Richmond Hill, B-Barrie

Michelle Dubien  
 Lab Manager

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C.O.C.: G103644

REPORT No. B21-19679 (i)

Rev. 1

**Report To:**

**Cambium Environmental**  
 194 Sophia St.,  
 Peterborough ON K9H 1E5 Canada

**Attention:** Cameron MacDougall

**Caduceon Environmental Laboratories**

285 Dalton Ave  
 Kingston Ontario K7K 6Z1  
 Tel: 613-544-2001  
 Fax: 613-544-2770

DATE RECEIVED: 25-Jun-21

JOB/PROJECT NO.: Halls Glen WDS

DATE REPORTED: 22-Apr-22

P.O. NUMBER: 12987-002

SAMPLE MATRIX: Groundwater

WATERWORKS NO.

| Client I.D.    | MW11-I       | MW11-II      | MW7-I        | MW8-II       |
|----------------|--------------|--------------|--------------|--------------|
| Sample I.D.    | B21-19679-19 | B21-19679-20 | B21-19679-21 | B21-19679-22 |
| Date Collected | 24-Jun-21    | 24-Jun-21    | 24-Jun-21    | 24-Jun-21    |

| Parameter             | Units   | R.L.  | Reference Method | Date/Site Analyzed |         |         |         |         |
|-----------------------|---------|-------|------------------|--------------------|---------|---------|---------|---------|
| Phosphorus-Total      | mg/L    | 0.01  | E3516.2          | 02-Jul-21/K        | 0.18    | 0.08    | 1.91    | 0.10    |
| Potassium             | mg/L    | 0.1   | SM 3120          | 28-Jun-21/O        | 5.4     | 2.3     | 2.3     | 1.0     |
| Sodium                | mg/L    | 0.2   | SM 3120          | 28-Jun-21/O        | 19.8    | 7.3     | 157     | 38.3    |
| Zinc                  | mg/L    | 0.005 | SM 3120          | 28-Jun-21/O        | < 0.005 | < 0.005 | < 0.005 | < 0.005 |
| Anion Sum             | meq/L   |       | Calc.            | 30-Jun-21/O        | 7.55    | 7.13    | 8.92    | 7.59    |
| Cation Sum            | meq/L   |       | Calc.            | 30-Jun-21/O        | 7.85    | 7.38    | 9.47    | 7.72    |
| % Difference          | %       |       | Calc.            | 30-Jun-21/O        | 1.99    | 1.68    | 3.00    | 0.796   |
| Ion Ratio             | AS/CS   |       | Calc.            | 30-Jun-21/O        | 0.961   | 0.967   | 0.942   | 0.984   |
| TDS(ion sum calc.)    | mg/L    | 1     | Calc.            | 30-Jun-21/O        | 394     | 368     | 492     | 397     |
| Conductivity (calc.)  | µmho/cm |       | Calc.            | 30-Jun-21/O        | 712     | 687     | 845     | 734     |
| Langelier Index(25°C) | S.I.    |       | Calc.            | 30-Jun-21/O        | 0.790   | 0.858   | 0.790   | 0.985   |



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285 Dalton Ave  
 Kingston Ontario K7K 6Z1  
 Tel: 613-544-2001  
 Fax: 613-544-2770

DATE RECEIVED: 25-Jun-21

JOB/PROJECT NO.: Halls Glen WDS

DATE REPORTED: 06-Jul-21

P.O. NUMBER: 12987-002

SAMPLE MATRIX: Groundwater

WATERWORKS NO.

| Parameter                  | Units    | R.L.     | Reference Method | Date/Site Analyzed | Client I.D. | MW1-I       | MW4-I       | MW4-II      | MW12-I      |
|----------------------------|----------|----------|------------------|--------------------|-------------|-------------|-------------|-------------|-------------|
|                            |          |          |                  |                    | Sample I.D. | B21-19679-1 | B21-19679-2 | B21-19679-3 | B21-19679-4 |
| Date Collected             |          |          |                  |                    | 24-Jun-21   | 24-Jun-21   | 24-Jun-21   | 24-Jun-21   | 24-Jun-21   |
| Alkalinity(CaCO3) to pH4.5 | mg/L     | 5        | SM 2320B         | 28-Jun-21/O        | 313         | 296         | 263         | 271         |             |
| Conductivity @25°C         | µmho/cm  | 1        | SM 2510B         | 28-Jun-21/O        | 1260        | 750         | 594         | 650         |             |
| pH @25°C                   | pH Units |          | SM 4500H         | 28-Jun-21/O        | 7.73        | 7.63        | 7.80        | 7.85        |             |
| Total Dissolved Solids     | mg/L     | 3        | SM 2540D         | 05-Jul-21/O        | 680         | 392         | 308         | 338         |             |
| Dissolved Organic Carbon   | mg/L     | 0.2      | EPA 415.2        | 28-Jun-21/O        | 2.2         | 4.0         | 3.4         | 2.2         |             |
| COD                        | mg/L     | 5        | SM5220C          | 28-Jun-21/K        | < 5         | < 5         | 42          | 7           |             |
| Phenolics                  | mg/L     | 0.002    | MOEE 3179        | 28-Jun-21/K        | < 0.002     | < 0.002     | < 0.002     | 0.004       |             |
| Chloride                   | mg/L     | 0.5      | SM4110C          | 28-Jun-21/O        | 175         | 54.0        | 26.2        | 40.7        |             |
| Ammonia (N)-Total          | mg/L     | 0.01     | SM4500-NH3-H     | 29-Jun-21/K        | 0.04        | 0.80        | 0.02        | 0.14        |             |
| Sulphate                   | mg/L     | 1        | SM4110C          | 28-Jun-21/O        | 79          | 15          | 13          | 20          |             |
| Nitrite (N)                | mg/L     | 0.05     | SM4110C          | 28-Jun-21/O        | < 0.05      | < 0.05      | < 0.05      | < 0.05      |             |
| Nitrate (N)                | mg/L     | 0.05     | SM4110C          | 28-Jun-21/O        | 2.54        | 1.56        | 0.55        | 0.08        |             |
| Total Kjeldahl Nitrogen    | mg/L     | 0.1      | E3199A.1         | 02-Jul-21/K        | 0.3         | 1.0         | 0.3         | 0.2         |             |
| Mercury                    | mg/L     | 0.00002  | SM 3112 B        | 29-Jun-21/O        | < 0.00002   | < 0.00002   | < 0.00002   | < 0.00002   |             |
| Hardness (as CaCO3)        | mg/L     | 1        | SM 3120          | 28-Jun-21/O        | 469         | 335         | 322         | 345         |             |
| Arsenic                    | mg/L     | 0.0001   | EPA 200.8        | 29-Jun-21/O        | < 0.0001    | < 0.0001    | 0.0001      | < 0.0001    |             |
| Barium                     | mg/L     | 0.001    | SM 3120          | 28-Jun-21/O        | 0.233       | 0.124       | 0.136       | 0.743       |             |
| Boron                      | mg/L     | 0.005    | SM 3120          | 28-Jun-21/O        | 0.073       | 0.066       | 0.033       | 0.121       |             |
| Cadmium                    | mg/L     | 0.000015 | EPA 200.8        | 29-Jun-21/O        | < 0.000015  | 0.000015    | < 0.000015  | < 0.000015  |             |
| Calcium                    | mg/L     | 0.02     | SM 3120          | 28-Jun-21/O        | 165         | 125         | 122         | 116         |             |
| Chromium                   | mg/L     | 0.001    | EPA 200.8        | 29-Jun-21/O        | 0.004       | < 0.001     | < 0.001     | < 0.001     |             |
| Copper                     | mg/L     | 0.0001   | EPA 200.8        | 29-Jun-21/O        | 0.0013      | 0.0013      | 0.0040      | < 0.0001    |             |
| Iron                       | mg/L     | 0.005    | SM 3120          | 28-Jun-21/O        | < 0.005     | 0.034       | 0.135       | < 0.005     |             |
| Lead                       | mg/L     | 0.00002  | EPA 200.8        | 29-Jun-21/O        | 0.00013     | 0.00014     | 0.00028     | 0.00009     |             |
| Magnesium                  | mg/L     | 0.02     | SM 3120          | 28-Jun-21/O        | 13.7        | 5.53        | 4.04        | 13.4        |             |
| Manganese                  | mg/L     | 0.001    | SM 3120          | 28-Jun-21/O        | < 0.001     | 0.147       | 0.020       | 0.003       |             |
| Phosphorus-Total           | mg/L     | 0.01     | E3199A.1         | 02-Jul-21/K        | 0.06        | 0.02        | 0.42        | 0.02        |             |



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 Lab Manager

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285 Dalton Ave  
 Kingston Ontario K7K 6Z1  
 Tel: 613-544-2001  
 Fax: 613-544-2770

DATE RECEIVED: 25-Jun-21

JOB/PROJECT NO.: Halls Glen WDS

DATE REPORTED: 06-Jul-21

P.O. NUMBER: 12987-002

SAMPLE MATRIX: Groundwater

WATERWORKS NO.

| Parameter | Units | R.L.  | Reference Method | Date/Site Analyzed | Client I.D. | MW1-I   | MW4-I   | MW4-II  | MW12-I  |
|-----------|-------|-------|------------------|--------------------|-------------|---------|---------|---------|---------|
|           |       |       |                  |                    | Sample I.D. |         |         |         |         |
| Potassium | mg/L  | 0.1   | SM 3120          | 28-Jun-21/O        | B21-19679-1 | 4.5     | 4.8     | 1.6     | 3.1     |
| Sodium    | mg/L  | 0.2   | SM 3120          | 28-Jun-21/O        | B21-19679-2 | 83.3    | 31.4    | 16.3    | 11.7    |
| Zinc      | mg/L  | 0.005 | SM 3120          | 28-Jun-21/O        | B21-19679-3 | < 0.005 | < 0.005 | < 0.005 | < 0.005 |
|           |       |       |                  |                    | B21-19679-4 |         |         |         |         |

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JOB/PROJECT NO.: Halls Glen WDS

DATE REPORTED: 06-Jul-21

P.O. NUMBER: 12987-002

SAMPLE MATRIX: Groundwater

WATERWORKS NO.

|                |             |             |             |             |
|----------------|-------------|-------------|-------------|-------------|
| Client I.D.    | GW_QAQC5    | MW12-II     | MW12-III    | MW3-I       |
| Sample I.D.    | B21-19679-5 | B21-19679-6 | B21-19679-7 | B21-19679-8 |
| Date Collected | 24-Jun-21   | 24-Jun-21   | 24-Jun-21   | 24-Jun-21   |

| Parameter                  | Units    | R.L.     | Reference Method | Date/Site Analyzed |            |            |            |            |
|----------------------------|----------|----------|------------------|--------------------|------------|------------|------------|------------|
| Alkalinity(CaCO3) to pH4.5 | mg/L     | 5        | SM 2320B         | 28-Jun-21/O        | 269        | 300        | 283        | 266        |
| Conductivity @25°C         | µmho/cm  | 1        | SM 2510B         | 28-Jun-21/O        | 653        | 763        | 696        | 726        |
| pH @25°C                   | pH Units |          | SM 4500H         | 28-Jun-21/O        | 7.76       | 7.92       | 7.75       | 7.74       |
| Total Dissolved Solids     | mg/L     | 3        | SM 2540D         | 05-Jul-21/O        | 339        | 399        | 362        | 378        |
| Dissolved Organic Carbon   | mg/L     | 0.2      | EPA 415.2        | 28-Jun-21/O        | 2.3        | 3.9        | 3.5        | 2.9        |
| COD                        | mg/L     | 5        | SM5220C          | 28-Jun-21/K        | 8          | 16         | < 5        | < 5        |
| Phenolics                  | mg/L     | 0.002    | MOEE 3179        | 28-Jun-21/K        | 0.003      | < 0.002    | < 0.002    | < 0.002    |
| Chloride                   | mg/L     | 0.5      | SM4110C          | 28-Jun-21/O        | 41.7       | 32.2       | 48.6       | 73.8       |
| Ammonia (N)-Total          | mg/L     | 0.01     | SM4500-NH3-H     | 29-Jun-21/K        | 0.14       | 0.44       | 0.02       | < 0.01     |
| Sulphate                   | mg/L     | 1        | SM4110C          | 28-Jun-21/O        | 26         | 79         | 23         | 11         |
| Nitrite (N)                | mg/L     | 0.05     | SM4110C          | 28-Jun-21/O        | < 0.05     | < 0.05     | < 0.05     | < 0.05     |
| Nitrate (N)                | mg/L     | 0.05     | SM4110C          | 28-Jun-21/O        | 0.72       | 0.06       | < 0.05     | 1.48       |
| Total Kjeldahl Nitrogen    | mg/L     | 0.1      | E3199A.1         | 02-Jul-21/K        | 0.2        | 0.6        | 0.2        | 0.2        |
| Mercury                    | mg/L     | 0.00002  | SM 3112 B        | 29-Jun-21/O        | < 0.00002  | < 0.00002  | < 0.00002  | < 0.00002  |
| Hardness (as CaCO3)        | mg/L     | 1        | SM 3120          | 28-Jun-21/O        | 334        | 315        | 356        | 347        |
| Arsenic                    | mg/L     | 0.0001   | EPA 200.8        | 29-Jun-21/O        | < 0.0001   | 0.0006     | < 0.0001   | < 0.0001   |
| Barium                     | mg/L     | 0.001    | SM 3120          | 28-Jun-21/O        | 0.719      | 0.195      | 0.031      | 0.112      |
| Boron                      | mg/L     | 0.005    | SM 3120          | 28-Jun-21/O        | 0.119      | 0.674      | 0.083      | 0.029      |
| Cadmium                    | mg/L     | 0.000015 | EPA 200.8        | 29-Jun-21/O        | < 0.000015 | < 0.000015 | < 0.000015 | < 0.000015 |
| Calcium                    | mg/L     | 0.02     | SM 3120          | 28-Jun-21/O        | 112        | 78.0       | 133        | 132        |
| Chromium                   | mg/L     | 0.001    | EPA 200.8        | 29-Jun-21/O        | < 0.001    | < 0.001    | < 0.001    | < 0.001    |
| Copper                     | mg/L     | 0.0001   | EPA 200.8        | 29-Jun-21/O        | < 0.0001   | < 0.0001   | 0.0001     | 0.0012     |
| Iron                       | mg/L     | 0.005    | SM 3120          | 28-Jun-21/O        | < 0.005    | < 0.005    | 0.019      | 0.016      |
| Lead                       | mg/L     | 0.00002  | EPA 200.8        | 29-Jun-21/O        | 0.00008    | 0.00170    | 0.00008    | 0.00007    |
| Magnesium                  | mg/L     | 0.02     | SM 3120          | 28-Jun-21/O        | 13.2       | 29.1       | 5.83       | 4.19       |
| Manganese                  | mg/L     | 0.001    | SM 3120          | 28-Jun-21/O        | 0.003      | 0.114      | 0.034      | 0.001      |
| Phosphorus-Total           | mg/L     | 0.01     | E3199A.1         | 02-Jul-21/K        | < 0.01     | 0.17       | 0.04       | 0.02       |



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DATE RECEIVED: 25-Jun-21

JOB/PROJECT NO.: Halls Glen WDS

DATE REPORTED: 06-Jul-21

P.O. NUMBER: 12987-002

SAMPLE MATRIX: Groundwater

WATERWORKS NO.

| Parameter      | Units | R.L.  | Reference Method | Date/Site Analyzed | Client I.D. | GW_QAQC5    | MW12-II     | MW12-III    | MW3-I       |
|----------------|-------|-------|------------------|--------------------|-------------|-------------|-------------|-------------|-------------|
|                |       |       |                  |                    | Sample I.D. | B21-19679-5 | B21-19679-6 | B21-19679-7 | B21-19679-8 |
| Date Collected |       |       |                  |                    | 24-Jun-21   | 24-Jun-21   | 24-Jun-21   | 24-Jun-21   | 24-Jun-21   |
| Potassium      | mg/L  | 0.1   | SM 3120          | 28-Jun-21/O        | 3.0         | 3.5         | 1.6         | 3.3         |             |
| Sodium         | mg/L  | 0.2   | SM 3120          | 28-Jun-21/O        | 11.6        | 46.8        | 16.0        | 25.2        |             |
| Zinc           | mg/L  | 0.005 | SM 3120          | 28-Jun-21/O        | < 0.005     | < 0.005     | < 0.005     | < 0.005     | < 0.005     |

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JOB/PROJECT NO.: Halls Glen WDS

DATE REPORTED: 06-Jul-21

P.O. NUMBER: 12987-002

SAMPLE MATRIX: Groundwater

WATERWORKS NO.

| Parameter                  | Units    | R.L.     | Reference Method | Date/Site Analyzed | Client I.D. | MW6-I        | MW6-II       | MW5-II       | MW5-I        |
|----------------------------|----------|----------|------------------|--------------------|-------------|--------------|--------------|--------------|--------------|
|                            |          |          |                  |                    | Sample I.D. | B21-19679-10 | B21-19679-11 | B21-19679-12 | B21-19679-13 |
| Date Collected             |          |          |                  |                    | 24-Jun-21   | 24-Jun-21    | 24-Jun-21    | 24-Jun-21    | 24-Jun-21    |
| Alkalinity(CaCO3) to pH4.5 | mg/L     | 5        | SM 2320B         | 28-Jun-21/O        |             | 342          | 1120         | 826          | 757          |
| Conductivity @25°C         | µmho/cm  | 1        | SM 2510B         | 28-Jun-21/O        |             | 1020         | 2440         | 1960         | 1730         |
| pH @25°C                   | pH Units |          | SM 4500H         | 28-Jun-21/O        |             | 7.59         | 7.54         | 7.67         | 7.35         |
| Total Dissolved Solids     | mg/L     | 3        | SM 2540D         | 05-Jul-21/O        |             | 544          | 1350         | 1080         | 946          |
| Dissolved Organic Carbon   | mg/L     | 0.2      | EPA 415.2        | 28-Jun-21/O        |             | 4.1          | 22.3         | 14.1         | 13.4         |
| COD                        | mg/L     | 5        | SM5220C          | 28-Jun-21/K        |             | 31           | 119          | 113          | 134          |
| Phenolics                  | mg/L     | 0.002    | MOEE 3179        | 28-Jun-21/K        |             | < 0.002      | < 0.002      | < 0.002      | < 0.002      |
| Chloride                   | mg/L     | 0.5      | SM4110C          | 28-Jun-21/O        |             | 124          | 167          | 172          | 147          |
| Ammonia (N)-Total          | mg/L     | 0.01     | SM4500-NH3-H     | 29-Jun-21/K        |             | 2.84         | 43.0         | 26.4         | 16.4         |
| Sulphate                   | mg/L     | 1        | SM4110C          | 28-Jun-21/O        |             | 29           | 83           | 7            | 8            |
| Nitrite (N)                | mg/L     | 0.05     | SM4110C          | 28-Jun-21/O        |             | < 0.05       | < 0.05       | < 0.05       | < 0.05       |
| Nitrate (N)                | mg/L     | 0.05     | SM4110C          | 28-Jun-21/O        |             | 1.50         | 0.06         | 0.20         | 0.09         |
| Total Kjeldahl Nitrogen    | mg/L     | 0.1      | E3199A.1         | 02-Jul-21/K        |             | 4.7          | 48.0         | 30.3         | 21.5         |
| Mercury                    | mg/L     | 0.00002  | SM 3112 B        | 29-Jun-21/O        |             | < 0.00002    | < 0.00002    | < 0.00002    | < 0.00002    |
| Hardness (as CaCO3)        | mg/L     | 1        | SM 3120          | 28-Jun-21/O        |             | 411          | 969          | 810          | 746          |
| Arsenic                    | mg/L     | 0.0001   | EPA 200.8        | 29-Jun-21/O        |             | 0.0003       | 0.0024       | 0.0031       | 0.0030       |
| Barium                     | mg/L     | 0.001    | SM 3120          | 28-Jun-21/O        |             | 0.233        | 0.699        | 0.910        | 0.911        |
| Boron                      | mg/L     | 0.005    | SM 3120          | 28-Jun-21/O        |             | 0.087        | 1.08         | 0.662        | 0.502        |
| Cadmium                    | mg/L     | 0.000015 | EPA 200.8        | 29-Jun-21/O        |             | < 0.000015   | < 0.000029   | < 0.000029   | < 0.000015   |
| Calcium                    | mg/L     | 0.02     | SM 3120          | 28-Jun-21/O        |             | 151          | 310          | 269          | 255          |
| Chromium                   | mg/L     | 0.001    | EPA 200.8        | 29-Jun-21/O        |             | < 0.001      | 0.002        | 0.001        | 0.001        |
| Copper                     | mg/L     | 0.0001   | EPA 200.8        | 29-Jun-21/O        |             | 0.0014       | 0.0074       | 0.0023       | 0.0002       |
| Iron                       | mg/L     | 0.005    | SM 3120          | 28-Jun-21/O        |             | 0.717        | 21.7         | 34.4         | 44.5         |
| Lead                       | mg/L     | 0.00002  | EPA 200.8        | 29-Jun-21/O        |             | 0.00015      | 0.00046      | 0.00249      | 0.00011      |
| Magnesium                  | mg/L     | 0.02     | SM 3120          | 28-Jun-21/O        |             | 8.04         | 47.1         | 33.4         | 26.5         |
| Manganese                  | mg/L     | 0.001    | SM 3120          | 28-Jun-21/O        |             | 0.698        | 8.58         | 6.23         | 3.12         |



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 Tel: 613-544-2001  
 Fax: 613-544-2770

DATE RECEIVED: 25-Jun-21

JOB/PROJECT NO.: Halls Glen WDS

DATE REPORTED: 06-Jul-21

P.O. NUMBER: 12987-002

SAMPLE MATRIX: Groundwater

WATERWORKS NO.

|                |              |              |              |              |
|----------------|--------------|--------------|--------------|--------------|
| Client I.D.    | MW6-I        | MW6-II       | MW5-II       | MW5-I        |
| Sample I.D.    | B21-19679-10 | B21-19679-11 | B21-19679-12 | B21-19679-13 |
| Date Collected | 24-Jun-21    | 24-Jun-21    | 24-Jun-21    | 24-Jun-21    |

| Parameter        | Units | R.L.  | Reference Method | Date/Site Analyzed |         |       |       |         |
|------------------|-------|-------|------------------|--------------------|---------|-------|-------|---------|
| Phosphorus-Total | mg/L  | 0.01  | E3199A.1         | 02-Jul-21/K        | 0.28    | 0.04  | 0.41  | 1.10    |
| Potassium        | mg/L  | 0.1   | SM 3120          | 28-Jun-21/O        | 8.6     | 51.4  | 41.8  | 30.0    |
| Sodium           | mg/L  | 0.2   | SM 3120          | 28-Jun-21/O        | 64.2    | 158   | 117   | 85.0    |
| Zinc             | mg/L  | 0.005 | SM 3120          | 28-Jun-21/O        | < 0.005 | 0.006 | 0.006 | < 0.005 |

1 Filtered and acidified from GWC



Michelle Dubien  
 Lab Manager

R.L. = Reporting Limit

Test methods may be modified from specified reference method unless indicated by an \*

Site Analyzed=K-Kingston,W-Windsor,O-Ottawa,R-Richmond Hill,B-Barrie

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C.O.C.: G103644

REPORT No. B21-19679 (i)

**Report To:**

**Cambium Environmental**  
 194 Sophia St.,  
 Peterborough ON K9H 1E5 Canada

**Attention:** Cameron MacDougall

**Caduceon Environmental Laboratories**

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DATE RECEIVED: 25-Jun-21

JOB/PROJECT NO.: Halls Glen WDS

DATE REPORTED: 06-Jul-21

P.O. NUMBER: 12987-002

SAMPLE MATRIX: Groundwater

WATERWORKS NO.

| Parameter                  | Units    | R.L.     | Reference Method | Date/Site Analyzed | Client I.D. | GW_QAQC1     | MW7-11       | MW10-1       | MW10-2       |
|----------------------------|----------|----------|------------------|--------------------|-------------|--------------|--------------|--------------|--------------|
|                            |          |          |                  |                    | Sample I.D. | B21-19679-14 | B21-19679-16 | B21-19679-17 | B21-19679-18 |
| Date Collected             |          |          |                  |                    | 24-Jun-21   | 24-Jun-21    | 24-Jun-21    | 24-Jun-21    | 24-Jun-21    |
| Alkalinity(CaCO3) to pH4.5 | mg/L     | 5        | SM 2320B         | 28-Jun-21/O        | 755         | 510          | 251          | 260          |              |
| Conductivity @25°C         | µmho/cm  | 1        | SM 2510B         | 28-Jun-21/O        | 1710        | 1220         | 648          | 660          |              |
| pH @25°C                   | pH Units |          | SM 4500H         | 28-Jun-21/O        | 7.35        | 7.72         | 7.76         | 7.83         |              |
| Total Dissolved Solids     | mg/L     | 3        | SM 2540D         | 05-Jul-21/O        | 939         | 659          | 336          | 343          |              |
| Dissolved Organic Carbon   | mg/L     | 0.2      | EPA 415.2        | 28-Jun-21/O        | 14.3        | 9.1          | 2.8          | 2.8          |              |
| COD                        | mg/L     | 5        | SM5220C          | 28-Jun-21/K        | 164         | 33           | < 5          | 53           |              |
| Phenolics                  | mg/L     | 0.002    | MOE 3179         | 28-Jun-21/K        | < 0.002     | < 0.002      | < 0.002      | < 0.002      |              |
| Chloride                   | mg/L     | 0.5      | SM4110C          | 28-Jun-21/O        | 146         | 104          | 54.2         | 59.6         |              |
| Ammonia (N)-Total          | mg/L     | 0.01     | SM4500-NH3-H     | 29-Jun-21/K        | 16.2        | 0.39         | 0.15         | 0.93         |              |
| Sulphate                   | mg/L     | 1        | SM4110C          | 28-Jun-21/O        | 7           | 37           | 23           | 10           |              |
| Nitrite (N)                | mg/L     | 0.05     | SM4110C          | 28-Jun-21/O        | < 0.05      | < 0.05       | < 0.05       | < 0.05       |              |
| Nitrate (N)                | mg/L     | 0.05     | SM4110C          | 28-Jun-21/O        | 0.11        | 0.48         | < 0.05       | 0.07         |              |
| Total Kjeldahl Nitrogen    | mg/L     | 0.1      | E3199A.1         | 02-Jul-21/K        | 21.0        | 0.9          | 0.1          | 1.0          |              |
| Mercury                    | mg/L     | 0.00002  | SM 3112 B        | 29-Jun-21/O        | < 0.00002   | < 0.00002    | < 0.00002    | < 0.00002    |              |
| Hardness (as CaCO3)        | mg/L     | 1        | SM 3120          | 28-Jun-21/O        | 753         | 588          | 335          | 342          |              |
| Arsenic                    | mg/L     | 0.0001   | EPA 200.8        | 29-Jun-21/O        | 0.0030      | 0.0002       | < 0.0001     | 0.0003       |              |
| Barium                     | mg/L     | 0.001    | SM 3120          | 28-Jun-21/O        | 0.918       | 0.416        | 0.944        | 0.510        |              |
| Boron                      | mg/L     | 0.005    | SM 3120          | 28-Jun-21/O        | 0.502       | 0.324        | 0.184        | 0.109        |              |
| Cadmium                    | mg/L     | 0.000015 | EPA 200.8        | 29-Jun-21/O        | < 0.000015  | < 0.000015   | < 0.000015   | < 0.000015   |              |
| Calcium                    | mg/L     | 0.02     | SM 3120          | 28-Jun-21/O        | 257         | 200          | 105          | 118          |              |
| Chromium                   | mg/L     | 0.001    | EPA 200.8        | 29-Jun-21/O        | 0.001       | < 0.001      | < 0.001      | < 0.001      |              |
| Copper                     | mg/L     | 0.0001   | EPA 200.8        | 29-Jun-21/O        | 0.0002      | 0.0046       | 0.0001       | 0.0012       |              |
| Iron                       | mg/L     | 0.005    | SM 3120          | 28-Jun-21/O        | 44.6        | 0.051        | 0.018        | < 0.005      |              |
| Lead                       | mg/L     | 0.00002  | EPA 200.8        | 29-Jun-21/O        | 0.00010     | 0.00025      | 0.00005      | 0.00046      |              |
| Magnesium                  | mg/L     | 0.02     | SM 3120          | 28-Jun-21/O        | 26.8        | 21.3         | 17.7         | 11.4         |              |
| Manganese                  | mg/L     | 0.001    | SM 3120          | 28-Jun-21/O        | 3.14        | 0.022        | 0.062        | 0.038        |              |



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Michelle Dubien  
 Lab Manager

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REPORT No. B21-19679 (i)

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 194 Sophia St.,  
 Peterborough ON K9H 1E5 Canada

**Attention:** Cameron MacDougall

**Caduceon Environmental Laboratories**

285 Dalton Ave  
 Kingston Ontario K7K 6Z1  
 Tel: 613-544-2001  
 Fax: 613-544-2770

DATE RECEIVED: 25-Jun-21

JOB/PROJECT NO.: Halls Glen WDS

DATE REPORTED: 06-Jul-21

P.O. NUMBER: 12987-002

SAMPLE MATRIX: Groundwater

WATERWORKS NO.

|                |              |              |              |              |
|----------------|--------------|--------------|--------------|--------------|
| Client I.D.    | GW_QAQC1     | MW7-11       | MW10-1       | MW10-2       |
| Sample I.D.    | B21-19679-14 | B21-19679-16 | B21-19679-17 | B21-19679-18 |
| Date Collected | 24-Jun-21    | 24-Jun-21    | 24-Jun-21    | 24-Jun-21    |

| Parameter        | Units | R.L.  | Reference Method | Date/Site Analyzed |         |         |         |         |
|------------------|-------|-------|------------------|--------------------|---------|---------|---------|---------|
| Phosphorus-Total | mg/L  | 0.01  | E3199A.1         | 02-Jul-21/K        | 1.36    | 0.08    | 0.03    | 0.11    |
| Potassium        | mg/L  | 0.1   | SM 3120          | 28-Jun-21/O        | 30.2    | 10.3    | 3.5     | 2.0     |
| Sodium           | mg/L  | 0.2   | SM 3120          | 28-Jun-21/O        | 85.7    | 82.8    | 11.2    | 6.1     |
| Zinc             | mg/L  | 0.005 | SM 3120          | 28-Jun-21/O        | < 0.005 | < 0.005 | < 0.005 | < 0.005 |

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Michelle Dubien  
 Lab Manager

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DATE RECEIVED: 25-Jun-21

JOB/PROJECT NO.: Halls Glen WDS

DATE REPORTED: 06-Jul-21

P.O. NUMBER: 12987-002

SAMPLE MATRIX: Groundwater

WATERWORKS NO.

| Parameter                  | Units    | R.L.     | Reference Method | Date/Site Analyzed | Client I.D. | MW11-I       | MW11-II      | MW7-I        | MW8-II       |
|----------------------------|----------|----------|------------------|--------------------|-------------|--------------|--------------|--------------|--------------|
|                            |          |          |                  |                    | Sample I.D. | B21-19679-19 | B21-19679-20 | B21-19679-21 | B21-19679-22 |
| Date Collected             |          |          |                  |                    | 24-Jun-21   | 24-Jun-21    | 24-Jun-21    | 24-Jun-21    | 24-Jun-21    |
| Alkalinity(CaCO3) to pH4.5 | mg/L     | 5        | SM 2320B         | 28-Jun-21/O        | 271         | 271          | 336          | 276          |              |
| Conductivity @25°C         | µmho/cm  | 1        | SM 2510B         | 28-Jun-21/O        | 666         | 659          | 802          | 700          |              |
| pH @25°C                   | pH Units |          | SM 4500H         | 28-Jun-21/O        | 7.91        | 7.81         | 8.16         | 7.94         |              |
| Total Dissolved Solids     | mg/L     | 3        | SM 2540D         | 05-Jul-21/O        | 346         | 342          | 421          | 364          |              |
| Dissolved Organic Carbon   | mg/L     | 0.2      | EPA 415.2        | 28-Jun-21/O        | 3.0         | 4.4          | 4.5          | 3.7          |              |
| COD                        | mg/L     | 5        | SM5220C          | 28-Jun-21/K        | 65          | < 5          | 125          | 7            |              |
| Phenolics                  | mg/L     | 0.002    | MOEE 3179        | 28-Jun-21/K        | < 0.002     | < 0.002      | < 0.002      | < 0.002      |              |
| Chloride                   | mg/L     | 0.5      | SM4110C          | 28-Jun-21/O        | 27.9        | 52.0         | 53.6         | 65.5         |              |
| Ammonia (N)-Total          | mg/L     | 0.01     | SM4500-NH3-H     | 29-Jun-21/K        | 0.88        | 0.95         | 0.04         | < 0.01       |              |
| Sulphate                   | mg/L     | 1        | SM4110C          | 28-Jun-21/O        | 62          | 11           | 31           | 9            |              |
| Nitrite (N)                | mg/L     | 0.05     | SM4110C          | 28-Jun-21/O        | < 0.05      | < 0.05       | < 0.05       | < 0.05       |              |
| Nitrate (N)                | mg/L     | 0.05     | SM4110C          | 28-Jun-21/O        | < 0.05      | 0.07         | 0.19         | 0.74         |              |
| Total Kjeldahl Nitrogen    | mg/L     | 0.1      | E3199A.1         | 02-Jul-21/K        | 1.6         | 1.0          | 1.3          | 0.4          |              |
| Mercury                    | mg/L     | 0.00002  | SM 3112 B        | 29-Jun-21/O        | < 0.00002   | < 0.00002    | < 0.00002    | < 0.00002    |              |
| Hardness (as CaCO3)        | mg/L     | 1        | SM 3120          | 28-Jun-21/O        | 339         | 339          | 129          | 302          |              |
| Arsenic                    | mg/L     | 0.0001   | EPA 200.8        | 29-Jun-21/O        | < 0.0001    | < 0.0001     | 0.0005       | < 0.0001     |              |
| Barium                     | mg/L     | 0.001    | SM 3120          | 28-Jun-21/O        | 0.570       | 0.528        | 0.162        | 0.135        |              |
| Boron                      | mg/L     | 0.005    | SM 3120          | 28-Jun-21/O        | 0.610       | 0.127        | 0.533        | 0.015        |              |
| Cadmium                    | mg/L     | 0.000015 | EPA 200.8        | 29-Jun-21/O        | < 0.000015  | < 0.000015   | < 0.000015   | < 0.000015   |              |
| Calcium                    | mg/L     | 0.02     | SM 3120          | 28-Jun-21/O        | 79.2        | 117          | 36.9         | 114          |              |
| Chromium                   | mg/L     | 0.001    | EPA 200.8        | 29-Jun-21/O        | < 0.001     | < 0.001      | < 0.001      | 0.073        |              |
| Copper                     | mg/L     | 0.0001   | EPA 200.8        | 29-Jun-21/O        | < 0.0001    | 0.0008       | 0.0015       | 0.0008       |              |
| Iron                       | mg/L     | 0.005    | SM 3120          | 28-Jun-21/O        | 0.116       | 3.03         | 0.088        | 0.019        |              |
| Lead                       | mg/L     | 0.00002  | EPA 200.8        | 29-Jun-21/O        | 0.00007     | 0.00006      | 0.00026      | 0.00013      |              |
| Magnesium                  | mg/L     | 0.02     | SM 3120          | 28-Jun-21/O        | 34.4        | 11.3         | 8.90         | 4.06         |              |
| Manganese                  | mg/L     | 0.001    | SM 3120          | 28-Jun-21/O        | 0.086       | 0.035        | 0.006        | 0.004        |              |



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Michelle Dubien  
 Lab Manager

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 Peterborough ON K9H 1E5 Canada

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DATE RECEIVED: 25-Jun-21

JOB/PROJECT NO.: Halls Glen WDS

DATE REPORTED: 06-Jul-21

P.O. NUMBER: 12987-002

SAMPLE MATRIX: Groundwater

WATERWORKS NO.

| Parameter        | Units | R.L.  | Reference Method | Date/Site Analyzed | Client I.D.  | MW11-I         | MW11-II | MW7-I   | MW8-II  |         |
|------------------|-------|-------|------------------|--------------------|--------------|----------------|---------|---------|---------|---------|
|                  |       |       |                  |                    | Sample I.D.  | Date Collected |         |         |         |         |
| Phosphorus-Total | mg/L  | 0.01  | E3199A.1         | 02-Jul-21/K        | B21-19679-19 | 24-Jun-21      | 0.18    | 0.08    | 1.91    | 0.10    |
| Potassium        | mg/L  | 0.1   | SM 3120          | 28-Jun-21/O        | B21-19679-20 | 24-Jun-21      | 5.4     | 2.3     | 2.3     | 1.0     |
| Sodium           | mg/L  | 0.2   | SM 3120          | 28-Jun-21/O        | B21-19679-21 | 24-Jun-21      | 19.8    | 7.3     | 157     | 38.3    |
| Zinc             | mg/L  | 0.005 | SM 3120          | 28-Jun-21/O        | B21-19679-22 | 24-Jun-21      | < 0.005 | < 0.005 | < 0.005 | < 0.005 |

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REPORT No. B21-19679 (ii)

Rev. 1

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 Peterborough ON K9H 1E5 Canada

**Attention:** Cameron MacDougall

**Caduceon Environmental Laboratories**

285 Dalton Ave  
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 Tel: 613-544-2001  
 Fax: 613-544-2770

DATE RECEIVED: 25-Jun-21

JOB/PROJECT NO.: Halls Glen WDS

DATE REPORTED: 22-Apr-22

P.O. NUMBER: 12987-002

SAMPLE MATRIX: Groundwater

WATERWORKS NO.

| Parameter                                   | Units | R.L. | Reference Method | Date/Site Analyzed | Client I.D. | MW1-I     | MW4-I     | MW4-II    | MW12-I    |
|---|-------|------|------------------|--------------------|-------------|-----------|-----------|-----------|-----------|
|   |       |      |                  |                    | Sample I.D. | 24-Jun-21 | 24-Jun-21 | 24-Jun-21 | 24-Jun-21 |
| Benzene                                     | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        | B21-19679-1 | < 0.5     | < 0.5     | < 0.5     | < 0.5     |
| Bromodichloromethane                        | µg/L  | 2    | EPA 8260         | 29-Jun-21/R        | B21-19679-2 |           | < 2       | < 2       |           |
| Bromoform                                   | µg/L  | 5    | EPA 8260         | 29-Jun-21/R        | B21-19679-3 |           | < 5       | < 5       |           |
| Bromomethane                                | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        | B21-19679-4 |           | < 0.5     | < 0.5     |           |
| Carbon Tetrachloride                        | µg/L  | 0.2  | EPA 8260         | 29-Jun-21/R        |             |           | < 0.2     | < 0.2     |           |
| Chloroethane                                | µg/L  | 3    | EPA 8260         | 29-Jun-21/R        |             |           | < 3       | < 3       |           |
| Chloroform                                  | µg/L  | 1    | EPA 8260         | 29-Jun-21/R        |             |           | < 1       | < 1       |           |
| Chloromethane                               | µg/L  | 2    | EPA 8260         | 29-Jun-21/R        |             |           | < 2       | < 2       |           |
| Dibromochloromethane                        | µg/L  | 2    | EPA 8260         | 29-Jun-21/R        |             |           | < 2       | < 2       |           |
| Dibromoethane, 1,2-<br>(Ethylene Dibromide) | µg/L  | 0.2  | EPA 8260         | 29-Jun-21/R        |             |           | < 0.2     | < 0.2     |           |
| Dichlorobenzene, 1,2-                       | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        |             |           | < 0.5     | < 0.5     |           |
| Dichlorobenzene, 1,3-                       | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        |             |           | < 0.5     | < 0.5     |           |
| Dichlorobenzene, 1,4-                       | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        |             | < 0.5     | < 0.5     | < 0.5     | < 0.5     |
| Dichloroethane, 1,1-                        | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        |             |           | < 0.5     | < 0.5     |           |
| Dichloroethane, 1,2-                        | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        |             |           | < 0.5     | < 0.5     |           |
| Dichloroethylene, 1,1-                      | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        |             |           | < 0.5     | < 0.5     |           |
| Dichloroethene, cis-1,2-                    | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        |             |           | < 0.5     | < 0.5     |           |
| Dichloroethene, trans-1,2-                  | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        |             |           | < 0.5     | < 0.5     |           |
| Dichloromethane<br>(Methylene Chloride)     | µg/L  | 5    | EPA 8260         | 29-Jun-21/R        |             | < 5       | < 5       | < 5       | < 5       |
| Dichloropropane, 1,2-                       | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        |             |           | < 0.5     | < 0.5     |           |
| Dichloropropene, trans-1,3-                 | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        |             |           | < 0.5     | < 0.5     |           |
| Dichloropropene, cis-1,3-                   | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        |             |           | < 0.5     | < 0.5     |           |
| Monochlorobenzene<br>(Chlorobenzene)        | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        |             | < 0.5     | < 0.5     | < 0.5     | < 0.5     |
| Styrene                                     | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        |             |           | < 0.5     | < 0.5     |           |
| Tetrachloroethane, 1,1,1,2-                 | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        |             |           | < 0.5     | < 0.5     |           |



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DATE RECEIVED: 25-Jun-21

JOB/PROJECT NO.: Halls Glen WDS

DATE REPORTED: 22-Apr-22

P.O. NUMBER: 12987-002

SAMPLE MATRIX: Groundwater

WATERWORKS NO.

| Parameter                   | Units | R.L. | Reference Method | Date/Site Analyzed | Client I.D.    | MW1-I     | MW4-I     | MW4-II    | MW12-I    |
|-----------------------------|-------|------|------------------|--------------------|----------------|-----------|-----------|-----------|-----------|
|                             |       |      |                  |                    | Sample I.D.    |           |           |           |           |
|                             |       |      |                  |                    | Date Collected | 24-Jun-21 | 24-Jun-21 | 24-Jun-21 | 24-Jun-21 |
| Tetrachloroethane, 1,1,2,2- | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        |                | < 0.5     | < 0.5     | < 0.5     |           |
| Tetrachloroethylene         | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        |                | < 0.5     | < 0.5     | < 0.5     |           |
| Toluene                     | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        |                | < 0.5     | < 0.5     | < 0.5     | < 0.5     |
| Trichloroethane, 1,1,1-     | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        |                | < 0.5     | < 0.5     | < 0.5     |           |
| Trichloroethane, 1,1,2-     | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        |                | < 0.5     | < 0.5     | < 0.5     |           |
| Trichloroethylene           | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        |                | < 0.5     | < 0.5     | < 0.5     |           |
| Trichlorofluoromethane      | µg/L  | 5    | EPA 8260         | 29-Jun-21/R        |                | < 5       | < 5       | < 5       |           |
| Vinyl Chloride              | µg/L  | 0.2  | EPA 8260         | 29-Jun-21/R        |                | < 0.2     | < 0.2     | < 0.2     | < 0.2     |

1 Revised to include additional parameter



R.L. = Reporting Limit

Test methods may be modified from specified reference method unless indicated by an \*

Site Analyzed=K-Kingston, W-Windsor, O-Ottawa, R-Richmond Hill, B-Barrie

Michelle Dubien  
 Lab Manager

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C.O.C.: G103644

REPORT No. B21-19679 (ii)

Rev. 1

**Report To:**

**Cambium Environmental**  
 194 Sophia St.,  
 Peterborough ON K9H 1E5 Canada

**Attention:** Cameron MacDougall

**Caduceon Environmental Laboratories**

285 Dalton Ave  
 Kingston Ontario K7K 6Z1  
 Tel: 613-544-2001  
 Fax: 613-544-2770

DATE RECEIVED: 25-Jun-21

JOB/PROJECT NO.: Halls Glen WDS

DATE REPORTED: 22-Apr-22

P.O. NUMBER: 12987-002

SAMPLE MATRIX: Groundwater

WATERWORKS NO.

| Parameter                                   | Units | R.L. | Reference Method | Date/Site Analyzed | Client I.D. | GW_QAQC5    | MW12-II     | MW12-III    | MW3-I       |
|---|-------|------|------------------|--------------------|-------------|-------------|-------------|-------------|-------------|
|   |       |      |                  |                    | Sample I.D. | B21-19679-5 | B21-19679-6 | B21-19679-7 | B21-19679-8 |
| Date Collected                              |       |      |                  |                    | 24-Jun-21   | 24-Jun-21   | 24-Jun-21   | 24-Jun-21   | 24-Jun-21   |
| Benzene                                     | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        | < 0.5       | < 0.5       | < 0.5       | < 0.5       | < 0.5       |
| Bromodichloromethane                        | µg/L  | 2    | EPA 8260         | 29-Jun-21/R        |             |             |             |             | < 2         |
| Bromoform                                   | µg/L  | 5    | EPA 8260         | 29-Jun-21/R        |             |             |             |             | < 5         |
| Bromomethane                                | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        |             |             |             |             | < 0.5       |
| Carbon Tetrachloride                        | µg/L  | 0.2  | EPA 8260         | 29-Jun-21/R        |             |             |             |             | < 0.2       |
| Chloroethane                                | µg/L  | 3    | EPA 8260         | 29-Jun-21/R        |             |             |             |             | < 3         |
| Chloroform                                  | µg/L  | 1    | EPA 8260         | 29-Jun-21/R        |             |             |             |             | < 1         |
| Chloromethane                               | µg/L  | 2    | EPA 8260         | 29-Jun-21/R        |             |             |             |             | < 2         |
| Dibromochloromethane                        | µg/L  | 2    | EPA 8260         | 29-Jun-21/R        |             |             |             |             | < 2         |
| Dibromoethane, 1,2-<br>(Ethylene Dibromide) | µg/L  | 0.2  | EPA 8260         | 29-Jun-21/R        |             |             |             |             | < 0.2       |
| Dichlorobenzene, 1,2-                       | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        |             |             |             |             | < 0.5       |
| Dichlorobenzene, 1,3-                       | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        |             |             |             |             | < 0.5       |
| Dichlorobenzene, 1,4-                       | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        | < 0.5       | < 0.5       | < 0.5       | < 0.5       | < 0.5       |
| Dichloroethane, 1,1-                        | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        |             |             |             |             | < 0.5       |
| Dichloroethane, 1,2-                        | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        |             |             |             |             | < 0.5       |
| Dichloroethylene, 1,1-                      | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        |             |             |             |             | < 0.5       |
| Dichloroethene, cis-1,2-                    | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        |             |             |             |             | < 0.5       |
| Dichloroethene, trans-1,2-                  | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        |             |             |             |             | < 0.5       |
| Dichloromethane<br>(Methylene Chloride)     | µg/L  | 5    | EPA 8260         | 29-Jun-21/R        | < 5         | < 5         | < 5         | < 5         | < 5         |
| Dichloropropane, 1,2-                       | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        |             |             |             |             | < 0.5       |
| Dichloropropene, trans-1,3-                 | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        |             |             |             |             | < 0.5       |
| Dichloropropene, cis-1,3-                   | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        |             |             |             |             | < 0.5       |
| Monochlorobenzene<br>(Chlorobenzene)        | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        |             | < 0.5       | < 0.5       | < 0.5       | < 0.5       |
| Styrene                                     | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        |             |             |             |             | < 0.5       |
| Tetrachloroethane, 1,1,1,2-                 | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        |             |             |             |             | < 0.5       |



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 Lab Manager

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DATE RECEIVED: 25-Jun-21

JOB/PROJECT NO.: Halls Glen WDS

DATE REPORTED: 22-Apr-22

P.O. NUMBER: 12987-002

SAMPLE MATRIX: Groundwater

WATERWORKS NO.

| Parameter                   | Units | R.L. | Reference Method | Date/Site Analyzed | Client I.D. | GW_QAQC5    | MW12-II     | MW12-III    | MW3-I       |
|-----------------------------|-------|------|------------------|--------------------|-------------|-------------|-------------|-------------|-------------|
|                             |       |      |                  |                    | Sample I.D. | B21-19679-5 | B21-19679-6 | B21-19679-7 | B21-19679-8 |
| Date Collected              |       |      |                  |                    | 24-Jun-21   | 24-Jun-21   | 24-Jun-21   | 24-Jun-21   | 24-Jun-21   |
| Tetrachloroethane, 1,1,2,2- | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        |             |             |             |             | < 0.5       |
| Tetrachloroethylene         | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        |             |             |             |             | < 0.5       |
| Toluene                     | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        | < 0.5       | < 0.5       | < 0.5       | < 0.5       | < 0.5       |
| Trichloroethane, 1,1,1-     | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        |             |             |             |             | < 0.5       |
| Trichloroethane, 1,1,2-     | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        |             |             |             |             | < 0.5       |
| Trichloroethylene           | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        |             |             |             |             | < 0.5       |
| Trichlorofluoromethane      | µg/L  | 5    | EPA 8260         | 29-Jun-21/R        |             |             |             |             | < 5         |
| Vinyl Chloride              | µg/L  | 0.2  | EPA 8260         | 29-Jun-21/R        | < 0.2       | < 0.2       | < 0.2       | < 0.2       | < 0.2       |

1 Revised to include additional parameter



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 Lab Manager

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JOB/PROJECT NO.: Halls Glen WDS

DATE REPORTED: 22-Apr-22

P.O. NUMBER: 12987-002

SAMPLE MATRIX: Groundwater

WATERWORKS NO.

| Parameter                                   | Units | R.L. | Reference Method | Date/Site Analyzed | Client I.D. | GW_QAQC5    | MW6-I        | MW6-II       | MW5-II       |
|---|-------|------|------------------|--------------------|-------------|-------------|--------------|--------------|--------------|
|   |       |      |                  |                    | Sample I.D. | B21-19679-9 | B21-19679-10 | B21-19679-11 | B21-19679-12 |
| Date Collected                              |       |      |                  |                    | 24-Jun-21   | 24-Jun-21   | 24-Jun-21    | 24-Jun-21    | 24-Jun-21    |
| Benzene                                     | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        | < 0.5       | < 0.5       | < 0.5        | < 0.5        | < 0.5        |
| Bromodichloromethane                        | µg/L  | 2    | EPA 8260         | 29-Jun-21/R        | < 2         | < 2         | < 2          | < 2          | < 2          |
| Bromoform                                   | µg/L  | 5    | EPA 8260         | 29-Jun-21/R        | < 5         | < 5         | < 5          | < 5          | < 5          |
| Bromomethane                                | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        | < 0.5       | < 0.5       | < 0.5        | < 0.5        | < 0.5        |
| Carbon Tetrachloride                        | µg/L  | 0.2  | EPA 8260         | 29-Jun-21/R        | < 0.2       | < 0.2       | < 0.2        | < 0.2        | < 0.2        |
| Chloroethane                                | µg/L  | 3    | EPA 8260         | 29-Jun-21/R        | < 3         | < 3         | < 3          | < 3          | < 3          |
| Chloroform                                  | µg/L  | 1    | EPA 8260         | 29-Jun-21/R        | < 1         | < 1         | < 1          | < 1          | < 1          |
| Chloromethane                               | µg/L  | 2    | EPA 8260         | 29-Jun-21/R        | < 2         | < 2         | < 2          | < 2          | < 2          |
| Dibromochloromethane                        | µg/L  | 2    | EPA 8260         | 29-Jun-21/R        | < 2         | < 2         | < 2          | < 2          | < 2          |
| Dibromoethane, 1,2-<br>(Ethylene Dibromide) | µg/L  | 0.2  | EPA 8260         | 29-Jun-21/R        | < 0.2       | < 0.2       | < 0.2        | < 0.2        | < 0.2        |
| Dichlorobenzene, 1,2-                       | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        | < 0.5       | < 0.5       | < 0.5        | < 0.5        | < 0.5        |
| Dichlorobenzene, 1,3-                       | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        | < 0.5       | < 0.5       | < 0.5        | < 0.5        | < 0.5        |
| Dichlorobenzene, 1,4-                       | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        | < 0.5       | < 0.5       | < 0.5        | < 0.5        | < 0.5        |
| Dichloroethane, 1,1-                        | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        | < 0.5       | < 0.5       | < 0.5        | < 0.5        | < 0.5        |
| Dichloroethane, 1,2-                        | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        | < 0.5       | < 0.5       | < 0.5        | < 0.5        | < 0.5        |
| Dichloroethylene, 1,1-                      | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        | < 0.5       | < 0.5       | < 0.5        | < 0.5        | < 0.5        |
| Dichloroethene, cis-1,2-                    | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        | < 0.5       | < 0.5       | < 0.5        | < 0.5        | < 0.5        |
| Dichloroethene, trans-1,2-                  | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        | < 0.5       | < 0.5       | < 0.5        | < 0.5        | < 0.5        |
| Dichloromethane<br>(Methylene Chloride)     | µg/L  | 5    | EPA 8260         | 29-Jun-21/R        | < 5         | < 5         | < 5          | < 5          | < 5          |
| Dichloropropane, 1,2-                       | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        | < 0.5       | < 0.5       | < 0.5        | < 0.5        | < 0.5        |
| Dichloropropene, trans-1,3-                 | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        | < 0.5       | < 0.5       | < 0.5        | < 0.5        | < 0.5        |
| Dichloropropene, cis-1,3-                   | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        | < 0.5       | < 0.5       | < 0.5        | < 0.5        | < 0.5        |
| Monochlorobenzene<br>(Chlorobenzene)        | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        | < 0.5       | < 0.5       | < 0.5        | < 0.5        | < 0.5        |
| Styrene                                     | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        | < 0.5       | < 0.5       | < 0.5        | < 0.5        | < 0.5        |



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DATE RECEIVED: 25-Jun-21

JOB/PROJECT NO.: Halls Glen WDS

DATE REPORTED: 22-Apr-22

P.O. NUMBER: 12987-002

SAMPLE MATRIX: Groundwater

WATERWORKS NO.

|                       |             |              |              |              |
|-----------------------|-------------|--------------|--------------|--------------|
| <b>Client I.D.</b>    | GW_QAQC5    | MW6-I        | MW6-II       | MW5-II       |
| <b>Sample I.D.</b>    | B21-19679-9 | B21-19679-10 | B21-19679-11 | B21-19679-12 |
| <b>Date Collected</b> | 24-Jun-21   | 24-Jun-21    | 24-Jun-21    | 24-Jun-21    |

| Parameter                  | Units | R.L. | Reference Method | Date/Site Analyzed |       |       |       |       |
|----------------------------|-------|------|------------------|--------------------|-------|-------|-------|-------|
| Tetrachloroethane,1,1,1,2- | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        | < 0.5 | < 0.5 | < 0.5 | < 0.5 |
| Tetrachloroethane,1,1,2,2- | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        | < 0.5 | < 0.5 | < 0.5 | < 0.5 |
| Tetrachloroethylene        | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        | < 0.5 | < 0.5 | < 0.5 | < 0.5 |
| Toluene                    | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        | < 0.5 | < 0.5 | < 0.5 | < 0.5 |
| Trichloroethane,1,1,1-     | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        | < 0.5 | < 0.5 | < 0.5 | < 0.5 |
| Trichloroethane,1,1,2-     | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        | < 0.5 | < 0.5 | < 0.5 | < 0.5 |
| Trichloroethylene          | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        | < 0.5 | < 0.5 | < 0.5 | < 0.5 |
| Trichlorofluoromethane     | µg/L  | 5    | EPA 8260         | 29-Jun-21/R        | < 5   | < 5   | < 5   | < 5   |
| Vinyl Chloride             | µg/L  | 0.2  | EPA 8260         | 29-Jun-21/R        | < 0.2 | < 0.2 | < 0.2 | < 0.2 |

1 Revised to include additional parameter



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DATE RECEIVED: 25-Jun-21

JOB/PROJECT NO.: Halls Glen WDS

DATE REPORTED: 22-Apr-22

P.O. NUMBER: 12987-002

SAMPLE MATRIX: Groundwater

WATERWORKS NO.

| Parameter                                   | Units | R.L. | Reference Method | Date/Site Analyzed | Client I.D. | MW5-I        | GW_QAQC4     | MW7-11       | MW10-I       |
|---|-------|------|------------------|--------------------|-------------|--------------|--------------|--------------|--------------|
|   |       |      |                  |                    | Sample I.D. | B21-19679-13 | B21-19679-15 | B21-19679-16 | B21-19679-17 |
| Date Collected                              |       |      |                  |                    | 24-Jun-21   | 24-Jun-21    | 24-Jun-21    | 24-Jun-21    | 24-Jun-21    |
| Benzene                                     | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Bromodichloromethane                        | µg/L  | 2    | EPA 8260         | 29-Jun-21/R        | < 2         | < 2          | < 2          | < 2          |              |
| Bromoform                                   | µg/L  | 5    | EPA 8260         | 29-Jun-21/R        | < 5         | < 5          | < 5          | < 5          |              |
| Bromomethane                                | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        |              |
| Carbon Tetrachloride                        | µg/L  | 0.2  | EPA 8260         | 29-Jun-21/R        | < 0.2       | < 0.2        | < 0.2        | < 0.2        |              |
| Chloroethane                                | µg/L  | 3    | EPA 8260         | 29-Jun-21/R        | < 3         | < 3          | < 3          | < 3          |              |
| Chloroform                                  | µg/L  | 1    | EPA 8260         | 29-Jun-21/R        | < 1         | < 1          | < 1          | < 1          |              |
| Chloromethane                               | µg/L  | 2    | EPA 8260         | 29-Jun-21/R        | < 2         | < 2          | < 2          | < 2          |              |
| Dibromochloromethane                        | µg/L  | 2    | EPA 8260         | 29-Jun-21/R        | < 2         | < 2          | < 2          | < 2          |              |
| Dibromoethane, 1,2-<br>(Ethylene Dibromide) | µg/L  | 0.2  | EPA 8260         | 29-Jun-21/R        | < 0.2       | < 0.2        | < 0.2        | < 0.2        |              |
| Dichlorobenzene, 1,2-                       | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        |              |
| Dichlorobenzene, 1,3-                       | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        |              |
| Dichlorobenzene, 1,4-                       | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Dichloroethane, 1,1-                        | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        |              |
| Dichloroethane, 1,2-                        | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        |              |
| Dichloroethylene, 1,1-                      | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        |              |
| Dichloroethene, cis-1,2-                    | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        |              |
| Dichloroethene, trans-1,2-                  | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        |              |
| Dichloromethane<br>(Methylene Chloride)     | µg/L  | 5    | EPA 8260         | 29-Jun-21/R        | < 5         | < 5          | < 5          | < 5          | < 5          |
| Dichloropropane, 1,2-                       | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        |              |
| Dichloropropene, trans-1,3-                 | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        |              |
| Dichloropropene, cis-1,3-                   | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        |              |
| Monochlorobenzene<br>(Chlorobenzene)        | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Styrene                                     | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        |              |



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 Peterborough ON K9H 1E5 Canada

**Attention:** Cameron MacDougall

**Caduceon Environmental Laboratories**

285 Dalton Ave  
 Kingston Ontario K7K 6Z1  
 Tel: 613-544-2001  
 Fax: 613-544-2770

DATE RECEIVED: 25-Jun-21

JOB/PROJECT NO.: Halls Glen WDS

DATE REPORTED: 22-Apr-22

P.O. NUMBER: 12987-002

SAMPLE MATRIX: Groundwater

WATERWORKS NO.

|                       |              |              |              |              |
|-----------------------|--------------|--------------|--------------|--------------|
| <b>Client I.D.</b>    | MW5-I        | GW_QAQC4     | MW7-11       | MW10-I       |
| <b>Sample I.D.</b>    | B21-19679-13 | B21-19679-15 | B21-19679-16 | B21-19679-17 |
| <b>Date Collected</b> | 24-Jun-21    | 24-Jun-21    | 24-Jun-21    | 24-Jun-21    |

| Parameter                  | Units | R.L. | Reference Method | Date/Site Analyzed |       |       |       |       |
|----------------------------|-------|------|------------------|--------------------|-------|-------|-------|-------|
| Tetrachloroethane,1,1,1,2- | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        | < 0.5 | < 0.5 | < 0.5 |       |
| Tetrachloroethane,1,1,2,2- | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        | < 0.5 | < 0.5 | < 0.5 |       |
| Tetrachloroethylene        | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        | < 0.5 | < 0.5 | < 0.5 |       |
| Toluene                    | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        | < 0.5 | < 0.5 | < 0.5 | < 0.5 |
| Trichloroethane,1,1,1-     | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        | < 0.5 | < 0.5 | < 0.5 |       |
| Trichloroethane,1,1,2-     | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        | < 0.5 | < 0.5 | < 0.5 |       |
| Trichloroethylene          | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        | < 0.5 | < 0.5 | < 0.5 |       |
| Trichlorofluoromethane     | µg/L  | 5    | EPA 8260         | 29-Jun-21/R        | < 5   | < 5   | < 5   |       |
| Vinyl Chloride             | µg/L  | 0.2  | EPA 8260         | 29-Jun-21/R        | < 0.2 | < 0.2 | < 0.2 | < 0.2 |

1 Revised to include additional parameter



Michelle Dubien  
 Lab Manager

R.L. = Reporting Limit

Test methods may be modified from specified reference method unless indicated by an \*

Site Analyzed=K-Kingston,W-Windsor,O-Ottawa,R-Richmond Hill,B-Barrie

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C.O.C.: G103644

REPORT No. B21-19679 (ii)

Rev. 1

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 194 Sophia St.,  
 Peterborough ON K9H 1E5 Canada

**Attention:** Cameron MacDougall

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DATE RECEIVED: 25-Jun-21

JOB/PROJECT NO.: Halls Glen WDS

DATE REPORTED: 22-Apr-22

P.O. NUMBER: 12987-002

SAMPLE MATRIX: Groundwater

WATERWORKS NO.

| Parameter                                   | Units | R.L. | Reference Method | Date/Site Analyzed | Client I.D. | MW10-2       | MW11-I       | MW11-II      | MW7-I        |
|---|-------|------|------------------|--------------------|-------------|--------------|--------------|--------------|--------------|
|   |       |      |                  |                    | Sample I.D. | B21-19679-18 | B21-19679-19 | B21-19679-20 | B21-19679-21 |
| Date Collected                              |       |      |                  |                    | 24-Jun-21   | 24-Jun-21    | 24-Jun-21    | 24-Jun-21    | 24-Jun-21    |
| Benzene                                     | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Bromodichloromethane                        | µg/L  | 2    | EPA 8260         | 29-Jun-21/R        |             | < 2          | < 2          | < 2          | < 2          |
| Bromoform                                   | µg/L  | 5    | EPA 8260         | 29-Jun-21/R        |             | < 5          | < 5          | < 5          | < 5          |
| Bromomethane                                | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        |             | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Carbon Tetrachloride                        | µg/L  | 0.2  | EPA 8260         | 29-Jun-21/R        |             | < 0.2        | < 0.2        | < 0.2        | < 0.2        |
| Chloroethane                                | µg/L  | 3    | EPA 8260         | 29-Jun-21/R        |             | < 3          | < 3          | < 3          | < 3          |
| Chloroform                                  | µg/L  | 1    | EPA 8260         | 29-Jun-21/R        |             | < 1          | < 1          | < 1          | < 1          |
| Chloromethane                               | µg/L  | 2    | EPA 8260         | 29-Jun-21/R        |             | < 2          | < 2          | < 2          | < 2          |
| Dibromochloromethane                        | µg/L  | 2    | EPA 8260         | 29-Jun-21/R        |             | < 2          | < 2          | < 2          | < 2          |
| Dibromoethane, 1,2-<br>(Ethylene Dibromide) | µg/L  | 0.2  | EPA 8260         | 29-Jun-21/R        |             | < 0.2        | < 0.2        | < 0.2        | < 0.2        |
| Dichlorobenzene, 1,2-                       | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        |             | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Dichlorobenzene, 1,3-                       | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        |             | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Dichlorobenzene, 1,4-                       | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Dichloroethane, 1,1-                        | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        |             | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Dichloroethane, 1,2-                        | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        |             | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Dichloroethylene, 1,1-                      | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        |             | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Dichloroethene, cis-1,2-                    | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        |             | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Dichloroethene, trans-1,2-                  | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        |             | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Dichloromethane<br>(Methylene Chloride)     | µg/L  | 5    | EPA 8260         | 29-Jun-21/R        | < 5         | < 5          | < 5          | < 5          | < 5          |
| Dichloropropane, 1,2-                       | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        |             | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Dichloropropene, trans-1,3-                 | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        |             | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Dichloropropene, cis-1,3-                   | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        |             | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Monochlorobenzene<br>(Chlorobenzene)        | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Styrene                                     | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        |             | < 0.5        | < 0.5        | < 0.5        | < 0.5        |



R.L. = Reporting Limit

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 Lab Manager

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C.O.C.: G103644

REPORT No. B21-19679 (ii)

Rev. 1

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 Tel: 613-544-2001  
 Fax: 613-544-2770

DATE RECEIVED: 25-Jun-21

JOB/PROJECT NO.: Halls Glen WDS

DATE REPORTED: 22-Apr-22

P.O. NUMBER: 12987-002

SAMPLE MATRIX: Groundwater

WATERWORKS NO.

|                       |              |              |              |              |
|-----------------------|--------------|--------------|--------------|--------------|
| <b>Client I.D.</b>    | MW10-2       | MW11-I       | MW11-II      | MW7-I        |
| <b>Sample I.D.</b>    | B21-19679-18 | B21-19679-19 | B21-19679-20 | B21-19679-21 |
| <b>Date Collected</b> | 24-Jun-21    | 24-Jun-21    | 24-Jun-21    | 24-Jun-21    |

| Parameter                  | Units | R.L. | Reference Method | Date/Site Analyzed |       |       |       |       |
|----------------------------|-------|------|------------------|--------------------|-------|-------|-------|-------|
| Tetrachloroethane,1,1,1,2- | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        |       | < 0.5 | < 0.5 | < 0.5 |
| Tetrachloroethane,1,1,2,2- | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        |       | < 0.5 | < 0.5 | < 0.5 |
| Tetrachloroethylene        | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        |       | < 0.5 | < 0.5 | < 0.5 |
| Toluene                    | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        | < 0.5 | < 0.5 | < 0.5 | < 0.5 |
| Trichloroethane,1,1,1-     | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        |       | < 0.5 | < 0.5 | < 0.5 |
| Trichloroethane,1,1,2-     | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        |       | < 0.5 | < 0.5 | < 0.5 |
| Trichloroethylene          | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        |       | < 0.5 | < 0.5 | < 0.5 |
| Trichlorofluoromethane     | µg/L  | 5    | EPA 8260         | 29-Jun-21/R        |       | < 5   | < 5   | < 5   |
| Vinyl Chloride             | µg/L  | 0.2  | EPA 8260         | 29-Jun-21/R        | < 0.2 | < 0.2 | < 0.2 | < 0.2 |

1 Revised to include additional parameter



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 Lab Manager

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 Tel: 613-544-2001  
 Fax: 613-544-2770

DATE RECEIVED: 25-Jun-21

JOB/PROJECT NO.: Halls Glen WDS

DATE REPORTED: 22-Apr-22

P.O. NUMBER: 12987-002

SAMPLE MATRIX: Groundwater

WATERWORKS NO.

|                       |              |  |  |
|-----------------------|--------------|--|--|
| <b>Client I.D.</b>    | MW8-II       |  |  |
| <b>Sample I.D.</b>    | B21-19679-22 |  |  |
| <b>Date Collected</b> | 24-Jun-21    |  |  |

| Parameter                                   | Units | R.L. | Reference Method | Date/Site Analyzed |       |  |  |
|---|-------|------|------------------|--------------------|-------|--|--|
| Benzene                                     | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        | < 0.5 |  |  |
| Bromodichloromethane                        | µg/L  | 2    | EPA 8260         | 29-Jun-21/R        |       |  |  |
| Bromoform                                   | µg/L  | 5    | EPA 8260         | 29-Jun-21/R        |       |  |  |
| Bromomethane                                | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        |       |  |  |
| Carbon Tetrachloride                        | µg/L  | 0.2  | EPA 8260         | 29-Jun-21/R        |       |  |  |
| Chloroethane                                | µg/L  | 3    | EPA 8260         | 29-Jun-21/R        |       |  |  |
| Chloroform                                  | µg/L  | 1    | EPA 8260         | 29-Jun-21/R        |       |  |  |
| Chloromethane                               | µg/L  | 2    | EPA 8260         | 29-Jun-21/R        |       |  |  |
| Dibromochloromethane                        | µg/L  | 2    | EPA 8260         | 29-Jun-21/R        |       |  |  |
| Dibromoethane, 1,2-<br>(Ethylene Dibromide) | µg/L  | 0.2  | EPA 8260         | 29-Jun-21/R        |       |  |  |
| Dichlorobenzene, 1,2-                       | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        |       |  |  |
| Dichlorobenzene, 1,3-                       | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        |       |  |  |
| Dichlorobenzene, 1,4-                       | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        | < 0.5 |  |  |
| Dichloroethane, 1,1-                        | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        |       |  |  |
| Dichloroethane, 1,2-                        | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        |       |  |  |
| Dichloroethylene, 1,1-                      | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        |       |  |  |
| Dichloroethene, cis-1,2-                    | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        |       |  |  |
| Dichloroethene, trans-1,2-                  | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        |       |  |  |
| Dichloromethane<br>(Methylene Chloride)     | µg/L  | 5    | EPA 8260         | 29-Jun-21/R        | < 5   |  |  |
| Dichloropropane, 1,2-                       | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        |       |  |  |
| Dichloropropene, trans-1,3-                 | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        |       |  |  |
| Dichloropropene, cis-1,3-                   | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        |       |  |  |
| Monochlorobenzene<br>(Chlorobenzene)        | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        | < 0.5 |  |  |
| Styrene                                     | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        |       |  |  |



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DATE RECEIVED: 25-Jun-21

JOB/PROJECT NO.: Halls Glen WDS

DATE REPORTED: 22-Apr-22

P.O. NUMBER: 12987-002

SAMPLE MATRIX: Groundwater

WATERWORKS NO.

|                |              |  |  |  |
|----------------|--------------|--|--|--|
| Client I.D.    | MW8-II       |  |  |  |
| Sample I.D.    | B21-19679-22 |  |  |  |
| Date Collected | 24-Jun-21    |  |  |  |

| Parameter                  | Units | R.L. | Reference Method | Date/Site Analyzed |       |  |  |  |
|----------------------------|-------|------|------------------|--------------------|-------|--|--|--|
| Tetrachloroethane,1,1,1,2- | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        |       |  |  |  |
| Tetrachloroethane,1,1,2,2- | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        |       |  |  |  |
| Tetrachloroethylene        | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        |       |  |  |  |
| Toluene                    | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        | < 0.5 |  |  |  |
| Trichloroethane,1,1,1-     | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        |       |  |  |  |
| Trichloroethane,1,1,2-     | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        |       |  |  |  |
| Trichloroethylene          | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        |       |  |  |  |
| Trichlorofluoromethane     | µg/L  | 5    | EPA 8260         | 29-Jun-21/R        |       |  |  |  |
| Vinyl Chloride             | µg/L  | 0.2  | EPA 8260         | 29-Jun-21/R        | < 0.2 |  |  |  |

1 Revised to include additional parameter



Michelle Dubien  
 Lab Manager

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DATE RECEIVED: 25-Jun-21

JOB/PROJECT NO.: Halls Glen WDS

DATE REPORTED: 06-Jul-21

P.O. NUMBER: 12987-002

SAMPLE MATRIX: Groundwater

WATERWORKS NO.

| Parameter                                   | Units | R.L. | Reference Method | Date/Site Analyzed | Client I.D. | MW1-I          | MW4-I | MW4-II | MW12-I |
|---|-------|------|------------------|--------------------|-------------|----------------|-------|--------|--------|
|   |       |      |                  |                    | Sample I.D. | Date Collected |       |        |        |
| Benzene                                     | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        | B21-19679-1 | 24-Jun-21      | < 0.5 | < 0.5  | < 0.5  |
| Bromodichloromethane                        | µg/L  | 2    | EPA 8260         | 29-Jun-21/R        | B21-19679-2 | 24-Jun-21      | < 2   | < 2    | < 0.5  |
| Bromoform                                   | µg/L  | 5    | EPA 8260         | 29-Jun-21/R        | B21-19679-3 | 24-Jun-21      | < 5   | < 5    |        |
| Bromomethane                                | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        | B21-19679-4 | 24-Jun-21      | < 0.5 | < 0.5  |        |
| Carbon Tetrachloride                        | µg/L  | 0.2  | EPA 8260         | 29-Jun-21/R        |             |                | < 0.2 | < 0.2  |        |
| Chloroethane                                | µg/L  | 3    | EPA 8260         | 29-Jun-21/R        |             |                | < 3   | < 3    |        |
| Chloroform                                  | µg/L  | 1    | EPA 8260         | 29-Jun-21/R        |             |                | < 1   | < 1    |        |
| Chloromethane                               | µg/L  | 2    | EPA 8260         | 29-Jun-21/R        |             |                | < 2   | < 2    |        |
| Dibromochloromethane                        | µg/L  | 2    | EPA 8260         | 29-Jun-21/R        |             |                | < 2   | < 2    |        |
| Dibromoethane, 1,2-<br>(Ethylene Dibromide) | µg/L  | 0.2  | EPA 8260         | 29-Jun-21/R        |             |                | < 0.2 | < 0.2  |        |
| Dichlorobenzene, 1,2-                       | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        |             |                | < 0.5 | < 0.5  |        |
| Dichlorobenzene, 1,3-                       | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        |             |                | < 0.5 | < 0.5  |        |
| Dichlorobenzene, 1,4-                       | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        |             |                | < 0.5 | < 0.5  | < 0.5  |
| Dichloroethane, 1,1-                        | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        |             |                | < 0.5 | < 0.5  |        |
| Dichloroethane, 1,2-                        | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        |             |                | < 0.5 | < 0.5  |        |
| Dichloroethylene, 1,1-                      | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        |             |                | < 0.5 | < 0.5  |        |
| Dichloroethene, cis-1,2-                    | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        |             |                | < 0.5 | < 0.5  |        |
| Dichloroethene, trans-1,2-                  | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        |             |                | < 0.5 | < 0.5  |        |
| Dichloromethane<br>(Methylene Chloride)     | µg/L  | 5    | EPA 8260         | 29-Jun-21/R        |             |                | < 5   | < 5    | < 5    |
| Dichloropropane, 1,2-                       | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        |             |                | < 0.5 | < 0.5  |        |
| Dichloropropene, trans-1,3-                 | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        |             |                | < 0.5 | < 0.5  |        |
| Dichloropropene, cis-1,3-                   | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        |             |                | < 0.5 | < 0.5  |        |
| Monochlorobenzene<br>(Chlorobenzene)        | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        |             |                | < 0.5 | < 0.5  |        |
| Styrene                                     | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        |             |                | < 0.5 | < 0.5  |        |
| Tetrachloroethane, 1,1,1,2-                 | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        |             |                | < 0.5 | < 0.5  |        |



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JOB/PROJECT NO.: Halls Glen WDS

DATE REPORTED: 06-Jul-21

P.O. NUMBER: 12987-002

SAMPLE MATRIX: Groundwater

WATERWORKS NO.

| Parameter                  | Units | R.L. | Reference Method | Date/Site Analyzed | Client I.D. | MW1-I       | MW4-I       | MW4-II      | MW12-I |
|----------------------------|-------|------|------------------|--------------------|-------------|-------------|-------------|-------------|--------|
|                            |       |      |                  |                    | Sample I.D. |             |             |             |        |
| Tetrachloroethane,1,1,2,2- | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        | B21-19679-1 | B21-19679-2 | B21-19679-3 | B21-19679-4 |        |
| Tetrachloroethylene        | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        | 24-Jun-21   | 24-Jun-21   | 24-Jun-21   | 24-Jun-21   |        |
| Toluene                    | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        |             | < 0.5       | < 0.5       | < 0.5       | < 0.5  |
| Trichloroethane,1,1,1-     | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        |             | < 0.5       | < 0.5       | < 0.5       |        |
| Trichloroethane,1,1,2-     | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        |             | < 0.5       | < 0.5       | < 0.5       |        |
| Trichloroethylene          | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        |             | < 0.5       | < 0.5       | < 0.5       |        |
| Trichlorofluoromethane     | µg/L  | 5    | EPA 8260         | 29-Jun-21/R        |             | < 5         | < 5         | < 5         |        |
| Vinyl Chloride             | µg/L  | 0.2  | EPA 8260         | 29-Jun-21/R        |             | < 0.2       | < 0.2       | < 0.2       | < 0.2  |



R.L. = Reporting Limit

Test methods may be modified from specified reference method unless indicated by an \*

Site Analyzed=K-Kingston,W-Windsor,O-Ottawa,R-Richmond Hill,B-Barrie

Michelle Dubien  
 Lab Manager

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C.O.C.: G103644

REPORT No. B21-19679 (ii)

**Report To:**

**Cambium Environmental**  
194 Sophia St.,  
Peterborough ON K9H 1E5 Canada

**Attention:** Cameron MacDougall

**Caduceon Environmental Laboratories**

285 Dalton Ave  
Kingston Ontario K7K 6Z1  
Tel: 613-544-2001  
Fax: 613-544-2770

DATE RECEIVED: 25-Jun-21

JOB/PROJECT NO.: Halls Glen WDS

DATE REPORTED: 06-Jul-21

P.O. NUMBER: 12987-002

SAMPLE MATRIX: Groundwater

WATERWORKS NO.

| Parameter                                   | Units | R.L. | Reference Method | Date/Site Analyzed | Client I.D. | GW_QAQC5    | MW12-II     | MW12-III    | MW3-I       |
|---|-------|------|------------------|--------------------|-------------|-------------|-------------|-------------|-------------|
|   |       |      |                  |                    | Sample I.D. | B21-19679-5 | B21-19679-6 | B21-19679-7 | B21-19679-8 |
| Date Collected                              |       |      |                  |                    | 24-Jun-21   | 24-Jun-21   | 24-Jun-21   | 24-Jun-21   | 24-Jun-21   |
| Benzene                                     | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        | < 0.5       | < 0.5       | < 0.5       | < 0.5       | < 0.5       |
| Bromodichloromethane                        | µg/L  | 2    | EPA 8260         | 29-Jun-21/R        |             |             |             |             | < 2         |
| Bromoform                                   | µg/L  | 5    | EPA 8260         | 29-Jun-21/R        |             |             |             |             | < 5         |
| Bromomethane                                | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        |             |             |             |             | < 0.5       |
| Carbon Tetrachloride                        | µg/L  | 0.2  | EPA 8260         | 29-Jun-21/R        |             |             |             |             | < 0.2       |
| Chloroethane                                | µg/L  | 3    | EPA 8260         | 29-Jun-21/R        |             |             |             |             | < 3         |
| Chloroform                                  | µg/L  | 1    | EPA 8260         | 29-Jun-21/R        |             |             |             |             | < 1         |
| Chloromethane                               | µg/L  | 2    | EPA 8260         | 29-Jun-21/R        |             |             |             |             | < 2         |
| Dibromochloromethane                        | µg/L  | 2    | EPA 8260         | 29-Jun-21/R        |             |             |             |             | < 2         |
| Dibromoethane, 1,2-<br>(Ethylene Dibromide) | µg/L  | 0.2  | EPA 8260         | 29-Jun-21/R        |             |             |             |             | < 0.2       |
| Dichlorobenzene, 1,2-                       | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        |             |             |             |             | < 0.5       |
| Dichlorobenzene, 1,3-                       | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        |             |             |             |             | < 0.5       |
| Dichlorobenzene, 1,4-                       | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        | < 0.5       | < 0.5       | < 0.5       | < 0.5       | < 0.5       |
| Dichloroethane, 1,1-                        | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        |             |             |             |             | < 0.5       |
| Dichloroethane, 1,2-                        | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        |             |             |             |             | < 0.5       |
| Dichloroethylene, 1,1-                      | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        |             |             |             |             | < 0.5       |
| Dichloroethene, cis-1,2-                    | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        |             |             |             |             | < 0.5       |
| Dichloroethene, trans-1,2-                  | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        |             |             |             |             | < 0.5       |
| Dichloromethane<br>(Methylene Chloride)     | µg/L  | 5    | EPA 8260         | 29-Jun-21/R        | < 5         | < 5         | < 5         | < 5         | < 5         |
| Dichloropropane, 1,2-                       | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        |             |             |             |             | < 0.5       |
| Dichloropropene, trans-1,3-                 | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        |             |             |             |             | < 0.5       |
| Dichloropropene, cis-1,3-                   | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        |             |             |             |             | < 0.5       |
| Monochlorobenzene<br>(Chlorobenzene)        | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        |             |             |             |             | < 0.5       |
| Styrene                                     | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        |             |             |             |             | < 0.5       |
| Tetrachloroethane, 1,1,1,2-                 | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        |             |             |             |             | < 0.5       |



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Michelle Dubien  
Lab Manager

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REPORT No. B21-19679 (ii)

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 194 Sophia St.,  
 Peterborough ON K9H 1E5 Canada

**Attention:** Cameron MacDougall

**Caduceon Environmental Laboratories**

285 Dalton Ave  
 Kingston Ontario K7K 6Z1

Tel: 613-544-2001

Fax: 613-544-2770

DATE RECEIVED: 25-Jun-21

JOB/PROJECT NO.: Halls Glen WDS

DATE REPORTED: 06-Jul-21

P.O. NUMBER: 12987-002

SAMPLE MATRIX: Groundwater

WATERWORKS NO.

| Parameter                  | Units | R.L. | Reference Method | Date/Site Analyzed | Client I.D. | GW_QAQC5    | MW12-II     | MW12-III    | MW3-I       |
|----------------------------|-------|------|------------------|--------------------|-------------|-------------|-------------|-------------|-------------|
|                            |       |      |                  |                    | Sample I.D. | B21-19679-5 | B21-19679-6 | B21-19679-7 | B21-19679-8 |
| Date Collected             |       |      |                  |                    | 24-Jun-21   | 24-Jun-21   | 24-Jun-21   | 24-Jun-21   | 24-Jun-21   |
| Tetrachloroethane,1,1,2,2- | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        |             |             |             |             | < 0.5       |
| Tetrachloroethylene        | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        |             |             |             |             | < 0.5       |
| Toluene                    | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        | < 0.5       | < 0.5       | < 0.5       | < 0.5       | < 0.5       |
| Trichloroethane,1,1,1-     | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        |             |             |             |             | < 0.5       |
| Trichloroethane,1,1,2-     | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        |             |             |             |             | < 0.5       |
| Trichloroethylene          | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        |             |             |             |             | < 0.5       |
| Trichlorofluoromethane     | µg/L  | 5    | EPA 8260         | 29-Jun-21/R        |             |             |             |             | < 5         |
| Vinyl Chloride             | µg/L  | 0.2  | EPA 8260         | 29-Jun-21/R        | < 0.2       | < 0.2       | < 0.2       | < 0.2       | < 0.2       |



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 Tel: 613-544-2001  
 Fax: 613-544-2770

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JOB/PROJECT NO.: Halls Glen WDS

DATE REPORTED: 06-Jul-21

P.O. NUMBER: 12987-002

SAMPLE MATRIX: Groundwater

WATERWORKS NO.

| Parameter                                   | Units | R.L. | Reference Method | Date/Site Analyzed | Client I.D. | GW_QAQC5    | MW6-I        | MW6-II       | MW5-II       |
|---|-------|------|------------------|--------------------|-------------|-------------|--------------|--------------|--------------|
|   |       |      |                  |                    | Sample I.D. | B21-19679-9 | B21-19679-10 | B21-19679-11 | B21-19679-12 |
| Date Collected                              |       |      |                  |                    | 24-Jun-21   | 24-Jun-21   | 24-Jun-21    | 24-Jun-21    | 24-Jun-21    |
| Benzene                                     | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        |             | < 0.5       | < 0.5        | < 0.5        | < 0.5        |
| Bromodichloromethane                        | µg/L  | 2    | EPA 8260         | 29-Jun-21/R        | < 2         | < 2         | < 2          | < 2          | < 2          |
| Bromoform                                   | µg/L  | 5    | EPA 8260         | 29-Jun-21/R        | < 5         | < 5         | < 5          | < 5          | < 5          |
| Bromomethane                                | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        | < 0.5       | < 0.5       | < 0.5        | < 0.5        | < 0.5        |
| Carbon Tetrachloride                        | µg/L  | 0.2  | EPA 8260         | 29-Jun-21/R        | < 0.2       | < 0.2       | < 0.2        | < 0.2        | < 0.2        |
| Chloroethane                                | µg/L  | 3    | EPA 8260         | 29-Jun-21/R        | < 3         | < 3         | < 3          | < 3          | < 3          |
| Chloroform                                  | µg/L  | 1    | EPA 8260         | 29-Jun-21/R        | < 1         | < 1         | < 1          | < 1          | < 1          |
| Chloromethane                               | µg/L  | 2    | EPA 8260         | 29-Jun-21/R        | < 2         | < 2         | < 2          | < 2          | < 2          |
| Dibromochloromethane                        | µg/L  | 2    | EPA 8260         | 29-Jun-21/R        | < 2         | < 2         | < 2          | < 2          | < 2          |
| Dibromoethane, 1,2-<br>(Ethylene Dibromide) | µg/L  | 0.2  | EPA 8260         | 29-Jun-21/R        | < 0.2       | < 0.2       | < 0.2        | < 0.2        | < 0.2        |
| Dichlorobenzene, 1,2-                       | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        | < 0.5       | < 0.5       | < 0.5        | < 0.5        | < 0.5        |
| Dichlorobenzene, 1,3-                       | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        | < 0.5       | < 0.5       | < 0.5        | < 0.5        | < 0.5        |
| Dichlorobenzene, 1,4-                       | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        | < 0.5       | < 0.5       | < 0.5        | < 0.5        | < 0.5        |
| Dichloroethane, 1,1-                        | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        | < 0.5       | < 0.5       | < 0.5        | < 0.5        | < 0.5        |
| Dichloroethane, 1,2-                        | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        | < 0.5       | < 0.5       | < 0.5        | < 0.5        | < 0.5        |
| Dichloroethylene, 1,1-                      | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        | < 0.5       | < 0.5       | < 0.5        | < 0.5        | < 0.5        |
| Dichloroethene, cis-1,2-                    | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        | < 0.5       | < 0.5       | < 0.5        | < 0.5        | < 0.5        |
| Dichloroethene, trans-1,2-                  | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        | < 0.5       | < 0.5       | < 0.5        | < 0.5        | < 0.5        |
| Dichloromethane<br>(Methylene Chloride)     | µg/L  | 5    | EPA 8260         | 29-Jun-21/R        | < 5         | < 5         | < 5          | < 5          | < 5          |
| Dichloropropane, 1,2-                       | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        | < 0.5       | < 0.5       | < 0.5        | < 0.5        | < 0.5        |
| Dichloropropene, trans-1,3-                 | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        | < 0.5       | < 0.5       | < 0.5        | < 0.5        | < 0.5        |
| Dichloropropene, cis-1,3-                   | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        | < 0.5       | < 0.5       | < 0.5        | < 0.5        | < 0.5        |
| Monochlorobenzene<br>(Chlorobenzene)        | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        | < 0.5       | < 0.5       | < 0.5        | < 0.5        | < 0.5        |
| Styrene                                     | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        | < 0.5       | < 0.5       | < 0.5        | < 0.5        | < 0.5        |



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DATE RECEIVED: 25-Jun-21

JOB/PROJECT NO.: Halls Glen WDS

DATE REPORTED: 06-Jul-21

P.O. NUMBER: 12987-002

SAMPLE MATRIX: Groundwater

WATERWORKS NO.

|                       |             |              |              |              |
|-----------------------|-------------|--------------|--------------|--------------|
| <b>Client I.D.</b>    | GW_QAQC5    | MW6-I        | MW6-II       | MW5-II       |
| <b>Sample I.D.</b>    | B21-19679-9 | B21-19679-10 | B21-19679-11 | B21-19679-12 |
| <b>Date Collected</b> | 24-Jun-21   | 24-Jun-21    | 24-Jun-21    | 24-Jun-21    |

| Parameter                  | Units | R.L. | Reference Method | Date/Site Analyzed |       |       |       |       |
|----------------------------|-------|------|------------------|--------------------|-------|-------|-------|-------|
| Tetrachloroethane,1,1,1,2- | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        | < 0.5 | < 0.5 | < 0.5 | < 0.5 |
| Tetrachloroethane,1,1,2,2- | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        | < 0.5 | < 0.5 | < 0.5 | < 0.5 |
| Tetrachloroethylene        | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        | < 0.5 | < 0.5 | < 0.5 | < 0.5 |
| Toluene                    | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        |       | < 0.5 | < 0.5 | < 0.5 |
| Trichloroethane,1,1,1-     | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        | < 0.5 | < 0.5 | < 0.5 | < 0.5 |
| Trichloroethane,1,1,2-     | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        | < 0.5 | < 0.5 | < 0.5 | < 0.5 |
| Trichloroethylene          | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        | < 0.5 | < 0.5 | < 0.5 | < 0.5 |
| Trichlorofluoromethane     | µg/L  | 5    | EPA 8260         | 29-Jun-21/R        | < 5   | < 5   | < 5   | < 5   |
| Vinyl Chloride             | µg/L  | 0.2  | EPA 8260         | 29-Jun-21/R        | < 0.2 | < 0.2 | < 0.2 | < 0.2 |



Michelle Dubien  
 Lab Manager

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JOB/PROJECT NO.: Halls Glen WDS

DATE REPORTED: 06-Jul-21

P.O. NUMBER: 12987-002

SAMPLE MATRIX: Groundwater

WATERWORKS NO.

| Parameter                                   | Units | R.L. | Reference Method | Date/Site Analyzed | Client I.D. | MW5-1        | GW_QAQC4     | MW7-11       | MW10-1       |
|---|-------|------|------------------|--------------------|-------------|--------------|--------------|--------------|--------------|
|   |       |      |                  |                    | Sample I.D. | B21-19679-13 | B21-19679-15 | B21-19679-16 | B21-19679-17 |
| Date Collected                              |       |      |                  |                    | 24-Jun-21   | 24-Jun-21    | 24-Jun-21    | 24-Jun-21    | 24-Jun-21    |
| Benzene                                     | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Bromodichloromethane                        | µg/L  | 2    | EPA 8260         | 29-Jun-21/R        | < 2         | < 2          | < 2          | < 2          |              |
| Bromoform                                   | µg/L  | 5    | EPA 8260         | 29-Jun-21/R        | < 5         | < 5          | < 5          | < 5          |              |
| Bromomethane                                | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        |              |
| Carbon Tetrachloride                        | µg/L  | 0.2  | EPA 8260         | 29-Jun-21/R        | < 0.2       | < 0.2        | < 0.2        | < 0.2        |              |
| Chloroethane                                | µg/L  | 3    | EPA 8260         | 29-Jun-21/R        | < 3         | < 3          | < 3          | < 3          |              |
| Chloroform                                  | µg/L  | 1    | EPA 8260         | 29-Jun-21/R        | < 1         | < 1          | < 1          | < 1          |              |
| Chloromethane                               | µg/L  | 2    | EPA 8260         | 29-Jun-21/R        | < 2         | < 2          | < 2          | < 2          |              |
| Dibromochloromethane                        | µg/L  | 2    | EPA 8260         | 29-Jun-21/R        | < 2         | < 2          | < 2          | < 2          |              |
| Dibromoethane, 1,2-<br>(Ethylene Dibromide) | µg/L  | 0.2  | EPA 8260         | 29-Jun-21/R        | < 0.2       | < 0.2        | < 0.2        | < 0.2        |              |
| Dichlorobenzene, 1,2-                       | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        |              |
| Dichlorobenzene, 1,3-                       | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        |              |
| Dichlorobenzene, 1,4-                       | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Dichloroethane, 1,1-                        | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        |              |
| Dichloroethane, 1,2-                        | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        |              |
| Dichloroethylene, 1,1-                      | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        |              |
| Dichloroethene, cis-1,2-                    | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        |              |
| Dichloroethene, trans-1,2-                  | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        |              |
| Dichloromethane<br>(Methylene Chloride)     | µg/L  | 5    | EPA 8260         | 29-Jun-21/R        | < 5         | < 5          | < 5          | < 5          | < 5          |
| Dichloropropane, 1,2-                       | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        |              |
| Dichloropropene, trans-1,3-                 | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        |              |
| Dichloropropene, cis-1,3-                   | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        |              |
| Monochlorobenzene<br>(Chlorobenzene)        | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        |              |
| Styrene                                     | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        |              |



R.L. = Reporting Limit

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Site Analyzed=K-Kingston, W-Windsor, O-Ottawa, R-Richmond Hill, B-Barrie

Michelle Dubien  
 Lab Manager

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C.O.C.: G103644

REPORT No. B21-19679 (ii)

**Report To:**

**Cambium Environmental**  
 194 Sophia St.,  
 Peterborough ON K9H 1E5 Canada

**Attention:** Cameron MacDougall

**Caduceon Environmental Laboratories**

285 Dalton Ave  
 Kingston Ontario K7K 6Z1  
 Tel: 613-544-2001  
 Fax: 613-544-2770

DATE RECEIVED: 25-Jun-21

JOB/PROJECT NO.: Halls Glen WDS

DATE REPORTED: 06-Jul-21

P.O. NUMBER: 12987-002

SAMPLE MATRIX: Groundwater

WATERWORKS NO.

|                |              |              |              |              |
|----------------|--------------|--------------|--------------|--------------|
| Client I.D.    | MW5-I        | GW_QAQC4     | MW7-11       | MW10-I       |
| Sample I.D.    | B21-19679-13 | B21-19679-15 | B21-19679-16 | B21-19679-17 |
| Date Collected | 24-Jun-21    | 24-Jun-21    | 24-Jun-21    | 24-Jun-21    |

| Parameter                  | Units | R.L. | Reference Method | Date/Site Analyzed |       |       |       |       |
|----------------------------|-------|------|------------------|--------------------|-------|-------|-------|-------|
| Tetrachloroethane,1,1,1,2- | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        | < 0.5 | < 0.5 | < 0.5 |       |
| Tetrachloroethane,1,1,2,2- | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        | < 0.5 | < 0.5 | < 0.5 |       |
| Tetrachloroethylene        | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        | < 0.5 | < 0.5 | < 0.5 |       |
| Toluene                    | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        | < 0.5 | < 0.5 | < 0.5 | < 0.5 |
| Trichloroethane,1,1,1-     | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        | < 0.5 | < 0.5 | < 0.5 |       |
| Trichloroethane,1,1,2-     | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        | < 0.5 | < 0.5 | < 0.5 |       |
| Trichloroethylene          | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        | < 0.5 | < 0.5 | < 0.5 |       |
| Trichlorofluoromethane     | µg/L  | 5    | EPA 8260         | 29-Jun-21/R        | < 5   | < 5   | < 5   |       |
| Vinyl Chloride             | µg/L  | 0.2  | EPA 8260         | 29-Jun-21/R        | < 0.2 | < 0.2 | < 0.2 | < 0.2 |



Michelle Dubien  
 Lab Manager

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C.O.C.: G103644

REPORT No. B21-19679 (ii)

**Report To:**

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 194 Sophia St.,  
 Peterborough ON K9H 1E5 Canada

**Attention:** Cameron MacDougall

**Caduceon Environmental Laboratories**

285 Dalton Ave  
 Kingston Ontario K7K 6Z1  
 Tel: 613-544-2001  
 Fax: 613-544-2770

DATE RECEIVED: 25-Jun-21

JOB/PROJECT NO.: Halls Glen WDS

DATE REPORTED: 06-Jul-21

P.O. NUMBER: 12987-002

SAMPLE MATRIX: Groundwater

WATERWORKS NO.

| Parameter                                   | Units | R.L. | Reference Method | Date/Site Analyzed | Client I.D. | MW10-2       | MW11-I       | MW11-II      | MW7-I        |
|---|-------|------|------------------|--------------------|-------------|--------------|--------------|--------------|--------------|
|   |       |      |                  |                    | Sample I.D. | B21-19679-18 | B21-19679-19 | B21-19679-20 | B21-19679-21 |
| Date Collected                              |       |      |                  |                    | 24-Jun-21   | 24-Jun-21    | 24-Jun-21    | 24-Jun-21    | 24-Jun-21    |
| Benzene                                     | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Bromodichloromethane                        | µg/L  | 2    | EPA 8260         | 29-Jun-21/R        |             | < 2          | < 2          | < 2          | < 2          |
| Bromoform                                   | µg/L  | 5    | EPA 8260         | 29-Jun-21/R        |             | < 5          | < 5          | < 5          | < 5          |
| Bromomethane                                | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        |             | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Carbon Tetrachloride                        | µg/L  | 0.2  | EPA 8260         | 29-Jun-21/R        |             | < 0.2        | < 0.2        | < 0.2        | < 0.2        |
| Chloroethane                                | µg/L  | 3    | EPA 8260         | 29-Jun-21/R        |             | < 3          | < 3          | < 3          | < 3          |
| Chloroform                                  | µg/L  | 1    | EPA 8260         | 29-Jun-21/R        |             | < 1          | < 1          | < 1          | < 1          |
| Chloromethane                               | µg/L  | 2    | EPA 8260         | 29-Jun-21/R        |             | < 2          | < 2          | < 2          | < 2          |
| Dibromochloromethane                        | µg/L  | 2    | EPA 8260         | 29-Jun-21/R        |             | < 2          | < 2          | < 2          | < 2          |
| Dibromoethane, 1,2-<br>(Ethylene Dibromide) | µg/L  | 0.2  | EPA 8260         | 29-Jun-21/R        |             | < 0.2        | < 0.2        | < 0.2        | < 0.2        |
| Dichlorobenzene, 1,2-                       | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        |             | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Dichlorobenzene, 1,3-                       | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        |             | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Dichlorobenzene, 1,4-                       | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Dichloroethane, 1,1-                        | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        |             | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Dichloroethane, 1,2-                        | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        |             | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Dichloroethylene, 1,1-                      | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        |             | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Dichloroethene, cis-1,2-                    | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        |             | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Dichloroethene, trans-1,2-                  | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        |             | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Dichloromethane<br>(Methylene Chloride)     | µg/L  | 5    | EPA 8260         | 29-Jun-21/R        | < 5         | < 5          | < 5          | < 5          | < 5          |
| Dichloropropane, 1,2-                       | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        |             | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Dichloropropene, trans-1,3-                 | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        |             | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Dichloropropene, cis-1,3-                   | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        |             | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Monochlorobenzene<br>(Chlorobenzene)        | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        |             | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Styrene                                     | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        |             | < 0.5        | < 0.5        | < 0.5        | < 0.5        |



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Michelle Dubien  
 Lab Manager

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**C.O.C.: G103644**

**REPORT No. B21-19679 (ii)**

**Report To:**

**Cambium Environmental**  
 194 Sophia St.,  
 Peterborough ON K9H 1E5 Canada

**Attention:** Cameron MacDougall

**Caduceon Environmental Laboratories**

285 Dalton Ave  
 Kingston Ontario K7K 6Z1  
 Tel: 613-544-2001  
 Fax: 613-544-2770

DATE RECEIVED: 25-Jun-21

JOB/PROJECT NO.: Halls Glen WDS

DATE REPORTED: 06-Jul-21

P.O. NUMBER: 12987-002

SAMPLE MATRIX: Groundwater

WATERWORKS NO.

| Parameter                  | Units | R.L. | Reference Method | Date/Site Analyzed | Client I.D.  | MW10-2         | MW11-I       | MW11-II      | MW7-I        |
|----------------------------|-------|------|------------------|--------------------|--------------|----------------|--------------|--------------|--------------|
|                            |       |      |                  |                    | Sample I.D.  | Date Collected |              |              |              |
| Tetrachloroethane,1,1,1,2- | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        | B21-19679-18 | 24-Jun-21      | B21-19679-19 | B21-19679-20 | B21-19679-21 |
| Tetrachloroethane,1,1,2,2- | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        |              |                |              |              |              |
| Tetrachloroethylene        | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        |              |                |              |              |              |
| Toluene                    | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        |              | < 0.5          | < 0.5        | < 0.5        | < 0.5        |
| Trichloroethane,1,1,1-     | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        |              |                | < 0.5        | < 0.5        | < 0.5        |
| Trichloroethane,1,1,2-     | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        |              |                | < 0.5        | < 0.5        | < 0.5        |
| Trichloroethylene          | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        |              |                | < 0.5        | < 0.5        | < 0.5        |
| Trichlorofluoromethane     | µg/L  | 5    | EPA 8260         | 29-Jun-21/R        |              |                | < 5          | < 5          | < 5          |
| Vinyl Chloride             | µg/L  | 0.2  | EPA 8260         | 29-Jun-21/R        |              | < 0.2          | < 0.2        | < 0.2        | < 0.2        |



Michelle Dubien  
 Lab Manager

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 194 Sophia St.,  
 Peterborough ON K9H 1E5 Canada

**Attention:** Cameron MacDougall

**Caduceon Environmental Laboratories**

285 Dalton Ave  
 Kingston Ontario K7K 6Z1  
 Tel: 613-544-2001  
 Fax: 613-544-2770

DATE RECEIVED: 25-Jun-21

JOB/PROJECT NO.: Halls Glen WDS

DATE REPORTED: 06-Jul-21

P.O. NUMBER: 12987-002

SAMPLE MATRIX: Groundwater

WATERWORKS NO.

|                |              |  |  |
|----------------|--------------|--|--|
| Client I.D.    | MW8-II       |  |  |
| Sample I.D.    | B21-19679-22 |  |  |
| Date Collected | 24-Jun-21    |  |  |

| Parameter                                   | Units | R.L. | Reference Method | Date/Site Analyzed |       |  |  |
|---|-------|------|------------------|--------------------|-------|--|--|
| Benzene                                     | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        | < 0.5 |  |  |
| Bromodichloromethane                        | µg/L  | 2    | EPA 8260         | 29-Jun-21/R        |       |  |  |
| Bromoform                                   | µg/L  | 5    | EPA 8260         | 29-Jun-21/R        |       |  |  |
| Bromomethane                                | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        |       |  |  |
| Carbon Tetrachloride                        | µg/L  | 0.2  | EPA 8260         | 29-Jun-21/R        |       |  |  |
| Chloroethane                                | µg/L  | 3    | EPA 8260         | 29-Jun-21/R        |       |  |  |
| Chloroform                                  | µg/L  | 1    | EPA 8260         | 29-Jun-21/R        |       |  |  |
| Chloromethane                               | µg/L  | 2    | EPA 8260         | 29-Jun-21/R        |       |  |  |
| Dibromochloromethane                        | µg/L  | 2    | EPA 8260         | 29-Jun-21/R        |       |  |  |
| Dibromoethane, 1,2-<br>(Ethylene Dibromide) | µg/L  | 0.2  | EPA 8260         | 29-Jun-21/R        |       |  |  |
| Dichlorobenzene, 1,2-                       | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        |       |  |  |
| Dichlorobenzene, 1,3-                       | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        |       |  |  |
| Dichlorobenzene, 1,4-                       | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        | < 0.5 |  |  |
| Dichloroethane, 1,1-                        | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        |       |  |  |
| Dichloroethane, 1,2-                        | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        |       |  |  |
| Dichloroethylene, 1,1-                      | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        |       |  |  |
| Dichloroethene, cis-1,2-                    | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        |       |  |  |
| Dichloroethene, trans-1,2-                  | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        |       |  |  |
| Dichloromethane<br>(Methylene Chloride)     | µg/L  | 5    | EPA 8260         | 29-Jun-21/R        | < 5   |  |  |
| Dichloropropane, 1,2-                       | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        |       |  |  |
| Dichloropropene, trans-1,3-                 | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        |       |  |  |
| Dichloropropene, cis-1,3-                   | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        |       |  |  |
| Monochlorobenzene<br>(Chlorobenzene)        | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        |       |  |  |
| Styrene                                     | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        |       |  |  |



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Michelle Dubien  
 Lab Manager

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C.O.C.: G103644

REPORT No. B21-19679 (ii)

**Report To:**

**Cambium Environmental**  
 194 Sophia St.,  
 Peterborough ON K9H 1E5 Canada

**Attention:** Cameron MacDougall

**Caduceon Environmental Laboratories**

285 Dalton Ave  
 Kingston Ontario K7K 6Z1  
 Tel: 613-544-2001  
 Fax: 613-544-2770

DATE RECEIVED: 25-Jun-21

JOB/PROJECT NO.: Halls Glen WDS

DATE REPORTED: 06-Jul-21

P.O. NUMBER: 12987-002

SAMPLE MATRIX: Groundwater

WATERWORKS NO.

|                |              |  |  |  |
|----------------|--------------|--|--|--|
| Client I.D.    | MW8-II       |  |  |  |
| Sample I.D.    | B21-19679-22 |  |  |  |
| Date Collected | 24-Jun-21    |  |  |  |

| Parameter                  | Units | R.L. | Reference Method | Date/Site Analyzed |       |  |  |
|----------------------------|-------|------|------------------|--------------------|-------|--|--|
| Tetrachloroethane,1,1,1,2- | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        |       |  |  |
| Tetrachloroethane,1,1,2,2- | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        |       |  |  |
| Tetrachloroethylene        | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        |       |  |  |
| Toluene                    | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        | < 0.5 |  |  |
| Trichloroethane,1,1,1-     | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        |       |  |  |
| Trichloroethane,1,1,2-     | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        |       |  |  |
| Trichloroethylene          | µg/L  | 0.5  | EPA 8260         | 29-Jun-21/R        |       |  |  |
| Trichlorofluoromethane     | µg/L  | 5    | EPA 8260         | 29-Jun-21/R        |       |  |  |
| Vinyl Chloride             | µg/L  | 0.2  | EPA 8260         | 29-Jun-21/R        | < 0.2 |  |  |



Michelle Dubien  
 Lab Manager

R.L. = Reporting Limit

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Site Analyzed=K-Kingston,W-Windsor,O-Ottawa,R-Richmond Hill,B-Barrie

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C.O.C.: G80327

REPORT No. B21-20195 (i)

Rev. 1

**Report To:**

**Cambium Environmental**  
 194 Sophia St.,  
 Peterborough ON K9H 1E5 Canada

**Attention:** Cameron MacDougall

**Caduceon Environmental Laboratories**

285 Dalton Ave  
 Kingston Ontario K7K 6Z1  
 Tel: 613-544-2001  
 Fax: 613-544-2770

DATE RECEIVED: 30-Jun-21

JOB/PROJECT NO.: Halls Glen WDS

DATE REPORTED: 22-Apr-22

P.O. NUMBER: 12987-002

SAMPLE MATRIX: Groundwater

WATERWORKS NO.

| Client I.D.    | MW8-1       | GW_QAQC3    | MW9-II      | MW9-I       |
|----------------|-------------|-------------|-------------|-------------|
| Sample I.D.    | B21-20195-1 | B21-20195-2 | B21-20195-3 | B21-20195-4 |
| Date Collected | 28-Jun-21   | 28-Jun-21   | 28-Jun-21   | 28-Jun-21   |

| Parameter                  | Units    | R.L.     | Reference Method | Date/Site Analyzed |            |            |            |            |
|----------------------------|----------|----------|------------------|--------------------|------------|------------|------------|------------|
| Alkalinity(CaCO3) to pH4.5 | mg/L     | 5        | SM 2320B         | 05-Jul-21/O        | 273        | 273        | 271        | 236        |
| Conductivity @25°C         | µmho/cm  | 1        | SM 2510B         | 05-Jul-21/O        | 822        | 822        | 821        | 607        |
| pH @25°C                   | pH Units |          | SM 4500H         | 05-Jul-21/O        | 7.77       | 7.79       | 7.69       | 7.84       |
| Total Dissolved Solids     | mg/L     | 3        | SM 2540D         | 07-Jul-21/O        | 433        | 433        | 432        | 315        |
| Dissolved Organic Carbon   | mg/L     | 0.2      | EPA 415.2        | 05-Jul-21/O        | 2.8        | 2.2        | 3.3        | 2.6        |
| COD                        | mg/L     | 5        | SM5220C          | 02-Jul-21/K        | < 5        | < 5        | < 5        | 33         |
| Phenolics                  | mg/L     | 0.002    | MOEE 3179        | 05-Jul-21/K        | < 0.002    | < 0.002    | < 0.002    | 0.009      |
| Chloride                   | mg/L     | 0.5      | SM4110C          | 06-Jul-21/O        | 84.1       | 83.6       | 88.5       | 15.2       |
| Ammonia (N)-Total          | mg/L     | 0.01     | SM4500-NH3 H     | 05-Jul-21/K        | 0.02       | 0.01       | 0.03       | 0.65       |
| Sulphate                   | mg/L     | 1        | SM4110C          | 06-Jul-21/O        | 20         | 20         | 13         | 55         |
| Nitrite (N)                | mg/L     | 0.05     | SM4110C          | 06-Jul-21/O        | < 0.05     | < 0.05     | < 0.05     | < 0.05     |
| Nitrate (N)                | mg/L     | 0.05     | SM4110C          | 06-Jul-21/O        | 0.22       | 0.24       | 1.21       | < 0.05     |
| Total Kjeldahl Nitrogen    | mg/L     | 0.1      | E3516.2          | 07-Jul-21/K        | 0.2        | 0.2        | 0.2        | 0.7        |
| Mercury                    | mg/L     | 0.00002  | SM 3112 B        | 06-Jul-21/O        | < 0.00002  | < 0.00002  | < 0.00002  | < 0.00002  |
| Hardness (as CaCO3)        | mg/L     | 1        | SM 3120          | 05-Jul-21/O        | 329        | 329        | 329        | 223        |
| Arsenic                    | mg/L     | 0.0001   | EPA 200.8        | 06-Jul-21/O        | 0.0004     | 0.0004     | 0.0002     | < 0.0001   |
| Barium                     | mg/L     | 0.001    | SM 3120          | 05-Jul-21/O        | 0.109      | 0.109      | 0.210      | 0.768      |
| Boron                      | mg/L     | 0.005    | SM 3120          | 05-Jul-21/O        | 0.079      | 0.080      | 0.040      | 0.571      |
| Cadmium                    | mg/L     | 0.000015 | EPA 200.8        | 06-Jul-21/O        | < 0.000015 | < 0.000015 | < 0.000015 | < 0.000015 |
| Calcium                    | mg/L     | 0.02     | SM 3120          | 05-Jul-21/O        | 115        | 115        | 124        | 51.6       |
| Chromium                   | mg/L     | 0.001    | EPA 200.8        | 06-Jul-21/O        | < 0.001    | < 0.001    | < 0.001    | 0.007      |
| Copper                     | mg/L     | 0.0001   | EPA 200.8        | 06-Jul-21/O        | 0.0022     | 0.0022     | 0.0006     | < 0.0001   |
| Iron                       | mg/L     | 0.005    | SM 3120          | 05-Jul-21/O        | 0.010      | 0.011      | 0.087      | 0.040      |
| Lead                       | mg/L     | 0.00002  | EPA 200.8        | 06-Jul-21/O        | 0.00008    | 0.00007    | 0.00003    | 0.00007    |
| Magnesium                  | mg/L     | 0.02     | SM 3120          | 05-Jul-21/O        | 10.2       | 10.1       | 4.64       | 22.9       |
| Manganese                  | mg/L     | 0.001    | SM 3120          | 05-Jul-21/O        | 0.017      | 0.016      | 0.003      | 0.064      |
| Phosphorus-Total           | mg/L     | 0.01     | E3516.2          | 07-Jul-21/K        | 0.05       | 0.06       | 0.04       | 0.06       |



R.L. = Reporting Limit

Test methods may be modified from specified reference method unless indicated by an \*

Site Analyzed=K-Kingston, W-Windsor, O-Ottawa, R-Richmond Hill, B-Barrie

Michelle Dubien  
 Lab Manager

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C.O.C.: G80327

REPORT No. B21-20195 (i)

Rev. 1

**Report To:**

**Cambium Environmental**  
 194 Sophia St.,  
 Peterborough ON K9H 1E5 Canada

**Attention:** Cameron MacDougall

**Caduceon Environmental Laboratories**

285 Dalton Ave  
 Kingston Ontario K7K 6Z1  
 Tel: 613-544-2001  
 Fax: 613-544-2770

DATE RECEIVED: 30-Jun-21

JOB/PROJECT NO.: Halls Glen WDS

DATE REPORTED: 22-Apr-22

P.O. NUMBER: 12987-002

SAMPLE MATRIX: Groundwater

WATERWORKS NO.

|                       |             |             |             |             |
|-----------------------|-------------|-------------|-------------|-------------|
| <b>Client I.D.</b>    | MW8-1       | GW_QAQC3    | MW9-II      | MW9-I       |
| <b>Sample I.D.</b>    | B21-20195-1 | B21-20195-2 | B21-20195-3 | B21-20195-4 |
| <b>Date Collected</b> | 28-Jun-21   | 28-Jun-21   | 28-Jun-21   | 28-Jun-21   |

| Parameter | Units | R.L.  | Reference Method | Date/Site Analyzed |         |         |         |         |
|-----------|-------|-------|------------------|--------------------|---------|---------|---------|---------|
| Potassium | mg/L  | 0.1   | SM 3120          | 05-Jul-21/O        | 3.0     | 3.0     | 2.3     | 5.4     |
| Sodium    | mg/L  | 0.2   | SM 3120          | 05-Jul-21/O        | 53.4    | 53.2    | 55.6    | 54.4    |
| Zinc      | mg/L  | 0.005 | SM 3120          | 05-Jul-21/O        | < 0.005 | < 0.005 | < 0.005 | < 0.005 |



R.L. = Reporting Limit

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JOB/PROJECT NO.: Halls Glen WDS

DATE REPORTED: 22-Apr-22

P.O. NUMBER: 12987-002

SAMPLE MATRIX: Groundwater

WATERWORKS NO.

| Client I.D.    | MW13-II     | MW13-I      | R-4         | R-I         |
|----------------|-------------|-------------|-------------|-------------|
| Sample I.D.    | B21-20195-5 | B21-20195-6 | B21-20195-7 | B21-20195-8 |
| Date Collected | 28-Jun-21   | 28-Jun-21   | 28-Jun-21   | 28-Jun-21   |

| Parameter                  | Units    | R.L.     | Reference Method | Date/Site Analyzed |            |            |            |           |
|----------------------------|----------|----------|------------------|--------------------|------------|------------|------------|-----------|
| Alkalinity(CaCO3) to pH4.5 | mg/L     | 5        | SM 2320B         | 05-Jul-21/O        | 268        | 262        | 267        | 254       |
| Conductivity @25°C         | µmho/cm  | 1        | SM 2510B         | 05-Jul-21/O        | 763        | 913        | 1130       | 679       |
| pH @25°C                   | pH Units |          | SM 4500H         | 05-Jul-21/O        | 7.68       | 7.73       | 7.87       | 7.74      |
| Total Dissolved Solids     | mg/L     | 3        | SM 2540D         | 07-Jul-21/O        | 399        | 484        | 605        | 353       |
| Dissolved Organic Carbon   | mg/L     | 0.2      | EPA 415.2        | 05-Jul-21/O        | 3.3        | 2.4        | 2.0        | 3.7       |
| COD                        | mg/L     | 5        | SM5220C          | 02-Jul-21/K        | < 5        | 17         | < 5        | 450       |
| Phenolics                  | mg/L     | 0.002    | MOEE 3179        | 05-Jul-21/K        | < 0.002    | < 0.002    | < 0.002    | < 0.002   |
| Chloride                   | mg/L     | 0.5      | SM4110C          | 06-Jul-21/O        | 70.3       | 124        | 183        | 51.7      |
| Ammonia (N)-Total          | mg/L     | 0.01     | SM4500-NH3-H     | 05-Jul-21/K        | 0.02       | < 0.01     | < 0.01     | 0.08      |
| Sulphate                   | mg/L     | 1        | SM4110C          | 06-Jul-21/O        | 12         | 11         | 12         | 10        |
| Nitrite (N)                | mg/L     | 0.05     | SM4110C          | 06-Jul-21/O        | < 0.05     | < 0.05     | < 0.05     | < 0.05    |
| Nitrate (N)                | mg/L     | 0.05     | SM4110C          | 06-Jul-21/O        | 1.71       | 0.90       | 1.38       | 1.58      |
| Total Kjeldahl Nitrogen    | mg/L     | 0.1      | E3516.2          | 07-Jul-21/K        | 0.2        | 0.2        | 0.2        | 1.1       |
| Mercury                    | mg/L     | 0.00002  | SM 3112 B        | 06-Jul-21/O        | < 0.00002  | < 0.00002  | < 0.00002  | < 0.00002 |
| Hardness (as CaCO3)        | mg/L     | 1        | SM 3120          | 05-Jul-21/O        | 324        | 298        | 333        | 327       |
| Arsenic                    | mg/L     | 0.0001   | EPA 200.8        | 06-Jul-21/O        | 0.0001     | 0.0001     | 0.0001     | 0.0003    |
| Barium                     | mg/L     | 0.001    | SM 3120          | 05-Jul-21/O        | 0.135      | 0.132      | 0.128      | 0.165     |
| Boron                      | mg/L     | 0.005    | SM 3120          | 05-Jul-21/O        | 0.027      | 0.020      | 0.020      | 0.020     |
| Cadmium                    | mg/L     | 0.000015 | EPA 200.8        | 06-Jul-21/O        | < 0.000015 | < 0.000015 | < 0.000015 | 0.000054  |
| Calcium                    | mg/L     | 0.02     | SM 3120          | 05-Jul-21/O        | 123        | 114        | 127        | 123       |
| Chromium                   | mg/L     | 0.001    | EPA 200.8        | 06-Jul-21/O        | < 0.001    | < 0.001    | 0.002      | 0.001     |
| Copper                     | mg/L     | 0.0001   | EPA 200.8        | 06-Jul-21/O        | 0.0016     | 0.0012     | 0.117      | 0.0025    |
| Iron                       | mg/L     | 0.005    | SM 3120          | 05-Jul-21/O        | 0.006      | < 0.005    | 0.006      | 0.577     |
| Lead                       | mg/L     | 0.00002  | EPA 200.8        | 06-Jul-21/O        | 0.00008    | 0.00008    | 0.00232    | 0.00083   |
| Magnesium                  | mg/L     | 0.02     | SM 3120          | 05-Jul-21/O        | 3.93       | 3.27       | 3.87       | 4.64      |
| Manganese                  | mg/L     | 0.001    | SM 3120          | 05-Jul-21/O        | < 0.001    | < 0.001    | < 0.001    | 0.940     |
| Phosphorus-Total           | mg/L     | 0.01     | E3516.2          | 07-Jul-21/K        | 0.07       | 0.02       | 0.01       | 0.96      |



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 Lab Manager

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DATE RECEIVED: 30-Jun-21

JOB/PROJECT NO.: Halls Glen WDS

DATE REPORTED: 22-Apr-22

P.O. NUMBER: 12987-002

SAMPLE MATRIX: Groundwater

WATERWORKS NO.

|                       |             |             |             |             |
|-----------------------|-------------|-------------|-------------|-------------|
| <b>Client I.D.</b>    | MW13-II     | MW13-I      | R-4         | R-I         |
| <b>Sample I.D.</b>    | B21-20195-5 | B21-20195-6 | B21-20195-7 | B21-20195-8 |
| <b>Date Collected</b> | 28-Jun-21   | 28-Jun-21   | 28-Jun-21   | 28-Jun-21   |

| Parameter | Units | R.L.  | Reference Method | Date/Site Analyzed |         |         |       |         |
|-----------|-------|-------|------------------|--------------------|---------|---------|-------|---------|
| Potassium | mg/L  | 0.1   | SM 3120          | 05-Jul-21/O        | 3.2     | 2.6     | 2.8   | 1.5     |
| Sodium    | mg/L  | 0.2   | SM 3120          | 05-Jul-21/O        | 43.7    | 91.5    | 121   | 36.5    |
| Zinc      | mg/L  | 0.005 | SM 3120          | 05-Jul-21/O        | < 0.005 | < 0.005 | 0.045 | < 0.005 |



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DATE RECEIVED: 30-Jun-21

JOB/PROJECT NO.: Halls Glen WDS

DATE REPORTED: 13-Jul-21

P.O. NUMBER: 12987-003

SAMPLE MATRIX: Groundwater

WATERWORKS NO.

| Parameter                  | Units    | R.L.     | Reference Method | Date/Site Analyzed | Client I.D. | MW8-1       | GW_QAQC3    | MW9-II      | MW9-I       |
|----------------------------|----------|----------|------------------|--------------------|-------------|-------------|-------------|-------------|-------------|
|                            |          |          |                  |                    | Sample I.D. | B21-20195-1 | B21-20195-2 | B21-20195-3 | B21-20195-4 |
| Date Collected             |          |          |                  |                    | 28-Jun-21   | 28-Jun-21   | 28-Jun-21   | 28-Jun-21   | 28-Jun-21   |
| Alkalinity(CaCO3) to pH4.5 | mg/L     | 5        | SM 2320B         | 05-Jul-21/O        | 273         | 273         | 271         | 236         |             |
| Conductivity @25°C         | µmho/cm  | 1        | SM 2510B         | 05-Jul-21/O        | 822         | 822         | 821         | 607         |             |
| pH @25°C                   | pH Units |          | SM 4500H         | 05-Jul-21/O        | 7.77        | 7.79        | 7.69        | 7.84        |             |
| Total Dissolved Solids     | mg/L     | 3        | SM 2540D         | 07-Jul-21/O        | 433         | 433         | 432         | 315         |             |
| Dissolved Organic Carbon   | mg/L     | 0.2      | EPA 415.2        | 05-Jul-21/O        | 2.8         | 2.2         | 3.3         | 2.6         |             |
| COD                        | mg/L     | 5        | SM5220C          | 02-Jul-21/K        | < 5         | < 5         | < 5         | 33          |             |
| Phenolics                  | mg/L     | 0.002    | MOEE 3179        | 05-Jul-21/K        | < 0.002     | < 0.002     | < 0.002     | 0.009       |             |
| Chloride                   | mg/L     | 0.5      | SM4110C          | 06-Jul-21/O        | 84.1        | 83.6        | 88.5        | 15.2        |             |
| Ammonia (N)-Total          | mg/L     | 0.01     | SM4500-NH3-H     | 05-Jul-21/K        | 0.02        | 0.01        | 0.03        | 0.65        |             |
| Sulphate                   | mg/L     | 1        | SM4110C          | 06-Jul-21/O        | 20          | 20          | 13          | 55          |             |
| Nitrite (N)                | mg/L     | 0.05     | SM4110C          | 06-Jul-21/O        | < 0.05      | < 0.05      | < 0.05      | < 0.05      |             |
| Nitrate (N)                | mg/L     | 0.05     | SM4110C          | 06-Jul-21/O        | 0.22        | 0.24        | 1.21        | < 0.05      |             |
| Total Kjeldahl Nitrogen    | mg/L     | 0.1      | E3199A.1         | 07-Jul-21/K        | 0.2         | 0.2         | 0.2         | 0.7         |             |
| Mercury                    | mg/L     | 0.00002  | SM 3112 B        | 06-Jul-21/O        | < 0.00002   | < 0.00002   | < 0.00002   | < 0.00002   |             |
| Hardness (as CaCO3)        | mg/L     | 1        | SM 3120          | 05-Jul-21/O        | 329         | 329         | 329         | 223         |             |
| Arsenic                    | mg/L     | 0.0001   | EPA 200.8        | 06-Jul-21/O        | 0.0004      | 0.0004      | 0.0002      | < 0.0001    |             |
| Barium                     | mg/L     | 0.001    | SM 3120          | 05-Jul-21/O        | 0.109       | 0.109       | 0.210       | 0.768       |             |
| Boron                      | mg/L     | 0.005    | SM 3120          | 05-Jul-21/O        | 0.079       | 0.080       | 0.040       | 0.571       |             |
| Cadmium                    | mg/L     | 0.000015 | EPA 200.8        | 06-Jul-21/O        | < 0.000015  | < 0.000015  | < 0.000015  | < 0.000015  |             |
| Calcium                    | mg/L     | 0.02     | SM 3120          | 05-Jul-21/O        | 115         | 115         | 124         | 51.6        |             |
| Chromium                   | mg/L     | 0.001    | EPA 200.8        | 06-Jul-21/O        | < 0.001     | < 0.001     | < 0.001     | 0.007       |             |
| Copper                     | mg/L     | 0.0001   | EPA 200.8        | 06-Jul-21/O        | 0.0022      | 0.0022      | 0.0006      | < 0.0001    |             |
| Iron                       | mg/L     | 0.005    | SM 3120          | 05-Jul-21/O        | 0.010       | 0.011       | 0.087       | 0.040       |             |
| Lead                       | mg/L     | 0.00002  | EPA 200.8        | 06-Jul-21/O        | 0.00008     | 0.00007     | 0.00003     | 0.00007     |             |
| Magnesium                  | mg/L     | 0.02     | SM 3120          | 05-Jul-21/O        | 10.2        | 10.1        | 4.64        | 22.9        |             |
| Manganese                  | mg/L     | 0.001    | SM 3120          | 05-Jul-21/O        | 0.017       | 0.016       | 0.003       | 0.064       |             |
| Phosphorus-Total           | mg/L     | 0.01     | E3199A.1         | 07-Jul-21/K        | 0.05        | 0.06        | 0.04        | 0.06        |             |



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DATE RECEIVED: 30-Jun-21

JOB/PROJECT NO.: Halls Glen WDS

DATE REPORTED: 13-Jul-21

P.O. NUMBER: 12987-003

SAMPLE MATRIX: Groundwater

WATERWORKS NO.

|                       |             |             |             |             |
|-----------------------|-------------|-------------|-------------|-------------|
| <b>Client I.D.</b>    | MW8-1       | GW_QAQC3    | MW9-II      | MW9-I       |
| <b>Sample I.D.</b>    | B21-20195-1 | B21-20195-2 | B21-20195-3 | B21-20195-4 |
| <b>Date Collected</b> | 28-Jun-21   | 28-Jun-21   | 28-Jun-21   | 28-Jun-21   |

| Parameter | Units | R.L.  | Reference Method | Date/Site Analyzed |         |         |         |         |
|-----------|-------|-------|------------------|--------------------|---------|---------|---------|---------|
| Potassium | mg/L  | 0.1   | SM 3120          | 05-Jul-21/O        | 3.0     | 3.0     | 2.3     | 5.4     |
| Sodium    | mg/L  | 0.2   | SM 3120          | 05-Jul-21/O        | 53.4    | 53.2    | 55.6    | 54.4    |
| Zinc      | mg/L  | 0.005 | SM 3120          | 05-Jul-21/O        | < 0.005 | < 0.005 | < 0.005 | < 0.005 |



Michelle Dubien  
 Lab Manager

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DATE REPORTED: 13-Jul-21

P.O. NUMBER: 12987-003

SAMPLE MATRIX: Groundwater

WATERWORKS NO.

| Client I.D.    | MW13-II     | MW13-I      | R-4         | R-1         |
|----------------|-------------|-------------|-------------|-------------|
| Sample I.D.    | B21-20195-5 | B21-20195-6 | B21-20195-7 | B21-20195-8 |
| Date Collected | 28-Jun-21   | 28-Jun-21   | 28-Jun-21   | 28-Jun-21   |

| Parameter                  | Units    | R.L.     | Reference Method | Date/Site Analyzed |            |            |            |           |
|----------------------------|----------|----------|------------------|--------------------|------------|------------|------------|-----------|
| Alkalinity(CaCO3) to pH4.5 | mg/L     | 5        | SM 2320B         | 05-Jul-21/O        | 268        | 262        | 267        | 254       |
| Conductivity @25°C         | µmho/cm  | 1        | SM 2510B         | 05-Jul-21/O        | 763        | 913        | 1130       | 679       |
| pH @25°C                   | pH Units |          | SM 4500H         | 05-Jul-21/O        | 7.68       | 7.73       | 7.87       | 7.74      |
| Total Dissolved Solids     | mg/L     | 3        | SM 2540D         | 07-Jul-21/O        | 399        | 484        | 605        | 353       |
| Dissolved Organic Carbon   | mg/L     | 0.2      | EPA 415.2        | 05-Jul-21/O        | 3.3        | 2.4        | 2.0        | 3.7       |
| COD                        | mg/L     | 5        | SM5220C          | 02-Jul-21/K        | < 5        | 17         | < 5        | 450       |
| Phenolics                  | mg/L     | 0.002    | MOEE 3179        | 05-Jul-21/K        | < 0.002    | < 0.002    | < 0.002    | < 0.002   |
| Chloride                   | mg/L     | 0.5      | SM4110C          | 06-Jul-21/O        | 70.3       | 124        | 183        | 51.7      |
| Ammonia (N)-Total          | mg/L     | 0.01     | SM4500-NH3-H     | 05-Jul-21/K        | 0.02       | < 0.01     | < 0.01     | 0.08      |
| Sulphate                   | mg/L     | 1        | SM4110C          | 06-Jul-21/O        | 12         | 11         | 12         | 10        |
| Nitrite (N)                | mg/L     | 0.05     | SM4110C          | 06-Jul-21/O        | < 0.05     | < 0.05     | < 0.05     | < 0.05    |
| Nitrate (N)                | mg/L     | 0.05     | SM4110C          | 06-Jul-21/O        | 1.71       | 0.90       | 1.38       | 1.58      |
| Total Kjeldahl Nitrogen    | mg/L     | 0.1      | E3199A.1         | 07-Jul-21/K        | 0.2        | 0.2        | 0.2        | 1.1       |
| Mercury                    | mg/L     | 0.00002  | SM 3112 B        | 06-Jul-21/O        | < 0.00002  | < 0.00002  | < 0.00002  | < 0.00002 |
| Hardness (as CaCO3)        | mg/L     | 1        | SM 3120          | 05-Jul-21/O        | 324        | 298        | 333        | 327       |
| Arsenic                    | mg/L     | 0.0001   | EPA 200.8        | 06-Jul-21/O        | 0.0001     | 0.0001     | 0.0001     | 0.0003    |
| Barium                     | mg/L     | 0.001    | SM 3120          | 05-Jul-21/O        | 0.135      | 0.132      | 0.128      | 0.165     |
| Boron                      | mg/L     | 0.005    | SM 3120          | 05-Jul-21/O        | 0.027      | 0.020      | 0.020      | 0.020     |
| Cadmium                    | mg/L     | 0.000015 | EPA 200.8        | 06-Jul-21/O        | < 0.000015 | < 0.000015 | < 0.000015 | 0.000054  |
| Calcium                    | mg/L     | 0.02     | SM 3120          | 05-Jul-21/O        | 123        | 114        | 127        | 123       |
| Chromium                   | mg/L     | 0.001    | EPA 200.8        | 06-Jul-21/O        | < 0.001    | < 0.001    | 0.002      | 0.001     |
| Copper                     | mg/L     | 0.0001   | EPA 200.8        | 06-Jul-21/O        | 0.0016     | 0.0012     | 0.117      | 0.0025    |
| Iron                       | mg/L     | 0.005    | SM 3120          | 05-Jul-21/O        | 0.006      | < 0.005    | 0.006      | 0.577     |
| Lead                       | mg/L     | 0.00002  | EPA 200.8        | 06-Jul-21/O        | 0.00008    | 0.00008    | 0.00232    | 0.00083   |
| Magnesium                  | mg/L     | 0.02     | SM 3120          | 05-Jul-21/O        | 3.93       | 3.27       | 3.87       | 4.64      |
| Manganese                  | mg/L     | 0.001    | SM 3120          | 05-Jul-21/O        | < 0.001    | < 0.001    | < 0.001    | 0.940     |
| Phosphorus-Total           | mg/L     | 0.01     | E3199A.1         | 07-Jul-21/K        | 0.07       | 0.02       | 0.01       | 0.96      |



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DATE REPORTED: 13-Jul-21

P.O. NUMBER: 12987-003

SAMPLE MATRIX: Groundwater

WATERWORKS NO.

| Parameter | Units | R.L.  | Reference Method | Date/Site Analyzed | Client I.D. | MW13-II        | MW13-I      | R-4         | R-I         |
|-----------|-------|-------|------------------|--------------------|-------------|----------------|-------------|-------------|-------------|
|           |       |       |                  |                    | Sample I.D. | Date Collected | B21-20195-5 | B21-20195-6 | B21-20195-7 |
| Potassium | mg/L  | 0.1   | SM 3120          | 05-Jul-21/O        |             | 3.2            | 2.6         | 2.8         | 1.5         |
| Sodium    | mg/L  | 0.2   | SM 3120          | 05-Jul-21/O        |             | 43.7           | 91.5        | 121         | 36.5        |
| Zinc      | mg/L  | 0.005 | SM 3120          | 05-Jul-21/O        |             | < 0.005        | < 0.005     | 0.045       | < 0.005     |



Michelle Dubien  
 Lab Manager

R.L. = Reporting Limit

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Site Analyzed=K-Kingston,W-Windsor,O-Ottawa,R-Richmond Hill,B-Barrie

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C.O.C.: G80327

REPORT No. B21-20195 (ii)

Rev. 1

**Report To:**

**Cambium Environmental**  
 194 Sophia St.,  
 Peterborough ON K9H 1E5 Canada

**Attention:** Cameron MacDougall

**Caduceon Environmental Laboratories**

285 Dalton Ave  
 Kingston Ontario K7K 6Z1  
 Tel: 613-544-2001  
 Fax: 613-544-2770

DATE RECEIVED: 30-Jun-21

JOB/PROJECT NO.: Halls Glen WDS

DATE REPORTED: 22-Apr-22

P.O. NUMBER: 12987-002

SAMPLE MATRIX: Groundwater

WATERWORKS NO.

| Parameter                                   | Units | R.L. | Reference Method | Date/Site Analyzed | Client I.D. | MW8-1       | GW_QAQC3    | MW9-II      | MW9-I       |
|---|-------|------|------------------|--------------------|-------------|-------------|-------------|-------------|-------------|
|   |       |      |                  |                    | Sample I.D. | B21-20195-1 | B21-20195-2 | B21-20195-3 | B21-20195-4 |
| Date Collected                              |       |      |                  |                    | 28-Jun-21   | 28-Jun-21   | 28-Jun-21   | 28-Jun-21   | 28-Jun-21   |
| Benzene                                     | µg/L  | 0.5  | EPA 8260         | 02-Jul-21/R        | < 0.5       | < 0.5       | < 0.5       | < 0.5       | < 0.5       |
| Bromodichloromethane                        | µg/L  | 2    | EPA 8260         | 02-Jul-21/R        |             |             |             |             |             |
| Bromoform                                   | µg/L  | 5    | EPA 8260         | 02-Jul-21/R        |             |             |             |             |             |
| Bromomethane                                | µg/L  | 0.5  | EPA 8260         | 02-Jul-21/R        |             |             |             |             |             |
| Carbon Tetrachloride                        | µg/L  | 0.2  | EPA 8260         | 02-Jul-21/R        |             |             |             |             |             |
| Chloroethane                                | µg/L  | 3    | EPA 8260         | 02-Jul-21/R        |             |             |             |             |             |
| Chloroform                                  | µg/L  | 1    | EPA 8260         | 02-Jul-21/R        |             |             |             |             |             |
| Chloromethane                               | µg/L  | 2    | EPA 8260         | 02-Jul-21/R        |             |             |             |             |             |
| Dibromochloromethane                        | µg/L  | 2    | EPA 8260         | 02-Jul-21/R        |             |             |             |             |             |
| Dibromoethane, 1,2-<br>(Ethylene Dibromide) | µg/L  | 0.2  | EPA 8260         | 02-Jul-21/R        |             |             |             |             |             |
| Dichlorobenzene, 1,2-                       | µg/L  | 0.5  | EPA 8260         | 02-Jul-21/R        |             |             |             |             |             |
| Dichlorobenzene, 1,3-                       | µg/L  | 0.5  | EPA 8260         | 02-Jul-21/R        |             |             |             |             |             |
| Dichlorobenzene, 1,4-                       | µg/L  | 0.5  | EPA 8260         | 02-Jul-21/R        | < 0.5       | < 0.5       | < 0.5       | < 0.5       | < 0.5       |
| Dichloroethane, 1,1-                        | µg/L  | 0.5  | EPA 8260         | 02-Jul-21/R        |             |             |             |             |             |
| Dichloroethane, 1,2-                        | µg/L  | 0.5  | EPA 8260         | 02-Jul-21/R        |             |             |             |             |             |
| Dichloroethylene, 1,1-                      | µg/L  | 0.5  | EPA 8260         | 02-Jul-21/R        |             |             |             |             |             |
| Dichloroethene, cis-1,2-                    | µg/L  | 0.5  | EPA 8260         | 02-Jul-21/R        |             |             |             |             |             |
| Dichloroethene, trans-1,2-                  | µg/L  | 0.5  | EPA 8260         | 02-Jul-21/R        |             |             |             |             |             |
| Dichloromethane<br>(Methylene Chloride)     | µg/L  | 5    | EPA 8260         | 02-Jul-21/R        | < 5         | < 5         | < 5         | < 5         | < 5         |
| Dichloropropane, 1,2-                       | µg/L  | 0.5  | EPA 8260         | 02-Jul-21/R        |             |             |             |             |             |
| Dichloropropene 1,3-<br>cis+trans           | µg/L  | 0.5  | EPA 8260         | 02-Jul-21/R        |             |             |             |             |             |
| Dichloropropene, trans-1,3-                 | µg/L  | 0.5  | EPA 8260         | 02-Jul-21/R        |             |             |             |             |             |
| Dichloropropene, cis-1,3-                   | µg/L  | 0.5  | EPA 8260         | 02-Jul-21/R        |             |             |             |             |             |
| Monochlorobenzene<br>(Chlorobenzene)        | µg/L  | 0.5  | EPA 8260         | 02-Jul-21/R        | < 0.5       |             |             | < 0.5       | < 0.5       |



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Michelle Dubien  
 Lab Manager

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C.O.C.: G80327

REPORT No. B21-20195 (ii)

Rev. 1

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 194 Sophia St.,  
 Peterborough ON K9H 1E5 Canada

**Attention:** Cameron MacDougall

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285 Dalton Ave  
 Kingston Ontario K7K 6Z1  
 Tel: 613-544-2001  
 Fax: 613-544-2770

DATE RECEIVED: 30-Jun-21

JOB/PROJECT NO.: Halls Glen WDS

DATE REPORTED: 22-Apr-22

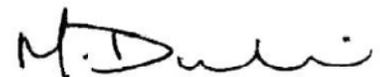
P.O. NUMBER: 12987-002

SAMPLE MATRIX: Groundwater

WATERWORKS NO.

| Parameter                   | Units | R.L. | Reference Method | Date/Site Analyzed | Client I.D. | MW8-1     | GW_QAQC3  | MW9-II    | MW9-I     |
|-----------------------------|-------|------|------------------|--------------------|-------------|-----------|-----------|-----------|-----------|
|                             |       |      |                  |                    | Sample I.D. |           |           |           |           |
| Date Collected              |       |      |                  |                    | 28-Jun-21   | 28-Jun-21 | 28-Jun-21 | 28-Jun-21 | 28-Jun-21 |
| Styrene                     | µg/L  | 0.5  | EPA 8260         | 02-Jul-21/R        |             |           |           |           |           |
| Tetrachloroethane, 1,1,2,2- | µg/L  | 0.5  | EPA 8260         | 02-Jul-21/R        |             |           |           |           |           |
| Tetrachloroethylene         | µg/L  | 0.5  | EPA 8260         | 02-Jul-21/R        |             |           |           |           |           |
| Toluene                     | µg/L  | 0.5  | EPA 8260         | 02-Jul-21/R        | < 0.5       | < 0.5     | < 0.5     | < 0.5     | < 0.5     |
| Trichloroethane, 1,1,1-     | µg/L  | 0.5  | EPA 8260         | 02-Jul-21/R        |             |           |           |           |           |
| Trichloroethane, 1,1,2-     | µg/L  | 0.5  | EPA 8260         | 02-Jul-21/R        |             |           |           |           |           |
| Trichloroethylene           | µg/L  | 0.5  | EPA 8260         | 02-Jul-21/R        |             |           |           |           |           |
| Trichlorofluoromethane      | µg/L  | 5    | EPA 8260         | 02-Jul-21/R        |             |           |           |           |           |
| Vinyl Chloride              | µg/L  | 0.2  | EPA 8260         | 02-Jul-21/R        | < 0.2       | < 0.2     | < 0.2     | < 0.2     | < 0.2     |

1. Revised to include additional parameter



Michelle Dubien  
 Lab Manager

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 Tel: 613-544-2001  
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DATE RECEIVED: 30-Jun-21

JOB/PROJECT NO.: Halls Glen WDS

DATE REPORTED: 22-Apr-22

P.O. NUMBER: 12987-002

SAMPLE MATRIX: Groundwater

WATERWORKS NO.

| Parameter                                   | Units | R.L. | Reference Method | Date/Site Analyzed | Client I.D. | MW13-II     | MW13-I      | R-4         | R-I         |
|---|-------|------|------------------|--------------------|-------------|-------------|-------------|-------------|-------------|
|   |       |      |                  |                    | Sample I.D. | B21-20195-5 | B21-20195-6 | B21-20195-7 | B21-20195-8 |
| Date Collected                              |       |      |                  |                    | 28-Jun-21   | 28-Jun-21   | 28-Jun-21   | 28-Jun-21   | 28-Jun-21   |
| Benzene                                     | µg/L  | 0.5  | EPA 8260         | 02-Jul-21/R        | < 0.5       | < 0.5       | < 0.5       | < 0.5       | < 0.5       |
| Bromodichloromethane                        | µg/L  | 2    | EPA 8260         | 02-Jul-21/R        |             |             | < 2         | < 2         | < 2         |
| Bromoform                                   | µg/L  | 5    | EPA 8260         | 02-Jul-21/R        |             |             | < 5         | < 5         | < 5         |
| Bromomethane                                | µg/L  | 0.5  | EPA 8260         | 02-Jul-21/R        |             |             | < 0.5       | < 0.5       | < 0.5       |
| Carbon Tetrachloride                        | µg/L  | 0.2  | EPA 8260         | 02-Jul-21/R        |             |             | < 0.2       | < 0.2       | < 0.2       |
| Chloroethane                                | µg/L  | 3    | EPA 8260         | 02-Jul-21/R        |             |             | < 3         | < 3         | < 3         |
| Chloroform                                  | µg/L  | 1    | EPA 8260         | 02-Jul-21/R        |             |             | < 1         | < 1         | < 1         |
| Chloromethane                               | µg/L  | 2    | EPA 8260         | 02-Jul-21/R        |             |             | < 2         | < 2         | < 2         |
| Dibromochloromethane                        | µg/L  | 2    | EPA 8260         | 02-Jul-21/R        |             |             | < 2         | < 2         | < 2         |
| Dibromoethane, 1,2-<br>(Ethylene Dibromide) | µg/L  | 0.2  | EPA 8260         | 02-Jul-21/R        |             |             | < 0.2       | < 0.2       | < 0.2       |
| Dichlorobenzene, 1,2-                       | µg/L  | 0.5  | EPA 8260         | 02-Jul-21/R        |             |             | < 0.5       | < 0.5       | < 0.5       |
| Dichlorobenzene, 1,3-                       | µg/L  | 0.5  | EPA 8260         | 02-Jul-21/R        |             |             | < 0.5       | < 0.5       | < 0.5       |
| Dichlorobenzene, 1,4-                       | µg/L  | 0.5  | EPA 8260         | 02-Jul-21/R        | < 0.5       | < 0.5       | < 0.5       | < 0.5       | < 0.5       |
| Dichloroethane, 1,1-                        | µg/L  | 0.5  | EPA 8260         | 02-Jul-21/R        |             |             | < 0.5       | < 0.5       | < 0.5       |
| Dichloroethane, 1,2-                        | µg/L  | 0.5  | EPA 8260         | 02-Jul-21/R        |             |             | < 0.5       | < 0.5       | < 0.5       |
| Dichloroethylene, 1,1-                      | µg/L  | 0.5  | EPA 8260         | 02-Jul-21/R        |             |             | < 0.5       | < 0.5       | < 0.5       |
| Dichloroethene, cis-1,2-                    | µg/L  | 0.5  | EPA 8260         | 02-Jul-21/R        |             |             | < 0.5       | < 0.5       | < 0.5       |
| Dichloroethene, trans-1,2-                  | µg/L  | 0.5  | EPA 8260         | 02-Jul-21/R        |             |             | < 0.5       | < 0.5       | < 0.5       |
| Dichloromethane<br>(Methylene Chloride)     | µg/L  | 5    | EPA 8260         | 02-Jul-21/R        | < 5         | < 5         | < 5         | < 5         | < 5         |
| Dichloropropane, 1,2-                       | µg/L  | 0.5  | EPA 8260         | 02-Jul-21/R        |             |             | < 0.5       | < 0.5       | < 0.5       |
| Dichloropropene 1,3-<br>cis+trans           | µg/L  | 0.5  | EPA 8260         | 02-Jul-21/R        |             |             | < 0.5       | < 0.5       | < 0.5       |
| Dichloropropene, trans-1,3-                 | µg/L  | 0.5  | EPA 8260         | 02-Jul-21/R        |             |             | < 0.5       | < 0.5       | < 0.5       |
| Dichloropropene, cis-1,3-                   | µg/L  | 0.5  | EPA 8260         | 02-Jul-21/R        |             |             | < 0.5       | < 0.5       | < 0.5       |
| Monochlorobenzene<br>(Chlorobenzene)        | µg/L  | 0.5  | EPA 8260         | 02-Jul-21/R        | < 0.5       | < 0.5       | < 0.5       | < 0.5       | < 0.5       |



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Michelle Dubien  
 Lab Manager

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**Attention:** Cameron MacDougall

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 Kingston Ontario K7K 6Z1  
 Tel: 613-544-2001  
 Fax: 613-544-2770

DATE RECEIVED: 30-Jun-21

JOB/PROJECT NO.: Halls Glen WDS

DATE REPORTED: 22-Apr-22

P.O. NUMBER: 12987-002

SAMPLE MATRIX: Groundwater

WATERWORKS NO.

| Parameter                   | Units | R.L. | Reference Method | Date/Site Analyzed | Client I.D. | MW13-II        | MW13-I | R-4   | R-I   |
|-----------------------------|-------|------|------------------|--------------------|-------------|----------------|--------|-------|-------|
|                             |       |      |                  |                    | Sample I.D. | Date Collected |        |       |       |
| Styrene                     | µg/L  | 0.5  | EPA 8260         | 02-Jul-21/R        | B21-20195-5 | 28-Jun-21      |        | < 0.5 | < 0.5 |
| Tetrachloroethane, 1,1,2,2- | µg/L  | 0.5  | EPA 8260         | 02-Jul-21/R        | B21-20195-6 | 28-Jun-21      |        | < 0.5 | < 0.5 |
| Tetrachloroethylene         | µg/L  | 0.5  | EPA 8260         | 02-Jul-21/R        | B21-20195-7 | 28-Jun-21      |        | < 0.5 | < 0.5 |
| Toluene                     | µg/L  | 0.5  | EPA 8260         | 02-Jul-21/R        | B21-20195-8 | 28-Jun-21      | < 0.5  | < 0.5 | < 0.5 |
| Trichloroethane, 1,1,1-     | µg/L  | 0.5  | EPA 8260         | 02-Jul-21/R        |             |                |        | < 0.5 | < 0.5 |
| Trichloroethane, 1,1,2-     | µg/L  | 0.5  | EPA 8260         | 02-Jul-21/R        |             |                |        | < 0.5 | < 0.5 |
| Trichloroethylene           | µg/L  | 0.5  | EPA 8260         | 02-Jul-21/R        |             |                |        | < 0.5 | < 0.5 |
| Trichlorofluoromethane      | µg/L  | 5    | EPA 8260         | 02-Jul-21/R        |             |                |        | < 5   | < 5   |
| Vinyl Chloride              | µg/L  | 0.2  | EPA 8260         | 02-Jul-21/R        |             |                | < 0.2  | < 0.2 | < 0.2 |

1. Revised to include additional parameter



Michelle Dubien  
 Lab Manager

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285 Dalton Ave  
 Kingston Ontario K7K 6Z1  
 Tel: 613-544-2001  
 Fax: 613-544-2770

DATE RECEIVED: 30-Jun-21

JOB/PROJECT NO.: Halls Glen WDS

DATE REPORTED: 13-Jul-21

P.O. NUMBER: 12987-003

SAMPLE MATRIX: Groundwater

WATERWORKS NO.

| Parameter                                   | Units | R.L. | Reference Method | Date/Site Analyzed | Client I.D.    | MW8-1     | GW_QAQC3  | MW9-II    | MW9-I     |
|---|-------|------|------------------|--------------------|----------------|-----------|-----------|-----------|-----------|
|   |       |      |                  |                    | Sample I.D.    |           |           |           |           |
|   |       |      |                  |                    | Date Collected | 28-Jun-21 | 28-Jun-21 | 28-Jun-21 | 28-Jun-21 |
| Benzene                                     | µg/L  | 0.5  | EPA 8260         | 02-Jul-21/R        |                | < 0.5     | < 0.5     | < 0.5     | < 0.5     |
| Bromodichloromethane                        | µg/L  | 2    | EPA 8260         | 02-Jul-21/R        |                |           |           |           |           |
| Bromoform                                   | µg/L  | 5    | EPA 8260         | 02-Jul-21/R        |                |           |           |           |           |
| Bromomethane                                | µg/L  | 0.5  | EPA 8260         | 02-Jul-21/R        |                |           |           |           |           |
| Carbon Tetrachloride                        | µg/L  | 0.2  | EPA 8260         | 02-Jul-21/R        |                |           |           |           |           |
| Chloroethane                                | µg/L  | 3    | EPA 8260         | 02-Jul-21/R        |                |           |           |           |           |
| Chloroform                                  | µg/L  | 1    | EPA 8260         | 02-Jul-21/R        |                |           |           |           |           |
| Chloromethane                               | µg/L  | 2    | EPA 8260         | 02-Jul-21/R        |                |           |           |           |           |
| Dibromochloromethane                        | µg/L  | 2    | EPA 8260         | 02-Jul-21/R        |                |           |           |           |           |
| Dibromoethane, 1,2-<br>(Ethylene Dibromide) | µg/L  | 0.2  | EPA 8260         | 02-Jul-21/R        |                |           |           |           |           |
| Dichlorobenzene, 1,2-                       | µg/L  | 0.5  | EPA 8260         | 02-Jul-21/R        |                |           |           |           |           |
| Dichlorobenzene, 1,3-                       | µg/L  | 0.5  | EPA 8260         | 02-Jul-21/R        |                |           |           |           |           |
| Dichlorobenzene, 1,4-                       | µg/L  | 0.5  | EPA 8260         | 02-Jul-21/R        |                | < 0.5     | < 0.5     | < 0.5     | < 0.5     |
| Dichloroethane, 1,1-                        | µg/L  | 0.5  | EPA 8260         | 02-Jul-21/R        |                |           |           |           |           |
| Dichloroethane, 1,2-                        | µg/L  | 0.5  | EPA 8260         | 02-Jul-21/R        |                |           |           |           |           |
| Dichloroethylene, 1,1-                      | µg/L  | 0.5  | EPA 8260         | 02-Jul-21/R        |                |           |           |           |           |
| Dichloroethene, cis-1,2-                    | µg/L  | 0.5  | EPA 8260         | 02-Jul-21/R        |                |           |           |           |           |
| Dichloroethene, trans-1,2-                  | µg/L  | 0.5  | EPA 8260         | 02-Jul-21/R        |                |           |           |           |           |
| Dichloromethane<br>(Methylene Chloride)     | µg/L  | 5    | EPA 8260         | 02-Jul-21/R        |                | < 5       | < 5       | < 5       | < 5       |
| Dichloropropane, 1,2-                       | µg/L  | 0.5  | EPA 8260         | 02-Jul-21/R        |                |           |           |           |           |
| Dichloropropene 1,3-<br>cis+trans           | µg/L  | 0.5  | EPA 8260         | 02-Jul-21/R        |                |           |           |           |           |
| Dichloropropene, trans-1,3-                 | µg/L  | 0.5  | EPA 8260         | 02-Jul-21/R        |                |           |           |           |           |
| Dichloropropene, cis-1,3-                   | µg/L  | 0.5  | EPA 8260         | 02-Jul-21/R        |                |           |           |           |           |
| Monochlorobenzene<br>(Chlorobenzene)        | µg/L  | 0.5  | EPA 8260         | 02-Jul-21/R        |                |           |           |           |           |



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DATE RECEIVED: 30-Jun-21

JOB/PROJECT NO.: Halls Glen WDS

DATE REPORTED: 13-Jul-21

P.O. NUMBER: 12987-003

SAMPLE MATRIX: Groundwater

WATERWORKS NO.

| Parameter                  | Units | R.L. | Reference Method | Date/Site Analyzed | Client I.D. | MW8-1 | GW_QAQC3 | MW9-II | MW9-I |
|----------------------------|-------|------|------------------|--------------------|-------------|-------|----------|--------|-------|
|                            |       |      |                  |                    | Sample I.D. |       |          |        |       |
| Styrene                    | µg/L  | 0.5  | EPA 8260         | 02-Jul-21/R        | B21-20195-1 |       |          |        |       |
| Tetrachloroethane,1,1,2,2- | µg/L  | 0.5  | EPA 8260         | 02-Jul-21/R        | B21-20195-2 |       |          |        |       |
| Tetrachloroethylene        | µg/L  | 0.5  | EPA 8260         | 02-Jul-21/R        | B21-20195-3 |       |          |        |       |
| Toluene                    | µg/L  | 0.5  | EPA 8260         | 02-Jul-21/R        | B21-20195-4 | < 0.5 | < 0.5    | < 0.5  | < 0.5 |
| Trichloroethane,1,1,1-     | µg/L  | 0.5  | EPA 8260         | 02-Jul-21/R        |             |       |          |        |       |
| Trichloroethane,1,1,2-     | µg/L  | 0.5  | EPA 8260         | 02-Jul-21/R        |             |       |          |        |       |
| Trichloroethylene          | µg/L  | 0.5  | EPA 8260         | 02-Jul-21/R        |             |       |          |        |       |
| Trichlorofluoromethane     | µg/L  | 5    | EPA 8260         | 02-Jul-21/R        |             |       |          |        |       |
| Vinyl Chloride             | µg/L  | 0.2  | EPA 8260         | 02-Jul-21/R        |             | < 0.2 | < 0.2    | < 0.2  | < 0.2 |



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 Lab Manager

R.L. = Reporting Limit

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Site Analyzed=K-Kingston,W-Windsor,O-Ottawa,R-Richmond Hill,B-Barrie

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C.O.C.: G80327

REPORT No. B21-20195 (ii)

**Report To:**

**Cambium Environmental**  
194 Sophia St.,  
Peterborough ON K9H 1E5 Canada

**Attention:** Cameron MacDougall

**Caduceon Environmental Laboratories**

285 Dalton Ave  
Kingston Ontario K7K 6Z1  
Tel: 613-544-2001  
Fax: 613-544-2770

DATE RECEIVED: 30-Jun-21

JOB/PROJECT NO.: Halls Glen WDS

DATE REPORTED: 13-Jul-21

P.O. NUMBER: 12987-003

SAMPLE MATRIX: Groundwater

WATERWORKS NO.

| Parameter                                   | Units | R.L. | Reference Method | Date/Site Analyzed | Client I.D. | MW13-II   | MW13-I    | R-4       | R-I       |
|---|-------|------|------------------|--------------------|-------------|-----------|-----------|-----------|-----------|
|   |       |      |                  |                    | Sample I.D. | 28-Jun-21 | 28-Jun-21 | 28-Jun-21 | 28-Jun-21 |
| Benzene                                     | µg/L  | 0.5  | EPA 8260         | 02-Jul-21/R        | B21-20195-5 | < 0.5     | < 0.5     | < 0.5     | < 0.5     |
| Bromodichloromethane                        | µg/L  | 2    | EPA 8260         | 02-Jul-21/R        | B21-20195-6 |           |           | < 2       | < 2       |
| Bromoform                                   | µg/L  | 5    | EPA 8260         | 02-Jul-21/R        | B21-20195-7 |           |           | < 5       | < 5       |
| Bromomethane                                | µg/L  | 0.5  | EPA 8260         | 02-Jul-21/R        | B21-20195-8 |           |           | < 0.5     | < 0.5     |
| Carbon Tetrachloride                        | µg/L  | 0.2  | EPA 8260         | 02-Jul-21/R        |             |           |           | < 0.2     | < 0.2     |
| Chloroethane                                | µg/L  | 3    | EPA 8260         | 02-Jul-21/R        |             |           |           | < 3       | < 3       |
| Chloroform                                  | µg/L  | 1    | EPA 8260         | 02-Jul-21/R        |             |           |           | < 1       | < 1       |
| Chloromethane                               | µg/L  | 2    | EPA 8260         | 02-Jul-21/R        |             |           |           | < 2       | < 2       |
| Dibromochloromethane                        | µg/L  | 2    | EPA 8260         | 02-Jul-21/R        |             |           |           | < 2       | < 2       |
| Dibromoethane, 1,2-<br>(Ethylene Dibromide) | µg/L  | 0.2  | EPA 8260         | 02-Jul-21/R        |             |           |           | < 0.2     | < 0.2     |
| Dichlorobenzene, 1,2-                       | µg/L  | 0.5  | EPA 8260         | 02-Jul-21/R        |             |           |           | < 0.5     | < 0.5     |
| Dichlorobenzene, 1,3-                       | µg/L  | 0.5  | EPA 8260         | 02-Jul-21/R        |             |           |           | < 0.5     | < 0.5     |
| Dichlorobenzene, 1,4-                       | µg/L  | 0.5  | EPA 8260         | 02-Jul-21/R        |             | < 0.5     | < 0.5     | < 0.5     | < 0.5     |
| Dichloroethane, 1,1-                        | µg/L  | 0.5  | EPA 8260         | 02-Jul-21/R        |             |           |           | < 0.5     | < 0.5     |
| Dichloroethane, 1,2-                        | µg/L  | 0.5  | EPA 8260         | 02-Jul-21/R        |             |           |           | < 0.5     | < 0.5     |
| Dichloroethylene, 1,1-                      | µg/L  | 0.5  | EPA 8260         | 02-Jul-21/R        |             |           |           | < 0.5     | < 0.5     |
| Dichloroethene, cis-1,2-                    | µg/L  | 0.5  | EPA 8260         | 02-Jul-21/R        |             |           |           | < 0.5     | < 0.5     |
| Dichloroethene, trans-1,2-                  | µg/L  | 0.5  | EPA 8260         | 02-Jul-21/R        |             |           |           | < 0.5     | < 0.5     |
| Dichloromethane<br>(Methylene Chloride)     | µg/L  | 5    | EPA 8260         | 02-Jul-21/R        |             | < 5       | < 5       | < 5       | < 5       |
| Dichloropropane, 1,2-                       | µg/L  | 0.5  | EPA 8260         | 02-Jul-21/R        |             |           |           | < 0.5     | < 0.5     |
| Dichloropropene 1,3-<br>cis+trans           | µg/L  | 0.5  | EPA 8260         | 02-Jul-21/R        |             |           |           | < 0.5     | < 0.5     |
| Dichloropropene, trans-1,3-                 | µg/L  | 0.5  | EPA 8260         | 02-Jul-21/R        |             |           |           | < 0.5     | < 0.5     |
| Dichloropropene, cis-1,3-                   | µg/L  | 0.5  | EPA 8260         | 02-Jul-21/R        |             |           |           | < 0.5     | < 0.5     |
| Monochlorobenzene<br>(Chlorobenzene)        | µg/L  | 0.5  | EPA 8260         | 02-Jul-21/R        |             |           |           | < 0.5     | < 0.5     |



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Michelle Dubien  
Lab Manager

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C.O.C.: G80327

REPORT No. B21-20195 (ii)

**Report To:**

**Cambium Environmental**  
 194 Sophia St.,  
 Peterborough ON K9H 1E5 Canada

**Attention:** Cameron MacDougall

**Caduceon Environmental Laboratories**

285 Dalton Ave  
 Kingston Ontario K7K 6Z1  
 Tel: 613-544-2001  
 Fax: 613-544-2770

DATE RECEIVED: 30-Jun-21

JOB/PROJECT NO.: Halls Glen WDS

DATE REPORTED: 13-Jul-21

P.O. NUMBER: 12987-003

SAMPLE MATRIX: Groundwater

WATERWORKS NO.

| Parameter                  | Units | R.L. | Reference Method | Date/Site Analyzed | Client I.D. | MW13-II        | MW13-I | R-4   | R-I   |
|----------------------------|-------|------|------------------|--------------------|-------------|----------------|--------|-------|-------|
|                            |       |      |                  |                    | Sample I.D. | Date Collected |        |       |       |
| Styrene                    | µg/L  | 0.5  | EPA 8260         | 02-Jul-21/R        | B21-20195-5 | 28-Jun-21      |        | < 0.5 | < 0.5 |
| Tetrachloroethane,1,1,2,2- | µg/L  | 0.5  | EPA 8260         | 02-Jul-21/R        | B21-20195-6 | 28-Jun-21      |        | < 0.5 | < 0.5 |
| Tetrachloroethylene        | µg/L  | 0.5  | EPA 8260         | 02-Jul-21/R        | B21-20195-7 | 28-Jun-21      |        | < 0.5 | < 0.5 |
| Toluene                    | µg/L  | 0.5  | EPA 8260         | 02-Jul-21/R        | B21-20195-8 | 28-Jun-21      | < 0.5  | < 0.5 | < 0.5 |
| Trichloroethane,1,1,1-     | µg/L  | 0.5  | EPA 8260         | 02-Jul-21/R        |             |                |        | < 0.5 | < 0.5 |
| Trichloroethane,1,1,2-     | µg/L  | 0.5  | EPA 8260         | 02-Jul-21/R        |             |                |        | < 0.5 | < 0.5 |
| Trichloroethylene          | µg/L  | 0.5  | EPA 8260         | 02-Jul-21/R        |             |                |        | < 0.5 | < 0.5 |
| Trichlorofluoromethane     | µg/L  | 5    | EPA 8260         | 02-Jul-21/R        |             |                |        | < 5   | < 5   |
| Vinyl Chloride             | µg/L  | 0.2  | EPA 8260         | 02-Jul-21/R        |             |                | < 0.2  | < 0.2 | < 0.2 |



Michelle Dubien  
 Lab Manager

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C.O.C.: G101052

REPORT No. B21-37353

Rev. 2

**Report To:**

**Cambium Environmental**  
 194 Sophia St.,  
 Peterborough ON K9H 1E5 Canada

**Attention:** Cameron MacDougall

**Caduceon Environmental Laboratories**

285 Dalton Ave  
 Kingston Ontario K7K 6Z1  
 Tel: 613-544-2001  
 Fax: 613-544-2770

DATE RECEIVED: 12-Nov-21

JOB/PROJECT NO.: Halls Glen WDS

DATE REPORTED: 11-Apr-22

P.O. NUMBER: 12987-002

SAMPLE MATRIX: Surface Water

WATERWORKS NO.

|                       |             |             |  |
|-----------------------|-------------|-------------|--|
| <b>Client I.D.</b>    | S-1         | SW_QAQC     |  |
| <b>Sample I.D.</b>    | B21-37353-1 | B21-37353-2 |  |
| <b>Date Collected</b> | 11-Nov-21   | 11-Nov-21   |  |

| Parameter                  | Units    | R.L.     | Reference Method | Date/Site Analyzed |            |            |  |
|----------------------------|----------|----------|------------------|--------------------|------------|------------|--|
| Alkalinity(CaCO3) to pH4.5 | mg/L     | 5        | SM 2320B         | 26-Nov-21/O        | 277        | 277        |  |
| Conductivity @25°C         | µmho/cm  | 1        | SM 2510B         | 26-Nov-21/O        | 738        | 739        |  |
| pH @25°C                   | pH Units |          | SM 4500H         | 26-Nov-21/O        | 7.99       | 7.92       |  |
| Total Dissolved Solids     | mg/L     | 3        | SM 2540D         | 03-Dec-21/O        | 385        | 386        |  |
| Total Suspended Solids     | mg/L     | 3        | SM2540D          | 15-Nov-21/K        | < 3        | < 3        |  |
| BOD(5 day)                 | mg/L     | 3        | SM 5210B         | 12-Nov-21/K        | < 3        | < 3        |  |
| COD                        | mg/L     | 5        | SM5220C          | 25-Nov-21/K        | 13         | 13         |  |
| Phenolics                  | mg/L     | 0.001    | MOEE 3179        | 19-Nov-21/K        | < 0.001    | < 0.001    |  |
| Chloride                   | mg/L     | 0.5      | SM4110C          | 20-Nov-21/O        | 71.8       | 72.1       |  |
| Ammonia (N)-Total          | mg/L     | 0.01     | SM4500-NH3-H     | 26-Nov-21/K        | 0.01       | 0.03       |  |
| Ammonia (N)-unionized      | mg/L     | 0.01     | CALC             | 26-Nov-21/K        | < 0.01     | < 0.01     |  |
| Sulphate                   | mg/L     | 1        | SM4110C          | 20-Nov-21/O        | 8          | 8          |  |
| Nitrite (N)                | mg/L     | 0.05     | SM4110C          | 20-Nov-21/O        | < 0.05     | < 0.05     |  |
| Nitrate (N)                | mg/L     | 0.05     | SM4110C          | 20-Nov-21/O        | 0.23       | 0.27       |  |
| Total Kjeldahl Nitrogen    | mg/L     | 0.1      | E3516.2          | 08-Dec-21/K        | 0.3        | 0.4        |  |
| Mercury                    | mg/L     | 0.00002  | SM 3112 B        | 18-Nov-21/O        | < 0.00002  | < 0.00002  |  |
| Hardness (as CaCO3)        | mg/L     | 1        | SM 3120          | 17-Nov-21/O        | 275        | 279        |  |
| Arsenic                    | mg/L     | 0.0001   | EPA 200.8        | 25-Nov-21/O        | 0.0001     | 0.0001     |  |
| Barium                     | mg/L     | 0.001    | SM 3120          | 17-Nov-21/O        | 0.094      | 0.094      |  |
| Boron                      | mg/L     | 0.005    | SM 3120          | 17-Nov-21/O        | 0.024      | 0.015      |  |
| Cadmium                    | mg/L     | 0.000015 | EPA 200.8        | 25-Nov-21/O        | < 0.000015 | < 0.000015 |  |
| Chromium                   | mg/L     | 0.001    | EPA 200.8        | 25-Nov-21/O        | < 0.001    | < 0.001    |  |
| Copper                     | mg/L     | 0.0001   | EPA 200.8        | 25-Nov-21/O        | 0.0006     | 0.0012     |  |
| Iron                       | mg/L     | 0.005    | SM 3120          | 17-Nov-21/O        | 0.027      | 0.029      |  |
| Lead                       | mg/L     | 0.00002  | EPA 200.8        | 25-Nov-21/O        | 0.00003    | 0.00003    |  |
| Phosphorus-Total           | mg/L     | 0.01     | E3516.2          | 08-Dec-21/K        | 0.02       | 0.04       |  |
| Zinc                       | mg/L     | 0.005    | SM 3120          | 17-Nov-21/O        | < 0.005    | 0.013      |  |



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Site Analyzed=K-Kingston, W-Windsor, O-Ottawa, R-Richmond Hill, B-Barrie

Michelle Dubien  
 Lab Manager

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C.O.C.: G101052

REPORT No. B21-37353

Rev. 2

**Report To:**

**Cambium Environmental**  
 194 Sophia St.,  
 Peterborough ON K9H 1E5 Canada

**Attention:** Cameron MacDougall

**Caduceon Environmental Laboratories**

285 Dalton Ave  
 Kingston Ontario K7K 6Z1  
 Tel: 613-544-2001  
 Fax: 613-544-2770

DATE RECEIVED: 12-Nov-21

JOB/PROJECT NO.: Halls Glen WDS

DATE REPORTED: 11-Apr-22

P.O. NUMBER: 12987-002

SAMPLE MATRIX: Surface Water

WATERWORKS NO.

|                |             |             |  |  |
|----------------|-------------|-------------|--|--|
| Client I.D.    | S-1         | SW_QAQC     |  |  |
| Sample I.D.    | B21-37353-1 | B21-37353-2 |  |  |
| Date Collected | 11-Nov-21   | 11-Nov-21   |  |  |

| Parameter | Units | R.L. | Reference Method | Date/Site Analyzed |
|-----------|-------|------|------------------|--------------------|
|-----------|-------|------|------------------|--------------------|

1. Revised to change sample ID



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Michelle Dubien  
 Lab Manager

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C.O.C.: G101044

REPORT No. B21-37354 (i)

Rev. 1

**Report To:**

**Cambium Environmental**  
 194 Sophia St.,  
 Peterborough ON K9H 1E5 Canada

**Attention:** Cameron MacDougall

**Caduceon Environmental Laboratories**

285 Dalton Ave  
 Kingston Ontario K7K 6Z1  
 Tel: 613-544-2001  
 Fax: 613-544-2770

DATE RECEIVED: 12-Nov-21

JOB/PROJECT NO.: Halls Glen WDS

DATE REPORTED: 22-Apr-22

P.O. NUMBER: 12987-002

SAMPLE MATRIX: Groundwater

WATERWORKS NO.

| Parameter                  | Units    | R.L.     | Reference Method | Date/Site Analyzed | Client I.D. | GW_QAQC2    | MW12-I      | MW12-II     | MW12-III    |
|----------------------------|----------|----------|------------------|--------------------|-------------|-------------|-------------|-------------|-------------|
|                            |          |          |                  |                    | Sample I.D. | B21-37354-1 | B21-37354-2 | B21-37354-3 | B21-37354-4 |
| Date Collected             |          |          |                  |                    | 11-Nov-21   | 11-Nov-21   | 11-Nov-21   | 11-Nov-21   | 11-Nov-21   |
| Alkalinity(CaCO3) to pH4.5 | mg/L     | 5        | SM 2320B         | 02-Dec-21/O        | 270         | 241         | 284         | 263         |             |
| Conductivity @25°C         | µmho/cm  | 1        | SM 2510B         | 02-Dec-21/O        | 652         | 647         | 746         | 694         |             |
| pH @25°C                   | pH Units |          | SM 4500H         | 02-Dec-21/O        | 7.77        | 7.91        | 7.93        | 7.72        |             |
| Total Dissolved Solids     | mg/L     | 3        | SM 2540D         | 03-Dec-21/O        | 339         | 336         | 390         | 361         |             |
| Dissolved Organic Carbon   | mg/L     | 0.2      | EPA 415.2        | 04-Jan-22/O        | 1.9         | 1.9         | 1.6         | 1.6         |             |
| COD                        | mg/L     | 5        | SM5220C          | 25-Nov-21/K        | 55          | 13          | 98          | 32          |             |
| Phenolics                  | mg/L     | 0.001    | MOEE 3179        | 23-Nov-21/K        | < 0.001     | 0.006       | < 0.001     | < 0.001     |             |
| Chloride                   | mg/L     | 0.5      | SM4110C          | 20-Nov-21/O        | 30.8        | 39.4        | 43.2        | 44.5        |             |
| Ammonia (N)-Total          | mg/L     | 0.01     | SM4500-NH3 H     | 26-Nov-21/K        | 0.03        | 0.16        | 0.31        | 0.05        |             |
| Sulphate                   | mg/L     | 1        | SM4110C          | 20-Nov-21/O        | 10          | 26          | 33          | 23          |             |
| Nitrite (N)                | mg/L     | 0.05     | SM4110C          | 20-Nov-21/O        | < 0.05      | < 0.05      |             |             |             |
| Nitrate (N)                | mg/L     | 0.05     | SM4110C          | 20-Nov-21/O        | 0.48        | < 0.05      | < 0.05      | < 0.05      |             |
| Total Kjeldahl Nitrogen    | mg/L     | 0.1      | E3516.2          | 08-Dec-21/K        | 0.5         | 0.2         |             |             |             |
| Mercury                    | mg/L     | 0.00002  | SM 3112 B        | 17-Nov-21/O        | < 0.00002   | < 0.00002   | < 0.00002   | < 0.00002   |             |
| Hardness (as CaCO3)        | mg/L     | 1        | SM 3120          | 17-Nov-21/O        | 315         | 325         | 331         | 340         |             |
| Arsenic                    | mg/L     | 0.0001   | EPA 200.8        | 03-Dec-21/O        | < 0.0001    | < 0.0001    | 0.0048      | < 0.0001    |             |
| Barium                     | mg/L     | 0.001    | SM 3120          | 17-Nov-21/O        | 0.161       | 0.994       | 0.130       | 0.030       |             |
| Boron                      | mg/L     | 0.005    | SM 3120          | 17-Nov-21/O        | 0.041       | 0.156       | 0.175       | 0.083       |             |
| Cadmium                    | mg/L     | 0.000015 | EPA 200.8        | 03-Dec-21/O        | < 0.000015  | < 0.000015  | 0.000021    | < 0.000015  |             |
| Calcium                    | mg/L     | 0.02     | SM 3120          | 17-Nov-21/O        | 120         | 106         | 102         | 127         |             |
| Chromium                   | mg/L     | 0.001    | EPA 200.8        | 03-Dec-21/O        | < 0.001     | < 0.001     | < 0.001     | 0.004       |             |
| Copper                     | mg/L     | 0.0001   | EPA 200.8        | 03-Dec-21/O        | 0.0022      | < 0.0001    | 0.0011      | < 0.0001    |             |
| Iron                       | mg/L     | 0.005    | SM 3120          | 17-Nov-21/O        | < 0.005     | < 0.005     | 0.917       | 0.044       |             |
| Lead                       | mg/L     | 0.00002  | EPA 200.8        | 03-Dec-21/O        | 0.00005     | < 0.00002   | 0.00815     | 0.00008     |             |
| Magnesium                  | mg/L     | 0.02     | SM 3120          | 17-Nov-21/O        | 4.01        | 14.3        | 18.8        | 5.43        |             |
| Manganese                  | mg/L     | 0.001    | SM 3120          | 17-Nov-21/O        | 0.002       | 0.003       | 0.292       | 0.024       |             |
| Phosphorus-Total           | mg/L     | 0.01     | E3516.2          | 08-Dec-21/K        | 1.23        | 0.01        | 1.01        | 0.73        |             |



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Michelle Dubien  
 Lab Manager

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C.O.C.: G101044

REPORT No. B21-37354 (i)

Rev. 1

**Report To:**

**Cambium Environmental**  
 194 Sophia St.,  
 Peterborough ON K9H 1E5 Canada

**Attention:** Cameron MacDougall

**Caduceon Environmental Laboratories**

285 Dalton Ave  
 Kingston Ontario K7K 6Z1  
 Tel: 613-544-2001  
 Fax: 613-544-2770

DATE RECEIVED: 12-Nov-21

JOB/PROJECT NO.: Halls Glen WDS

DATE REPORTED: 22-Apr-22

P.O. NUMBER: 12987-002

SAMPLE MATRIX: Groundwater

WATERWORKS NO.

| Parameter                            | Units | R.L.  | Reference Method | Date/Site Analyzed | Client I.D. | GW_QAQC2    | MW12-I      | MW12-II     | MW12-III    |
|--------------------------------------|-------|-------|------------------|--------------------|-------------|-------------|-------------|-------------|-------------|
|                                      |       |       |                  |                    | Sample I.D. | B21-37354-1 | B21-37354-2 | B21-37354-3 | B21-37354-4 |
| Date Collected                       |       |       |                  |                    | 11-Nov-21   | 11-Nov-21   | 11-Nov-21   | 11-Nov-21   | 11-Nov-21   |
| Potassium                            | mg/L  | 0.1   | SM 3120          | 17-Nov-21/O        | 2.1         | 3.5         | 2.0         | 1.8         |             |
| Sodium                               | mg/L  | 0.2   | SM 3120          | 17-Nov-21/O        | 26.1        | 10.6        | 45.7        | 16.2        |             |
| Zinc                                 | mg/L  | 0.005 | SM 3120          | 17-Nov-21/O        | < 0.005     | < 0.005     | 0.007       | < 0.005     |             |
| Benzene                              | µg/L  | 0.5   | EPA 8260         | 23-Nov-21/R        |             | < 0.5       |             |             |             |
| Dichlorobenzene, 1,4-                | µg/L  | 0.5   | EPA 8260         | 23-Nov-21/R        |             | < 0.5       |             |             |             |
| Dichloromethane (Methylene Chloride) | µg/L  | 5     | EPA 8260         | 23-Nov-21/R        |             | < 5         |             |             |             |
| Toluene                              | µg/L  | 0.5   | EPA 8260         | 23-Nov-21/R        |             | < 0.5       |             |             |             |
| Vinyl Chloride                       | µg/L  | 0.2   | EPA 8260         | 23-Nov-21/R        |             | < 0.2       |             |             |             |
| Monochlorobenzene (Chlorobenzene)    | µg/L  | 0.5   | EPA 8260         | 21-Apr-22/R        |             | < 0.5       |             |             |             |

- 1 Solids present in metals bottle
- 2 Revised to include additional parameter



Michelle Dubien  
 Lab Manager

R.L. = Reporting Limit

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**Attention:** Cameron MacDougall

**Caduceon Environmental Laboratories**

285 Dalton Ave  
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 Tel: 613-544-2001  
 Fax: 613-544-2770

DATE RECEIVED: 12-Nov-21

JOB/PROJECT NO.: Halls Glen WDS

DATE REPORTED: 22-Apr-22

P.O. NUMBER: 12987-002

SAMPLE MATRIX: Groundwater

WATERWORKS NO.

| Parameter                  | Units    | R.L.     | Reference Method | Date/Site Analyzed | Client I.D. | MW13-I      | MW13-II     | MW10-I      | MW10-II     |
|----------------------------|----------|----------|------------------|--------------------|-------------|-------------|-------------|-------------|-------------|
|                            |          |          |                  |                    | Sample I.D. | B21-37354-5 | B21-37354-6 | B21-37354-7 | B21-37354-8 |
| Date Collected             |          |          |                  |                    | 11-Nov-21   | 11-Nov-21   | 11-Nov-21   | 11-Nov-21   | 11-Nov-21   |
| Alkalinity(CaCO3) to pH4.5 | mg/L     | 5        | SM 2320B         | 02-Dec-21/O        | 309         | 318         | 236         | 250         |             |
| Conductivity @25°C         | µmho/cm  | 1        | SM 2510B         | 02-Dec-21/O        | 998         | 827         | 649         | 675         |             |
| pH @25°C                   | pH Units |          | SM 4500H         | 02-Dec-21/O        | 7.64        | 7.72        | 7.80        | 7.68        |             |
| Total Dissolved Solids     | mg/L     | 3        | SM 2540D         | 03-Dec-21/O        | 532         | 436         | 337         | 351         |             |
| Dissolved Organic Carbon   | mg/L     | 0.2      | EPA 415.2        | 04-Jan-22/O        | 2.0         | 2.7         | 1.4         | 2.6         |             |
| COD                        | mg/L     | 5        | SM5220C          | 25-Nov-21/K        | 56          | 10          | 10          | 9           |             |
| Phenolics                  | mg/L     | 0.001    | MOEE 3179        | 23-Nov-21/K        | < 0.001     | < 0.001     | 0.002       | 0.013       |             |
| Chloride                   | mg/L     | 0.5      | SM4110C          | 20-Nov-21/O        | 115         | 56.7        | 48.4        | 56.7        |             |
| Ammonia (N)-Total          | mg/L     | 0.01     | SM4500-NH3-H     | 26-Nov-21/K        | < 0.01      | 0.02        | 0.18        | 1.04        |             |
| Sulphate                   | mg/L     | 1        | SM4110C          | 20-Nov-21/O        | 11          | 23          | 20          | 9           |             |
| Nitrite (N)                | mg/L     | 0.05     | SM4110C          | 20-Nov-21/O        |             | < 0.05      |             | < 0.05      |             |
| Nitrate (N)                | mg/L     | 0.05     | SM4110C          | 20-Nov-21/O        | 2.55        | 1.28        | < 0.05      | < 0.05      |             |
| Total Kjeldahl Nitrogen    | mg/L     | 0.1      | E3516.2          | 08-Dec-21/K        |             | 0.2         |             | 1.1         |             |
| Mercury                    | mg/L     | 0.00002  | SM 3112 B        | 17-Nov-21/O        | < 0.00002   | < 0.00002   | < 0.00002   | < 0.00002   |             |
| Hardness (as CaCO3)        | mg/L     | 1        | SM 3120          | 17-Nov-21/O        | 328         | 375         | 317         | 343         |             |
| Arsenic                    | mg/L     | 0.0001   | EPA 200.8        | 03-Dec-21/O        | 0.0001      | 0.0001      | < 0.0001    | < 0.0001    |             |
| Barium                     | mg/L     | 0.001    | SM 3120          | 17-Nov-21/O        | 0.138       | 0.168       | 0.888       | 0.574       |             |
| Boron                      | mg/L     | 0.005    | SM 3120          | 17-Nov-21/O        | 0.023       | 0.046       | 0.193       | 0.125       |             |
| Cadmium                    | mg/L     | 0.000015 | EPA 200.8        | 03-Dec-21/O        | < 0.000015  | < 0.000015  | < 0.000015  | < 0.000015  |             |
| Calcium                    | mg/L     | 0.02     | SM 3120          | 17-Nov-21/O        | 125         | 143         | 98.5        | 119         |             |
| Chromium                   | mg/L     | 0.001    | EPA 200.8        | 03-Dec-21/O        | < 0.001     | < 0.001     | < 0.001     | < 0.001     |             |
| Copper                     | mg/L     | 0.0001   | EPA 200.8        | 03-Dec-21/O        | 0.0038      | 0.0014      | < 0.0001    | 0.0006      |             |
| Iron                       | mg/L     | 0.005    | SM 3120          | 17-Nov-21/O        | < 0.005     | < 0.005     | 0.017       | 5.28        |             |
| Lead                       | mg/L     | 0.00002  | EPA 200.8        | 03-Dec-21/O        | 0.00014     | 0.00003     | < 0.00002   | < 0.00002   |             |
| Magnesium                  | mg/L     | 0.02     | SM 3120          | 17-Nov-21/O        | 3.50        | 4.39        | 17.4        | 11.3        |             |
| Manganese                  | mg/L     | 0.001    | SM 3120          | 17-Nov-21/O        | < 0.001     | < 0.001     | 0.102       | 0.042       |             |
| Phosphorus-Total           | mg/L     | 0.01     | E3516.2          | 08-Dec-21/K        | 0.09        | 0.02        | < 0.01      | 0.09        |             |

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Michelle Dubien  
 Lab Manager

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C.O.C.: G101044

REPORT No. B21-37354 (i)

Rev. 1

**Report To:**

**Cambium Environmental**  
 194 Sophia St.,  
 Peterborough ON K9H 1E5 Canada

**Attention:** Cameron MacDougall

**Caduceon Environmental Laboratories**

285 Dalton Ave  
 Kingston Ontario K7K 6Z1  
 Tel: 613-544-2001  
 Fax: 613-544-2770

DATE RECEIVED: 12-Nov-21

JOB/PROJECT NO.: Halls Glen WDS

DATE REPORTED: 22-Apr-22

P.O. NUMBER: 12987-002

SAMPLE MATRIX: Groundwater

WATERWORKS NO.

| Parameter                            | Units | R.L.  | Reference Method | Date/Site Analyzed | Client I.D.    | MW13-I    | MW13-II   | MW10-I    | MW10-II   |
|--------------------------------------|-------|-------|------------------|--------------------|----------------|-----------|-----------|-----------|-----------|
|                                      |       |       |                  |                    | Sample I.D.    |           |           |           |           |
|                                      |       |       |                  |                    | Date Collected | 11-Nov-21 | 11-Nov-21 | 11-Nov-21 | 11-Nov-21 |
| Potassium                            | mg/L  | 0.1   | SM 3120          | 17-Nov-21/O        |                | 2.6       | 4.5       | 3.7       | 2.5       |
| Sodium                               | mg/L  | 0.2   | SM 3120          | 17-Nov-21/O        |                | 87.0      | 36.5      | 11.5      | 6.5       |
| Zinc                                 | mg/L  | 0.005 | SM 3120          | 17-Nov-21/O        |                | < 0.005   | < 0.005   | < 0.005   | < 0.005   |
| Benzene                              | µg/L  | 0.5   | EPA 8260         | 23-Nov-21/R        |                |           | < 0.5     |           | < 0.5     |
| Dichlorobenzene, 1,4-                | µg/L  | 0.5   | EPA 8260         | 23-Nov-21/R        |                |           | < 0.5     |           | < 0.5     |
| Dichloromethane (Methylene Chloride) | µg/L  | 5     | EPA 8260         | 23-Nov-21/R        |                |           | < 5       |           | < 5       |
| Toluene                              | µg/L  | 0.5   | EPA 8260         | 23-Nov-21/R        |                |           | < 0.5     |           | < 0.5     |
| Vinyl Chloride                       | µg/L  | 0.2   | EPA 8260         | 23-Nov-21/R        |                |           | < 0.2     |           | < 0.2     |
| Monochlorobenzene (Chlorobenzene)    | µg/L  | 0.5   | EPA 8260         | 21-Apr-22/R        |                |           | < 0.5     |           | < 0.5     |

- 1 Solids present in metals bottle
- 2 Revised to include additional parameter



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285 Dalton Ave  
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 Tel: 613-544-2001  
 Fax: 613-544-2770

DATE RECEIVED: 12-Nov-21

JOB/PROJECT NO.: Halls Glen WDS

DATE REPORTED: 22-Apr-22

P.O. NUMBER: 12987-002

SAMPLE MATRIX: Groundwater

WATERWORKS NO.

| Client I.D.    | MW11-I      | MW11-II      | GW_QAQC3     | MW9-11       |
|----------------|-------------|--------------|--------------|--------------|
| Sample I.D.    | B21-37354-9 | B21-37354-10 | B21-37354-11 | B21-37354-12 |
| Date Collected | 11-Nov-21   | 11-Nov-21    | 11-Nov-21    | 11-Nov-21    |

| Parameter                  | Units    | R.L.     | Reference Method | Date/Site Analyzed |            |            |            |            |
|----------------------------|----------|----------|------------------|--------------------|------------|------------|------------|------------|
| Alkalinity(CaCO3) to pH4.5 | mg/L     | 5        | SM 2320B         | 02-Dec-21/O        | 243        | 250        | 254        | 280        |
| Conductivity @25°C         | µmho/cm  | 1        | SM 2510B         | 02-Dec-21/O        | 693        | 633        | 640        | 780        |
| pH @25°C                   | pH Units |          | SM 4500H         | 02-Dec-21/O        | 7.69       | 7.80       | 7.78       | 7.66       |
| Total Dissolved Solids     | mg/L     | 3        | SM 2540D         | 03-Dec-21/O        | 360        | 329        | 332        | 409        |
| Dissolved Organic Carbon   | mg/L     | 0.2      | EPA 415.2        | 04-Jan-22/O        | 2.3        | 2.2        | 2.2        | 2.4        |
| COD                        | mg/L     | 5        | SM5220C          | 25-Nov-21/K        | 58         | 8          | 10         | 11         |
| Phenolics                  | mg/L     | 0.001    | MOEE 3179        | 23-Nov-21/K        | 0.008      | < 0.001    | < 0.001    | < 0.001    |
| Chloride                   | mg/L     | 0.5      | SM4110C          | 20-Nov-21/O        | 35.7       | 41.0       | 43.1       | 70.5       |
| Ammonia (N)-Total          | mg/L     | 0.01     | SM4500-NH3-H     | 26-Nov-21/K        | 1.03       | 0.96       | 0.98       | 0.03       |
| Sulphate                   | mg/L     | 1        | SM4110C          | 20-Nov-21/O        | 49         | 10         | 10         | 13         |
| Nitrite (N)                | mg/L     | 0.05     | SM4110C          | 20-Nov-21/O        |            | < 0.05     | < 0.05     | < 0.05     |
| Nitrate (N)                | mg/L     | 0.05     | SM4110C          | 20-Nov-21/O        | < 0.05     | < 0.05     | < 0.05     | 0.73       |
| Total Kjeldahl Nitrogen    | mg/L     | 0.1      | E3516.2          | 08-Dec-21/K        |            | 1.1        | 1.0        | 0.2        |
| Mercury                    | mg/L     | 0.00002  | SM 3112 B        | 17-Nov-21/O        | < 0.00002  | < 0.00002  | < 0.00002  | < 0.00002  |
| Hardness (as CaCO3)        | mg/L     | 1        | SM 3120          | 17-Nov-21/O        | 335        | 329        | 334        | 315        |
| Arsenic                    | mg/L     | 0.0001   | EPA 200.8        | 03-Dec-21/O        | < 0.0001   | < 0.0001   | < 0.0001   | 0.0001     |
| Barium                     | mg/L     | 0.001    | SM 3120          | 17-Nov-21/O        | 0.748      | 0.528      | 0.535      | 0.203      |
| Boron                      | mg/L     | 0.005    | SM 3120          | 17-Nov-21/O        | 0.442      | 0.143      | 0.138      | 0.045      |
| Cadmium                    | mg/L     | 0.000015 | EPA 200.8        | 03-Dec-21/O        | < 0.000015 | < 0.000015 | < 0.000015 | < 0.000015 |
| Calcium                    | mg/L     | 0.02     | SM 3120          | 17-Nov-21/O        | 91.9       | 113        | 116        | 119        |
| Chromium                   | mg/L     | 0.001    | EPA 200.8        | 03-Dec-21/O        | < 0.001    | < 0.001    | < 0.001    | < 0.001    |
| Copper                     | mg/L     | 0.0001   | EPA 200.8        | 03-Dec-21/O        | < 0.0001   | 0.0003     | 0.0002     | 0.0004     |
| Iron                       | mg/L     | 0.005    | SM 3120          | 17-Nov-21/O        | 0.048      | 2.75       | 2.79       | 0.043      |
| Lead                       | mg/L     | 0.00002  | EPA 200.8        | 03-Dec-21/O        | < 0.00002  | < 0.00002  | < 0.00002  | < 0.00002  |
| Magnesium                  | mg/L     | 0.02     | SM 3120          | 17-Nov-21/O        | 25.6       | 11.1       | 11.1       | 4.55       |
| Manganese                  | mg/L     | 0.001    | SM 3120          | 17-Nov-21/O        | 0.055      | 0.033      | 0.034      | 0.003      |



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 Lab Manager

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 Fax: 613-544-2770

DATE RECEIVED: 12-Nov-21

JOB/PROJECT NO.: Halls Glen WDS

DATE REPORTED: 22-Apr-22

P.O. NUMBER: 12987-002

SAMPLE MATRIX: Groundwater

WATERWORKS NO.

|                       |             |              |              |              |
|-----------------------|-------------|--------------|--------------|--------------|
| <b>Client I.D.</b>    | MW11-I      | MW11-II      | GW_QAQC3     | MW9-11       |
| <b>Sample I.D.</b>    | B21-37354-9 | B21-37354-10 | B21-37354-11 | B21-37354-12 |
| <b>Date Collected</b> | 11-Nov-21   | 11-Nov-21    | 11-Nov-21    | 11-Nov-21    |

| Parameter                            | Units | R.L.  | Reference Method | Date/Site Analyzed |         |         |         |         |
|--------------------------------------|-------|-------|------------------|--------------------|---------|---------|---------|---------|
| Phosphorus-Total                     | mg/L  | 0.01  | E3516.2          | 08-Dec-21/K        | 0.17    | 0.08    | 0.04    | 0.02    |
| Potassium                            | mg/L  | 0.1   | SM 3120          | 17-Nov-21/O        | 4.5     | 2.8     | 2.8     | 2.7     |
| Sodium                               | mg/L  | 0.2   | SM 3120          | 17-Nov-21/O        | 15.8    | 6.7     | 6.7     | 48.2    |
| Zinc                                 | mg/L  | 0.005 | SM 3120          | 17-Nov-21/O        | < 0.005 | < 0.005 | < 0.005 | < 0.005 |
| Benzene                              | µg/L  | 0.5   | EPA 8260         | 23-Nov-21/R        |         |         |         | < 0.5   |
| Dichlorobenzene, 1,4-                | µg/L  | 0.5   | EPA 8260         | 23-Nov-21/R        |         |         |         | < 0.5   |
| Dichloromethane (Methylene Chloride) | µg/L  | 5     | EPA 8260         | 23-Nov-21/R        |         |         |         | < 5     |
| Toluene                              | µg/L  | 0.5   | EPA 8260         | 23-Nov-21/R        |         |         |         | < 0.5   |
| Vinyl Chloride                       | µg/L  | 0.2   | EPA 8260         | 23-Nov-21/R        |         |         |         | < 0.2   |
| Monochlorobenzene (Chlorobenzene)    | µg/L  | 0.5   | EPA 8260         | 21-Apr-22/R        |         |         |         | < 0.5   |

- 1 Solids present in metals bottle
- 2 Revised to include additional parameter



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285 Dalton Ave  
 Kingston Ontario K7K 6Z1  
 Tel: 613-544-2001  
 Fax: 613-544-2770

DATE RECEIVED: 12-Nov-21

JOB/PROJECT NO.: Halls Glen WDS

DATE REPORTED: 22-Apr-22

P.O. NUMBER: 12987-002

SAMPLE MATRIX: Groundwater

WATERWORKS NO.

| Parameter                  | Units    | R.L.     | Reference Method | Date/Site Analyzed | Client I.D. | MW1-I        | MW5-I        | MW5-II       | MW7-I        |
|----------------------------|----------|----------|------------------|--------------------|-------------|--------------|--------------|--------------|--------------|
|                            |          |          |                  |                    | Sample I.D. | B21-37354-13 | B21-37354-14 | B21-37354-15 | B21-37354-16 |
| Date Collected             |          |          |                  |                    | 11-Nov-21   | 11-Nov-21    | 11-Nov-21    | 11-Nov-21    | 11-Nov-21    |
| Alkalinity(CaCO3) to pH4.5 | mg/L     | 5        | SM 2320B         | 02-Dec-21/O        | 292         | 588          | 700          | 316          |              |
| Conductivity @25°C         | µmho/cm  | 1        | SM 2510B         | 02-Dec-21/O        | 1170        | 1400         | 1790         | 822          |              |
| pH @25°C                   | pH Units |          | SM 4500H         | 02-Dec-21/O        | 7.85        | 7.38         | 7.56         | 8.16         |              |
| Total Dissolved Solids     | mg/L     | 3        | SM 2540D         | 03-Dec-21/O        | 627         | 761          | 983          | 433          |              |
| Dissolved Organic Carbon   | mg/L     | 0.2      | EPA 415.2        | 04-Jan-22/O        | 1.1         | 10.6         | 10.5         | 2.4          |              |
| COD                        | mg/L     | 5        | SM5220C          | 25-Nov-21/K        | 16          | 80           | 160          | 76           |              |
| Phenolics                  | mg/L     | 0.001    | MOEE 3179        | 23-Nov-21/K        | < 0.001     | < 0.001      | < 0.001      | < 0.001      |              |
| Chloride                   | mg/L     | 0.5      | SM4110C          | 20-Nov-21/O        | 153         | 80.7         | 149          | 53.1         |              |
| Ammonia (N)-Total          | mg/L     | 0.01     | SM4500-NH3-H     | 26-Nov-21/K        | 0.06        | 13.6         | 23.2         | 0.06         |              |
| Sulphate                   | mg/L     | 1        | SM4110C          | 20-Nov-21/O        | 63          | 10           | 9            | 30           |              |
| Nitrite (N)                | mg/L     | 0.05     | SM4110C          | 20-Nov-21/O        |             |              | < 0.05       |              |              |
| Nitrate (N)                | mg/L     | 0.05     | SM4110C          | 20-Nov-21/O        | 1.85        | 0.12         | 0.10         | 0.19         |              |
| Total Kjeldahl Nitrogen    | mg/L     | 0.1      | E3516.2          | 08-Dec-21/K        |             |              | 30.4         |              |              |
| Mercury                    | mg/L     | 0.00002  | SM 3112 B        | 17-Nov-21/O        | < 0.00002   | < 0.00002    | < 0.00002    | 0.00004      |              |
| Hardness (as CaCO3)        | mg/L     | 1        | SM 3120          | 17-Nov-21/O        | 451         | 620          | 723          | 125          |              |
| Arsenic                    | mg/L     | 0.0001   | EPA 200.8        | 03-Dec-21/O        | 0.0001      | 0.0023       | 0.0042       | 0.0011       |              |
| Barium                     | mg/L     | 0.001    | SM 3120          | 17-Nov-21/O        | 0.245       | 0.612        | 0.936        | 0.024        |              |
| Boron                      | mg/L     | 0.005    | SM 3120          | 17-Nov-21/O        | 0.093       | 0.359        | 0.477        | 0.571        |              |
| Cadmium                    | mg/L     | 0.000015 | EPA 200.8        | 03-Dec-21/O        | < 0.000015  | < 0.000015   | < 0.000015   | 0.000053     |              |
| Calcium                    | mg/L     | 0.02     | SM 3120          | 17-Nov-21/O        | 156         | 215          | 245          | 34.5         |              |
| Chromium                   | mg/L     | 0.001    | EPA 200.8        | 03-Dec-21/O        | 0.001       | < 0.001      | 0.001        | 0.004        |              |
| Copper                     | mg/L     | 0.0001   | EPA 200.8        | 03-Dec-21/O        | 0.0012      | 0.001        | 0.0020       | 0.0045       |              |
| Iron                       | mg/L     | 0.005    | SM 3120          | 17-Nov-21/O        | < 0.005     | 32.0         | 42.1         | < 0.005      |              |
| Lead                       | mg/L     | 0.00002  | EPA 200.8        | 03-Dec-21/O        | 0.00009     | 0.00013      | 0.00020      | 0.0149       |              |
| Magnesium                  | mg/L     | 0.02     | SM 3120          | 17-Nov-21/O        | 14.9        | 20.0         | 26.8         | 9.39         |              |
| Manganese                  | mg/L     | 0.001    | SM 3120          | 17-Nov-21/O        | < 0.001     | 2.31         | 4.30         | 0.001        |              |



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DATE REPORTED: 22-Apr-22

P.O. NUMBER: 12987-002

SAMPLE MATRIX: Groundwater

WATERWORKS NO.

| Parameter                            | Units | R.L.  | Reference Method | Date/Site Analyzed | Client I.D. | MW1-I        | MW5-I        | MW5-II       | MW7-I        |
|--------------------------------------|-------|-------|------------------|--------------------|-------------|--------------|--------------|--------------|--------------|
|                                      |       |       |                  |                    | Sample I.D. | B21-37354-13 | B21-37354-14 | B21-37354-15 | B21-37354-16 |
| Date Collected                       |       |       |                  |                    | 11-Nov-21   | 11-Nov-21    | 11-Nov-21    | 11-Nov-21    | 11-Nov-21    |
| Phosphorus-Total                     | mg/L  | 0.01  | E3516.2          | 08-Dec-21/K        | 0.88        | 0.26         | 0.76         | 1.05         |              |
| Potassium                            | mg/L  | 0.1   | SM 3120          | 17-Nov-21/O        | 5.6         | 25.5         | 40.7         | 2.9          |              |
| Sodium                               | mg/L  | 0.2   | SM 3120          | 17-Nov-21/O        | 83.8        | 57.9         | 83.8         | 163          |              |
| Zinc                                 | mg/L  | 0.005 | SM 3120          | 17-Nov-21/O        | < 0.005     | < 0.005      | 0.007        | < 0.005      |              |
| Benzene                              | µg/L  | 0.5   | EPA 8260         | 23-Nov-21/R        |             |              |              |              |              |
| Dichlorobenzene, 1,4-                | µg/L  | 0.5   | EPA 8260         | 23-Nov-21/R        |             |              |              |              |              |
| Dichloromethane (Methylene Chloride) | µg/L  | 5     | EPA 8260         | 23-Nov-21/R        |             |              |              |              |              |
| Toluene                              | µg/L  | 0.5   | EPA 8260         | 23-Nov-21/R        |             |              |              |              |              |
| Vinyl Chloride                       | µg/L  | 0.2   | EPA 8260         | 23-Nov-21/R        |             |              |              |              |              |
| Monochlorobenzene (Chlorobenzene)    | µg/L  | 0.5   | EPA 8260         | 21-Apr-22/R        |             |              |              |              |              |

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- 2 Revised to include additional parameter



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 Lab Manager

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Site Analyzed=K-Kingston, W-Windsor, O-Ottawa, R-Richmond Hill, B-Barrie

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C.O.C.: G101044

REPORT No. B21-37354 (i)

Rev. 1

**Report To:**

**Cambium Environmental**  
 194 Sophia St.,  
 Peterborough ON K9H 1E5 Canada

**Attention:** Cameron MacDougall

**Caduceon Environmental Laboratories**

285 Dalton Ave  
 Kingston Ontario K7K 6Z1  
 Tel: 613-544-2001  
 Fax: 613-544-2770

DATE RECEIVED: 12-Nov-21

JOB/PROJECT NO.: Halls Glen WDS

DATE REPORTED: 22-Apr-22

P.O. NUMBER: 12987-002

SAMPLE MATRIX: Groundwater

WATERWORKS NO.

| Client I.D.    | MW7-II       | GW_QAQC      | MW6-I        | MW6-II       |
|----------------|--------------|--------------|--------------|--------------|
| Sample I.D.    | B21-37354-17 | B21-37354-18 | B21-37354-19 | B21-37354-20 |
| Date Collected | 11-Nov-21    | 11-Nov-21    | 11-Nov-21    | 11-Nov-21    |

| Parameter                  | Units    | R.L.     | Reference Method | Date/Site Analyzed |            |            |            |            |
|----------------------------|----------|----------|------------------|--------------------|------------|------------|------------|------------|
| Alkalinity(CaCO3) to pH4.5 | mg/L     | 5        | SM 2320B         | 02-Dec-21/O        | 474        | 345        | 347        | 876        |
| Conductivity @25°C         | µmho/cm  | 1        | SM 2510B         | 02-Dec-21/O        | 1220       | 1290       | 1280       | 1990       |
| pH @25°C                   | pH Units |          | SM 4500H         | 02-Dec-21/O        | 7.80       | 7.54       | 7.62       | 7.64       |
| Total Dissolved Solids     | mg/L     | 3        | SM 2540D         | 03-Dec-21/O        | 659        | 697        | 694        | 1100       |
| Dissolved Organic Carbon   | mg/L     | 0.2      | EPA 415.2        | 04-Jan-22/O        | 6.7        | 1.7        | 1.6        | 17.7       |
| COD                        | mg/L     | 5        | SM5220C          | 25-Nov-21/K        | 33         | 70         | 51         | 73         |
| Phenolics                  | mg/L     | 0.001    | MOEE 3179        | 23-Nov-21/K        | < 0.001    | < 0.001    | < 0.001    | < 0.001    |
| Chloride                   | mg/L     | 0.5      | SM4110C          | 20-Nov-21/O        | 80.3       | 167        | 167        | 98.8       |
| Ammonia (N)-Total          | mg/L     | 0.01     | SM4500-NH3-H     | 26-Nov-21/K        | 0.06       | 3.13       | 3.19       | 28.4       |
| Sulphate                   | mg/L     | 1        | SM4110C          | 20-Nov-21/O        | 29         | 54         | 47         | 65         |
| Nitrite (N)                | mg/L     | 0.05     | SM4110C          | 20-Nov-21/O        | < 0.05     |            |            | < 0.05     |
| Nitrate (N)                | mg/L     | 0.05     | SM4110C          | 20-Nov-21/O        | 4.96       | 1.18       | 1.55       | < 0.05     |
| Total Kjeldahl Nitrogen    | mg/L     | 0.1      | E3516.2          | 08-Dec-21/K        | 0.7        |            |            | 30.8       |
| Mercury                    | mg/L     | 0.00002  | SM 3112 B        | 17-Nov-21/O        | < 0.00002  | < 0.00002  | < 0.00002  | < 0.00002  |
| Hardness (as CaCO3)        | mg/L     | 1        | SM 3120          | 17-Nov-21/O        | 511        | 511        | 508        | 817        |
| Arsenic                    | mg/L     | 0.0001   | EPA 200.8        | 03-Dec-21/O        | 0.0002     | 0.0002     | 0.0002     | 0.0017     |
| Barium                     | mg/L     | 0.001    | SM 3120          | 17-Nov-21/O        | 0.364      | 0.264      | 0.262      | 0.540      |
| Boron                      | mg/L     | 0.005    | SM 3120          | 17-Nov-21/O        | 0.294      | 0.081      | 0.079      | 0.833      |
| Cadmium                    | mg/L     | 0.000015 | EPA 200.8        | 03-Dec-21/O        | < 0.000015 | < 0.000015 | < 0.000015 | < 0.000015 |
| Calcium                    | mg/L     | 0.02     | SM 3120          | 17-Nov-21/O        | 177        | 191        | 189        | 268        |
| Chromium                   | mg/L     | 0.001    | EPA 200.8        | 03-Dec-21/O        | 0.009      | 0.002      | < 0.001    | 0.008      |
| Copper                     | mg/L     | 0.0001   | EPA 200.8        | 03-Dec-21/O        | 0.0039     | 0.0006     | 0.0004     | 0.0016     |
| Iron                       | mg/L     | 0.005    | SM 3120          | 17-Nov-21/O        | 0.031      | 1.11       | 1.10       | 9.81       |
| Lead                       | mg/L     | 0.00002  | EPA 200.8        | 03-Dec-21/O        | 0.00030    | 0.00011    | 0.00008    | 0.00004    |
| Magnesium                  | mg/L     | 0.02     | SM 3120          | 17-Nov-21/O        | 16.9       | 8.47       | 8.34       | 35.7       |
| Manganese                  | mg/L     | 0.001    | SM 3120          | 17-Nov-21/O        | 0.007      | 0.726      | 0.721      | 7.25       |



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Michelle Dubien  
 Lab Manager

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DATE RECEIVED: 12-Nov-21

JOB/PROJECT NO.: Halls Glen WDS

DATE REPORTED: 22-Apr-22

P.O. NUMBER: 12987-002

SAMPLE MATRIX: Groundwater

WATERWORKS NO.

|                       |              |              |              |              |
|-----------------------|--------------|--------------|--------------|--------------|
| <b>Client I.D.</b>    | MW7-II       | GW_QAQC      | MW6-I        | MW6-II       |
| <b>Sample I.D.</b>    | B21-37354-17 | B21-37354-18 | B21-37354-19 | B21-37354-20 |
| <b>Date Collected</b> | 11-Nov-21    | 11-Nov-21    | 11-Nov-21    | 11-Nov-21    |

| Parameter                            | Units | R.L.  | Reference Method | Date/Site Analyzed |         |         |         |         |
|--------------------------------------|-------|-------|------------------|--------------------|---------|---------|---------|---------|
| Phosphorus-Total                     | mg/L  | 0.01  | E3516.2          | 08-Dec-21/K        | 0.05    | 0.39    | 0.40    | 0.03    |
| Potassium                            | mg/L  | 0.1   | SM 3120          | 17-Nov-21/O        | 8.2     | 8.4     | 8.3     | 43.7    |
| Sodium                               | mg/L  | 0.2   | SM 3120          | 17-Nov-21/O        | 69.9    | 75.0    | 74.3    | 101     |
| Zinc                                 | mg/L  | 0.005 | SM 3120          | 17-Nov-21/O        | < 0.005 | < 0.005 | < 0.005 | < 0.005 |
| Benzene                              | µg/L  | 0.5   | EPA 8260         | 23-Nov-21/R        |         |         |         |         |
| Dichlorobenzene, 1,4-                | µg/L  | 0.5   | EPA 8260         | 23-Nov-21/R        |         |         |         |         |
| Dichloromethane (Methylene Chloride) | µg/L  | 5     | EPA 8260         | 23-Nov-21/R        |         |         |         |         |
| Toluene                              | µg/L  | 0.5   | EPA 8260         | 23-Nov-21/R        |         |         |         |         |
| Vinyl Chloride                       | µg/L  | 0.2   | EPA 8260         | 23-Nov-21/R        |         |         |         |         |
| Monochlorobenzene (Chlorobenzene)    | µg/L  | 0.5   | EPA 8260         | 21-Apr-22/R        |         |         |         |         |

- 1 Solids present in metals bottle
- 2 Revised to include additional parameter



Michelle Dubien  
 Lab Manager

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DATE RECEIVED: 12-Nov-21

JOB/PROJECT NO.: Halls Glen WDS

DATE REPORTED: 22-Apr-22

P.O. NUMBER: 12987-002

SAMPLE MATRIX: Groundwater

WATERWORKS NO.

| Parameter                  | Units    | R.L.     | Reference Method | Date/Site Analyzed | Client I.D. | MW3-I        | MW3-II       | MW4-I        | MW4-II       |
|----------------------------|----------|----------|------------------|--------------------|-------------|--------------|--------------|--------------|--------------|
|                            |          |          |                  |                    | Sample I.D. | B21-37354-21 | B21-37354-22 | B21-37354-23 | B21-37354-24 |
| Date Collected             |          |          |                  |                    | 11-Nov-21   | 11-Nov-21    | 11-Nov-21    | 11-Nov-21    | 11-Nov-21    |
| Alkalinity(CaCO3) to pH4.5 | mg/L     | 5        | SM 2320B         | 02-Dec-21/O        | 347         | 745          | 351          | 270          |              |
| Conductivity @25°C         | µmho/cm  | 1        | SM 2510B         | 02-Dec-21/O        | 1040        | 1660         | 1010         | 644          |              |
| pH @25°C                   | pH Units |          | SM 4500H         | 02-Dec-21/O        | 7.68        | 7.53         | 7.58         | 7.75         |              |
| Total Dissolved Solids     | mg/L     | 3        | SM 2540D         | 03-Dec-21/O        | 558         | 907          | 541          | 334          |              |
| Dissolved Organic Carbon   | mg/L     | 0.2      | EPA 415.2        | 04-Jan-22/O        | 2.5         | 10.1         | 2.8          | 1.7          |              |
| COD                        | mg/L     | 5        | SM5220C          | 25-Nov-21/K        | 11          | 40           | 157          | 13           |              |
| Phenolics                  | mg/L     | 0.001    | MOEE 3179        | 23-Nov-21/K        | < 0.001     | < 0.001      | < 0.001      | 0.002        |              |
| Chloride                   | mg/L     | 0.5      | SM4110C          | 20-Nov-21/O        | 104         | 67.7         | 96.2         | 31.4         |              |
| Ammonia (N)-Total          | mg/L     | 0.01     | SM4500-NH3-H     | 26-Nov-21/K        | 0.01        | 0.62         | 0.92         | 0.03         |              |
| Sulphate                   | mg/L     | 1        | SM4110C          | 20-Nov-21/O        | 27          | 51           | 26           | 10           |              |
| Nitrite (N)                | mg/L     | 0.05     | SM4110C          | 20-Nov-21/O        | < 0.05      | < 0.05       |              | < 0.05       |              |
| Nitrate (N)                | mg/L     | 0.05     | SM4110C          | 20-Nov-21/O        | 1.64        | 0.42         | 0.64         | 0.49         |              |
| Total Kjeldahl Nitrogen    | mg/L     | 0.1      | E3516.2          | 08-Dec-21/K        | 0.4         | 1.7          |              | 0.5          |              |
| Mercury                    | mg/L     | 0.00002  | SM 3112 B        | 17-Nov-21/O        | < 0.00002   | < 0.00002    | < 0.00002    | < 0.00002    |              |
| Hardness (as CaCO3)        | mg/L     | 1        | SM 3120          | 17-Nov-21/O        | 443         | 857          | 441          | 319          |              |
| Arsenic                    | mg/L     | 0.0001   | EPA 200.8        | 03-Dec-21/O        | < 0.0001    | 0.0003       | < 0.0001     | < 0.0001     |              |
| Barium                     | mg/L     | 0.001    | SM 3120          | 17-Nov-21/O        | 0.186       | 0.320        | 0.174        | 0.160        |              |
| Boron                      | mg/L     | 0.005    | SM 3120          | 17-Nov-21/O        | 0.054       | 0.550        | 0.081        | 0.041        |              |
| Cadmium                    | mg/L     | 0.000015 | EPA 200.8        | 03-Dec-21/O        | < 0.000015  | 0.000057     | < 0.000015   | < 0.000015   |              |
| Calcium                    | mg/L     | 0.02     | SM 3120          | 17-Nov-21/O        | 169         | 296          | 166          | 121          |              |
| Chromium                   | mg/L     | 0.001    | EPA 200.8        | 03-Dec-21/O        | < 0.001     | < 0.001      | 0.005        | < 0.001      |              |
| Copper                     | mg/L     | 0.0001   | EPA 200.8        | 03-Dec-21/O        | 0.0007      | 0.0020       | 0.0005       | 0.0017       |              |
| Iron                       | mg/L     | 0.005    | SM 3120          | 17-Nov-21/O        | < 0.005     | 0.147        | < 0.005      | < 0.005      |              |
| Lead                       | mg/L     | 0.00002  | EPA 200.8        | 03-Dec-21/O        | < 0.00004   | 0.00006      | < 0.00004    | 0.00004      |              |
| Magnesium                  | mg/L     | 0.02     | SM 3120          | 17-Nov-21/O        | 5.14        | 28.5         | 6.51         | 3.96         |              |
| Manganese                  | mg/L     | 0.001    | SM 3120          | 17-Nov-21/O        | 0.004       | 1.40         | 0.106        | 0.002        |              |



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JOB/PROJECT NO.: Halls Glen WDS

DATE REPORTED: 22-Apr-22

P.O. NUMBER: 12987-002

SAMPLE MATRIX: Groundwater

WATERWORKS NO.

| Client I.D.    | MW3-I        | MW3-II       | MW4-I        | MW4-II       |
|----------------|--------------|--------------|--------------|--------------|
| Sample I.D.    | B21-37354-21 | B21-37354-22 | B21-37354-23 | B21-37354-24 |
| Date Collected | 11-Nov-21    | 11-Nov-21    | 11-Nov-21    | 11-Nov-21    |

| Parameter                            | Units | R.L.  | Reference Method | Date/Site Analyzed |         |         |         |         |
|--------------------------------------|-------|-------|------------------|--------------------|---------|---------|---------|---------|
| Phosphorus-Total                     | mg/L  | 0.01  | E3516.2          | 08-Dec-21/K        | 0.03    | 0.09    | 4.78    | 1.27    |
| Potassium                            | mg/L  | 0.1   | SM 3120          | 17-Nov-21/O        | 5.1     | 25.1    | 5.8     | 2.0     |
| Sodium                               | mg/L  | 0.2   | SM 3120          | 17-Nov-21/O        | 59.5    | 59.2    | 52.8    | 26.0    |
| Zinc                                 | mg/L  | 0.005 | SM 3120          | 17-Nov-21/O        | < 0.005 | < 0.005 | < 0.005 | < 0.005 |
| Benzene                              | µg/L  | 0.5   | EPA 8260         | 23-Nov-21/R        |         |         |         |         |
| Dichlorobenzene, 1,4-                | µg/L  | 0.5   | EPA 8260         | 23-Nov-21/R        |         |         |         |         |
| Dichloromethane (Methylene Chloride) | µg/L  | 5     | EPA 8260         | 23-Nov-21/R        |         |         |         |         |
| Toluene                              | µg/L  | 0.5   | EPA 8260         | 23-Nov-21/R        |         |         |         |         |
| Vinyl Chloride                       | µg/L  | 0.2   | EPA 8260         | 23-Nov-21/R        |         |         |         |         |
| Monochlorobenzene (Chlorobenzene)    | µg/L  | 0.5   | EPA 8260         | 21-Apr-22/R        |         |         |         |         |

- 1 Solids present in metals bottle
- 2 Revised to include additional parameter



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SAMPLE MATRIX: Groundwater

WATERWORKS NO.

| Parameter                  | Units    | R.L.     | Reference Method | Date/Site Analyzed | Client I.D. | MW9-I        | MW8-I        | MW8-II       | R-4          |
|----------------------------|----------|----------|------------------|--------------------|-------------|--------------|--------------|--------------|--------------|
|                            |          |          |                  |                    | Sample I.D. | B21-37354-25 | B21-37354-26 | B21-37354-27 | B21-37354-28 |
| Date Collected             |          |          |                  |                    | 11-Nov-21   | 11-Nov-21    | 11-Nov-21    | 11-Nov-21    |              |
| Alkalinity(CaCO3) to pH4.5 | mg/L     | 5        | SM 2320B         | 02-Dec-21/O        | 239         | 277          | 275          | 338          |              |
| Conductivity @25°C         | µmho/cm  | 1        | SM 2510B         | 02-Dec-21/O        | 628         | 778          | 744          | 1050         |              |
| pH @25°C                   | pH Units |          | SM 4500H         | 02-Dec-21/O        | 7.82        | 7.92         | 8.27         | 8.21         |              |
| Total Dissolved Solids     | mg/L     | 3        | SM 2540D         | 03-Dec-21/O        | 326         | 408          | 389          | 563          |              |
| Dissolved Organic Carbon   | mg/L     | 0.2      | EPA 415.2        | 04-Jan-22/O        | 1.8         | 2.2          | 2.7          | 2.1          |              |
| COD                        | mg/L     | 5        | SM5220C          | 25-Nov-21/K        | 35          | 16           | 10           | 8            |              |
| Phenolics                  | mg/L     | 0.001    | MOEE 3179        | 23-Nov-21/K        | 0.013       | 0.001        | < 0.001      | < 0.001      |              |
| Chloride                   | mg/L     | 0.5      | SM4110C          | 20-Nov-21/O        | 16.2        | 72.1         | 67.5         | 126          |              |
| Ammonia (N)-Total          | mg/L     | 0.01     | SM4500-NH3-H     | 26-Nov-21/K        | 0.64        | 0.01         | < 0.01       | < 0.01       |              |
| Sulphate                   | mg/L     | 1        | SM4110C          | 20-Nov-21/O        | 46          | 12           | 10           | 10           |              |
| Nitrite (N)                | mg/L     | 0.05     | SM4110C          | 20-Nov-21/O        |             |              | < 0.05       | < 0.05       |              |
| Nitrate (N)                | mg/L     | 0.05     | SM4110C          | 20-Nov-21/O        | < 0.05      | 0.46         | 0.41         | 0.97         |              |
| Total Kjeldahl Nitrogen    | mg/L     | 0.1      | E3516.2          | 08-Dec-21/K        |             |              | 0.3          | 0.2          |              |
| Mercury                    | mg/L     | 0.00002  | SM 3112 B        | 17-Nov-21/O        | < 0.00002   | < 0.00002    | < 0.00002    | < 0.00002    |              |
| Hardness (as CaCO3)        | mg/L     | 1        | SM 3120          | 17-Nov-21/O        | 225         | 328          | 316          | 294          |              |
| Arsenic                    | mg/L     | 0.0001   | EPA 200.8        | 03-Dec-21/O        | < 0.0001    | 0.0003       | < 0.0001     | 0.0002       |              |
| Barium                     | mg/L     | 0.001    | SM 3120          | 17-Nov-21/O        | 0.897       | 0.119        | 0.168        | 0.122        |              |
| Boron                      | mg/L     | 0.005    | SM 3120          | 17-Nov-21/O        | 0.569       | 0.063        | 0.028        | 0.026        |              |
| Cadmium                    | mg/L     | 0.000015 | EPA 200.8        | 03-Dec-21/O        | < 0.000015  | < 0.000015   | < 0.000015   | < 0.000015   |              |
| Calcium                    | mg/L     | 0.02     | SM 3120          | 17-Nov-21/O        | 53.7        | 118          | 119          | 113          |              |
| Chromium                   | mg/L     | 0.001    | EPA 200.8        | 03-Dec-21/O        | < 0.001     | < 0.001      | < 0.001      | < 0.001      |              |
| Copper                     | mg/L     | 0.0001   | EPA 200.8        | 03-Dec-21/O        | < 0.0001    | 0.0005       | 0.0010       | 0.0962       |              |
| Iron                       | mg/L     | 0.005    | SM 3120          | 17-Nov-21/O        | < 0.005     | 0.885        | < 0.005      | < 0.005      |              |
| Lead                       | mg/L     | 0.00002  | EPA 200.8        | 03-Dec-21/O        | < 0.00002   | 0.00002      | 0.00003      | 0.00260      |              |
| Magnesium                  | mg/L     | 0.02     | SM 3120          | 17-Nov-21/O        | 22.1        | 8.05         | 4.14         | 3.20         |              |
| Manganese                  | mg/L     | 0.001    | SM 3120          | 17-Nov-21/O        | 0.041       | 0.260        | 0.002        | < 0.001      |              |

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P.O. NUMBER: 12987-002

SAMPLE MATRIX: Groundwater

WATERWORKS NO.

|                       |              |              |              |              |
|-----------------------|--------------|--------------|--------------|--------------|
| <b>Client I.D.</b>    | MW9-I        | MW8-I        | MW8-II       | R-4          |
| <b>Sample I.D.</b>    | B21-37354-25 | B21-37354-26 | B21-37354-27 | B21-37354-28 |
| <b>Date Collected</b> | 11-Nov-21    | 11-Nov-21    | 11-Nov-21    | 11-Nov-21    |

| Parameter                            | Units | R.L.  | Reference Method | Date/Site Analyzed |         |         |         |       |
|--------------------------------------|-------|-------|------------------|--------------------|---------|---------|---------|-------|
| Phosphorus-Total                     | mg/L  | 0.01  | E3516.2          | 08-Dec-21/K        | 0.04    | 0.06    | 0.11    | 0.03  |
| Potassium                            | mg/L  | 0.1   | SM 3120          | 17-Nov-21/O        | 5.6     | 2.9     | 1.8     | 2.7   |
| Sodium                               | mg/L  | 0.2   | SM 3120          | 17-Nov-21/O        | 52.5    | 49.7    | 44.0    | 123   |
| Zinc                                 | mg/L  | 0.005 | SM 3120          | 17-Nov-21/O        | < 0.005 | < 0.005 | < 0.005 | 0.028 |
| Benzene                              | µg/L  | 0.5   | EPA 8260         | 23-Nov-21/R        |         |         | < 0.5   |       |
| Dichlorobenzene, 1,4-                | µg/L  | 0.5   | EPA 8260         | 23-Nov-21/R        |         |         | < 0.5   |       |
| Dichloromethane (Methylene Chloride) | µg/L  | 5     | EPA 8260         | 23-Nov-21/R        |         |         | < 5     |       |
| Toluene                              | µg/L  | 0.5   | EPA 8260         | 23-Nov-21/R        |         |         | < 0.5   |       |
| Vinyl Chloride                       | µg/L  | 0.2   | EPA 8260         | 23-Nov-21/R        |         |         | < 0.2   |       |
| Monochlorobenzene (Chlorobenzene)    | µg/L  | 0.5   | EPA 8260         | 21-Apr-22/R        |         |         | < 0.5   |       |

- 1 Solids present in metals bottle
- 2 Revised to include additional parameter



R.L. = Reporting Limit

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Michelle Dubien  
 Lab Manager

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C.O.C.: G101044

REPORT No. B21-37354 (i)

Rev. 1

**Report To:**

**Cambium Environmental**  
 194 Sophia St.,  
 Peterborough ON K9H 1E5 Canada

**Attention:** Cameron MacDougall

**Caduceon Environmental Laboratories**

285 Dalton Ave  
 Kingston Ontario K7K 6Z1  
 Tel: 613-544-2001  
 Fax: 613-544-2770

DATE RECEIVED: 12-Nov-21

JOB/PROJECT NO.: Halls Glen WDS

DATE REPORTED: 22-Apr-22

P.O. NUMBER: 12987-002

SAMPLE MATRIX: Groundwater

WATERWORKS NO.

|                |              |  |  |
|----------------|--------------|--|--|
| Client I.D.    | R-1          |  |  |
| Sample I.D.    | B21-37354-29 |  |  |
| Date Collected | 11-Nov-21    |  |  |

| Parameter                  | Units    | R.L.     | Reference Method | Date/Site Analyzed |           |  |  |
|----------------------------|----------|----------|------------------|--------------------|-----------|--|--|
| Alkalinity(CaCO3) to pH4.5 | mg/L     | 5        | SM 2320B         | 02-Dec-21/O        | 259       |  |  |
| Conductivity @25°C         | µmho/cm  | 1        | SM 2510B         | 02-Dec-21/O        | 732       |  |  |
| pH @25°C                   | pH Units |          | SM 4500H         | 02-Dec-21/O        | 8.03      |  |  |
| Total Dissolved Solids     | mg/L     | 3        | SM 2540D         | 03-Dec-21/O        | 382       |  |  |
| Dissolved Organic Carbon   | mg/L     | 0.2      | EPA 415.2        | 04-Jan-22/O        | 2.8       |  |  |
| COD                        | mg/L     | 5        | SM5220C          | 25-Nov-21/K        | 82        |  |  |
| Phenolics                  | mg/L     | 0.001    | MOEE 3179        | 23-Nov-21/K        | < 0.001   |  |  |
| Chloride                   | mg/L     | 0.5      | SM4110C          | 20-Nov-21/O        | 70.9      |  |  |
| Ammonia (N)-Total          | mg/L     | 0.01     | SM4500-NH3-H     | 26-Nov-21/K        | < 0.01    |  |  |
| Sulphate                   | mg/L     | 1        | SM4110C          | 20-Nov-21/O        | 10        |  |  |
| Nitrite (N)                | mg/L     | 0.05     | SM4110C          | 20-Nov-21/O        | < 0.05    |  |  |
| Nitrate (N)                | mg/L     | 0.05     | SM4110C          | 20-Nov-21/O        | 0.39      |  |  |
| Total Kjeldahl Nitrogen    | mg/L     | 0.1      | E3516.2          | 08-Dec-21/K        | 2.4       |  |  |
| Mercury                    | mg/L     | 0.00002  | SM 3112 B        | 17-Nov-21/O        | < 0.00002 |  |  |
| Hardness (as CaCO3)        | mg/L     | 1        | SM 3120          | 17-Nov-21/O        | 295       |  |  |
| Arsenic                    | mg/L     | 0.0001   | EPA 200.8        | 03-Dec-21/O        | 0.0002    |  |  |
| Barium                     | mg/L     | 0.001    | SM 3120          | 17-Nov-21/O        | 0.144     |  |  |
| Boron                      | mg/L     | 0.005    | SM 3120          | 17-Nov-21/O        | 0.012     |  |  |
| Cadmium                    | mg/L     | 0.000015 | EPA 200.8        | 03-Dec-21/O        | 0.000020  |  |  |
| Calcium                    | mg/L     | 0.02     | SM 3120          | 17-Nov-21/O        | 112       |  |  |
| Chromium                   | mg/L     | 0.001    | EPA 200.8        | 03-Dec-21/O        | < 0.001   |  |  |
| Copper                     | mg/L     | 0.0001   | EPA 200.8        | 03-Dec-21/O        | 0.0008    |  |  |
| Iron                       | mg/L     | 0.005    | SM 3120          | 17-Nov-21/O        | 0.150     |  |  |
| Lead                       | mg/L     | 0.00002  | EPA 200.8        | 03-Dec-21/O        | 0.00026   |  |  |
| Magnesium                  | mg/L     | 0.02     | SM 3120          | 17-Nov-21/O        | 3.75      |  |  |
| Manganese                  | mg/L     | 0.001    | SM 3120          | 17-Nov-21/O        | 0.726     |  |  |



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 Lab Manager

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REPORT No. B21-37354 (i)

Rev. 1

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 194 Sophia St.,  
 Peterborough ON K9H 1E5 Canada

**Attention:** Cameron MacDougall

**Caduceon Environmental Laboratories**

285 Dalton Ave  
 Kingston Ontario K7K 6Z1  
 Tel: 613-544-2001  
 Fax: 613-544-2770

DATE RECEIVED: 12-Nov-21

JOB/PROJECT NO.: Halls Glen WDS

DATE REPORTED: 22-Apr-22

P.O. NUMBER: 12987-002

SAMPLE MATRIX: Groundwater

WATERWORKS NO.

|                       |              |  |  |
|-----------------------|--------------|--|--|
| <b>Client I.D.</b>    | R-1          |  |  |
| <b>Sample I.D.</b>    | B21-37354-29 |  |  |
| <b>Date Collected</b> | 11-Nov-21    |  |  |

| Parameter                            | Units | R.L.  | Reference Method | Date/Site Analyzed |         |  |  |
|--------------------------------------|-------|-------|------------------|--------------------|---------|--|--|
| Phosphorus-Total                     | mg/L  | 0.01  | E3516.2          | 08-Dec-21/K        | 2.07    |  |  |
| Potassium                            | mg/L  | 0.1   | SM 3120          | 17-Nov-21/O        | 1.0     |  |  |
| Sodium                               | mg/L  | 0.2   | SM 3120          | 17-Nov-21/O        | 45.2    |  |  |
| Zinc                                 | mg/L  | 0.005 | SM 3120          | 17-Nov-21/O        | < 0.005 |  |  |
| Benzene                              | µg/L  | 0.5   | EPA 8260         | 23-Nov-21/R        |         |  |  |
| Dichlorobenzene, 1,4-                | µg/L  | 0.5   | EPA 8260         | 23-Nov-21/R        |         |  |  |
| Dichloromethane (Methylene Chloride) | µg/L  | 5     | EPA 8260         | 23-Nov-21/R        |         |  |  |
| Toluene                              | µg/L  | 0.5   | EPA 8260         | 23-Nov-21/R        |         |  |  |
| Vinyl Chloride                       | µg/L  | 0.2   | EPA 8260         | 23-Nov-21/R        |         |  |  |
| Monochlorobenzene (Chlorobenzene)    | µg/L  | 0.5   | EPA 8260         | 21-Apr-22/R        |         |  |  |

- 1 Solids present in metals bottle
- 2 Revised to include additional parameter



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 Lab Manager

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DATE RECEIVED: 12-Nov-21

JOB/PROJECT NO.: Halls Glen WDS

DATE REPORTED: 05-Jan-22

P.O. NUMBER: 12987-002

SAMPLE MATRIX: Groundwater

WATERWORKS NO.

| Parameter                  | Units    | R.L.     | Reference Method | Date/Site Analyzed | Client I.D. | GW_QAQC2    | MW12-I      | MW12-II     | MW12-III    |
|----------------------------|----------|----------|------------------|--------------------|-------------|-------------|-------------|-------------|-------------|
|                            |          |          |                  |                    | Sample I.D. | B21-37354-1 | B21-37354-2 | B21-37354-3 | B21-37354-4 |
| Date Collected             |          |          |                  |                    | 11-Nov-21   | 11-Nov-21   | 11-Nov-21   | 11-Nov-21   | 11-Nov-21   |
| Alkalinity(CaCO3) to pH4.5 | mg/L     | 5        | SM 2320B         | 02-Dec-21/O        | 270         | 241         | 284         | 263         |             |
| Conductivity @25°C         | µmho/cm  | 1        | SM 2510B         | 02-Dec-21/O        | 652         | 647         | 746         | 694         |             |
| pH @25°C                   | pH Units |          | SM 4500H         | 02-Dec-21/O        | 7.77        | 7.91        | 7.93        | 7.72        |             |
| Total Dissolved Solids     | mg/L     | 3        | SM 2540D         | 03-Dec-21/O        | 339         | 336         | 390         | 361         |             |
| Dissolved Organic Carbon   | mg/L     | 0.2      | EPA 415.2        | 04-Jan-22/O        | 1.9         | 1.9         | 1.6         | 1.6         |             |
| COD                        | mg/L     | 5        | SM5220C          | 25-Nov-21/K        | 55          | 13          | 98          | 32          |             |
| Phenolics                  | mg/L     | 0.002    | MOEE 3179        | 23-Nov-21/K        | < 0.002     | 0.006       | < 0.002     | < 0.002     |             |
| Chloride                   | mg/L     | 0.5      | SM4110C          | 20-Nov-21/O        | 30.8        | 39.4        | 43.2        | 44.5        |             |
| Ammonia (N)-Total          | mg/L     | 0.01     | SM4500-NH3 H     | 26-Nov-21/K        | 0.03        | 0.16        | 0.31        | 0.05        |             |
| Sulphate                   | mg/L     | 1        | SM4110C          | 20-Nov-21/O        | 10          | 26          | 33          | 23          |             |
| Nitrite (N)                | mg/L     | 0.05     | SM4110C          | 20-Nov-21/O        | < 0.05      | < 0.05      |             |             |             |
| Nitrate (N)                | mg/L     | 0.05     | SM4110C          | 20-Nov-21/O        | 0.48        | < 0.05      | < 0.05      | < 0.05      |             |
| Total Kjeldahl Nitrogen    | mg/L     | 0.1      | E3199A.1         | 08-Dec-21/K        | 0.5         | 0.2         |             |             |             |
| Mercury                    | mg/L     | 0.00002  | SM 3112 B        | 17-Nov-21/O        | < 0.00002   | < 0.00002   | < 0.00002   | < 0.00002   |             |
| Hardness (as CaCO3)        | mg/L     | 1        | SM 3120          | 17-Nov-21/O        | 315         | 325         | 331         | 340         |             |
| Arsenic                    | mg/L     | 0.0001   | EPA 200.8        | 03-Dec-21/O        | < 0.0001    | < 0.0001    | 0.0048      | < 0.0001    |             |
| Barium                     | mg/L     | 0.001    | SM 3120          | 17-Nov-21/O        | 0.161       | 0.994       | 0.130       | 0.030       |             |
| Boron                      | mg/L     | 0.005    | SM 3120          | 17-Nov-21/O        | 0.041       | 0.156       | 0.175       | 0.083       |             |
| Cadmium                    | mg/L     | 0.000015 | EPA 200.8        | 03-Dec-21/O        | < 0.000015  | < 0.000015  | 0.000021    | < 0.000015  |             |
| Calcium                    | mg/L     | 0.02     | SM 3120          | 17-Nov-21/O        | 120         | 106         | 102         | 127         |             |
| Chromium                   | mg/L     | 0.001    | EPA 200.8        | 03-Dec-21/O        | < 0.001     | < 0.001     | < 0.001     | 0.004       |             |
| Copper                     | mg/L     | 0.0001   | EPA 200.8        | 03-Dec-21/O        | 0.0022      | < 0.0001    | 0.0011      | < 0.0001    |             |
| Iron                       | mg/L     | 0.005    | SM 3120          | 17-Nov-21/O        | < 0.005     | < 0.005     | 0.917       | 0.044       |             |
| Lead                       | mg/L     | 0.00002  | EPA 200.8        | 03-Dec-21/O        | 0.00005     | < 0.00002   | 0.00815     | 0.00008     |             |
| Magnesium                  | mg/L     | 0.02     | SM 3120          | 17-Nov-21/O        | 4.01        | 14.3        | 18.8        | 5.43        |             |
| Manganese                  | mg/L     | 0.001    | SM 3120          | 17-Nov-21/O        | 0.002       | 0.003       | 0.292       | 0.024       |             |
| Phosphorus-Total           | mg/L     | 0.01     | E3199A.1         | 08-Dec-21/K        | 1.23        | 0.01        | 1.01        | 0.73        |             |



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Michelle Dubien  
 Lab Manager

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**C.O.C.: G101044**

**REPORT No. B21-37354 (i)**

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**Cambium Environmental**  
 194 Sophia St.,  
 Peterborough ON K9H 1E5 Canada

**Attention:** Cameron MacDougall

**Caduceon Environmental Laboratories**

285 Dalton Ave  
 Kingston Ontario K7K 6Z1

Tel: 613-544-2001

Fax: 613-544-2770

DATE RECEIVED: 12-Nov-21

JOB/PROJECT NO.: Halls Glen WDS

DATE REPORTED: 05-Jan-22

P.O. NUMBER: 12987-002

SAMPLE MATRIX: Groundwater

WATERWORKS NO.

| Parameter                            | Units | R.L.  | Reference Method | Date/Site Analyzed | Client I.D. | GW_QAQC2       | MW12-I      | MW12-II     | MW12-III    |
|--------------------------------------|-------|-------|------------------|--------------------|-------------|----------------|-------------|-------------|-------------|
|                                      |       |       |                  |                    | Sample I.D. | Date Collected | B21-37354-1 | B21-37354-2 | B21-37354-3 |
| Potassium                            | mg/L  | 0.1   | SM 3120          | 17-Nov-21/O        |             | 2.1            | 3.5         | 2.0         | 1.8         |
| Sodium                               | mg/L  | 0.2   | SM 3120          | 17-Nov-21/O        |             | 26.1           | 10.6        | 45.7        | 16.2        |
| Zinc                                 | mg/L  | 0.005 | SM 3120          | 17-Nov-21/O        |             | < 0.005        | < 0.005     | 0.007       | < 0.005     |
| Benzene                              | µg/L  | 0.5   | EPA 8260         | 23-Nov-21/R        |             |                | < 0.5       |             |             |
| Dichlorobenzene, 1,4-                | µg/L  | 0.5   | EPA 8260         | 23-Nov-21/R        |             |                | < 0.5       |             |             |
| Dichloromethane (Methylene Chloride) | µg/L  | 5     | EPA 8260         | 23-Nov-21/R        |             |                | < 5         |             |             |
| Toluene                              | µg/L  | 0.5   | EPA 8260         | 23-Nov-21/R        |             |                | < 0.5       |             |             |
| Vinyl Chloride                       | µg/L  | 0.2   | EPA 8260         | 23-Nov-21/R        |             |                | < 0.2       |             |             |

1. Solids present in metals bottle



Michelle Dubien  
 Lab Manager

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SAMPLE MATRIX: Groundwater

WATERWORKS NO.

| Parameter                  | Units    | R.L.     | Reference Method | Date/Site Analyzed | Client I.D. | MW13-I      | MW13-II     | MW10-I      | MW10-II     |
|----------------------------|----------|----------|------------------|--------------------|-------------|-------------|-------------|-------------|-------------|
|                            |          |          |                  |                    | Sample I.D. | B21-37354-5 | B21-37354-6 | B21-37354-7 | B21-37354-8 |
| Date Collected             |          |          |                  |                    | 11-Nov-21   | 11-Nov-21   | 11-Nov-21   | 11-Nov-21   | 11-Nov-21   |
| Alkalinity(CaCO3) to pH4.5 | mg/L     | 5        | SM 2320B         | 02-Dec-21/O        | 309         | 318         | 236         | 250         |             |
| Conductivity @25°C         | µmho/cm  | 1        | SM 2510B         | 02-Dec-21/O        | 998         | 827         | 649         | 675         |             |
| pH @25°C                   | pH Units |          | SM 4500H         | 02-Dec-21/O        | 7.64        | 7.72        | 7.80        | 7.68        |             |
| Total Dissolved Solids     | mg/L     | 3        | SM 2540D         | 03-Dec-21/O        | 532         | 436         | 337         | 351         |             |
| Dissolved Organic Carbon   | mg/L     | 0.2      | EPA 415.2        | 04-Jan-22/O        | 2.0         | 2.7         | 1.4         | 2.6         |             |
| COD                        | mg/L     | 5        | SM5220C          | 25-Nov-21/K        | 56          | 10          | 10          | 9           |             |
| Phenolics                  | mg/L     | 0.002    | MOEE 3179        | 23-Nov-21/K        | < 0.002     | < 0.002     | 0.002       | 0.013       |             |
| Chloride                   | mg/L     | 0.5      | SM4110C          | 20-Nov-21/O        | 115         | 56.7        | 48.4        | 56.7        |             |
| Ammonia (N)-Total          | mg/L     | 0.01     | SM4500-NH3-H     | 26-Nov-21/K        | < 0.01      | 0.02        | 0.18        | 1.04        |             |
| Sulphate                   | mg/L     | 1        | SM4110C          | 20-Nov-21/O        | 11          | 23          | 20          | 9           |             |
| Nitrite (N)                | mg/L     | 0.05     | SM4110C          | 20-Nov-21/O        |             | < 0.05      |             | < 0.05      |             |
| Nitrate (N)                | mg/L     | 0.05     | SM4110C          | 20-Nov-21/O        | 2.55        | 1.28        | < 0.05      | < 0.05      |             |
| Total Kjeldahl Nitrogen    | mg/L     | 0.1      | E3199A.1         | 08-Dec-21/K        |             | 0.2         |             | 1.1         |             |
| Mercury                    | mg/L     | 0.00002  | SM 3112 B        | 17-Nov-21/O        | < 0.00002   | < 0.00002   | < 0.00002   | < 0.00002   |             |
| Hardness (as CaCO3)        | mg/L     | 1        | SM 3120          | 17-Nov-21/O        | 328         | 375         | 317         | 343         |             |
| Arsenic                    | mg/L     | 0.0001   | EPA 200.8        | 03-Dec-21/O        | 0.0001      | 0.0001      | < 0.0001    | < 0.0001    |             |
| Barium                     | mg/L     | 0.001    | SM 3120          | 17-Nov-21/O        | 0.138       | 0.168       | 0.888       | 0.574       |             |
| Boron                      | mg/L     | 0.005    | SM 3120          | 17-Nov-21/O        | 0.023       | 0.046       | 0.193       | 0.125       |             |
| Cadmium                    | mg/L     | 0.000015 | EPA 200.8        | 03-Dec-21/O        | < 0.000015  | < 0.000015  | < 0.000015  | < 0.000015  |             |
| Calcium                    | mg/L     | 0.02     | SM 3120          | 17-Nov-21/O        | 125         | 143         | 98.5        | 119         |             |
| Chromium                   | mg/L     | 0.001    | EPA 200.8        | 03-Dec-21/O        | < 0.001     | < 0.001     | < 0.001     | < 0.001     |             |
| Copper                     | mg/L     | 0.0001   | EPA 200.8        | 03-Dec-21/O        | 0.0038      | 0.0014      | < 0.0001    | 0.0006      |             |
| Iron                       | mg/L     | 0.005    | SM 3120          | 17-Nov-21/O        | < 0.005     | < 0.005     | 0.017       | 5.28        |             |
| Lead                       | mg/L     | 0.00002  | EPA 200.8        | 03-Dec-21/O        | 0.00014     | 0.00003     | < 0.00002   | < 0.00002   |             |
| Magnesium                  | mg/L     | 0.02     | SM 3120          | 17-Nov-21/O        | 3.50        | 4.39        | 17.4        | 11.3        |             |
| Manganese                  | mg/L     | 0.001    | SM 3120          | 17-Nov-21/O        | < 0.001     | < 0.001     | 0.102       | 0.042       |             |
| Phosphorus-Total           | mg/L     | 0.01     | E3199A.1         | 08-Dec-21/K        | 0.09        | 0.02        | < 0.01      | 0.09        |             |



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JOB/PROJECT NO.: Halls Glen WDS

DATE REPORTED: 05-Jan-22

P.O. NUMBER: 12987-002

SAMPLE MATRIX: Groundwater

WATERWORKS NO.

| Parameter                            | Units | R.L.  | Reference Method | Date/Site Analyzed | Client I.D. | MW13-I  | MW13-II | MW10-I  | MW10-II |
|--------------------------------------|-------|-------|------------------|--------------------|-------------|---------|---------|---------|---------|
|                                      |       |       |                  |                    | Sample I.D. |         |         |         |         |
| Potassium                            | mg/L  | 0.1   | SM 3120          | 17-Nov-21/O        |             | 2.6     | 4.5     | 3.7     | 2.5     |
| Sodium                               | mg/L  | 0.2   | SM 3120          | 17-Nov-21/O        |             | 87.0    | 36.5    | 11.5    | 6.5     |
| Zinc                                 | mg/L  | 0.005 | SM 3120          | 17-Nov-21/O        |             | < 0.005 | < 0.005 | < 0.005 | < 0.005 |
| Benzene                              | µg/L  | 0.5   | EPA 8260         | 23-Nov-21/R        |             |         | < 0.5   |         | < 0.5   |
| Dichlorobenzene, 1,4-                | µg/L  | 0.5   | EPA 8260         | 23-Nov-21/R        |             |         | < 0.5   |         | < 0.5   |
| Dichloromethane (Methylene Chloride) | µg/L  | 5     | EPA 8260         | 23-Nov-21/R        |             |         | < 5     |         | < 5     |
| Toluene                              | µg/L  | 0.5   | EPA 8260         | 23-Nov-21/R        |             |         | < 0.5   |         | < 0.5   |
| Vinyl Chloride                       | µg/L  | 0.2   | EPA 8260         | 23-Nov-21/R        |             |         | < 0.2   |         | < 0.2   |

1. Solids present in metals bottle



Michelle Dubien  
 Lab Manager

R.L. = Reporting Limit

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C.O.C.: G101044

REPORT No. B21-37354 (i)

**Report To:**

**Cambium Environmental**  
 194 Sophia St.,  
 Peterborough ON K9H 1E5 Canada

**Attention:** Cameron MacDougall

**Caduceon Environmental Laboratories**

285 Dalton Ave  
 Kingston Ontario K7K 6Z1  
 Tel: 613-544-2001  
 Fax: 613-544-2770

DATE RECEIVED: 12-Nov-21

JOB/PROJECT NO.: Halls Glen WDS

DATE REPORTED: 05-Jan-22

P.O. NUMBER: 12987-002

SAMPLE MATRIX: Groundwater

WATERWORKS NO.

|                       |             |              |              |              |
|-----------------------|-------------|--------------|--------------|--------------|
| <b>Client I.D.</b>    | MW11-I      | MW11-II      | GW_QAQC3     | MW9-11       |
| <b>Sample I.D.</b>    | B21-37354-9 | B21-37354-10 | B21-37354-11 | B21-37354-12 |
| <b>Date Collected</b> | 11-Nov-21   | 11-Nov-21    | 11-Nov-21    | 11-Nov-21    |

| Parameter                  | Units    | R.L.     | Reference Method | Date/Site Analyzed |            |            |            |            |
|----------------------------|----------|----------|------------------|--------------------|------------|------------|------------|------------|
| Alkalinity(CaCO3) to pH4.5 | mg/L     | 5        | SM 2320B         | 02-Dec-21/O        | 243        | 250        | 254        | 280        |
| Conductivity @25°C         | µmho/cm  | 1        | SM 2510B         | 02-Dec-21/O        | 693        | 633        | 640        | 780        |
| pH @25°C                   | pH Units |          | SM 4500H         | 02-Dec-21/O        | 7.69       | 7.80       | 7.78       | 7.66       |
| Total Dissolved Solids     | mg/L     | 3        | SM 2540D         | 03-Dec-21/O        | 360        | 329        | 332        | 409        |
| Dissolved Organic Carbon   | mg/L     | 0.2      | EPA 415.2        | 04-Jan-22/O        | 2.3        | 2.2        | 2.2        | 2.4        |
| COD                        | mg/L     | 5        | SM5220C          | 25-Nov-21/K        | 58         | 8          | 10         | 11         |
| Phenolics                  | mg/L     | 0.002    | MOEE 3179        | 23-Nov-21/K        | 0.008      | < 0.002    | < 0.002    | < 0.002    |
| Chloride                   | mg/L     | 0.5      | SM4110C          | 20-Nov-21/O        | 35.7       | 41.0       | 43.1       | 70.5       |
| Ammonia (N)-Total          | mg/L     | 0.01     | SM4500-NH3-H     | 26-Nov-21/K        | 1.03       | 0.96       | 0.98       | 0.03       |
| Sulphate                   | mg/L     | 1        | SM4110C          | 20-Nov-21/O        | 49         | 10         | 10         | 13         |
| Nitrite (N)                | mg/L     | 0.05     | SM4110C          | 20-Nov-21/O        |            | < 0.05     | < 0.05     | < 0.05     |
| Nitrate (N)                | mg/L     | 0.05     | SM4110C          | 20-Nov-21/O        | < 0.05     | < 0.05     | < 0.05     | 0.73       |
| Total Kjeldahl Nitrogen    | mg/L     | 0.1      | E3199A.1         | 08-Dec-21/K        |            | 1.1        | 1.0        | 0.2        |
| Mercury                    | mg/L     | 0.00002  | SM 3112 B        | 17-Nov-21/O        | < 0.00002  | < 0.00002  | < 0.00002  | < 0.00002  |
| Hardness (as CaCO3)        | mg/L     | 1        | SM 3120          | 17-Nov-21/O        | 335        | 329        | 334        | 315        |
| Arsenic                    | mg/L     | 0.0001   | EPA 200.8        | 03-Dec-21/O        | < 0.0001   | < 0.0001   | < 0.0001   | 0.0001     |
| Barium                     | mg/L     | 0.001    | SM 3120          | 17-Nov-21/O        | 0.748      | 0.528      | 0.535      | 0.203      |
| Boron                      | mg/L     | 0.005    | SM 3120          | 17-Nov-21/O        | 0.442      | 0.143      | 0.138      | 0.045      |
| Cadmium                    | mg/L     | 0.000015 | EPA 200.8        | 03-Dec-21/O        | < 0.000015 | < 0.000015 | < 0.000015 | < 0.000015 |
| Calcium                    | mg/L     | 0.02     | SM 3120          | 17-Nov-21/O        | 91.9       | 113        | 116        | 119        |
| Chromium                   | mg/L     | 0.001    | EPA 200.8        | 03-Dec-21/O        | < 0.001    | < 0.001    | < 0.001    | < 0.001    |
| Copper                     | mg/L     | 0.0001   | EPA 200.8        | 03-Dec-21/O        | < 0.0001   | 0.0003     | 0.0002     | 0.0004     |
| Iron                       | mg/L     | 0.005    | SM 3120          | 17-Nov-21/O        | 0.048      | 2.75       | 2.79       | 0.043      |
| Lead                       | mg/L     | 0.00002  | EPA 200.8        | 03-Dec-21/O        | < 0.00002  | < 0.00002  | < 0.00002  | < 0.00002  |
| Magnesium                  | mg/L     | 0.02     | SM 3120          | 17-Nov-21/O        | 25.6       | 11.1       | 11.1       | 4.55       |
| Manganese                  | mg/L     | 0.001    | SM 3120          | 17-Nov-21/O        | 0.055      | 0.033      | 0.034      | 0.003      |



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DATE RECEIVED: 12-Nov-21

JOB/PROJECT NO.: Halls Glen WDS

DATE REPORTED: 05-Jan-22

P.O. NUMBER: 12987-002

SAMPLE MATRIX: Groundwater

WATERWORKS NO.

|                       |             |              |              |              |
|-----------------------|-------------|--------------|--------------|--------------|
| <b>Client I.D.</b>    | MW11-I      | MW11-II      | GW_QAQC3     | MW9-11       |
| <b>Sample I.D.</b>    | B21-37354-9 | B21-37354-10 | B21-37354-11 | B21-37354-12 |
| <b>Date Collected</b> | 11-Nov-21   | 11-Nov-21    | 11-Nov-21    | 11-Nov-21    |

| Parameter                            | Units | R.L.  | Reference Method | Date/Site Analyzed |         |         |         |         |
|--------------------------------------|-------|-------|------------------|--------------------|---------|---------|---------|---------|
| Phosphorus-Total                     | mg/L  | 0.01  | E3199A.1         | 08-Dec-21/K        | 0.17    | 0.08    | 0.04    | 0.02    |
| Potassium                            | mg/L  | 0.1   | SM 3120          | 17-Nov-21/O        | 4.5     | 2.8     | 2.8     | 2.7     |
| Sodium                               | mg/L  | 0.2   | SM 3120          | 17-Nov-21/O        | 15.8    | 6.7     | 6.7     | 48.2    |
| Zinc                                 | mg/L  | 0.005 | SM 3120          | 17-Nov-21/O        | < 0.005 | < 0.005 | < 0.005 | < 0.005 |
| Benzene                              | µg/L  | 0.5   | EPA 8260         | 23-Nov-21/R        |         |         |         | < 0.5   |
| Dichlorobenzene, 1,4-                | µg/L  | 0.5   | EPA 8260         | 23-Nov-21/R        |         |         |         | < 0.5   |
| Dichloromethane (Methylene Chloride) | µg/L  | 5     | EPA 8260         | 23-Nov-21/R        |         |         |         | < 5     |
| Toluene                              | µg/L  | 0.5   | EPA 8260         | 23-Nov-21/R        |         |         |         | < 0.5   |
| Vinyl Chloride                       | µg/L  | 0.2   | EPA 8260         | 23-Nov-21/R        |         |         |         | < 0.2   |

1 Solids present in metals bottle



Michelle Dubien  
 Lab Manager

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JOB/PROJECT NO.: Halls Glen WDS

DATE REPORTED: 05-Jan-22

P.O. NUMBER: 12987-002

SAMPLE MATRIX: Groundwater

WATERWORKS NO.

| Parameter                  | Units    | R.L.     | Reference Method | Date/Site Analyzed | Client I.D. | MW1-I        | MW5-I        | MW5-II       | MW7-I        |
|----------------------------|----------|----------|------------------|--------------------|-------------|--------------|--------------|--------------|--------------|
|                            |          |          |                  |                    | Sample I.D. | B21-37354-13 | B21-37354-14 | B21-37354-15 | B21-37354-16 |
| Date Collected             |          |          |                  |                    | 11-Nov-21   | 11-Nov-21    | 11-Nov-21    | 11-Nov-21    | 11-Nov-21    |
| Alkalinity(CaCO3) to pH4.5 | mg/L     | 5        | SM 2320B         | 02-Dec-21/O        | 292         | 588          | 700          | 316          |              |
| Conductivity @25°C         | µmho/cm  | 1        | SM 2510B         | 02-Dec-21/O        | 1170        | 1400         | 1790         | 822          |              |
| pH @25°C                   | pH Units |          | SM 4500H         | 02-Dec-21/O        | 7.85        | 7.38         | 7.56         | 8.16         |              |
| Total Dissolved Solids     | mg/L     | 3        | SM 2540D         | 03-Dec-21/O        | 627         | 761          | 983          | 433          |              |
| Dissolved Organic Carbon   | mg/L     | 0.2      | EPA 415.2        | 04-Jan-22/O        | 1.1         | 10.6         | 10.5         | 2.4          |              |
| COD                        | mg/L     | 5        | SM5220C          | 25-Nov-21/K        | 16          | 80           | 160          | 76           |              |
| Phenolics                  | mg/L     | 0.002    | MOEE 3179        | 23-Nov-21/K        | < 0.002     | < 0.002      | < 0.002      | < 0.002      |              |
| Chloride                   | mg/L     | 0.5      | SM4110C          | 20-Nov-21/O        | 153         | 80.7         | 149          | 53.1         |              |
| Ammonia (N)-Total          | mg/L     | 0.01     | SM4500-NH3-H     | 26-Nov-21/K        | 0.06        | 13.6         | 23.2         | 0.06         |              |
| Sulphate                   | mg/L     | 1        | SM4110C          | 20-Nov-21/O        | 63          | 10           | 9            | 30           |              |
| Nitrite (N)                | mg/L     | 0.05     | SM4110C          | 20-Nov-21/O        |             |              | < 0.05       |              |              |
| Nitrate (N)                | mg/L     | 0.05     | SM4110C          | 20-Nov-21/O        | 1.85        | 0.12         | 0.10         | 0.19         |              |
| Total Kjeldahl Nitrogen    | mg/L     | 0.1      | E3199A.1         | 08-Dec-21/K        |             |              | 30.4         |              |              |
| Mercury                    | mg/L     | 0.00002  | SM 3112 B        | 17-Nov-21/O        | < 0.00002   | < 0.00002    | < 0.00002    | 0.00004      |              |
| Hardness (as CaCO3)        | mg/L     | 1        | SM 3120          | 17-Nov-21/O        | 451         | 620          | 723          | 125          |              |
| Arsenic                    | mg/L     | 0.0001   | EPA 200.8        | 03-Dec-21/O        | 0.0001      | 0.0023       | 0.0042       | 0.0011       |              |
| Barium                     | mg/L     | 0.001    | SM 3120          | 17-Nov-21/O        | 0.245       | 0.612        | 0.936        | 0.024        |              |
| Boron                      | mg/L     | 0.005    | SM 3120          | 17-Nov-21/O        | 0.093       | 0.359        | 0.477        | 0.571        |              |
| Cadmium                    | mg/L     | 0.000015 | EPA 200.8        | 03-Dec-21/O        | < 0.000015  | < 0.000015   | < 0.000015   | 0.000053     |              |
| Calcium                    | mg/L     | 0.02     | SM 3120          | 17-Nov-21/O        | 156         | 215          | 245          | 34.5         |              |
| Chromium                   | mg/L     | 0.001    | EPA 200.8        | 03-Dec-21/O        | 0.001       | < 0.001      | 0.001        | 0.004        |              |
| Copper                     | mg/L     | 0.0001   | EPA 200.8        | 03-Dec-21/O        | 0.0012      | 0.001        | 0.0020       | 0.0045       |              |
| Iron                       | mg/L     | 0.005    | SM 3120          | 17-Nov-21/O        | < 0.005     | 32.0         | 42.1         | < 0.005      |              |
| Lead                       | mg/L     | 0.00002  | EPA 200.8        | 03-Dec-21/O        | 0.00009     | 0.00013      | 0.00020      | 0.0149       |              |
| Magnesium                  | mg/L     | 0.02     | SM 3120          | 17-Nov-21/O        | 14.9        | 20.0         | 26.8         | 9.39         |              |
| Manganese                  | mg/L     | 0.001    | SM 3120          | 17-Nov-21/O        | < 0.001     | 2.31         | 4.30         | 0.001        |              |



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 Lab Manager

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DATE RECEIVED: 12-Nov-21

JOB/PROJECT NO.: Halls Glen WDS

DATE REPORTED: 05-Jan-22

P.O. NUMBER: 12987-002

SAMPLE MATRIX: Groundwater

WATERWORKS NO.

|                       |              |              |              |              |
|-----------------------|--------------|--------------|--------------|--------------|
| <b>Client I.D.</b>    | MW1-I        | MW5-I        | MW5-II       | MW7-I        |
| <b>Sample I.D.</b>    | B21-37354-13 | B21-37354-14 | B21-37354-15 | B21-37354-16 |
| <b>Date Collected</b> | 11-Nov-21    | 11-Nov-21    | 11-Nov-21    | 11-Nov-21    |

| Parameter                            | Units | R.L.  | Reference Method | Date/Site Analyzed |         |         |       |         |
|--------------------------------------|-------|-------|------------------|--------------------|---------|---------|-------|---------|
| Phosphorus-Total                     | mg/L  | 0.01  | E3199A.1         | 08-Dec-21/K        | 0.88    | 0.26    | 0.76  | 1.05    |
| Potassium                            | mg/L  | 0.1   | SM 3120          | 17-Nov-21/O        | 5.6     | 25.5    | 40.7  | 2.9     |
| Sodium                               | mg/L  | 0.2   | SM 3120          | 17-Nov-21/O        | 83.8    | 57.9    | 83.8  | 163     |
| Zinc                                 | mg/L  | 0.005 | SM 3120          | 17-Nov-21/O        | < 0.005 | < 0.005 | 0.007 | < 0.005 |
| Benzene                              | µg/L  | 0.5   | EPA 8260         | 23-Nov-21/R        |         |         |       |         |
| Dichlorobenzene, 1,4-                | µg/L  | 0.5   | EPA 8260         | 23-Nov-21/R        |         |         |       |         |
| Dichloromethane (Methylene Chloride) | µg/L  | 5     | EPA 8260         | 23-Nov-21/R        |         |         |       |         |
| Toluene                              | µg/L  | 0.5   | EPA 8260         | 23-Nov-21/R        |         |         |       |         |
| Vinyl Chloride                       | µg/L  | 0.2   | EPA 8260         | 23-Nov-21/R        |         |         |       |         |

1 Solids present in metals bottle



Michelle Dubien  
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DATE REPORTED: 05-Jan-22

P.O. NUMBER: 12987-002

SAMPLE MATRIX: Groundwater

WATERWORKS NO.

| Parameter                  | Units    | R.L.     | Reference Method | Date/Site Analyzed | Client I.D. | MW7-II       | GW_QAQC      | MW6-I        | MW6-II       |
|----------------------------|----------|----------|------------------|--------------------|-------------|--------------|--------------|--------------|--------------|
|                            |          |          |                  |                    | Sample I.D. | B21-37354-17 | B21-37354-18 | B21-37354-19 | B21-37354-20 |
| Date Collected             |          |          |                  |                    | 11-Nov-21   | 11-Nov-21    | 11-Nov-21    | 11-Nov-21    | 11-Nov-21    |
| Alkalinity(CaCO3) to pH4.5 | mg/L     | 5        | SM 2320B         | 02-Dec-21/O        | 474         | 345          | 347          | 876          |              |
| Conductivity @25°C         | µmho/cm  | 1        | SM 2510B         | 02-Dec-21/O        | 1220        | 1290         | 1280         | 1990         |              |
| pH @25°C                   | pH Units |          | SM 4500H         | 02-Dec-21/O        | 7.80        | 7.54         | 7.62         | 7.64         |              |
| Total Dissolved Solids     | mg/L     | 3        | SM 2540D         | 03-Dec-21/O        | 659         | 697          | 694          | 1100         |              |
| Dissolved Organic Carbon   | mg/L     | 0.2      | EPA 415.2        | 04-Jan-22/O        | 6.7         | 1.7          | 1.6          | 17.7         |              |
| COD                        | mg/L     | 5        | SM5220C          | 25-Nov-21/K        | 33          | 70           | 51           | 73           |              |
| Phenolics                  | mg/L     | 0.002    | MOEE 3179        | 23-Nov-21/K        | < 0.002     | < 0.002      | < 0.002      | < 0.002      |              |
| Chloride                   | mg/L     | 0.5      | SM4110C          | 20-Nov-21/O        | 80.3        | 167          | 167          | 98.8         |              |
| Ammonia (N)-Total          | mg/L     | 0.01     | SM4500-NH3-H     | 26-Nov-21/K        | 0.06        | 3.13         | 3.19         | 28.4         |              |
| Sulphate                   | mg/L     | 1        | SM4110C          | 20-Nov-21/O        | 29          | 54           | 47           | 65           |              |
| Nitrite (N)                | mg/L     | 0.05     | SM4110C          | 20-Nov-21/O        | < 0.05      |              |              | < 0.05       |              |
| Nitrate (N)                | mg/L     | 0.05     | SM4110C          | 20-Nov-21/O        | 4.96        | 1.18         | 1.55         | < 0.05       |              |
| Total Kjeldahl Nitrogen    | mg/L     | 0.1      | E3199A.1         | 08-Dec-21/K        | 0.7         |              |              | 30.8         |              |
| Mercury                    | mg/L     | 0.00002  | SM 3112 B        | 17-Nov-21/O        | < 0.00002   | < 0.00002    | < 0.00002    | < 0.00002    |              |
| Hardness (as CaCO3)        | mg/L     | 1        | SM 3120          | 17-Nov-21/O        | 511         | 511          | 508          | 817          |              |
| Arsenic                    | mg/L     | 0.0001   | EPA 200.8        | 03-Dec-21/O        | 0.0002      | 0.0002       | 0.0002       | 0.0017       |              |
| Barium                     | mg/L     | 0.001    | SM 3120          | 17-Nov-21/O        | 0.364       | 0.264        | 0.262        | 0.540        |              |
| Boron                      | mg/L     | 0.005    | SM 3120          | 17-Nov-21/O        | 0.294       | 0.081        | 0.079        | 0.833        |              |
| Cadmium                    | mg/L     | 0.000015 | EPA 200.8        | 03-Dec-21/O        | < 0.000015  | < 0.000015   | < 0.000015   | < 0.000015   |              |
| Calcium                    | mg/L     | 0.02     | SM 3120          | 17-Nov-21/O        | 177         | 191          | 189          | 268          |              |
| Chromium                   | mg/L     | 0.001    | EPA 200.8        | 03-Dec-21/O        | 0.009       | 0.002        | < 0.001      | 0.008        |              |
| Copper                     | mg/L     | 0.0001   | EPA 200.8        | 03-Dec-21/O        | 0.0039      | 0.0006       | 0.0004       | 0.0016       |              |
| Iron                       | mg/L     | 0.005    | SM 3120          | 17-Nov-21/O        | 0.031       | 1.11         | 1.10         | 9.81         |              |
| Lead                       | mg/L     | 0.00002  | EPA 200.8        | 03-Dec-21/O        | 0.00030     | 0.00011      | 0.00008      | 0.00004      |              |
| Magnesium                  | mg/L     | 0.02     | SM 3120          | 17-Nov-21/O        | 16.9        | 8.47         | 8.34         | 35.7         |              |
| Manganese                  | mg/L     | 0.001    | SM 3120          | 17-Nov-21/O        | 0.007       | 0.726        | 0.721        | 7.25         |              |



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|                       |              |              |              |              |
|-----------------------|--------------|--------------|--------------|--------------|
| <b>Client I.D.</b>    | MW7-II       | GW_QAQC      | MW6-I        | MW6-II       |
| <b>Sample I.D.</b>    | B21-37354-17 | B21-37354-18 | B21-37354-19 | B21-37354-20 |
| <b>Date Collected</b> | 11-Nov-21    | 11-Nov-21    | 11-Nov-21    | 11-Nov-21    |

| Parameter                            | Units | R.L.  | Reference Method | Date/Site Analyzed |         |         |         |         |
|--------------------------------------|-------|-------|------------------|--------------------|---------|---------|---------|---------|
| Phosphorus-Total                     | mg/L  | 0.01  | E3199A.1         | 08-Dec-21/K        | 0.05    | 0.39    | 0.40    | 0.03    |
| Potassium                            | mg/L  | 0.1   | SM 3120          | 17-Nov-21/O        | 8.2     | 8.4     | 8.3     | 43.7    |
| Sodium                               | mg/L  | 0.2   | SM 3120          | 17-Nov-21/O        | 69.9    | 75.0    | 74.3    | 101     |
| Zinc                                 | mg/L  | 0.005 | SM 3120          | 17-Nov-21/O        | < 0.005 | < 0.005 | < 0.005 | < 0.005 |
| Benzene                              | µg/L  | 0.5   | EPA 8260         | 23-Nov-21/R        |         |         |         |         |
| Dichlorobenzene, 1,4-                | µg/L  | 0.5   | EPA 8260         | 23-Nov-21/R        |         |         |         |         |
| Dichloromethane (Methylene Chloride) | µg/L  | 5     | EPA 8260         | 23-Nov-21/R        |         |         |         |         |
| Toluene                              | µg/L  | 0.5   | EPA 8260         | 23-Nov-21/R        |         |         |         |         |
| Vinyl Chloride                       | µg/L  | 0.2   | EPA 8260         | 23-Nov-21/R        |         |         |         |         |

1 Solids present in metals bottle



Michelle Dubien  
 Lab Manager

R.L. = Reporting Limit

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Site Analyzed=K-Kingston, W-Windsor, O-Ottawa, R-Richmond Hill, B-Barrie

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C.O.C.: G101044

REPORT No. B21-37354 (i)

**Report To:**

**Cambium Environmental**  
 194 Sophia St.,  
 Peterborough ON K9H 1E5 Canada

**Attention:** Cameron MacDougall

**Caduceon Environmental Laboratories**

285 Dalton Ave  
 Kingston Ontario K7K 6Z1  
 Tel: 613-544-2001  
 Fax: 613-544-2770

DATE RECEIVED: 12-Nov-21

JOB/PROJECT NO.: Halls Glen WDS

DATE REPORTED: 05-Jan-22

P.O. NUMBER: 12987-002

SAMPLE MATRIX: Groundwater

WATERWORKS NO.

| Parameter                  | Units    | R.L.     | Reference Method | Date/Site Analyzed | Client I.D. | MW3-I        | MW3-II       | MW4-I        | MW4-II       |
|----------------------------|----------|----------|------------------|--------------------|-------------|--------------|--------------|--------------|--------------|
|                            |          |          |                  |                    | Sample I.D. | B21-37354-21 | B21-37354-22 | B21-37354-23 | B21-37354-24 |
| Date Collected             |          |          |                  |                    | 11-Nov-21   | 11-Nov-21    | 11-Nov-21    | 11-Nov-21    | 11-Nov-21    |
| Alkalinity(CaCO3) to pH4.5 | mg/L     | 5        | SM 2320B         | 02-Dec-21/O        | 347         | 745          | 351          | 270          |              |
| Conductivity @25°C         | µmho/cm  | 1        | SM 2510B         | 02-Dec-21/O        | 1040        | 1660         | 1010         | 644          |              |
| pH @25°C                   | pH Units |          | SM 4500H         | 02-Dec-21/O        | 7.68        | 7.53         | 7.58         | 7.75         |              |
| Total Dissolved Solids     | mg/L     | 3        | SM 2540D         | 03-Dec-21/O        | 558         | 907          | 541          | 334          |              |
| Dissolved Organic Carbon   | mg/L     | 0.2      | EPA 415.2        | 04-Jan-22/O        | 2.5         | 10.1         | 2.8          | 1.7          |              |
| COD                        | mg/L     | 5        | SM5220C          | 25-Nov-21/K        | 11          | 40           | 157          | 13           |              |
| Phenolics                  | mg/L     | 0.002    | MOEE 3179        | 23-Nov-21/K        | < 0.002     | < 0.002      | < 0.002      | < 0.002      |              |
| Chloride                   | mg/L     | 0.5      | SM4110C          | 20-Nov-21/O        | 104         | 67.7         | 96.2         | 31.4         |              |
| Ammonia (N)-Total          | mg/L     | 0.01     | SM4500-NH3-H     | 26-Nov-21/K        | 0.01        | 0.62         | 0.92         | 0.03         |              |
| Sulphate                   | mg/L     | 1        | SM4110C          | 20-Nov-21/O        | 27          | 51           | 26           | 10           |              |
| Nitrite (N)                | mg/L     | 0.05     | SM4110C          | 20-Nov-21/O        | < 0.05      | < 0.05       |              | < 0.05       |              |
| Nitrate (N)                | mg/L     | 0.05     | SM4110C          | 20-Nov-21/O        | 1.64        | 0.42         | 0.64         | 0.49         |              |
| Total Kjeldahl Nitrogen    | mg/L     | 0.1      | E3199A.1         | 08-Dec-21/K        | 0.4         | 1.7          |              | 0.5          |              |
| Mercury                    | mg/L     | 0.00002  | SM 3112 B        | 17-Nov-21/O        | < 0.00002   | < 0.00002    | < 0.00002    | < 0.00002    |              |
| Hardness (as CaCO3)        | mg/L     | 1        | SM 3120          | 17-Nov-21/O        | 443         | 857          | 441          | 319          |              |
| Arsenic                    | mg/L     | 0.0001   | EPA 200.8        | 03-Dec-21/O        | < 0.0001    | 0.0003       | < 0.0001     | < 0.0001     |              |
| Barium                     | mg/L     | 0.001    | SM 3120          | 17-Nov-21/O        | 0.186       | 0.320        | 0.174        | 0.160        |              |
| Boron                      | mg/L     | 0.005    | SM 3120          | 17-Nov-21/O        | 0.054       | 0.550        | 0.081        | 0.041        |              |
| Cadmium                    | mg/L     | 0.000015 | EPA 200.8        | 03-Dec-21/O        | < 0.000015  | 0.000057     | < 0.000015   | < 0.000015   |              |
| Calcium                    | mg/L     | 0.02     | SM 3120          | 17-Nov-21/O        | 169         | 296          | 166          | 121          |              |
| Chromium                   | mg/L     | 0.001    | EPA 200.8        | 03-Dec-21/O        | < 0.001     | < 0.001      | 0.005        | < 0.001      |              |
| Copper                     | mg/L     | 0.0001   | EPA 200.8        | 03-Dec-21/O        | 0.0007      | 0.0020       | 0.0005       | 0.0017       |              |
| Iron                       | mg/L     | 0.005    | SM 3120          | 17-Nov-21/O        | < 0.005     | 0.147        | < 0.005      | < 0.005      |              |
| Lead                       | mg/L     | 0.00002  | EPA 200.8        | 03-Dec-21/O        | < 0.00004   | 0.00006      | < 0.00004    | 0.00004      |              |
| Magnesium                  | mg/L     | 0.02     | SM 3120          | 17-Nov-21/O        | 5.14        | 28.5         | 6.51         | 3.96         |              |
| Manganese                  | mg/L     | 0.001    | SM 3120          | 17-Nov-21/O        | 0.004       | 1.40         | 0.106        | 0.002        |              |

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Michelle Dubien  
 Lab Manager

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 194 Sophia St.,  
 Peterborough ON K9H 1E5 Canada

**Attention:** Cameron MacDougall

**Caduceon Environmental Laboratories**

285 Dalton Ave  
 Kingston Ontario K7K 6Z1

Tel: 613-544-2001

Fax: 613-544-2770

DATE RECEIVED: 12-Nov-21

JOB/PROJECT NO.: Halls Glen WDS

DATE REPORTED: 05-Jan-22

P.O. NUMBER: 12987-002

SAMPLE MATRIX: Groundwater

WATERWORKS NO.

| Client I.D.    | MW3-I        | MW3-II       | MW4-I        | MW4-II       |
|----------------|--------------|--------------|--------------|--------------|
| Sample I.D.    | B21-37354-21 | B21-37354-22 | B21-37354-23 | B21-37354-24 |
| Date Collected | 11-Nov-21    | 11-Nov-21    | 11-Nov-21    | 11-Nov-21    |

| Parameter                            | Units | R.L.  | Reference Method | Date/Site Analyzed |         |         |         |         |
|--------------------------------------|-------|-------|------------------|--------------------|---------|---------|---------|---------|
| Phosphorus-Total                     | mg/L  | 0.01  | E3199A.1         | 08-Dec-21/K        | 0.03    | 0.09    | 4.78    | 1.27    |
| Potassium                            | mg/L  | 0.1   | SM 3120          | 17-Nov-21/O        | 5.1     | 25.1    | 5.8     | 2.0     |
| Sodium                               | mg/L  | 0.2   | SM 3120          | 17-Nov-21/O        | 59.5    | 59.2    | 52.8    | 26.0    |
| Zinc                                 | mg/L  | 0.005 | SM 3120          | 17-Nov-21/O        | < 0.005 | < 0.005 | < 0.005 | < 0.005 |
| Benzene                              | µg/L  | 0.5   | EPA 8260         | 23-Nov-21/R        |         |         |         |         |
| Dichlorobenzene, 1,4-                | µg/L  | 0.5   | EPA 8260         | 23-Nov-21/R        |         |         |         |         |
| Dichloromethane (Methylene Chloride) | µg/L  | 5     | EPA 8260         | 23-Nov-21/R        |         |         |         |         |
| Toluene                              | µg/L  | 0.5   | EPA 8260         | 23-Nov-21/R        |         |         |         |         |
| Vinyl Chloride                       | µg/L  | 0.2   | EPA 8260         | 23-Nov-21/R        |         |         |         |         |

1 Solids present in metals bottle



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 Lab Manager

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JOB/PROJECT NO.: Halls Glen WDS

DATE REPORTED: 05-Jan-22

P.O. NUMBER: 12987-002

SAMPLE MATRIX: Groundwater

WATERWORKS NO.

| Parameter                  | Units    | R.L.     | Reference Method | Date/Site Analyzed | Client I.D. | MW9-I        | MW8-I        | MW8-II       | R-4          |
|----------------------------|----------|----------|------------------|--------------------|-------------|--------------|--------------|--------------|--------------|
|                            |          |          |                  |                    | Sample I.D. | B21-37354-25 | B21-37354-26 | B21-37354-27 | B21-37354-28 |
| Date Collected             |          |          |                  |                    | 11-Nov-21   | 11-Nov-21    | 11-Nov-21    | 11-Nov-21    | 11-Nov-21    |
| Alkalinity(CaCO3) to pH4.5 | mg/L     | 5        | SM 2320B         | 02-Dec-21/O        | 239         | 277          | 275          | 338          |              |
| Conductivity @25°C         | µmho/cm  | 1        | SM 2510B         | 02-Dec-21/O        | 628         | 778          | 744          | 1050         |              |
| pH @25°C                   | pH Units |          | SM 4500H         | 02-Dec-21/O        | 7.82        | 7.92         | 8.27         | 8.21         |              |
| Total Dissolved Solids     | mg/L     | 3        | SM 2540D         | 03-Dec-21/O        | 326         | 408          | 389          | 563          |              |
| Dissolved Organic Carbon   | mg/L     | 0.2      | EPA 415.2        | 04-Jan-22/O        | 1.8         | 2.2          | 2.7          | 2.1          |              |
| COD                        | mg/L     | 5        | SM5220C          | 25-Nov-21/K        | 35          | 16           | 10           | 8            |              |
| Phenolics                  | mg/L     | 0.002    | MOEE 3179        | 23-Nov-21/K        | 0.013       | < 0.002      | < 0.002      | < 0.002      |              |
| Chloride                   | mg/L     | 0.5      | SM4110C          | 20-Nov-21/O        | 16.2        | 72.1         | 67.5         | 126          |              |
| Ammonia (N)-Total          | mg/L     | 0.01     | SM4500-NH3-H     | 26-Nov-21/K        | 0.64        | 0.01         | < 0.01       | < 0.01       |              |
| Sulphate                   | mg/L     | 1        | SM4110C          | 20-Nov-21/O        | 46          | 12           | 10           | 10           |              |
| Nitrite (N)                | mg/L     | 0.05     | SM4110C          | 20-Nov-21/O        |             |              | < 0.05       | < 0.05       |              |
| Nitrate (N)                | mg/L     | 0.05     | SM4110C          | 20-Nov-21/O        | < 0.05      | 0.46         | 0.41         | 0.97         |              |
| Total Kjeldahl Nitrogen    | mg/L     | 0.1      | E3199A.1         | 08-Dec-21/K        |             |              | 0.3          | 0.2          |              |
| Mercury                    | mg/L     | 0.00002  | SM 3112 B        | 17-Nov-21/O        | < 0.00002   | < 0.00002    | < 0.00002    | < 0.00002    |              |
| Hardness (as CaCO3)        | mg/L     | 1        | SM 3120          | 17-Nov-21/O        | 225         | 328          | 316          | 294          |              |
| Arsenic                    | mg/L     | 0.0001   | EPA 200.8        | 03-Dec-21/O        | < 0.0001    | 0.0003       | < 0.0001     | 0.0002       |              |
| Barium                     | mg/L     | 0.001    | SM 3120          | 17-Nov-21/O        | 0.897       | 0.119        | 0.168        | 0.122        |              |
| Boron                      | mg/L     | 0.005    | SM 3120          | 17-Nov-21/O        | 0.569       | 0.063        | 0.028        | 0.026        |              |
| Cadmium                    | mg/L     | 0.000015 | EPA 200.8        | 03-Dec-21/O        | < 0.000015  | < 0.000015   | < 0.000015   | < 0.000015   |              |
| Calcium                    | mg/L     | 0.02     | SM 3120          | 17-Nov-21/O        | 53.7        | 118          | 119          | 113          |              |
| Chromium                   | mg/L     | 0.001    | EPA 200.8        | 03-Dec-21/O        | < 0.001     | < 0.001      | < 0.001      | < 0.001      |              |
| Copper                     | mg/L     | 0.0001   | EPA 200.8        | 03-Dec-21/O        | < 0.0001    | 0.0005       | 0.0010       | 0.0962       |              |
| Iron                       | mg/L     | 0.005    | SM 3120          | 17-Nov-21/O        | < 0.005     | 0.885        | < 0.005      | < 0.005      |              |
| Lead                       | mg/L     | 0.00002  | EPA 200.8        | 03-Dec-21/O        | < 0.00002   | 0.00002      | 0.00003      | 0.00260      |              |
| Magnesium                  | mg/L     | 0.02     | SM 3120          | 17-Nov-21/O        | 22.1        | 8.05         | 4.14         | 3.20         |              |
| Manganese                  | mg/L     | 0.001    | SM 3120          | 17-Nov-21/O        | 0.041       | 0.260        | 0.002        | < 0.001      |              |



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 Lab Manager

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 Fax: 613-544-2770

DATE RECEIVED: 12-Nov-21

JOB/PROJECT NO.: Halls Glen WDS

DATE REPORTED: 05-Jan-22

P.O. NUMBER: 12987-002

SAMPLE MATRIX: Groundwater

WATERWORKS NO.

|                       |              |              |              |              |
|-----------------------|--------------|--------------|--------------|--------------|
| <b>Client I.D.</b>    | MW9-I        | MW8-I        | MW8-II       | R-4          |
| <b>Sample I.D.</b>    | B21-37354-25 | B21-37354-26 | B21-37354-27 | B21-37354-28 |
| <b>Date Collected</b> | 11-Nov-21    | 11-Nov-21    | 11-Nov-21    | 11-Nov-21    |

| Parameter                            | Units | R.L.  | Reference Method | Date/Site Analyzed |         |         |         |       |
|--------------------------------------|-------|-------|------------------|--------------------|---------|---------|---------|-------|
| Phosphorus-Total                     | mg/L  | 0.01  | E3199A.1         | 08-Dec-21/K        | 0.04    | 0.06    | 0.11    | 0.03  |
| Potassium                            | mg/L  | 0.1   | SM 3120          | 17-Nov-21/O        | 5.6     | 2.9     | 1.8     | 2.7   |
| Sodium                               | mg/L  | 0.2   | SM 3120          | 17-Nov-21/O        | 52.5    | 49.7    | 44.0    | 123   |
| Zinc                                 | mg/L  | 0.005 | SM 3120          | 17-Nov-21/O        | < 0.005 | < 0.005 | < 0.005 | 0.028 |
| Benzene                              | µg/L  | 0.5   | EPA 8260         | 23-Nov-21/R        |         |         | < 0.5   |       |
| Dichlorobenzene, 1,4-                | µg/L  | 0.5   | EPA 8260         | 23-Nov-21/R        |         |         | < 0.5   |       |
| Dichloromethane (Methylene Chloride) | µg/L  | 5     | EPA 8260         | 23-Nov-21/R        |         |         | < 5     |       |
| Toluene                              | µg/L  | 0.5   | EPA 8260         | 23-Nov-21/R        |         |         | < 0.5   |       |
| Vinyl Chloride                       | µg/L  | 0.2   | EPA 8260         | 23-Nov-21/R        |         |         | < 0.2   |       |

1 Solids present in metals bottle



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 Lab Manager

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DATE RECEIVED: 12-Nov-21

JOB/PROJECT NO.: Halls Glen WDS

DATE REPORTED: 05-Jan-22

P.O. NUMBER: 12987-002

SAMPLE MATRIX: Groundwater

WATERWORKS NO.

|                |              |  |  |
|----------------|--------------|--|--|
| Client I.D.    | R-1          |  |  |
| Sample I.D.    | B21-37354-29 |  |  |
| Date Collected | 11-Nov-21    |  |  |

| Parameter                  | Units    | R.L.     | Reference Method | Date/Site Analyzed |           |  |  |
|----------------------------|----------|----------|------------------|--------------------|-----------|--|--|
| Alkalinity(CaCO3) to pH4.5 | mg/L     | 5        | SM 2320B         | 02-Dec-21/O        | 259       |  |  |
| Conductivity @25°C         | µmho/cm  | 1        | SM 2510B         | 02-Dec-21/O        | 732       |  |  |
| pH @25°C                   | pH Units |          | SM 4500H         | 02-Dec-21/O        | 8.03      |  |  |
| Total Dissolved Solids     | mg/L     | 3        | SM 2540D         | 03-Dec-21/O        | 382       |  |  |
| Dissolved Organic Carbon   | mg/L     | 0.2      | EPA 415.2        | 04-Jan-22/O        | 2.8       |  |  |
| COD                        | mg/L     | 5        | SM5220C          | 25-Nov-21/K        | 82        |  |  |
| Phenolics                  | mg/L     | 0.002    | MOEE 3179        | 23-Nov-21/K        | < 0.002   |  |  |
| Chloride                   | mg/L     | 0.5      | SM4110C          | 20-Nov-21/O        | 70.9      |  |  |
| Ammonia (N)-Total          | mg/L     | 0.01     | SM4500-NH3-H     | 26-Nov-21/K        | < 0.01    |  |  |
| Sulphate                   | mg/L     | 1        | SM4110C          | 20-Nov-21/O        | 10        |  |  |
| Nitrite (N)                | mg/L     | 0.05     | SM4110C          | 20-Nov-21/O        | < 0.05    |  |  |
| Nitrate (N)                | mg/L     | 0.05     | SM4110C          | 20-Nov-21/O        | 0.39      |  |  |
| Total Kjeldahl Nitrogen    | mg/L     | 0.1      | E3199A.1         | 08-Dec-21/K        | 2.4       |  |  |
| Mercury                    | mg/L     | 0.00002  | SM 3112 B        | 17-Nov-21/O        | < 0.00002 |  |  |
| Hardness (as CaCO3)        | mg/L     | 1        | SM 3120          | 17-Nov-21/O        | 295       |  |  |
| Arsenic                    | mg/L     | 0.0001   | EPA 200.8        | 03-Dec-21/O        | 0.0002    |  |  |
| Barium                     | mg/L     | 0.001    | SM 3120          | 17-Nov-21/O        | 0.144     |  |  |
| Boron                      | mg/L     | 0.005    | SM 3120          | 17-Nov-21/O        | 0.012     |  |  |
| Cadmium                    | mg/L     | 0.000015 | EPA 200.8        | 03-Dec-21/O        | 0.000020  |  |  |
| Calcium                    | mg/L     | 0.02     | SM 3120          | 17-Nov-21/O        | 112       |  |  |
| Chromium                   | mg/L     | 0.001    | EPA 200.8        | 03-Dec-21/O        | < 0.001   |  |  |
| Copper                     | mg/L     | 0.0001   | EPA 200.8        | 03-Dec-21/O        | 0.0008    |  |  |
| Iron                       | mg/L     | 0.005    | SM 3120          | 17-Nov-21/O        | 0.150     |  |  |
| Lead                       | mg/L     | 0.00002  | EPA 200.8        | 03-Dec-21/O        | 0.00026   |  |  |
| Magnesium                  | mg/L     | 0.02     | SM 3120          | 17-Nov-21/O        | 3.75      |  |  |
| Manganese                  | mg/L     | 0.001    | SM 3120          | 17-Nov-21/O        | 0.726     |  |  |



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P.O. NUMBER: 12987-002

SAMPLE MATRIX: Groundwater

WATERWORKS NO.

|                       |              |  |  |
|-----------------------|--------------|--|--|
| <b>Client I.D.</b>    | R-1          |  |  |
| <b>Sample I.D.</b>    | B21-37354-29 |  |  |
| <b>Date Collected</b> | 11-Nov-21    |  |  |

| Parameter                            | Units | R.L.  | Reference Method | Date/Site Analyzed |         |  |  |
|--------------------------------------|-------|-------|------------------|--------------------|---------|--|--|
| Phosphorus-Total                     | mg/L  | 0.01  | E3199A.1         | 08-Dec-21/K        | 2.07    |  |  |
| Potassium                            | mg/L  | 0.1   | SM 3120          | 17-Nov-21/O        | 1.0     |  |  |
| Sodium                               | mg/L  | 0.2   | SM 3120          | 17-Nov-21/O        | 45.2    |  |  |
| Zinc                                 | mg/L  | 0.005 | SM 3120          | 17-Nov-21/O        | < 0.005 |  |  |
| Benzene                              | µg/L  | 0.5   | EPA 8260         | 23-Nov-21/R        |         |  |  |
| Dichlorobenzene, 1,4-                | µg/L  | 0.5   | EPA 8260         | 23-Nov-21/R        |         |  |  |
| Dichloromethane (Methylene Chloride) | µg/L  | 5     | EPA 8260         | 23-Nov-21/R        |         |  |  |
| Toluene                              | µg/L  | 0.5   | EPA 8260         | 23-Nov-21/R        |         |  |  |
| Vinyl Chloride                       | µg/L  | 0.2   | EPA 8260         | 23-Nov-21/R        |         |  |  |

1 Solids present in metals bottle



Michelle Dubien  
 Lab Manager

R.L. = Reporting Limit

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Site Analyzed=K-Kingston, W-Windsor, O-Ottawa, R-Richmond Hill, B-Barrie

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C.O.C.: G101044

REPORT No. B21-37354 (ii)

Rev. 1

**Report To:**

**Cambium Environmental**  
 194 Sophia St.,  
 Peterborough ON K9H 1E5 Canada

**Attention:** Cameron MacDougall

**Caduceon Environmental Laboratories**

285 Dalton Ave  
 Kingston Ontario K7K 6Z1  
 Tel: 613-544-2001  
 Fax: 613-544-2770

DATE RECEIVED: 12-Nov-21

JOB/PROJECT NO.: Halls Glen WDS

DATE REPORTED: 22-Apr-22

P.O. NUMBER: 12987-002

SAMPLE MATRIX: Groundwater

WATERWORKS NO.

|                       |             |             |              |              |
|-----------------------|-------------|-------------|--------------|--------------|
| <b>Client I.D.</b>    | GW_QAQC2    | MW11-I      | MW11-II      | GW_QAQC3     |
| <b>Sample I.D.</b>    | B21-37354-1 | B21-37354-9 | B21-37354-10 | B21-37354-11 |
| <b>Date Collected</b> | 11-Nov-21   | 11-Nov-21   | 11-Nov-21    | 11-Nov-21    |

| Parameter                                   | Units | R.L. | Reference Method | Date/Site Analyzed |       |       |       |       |
|---|-------|------|------------------|--------------------|-------|-------|-------|-------|
| Acetone                                     | µg/L  | 30   | EPA 8260         | 23-Nov-21/R        | < 30  | < 30  | < 30  | < 30  |
| Benzene                                     | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5 | < 0.5 | < 0.5 | < 0.5 |
| Bromodichloromethane                        | µg/L  | 2    | EPA 8260         | 23-Nov-21/R        | < 2   | < 2   | < 2   | < 2   |
| Bromoform                                   | µg/L  | 5    | EPA 8260         | 23-Nov-21/R        | < 5   | < 5   | < 5   | < 5   |
| Bromomethane                                | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5 | < 0.5 | < 0.5 | < 0.5 |
| Carbon Tetrachloride                        | µg/L  | 0.2  | EPA 8260         | 23-Nov-21/R        | < 0.2 | < 0.2 | < 0.2 | < 0.2 |
| Chloroethane                                | µg/L  | 3    | EPA 8260         | 23-Nov-21/R        | < 3   | < 3   | < 3   | < 3   |
| Chloroform                                  | µg/L  | 1    | EPA 8260         | 23-Nov-21/R        | < 1   | < 1   | < 1   | < 1   |
| Chloromethane                               | µg/L  | 2    | EPA 8260         | 23-Nov-21/R        | < 2   | < 2   | < 2   | < 2   |
| Dibromochloromethane                        | µg/L  | 2    | EPA 8260         | 23-Nov-21/R        | < 2   | < 2   | < 2   | < 2   |
| Dibromoethane, 1,2-<br>(Ethylene Dibromide) | µg/L  | 0.2  | EPA 8260         | 23-Nov-21/R        | < 0.2 | < 0.2 | < 0.2 | < 0.2 |
| Dichlorobenzene, 1,2-                       | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5 | < 0.5 | < 0.5 | < 0.5 |
| Dichlorobenzene, 1,3-                       | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5 | < 0.5 | < 0.5 | < 0.5 |
| Dichlorobenzene, 1,4-                       | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5 | < 0.5 | < 0.5 | < 0.5 |
| Dichlorodifluoromethane                     | µg/L  | 2    | EPA 8260         | 23-Nov-21/R        | < 2   | < 2   | < 2   | < 2   |
| Dichloroethane, 1,1-                        | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5 | < 0.5 | < 0.5 | < 0.5 |
| Dichloroethane, 1,2-                        | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5 | < 0.5 | < 0.5 | < 0.5 |
| Dichloroethene, cis-1,2-                    | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5 | < 0.5 | < 0.5 | < 0.5 |
| Dichloroethene, trans-1,2-                  | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5 | < 0.5 | < 0.5 | < 0.5 |
| Dichloroethylene, 1,1-                      | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5 | < 0.5 | < 0.5 | < 0.5 |
| Dichloromethane<br>(Methylene Chloride)     | µg/L  | 5    | EPA 8260         | 23-Nov-21/R        | < 5   | < 5   | < 5   | < 5   |
| Dichloropropane, 1,2-                       | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5 | < 0.5 | < 0.5 | < 0.5 |
| Dichloropropene 1,3-<br>cis+trans           | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5 | < 0.5 | < 0.5 | < 0.5 |
| Dichloropropene, cis-1,3-                   | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5 | < 0.5 | < 0.5 | < 0.5 |

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Michelle Dubien  
 Lab Manager

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Rev. 1

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DATE RECEIVED: 12-Nov-21

JOB/PROJECT NO.: Halls Glen WDS

DATE REPORTED: 22-Apr-22

P.O. NUMBER: 12987-002

SAMPLE MATRIX: Groundwater

WATERWORKS NO.

|                       |             |             |              |              |
|-----------------------|-------------|-------------|--------------|--------------|
| <b>Client I.D.</b>    | GW_QAQC2    | MW11-I      | MW11-II      | GW_QAQC3     |
| <b>Sample I.D.</b>    | B21-37354-1 | B21-37354-9 | B21-37354-10 | B21-37354-11 |
| <b>Date Collected</b> | 11-Nov-21   | 11-Nov-21   | 11-Nov-21    | 11-Nov-21    |

| Parameter                         | Units | R.L. | Reference Method | Date/Site Analyzed |       |       |       |       |
|-----------------------------------|-------|------|------------------|--------------------|-------|-------|-------|-------|
|                                   |       |      |                  |                    |       |       |       |       |
| Dichloropropene, trans-1,3-       | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5 | < 0.5 | < 0.5 | < 0.5 |
| Dichloropropene, 1,1-             | µg/L  | 0.2  | EPA 8260         | 23-Nov-21/R        | < 0.2 | < 0.2 | < 0.2 | < 0.2 |
| Ethylbenzene                      | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5 | < 0.5 | < 0.5 | < 0.5 |
| Hexane                            | µg/L  | 5    | EPA 8260         | 23-Nov-21/R        | < 5   | < 5   | < 5   | < 5   |
| Methyl Ethyl Ketone               | µg/L  | 20   | EPA 8260         | 23-Nov-21/R        | < 20  | < 20  | < 20  | < 20  |
| Methyl Isobutyl Ketone            | µg/L  | 20   | EPA 8260         | 23-Nov-21/R        | < 20  | < 20  | < 20  | < 20  |
| Methyl-t-butyl Ether              | µg/L  | 2    | EPA 8260         | 23-Nov-21/R        | < 2   | < 2   | < 2   | < 2   |
| Monochlorobenzene (Chlorobenzene) | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5 | < 0.5 | < 0.5 | < 0.5 |
| Styrene                           | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5 | < 0.5 | < 0.5 | < 0.5 |
| Tetrachloroethane, 1,1,1,2-       | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5 | < 0.5 | < 0.5 | < 0.5 |
| Tetrachloroethane, 1,1,2,2-       | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5 | < 0.5 | < 0.5 | < 0.5 |
| Tetrachloroethylene               | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5 | < 0.5 | < 0.5 | < 0.5 |
| Toluene                           | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5 | < 0.5 | < 0.5 | < 0.5 |
| Trichloroethane, 1,1,1-           | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5 | < 0.5 | < 0.5 | < 0.5 |
| Trichloroethane, 1,1,2-           | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5 | < 0.5 | < 0.5 | < 0.5 |
| Trichloroethylene                 | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5 | < 0.5 | < 0.5 | < 0.5 |
| Trichlorofluoromethane            | µg/L  | 5    | EPA 8260         | 23-Nov-21/R        | < 5   | < 5   | < 5   | < 5   |
| Trimethylbenzene, 1,3,5-          | µg/L  | 0.1  | EPA 8260         | 23-Nov-21/R        | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| Vinyl Chloride                    | µg/L  | 0.2  | EPA 8260         | 23-Nov-21/R        | < 0.2 | < 0.2 | < 0.2 | < 0.2 |
| Xylene, m,p-                      | µg/L  | 1.0  | EPA 8260         | 23-Nov-21/R        | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| Xylene, m,p,o-                    | µg/L  | 1.1  | EPA 8260         | 23-Nov-21/R        | < 1.1 | < 1.1 | < 1.1 | < 1.1 |
| Xylene, o-                        | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5 | < 0.5 | < 0.5 | < 0.5 |



Michelle Dubien  
 Lab Manager

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 Peterborough ON K9H 1E5 Canada

**Attention:** Cameron MacDougall

**Caduceon Environmental Laboratories**

285 Dalton Ave  
 Kingston Ontario K7K 6Z1  
 Tel: 613-544-2001  
 Fax: 613-544-2770

DATE RECEIVED: 12-Nov-21

JOB/PROJECT NO.: Halls Glen WDS

DATE REPORTED: 22-Apr-22

P.O. NUMBER: 12987-002

SAMPLE MATRIX: Groundwater

WATERWORKS NO.

| Parameter                                   | Units | R.L. | Reference Method | Date/Site Analyzed | Client I.D. | MW5-I        | MW5-II       | MW7-I        | MW7-II       |
|---|-------|------|------------------|--------------------|-------------|--------------|--------------|--------------|--------------|
|   |       |      |                  |                    | Sample I.D. | B21-37354-14 | B21-37354-15 | B21-37354-16 | B21-37354-17 |
| Date Collected                              |       |      |                  |                    | 11-Nov-21   | 11-Nov-21    | 11-Nov-21    | 11-Nov-21    | 11-Nov-21    |
| Acetone                                     | µg/L  | 30   | EPA 8260         | 23-Nov-21/R        | < 30        | < 30         | < 30         | < 30         | < 30         |
| Benzene                                     | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Bromodichloromethane                        | µg/L  | 2    | EPA 8260         | 23-Nov-21/R        | < 2         | < 2          | < 2          | < 2          | < 2          |
| Bromoform                                   | µg/L  | 5    | EPA 8260         | 23-Nov-21/R        | < 5         | < 5          | < 5          | < 5          | < 5          |
| Bromomethane                                | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Carbon Tetrachloride                        | µg/L  | 0.2  | EPA 8260         | 23-Nov-21/R        | < 0.2       | < 0.2        | < 0.2        | < 0.2        | < 0.2        |
| Chloroethane                                | µg/L  | 3    | EPA 8260         | 23-Nov-21/R        | < 3         | < 3          | < 3          | < 3          | < 3          |
| Chloroform                                  | µg/L  | 1    | EPA 8260         | 23-Nov-21/R        | < 1         | < 1          | < 1          | < 1          | < 1          |
| Chloromethane                               | µg/L  | 2    | EPA 8260         | 23-Nov-21/R        | < 2         | < 2          | < 2          | < 2          | < 2          |
| Dibromochloromethane                        | µg/L  | 2    | EPA 8260         | 23-Nov-21/R        | < 2         | < 2          | < 2          | < 2          | < 2          |
| Dibromoethane, 1,2-<br>(Ethylene Dibromide) | µg/L  | 0.2  | EPA 8260         | 23-Nov-21/R        | < 0.2       | < 0.2        | < 0.2        | < 0.2        | < 0.2        |
| Dichlorobenzene, 1,2-                       | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Dichlorobenzene, 1,3-                       | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Dichlorobenzene, 1,4-                       | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Dichlorodifluoromethane                     | µg/L  | 2    | EPA 8260         | 23-Nov-21/R        | < 2         | < 2          | < 2          | < 2          | < 2          |
| Dichloroethane, 1,1-                        | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Dichloroethane, 1,2-                        | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Dichloroethene, cis-1,2-                    | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Dichloroethene, trans-1,2-                  | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Dichloroethylene, 1,1-                      | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Dichloromethane<br>(Methylene Chloride)     | µg/L  | 5    | EPA 8260         | 23-Nov-21/R        | < 5         | < 5          | < 5          | < 5          | < 5          |
| Dichloropropane, 1,2-                       | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Dichloropropene 1,3-<br>cis+trans           | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Dichloropropene, cis-1,3-                   | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |



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Site Analyzed=K-Kingston, W-Windsor, O-Ottawa, R-Richmond Hill, B-Barrie

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DATE REPORTED: 22-Apr-22

P.O. NUMBER: 12987-002

SAMPLE MATRIX: Groundwater

WATERWORKS NO.

| Parameter                         | Units | R.L. | Reference Method | Date/Site Analyzed | Client I.D. | MW5-I        | MW5-II       | MW7-I        | MW7-II       |
|-----------------------------------|-------|------|------------------|--------------------|-------------|--------------|--------------|--------------|--------------|
|                                   |       |      |                  |                    | Sample I.D. | B21-37354-14 | B21-37354-15 | B21-37354-16 | B21-37354-17 |
| Date Collected                    |       |      |                  |                    | 11-Nov-21   | 11-Nov-21    | 11-Nov-21    | 11-Nov-21    | 11-Nov-21    |
| Dichloropropene, trans-1,3-       | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Dichloropropene, 1,1-             | µg/L  | 0.2  | EPA 8260         | 23-Nov-21/R        | < 0.2       | < 0.2        | < 0.2        | < 0.2        | < 0.2        |
| Ethylbenzene                      | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Hexane                            | µg/L  | 5    | EPA 8260         | 23-Nov-21/R        | < 5         | < 5          | < 5          | < 5          | < 5          |
| Methyl Ethyl Ketone               | µg/L  | 20   | EPA 8260         | 23-Nov-21/R        | < 20        | < 20         | < 20         | < 20         | < 20         |
| Methyl Isobutyl Ketone            | µg/L  | 20   | EPA 8260         | 23-Nov-21/R        | < 20        | < 20         | < 20         | < 20         | < 20         |
| Methyl-t-butyl Ether              | µg/L  | 2    | EPA 8260         | 23-Nov-21/R        | < 2         | < 2          | < 2          | < 2          | < 2          |
| Monochlorobenzene (Chlorobenzene) | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | 0.6         | 0.8          | < 0.5        | < 0.5        | < 0.5        |
| Styrene                           | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Tetrachloroethane, 1,1,1,2-       | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Tetrachloroethane, 1,1,2,2-       | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Tetrachloroethylene               | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Toluene                           | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Trichloroethane, 1,1,1-           | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Trichloroethane, 1,1,2-           | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Trichloroethylene                 | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Trichlorofluoromethane            | µg/L  | 5    | EPA 8260         | 23-Nov-21/R        | < 5         | < 5          | < 5          | < 5          | < 5          |
| Trimethylbenzene, 1,3,5-          | µg/L  | 0.1  | EPA 8260         | 23-Nov-21/R        | < 0.1       | < 0.1        | < 0.1        | < 0.1        | < 0.1        |
| Vinyl Chloride                    | µg/L  | 0.2  | EPA 8260         | 23-Nov-21/R        | < 0.2       | < 0.2        | < 0.2        | < 0.2        | < 0.2        |
| Xylene, m,p-                      | µg/L  | 1.0  | EPA 8260         | 23-Nov-21/R        | < 1.0       | < 1.0        | < 1.0        | < 1.0        | < 1.0        |
| Xylene, m,p,o-                    | µg/L  | 1.1  | EPA 8260         | 23-Nov-21/R        | < 1.1       | < 1.1        | < 1.1        | < 1.1        | < 1.1        |
| Xylene, o-                        | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |



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SAMPLE MATRIX: Groundwater

WATERWORKS NO.

| Parameter                                   | Units | R.L. | Reference Method | Date/Site Analyzed | Client I.D. | MW6-I        | MW6-II       | MW3-I        | MW3-II       |
|---|-------|------|------------------|--------------------|-------------|--------------|--------------|--------------|--------------|
|   |       |      |                  |                    | Sample I.D. | B21-37354-19 | B21-37354-20 | B21-37354-21 | B21-37354-22 |
| Date Collected                              |       |      |                  |                    | 11-Nov-21   | 11-Nov-21    | 11-Nov-21    | 11-Nov-21    | 11-Nov-21    |
| Acetone                                     | µg/L  | 30   | EPA 8260         | 23-Nov-21/R        | < 30        | < 30         | < 30         | < 30         | < 30         |
| Benzene                                     | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Bromodichloromethane                        | µg/L  | 2    | EPA 8260         | 23-Nov-21/R        | < 2         | < 2          | < 2          | < 2          | < 2          |
| Bromoform                                   | µg/L  | 5    | EPA 8260         | 23-Nov-21/R        | < 5         | < 5          | < 5          | < 5          | < 5          |
| Bromomethane                                | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Carbon Tetrachloride                        | µg/L  | 0.2  | EPA 8260         | 23-Nov-21/R        | < 0.2       | < 0.2        | < 0.2        | < 0.2        | < 0.2        |
| Chloroethane                                | µg/L  | 3    | EPA 8260         | 23-Nov-21/R        | < 3         | < 3          | < 3          | < 3          | < 3          |
| Chloroform                                  | µg/L  | 1    | EPA 8260         | 23-Nov-21/R        | < 1         | < 1          | < 1          | < 1          | < 1          |
| Chloromethane                               | µg/L  | 2    | EPA 8260         | 23-Nov-21/R        | < 2         | < 2          | < 2          | < 2          | < 2          |
| Dibromochloromethane                        | µg/L  | 2    | EPA 8260         | 23-Nov-21/R        | < 2         | < 2          | < 2          | < 2          | < 2          |
| Dibromoethane, 1,2-<br>(Ethylene Dibromide) | µg/L  | 0.2  | EPA 8260         | 23-Nov-21/R        | < 0.2       | < 0.2        | < 0.2        | < 0.2        | < 0.2        |
| Dichlorobenzene, 1,2-                       | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Dichlorobenzene, 1,3-                       | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Dichlorobenzene, 1,4-                       | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Dichlorodifluoromethane                     | µg/L  | 2    | EPA 8260         | 23-Nov-21/R        | < 2         | < 2          | < 2          | < 2          | < 2          |
| Dichloroethane, 1,1-                        | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Dichloroethane, 1,2-                        | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Dichloroethene, cis-1,2-                    | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Dichloroethene, trans-1,2-                  | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Dichloroethylene, 1,1-                      | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Dichloromethane<br>(Methylene Chloride)     | µg/L  | 5    | EPA 8260         | 23-Nov-21/R        | < 5         | < 5          | < 5          | < 5          | < 5          |
| Dichloropropane, 1,2-                       | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Dichloropropene 1,3-<br>cis+trans           | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Dichloropropene, cis-1,3-                   | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |



R.L. = Reporting Limit

Test methods may be modified from specified reference method unless indicated by an \*

Site Analyzed=K-Kingston, W-Windsor, O-Ottawa, R-Richmond Hill, B-Barrie

Michelle Dubien  
 Lab Manager

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C.O.C.: G101044

REPORT No. B21-37354 (ii)

Rev. 1

**Report To:**

**Cambium Environmental**  
 194 Sophia St.,  
 Peterborough ON K9H 1E5 Canada

**Attention:** Cameron MacDougall

**Caduceon Environmental Laboratories**

285 Dalton Ave  
 Kingston Ontario K7K 6Z1  
 Tel: 613-544-2001  
 Fax: 613-544-2770

DATE RECEIVED: 12-Nov-21

JOB/PROJECT NO.: Halls Glen WDS

DATE REPORTED: 22-Apr-22

P.O. NUMBER: 12987-002

SAMPLE MATRIX: Groundwater

WATERWORKS NO.

| Parameter                         | Units | R.L. | Reference Method | Date/Site Analyzed | Client I.D. | MW6-I        | MW6-II       | MW3-I        | MW3-II       |
|-----------------------------------|-------|------|------------------|--------------------|-------------|--------------|--------------|--------------|--------------|
|                                   |       |      |                  |                    | Sample I.D. | B21-37354-19 | B21-37354-20 | B21-37354-21 | B21-37354-22 |
| Date Collected                    |       |      |                  |                    | 11-Nov-21   | 11-Nov-21    | 11-Nov-21    | 11-Nov-21    | 11-Nov-21    |
| Dichloropropene, trans-1,3-       | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Dichloropropene, 1,1-             | µg/L  | 0.2  | EPA 8260         | 23-Nov-21/R        | < 0.2       | < 0.2        | < 0.2        | < 0.2        | < 0.2        |
| Ethylbenzene                      | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Hexane                            | µg/L  | 5    | EPA 8260         | 23-Nov-21/R        | < 5         | < 5          | < 5          | < 5          | < 5          |
| Methyl Ethyl Ketone               | µg/L  | 20   | EPA 8260         | 23-Nov-21/R        | < 20        | < 20         | < 20         | < 20         | < 20         |
| Methyl Isobutyl Ketone            | µg/L  | 20   | EPA 8260         | 23-Nov-21/R        | < 20        | < 20         | < 20         | < 20         | < 20         |
| Methyl-t-butyl Ether              | µg/L  | 2    | EPA 8260         | 23-Nov-21/R        | < 2         | < 2          | < 2          | < 2          | < 2          |
| Monochlorobenzene (Chlorobenzene) | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Styrene                           | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Tetrachloroethane, 1,1,1,2-       | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Tetrachloroethane, 1,1,2,2-       | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Tetrachloroethylene               | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Toluene                           | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Trichloroethane, 1,1,1-           | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Trichloroethane, 1,1,2-           | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Trichloroethylene                 | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Trichlorofluoromethane            | µg/L  | 5    | EPA 8260         | 23-Nov-21/R        | < 5         | < 5          | < 5          | < 5          | < 5          |
| Trimethylbenzene, 1,3,5-          | µg/L  | 0.1  | EPA 8260         | 23-Nov-21/R        | < 0.1       | < 0.1        | < 0.1        | < 0.1        | < 0.1        |
| Vinyl Chloride                    | µg/L  | 0.2  | EPA 8260         | 23-Nov-21/R        | < 0.2       | < 0.2        | < 0.2        | < 0.2        | < 0.2        |
| Xylene, m,p-                      | µg/L  | 1.0  | EPA 8260         | 23-Nov-21/R        | < 1.0       | < 1.0        | < 1.0        | < 1.0        | < 1.0        |
| Xylene, m,p,o-                    | µg/L  | 1.1  | EPA 8260         | 23-Nov-21/R        | < 1.1       | < 1.1        | < 1.1        | < 1.1        | < 1.1        |
| Xylene, o-                        | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |



R.L. = Reporting Limit

Test methods may be modified from specified reference method unless indicated by an \*

Site Analyzed=K-Kingston, W-Windsor, O-Ottawa, R-Richmond Hill, B-Barrie

Michelle Dubien  
 Lab Manager

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C.O.C.: G101044

REPORT No. B21-37354 (ii)

Rev. 1

**Report To:**

**Cambium Environmental**  
 194 Sophia St.,  
 Peterborough ON K9H 1E5 Canada

**Attention:** Cameron MacDougall

**Caduceon Environmental Laboratories**

285 Dalton Ave  
 Kingston Ontario K7K 6Z1  
 Tel: 613-544-2001  
 Fax: 613-544-2770

DATE RECEIVED: 12-Nov-21

JOB/PROJECT NO.: Halls Glen WDS

DATE REPORTED: 22-Apr-22

P.O. NUMBER: 12987-002

SAMPLE MATRIX: Groundwater

WATERWORKS NO.

| Parameter                                   | Units | R.L. | Reference Method | Date/Site Analyzed | Client I.D. | MW4-I        | MW4-II       | R-4          | R-1          |
|---|-------|------|------------------|--------------------|-------------|--------------|--------------|--------------|--------------|
|   |       |      |                  |                    | Sample I.D. | B21-37354-23 | B21-37354-24 | B21-37354-28 | B21-37354-29 |
| Date Collected                              |       |      |                  |                    | 11-Nov-21   | 11-Nov-21    | 11-Nov-21    | 11-Nov-21    | 11-Nov-21    |
| Acetone                                     | µg/L  | 30   | EPA 8260         | 23-Nov-21/R        | < 30        | < 30         | < 30         | < 30         | < 30         |
| Benzene                                     | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Bromodichloromethane                        | µg/L  | 2    | EPA 8260         | 23-Nov-21/R        | < 2         | < 2          | < 2          | < 2          | < 2          |
| Bromoform                                   | µg/L  | 5    | EPA 8260         | 23-Nov-21/R        | < 5         | < 5          | < 5          | < 5          | < 5          |
| Bromomethane                                | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Carbon Tetrachloride                        | µg/L  | 0.2  | EPA 8260         | 23-Nov-21/R        | < 0.2       | < 0.2        | < 0.2        | < 0.2        | < 0.2        |
| Chloroethane                                | µg/L  | 3    | EPA 8260         | 23-Nov-21/R        | < 3         | < 3          | < 3          | < 3          | < 3          |
| Chloroform                                  | µg/L  | 1    | EPA 8260         | 23-Nov-21/R        | < 1         | < 1          | < 1          | < 1          | < 1          |
| Chloromethane                               | µg/L  | 2    | EPA 8260         | 23-Nov-21/R        | < 2         | < 2          | < 2          | < 2          | < 2          |
| Dibromochloromethane                        | µg/L  | 2    | EPA 8260         | 23-Nov-21/R        | < 2         | < 2          | < 2          | < 2          | < 2          |
| Dibromoethane, 1,2-<br>(Ethylene Dibromide) | µg/L  | 0.2  | EPA 8260         | 23-Nov-21/R        | < 0.2       | < 0.2        | < 0.2        | < 0.2        | < 0.2        |
| Dichlorobenzene, 1,2-                       | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Dichlorobenzene, 1,3-                       | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Dichlorobenzene, 1,4-                       | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Dichlorodifluoromethane                     | µg/L  | 2    | EPA 8260         | 23-Nov-21/R        | < 2         | < 2          | < 2          | < 2          | < 2          |
| Dichloroethane, 1,1-                        | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Dichloroethane, 1,2-                        | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Dichloroethene, cis-1,2-                    | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Dichloroethene, trans-1,2-                  | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Dichloroethylene, 1,1-                      | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Dichloromethane<br>(Methylene Chloride)     | µg/L  | 5    | EPA 8260         | 23-Nov-21/R        | < 5         | < 5          | < 5          | < 5          | < 5          |
| Dichloropropane, 1,2-                       | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Dichloropropene 1,3-<br>cis+trans           | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Dichloropropene, cis-1,3-                   | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |



R.L. = Reporting Limit

Test methods may be modified from specified reference method unless indicated by an \*

Site Analyzed=K-Kingston, W-Windsor, O-Ottawa, R-Richmond Hill, B-Barrie

Michelle Dubien  
 Lab Manager

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C.O.C.: G101044

REPORT No. B21-37354 (ii)

Rev. 1

**Report To:**

**Cambium Environmental**  
 194 Sophia St.,  
 Peterborough ON K9H 1E5 Canada

**Attention:** Cameron MacDougall

**Caduceon Environmental Laboratories**

285 Dalton Ave  
 Kingston Ontario K7K 6Z1  
 Tel: 613-544-2001  
 Fax: 613-544-2770

DATE RECEIVED: 12-Nov-21

JOB/PROJECT NO.: Halls Glen WDS

DATE REPORTED: 22-Apr-22

P.O. NUMBER: 12987-002

SAMPLE MATRIX: Groundwater

WATERWORKS NO.

| Parameter                         | Units | R.L. | Reference Method | Date/Site Analyzed | Client I.D. | MW4-I        | MW4-II       | R-4          | R-1          |
|-----------------------------------|-------|------|------------------|--------------------|-------------|--------------|--------------|--------------|--------------|
|                                   |       |      |                  |                    | Sample I.D. | B21-37354-23 | B21-37354-24 | B21-37354-28 | B21-37354-29 |
| Date Collected                    |       |      |                  |                    | 11-Nov-21   | 11-Nov-21    | 11-Nov-21    | 11-Nov-21    | 11-Nov-21    |
| Dichloropropene, trans-1,3-       | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Dichloropropene, 1,1-             | µg/L  | 0.2  | EPA 8260         | 23-Nov-21/R        | < 0.2       | < 0.2        | < 0.2        | < 0.2        | < 0.2        |
| Ethylbenzene                      | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Hexane                            | µg/L  | 5    | EPA 8260         | 23-Nov-21/R        | < 5         | < 5          | < 5          | < 5          | < 5          |
| Methyl Ethyl Ketone               | µg/L  | 20   | EPA 8260         | 23-Nov-21/R        | < 20        | < 20         | < 20         | < 20         | < 20         |
| Methyl Isobutyl Ketone            | µg/L  | 20   | EPA 8260         | 23-Nov-21/R        | < 20        | < 20         | < 20         | < 20         | < 20         |
| Methyl-t-butyl Ether              | µg/L  | 2    | EPA 8260         | 23-Nov-21/R        | < 2         | < 2          | < 2          | < 2          | < 2          |
| Monochlorobenzene (Chlorobenzene) | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Styrene                           | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Tetrachloroethane, 1,1,1,2-       | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Tetrachloroethane, 1,1,2,2-       | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Tetrachloroethylene               | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Toluene                           | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Trichloroethane, 1,1,1-           | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Trichloroethane, 1,1,2-           | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Trichloroethylene                 | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Trichlorofluoromethane            | µg/L  | 5    | EPA 8260         | 23-Nov-21/R        | < 5         | < 5          | < 5          | < 5          | < 5          |
| Trimethylbenzene, 1,3,5-          | µg/L  | 0.1  | EPA 8260         | 23-Nov-21/R        | < 0.1       | < 0.1        | < 0.1        | < 0.1        | < 0.1        |
| Vinyl Chloride                    | µg/L  | 0.2  | EPA 8260         | 23-Nov-21/R        | < 0.2       | < 0.2        | < 0.2        | < 0.2        | < 0.2        |
| Xylene, m,p-                      | µg/L  | 1.0  | EPA 8260         | 23-Nov-21/R        | < 1.0       | < 1.0        | < 1.0        | < 1.0        | < 1.0        |
| Xylene, m,p,o-                    | µg/L  | 1.1  | EPA 8260         | 23-Nov-21/R        | < 1.1       | < 1.1        | < 1.1        | < 1.1        | < 1.1        |
| Xylene, o-                        | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |



Michelle Dubien  
 Lab Manager

R.L. = Reporting Limit

Test methods may be modified from specified reference method unless indicated by an \*

Site Analyzed=K-Kingston, W-Windsor, O-Ottawa, R-Richmond Hill, B-Barrie

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C.O.C.: G101044

REPORT No. B21-37354 (ii)

**Report To:**

**Cambium Environmental**  
 194 Sophia St.,  
 Peterborough ON K9H 1E5 Canada

**Attention:** Cameron MacDougall

**Caduceon Environmental Laboratories**

285 Dalton Ave  
 Kingston Ontario K7K 6Z1  
 Tel: 613-544-2001  
 Fax: 613-544-2770

DATE RECEIVED: 12-Nov-21

JOB/PROJECT NO.: Halls Glen WDS

DATE REPORTED: 05-Jan-22

P.O. NUMBER: 12987-002

SAMPLE MATRIX: Groundwater

WATERWORKS NO.

|                       |             |             |              |              |
|-----------------------|-------------|-------------|--------------|--------------|
| <b>Client I.D.</b>    | GW_QAQC2    | MW11-I      | MW11-II      | GW_QAQC3     |
| <b>Sample I.D.</b>    | B21-37354-1 | B21-37354-9 | B21-37354-10 | B21-37354-11 |
| <b>Date Collected</b> | 11-Nov-21   | 11-Nov-21   | 11-Nov-21    | 11-Nov-21    |

| Parameter                                   | Units | R.L. | Reference Method | Date/Site Analyzed |       |       |       |       |
|---|-------|------|------------------|--------------------|-------|-------|-------|-------|
| Acetone                                     | µg/L  | 30   | EPA 8260         | 23-Nov-21/R        | < 30  | < 30  | < 30  | < 30  |
| Benzene                                     | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5 | < 0.5 | < 0.5 | < 0.5 |
| Bromodichloromethane                        | µg/L  | 2    | EPA 8260         | 23-Nov-21/R        | < 2   | < 2   | < 2   | < 2   |
| Bromoform                                   | µg/L  | 5    | EPA 8260         | 23-Nov-21/R        | < 5   | < 5   | < 5   | < 5   |
| Bromomethane                                | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5 | < 0.5 | < 0.5 | < 0.5 |
| Carbon Tetrachloride                        | µg/L  | 0.2  | EPA 8260         | 23-Nov-21/R        | < 0.2 | < 0.2 | < 0.2 | < 0.2 |
| Chloroethane                                | µg/L  | 3    | EPA 8260         | 23-Nov-21/R        | < 3   | < 3   | < 3   | < 3   |
| Chloroform                                  | µg/L  | 1    | EPA 8260         | 23-Nov-21/R        | < 1   | < 1   | < 1   | < 1   |
| Chloromethane                               | µg/L  | 2    | EPA 8260         | 23-Nov-21/R        | < 2   | < 2   | < 2   | < 2   |
| Dibromochloromethane                        | µg/L  | 2    | EPA 8260         | 23-Nov-21/R        | < 2   | < 2   | < 2   | < 2   |
| Dibromoethane, 1,2-<br>(Ethylene Dibromide) | µg/L  | 0.2  | EPA 8260         | 23-Nov-21/R        | < 0.2 | < 0.2 | < 0.2 | < 0.2 |
| Dichlorobenzene, 1,2-                       | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5 | < 0.5 | < 0.5 | < 0.5 |
| Dichlorobenzene, 1,3-                       | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5 | < 0.5 | < 0.5 | < 0.5 |
| Dichlorobenzene, 1,4-                       | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5 | < 0.5 | < 0.5 | < 0.5 |
| Dichlorodifluoromethane                     | µg/L  | 2    | EPA 8260         | 23-Nov-21/R        | < 2   | < 2   | < 2   | < 2   |
| Dichloroethane, 1,1-                        | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5 | < 0.5 | < 0.5 | < 0.5 |
| Dichloroethane, 1,2-                        | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5 | < 0.5 | < 0.5 | < 0.5 |
| Dichloroethene, cis-1,2-                    | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5 | < 0.5 | < 0.5 | < 0.5 |
| Dichloroethene, trans-1,2-                  | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5 | < 0.5 | < 0.5 | < 0.5 |
| Dichloroethylene, 1,1-                      | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5 | < 0.5 | < 0.5 | < 0.5 |
| Dichloromethane<br>(Methylene Chloride)     | µg/L  | 5    | EPA 8260         | 23-Nov-21/R        | < 5   | < 5   | < 5   | < 5   |
| Dichloropropane, 1,2-                       | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5 | < 0.5 | < 0.5 | < 0.5 |
| Dichloropropene 1,3-<br>cis+trans           | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5 | < 0.5 | < 0.5 | < 0.5 |
| Dichloropropene, cis-1,3-                   | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5 | < 0.5 | < 0.5 | < 0.5 |



R.L. = Reporting Limit

Test methods may be modified from specified reference method unless indicated by an \*

Site Analyzed=K-Kingston, W-Windsor, O-Ottawa, R-Richmond Hill, B-Barrie

Michelle Dubien  
 Lab Manager

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C.O.C.: G101044

REPORT No. B21-37354 (ii)

**Report To:**

**Cambium Environmental**  
 194 Sophia St.,  
 Peterborough ON K9H 1E5 Canada

**Attention:** Cameron MacDougall

**Caduceon Environmental Laboratories**

285 Dalton Ave  
 Kingston Ontario K7K 6Z1  
 Tel: 613-544-2001  
 Fax: 613-544-2770

DATE RECEIVED: 12-Nov-21

JOB/PROJECT NO.: Halls Glen WDS

DATE REPORTED: 05-Jan-22

P.O. NUMBER: 12987-002

SAMPLE MATRIX: Groundwater

WATERWORKS NO.

|                       |             |             |              |              |
|-----------------------|-------------|-------------|--------------|--------------|
| <b>Client I.D.</b>    | GW_QAQC2    | MW11-I      | MW11-II      | GW_QAQC3     |
| <b>Sample I.D.</b>    | B21-37354-1 | B21-37354-9 | B21-37354-10 | B21-37354-11 |
| <b>Date Collected</b> | 11-Nov-21   | 11-Nov-21   | 11-Nov-21    | 11-Nov-21    |

| Parameter                         | Units | R.L. | Reference Method | Date/Site Analyzed |       |       |       |       |
|-----------------------------------|-------|------|------------------|--------------------|-------|-------|-------|-------|
| Dichloropropene, trans-1,3-       | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5 | < 0.5 | < 0.5 | < 0.5 |
| Dichloropropene, 1,1-             | µg/L  | 0.2  | EPA 8260         | 23-Nov-21/R        | < 0.2 | < 0.2 | < 0.2 | < 0.2 |
| Ethylbenzene                      | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5 | < 0.5 | < 0.5 | < 0.5 |
| Hexane                            | µg/L  | 5    | EPA 8260         | 23-Nov-21/R        | < 5   | < 5   | < 5   | < 5   |
| Methyl Ethyl Ketone               | µg/L  | 20   | EPA 8260         | 23-Nov-21/R        | < 20  | < 20  | < 20  | < 20  |
| Methyl Isobutyl Ketone            | µg/L  | 20   | EPA 8260         | 23-Nov-21/R        | < 20  | < 20  | < 20  | < 20  |
| Methyl-t-butyl Ether              | µg/L  | 2    | EPA 8260         | 23-Nov-21/R        | < 2   | < 2   | < 2   | < 2   |
| Monochlorobenzene (Chlorobenzene) | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5 | < 0.5 | < 0.5 | < 0.5 |
| Styrene                           | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5 | < 0.5 | < 0.5 | < 0.5 |
| Tetrachloroethane, 1,1,1,2-       | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5 | < 0.5 | < 0.5 | < 0.5 |
| Tetrachloroethane, 1,1,2,2-       | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5 | < 0.5 | < 0.5 | < 0.5 |
| Tetrachloroethylene               | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5 | < 0.5 | < 0.5 | < 0.5 |
| Toluene                           | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5 | < 0.5 | < 0.5 | < 0.5 |
| Trichloroethane, 1,1,1-           | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5 | < 0.5 | < 0.5 | < 0.5 |
| Trichloroethane, 1,1,2-           | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5 | < 0.5 | < 0.5 | < 0.5 |
| Trichloroethylene                 | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5 | < 0.5 | < 0.5 | < 0.5 |
| Trichlorofluoromethane            | µg/L  | 5    | EPA 8260         | 23-Nov-21/R        | < 5   | < 5   | < 5   | < 5   |
| Trimethylbenzene, 1,3,5-          | µg/L  | 0.1  | EPA 8260         | 23-Nov-21/R        | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| Vinyl Chloride                    | µg/L  | 0.2  | EPA 8260         | 23-Nov-21/R        | < 0.2 | < 0.2 | < 0.2 | < 0.2 |
| Xylene, m,p-                      | µg/L  | 1.0  | EPA 8260         | 23-Nov-21/R        | < 1.0 | < 1.0 | < 1.0 | < 1.0 |
| Xylene, m,p,o-                    | µg/L  | 1.1  | EPA 8260         | 23-Nov-21/R        | < 1.1 | < 1.1 | < 1.1 | < 1.1 |
| Xylene, o-                        | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5 | < 0.5 | < 0.5 | < 0.5 |



Michelle Dubien  
 Lab Manager

R.L. = Reporting Limit

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C.O.C.: G101044

REPORT No. B21-37354 (ii)

**Report To:**

**Cambium Environmental**  
 194 Sophia St.,  
 Peterborough ON K9H 1E5 Canada

**Attention:** Cameron MacDougall

**Caduceon Environmental Laboratories**

285 Dalton Ave  
 Kingston Ontario K7K 6Z1

Tel: 613-544-2001

Fax: 613-544-2770

DATE RECEIVED: 12-Nov-21

JOB/PROJECT NO.: Halls Glen WDS

DATE REPORTED: 05-Jan-22

P.O. NUMBER: 12987-002

SAMPLE MATRIX: Groundwater

WATERWORKS NO.

| Parameter                                   | Units | R.L. | Reference Method | Date/Site Analyzed | Client I.D. | MW5-I        | MW5-II       | MW7-I        | MW7-II       |
|---|-------|------|------------------|--------------------|-------------|--------------|--------------|--------------|--------------|
|   |       |      |                  |                    | Sample I.D. | B21-37354-14 | B21-37354-15 | B21-37354-16 | B21-37354-17 |
| Date Collected                              |       |      |                  |                    | 11-Nov-21   | 11-Nov-21    | 11-Nov-21    | 11-Nov-21    | 11-Nov-21    |
| Acetone                                     | µg/L  | 30   | EPA 8260         | 23-Nov-21/R        | < 30        | < 30         | < 30         | < 30         | < 30         |
| Benzene                                     | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Bromodichloromethane                        | µg/L  | 2    | EPA 8260         | 23-Nov-21/R        | < 2         | < 2          | < 2          | < 2          | < 2          |
| Bromoform                                   | µg/L  | 5    | EPA 8260         | 23-Nov-21/R        | < 5         | < 5          | < 5          | < 5          | < 5          |
| Bromomethane                                | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Carbon Tetrachloride                        | µg/L  | 0.2  | EPA 8260         | 23-Nov-21/R        | < 0.2       | < 0.2        | < 0.2        | < 0.2        | < 0.2        |
| Chloroethane                                | µg/L  | 3    | EPA 8260         | 23-Nov-21/R        | < 3         | < 3          | < 3          | < 3          | < 3          |
| Chloroform                                  | µg/L  | 1    | EPA 8260         | 23-Nov-21/R        | < 1         | < 1          | < 1          | < 1          | < 1          |
| Chloromethane                               | µg/L  | 2    | EPA 8260         | 23-Nov-21/R        | < 2         | < 2          | < 2          | < 2          | < 2          |
| Dibromochloromethane                        | µg/L  | 2    | EPA 8260         | 23-Nov-21/R        | < 2         | < 2          | < 2          | < 2          | < 2          |
| Dibromoethane, 1,2-<br>(Ethylene Dibromide) | µg/L  | 0.2  | EPA 8260         | 23-Nov-21/R        | < 0.2       | < 0.2        | < 0.2        | < 0.2        | < 0.2        |
| Dichlorobenzene, 1,2-                       | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Dichlorobenzene, 1,3-                       | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Dichlorobenzene, 1,4-                       | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Dichlorodifluoromethane                     | µg/L  | 2    | EPA 8260         | 23-Nov-21/R        | < 2         | < 2          | < 2          | < 2          | < 2          |
| Dichloroethane, 1,1-                        | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Dichloroethane, 1,2-                        | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Dichloroethene, cis-1,2-                    | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Dichloroethene, trans-1,2-                  | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Dichloroethylene, 1,1-                      | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Dichloromethane<br>(Methylene Chloride)     | µg/L  | 5    | EPA 8260         | 23-Nov-21/R        | < 5         | < 5          | < 5          | < 5          | < 5          |
| Dichloropropane, 1,2-                       | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Dichloropropene 1,3-<br>cis+trans           | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Dichloropropene, cis-1,3-                   | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |



R.L. = Reporting Limit

Test methods may be modified from specified reference method unless indicated by an \*

Site Analyzed=K-Kingston, W-Windsor, O-Ottawa, R-Richmond Hill, B-Barrie

Michelle Dubien  
 Lab Manager

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C.O.C.: G101044

REPORT No. B21-37354 (ii)

**Report To:**

**Cambium Environmental**  
 194 Sophia St.,  
 Peterborough ON K9H 1E5 Canada

**Attention:** Cameron MacDougall

**Caduceon Environmental Laboratories**

285 Dalton Ave  
 Kingston Ontario K7K 6Z1  
 Tel: 613-544-2001  
 Fax: 613-544-2770

DATE RECEIVED: 12-Nov-21

JOB/PROJECT NO.: Halls Glen WDS

DATE REPORTED: 05-Jan-22

P.O. NUMBER: 12987-002

SAMPLE MATRIX: Groundwater

WATERWORKS NO.

| Parameter                         | Units | R.L. | Reference Method | Date/Site Analyzed | Client I.D. | MW5-I        | MW5-II       | MW7-I        | MW7-II       |
|-----------------------------------|-------|------|------------------|--------------------|-------------|--------------|--------------|--------------|--------------|
|                                   |       |      |                  |                    | Sample I.D. | B21-37354-14 | B21-37354-15 | B21-37354-16 | B21-37354-17 |
| Date Collected                    |       |      |                  |                    | 11-Nov-21   | 11-Nov-21    | 11-Nov-21    | 11-Nov-21    | 11-Nov-21    |
| Dichloropropene, trans-1,3-       | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Dichloropropene, 1,1-             | µg/L  | 0.2  | EPA 8260         | 23-Nov-21/R        | < 0.2       | < 0.2        | < 0.2        | < 0.2        | < 0.2        |
| Ethylbenzene                      | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Hexane                            | µg/L  | 5    | EPA 8260         | 23-Nov-21/R        | < 5         | < 5          | < 5          | < 5          | < 5          |
| Methyl Ethyl Ketone               | µg/L  | 20   | EPA 8260         | 23-Nov-21/R        | < 20        | < 20         | < 20         | < 20         | < 20         |
| Methyl Isobutyl Ketone            | µg/L  | 20   | EPA 8260         | 23-Nov-21/R        | < 20        | < 20         | < 20         | < 20         | < 20         |
| Methyl-t-butyl Ether              | µg/L  | 2    | EPA 8260         | 23-Nov-21/R        | < 2         | < 2          | < 2          | < 2          | < 2          |
| Monochlorobenzene (Chlorobenzene) | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | 0.6         | 0.8          | < 0.5        | < 0.5        | < 0.5        |
| Styrene                           | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Tetrachloroethane, 1,1,1,2-       | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Tetrachloroethane, 1,1,2,2-       | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Tetrachloroethylene               | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Toluene                           | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Trichloroethane, 1,1,1-           | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Trichloroethane, 1,1,2-           | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Trichloroethylene                 | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Trichlorofluoromethane            | µg/L  | 5    | EPA 8260         | 23-Nov-21/R        | < 5         | < 5          | < 5          | < 5          | < 5          |
| Trimethylbenzene, 1,3,5-          | µg/L  | 0.1  | EPA 8260         | 23-Nov-21/R        | < 0.1       | < 0.1        | < 0.1        | < 0.1        | < 0.1        |
| Vinyl Chloride                    | µg/L  | 0.2  | EPA 8260         | 23-Nov-21/R        | < 0.2       | < 0.2        | < 0.2        | < 0.2        | < 0.2        |
| Xylene, m,p-                      | µg/L  | 1.0  | EPA 8260         | 23-Nov-21/R        | < 1.0       | < 1.0        | < 1.0        | < 1.0        | < 1.0        |
| Xylene, m,p,o-                    | µg/L  | 1.1  | EPA 8260         | 23-Nov-21/R        | < 1.1       | < 1.1        | < 1.1        | < 1.1        | < 1.1        |
| Xylene, o-                        | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |



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Michelle Dubien  
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 Peterborough ON K9H 1E5 Canada

**Attention:** Cameron MacDougall

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285 Dalton Ave  
 Kingston Ontario K7K 6Z1

Tel: 613-544-2001

Fax: 613-544-2770

DATE RECEIVED: 12-Nov-21

JOB/PROJECT NO.: Halls Glen WDS

DATE REPORTED: 05-Jan-22

P.O. NUMBER: 12987-002

SAMPLE MATRIX: Groundwater

WATERWORKS NO.

| Parameter                                   | Units | R.L. | Reference Method | Date/Site Analyzed | Client I.D. | MW6-I        | MW6-II       | MW3-I        | MW3-II       |
|---|-------|------|------------------|--------------------|-------------|--------------|--------------|--------------|--------------|
|   |       |      |                  |                    | Sample I.D. | B21-37354-19 | B21-37354-20 | B21-37354-21 | B21-37354-22 |
| Date Collected                              |       |      |                  |                    | 11-Nov-21   | 11-Nov-21    | 11-Nov-21    | 11-Nov-21    | 11-Nov-21    |
| Acetone                                     | µg/L  | 30   | EPA 8260         | 23-Nov-21/R        | < 30        | < 30         | < 30         | < 30         | < 30         |
| Benzene                                     | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Bromodichloromethane                        | µg/L  | 2    | EPA 8260         | 23-Nov-21/R        | < 2         | < 2          | < 2          | < 2          | < 2          |
| Bromoform                                   | µg/L  | 5    | EPA 8260         | 23-Nov-21/R        | < 5         | < 5          | < 5          | < 5          | < 5          |
| Bromomethane                                | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Carbon Tetrachloride                        | µg/L  | 0.2  | EPA 8260         | 23-Nov-21/R        | < 0.2       | < 0.2        | < 0.2        | < 0.2        | < 0.2        |
| Chloroethane                                | µg/L  | 3    | EPA 8260         | 23-Nov-21/R        | < 3         | < 3          | < 3          | < 3          | < 3          |
| Chloroform                                  | µg/L  | 1    | EPA 8260         | 23-Nov-21/R        | < 1         | < 1          | < 1          | < 1          | < 1          |
| Chloromethane                               | µg/L  | 2    | EPA 8260         | 23-Nov-21/R        | < 2         | < 2          | < 2          | < 2          | < 2          |
| Dibromochloromethane                        | µg/L  | 2    | EPA 8260         | 23-Nov-21/R        | < 2         | < 2          | < 2          | < 2          | < 2          |
| Dibromoethane, 1,2-<br>(Ethylene Dibromide) | µg/L  | 0.2  | EPA 8260         | 23-Nov-21/R        | < 0.2       | < 0.2        | < 0.2        | < 0.2        | < 0.2        |
| Dichlorobenzene, 1,2-                       | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Dichlorobenzene, 1,3-                       | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Dichlorobenzene, 1,4-                       | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Dichlorodifluoromethane                     | µg/L  | 2    | EPA 8260         | 23-Nov-21/R        | < 2         | < 2          | < 2          | < 2          | < 2          |
| Dichloroethane, 1,1-                        | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Dichloroethane, 1,2-                        | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Dichloroethene, cis-1,2-                    | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Dichloroethene, trans-1,2-                  | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Dichloroethylene, 1,1-                      | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Dichloromethane<br>(Methylene Chloride)     | µg/L  | 5    | EPA 8260         | 23-Nov-21/R        | < 5         | < 5          | < 5          | < 5          | < 5          |
| Dichloropropane, 1,2-                       | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Dichloropropene 1,3-<br>cis+trans           | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Dichloropropene, cis-1,3-                   | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |



R.L. = Reporting Limit

Test methods may be modified from specified reference method unless indicated by an \*

Site Analyzed=K-Kingston, W-Windsor, O-Ottawa, R-Richmond Hill, B-Barrie

Michelle Dubien  
 Lab Manager

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C.O.C.: G101044

REPORT No. B21-37354 (ii)

**Report To:**

**Cambium Environmental**  
 194 Sophia St.,  
 Peterborough ON K9H 1E5 Canada

**Attention:** Cameron MacDougall

**Caduceon Environmental Laboratories**

285 Dalton Ave  
 Kingston Ontario K7K 6Z1

Tel: 613-544-2001

Fax: 613-544-2770

DATE RECEIVED: 12-Nov-21

JOB/PROJECT NO.: Halls Glen WDS

DATE REPORTED: 05-Jan-22

P.O. NUMBER: 12987-002

SAMPLE MATRIX: Groundwater

WATERWORKS NO.

| Parameter                         | Units | R.L. | Reference Method | Date/Site Analyzed | Client I.D. | MW6-I        | MW6-II       | MW3-I        | MW3-II       |
|-----------------------------------|-------|------|------------------|--------------------|-------------|--------------|--------------|--------------|--------------|
|                                   |       |      |                  |                    | Sample I.D. | B21-37354-19 | B21-37354-20 | B21-37354-21 | B21-37354-22 |
| Date Collected                    |       |      |                  |                    | 11-Nov-21   | 11-Nov-21    | 11-Nov-21    | 11-Nov-21    | 11-Nov-21    |
| Dichloropropene, trans-1,3-       | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Dichloropropene, 1,1-             | µg/L  | 0.2  | EPA 8260         | 23-Nov-21/R        | < 0.2       | < 0.2        | < 0.2        | < 0.2        | < 0.2        |
| Ethylbenzene                      | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Hexane                            | µg/L  | 5    | EPA 8260         | 23-Nov-21/R        | < 5         | < 5          | < 5          | < 5          | < 5          |
| Methyl Ethyl Ketone               | µg/L  | 20   | EPA 8260         | 23-Nov-21/R        | < 20        | < 20         | < 20         | < 20         | < 20         |
| Methyl Isobutyl Ketone            | µg/L  | 20   | EPA 8260         | 23-Nov-21/R        | < 20        | < 20         | < 20         | < 20         | < 20         |
| Methyl-t-butyl Ether              | µg/L  | 2    | EPA 8260         | 23-Nov-21/R        | < 2         | < 2          | < 2          | < 2          | < 2          |
| Monochlorobenzene (Chlorobenzene) | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Styrene                           | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Tetrachloroethane, 1,1,1,2-       | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Tetrachloroethane, 1,1,2,2-       | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Tetrachloroethylene               | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Toluene                           | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Trichloroethane, 1,1,1-           | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Trichloroethane, 1,1,2-           | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Trichloroethylene                 | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Trichlorofluoromethane            | µg/L  | 5    | EPA 8260         | 23-Nov-21/R        | < 5         | < 5          | < 5          | < 5          | < 5          |
| Trimethylbenzene, 1,3,5-          | µg/L  | 0.1  | EPA 8260         | 23-Nov-21/R        | < 0.1       | < 0.1        | < 0.1        | < 0.1        | < 0.1        |
| Vinyl Chloride                    | µg/L  | 0.2  | EPA 8260         | 23-Nov-21/R        | < 0.2       | < 0.2        | < 0.2        | < 0.2        | < 0.2        |
| Xylene, m,p-                      | µg/L  | 1.0  | EPA 8260         | 23-Nov-21/R        | < 1.0       | < 1.0        | < 1.0        | < 1.0        | < 1.0        |
| Xylene, m,p,o-                    | µg/L  | 1.1  | EPA 8260         | 23-Nov-21/R        | < 1.1       | < 1.1        | < 1.1        | < 1.1        | < 1.1        |
| Xylene, o-                        | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |



R.L. = Reporting Limit

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Michelle Dubien  
 Lab Manager

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C.O.C.: G101044

REPORT No. B21-37354 (ii)

**Report To:**

**Cambium Environmental**  
 194 Sophia St.,  
 Peterborough ON K9H 1E5 Canada

**Attention:** Cameron MacDougall

**Caduceon Environmental Laboratories**

285 Dalton Ave  
 Kingston Ontario K7K 6Z1  
 Tel: 613-544-2001  
 Fax: 613-544-2770

DATE RECEIVED: 12-Nov-21

JOB/PROJECT NO.: Halls Glen WDS

DATE REPORTED: 05-Jan-22

P.O. NUMBER: 12987-002

SAMPLE MATRIX: Groundwater

WATERWORKS NO.

| Parameter                                   | Units | R.L. | Reference Method | Date/Site Analyzed | Client I.D. | MW4-I        | MW4-II       | R-4          | R-1          |
|---|-------|------|------------------|--------------------|-------------|--------------|--------------|--------------|--------------|
|   |       |      |                  |                    | Sample I.D. | B21-37354-23 | B21-37354-24 | B21-37354-28 | B21-37354-29 |
| Date Collected                              |       |      |                  |                    | 11-Nov-21   | 11-Nov-21    | 11-Nov-21    | 11-Nov-21    | 11-Nov-21    |
| Acetone                                     | µg/L  | 30   | EPA 8260         | 23-Nov-21/R        | < 30        | < 30         | < 30         | < 30         | < 30         |
| Benzene                                     | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Bromodichloromethane                        | µg/L  | 2    | EPA 8260         | 23-Nov-21/R        | < 2         | < 2          | < 2          | < 2          | < 2          |
| Bromoform                                   | µg/L  | 5    | EPA 8260         | 23-Nov-21/R        | < 5         | < 5          | < 5          | < 5          | < 5          |
| Bromomethane                                | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Carbon Tetrachloride                        | µg/L  | 0.2  | EPA 8260         | 23-Nov-21/R        | < 0.2       | < 0.2        | < 0.2        | < 0.2        | < 0.2        |
| Chloroethane                                | µg/L  | 3    | EPA 8260         | 23-Nov-21/R        | < 3         | < 3          | < 3          | < 3          | < 3          |
| Chloroform                                  | µg/L  | 1    | EPA 8260         | 23-Nov-21/R        | < 1         | < 1          | < 1          | < 1          | < 1          |
| Chloromethane                               | µg/L  | 2    | EPA 8260         | 23-Nov-21/R        | < 2         | < 2          | < 2          | < 2          | < 2          |
| Dibromochloromethane                        | µg/L  | 2    | EPA 8260         | 23-Nov-21/R        | < 2         | < 2          | < 2          | < 2          | < 2          |
| Dibromoethane, 1,2-<br>(Ethylene Dibromide) | µg/L  | 0.2  | EPA 8260         | 23-Nov-21/R        | < 0.2       | < 0.2        | < 0.2        | < 0.2        | < 0.2        |
| Dichlorobenzene, 1,2-                       | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Dichlorobenzene, 1,3-                       | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Dichlorobenzene, 1,4-                       | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Dichlorodifluoromethane                     | µg/L  | 2    | EPA 8260         | 23-Nov-21/R        | < 2         | < 2          | < 2          | < 2          | < 2          |
| Dichloroethane, 1,1-                        | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Dichloroethane, 1,2-                        | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Dichloroethene, cis-1,2-                    | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Dichloroethene, trans-1,2-                  | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Dichloroethylene, 1,1-                      | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Dichloromethane<br>(Methylene Chloride)     | µg/L  | 5    | EPA 8260         | 23-Nov-21/R        | < 5         | < 5          | < 5          | < 5          | < 5          |
| Dichloropropane, 1,2-                       | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Dichloropropene 1,3-<br>cis+trans           | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Dichloropropene, cis-1,3-                   | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |



R.L. = Reporting Limit

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Site Analyzed=K-Kingston, W-Windsor, O-Ottawa, R-Richmond Hill, B-Barrie

Michelle Dubien  
 Lab Manager

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C.O.C.: G101044

REPORT No. B21-37354 (ii)

**Report To:**

**Cambium Environmental**  
 194 Sophia St.,  
 Peterborough ON K9H 1E5 Canada

**Attention:** Cameron MacDougall

**Caduceon Environmental Laboratories**

285 Dalton Ave  
 Kingston Ontario K7K 6Z1

Tel: 613-544-2001

Fax: 613-544-2770

DATE RECEIVED: 12-Nov-21

JOB/PROJECT NO.: Halls Glen WDS

DATE REPORTED: 05-Jan-22

P.O. NUMBER: 12987-002

SAMPLE MATRIX: Groundwater

WATERWORKS NO.

| Parameter                         | Units | R.L. | Reference Method | Date/Site Analyzed | Client I.D. | MW4-I        | MW4-II       | R-4          | R-1          |
|-----------------------------------|-------|------|------------------|--------------------|-------------|--------------|--------------|--------------|--------------|
|                                   |       |      |                  |                    | Sample I.D. | B21-37354-23 | B21-37354-24 | B21-37354-28 | B21-37354-29 |
| Date Collected                    |       |      |                  |                    | 11-Nov-21   | 11-Nov-21    | 11-Nov-21    | 11-Nov-21    | 11-Nov-21    |
| Dichloropropene, trans-1,3-       | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Dichloropropene, 1,1-             | µg/L  | 0.2  | EPA 8260         | 23-Nov-21/R        | < 0.2       | < 0.2        | < 0.2        | < 0.2        | < 0.2        |
| Ethylbenzene                      | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Hexane                            | µg/L  | 5    | EPA 8260         | 23-Nov-21/R        | < 5         | < 5          | < 5          | < 5          | < 5          |
| Methyl Ethyl Ketone               | µg/L  | 20   | EPA 8260         | 23-Nov-21/R        | < 20        | < 20         | < 20         | < 20         | < 20         |
| Methyl Isobutyl Ketone            | µg/L  | 20   | EPA 8260         | 23-Nov-21/R        | < 20        | < 20         | < 20         | < 20         | < 20         |
| Methyl-t-butyl Ether              | µg/L  | 2    | EPA 8260         | 23-Nov-21/R        | < 2         | < 2          | < 2          | < 2          | < 2          |
| Monochlorobenzene (Chlorobenzene) | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Styrene                           | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Tetrachloroethane, 1,1,1,2-       | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Tetrachloroethane, 1,1,2,2-       | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Tetrachloroethylene               | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Toluene                           | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Trichloroethane, 1,1,1-           | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Trichloroethane, 1,1,2-           | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Trichloroethylene                 | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |
| Trichlorofluoromethane            | µg/L  | 5    | EPA 8260         | 23-Nov-21/R        | < 5         | < 5          | < 5          | < 5          | < 5          |
| Trimethylbenzene, 1,3,5-          | µg/L  | 0.1  | EPA 8260         | 23-Nov-21/R        | < 0.1       | < 0.1        | < 0.1        | < 0.1        | < 0.1        |
| Vinyl Chloride                    | µg/L  | 0.2  | EPA 8260         | 23-Nov-21/R        | < 0.2       | < 0.2        | < 0.2        | < 0.2        | < 0.2        |
| Xylene, m,p-                      | µg/L  | 1.0  | EPA 8260         | 23-Nov-21/R        | < 1.0       | < 1.0        | < 1.0        | < 1.0        | < 1.0        |
| Xylene, m,p,o-                    | µg/L  | 1.1  | EPA 8260         | 23-Nov-21/R        | < 1.1       | < 1.1        | < 1.1        | < 1.1        | < 1.1        |
| Xylene, o-                        | µg/L  | 0.5  | EPA 8260         | 23-Nov-21/R        | < 0.5       | < 0.5        | < 0.5        | < 0.5        | < 0.5        |



Michelle Dubien  
 Lab Manager

R.L. = Reporting Limit

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C.O.C.: G108709

REPORT No. B22-10443

**Report To:**

**Cambium Environmental**  
 194 Sophia St.,  
 Peterborough ON K9H 1E5 Canada

**Attention:** Cameron MacDougall

**Caduceon Environmental Laboratories**

285 Dalton Ave  
 Kingston Ontario K7K 6Z1  
 Tel: 613-544-2001  
 Fax: 613-544-2770

DATE RECEIVED: 14-Apr-22

JOB/PROJECT NO.: Halls Glen WDS

DATE REPORTED: 22-Apr-22

P.O. NUMBER: 12987-002

SAMPLE MATRIX: Surface Water

WATERWORKS NO.

|                       |             |             |  |
|-----------------------|-------------|-------------|--|
| <b>Client I.D.</b>    | S1          | SW_QAQC     |  |
| <b>Sample I.D.</b>    | B22-10443-1 | B22-10443-2 |  |
| <b>Date Collected</b> | 12-Apr-22   | 12-Apr-22   |  |

| Parameter                  | Units    | R.L.     | Reference Method | Date/Site Analyzed |            |            |  |
|----------------------------|----------|----------|------------------|--------------------|------------|------------|--|
| Alkalinity(CaCO3) to pH4.5 | mg/L     | 5        | SM 2320B         | 18-Apr-22/O        | 202        | 203        |  |
| Conductivity @25°C         | µmho/cm  | 1        | SM 2510B         | 18-Apr-22/O        | 496        | 499        |  |
| pH @25°C                   | pH Units |          | SM 4500H         | 18-Apr-22/O        | 7.96       | 7.97       |  |
| Total Dissolved Solids     | mg/L     | 3        | SM 2540D         | 19-Apr-22/O        | 257        | 258        |  |
| Total Suspended Solids     | mg/L     | 3        | SM2540D          | 19-Apr-22/K        | 14         | 11         |  |
| BOD(5 day)                 | mg/L     | 3        | SM 5210B         | 14-Apr-22/K        | < 3        | < 3        |  |
| COD                        | mg/L     | 5        | SM5220C          | 18-Apr-22/K        | 23         | 18         |  |
| Phenolics                  | mg/L     | 0.001    | MOEE 3179        | 18-Apr-22/K        | 0.001      | 0.001      |  |
| Chloride                   | mg/L     | 0.5      | SM4110C          | 18-Apr-22/O        | 38.3       | 38.5       |  |
| Ammonia (N)-Total          | mg/L     | 0.01     | SM4500-NH3-H     | 19-Apr-22/K        | < 0.01     | < 0.01     |  |
| Ammonia (N)-unionized      | mg/L     | 0.01     | CALC             | 19-Apr-22/K        | < 0.01     | < 0.01     |  |
| Sulphate                   | mg/L     | 1        | SM4110C          | 18-Apr-22/O        | 6          | 5          |  |
| Nitrite (N)                | mg/L     | 0.05     | SM4110C          | 18-Apr-22/O        | < 0.05     | < 0.05     |  |
| Nitrate (N)                | mg/L     | 0.05     | SM4110C          | 18-Apr-22/O        | < 0.05     | < 0.05     |  |
| Total Kjeldahl Nitrogen    | mg/L     | 0.1      | E3516.2          | 19-Apr-22/K        | 0.3        | 0.3        |  |
| Mercury                    | mg/L     | 0.00002  | SM 3112 B        | 20-Apr-22/O        | < 0.00002  | < 0.00002  |  |
| Hardness (as CaCO3)        | mg/L     | 1        | SM 3120          | 20-Apr-22/O        | 211        | 212        |  |
| Arsenic                    | mg/L     | 0.0001   | EPA 200.8        | 20-Apr-22/O        | 0.0001     | 0.0001     |  |
| Barium                     | mg/L     | 0.001    | SM 3120          | 20-Apr-22/O        | 0.067      | 0.067      |  |
| Boron                      | mg/L     | 0.005    | SM 3120          | 20-Apr-22/O        | < 0.005    | 0.005      |  |
| Cadmium                    | mg/L     | 0.000015 | EPA 200.8        | 20-Apr-22/O        | < 0.000015 | < 0.000015 |  |
| Chromium                   | mg/L     | 0.001    | EPA 200.8        | 20-Apr-22/O        | < 0.001    | < 0.001    |  |
| Copper                     | mg/L     | 0.0001   | EPA 200.8        | 20-Apr-22/O        | 0.0005     | 0.0005     |  |
| Iron                       | mg/L     | 0.005    | SM 3120          | 20-Apr-22/O        | 0.032      | 0.044      |  |
| Lead                       | mg/L     | 0.00002  | EPA 200.8        | 20-Apr-22/O        | 0.00003    | 0.00004    |  |
| Phosphorus-Total           | mg/L     | 0.01     | E3516.2          | 19-Apr-22/K        | 0.02       | 0.02       |  |
| Zinc                       | mg/L     | 0.005    | SM 3120          | 20-Apr-22/O        | < 0.005    | < 0.005    |  |



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 Lab Manager

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C.O.C.: G108709

REPORT No. B22-10443

**Report To:**

**Cambium Environmental**  
 194 Sophia St.,  
 Peterborough ON K9H 1E5 Canada

**Attention:** Cameron MacDougall

**Caduceon Environmental Laboratories**

285 Dalton Ave  
 Kingston Ontario K7K 6Z1  
 Tel: 613-544-2001  
 Fax: 613-544-2770

DATE RECEIVED: 14-Apr-22

JOB/PROJECT NO.: Halls Glen WDS

DATE REPORTED: 22-Apr-22

P.O. NUMBER: 12987-002

SAMPLE MATRIX: Surface Water

WATERWORKS NO.

|                |             |             |  |  |
|----------------|-------------|-------------|--|--|
| Client I.D.    | S1          | SW_QAQC     |  |  |
| Sample I.D.    | B22-10443-1 | B22-10443-2 |  |  |
| Date Collected | 12-Apr-22   | 12-Apr-22   |  |  |

| Parameter | Units | R.L. | Reference Method | Date/Site Analyzed |
|-----------|-------|------|------------------|--------------------|
|-----------|-------|------|------------------|--------------------|



R.L. = Reporting Limit

Test methods may be modified from specified reference method unless indicated by an \*

Site Analyzed=K-Kingston,W-Windsor,O-Ottawa,R-Richmond Hill,B-Barrie

Michelle Dubien  
 Lab Manager

The analytical results reported herein refer to the samples as received. Reproduction of this analytical report in full or in part is prohibited without prior consent from



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## **Appendix E**

### **Photographs**

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Fully accessible appended items are available upon request.



***Photograph 1: Monitors MW1-I and MW1-II,  
November 2021***



***Photograph 2: Monitors MW2-I and MW2-II, June 2021***



***Photograph 3: Monitors MW3-I and MW3-II,  
November 2021***



***Photograph 4: Monitors MW4-I and MW4-II, June 2021***



***Photograph 5: Monitors MW5-I and MW5-II,  
November 2021***



***Photograph 6: Monitors MW6-I and MW6-II,  
November 2021***



***Photograph 7: Monitors MW7-I and MW7-II,  
November 2021***



***Photograph 8: Monitors MW8-I and MW8-II, June 2021***



***Photograph 9: Monitors MW9-I and MW9-II,  
November 2021***



***Photograph 10: Monitors MW10-I and MW10-II,  
November 2021***



***Photograph 11: Monitors MW11-I and MW11-II,  
November 2021***



***Photograph 12: Monitors MW12-I, MW12-II, and  
MW12-III, November 2021***



*Photograph 13: Monitors MW13-I and MW13-II,  
November 2021*



*Photograph 14: Residential well R-1, June 2021*



*Photograph 15: Dry - Surface water monitoring station  
S-1, June 2021*



*Photograph 16: Surface water monitoring station S-1,  
November 2021*



**Photograph 17: Dry - Surface water monitoring station  
S-2, June 2021**



**Photograph 18: Dry - Surface water monitoring station  
S-2, November 2021**



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## **Appendix F**

### **Borehole Logs**

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Fully accessible appended items are available upon request.

TOWNSHIP OF DUMMER  
HALL'S GLEN LANDFILL STUDY

BOREHOLE LOGS

June 27 - July 9, 1991

| <u>BOREHOLE</u> | <u>DEPTH INTERVAL<br/>(metres below ground)</u> | <u>DRILLER'S DESCRIPTION</u>      |
|-----------------|---|-----------------------------------|
| 1-91            | 0 - 0.61  | Brown CLAY, GRAVEL, hard          |
|                 | 0.61 - 1.98                                     | Grey GRAVEL, dry                  |
|                 | 1.98 - 6.10                                     | Grey LIMESTONE                    |
|                 | 6.10 - 6.71                                     | Brown SHALE                       |
|                 | Water-bearing zone reported at 6.10 metres      |                                   |
| 2-91            | 0 - 1.22  | Brown FILL                        |
|                 | 1.22 - 3.05                                     | REFUSE                            |
|                 | 3.05 - 4.88                                     | Brown SAND, COBBLES               |
|                 | 4.88 - 5.49                                     | Grey GRAVEL                       |
|                 | 5.49 - 6.71                                     | Brown SHALE, wet                  |
|                 | 6.71 - 8.53                                     | Grey LIMESTONE                    |
| 8.53 - 9.14     | Brown SHALE                                     |                                   |
|                 | Water-bearing zone reported at 8.53 metres      |                                   |
| 3-91            | 0 - 0.91  | Brown SAND, CLAY                  |
|                 | 0.91 - 1.52                                     | Brown GRAVEL, COBBLES, CLAY, hard |
|                 | 1.52 - 4.27                                     | Grey LIMESTONE                    |
|                 | Water-bearing zone reported at 3.66 metres      |                                   |
| 4-91            | 0 - 2.74  | Grey GRAVEL, BOULDERS             |
|                 | 2.74 - 3.66                                     | Grey LIMESTONE                    |
|                 | 3.66 - 4.88                                     | Brown SHALE                       |
|                 | Water-bearing zone reported at 3.66 metres      |                                   |
| 5-91            | 0 - 1.83  | Brown SAND, CLAY                  |
|                 | 1.83 - 3.20                                     | Brown SAND, GRAVEL                |
|                 | 3.20 - 3.66                                     | Brown SAND, CLAY                  |
|                 | 3.66 - 7.01                                     | Grey LIMESTONE                    |
|                 | Water-bearing zone reported at 6.40 metres      |                                   |

TOWNSHIP OF DUMMER  
HALL'S GLEN LANDFILL STUDY

BOREHOLE LOGS

June 27 - July 9, 1991

| <u>BOREHOLE</u> | <u>DEPTH INTERVAL</u><br>(metres below ground) | <u>DRILLER'S DESCRIPTION</u> |
|-----------------|--|------------------------------|
| 6-91            | 0 - 0.61                                       | Brown SAND                   |
|                 | 0.61 - 2.74                                    | Brown SAND, GRAVEL           |
|                 | 2.74 - 5.18                                    | Grey LIMESTONE               |
|                 | 5.18 - 5.79                                    | Brown SHALE                  |

Water-bearing zone reported at 5.18 metres

# MONITOR DETAILS

| BOREHOLE |               | MONITOR |      |               |              | SCREENED INTERVAL (mbsg) | SAND FILTER PACK (mbsg) | BENTONITE SEAL (mbsg) | STEEL CASING (mbsg) |                    |
|----------|---------------|---------|------|---------------|--------------|--------------------------|-------------------------|-----------------------|---------------------|--------------------|
| NO       | Diameter (mm) | NO      | Type | Diameter (mm) | Stick-up (m) |                          |                         |                       |                     | Elevation (top.m.) |
| 1-91     | 150           | I       | P    | 50            | 0.98         | 271.27                   | 6.71 - 5.18             | 6.71 - 5.33           | 5.33 - 4.72         | 0.91 - 10.88       |
| 1-91     |               | II      | S    | 38            |              |                          | 1.98 - 0.46             | 1.98 - 0.46           | 0.46 - 0.00         |                    |
| 2-91     | 150           | I       | P    | 50            | 1.07         | 275.79                   | 9.14 - 7.62             | 9.14 - 6.70           | 6.70 - 5.79         | 0.91 - 11.07       |
| 2-91     |               | II      | S    | 38            |              |                          | 5.49 - 3.96             | 5.49 - 0.61           | 0.61 - 0.00         |                    |
| 3-91     | 150           | I       | P    | 50            | 1.11         | 269.23                   | 4.27 - 2.74             | 4.27 - 2.13           | 2.13 - 1.52         | 0.91 - 11.11       |
| 3-91     |               | II      | S    | 38            |              |                          | 1.52 - 0.00             | 1.52 - 0.31           | 0.31 - 0.00         |                    |
| 4-91     | 150           | I       | P    | 50            | 1.04         | 268.20                   | 4.88 - 3.35             | 4.88 - 3.66           | 3.66 - 3.05         | 0.91 - 11.04       |
| 4-91     |               | II      | S    | 38            |              |                          | 3.05 - 1.52             | 3.05 - 0.61           | 0.61 - 0.00         |                    |
| 5-91     | 150           | I       | P    | 50            | 1.00         | 271.32                   | 7.01 - 5.49             | 7.01 - 4.27           | 4.27 - 3.66         | 0.91 - 11.00       |
| 5-91     |               | II      | S    | 38            |              |                          | 3.66 - 2.13             | 3.66 - 0.16           | 0.16 - 0.00         |                    |
| 6-91     | 150           | I       | P    | 50            | 1.02         | 269.83                   | 5.79 - 4.26             | 5.79 - 3.35           | 3.35 - 2.74         | 0.91 - 11.02       |
| 6-91     |               | II      | S    | 38            |              |                          | 2.74 - 1.22             | 2.74 - 0.61           | 0.61 - 0.00         |                    |

P = Piezometer      MIDOL = metres below

PA INTERNATIONAL



Fill only in spaces provided. Mark correct box with a checkmark, where applicable.

|   |  |   |                    |
|---|--|---|--------------------|
| County or District<br><b>Peterborough</b>     | Township or Range<br><b>Dummer Twp., Halls Glen-Landfill</b> | Con. Lic. No. (see instr.)<br><b>Con. 4</b> | Lot<br><b>26</b>   |
| Owner's name<br><b>Municipality of Dummer</b> | Address<br><b>300 Water St., Whitby, ON L1R 9J2</b>          | City<br><b>Whitby</b>                       | Prov.<br><b>ON</b> |

| General color | Local common name | Other materials | General description | Depth - feet | Temp. °C |
|---------------|-------------------|-----------------|---------------------|--------------|----------|
| Black         | Topsoil           |                 |                     | 0            | 1        |
| Brown         | Gravel            | sand            |                     | 1            | 9        |
| Brown         | Gravel            | stones          |                     | 9            | 15       |
| Brown         | Rock              |                 | broken              | 15           | 17       |
| Gray          | Limestone         |                 |                     | 17           | 35       |

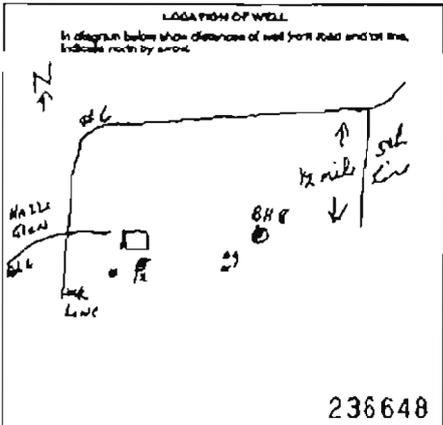
| Water found in feet | Kind of water   |
|---------------------|---|
| 19                  | <input checked="" type="checkbox"/> Fresh<br><input checked="" type="checkbox"/> Salty<br><input checked="" type="checkbox"/> Brackish<br><input checked="" type="checkbox"/> Other |
| 28                  | <input checked="" type="checkbox"/> Fresh<br><input checked="" type="checkbox"/> Salty<br><input checked="" type="checkbox"/> Brackish<br><input checked="" type="checkbox"/> Other |

| Water depth in feet | Material | Time of day | Temp. °C |
|---------------------|----------|-------------|----------|
| 6 1/2               | 180      | +2 1/2      | 17       |
| 2                   | Piece    | +2 1/2      | 30       |
| 2                   | Piece    | +2 1/2      | 17 1/2   |

|   |   |                        |
|---|---|------------------------|
| Number of casings (see instr.)<br><b>10</b> | Number<br><b>2</b>                          | Length<br><b>2 x 5</b> |
| Material and size<br><b>PVC</b>             | Depth at top of screen<br><b>30, 17 1/2</b> |                        |

|                               |                     |   |
|-------------------------------|---------------------|---|
| Number of casings<br><b>0</b> | Number<br><b>17</b> | Material and size<br><b>Bentonite &amp; Mudalurry</b> |
|-------------------------------|---------------------|---|

|   |                                   |  |
|---|-----------------------------------|--|
| Flowing<br><input type="checkbox"/> Pump<br><input checked="" type="checkbox"/> Other | Pressure<br><b>8-10</b>           | Duration of supply<br><b>from 30 min</b> |
| Water level<br><b>15</b>  | Water level at 24 hr<br><b>15</b> | Water level at 48 hr<br><b>15</b>        |



|   |   |
|---|---|
| Final Status of Well<br><input type="checkbox"/> Properly installed<br><input type="checkbox"/> Abandoned, good supply<br><input type="checkbox"/> Abandoned, poor supply<br><input type="checkbox"/> Abandoned (Other)<br><input type="checkbox"/> Damaged | <input type="checkbox"/> Unfinished<br><input type="checkbox"/> Perforated well |
| Water Line<br><input type="checkbox"/> Domestic<br><input type="checkbox"/> Public supply<br><input type="checkbox"/> Other   | <input type="checkbox"/> Other  |
| Method of Construction<br><input checked="" type="checkbox"/> Casing<br><input type="checkbox"/> Auger<br><input type="checkbox"/> Other  | <input type="checkbox"/> Other  |

|  |   |
|--|---|
| Name of Well Contractor<br><b>C. Hart &amp; Sons Well Drilling Ltd</b> | Well Contractor's License No.<br><b>2662</b>  |
| Address<br><b>Box 850, Fenelon Falls, Ontario</b>                      |   |
| Name of Well Inspector<br><b>J. L. Leard</b>                           | Well Inspector's License No.<br><b>7-0546</b> |

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M.O.E. WATER WELL RECORD

MW-8



Print only in spaces provided.  
Mark correct box with a checkmark, where applicable.

|                                    |  |  |                |
|------------------------------------|--|--|----------------|
| County or District<br>Peterborough | Township<br>Durham Twp., Halls Glen-Landfill                                 | Cor. rock sheet number, etc.<br>Cor. 4 | Lot<br>26      |
| Owner's name<br>Township of Durham | Address c/o Toilet Stms (Public) Assoc.<br>300 Water St., Whitby, ON L1N 9J2 | Date completed<br>2 11 01              | Day month year |

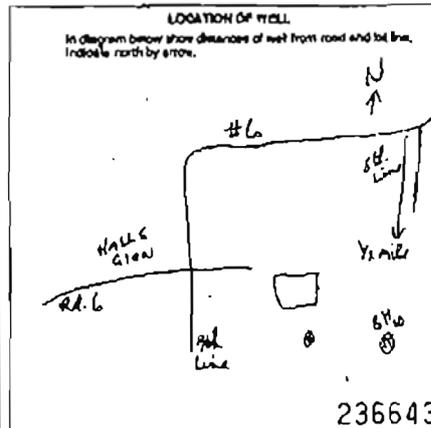
| LOG OF OVERBURDEN AND BEDROCK MATERIALS (see instructions) |                       |                 |                     |     |
|--|-----------------------|-----------------|---------------------|-----|
| General colour   | Most common materials | Other materials | General description |     |
|  |                       |                 | Feet                | ft. |
| Black  | Topsoil               |                 | 0                   | 1   |
| Brown  | Gravel                |                 | 1                   | 9   |
| Brown  | Gravel                | broken rock     | 9                   | 15  |
| Gray   | Limestone             |                 | 15                  | 30  |
|  |                       |                 |                     |     |
|  |                       |                 |                     |     |
|  |                       |                 |                     |     |
|  |                       |                 |                     |     |
|  |                       |                 |                     |     |
|  |                       |                 |                     |     |
|  |                       |                 |                     |     |
|  |                       |                 |                     |     |

| WATER RECORD          |  |
|-----------------------|--|
| Water level at - feet | Kind of water  |
| 13                    | <input checked="" type="checkbox"/> Fresh <input type="checkbox"/> Saline <input type="checkbox"/> Other |
| 26                    | <input checked="" type="checkbox"/> Fresh <input type="checkbox"/> Saline <input type="checkbox"/> Other |
|                       | <input type="checkbox"/> Fresh <input type="checkbox"/> Saline <input type="checkbox"/> Other            |
|                       | <input type="checkbox"/> Fresh <input type="checkbox"/> Saline <input type="checkbox"/> Other            |
|                       | <input type="checkbox"/> Fresh <input type="checkbox"/> Saline <input type="checkbox"/> Other            |

| DRAINAGE / OPEN HOLE RECORD |          |              |      |
|-----------------------------|----------|--------------|------|
| Drain / Hole No.            | Material | Depth - feet |      |
| 6                           | Picco    | +2 1/2       | 13   |
| 2                           | Picco    | +2 1/2       | 25   |
| 2                           | Picco    | +2 1/2       | 14.3 |

| PLUGGING & SEALING RECORD |                          |
|---------------------------|--------------------------|
| Depth - feet              | Material                 |
| 0                         | 73 Holeplug (outside 6") |
| 13                        | 20 Sand                  |
| 20 1/2                    | 22 Holeplug              |
| 22                        | 30 Sand                  |

|  |  |
|--|--|
| Pumping head method<br><input checked="" type="checkbox"/> Pump <input type="checkbox"/> Other | Pumping rate<br>30 gpm   |
| Daily level<br>8, Sand   | Water level during<br>11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30 |
| If boring given name<br>None   | Pump holes set at<br>None  |
| Construction quality type<br><input type="checkbox"/> Shallow <input type="checkbox"/> Deep    | Construction quality rating<br>None  |



|   |  |  |
|---|--|--|
| Final Status of Well<br><input checked="" type="checkbox"/> Abandoned<br><input type="checkbox"/> Operational<br><input type="checkbox"/> Test hole<br><input type="checkbox"/> Monitoring well | <input type="checkbox"/> Abandoned, insufficient supply<br><input type="checkbox"/> Abandoned, poor quality<br><input type="checkbox"/> Abandoned (EPA)<br><input type="checkbox"/> Monitoring | <input type="checkbox"/> Unfinished<br><input type="checkbox"/> Post-treatment well                  |
| Water Use<br><input type="checkbox"/> Domestic<br><input type="checkbox"/> Irrigation<br><input type="checkbox"/> Industrial  | <input type="checkbox"/> Commercial<br><input type="checkbox"/> Public supply<br><input type="checkbox"/> Cooling & air conditioning   | <input checked="" type="checkbox"/> No use<br><input type="checkbox"/> Other (Specify)               |
| Method of Construction<br><input checked="" type="checkbox"/> Casing<br><input type="checkbox"/> Drilling<br><input type="checkbox"/> Jetting   | <input type="checkbox"/> Air percussion<br><input type="checkbox"/> Rotary<br><input type="checkbox"/> Other   | <input type="checkbox"/> Other<br><input type="checkbox"/> Digging<br><input type="checkbox"/> Other |

|   |   |
|---|---|
| Name of Well Contractor<br>G. Hart & Sons Well Drilling Ltd.<br>Address<br>Box 850, Fenelon Falls, Ontario<br>Name and Telephone<br>Jim Loan<br>Signature of Well Contractor<br>[Signature] | Well Contractor's License No.<br>2662<br>Well Contractor's License No.<br>T-0546<br>Signature of Inspector<br>[Signature] |
|---|---|

1 - CONTRACTOR'S COPY

0000 017708 Form 10-01

M.O.E. WATER WELL RECORD

MW-10

Print only in spaces provided.  
Use common box with a checkmark when applicable.

|   |  |  |                                  |
|---|--|--|----------------------------------|
| County or District<br><b>Peterborough</b> | Corporation, Village, Township or Hamlet (B.K. 11)<br><b>Dummer Twp., Hallo Glen-Tandell</b> | Con. area (grid only) No.<br><b>Con. 4</b> | Lot<br><b>76</b>                 |
| Owner name<br><b>Township of Dummer</b>   | Address c/o Tullen Sims Kubicki Assoc.<br><b>300 Water St., Whitby, ON L1M 9J2</b>           |  | Date completed<br><b>5 11 03</b> |

| LOG OF OVERBURDEN AND BEDROCK MATERIALS (see instructions) |                      |                 |                     |    |
|--|----------------------|-----------------|---------------------|----|
| Interval (feet)  | Moisture content (%) | Other materials | General description |    |
|  |                      |                 | From                | To |
| Black  | Topsoil              |                 | 0                   | 1  |
| Brown  | Gravel               |                 | 1                   | 5  |
| Brown  | Gravel               | boulder         | 5                   | 10 |
| Brown  | Broken Rock          |                 | 10                  | 12 |
| Gray   | Limestone            |                 | 12                  | 30 |
|  |                      |                 |                     |    |
|  |                      |                 |                     |    |
|  |                      |                 |                     |    |
|  |                      |                 |                     |    |
|  |                      |                 |                     |    |

| WATER RECORD |  |
|--------------|--|
| Month        | Kind of water  |
| 19           | <input checked="" type="checkbox"/> Fresh <input type="checkbox"/> Saline <input type="checkbox"/> Hard <input type="checkbox"/> Soft <input type="checkbox"/> Other |
| 29           | <input checked="" type="checkbox"/> Fresh <input type="checkbox"/> Saline <input type="checkbox"/> Hard <input type="checkbox"/> Soft <input type="checkbox"/> Other |
|              | <input type="checkbox"/> Fresh <input type="checkbox"/> Saline <input type="checkbox"/> Hard <input type="checkbox"/> Soft <input type="checkbox"/> Other            |
|              | <input type="checkbox"/> Fresh <input type="checkbox"/> Saline <input type="checkbox"/> Hard <input type="checkbox"/> Soft <input type="checkbox"/> Other            |
|              | <input type="checkbox"/> Fresh <input type="checkbox"/> Saline <input type="checkbox"/> Hard <input type="checkbox"/> Soft <input type="checkbox"/> Other            |

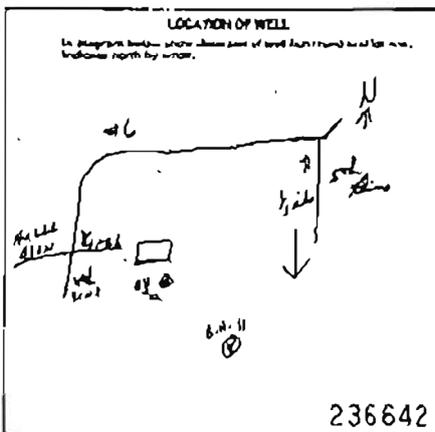
| WATER LEVEL RECORD |          |                    |      |    |
|--------------------|----------|--------------------|------|----|
| Date               | Interval | Water level (feet) | From | To |
| 6                  |          | 188                | +24  | 12 |
| 2                  |          | Piezo              | +21  | 25 |
| 2                  |          | Piezo              | +24  | 15 |

| Material | Quantity | Depth  |
|----------|----------|--------|
| PVC      | 2        | 2x 5   |
|          |          | 25, 15 |

| PLUGGING & SEALING RECORD |          |                         |
|---------------------------|----------|-------------------------|
| Depth (feet)              | Material | Remarks                 |
| 0                         | 17       | Holeplug (outside area) |
| 11                        | 20       | Sand                    |
| 20                        | 22       | Holeplug                |
| 22                        | 30       | Seal                    |

| PUMPING RECORD   |          |
|--|----------|
| Starting and ending  | Quantity |
| <input type="checkbox"/> Pump <input type="checkbox"/> Other | 2-3 gpm  |
|  |          |
|  |          |
|  |          |



| INSTALLATION OF WELL  |   |
|---|---|
| <input type="checkbox"/> Hand dug <input type="checkbox"/> Drilled <input type="checkbox"/> Other | <input type="checkbox"/> Commercial <input type="checkbox"/> Residential <input type="checkbox"/> Other |
| <input type="checkbox"/> Cast iron <input type="checkbox"/> Steel <input type="checkbox"/> Other  | <input type="checkbox"/> Commercial <input type="checkbox"/> Residential <input type="checkbox"/> Other |
| <input type="checkbox"/> Concrete <input type="checkbox"/> Brick <input type="checkbox"/> Other   | <input type="checkbox"/> Commercial <input type="checkbox"/> Residential <input type="checkbox"/> Other |

| METHOD OF CONSTRUCTION  |   |
|---|---|
| <input type="checkbox"/> Open cut <input type="checkbox"/> Drilled <input type="checkbox"/> Other | <input type="checkbox"/> Commercial <input type="checkbox"/> Residential <input type="checkbox"/> Other |
| <input type="checkbox"/> Auger <input type="checkbox"/> Other                                     | <input type="checkbox"/> Commercial <input type="checkbox"/> Residential <input type="checkbox"/> Other |

1 - CONTRACTOR'S COPY

M.O.E. WATER WELL RECORD

MW-11

Please only use pages provided.  
Mark correct box with a checkmark, where applicable.

|   |  |   |                   |
|---|--|---|-------------------|
| County or District<br><b>Peterborough</b> | Township or City/Town/Village (RW-12)<br><b>Dummer Twp., Holly Glen - Landfill</b> | Can. Const. Act Reg. No.<br><b>Can. 4</b> | Lot<br><b>26</b>  |
| Owner's name<br><b>Township of Dummer</b> | For Name<br><b>300 Water St., Whitby, ON L1K 9J2</b>                               | Date completed<br><b>7 31 01</b>          | Year<br><b>01</b> |

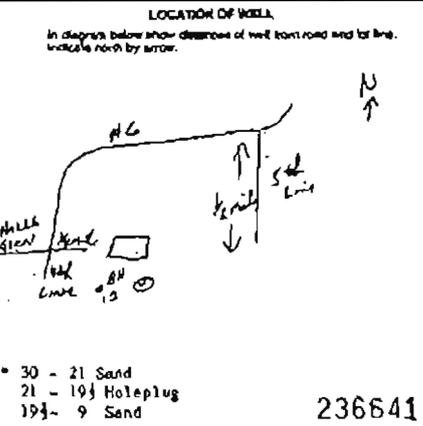
| Ground colour | Most common material | Other materials | Ground description | Depth: feet |    |
|---------------|----------------------|-----------------|--------------------|-------------|----|
|               |                      |                 |                    | 100'        | ft |
| Black         | Topsoil              |                 |                    | 0           | 1  |
| Brown         | Gravel               |                 |                    | 1           | 8  |
| Brown         | Gravel               | broken rock     |                    | 8           | 13 |
| Gray          | Limestone            |                 |                    | 13          | 29 |
| Gray          | Limestone            |                 | soft               | 29          | 30 |
| Gray          | Limestone            |                 |                    | 30          | 40 |

| Water level at date | Kind of water   |
|---------------------|---|
| 13                  | <input checked="" type="checkbox"/> Artesian<br><input checked="" type="checkbox"/> Unconfined<br><input checked="" type="checkbox"/> Other |
| 29                  | <input checked="" type="checkbox"/> Artesian<br><input checked="" type="checkbox"/> Unconfined<br><input checked="" type="checkbox"/> Other |

| Water depth (feet) | Material  | Flow rate (gpm) | Flow rate (lpm) | Flow rate (m <sup>3</sup> /hr) |
|--------------------|---|-----------------|-----------------|--------------------------------|
| 6 1/2              | <input checked="" type="checkbox"/> Sand<br><input checked="" type="checkbox"/> Gravel<br><input checked="" type="checkbox"/> Other | 188             | 43              | 3.7                            |
| 2                  | <input checked="" type="checkbox"/> Sand<br><input checked="" type="checkbox"/> Gravel<br><input checked="" type="checkbox"/> Other | Pleco           | 43              | 35                             |
| 2                  | <input checked="" type="checkbox"/> Sand<br><input checked="" type="checkbox"/> Gravel<br><input checked="" type="checkbox"/> Other | Pleco           | 43              | 25 1/2                         |
| 2                  | <input checked="" type="checkbox"/> Sand<br><input checked="" type="checkbox"/> Gravel<br><input checked="" type="checkbox"/> Other | Pleco           | 43              | 14 1/2                         |

| Size of opening (inches)   | 2 inches  | Length               | 3 x 5 feet |              |          |             |        |           |           |         |      |          |         |          |              |
|--|-----------|----------------------|------------|--------------|----------|-------------|--------|-----------|-----------|---------|------|----------|---------|----------|--------------|
| Material and type  | PVC       | Depth of hole (feet) | 35, 28, 3  |              |          |             |        |           |           |         |      |          |         |          |              |
| <table border="1"> <thead> <tr> <th>Depth (feet)</th> <th>Material</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>0 - 13</td> <td>Bentonite</td> <td>(outside)</td> </tr> <tr> <td>40 - 31</td> <td>Sand</td> <td>(inside)</td> </tr> <tr> <td>31 - 30</td> <td>Holeplug</td> <td>at 30' depth</td> </tr> </tbody> </table> |           |                      |            | Depth (feet) | Material | Description | 0 - 13 | Bentonite | (outside) | 40 - 31 | Sand | (inside) | 31 - 30 | Holeplug | at 30' depth |
| Depth (feet)   | Material  | Description          |            |              |          |             |        |           |           |         |      |          |         |          |              |
| 0 - 13   | Bentonite | (outside)            |            |              |          |             |        |           |           |         |      |          |         |          |              |
| 40 - 31  | Sand      | (inside)             |            |              |          |             |        |           |           |         |      |          |         |          |              |
| 31 - 30  | Holeplug  | at 30' depth         |            |              |          |             |        |           |           |         |      |          |         |          |              |

|                              |   |                     |         |
|------------------------------|---|---------------------|---------|
| Number of test runs          | 10 - 15 runs                            | Duration of pumping | 1 hour  |
| Water level at start of test | 4 feet                                  | Water level during  | 10 feet |
| Flowing water                | <input checked="" type="checkbox"/> Yes | Flowing water at    | 10 feet |



|  |   |  |
|--|---|--|
| <input checked="" type="checkbox"/> Water supply<br><input checked="" type="checkbox"/> Domestic use<br><input checked="" type="checkbox"/> Irrigation<br><input checked="" type="checkbox"/> Industrial | <input checked="" type="checkbox"/> Agricultural<br><input checked="" type="checkbox"/> Public supply<br><input checked="" type="checkbox"/> Cooling<br><input checked="" type="checkbox"/> Other | <input checked="" type="checkbox"/> Unconfined<br><input checked="" type="checkbox"/> Artesian well<br><input checked="" type="checkbox"/> Other |
| <b>METHOD OF CONSTRUCTION</b><br><input checked="" type="checkbox"/> Open cut<br><input checked="" type="checkbox"/> Drilling<br><input checked="" type="checkbox"/> Other                               |   |  |

|   |  |
|---|--|
| Name of Well Contractor<br><b>G. Hart &amp; Sons Well Drilling Ltd.</b> | Well Permit No. / License No.<br><b>2662</b> |
| Address<br><b>Box 850, Fenelon Falls, Ontario</b>                       | Well Completion License No.<br><b>T-0546</b> |
| Name of Well Proprietor<br><b>Jim Leach</b>                             | Address of Well Proprietor                   |

1 - CONTRACTOR'S COPY

M.O.E. WATER WELL RECORD

MW-12





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## **Appendix G**

### **Ministry Well Records**

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Fully accessible appended items are available upon request.



MINISTRY OF THE ENVIRONMENT  
The Ontario Water Resources Act  
**WATER WELL RECORD**

310/9E

1. PRINT ONLY IN SPACES PROVIDED  
2. CHECK  CORRECT BOX WHERE APPLICABLE

11 5106571<sup>P</sup> 51008 CON 04

COUNTY OR PARISH: **PETERBORO** TOWNSHIP: **DUMMER** CON. SECT. - RANGE - SUBSECT. ETC.: **IV** LOT: **026**  
**212 LAKEFIELD** DATE COMPLETED: DAY **30** MONTH **07** YEAR **73**  
 HOLE NO.: **232705** RC: **4** ELEVATION: **0890** RC: **16** BASIN CODE: **24**

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

| GENERAL COLOUR | MOST COMMON MATERIAL | OTHER MATERIALS | GENERAL DESCRIPTION | DEPTH - FEET |    |
|----------------|----------------------|-----------------|---------------------|--------------|----|
|                |                      |                 |                     | FROM         | TO |
| BROWN          | CLAY                 | STONES          | [Stamp: OWRC P-5]   | 0            | 16 |
| GREY           | ALTERED              | LIMESTONE       |                     | 16           | 35 |

31 001660512 0035215  
32

41 WATER RECORD

| WATER FOUND AT - FEET | KIND OF WATER   |
|-----------------------|---|
| 033 10-13             | 1 FRESH 3 <input type="checkbox"/> SULPHUR 10<br>2 SALTY 4 <input type="checkbox"/> MINERAL |
| 15-18                 | 1 FRESH 3 <input type="checkbox"/> SULPHUR 19<br>2 SALTY 4 <input type="checkbox"/> MINERAL |
| 20-23                 | 1 FRESH 3 <input type="checkbox"/> SULPHUR 24<br>2 SALTY 4 <input type="checkbox"/> MINERAL |
| 25-28                 | 1 FRESH 3 <input type="checkbox"/> SULPHUR 29<br>2 SALTY 4 <input type="checkbox"/> MINERAL |
| 30-33                 | 1 FRESH 3 <input type="checkbox"/> SULPHUR 34<br>2 SALTY 4 <input type="checkbox"/> MINERAL |

51 CASING & OPEN HOLE RECORD

| INSIDE DIAM. INCHES | MATERIAL | WALL THICKNESS INCHES | DEPTH - FEET |    |
|---------------------|----------|-----------------------|--------------|----|
|                     |          |                       | FROM         | TO |
| 6 1/4               | STEEL    | 1.88                  | 0            | 16 |
| 06                  | CONCRETE |                       | 16           | 35 |

SCREEN

| SIZE (S) OF OPENING (SLOT NO.) | DIAMETER | LENGTH |
|--------------------------------|----------|--------|
|                                | INCHES   | FEET   |

61 PLUGGING & SEALING RECORD

| DEPTH SET AT - FEET | MATERIAL AND TYPE | (CEMENT GROUT, LEAD PACKER, ETC.) |
|---------------------|-------------------|-----------------------------------|
| 10-13               | 14-17             |                                   |
| 18-21               | 22-25             |                                   |
| 28-29               | 30-33             | 80                                |

71 PUMPING TEST

PUMPING TEST METHOD: 1  PUMP 2  BAL. CR. 10 PUMPING RATE: 0008 GPM 11-14 DURATION OF PUMPING: 02 HOURS 15-18 HOURS 17-18 HOURS

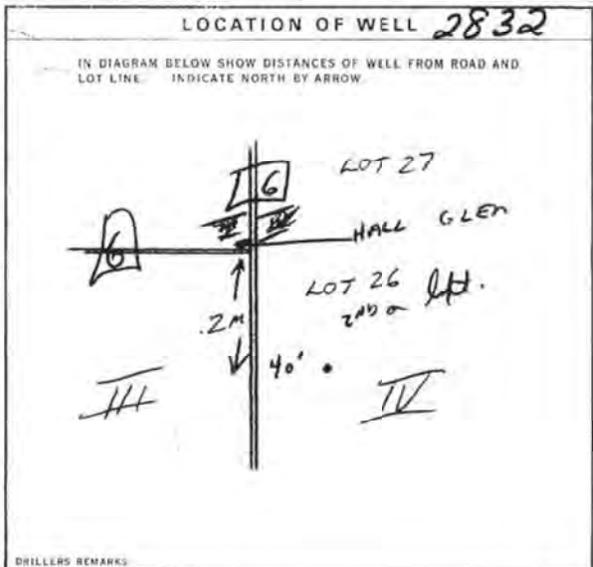
STATIC LEVEL: 018 FEET WATER LEVEL END OF PUMPING: 033 FEET

WATER LEVELS DURING:

|       |       |       |       |       |       |
|-------|-------|-------|-------|-------|-------|
| 19-21 | 22-24 | 25-28 | 29-31 | 32-34 | 35-37 |
| 033   | 033   | 033   | 033   | 033   | 033   |

RECOMMENDED PUMP TYPE:  SHALLOW  DEEP

RECOMMENDED PUMP SETTING RATE: 20-40 GPM



FINAL STATUS OF WELL: 1  WATER SUPPLY 5  ABANDONED, INSUFFICIENT SUPPLY  
2  OBSERVATION WELL 6  ABANDONED, POOR QUALITY  
3  TEST HOLE 7  UNFINISHED  
4  RECHARGE WELL

WATER USE: 01 1  DOMESTIC 5  COMMERCIAL  
2  STOCK 6  MUNICIPAL  
3  IRRIGATION 7  PUBLIC SUPPLY  
4  INDUSTRIAL 8  COOLING OR AIR CONDITIONING  
9  OTHER 9  NOT USED

METHOD OF DRILLING: 1  CABLE TOOL 4  BORING  
2  ROTARY (CONVENTIONAL) 5  DIAMOND  
3  ROTARY (REVERSE) 6  JETTING  
4  ROTARY (AIR) 7  DRIVING  
5  AIR PERCUSSION

CONTRACTOR: P.E. ELVIDGE WELL DRILLING 1904  
 ADDRESS: P.O. Box 98 P.T.B.O.  
 NAME OF DRILLER OR BORER: SAME  
 SIGNATURE OF CONTRACTOR: [Signature]  
 LICENCE NUMBER: [Blank]  
 SUBMISSION DATE: [Blank]

OFFICE USE ONLY

DATA SOURCE: 58 CONTRACTOR: 59-62 DATE RECEIVED: 18 10 73  
 DATE OF INSPECTION: May 21/75 INSPECTOR: [Signature]  
 REMARKS: [Blank]



Ministry  
of the  
Environment

Ontario

The Ontario Water Resources Act

3109

# WATER WELL RECORD

1 PRINT ONLY IN SPACES PROVIDED  
2 CHECK  CORRECT BOX WHERE APPLICABLE

11 5110084 51.008 CPM 05

COUNTY OR DISTRICT: [REDACTED] TOWNSHIP, BUROUGH, CITY, TOWN, VILLAGE: DUMFRIES CON. BLOCK TRACT SURVEY ETC.: 5  
DATE COMPLETED: MAY 15 08

33400 5 0850 6 2A

| LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS) |                            |                 |                     |              |     |
|--|----------------------------|-----------------|---------------------|--------------|-----|
| GENERAL COLOUR   | MOST COMMON MATERIAL       | OTHER MATERIALS | GENERAL DESCRIPTION | DEPTH - FEET |     |
|  |                            |                 |                     | FROM         | TO  |
| DUG  | <del>DARKED</del> PREVIOUS |                 |                     | 0            | 27  |
| GREY   | LIME STONE                 |                 |                     | 27           | 5.2 |
| BROWN  | "                          |                 |                     | 5.2          | 5.3 |

No casing in Well  
Owner's Initiative

31 0927 23 0052215 0052215

32

41 WATER RECORD

| WATER FOUND AT - FEET | KIND OF WATER   |
|-----------------------|---|
| 0-27                  | 1 <input checked="" type="checkbox"/> FRESH 3 <input type="checkbox"/> SULPHUR<br>2 <input type="checkbox"/> SALTY 4 <input type="checkbox"/> MINERAL |
| 15-18                 | 1 <input type="checkbox"/> FRESH 3 <input type="checkbox"/> SULPHUR<br>2 <input type="checkbox"/> SALTY 4 <input type="checkbox"/> MINERAL            |
| 20-23                 | 1 <input type="checkbox"/> FRESH 3 <input type="checkbox"/> SULPHUR<br>2 <input type="checkbox"/> SALTY 4 <input type="checkbox"/> MINERAL            |
| 25-28                 | 1 <input type="checkbox"/> FRESH 3 <input type="checkbox"/> SULPHUR<br>2 <input type="checkbox"/> SALTY 4 <input type="checkbox"/> MINERAL            |
| 30-33                 | 1 <input type="checkbox"/> FRESH 3 <input type="checkbox"/> SULPHUR<br>2 <input type="checkbox"/> SALTY 4 <input type="checkbox"/> MINERAL            |

51 CASING & OPEN HOLE RECORD

| DEPTH - FEET | MATERIAL | WALL THICKNESS (INCHES) |
|--------------|----------|-------------------------|
| 0-27         | DUG      |                         |
| 27-53        | STEEL    |                         |

SCREEN

| DEPTH - FEET | MATERIAL AND TYPE |
|--------------|-------------------|
| 0-27         |                   |
| 27-53        |                   |

61 PLUGGING & SEALING RECORD

| DEPTH - FEET | MATERIAL AND TYPE | ITEMS GROUP (LEAD PACKER ETC.) |
|--------------|-------------------|--------------------------------|
| 0-27         |                   |                                |
| 27-53        |                   |                                |

71 PUMPING TEST

PUMPING TEST METHOD: 1  PUMP 2  BAILEY

PUMPING RATE: 0036 GPM DURATION OF PUMPING: 02 HOURS 00 MIN

| STATIC LEVEL | WATER LEVEL END OF PUMPING | WATER LEVELS DURING  |
|--------------|----------------------------|--|
| 023 FEET     | 030 FEET                   | 15 MINUTES: 26-28 FEET<br>30 MINUTES: 29-31 FEET<br>45 MINUTES: 32-34 FEET<br>60 MINUTES: 35-37 FEET |

RECOMMENDED PUMP TYPE:  SHALLOW  DEEP

RECOMMENDED PUMP SETTING: 030 FEET RECOVERY: 0005 GPM



FINAL STATUS OF WELL: 1  WATER SUPPLY 5  ABANDONED, INSUFFICIENT SUPPLY  
2  OBSERVATION WELL 6  ABANDONED POOR QUALITY  
3  TEST HOLE 7  UNFINISHED  
4  RECHARGE WELL

WATER USE: 01 1  DOMESTIC 5  COMMERCIAL  
2  STOCK 6  MUNICIPAL  
3  IRRIGATION 7  PUBLIC SUPPLY  
4  INDUSTRIAL 8  COOLING OR AIR CONDITIONING  
9  OTHER 9  NOT USED

METHOD OF DRILLING: 1  CABLE TOOL 6  BORING  
2  ROTARY (CONVENTIONAL) 7  DIAMOND  
3  ROTARY (REVERSE) 8  JETTING  
4  ROTARY (AIR) 9  DRIVING  
5  AIR PERCUSSION

CONTRACTOR: P.E. EVIDGE WELL DRILLING 1904  
ADDRESS: P.O. Box 93 P.T.B.O.  
NAME OF DRILLER OR BORER: ED LA FONTE  
SIGNATURE OF CONTRACTOR: Russell Evidge

LICENCE NUMBER: 1904  
SUBMISSION DATE: [REDACTED]

OFFICE USE ONLY

DATA SOURCE: 1 1904 090281

DATE OF INSPECTION: [REDACTED] INSPECTOR: [REDACTED]

REMARKS: 8

A197111

Well Location

Address of Well Location (Street Number/Name) 1989 4<sup>th</sup> LINE RD N Township DUMMER Lot 25 Concession 4  
 County/District/Municipality PETERBOROUGH City/Town/Village HALS GLEN Province Ontario Postal Code K0L 2H0  
 UTM Coordinates Zone Easting Northing NAD 83 17 727921 49 33179 Municipal Plan and Sublot Number

Overburden and Bedrock Materials/Abandonment Sealing Record (see instructions on the back of this form)

| General Colour | Most Common Material | Other Materials | General Description | Depth (m/ft) |
|----------------|----------------------|-----------------|---------------------|--------------|
|                |                      |                 |                     | From To      |
| GREY           | CLAY                 | STONES          | SOFT                | 0 8          |
| GREY           | LIMESTONE            |                 | HARD                | 8 43         |

**Annular Space**

| Depth Set at (m/ft) | Type of Sealant Used (Material and Type) | Volume Placed (m <sup>3</sup> /ft <sup>3</sup> ) |
|---------------------|--|--|
| From To             |  |  |
| 0 20                | BENTONITE                                | 7 FT <sup>3</sup>                                |

**Method of Construction**

Cable Tool  Diamond  Public  Commercial  Not used  
 Rotary (Conventional)  Jetting  Domestic  Municipal  Dewatering  
 Rotary (Reverse)  Drilling  Livestock  Test Hole  Monitoring  
 Boring  Digging  Irrigation  Cooling & Air Conditioning  
 Air percussion  Industrial  Other, specify

**Results of Well Yield Testing**

After test of well yield, water was:  
 Clear and sand free  
 Other, specify

If pumping discontinued, give reason:  
 Static Level 17

| Draw Down  | Recovery           |            |                    |
|------------|--------------------|------------|--------------------|
| Time (min) | Water Level (m/ft) | Time (min) | Water Level (m/ft) |
| 1          | 17.3               | 1          | 18.5               |
| 2          | 17.6               | 2          | 18.1               |
| 3          | 17.8               | 3          | 17.4               |
| 4          | 18.3               | 4          | 17.1               |
| 5          | 18.6               | 5          | 17                 |
| 10         | 18.9               | 10         | 17                 |
| 15         | 19                 | 15         | 17                 |
| 20         | 19                 | 20         | 17                 |
| 25         | 19                 | 25         | 17                 |
| 30         | 19                 | 30         | 17                 |
| 40         | 19                 | 40         | 17                 |
| 50         | 19                 | 50         | 17                 |
| 60         | 19                 | 60         | 17                 |

Pump intake set at (m/ft) 40  
 Pumping rate (l/min / GPM) 10+  
 Duration of pumping 1 hrs + min  
 Final water level end of pumping (m/ft) 19  
 If flowing give rate (l/min / GPM)

Recommended pump depth (m/ft) 40  
 Recommended pump rate (l/min / GPM) 6  
 Well production (l/min / GPM) 10+  
 Disinfected?  Yes  No

**Construction Record - Casing**

| Inside Diameter (cm/in) | Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel) | Wall Thickness (cm/in) | Depth (m/ft) |    | Status of Well   |
|-------------------------|--|------------------------|--------------|----|--|
|                         |  |                        | From         | To |  |
| 6 3/8                   | STEEL  | 188                    | 0            | 20 | <input checked="" type="checkbox"/> Water Supply<br><input type="checkbox"/> Replacement Well<br><input type="checkbox"/> Test Hole<br><input type="checkbox"/> Recharge Well<br><input type="checkbox"/> Dewatering Well<br><input type="checkbox"/> Observation and/or Monitoring Hole<br><input type="checkbox"/> Alteration (Construction)<br><input type="checkbox"/> Abandoned, Insufficient Supply<br><input type="checkbox"/> Abandoned, Poor Water Quality<br><input type="checkbox"/> Abandoned, other, specify<br><input type="checkbox"/> Other, specify |
| 6 1/8                   | OPEN HOLE  |                        | 20           | 43 |  |

**Construction Record - Screen**

| Outside Diameter (cm/in) | Material (Plastic, Galvanized, Steel) | Slot No. | Depth (m/ft) |    |
|--------------------------|---------------------------------------|----------|--------------|----|
|                          |                                       |          | From         | To |
|                          |                                       |          |              |    |

**Water Details**

Water found at Depth 40 (m/ft) Kind of Water:  Fresh  Untested  Gas  Other, specify

Water found at Depth (m/ft) Kind of Water:  Fresh  Untested  Gas  Other, specify

Water found at Depth (m/ft) Kind of Water:  Fresh  Untested  Gas  Other, specify

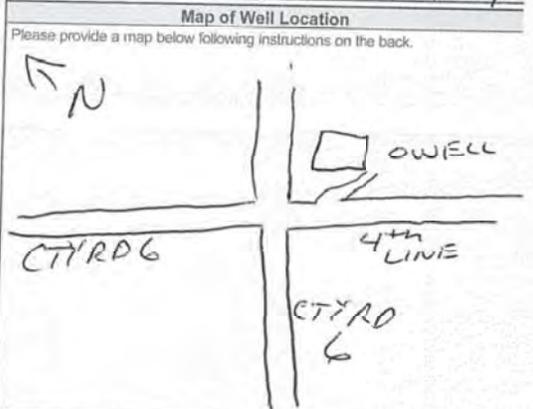
**Hole Diameter**

| Depth (m/ft) | Diameter (cm/in) |
|--------------|------------------|
| From         | To               |
| 0 20         | 8 3/4            |
| 20 43        | 6 1/8            |

**Well Contractor and Well Technician Information**

Business Name of Well Contractor WENSLEY WATER WELL LTD Well Contractor's Licence No. 6578  
 Business Address (Street Number/Name) RR 2 LAKEFIELD Municipality PETERBOROUGH  
 Province ON Postal Code K0L2H0 Business E-mail Address

Business Telephone No. (inc. area code) 705 652 1629 Name of Well Technician (Last Name, First Name) ERIC WENSLEY  
 Well Technician's Licence No. 0632 Signature of Technician and/or Contractor Date Submitted 20160505



Comments:

Well owner's information package delivered  Yes  No Date Package Delivered 20160422

Date Work Completed 20160422

**Ministry Use Only**  
 Audit No. 2224203  
 JUL 04 2016



Measurements recorded in:  Metric  Imperial

A268544

Well Owner's Information

First Name: Township of Duro-Dummer, E-mail Address: [blank], Mailing Address: 899 South St., Municipality: Warsaw, Province: ON, Postal Code: K0K3A0, Telephone No.: 795652399

Well Location

Address of Well Location: 1951 County RD #6, Township: Duro-Dummer, County/District/Municipality: Peterborough, City/Town/Village: Mill's Glen, Province: Ontario, Postal Code: K0K3A0, UTM Coordinates: NAD 83 17 7871160 Northing 491331138

Overburden and Bedrock Materials/Abandonment Sealing Record (see instructions on the back of this form)

Table with columns: General Colour, Most Common Material, Other Materials, General Description, Depth From (m/ft), Depth To (m/ft). Rows include: Brown Med Sand (0-1.22m), Brown Coarse Sand (1.22-2.74m), Grey Limestone (2.74-3.05m), Grey Limestone (3.05-4.72m).

Annular Space table with columns: Depth Set at (m/ft) From/To, Type of Sealant Used (Material and Type), Volume Placed (m³/ft³). Rows include: Bentonite (0-2.13m), Sand (2.13-4.72m).

Results of Well Yield Testing table with columns: Draw Down (Time, Water Level), Recovery (Time, Water Level). Includes notes on pumping rates and duration.

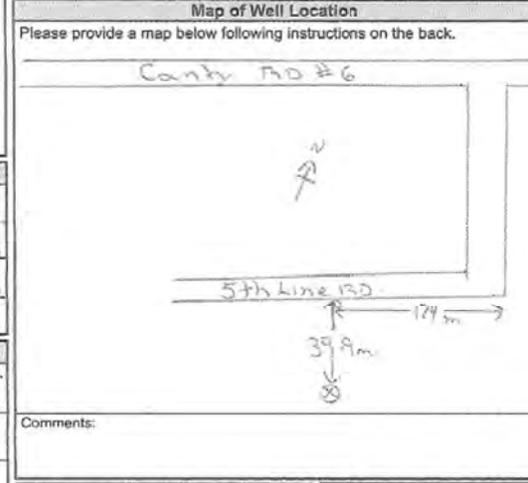
Method of Construction and Well Use checkboxes. Includes options for Cable Tool, Rotary, Boring, etc.

Construction Record - Casing table with columns: Inside Diameter (cm/in), Open Hole OR Material, Wall Thickness (cm/in), Depth (m/ft) From/To, Status of Well. Rows include: Steel (0.64 to 0.91), Plastic (0.47 to 2.44).

Construction Record - Screen table with columns: Outside Diameter (cm/in), Material, Slot No., Depth (m/ft) From/To. Row includes: Plastic (0.10), 2.44-4.72.

Water Details and Hole Diameter tables. Water found at depths: 4.36, 3.05, 4.72. Hole Diameter: 0-3.05 (22.35), 3.05-4.72 (10.16).

Well Contractor and Well Technician Information. Business Name: GET Drilling LTD, Business Address: 273 Duro-Dummer RD, Municipality: Noranee.



Well owner's information and Date Submitted. Bus. Telephone No.: 413544767, Name of Well Technician: Harrison, Date Submitted: 2019/07/16.

Ministry Use Only. Audit No.: 2298776, Received: AUG 01 2019.

UTM 1172 728013E

3109E



WATER RESOURCES DIVISION 51  
AUG 31 1964  
ONTARIO WATER RESOURCES COMMISSION

No. 1116

Co. R 14932660N

The Ontario Water Resources Commission Act

Elev. 9 R 0980

# WATER WELL RECORD

Basin 2A Peterborough Township, Village, Town or City *Sumner*

Con. 4 ✓ Lot 26 ✓ Date completed 10 Aug 1964 (day month year)

Owner [redacted] Address RR 2 Lakefield Ont

## Casing and Screen Record

*PER SKETCH & TOPD*

## Pumping Test

Inside diameter of casing 5 inch

Static level 25 ft

Total length of casing 20 ft.

Test-pumping rate 4 G.P.M.

Type of screen

Pumping level 25 ft.

Length of screen

Duration of test pumping 2 hr.

Depth to top of screen

Water clear or cloudy at end of test *clearing*

Diameter of finished hole 5 inch

Recommended pumping rate 4 G.P.M.

with pump setting of 26 ft. feet below ground surface

## Well Log

## Water Record

### Overburden and Bedrock Record

*dirt & stones  
hard grey limestone*

From ft.

To ft.

Depth(s) at which water(s) found

Kind of water (fresh, salty, sulphur)

0  
18

18  
28 ft.

26

*fresh*

For what purpose(s) is the water to be used?

*household*

Is well on upland, in valley, or on hillside? *upland*

Drilling or Boring Firm *Clinton Griffith*

Address *RR 2 Wagsaw Ont*

Licence Number *1282*

Name of Driller or Borer *Clinton Griffith*

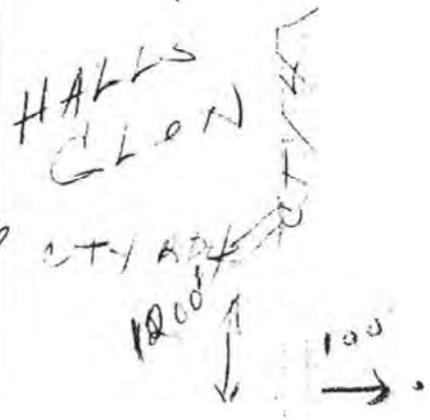
Address *RR 2 Wagsaw Ont*

Date *Aug 12/64*

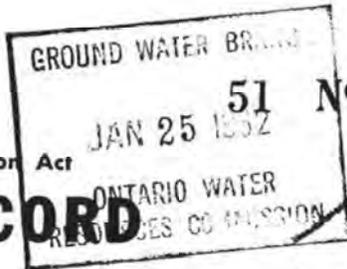
*Clinton Griffith*  
(Signature of Licensed Drilling or Boring Contractor)

## Location of Well

In diagram below show distances of well from road and lot line. Indicate north by arrow.



3109E



UTM 17Z 728882E

SR 4933748N

Elev. 16R 0875

The Ontario Water Resources Commission Act

# WATER WELL RECORD

Basin 24 County or District

Township, Village, Town or City

Con. 4 ✓ Lot 27 ✓

Date completed 30 Jan 1992 (day month year)

Address HALL GLEN

### Casing and Screen Record

### Pumping Test

Inside diameter of casing 6"

Total length of casing 30'

Type of screen

Length of screen

Depth to top of screen

Diameter of finished hole 6"

Static level

Test-pumping rate G.P.M.

Pumping level 2'

Duration of test pumping 30 min

Water clear or cloudy at end of test

Recommended pumping rate G.P.M.

with pump setting of 2 feet below ground surface

### Well Log

### Water Record

| Overburden and Bedrock Record | From ft. | To ft. | Depth(s) at which water(s) found | Kind of water (fresh, salty, sulphur) |
|-------------------------------|----------|--------|----------------------------------|---------------------------------------|
| soil                          | 0        | 1      |                                  |                                       |
| clay shale                    | 1        | 30     | 17.3                             |                                       |
| stake + gravel                |          |        |                                  |                                       |

For what purpose(s) is the water to be used?

Is well on upland, in valley, or on hillside?

Drilling or Boring Firm

Address

Licence Number

Name of Driller or Borer

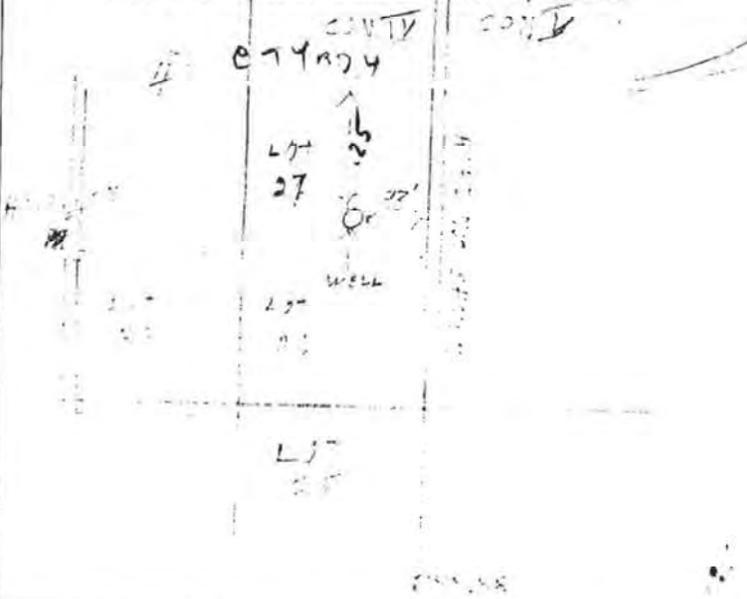
Address

Date

(Signature of Licensed Drilling or Boring Contractor)

### Location of Well

In diagram below show distances of well from road and lot line. Indicate north by arrow.





# The Ontario Water Resources Commission Act WATER WELL RECORD

31D/9E

Water management in Ontario

1. PRINT ONLY IN SPACES PROVIDED

2. CHECK  CORRECT BOX WHERE APPLICABLE

11

5105155

MUNICIP

571908

CON

Cdn

03

COUNTY OR DISTRICT: **PETERBOROUGH** TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE: **DUMMER** CON., BLOCK, TRACT, SURVEY, ETC.: **3** LOT: **287**

OWNER (SURNAME, FIRST, LAST): [REDACTED] ADDRESS: **R2 HALLGLEN - LAKEFIELD** DATE COMPLETED: DAY **16** MO **7** YR **70**

THING: **9.33/40** ELEVATION: **0900** BASIN CODE: **24**

## LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

| GENERAL COLOUR | MOST COMMON MATERIAL | OTHER MATERIALS | GENERAL DESCRIPTION | DEPTH - FEET |    |
|----------------|----------------------|-----------------|---------------------|--------------|----|
|                |                      |                 |                     | FROM         | TO |
| Brown          | Top Soil             |                 |                     | 0            | 1  |
| Red/Brown      | MED. SAND            |                 |                     | 1            | 6  |
|                |                      | STONES          |                     | 6            | 10 |
| Grey           | LIMESTONE            |                 |                     | 10           | 16 |
| Brown          | LIMESTONE            |                 |                     | 16           | 22 |

31: 0000002 0000009 0000012 0000015 0000015

32: [Scale]

**41 WATER RECORD**

WATER FOUND AT - FEET: **0015** (10-13) **0017** (13-17) **0020** (18-20) **0022** (20-22) **UNTESTED** (20-23) **UNTESTED** (30-30)

KIND OF WATER:  FRESH  SALTY  SULPHUR  MINERAL

**51 CASING & OPEN HOLE RECORD**

| INSIDE DIAM. INCHES | MATERIAL | WALL THICKNESS INCHES | DEPTH - FEET |       |
|---------------------|----------|-----------------------|--------------|-------|
|                     |          |                       | FROM         | TO    |
| 06                  | STEEL    |                       | 0            | 0015  |
| 6 7/8               | CONCRETE | 1.88                  | 0            | 13.34 |
| 17-18               | STEEL    |                       | 20-23        |       |
| 24-25               | STEEL    |                       | 27-30        |       |

**SCREEN**

SIZES(S) OF OPENING (SLOT NO.): [ ] DIAMETER: [ ] LENGTH: [ ]

MATERIAL AND TYPE: [ ] DEPTH TO TOP OF SCREEN: [ ]

**61 PLUGGING & SEALING RECORD**

| DEPTH SET AT - FEET |       | MATERIAL AND TYPE (CEMENT GROUT, LEAD PACKER, ETC.) |
|---------------------|-------|---|
| FROM                | TO    |   |
| 10-13               | 14-17 |   |
| 18-21               | 22-25 |   |
| 26-29               | 30-33 |   |

**71 PUMPING TEST**

PUMPING TEST METHOD:  PUMP  BAILER PUMPING RATE: **0004** GPM DURATION OF PUMPING: **01** HOURS **07** MINS.

STATIC LEVEL: **004** FEET WATER LEVEL END OF PUMPING: **019** FEET

WATER LEVELS DURING: 15 MINUTES: **004** FEET 30 MINUTES: **004** FEET 45 MINUTES: **004** FEET 60 MINUTES: **004** FEET

IF FLOWING, GIVE RATE: **19** GPM PUMP INTAKE SET AT: **19** FEET WATER AT END OF TEST:  CLEAR  CLOUDY

RECOMMENDED PUMP TYPE:  SHALLOW  DEEP RECOMMENDED PUMP SETTING: **017** FEET RECOMMENDED PUMPING RATE: **0004** GPM



**FINAL STATUS OF WELL**

WATER SUPPLY  ABANDONED, INSUFFICIENT SUPPLY  ABANDONED, POOR QUALITY  TEST HOLE  RECHARGE WELL  UNFINISHED

**WATER USE** **01**

DOMESTIC  STOCK  IRRIGATION  INDUSTRIAL  OTHER

COMMERCIAL  MUNICIPAL  PUBLIC SUPPLY  COOLING OR AIR CONDITIONING  NOT USED

**METHOD OF DRILLING**

CABLE TOOL  ROTARY (CONVENTIONAL)  ROTARY (REVERSE)  ROTARY (AIR)  AIR PERCUSSION

BORING  DIAMOND  JETTING  DRIVING

**CONTRACTOR**

NAME OF WELL CONTRACTOR: **FAULKNER WELL DRILL CO. LTD** LICENCE NUMBER: **2104**

ADDRESS: **687 WATER ST., PETERBOROUGH, ONT**

NAME OF DRILLER OR BORER: **JAMES A FAULKNER** LICENCE NUMBER: [ ]

SIGNATURE OF CONTRACTOR: [Signature] SUBMISSION DATE: DAY **16** MO **7** YR **72**

**OFFICE USE ONLY**

DATA SOURCE: **1** CONTRACTOR: **2104** DATE RECEIVED: **170970**

DATE OF INSPECTION: [ ] INSPECTOR: [Signature]

REMARKS: [ ]



100021  
5104657  
5105527

31 D/9 E

DIVISION OF  
WATER RESOURCES  
JAN 21 1968  
ONTARIO WATER  
RESOURCES COMMISSION  
Dummer

IM 117# 172176510  
49331150  
ev. 6 109160

Water management in Ontario  
The Ontario Water Resources Commission Act

# WATER WELL RECORD

County of District Peterborough Township, Village, Town or City  
Con. H. B. II Lot 27 Date completed 18 Oct. 1968  
(day month year)  
Address R. R. #2 Lakefield, Ontario.

### Casing and Screen Record

Inside diameter of casing 6 1/4" I.D.  
Total length of casing 11'  
Type of screen none  
Length of screen  
Depth to top of screen  
Diameter of finished hole 6 3/4" I.D.

### Pumping Test

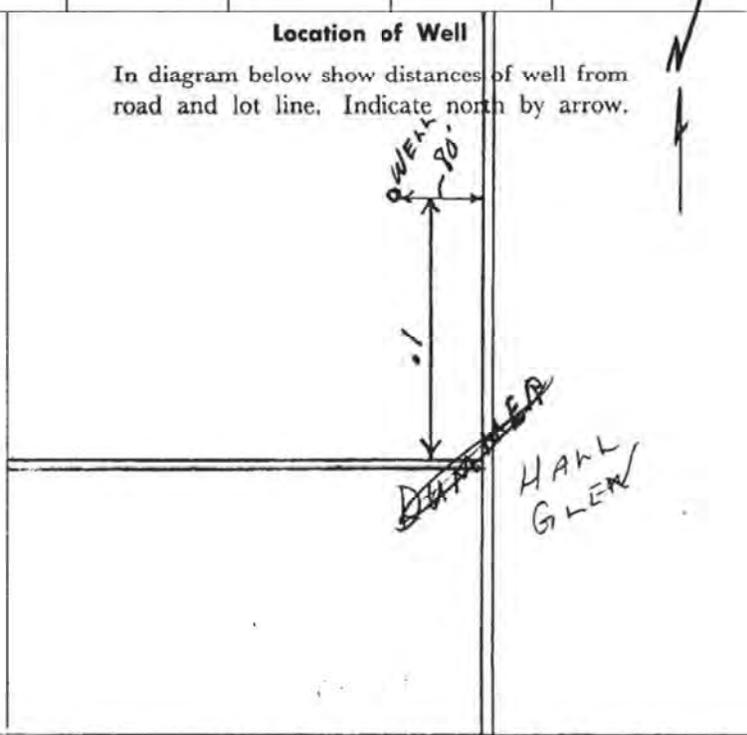
Static level 10  
Test-pumping rate 5 G.P.M.  
Pumping level 25'  
Duration of test pumping 3 hrs.  
Water clear or cloudy at end of test Clear  
Recommended pumping rate 5 G.P.M.  
with pump setting of 25' feet below ground surface

### Well Log

### Water Record

| Overburden and Bedrock Record | From ft. | To ft. | Depth(s) at which water(s) found | Kind of water (fresh, salty, sulphur) |
|-------------------------------|----------|--------|----------------------------------|---------------------------------------|
| Top soil                      | 0        | 1      |                                  |                                       |
| Brown clay                    | 1        | 8      |                                  |                                       |
| Gray limestone rock           | 8        | 30     | 29-30                            | Fresh<br>Untested                     |
|                               |          |        |                                  |                                       |
|                               |          |        |                                  |                                       |
|                               |          |        |                                  |                                       |
|                               |          |        |                                  |                                       |
|                               |          |        |                                  |                                       |
|                               |          |        |                                  |                                       |

For what purpose(s) is the water to be used? Domestic  
Is well on upland, in valley, or on hillside? Upland  
Drilling or Boring Firm  
Faulkner Well Drilling Co. Ltd.  
Address 687 Water St. Peterborough, Ont.  
Licence Number 2938  
Name of Driller or Borer Wm. Burgess  
Address R.R. #3 Omemece, Ontario.  
Date Oct. 18 1968  
(Signature of Licensed Drilling or Boring Contractor)





Ontario

# WATER WELL RECORD

31096

1. PRINT ONLY IN SPACES PROVIDED  
2. CHECK  CORRECT BOX WHERE APPLICABLE

11

5107698

MUNICIPALITY 51.008

CORPORATION CAN

03

COUNTY OR DISTRICT: Peterborough  
 TOWNSHIP: Dummer  
 CON. BLOCK, TRACT, SURVEY, ETC.: 3  
 DATE COMPLETED: 08 MO 11 YR 75  
 ADDRESS: Cliffcrest Dr., Scarborough, Ont.  
 ELEVATION: 330.50  
 BASIN CODE: 6 24

### LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

| GENERAL COLOUR | MOST COMMON MATERIAL | OTHER MATERIALS | GENERAL DESCRIPTION | DEPTH - FEET |    |
|----------------|----------------------|-----------------|---------------------|--------------|----|
|                |                      |                 |                     | FROM         | TO |
| Black          | Top soil             |                 | Soft                | 0            | 1  |
| Brown          | Sand                 |                 | Loose               | 1            | 6  |
| Grey           | Shale                |                 | Loose               | 6            | 24 |
| Grey           | Gravel (fine)        |                 | Loose               | 24           | 26 |

31 000180285 000662877 002421777 002622977

32

41 WATER RECORD

WATER FOUND AT - FEET: 0024  
 KIND OF WATER:  FRESH,  SALTY  
 SULPHUR,  MINERAL

51 CASING & OPEN HOLE RECORD

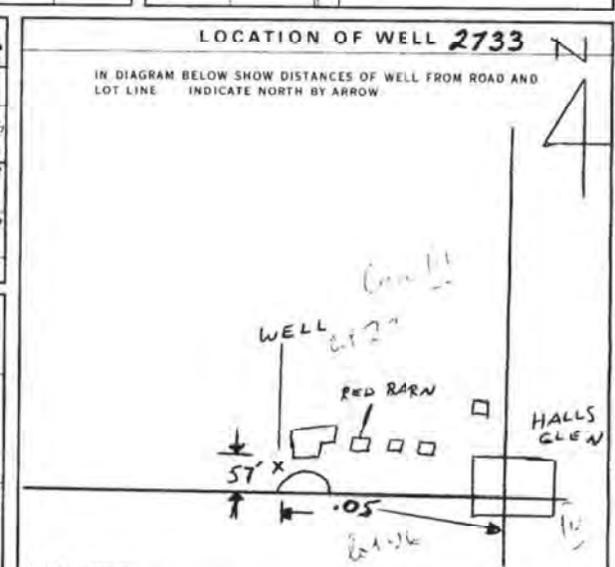
INSIDE DIAMETER: 6.4  
 MATERIAL:  STEEL  
 WALL THICKNESS: .188  
 DEPTH - FEET: 0 TO 26

61 PLUGGING & SEALING RECORD

DEPTH SET AT - FEET: 10-13 TO 16-17  
 MATERIAL AND TYPE:  CEMENT GROUT,  LEAD PACKER, ETC.

71 PUMPING TEST

PUMPING TEST METHOD:  PUMP,  BAILEY  
 PUMPING RATE: 0005 GPM  
 DURATION OF PUMPING: 06 HOURS, 30 MINUTES  
 WATER LEVELS DURING PUMPING: 011 FEET  
 RECOMMENDED PUMP TYPE:  SHALLOW,  DEEP  
 RECOMMENDED PUMP SETTING: 024 FEET  
 RECOMMENDED PUMPING CAPACITY: 0005 GPM



54 FINAL STATUS OF WELL:  WATER SUPPLY

55-56 WATER USE:  DOMESTIC

57 METHOD OF DRILLING:  CABLE TOOL

CONTRACTOR: Faulkner Well Drilling Co. Ltd  
 ADDRESS: 789 Erskine Ave., Peterborough, Ont.  
 NAME OF DRILLER OR BOREH: Robert Verheul  
 SUBMISSION DATE: 10 MO 11 YR 75

OFFICE USE ONLY

DATA SOURCE: 1  
 CONTRACTOR: 2104  
 DATE RECEIVED: 09 25 75  
 DATE OF INSPECTION: \_\_\_\_\_  
 INSPECTOR: \_\_\_\_\_



Ontario

# WATER WELL RECORD

1. PRINT ONLY IN SPACES PROVIDED  
2. CHECK  CORRECT BOX WHERE APPLICABLE

11 5107755 51.008 CAN 03

COUNTY OR DISTRICT: Peterborough  
 TOWNSHIP: Dummer  
 CON. BLOCK, TRACT, SURVEY ETC.: 3  
 DATE COMPLETED: DAY 11 MO 12 YR 75  
 R. 2, Lakefield, Ont.  
 33.950 5 0900 6 24

### LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

| GENERAL COLOUR | MOST COMMON MATERIAL | OTHER MATERIALS | GENERAL DESCRIPTION | DEPTH - FEET |    |
|----------------|----------------------|-----------------|---------------------|--------------|----|
|                |                      |                 |                     | FROM         | TO |
|                |                      | <u>DUG WELL</u> |                     | 0            | 15 |
| Lt. Brown      | Limestone            |                 | Porous              | 15           | 24 |

31 0015 24 002461580

41 WATER RECORD

| DEPTH FOUND AT - FEET | KIND OF WATER   |
|-----------------------|---|
| 10-15                 | <input checked="" type="checkbox"/> FRESH <input type="checkbox"/> SULPHUR<br><input type="checkbox"/> SALTY <input type="checkbox"/> MINERAL |
| 15-18                 | <input type="checkbox"/> FRESH <input type="checkbox"/> SULPHUR<br><input type="checkbox"/> SALTY <input type="checkbox"/> MINERAL            |
| 20-22                 | <input type="checkbox"/> FRESH <input type="checkbox"/> SULPHUR<br><input type="checkbox"/> SALTY <input type="checkbox"/> MINERAL            |
| 25-26                 | <input type="checkbox"/> FRESH <input type="checkbox"/> SULPHUR<br><input type="checkbox"/> SALTY <input type="checkbox"/> MINERAL            |
| 30-33                 | <input type="checkbox"/> FRESH <input type="checkbox"/> SULPHUR<br><input type="checkbox"/> SALTY <input type="checkbox"/> MINERAL            |

51 CASING & OPEN HOLE RECORD

| INSIDE DIAMETER INCHES | MATERIAL  | WALL THICKNESS INCHES | DEPTH - FEET |       |
|------------------------|---|-----------------------|--------------|-------|
|                        |   |                       | FROM         | TO    |
| 6 1/2                  | <input checked="" type="checkbox"/> STEEL<br><input type="checkbox"/> GALVANIZED<br><input type="checkbox"/> CONCRETE<br><input type="checkbox"/> OPEN HOLE | .188                  | 0            | 16    |
| 06                     |   |                       |              | 0016  |
| 17-18                  | <input type="checkbox"/> STEEL<br><input type="checkbox"/> GALVANIZED<br><input type="checkbox"/> CONCRETE<br><input type="checkbox"/> OPEN HOLE            |                       |              | 20-22 |
| 24-25                  | <input type="checkbox"/> STEEL<br><input type="checkbox"/> GALVANIZED<br><input type="checkbox"/> CONCRETE<br><input type="checkbox"/> OPEN HOLE            |                       |              | 27-30 |

SCREEN RECORD

| SIZE(S) OF OPENING (SLOT NO.) | DIAMETER INCHES | LENGTH FEET |
|-------------------------------|-----------------|-------------|
| 31-33                         | 34-38           | 39-40       |

61 PLUGGING & SEALING RECORD

| DEPTH SET AT - FEET | MATERIAL AND TYPE (CEMENT GROUT, LEAD PACKER, ETC.) |
|---------------------|---|
| 10-13               | 16-17   |
| 18-21               | 22-25   |
| 28-29               | 30-33   |

71 PUMPING TEST

PUMPING TEST METHOD:  PUMP  BAILEY

PUMPING RATE: 0003 GPM

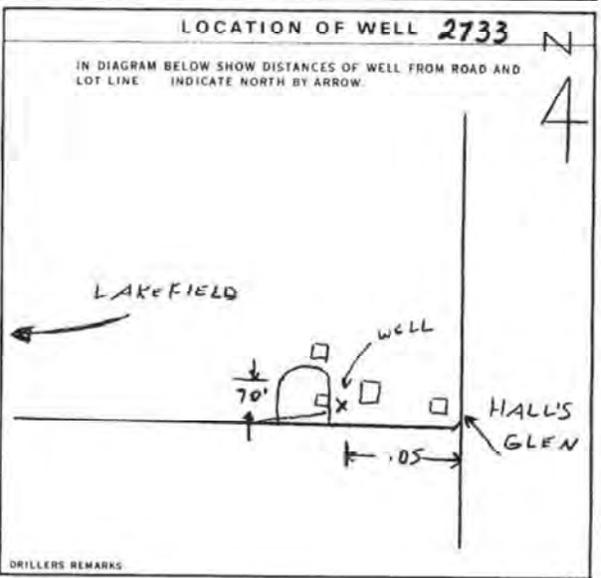
DURATION OF PUMPING: 05 HOURS 30 MINS

| STATIC LEVEL | WATER LEVEL END OF PUMPING | WATER LEVELS DURING     | RECOVERY                            |
|--------------|----------------------------|-------------------------|-------------------------------------|
| 013          | 019                        | 013 013 013 013 013 013 | <input checked="" type="checkbox"/> |

RECOMMENDED PUMP TYPE:  SHALLOW  DEEP

RECOMMENDED PUMP SETTING: 023 FEET

RECOMMENDED PUMPING RATE: 0003 GPM



FINAL STATUS OF WELL:  WATER SUPPLY

WATER USE: 01 DOMESTIC

METHOD OF DRILLING:  CABLE TOOL

CONTRACTOR: Faulkner Well Drilling Co. Ltd  
 789 Erskine Ave., Peterborough, Ont.  
 Robert Verheul  
 DAY 16 MO 12 YR 75

OFFICE USE ONLY

DATE SOURCE: 1

CONTRACTOR: 2104

DATE RECEIVED: 29 12 75

INSPECTOR: P G. V.

REMARKS: WI



Ontario

# WATER WELL RECORD

31002

1. PRINT ONLY IN SPACES PROVIDED  
2. CHECK  CORRECT BOX WHERE APPLICABLE

11 5108125 51008 CAN 03  
 COUNTY OR DISTRICT: PETERBOROUGH TOWNSHIP, BOROUGH CITY, VILLAGE: DURON DUMMER  
 MUNICIPAL BLOCK TRACT SURVEY ETC: \* 32R  
 DATE COMPLETED: DAY 15 MONTH 08 YEAR 25  
 ELEVATION: 33.100 5 0900 6 24

### LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

| GENERAL COLOUR | MOST COMMON MATERIAL | OTHER MATERIALS | GENERAL DESCRIPTION | DEPTH - FEET |    |
|----------------|----------------------|-----------------|---------------------|--------------|----|
|                |                      |                 |                     | FROM         | TO |
| BROWN          | SAND                 | STONES          |                     | 0            | 8  |
| "              | LIME STONE           |                 |                     | 8            | 13 |
| GREY           | "                    | "               |                     | 13           | 25 |
| BROWN          | "                    | SHALE           |                     | 25           | 27 |

31 000812812 00136115 0025215 002761517  
 32

41 WATER RECORD

| WATER FOUND AT - FEET | KIND OF WATER  |
|-----------------------|--|
| 15-18                 | 1 <input checked="" type="checkbox"/> FRESH 2 <input type="checkbox"/> SALTY 3 <input type="checkbox"/> SULPHUR 4 <input type="checkbox"/> MINERAL |
| 20-23                 | 1 <input type="checkbox"/> FRESH 2 <input type="checkbox"/> SALTY 3 <input type="checkbox"/> SULPHUR 4 <input type="checkbox"/> MINERAL            |
| 25-28                 | 1 <input type="checkbox"/> FRESH 2 <input type="checkbox"/> SALTY 3 <input type="checkbox"/> SULPHUR 4 <input type="checkbox"/> MINERAL            |
| 30-33                 | 1 <input type="checkbox"/> FRESH 2 <input type="checkbox"/> SALTY 3 <input type="checkbox"/> SULPHUR 4 <input type="checkbox"/> MINERAL            |

51 CASING & OPEN HOLE RECORD

| HOLE DIA. INCHES | MATERIAL   | WALL THICKNESS INCHES | DEPTH - FEET |       |
|------------------|--|-----------------------|--------------|-------|
|                  |  |                       | FROM         | TO    |
| 8.75             | 1 <input checked="" type="checkbox"/> STEEL 2 <input type="checkbox"/> GALVANIZED 3 <input type="checkbox"/> CONCRETE 4 <input type="checkbox"/> OPEN HOLE | 1.38                  | 0            | 0008  |
| 06               | 1 <input type="checkbox"/> STEEL 2 <input type="checkbox"/> GALVANIZED 3 <input type="checkbox"/> CONCRETE 4 <input type="checkbox"/> OPEN HOLE            |                       | 8            | 27    |
| 17-18            | 1 <input type="checkbox"/> STEEL 2 <input type="checkbox"/> GALVANIZED 3 <input type="checkbox"/> CONCRETE 4 <input type="checkbox"/> OPEN HOLE            |                       |              | 20-23 |
| 24-25            | 1 <input type="checkbox"/> STEEL 2 <input type="checkbox"/> GALVANIZED 3 <input type="checkbox"/> CONCRETE 4 <input type="checkbox"/> OPEN HOLE            |                       |              | 27-30 |

61 PLUGGING & SEALING RECORD

| DEPTH SET AT - FEET | MATERIAL AND TYPE | CEMENT GROUT LEAD PACKER, ETC. |
|---------------------|-------------------|--------------------------------|
| 10-13               |                   |                                |
| 18-21               |                   |                                |
| 26-29               |                   |                                |

71 PUMPING TEST

PUMPING TEST METHOD: 1  PUMP 2  BAILER

PUMPING RATE: 0008 GPM

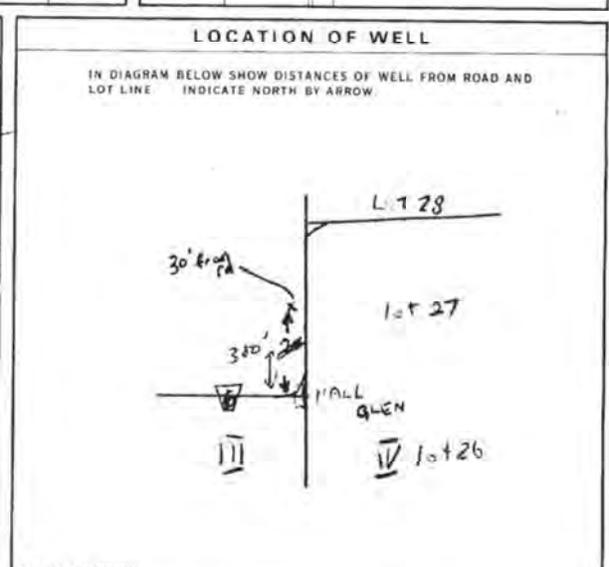
DURATION OF PUMPING: 02 HOURS 00 MINS

| STATIC LEVEL | WATER LEVEL END OF PUMPING | WATER LEVELS DURING   |
|--------------|----------------------------|---|
| 017          | 023                        | 15 MINUTES: 28-28 30 MINUTES: 29-31 45 MINUTES: 32-34 60 MINUTES: 35-37 |

RECOMMENDED PUMP TYPE:  SHALLOW  DEEP

RECOMMENDED PUMP SETTING: 025 FEET

RECOMMENDED PUMPING RATE: 0005 GPM



FINAL STATUS OF WELL: 1  WATER SUPPLY 2  OBSERVATION WELL 3  TEST HOLE 4  RECHARGE WELL

WATER USE: 01 1  DOMESTIC 2  STOCK 3  IRRIGATION 4  INDUSTRIAL 5  COMMERCIAL 6  MUNICIPAL 7  PUBLIC SUPPLY 8  COOLING OR AIR CONDITIONING 9  NOT USED

METHOD OF DRILLING: 1  CABLE TOOL 2  ROTARY (CONVENTIONAL) 3  ROTARY (REVERSE) 4  ROTARY (AIR) 5  AIR PERCUSSION 6  BORING 7  DIAMOND 8  JETTING 9  DRIVING

CONTRACTOR: D.E. ELVIDGE WELL DRILLING 1904  
 ADDRESS: P.O. Box 93 NT 30  
 NAME OF DRILLER OR BORER: MIKE ELVIDGE  
 SIGNATURE OF CONTRACTOR: [Signature]  
 SUBMISSION DATE: DAY \_\_\_\_\_ MO. \_\_\_\_\_ YR. \_\_\_\_\_

OFFICE USE ONLY

DATA SOURCE: 1 CONTRACTOR: 1904 DATE RECEIVED: 16 09 76  
 DATE OF INSPECTION: \_\_\_\_\_ INSPECTOR: \_\_\_\_\_  
 REMARKS: \_\_\_\_\_  
 P# 4026 27/77  
 WI





# WATER WELL RECORD

1. PRINT ONLY IN SPACES PROVIDED  
2. CHECK  CORRECT BOX WHERE APPLICABLE

11

5113996

MUNICIP 51008

CON 104

COUNTY OR DISTRICT Wes TOWNSHIP Dimmer CON. BLOCK TRACT LOT NO. 4 LOT 27  
RR#2 LAKEFIELD DATE COMPLETED 30 07 89

| LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS) |                      |                 |                     |              |           |
|--|----------------------|-----------------|---------------------|--------------|-----------|
| GENERAL COLOUR   | MOST COMMON MATERIAL | OTHER MATERIALS | GENERAL DESCRIPTION | DEPTH - FEET |           |
|  |                      |                 |                     | FROM         | TO        |
| <u>Brown</u>   | <u>Clay</u>          | <u>Boulders</u> |                     | <u>0</u>     | <u>8</u>  |
| <u>Green</u>   | <u>Limestone</u>     |                 |                     | <u>8</u>     | <u>45</u> |

31 \_\_\_\_\_  
32 \_\_\_\_\_

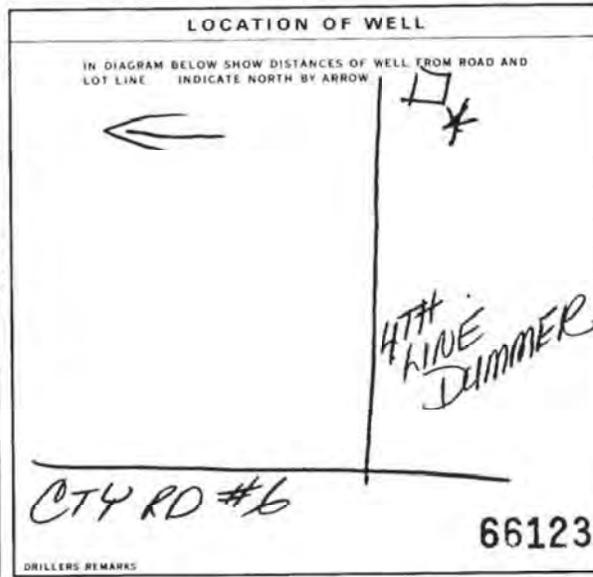
| 41 WATER RECORD       |   |                                |                                   |
|-----------------------|---|--------------------------------|-----------------------------------|
| WATER FOUND AT - FEET | KIND OF WATER                             |                                |                                   |
| <u>41</u>             | <input checked="" type="checkbox"/> FRESH | <input type="checkbox"/> SALTY | <input type="checkbox"/> SULPHUR  |
|                       | <input type="checkbox"/> FRESH            | <input type="checkbox"/> SALTY | <input type="checkbox"/> MINERALS |
|                       | <input type="checkbox"/> FRESH            | <input type="checkbox"/> SALTY | <input type="checkbox"/> GAS      |

| 51 CASING & OPEN HOLE RECORD |   |                       |                      |
|------------------------------|---|-----------------------|----------------------|
| INSIDE DIAM. INCHES          | MATERIAL                                  | WELL THICKNESS INCHES | DEPTH - FEET         |
| <u>1 1/4</u>                 | <input checked="" type="checkbox"/> STEEL | <u>1.88</u>           | <u>0</u> - <u>20</u> |
|                              | <input type="checkbox"/> GALVANIZED       |                       |                      |
|                              | <input type="checkbox"/> CONCRETE         |                       |                      |
|                              | <input type="checkbox"/> OPEN HOLE        |                       |                      |
|                              | <input type="checkbox"/> PLASTIC          |                       |                      |

| SCREEN | SIZE(S) OF OPENING (SLOT NO.) | DIAMETER INCHES | LENGTH FEET |
|--------|-------------------------------|-----------------|-------------|
|        |                               |                 |             |

| 61 PLUGGING & SEALING RECORD |                   |                        |                  |
|------------------------------|-------------------|------------------------|------------------|
| DEPTH SET AT - FEET          | MATERIAL AND TYPE | DEPTH TO TOP OF SCREEN | LEAD PACKER ETC. |
|                              |                   |                        |                  |

| 71 PUMPING TEST                             |                                 | PUMPING RATE                              |                                 | DURATION OF PUMPING |              |
|---|---------------------------------|---|---------------------------------|---------------------|--------------|
| <input checked="" type="checkbox"/> AIR     | <input type="checkbox"/> BAILER | <u>10</u>                                 | <u>1</u>                        | <u>15-18</u>        | <u>17-18</u> |
| STATIC LEVEL                                | WATER LEVEL END OF PUMPING      | WATER LEVELS DURING                       |                                 |                     |              |
| <u>10</u>                                   | <u>45</u>                       | 15 MINUTES                                | 30 MINUTES                      | 45 MINUTES          | 60 MINUTES   |
|   |                                 | <u>10</u>                                 | <u>10</u>                       | <u>10</u>           | <u>10</u>    |
| IF FLOWING GIVE RATE                        | PUMP INTAKE SET AT              | WATER AT END OF TEST                      |                                 |                     |              |
|   | <u>45</u>                       | <input checked="" type="checkbox"/> CLEAR | <input type="checkbox"/> CLOUDY |                     |              |
| RECOMMENDED PUMP TYPE                       | RECOMMENDED PUMP SETTING        | RECOMMENDED PUMPING RATE                  |                                 |                     |              |
| <input checked="" type="checkbox"/> SHALLOW | <u>40</u>                       | <u>5</u>                                  |                                 |                     |              |



| 34 FINAL STATUS OF WELL                          |  |
|--|--|
| <input checked="" type="checkbox"/> WATER SUPPLY | <input type="checkbox"/> ABANDONED - INSUFFICIENT SUPPLY |
| <input type="checkbox"/> OBSERVATION WELL        | <input type="checkbox"/> ABANDONED - POOR QUALITY        |
| <input type="checkbox"/> TEST HOLE               | <input type="checkbox"/> UNFINISHED                      |
| <input type="checkbox"/> RECHARGE WELL           | <input type="checkbox"/> DEWATERING                      |

| 35-38 WATER USE                              |  |
|--|--|
| <input checked="" type="checkbox"/> DOMESTIC | <input type="checkbox"/> COMMERCIAL                  |
| <input type="checkbox"/> STOCK               | <input type="checkbox"/> MUNICIPAL                   |
| <input type="checkbox"/> IRRIGATION          | <input type="checkbox"/> PUBLIC SUPPLY               |
| <input type="checkbox"/> INDUSTRIAL          | <input type="checkbox"/> COOLING OR AIR CONDITIONING |
| <input type="checkbox"/> OTHER               | <input type="checkbox"/> NOT USED                    |

| 37 METHOD OF CONSTRUCTION                      |                                  |
|--|----------------------------------|
| <input type="checkbox"/> CABLE TOOL            | <input type="checkbox"/> BORING  |
| <input type="checkbox"/> ROTARY (CONVENTIONAL) | <input type="checkbox"/> DIAMOND |
| <input type="checkbox"/> ROTARY (REVERSE)      | <input type="checkbox"/> JETTING |
| <input type="checkbox"/> ROTARY (AIR)          | <input type="checkbox"/> DRIVING |
| <input type="checkbox"/> AIR PERCUSSION        | <input type="checkbox"/> DIGGING |
|  | <input type="checkbox"/> OTHER   |

| CONTRACTOR                         |                             | WELL CONTRACTOR'S LICENCE NUMBER |  |
|------------------------------------|-----------------------------|----------------------------------|--|
| <u>Merwin Shaber Drilling</u>      | <u>1748</u>                 |                                  |  |
| <u>RR#2 Ingleton, Ont</u>          |                             |                                  |  |
| <u>Bob Bueck</u>                   | <u>10436</u>                |                                  |  |
| SIGNATURE OF TECHNICIAN/CONTRACTOR | SUBMISSION DATE             |                                  |  |
| <u>[Signature]</u>                 | DAY _____ MO _____ YR _____ |                                  |  |

| OFFICE USE ONLY    |             | CONTRACTOR  |             | DATE RECEIVED      |           |
|--------------------|-------------|-------------|-------------|--------------------|-----------|
| DATA SOURCE        | <u>1748</u> | <u>1748</u> | <u>1748</u> | <u>AUG 14 1989</u> | <u>89</u> |
| DATE OF INSPECTION |             | INSPECTOR   |             |                    |           |
| REMARKS            |             |             |             |                    |           |



1. PRINT ONLY IN SPACES PROVIDED  
2. CHECK  CORRECT BOX WHERE APPLICABLE

11 5115626 MUNICIPAL 51008 CON 104

|   |   |   |                  |
|---|---|---|------------------|
| COUNTY OR DISTRICT<br><b>Peterborough</b>   | TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE<br><b>Dummer</b> | CON. BLOCK, TRACT, SURVEY, ETC.<br><b>Conc. 4</b>         | LOT<br><b>26</b> |
| OWNER (SURNAME FIRST)<br><b>Dummer Twp.</b> | ADDRESS<br><b>Dummer Twp. Landfill Hole #1</b>          | DATE COMPLETED<br>DAY <b>27</b> MO <b>06</b> YR <b>91</b> |                  |

|        |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|--------|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| U<br>1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 |
|--------|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|

| LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS) |                      |                 |                     |              |       |
|--|----------------------|-----------------|---------------------|--------------|-------|
| GENERAL COLOUR   | MOST COMMON MATERIAL | OTHER MATERIALS | GENERAL DESCRIPTION | DEPTH - FEET |       |
|  |                      |                 |                     | FROM         | TO    |
| Brown  | Clay                 | Gravel          | Hard                | 0            | 2     |
| Grey   | Gravel               |                 | Dry                 | 2            | 6 1/2 |
| Grey   | Limestone            |                 |                     | 6 1/2        | 20    |
| Brown  | Shale                |                 | Water Bearing       | 20           | 22    |

|    |    |
|----|----|
| 31 | 32 |
|----|----|

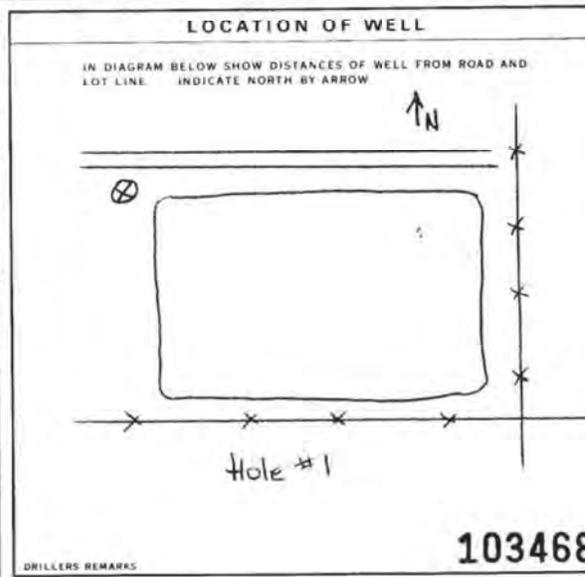
| 41 WATER RECORD       |   |
|-----------------------|---|
| WATER FOUND AT - FEET | KIND OF WATER   |
| 10-13                 | 1 <input type="checkbox"/> FRESH 3 <input type="checkbox"/> SULPHUR<br>2 <input type="checkbox"/> SALTY 4 <input type="checkbox"/> MINERALS<br>5 <input type="checkbox"/> GAS |
| 15-18                 | 1 <input type="checkbox"/> FRESH 3 <input type="checkbox"/> SULPHUR<br>2 <input type="checkbox"/> SALTY 4 <input type="checkbox"/> MINERALS<br>5 <input type="checkbox"/> GAS |
| 20-23                 | 1 <input type="checkbox"/> FRESH 3 <input type="checkbox"/> SULPHUR<br>2 <input type="checkbox"/> SALTY 4 <input type="checkbox"/> MINERALS<br>5 <input type="checkbox"/> GAS |
| 25-28                 | 1 <input type="checkbox"/> FRESH 3 <input type="checkbox"/> SULPHUR<br>2 <input type="checkbox"/> SALTY 4 <input type="checkbox"/> MINERALS<br>5 <input type="checkbox"/> GAS |
| 30-33                 | 1 <input type="checkbox"/> FRESH 3 <input type="checkbox"/> SULPHUR<br>2 <input type="checkbox"/> SALTY 4 <input type="checkbox"/> MINERALS<br>5 <input type="checkbox"/> GAS |

| 51 CASING & OPEN HOLE RECORD |  |                       |            |
|------------------------------|--|-----------------------|------------|
| INSIDE DIAM. INCHES          | MATERIAL   | WALL THICKNESS INCHES | DEPTH FEET |
| 6 1/2"                       | 1 <input type="checkbox"/> STEEL<br>2 <input type="checkbox"/> GALVANIZED<br>3 <input type="checkbox"/> CONCRETE<br>4 <input type="checkbox"/> OPEN HOLE<br>5 <input type="checkbox"/> PLASTIC | .188                  | +3 3       |
| 2"                           | 1 <input type="checkbox"/> STEEL<br>2 <input type="checkbox"/> GALVANIZED<br>3 <input type="checkbox"/> CONCRETE<br>4 <input type="checkbox"/> OPEN HOLE<br>5 <input type="checkbox"/> PLASTIC | PVC                   | +3 107     |
| 1 1/2"                       | 1 <input type="checkbox"/> STEEL<br>2 <input type="checkbox"/> GALVANIZED<br>3 <input type="checkbox"/> CONCRETE<br>4 <input type="checkbox"/> OPEN HOLE<br>5 <input type="checkbox"/> PLASTIC | PVC                   | +3 1 1/2   |

|        |                            |                        |              |
|--------|----------------------------|------------------------|--------------|
| SCREEN | SIZE OF OPENING / SLOT NO. | DIAMETER               | LENGTH       |
|        |                            | 2" / 1 1/2" / 5"       | 5' / 5' FEET |
|        | MATERIAL AND TYPE          | DEPTH TO TOP OF SCREEN |              |
|        | Plastic PVC                | 17 / 1 1/2 FEET        |              |

| 61 PLUGGING & SEALING RECORD |                   |                  |                  |
|------------------------------|-------------------|------------------|------------------|
| DEPTH SET AT FEET            | MATERIAL AND TYPE | COMPLETION GROUP | LEAD PACKER ETC. |
| 10-13                        | 7 1/2"            | Holeplug         |                  |
| 18-21                        | 6 1/2"            | Holeplug         |                  |
| 22-25                        | 6"                | Holeplug         |                  |
| 26-29                        | 0                 | Holeplug         |                  |

| 71 PUMPING TEST  |   |
|--|---|
| PUMPING TEST METHOD<br>1 <input type="checkbox"/> PUMP 2 <input type="checkbox"/> BAILER | PUMPING RATE<br>GPM   |
| STATIC LEVEL<br>19-21  | WATER LEVELS DURING<br>15 MINUTES 22-24<br>30 MINUTES 28-28<br>45 MINUTES 29-31<br>60 MINUTES 32-34 |
| IF FLOWING GIVE RATE<br>GPM  | PUMP INTAKE SET AT<br>FEET  |
| RECOMMENDED PUMP TYPE<br><input type="checkbox"/> SHALLOW <input type="checkbox"/> DEEP  | RECOMMENDED PUMP SETTING<br>FEET  |



|                        |   |   |
|------------------------|---|---|
| FINAL STATUS OF WELL   | 1 <input type="checkbox"/> WATER SUPPLY<br>2 <input checked="" type="checkbox"/> OBSERVATION WELL<br>3 <input type="checkbox"/> TEST HOLE<br>4 <input type="checkbox"/> RECHARGE WELL   | 5 <input type="checkbox"/> ABANDONED - INSUFFICIENT SUPPLY<br>6 <input type="checkbox"/> ABANDONED - POOR QUALITY<br>7 <input type="checkbox"/> UNFINISHED<br>8 <input type="checkbox"/> DEWATERING                         |
| WATER USE              | 1 <input type="checkbox"/> DOMESTIC<br>2 <input type="checkbox"/> STOCK<br>3 <input type="checkbox"/> IRRIGATION<br>4 <input type="checkbox"/> INDUSTRIAL<br>5 <input checked="" type="checkbox"/> OTHER <i>monitoring</i>                  | 6 <input type="checkbox"/> COMMERCIAL<br>7 <input type="checkbox"/> MUNICIPAL<br>8 <input type="checkbox"/> PUBLIC SUPPLY<br>9 <input type="checkbox"/> COOLING OR AIR CONDITIONING<br>10 <input type="checkbox"/> NOT USED |
| METHOD OF CONSTRUCTION | 1 <input checked="" type="checkbox"/> CABLE TOOL<br>2 <input type="checkbox"/> ROTARY (CONVENTIONAL)<br>3 <input type="checkbox"/> ROTARY (REVERSE)<br>4 <input type="checkbox"/> ROTARY (AIR)<br>5 <input type="checkbox"/> AIR PERCUSSION | 6 <input type="checkbox"/> BORING<br>7 <input type="checkbox"/> DIAMOND<br>8 <input type="checkbox"/> JETTING<br>9 <input type="checkbox"/> DRIVING<br>10 <input type="checkbox"/> DIGGING <input type="checkbox"/> OTHER   |

|            |   |   |
|------------|---|---|
| CONTRACTOR | NAME OF WELL CONTRACTOR<br><b>G. Hart &amp; Sons Well Drilling Ltd.</b> | WELL CONTRACTOR'S LICENCE NUMBER<br><b>2662</b> |
|            | ADDRESS<br><b>Box 850, R.R.#1, Fenelon Falls, Ont. K0M 1N0</b>          |   |
|            | NAME OF WELL TECHNICIAN<br><b>Dave MacDonald</b>                        | WELL TECHNICIAN'S LICENCE NUMBER                |
|            | SIGNATURE OF TECHNICIAN/CONTRACTOR<br><i>Dave MacDonald</i>             | SUBMISSION DATE<br>DAY _____ MO _____ YR _____  |

|                 |                            |                           |                                     |
|-----------------|----------------------------|---------------------------|-------------------------------------|
| OFFICE USE ONLY | DATA SOURCE<br><b>2662</b> | CONTRACTOR<br><b>2662</b> | DATE RECEIVED<br><b>JAN 10 1992</b> |
|                 | DATE OF INSPECTION         | INSPECTOR                 |                                     |
|                 | REMARKS                    |                           |                                     |



1 PRINT ONLY IN SPACES PROVIDED  
2 CHECK  CORRECT BOX WHERE APPLICABLE

11 5115627 MUNICIPAL 51008 CON 104

|   |   |   |                  |
|---|---|---|------------------|
| COUNTY OR DISTRICT<br><b>Peterborough</b>   | TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE<br><b>Dummer</b> | CONC. <b>4</b>  | LOT<br><b>26</b> |
| OWNER (SU-NAME FIRST)<br><b>Dummer Twp.</b> | ADDRESS<br><b>Dummer Twp. Landfill Site Hole #6</b>     | DATE COMPLETED<br>DAY <b>9</b> MO <b>7</b> YR <b>91</b> |                  |

21

ZONE EASTING NORTHING BC ELEVATION RC BASIN CODE II III IV

| LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS) |                      |                 |                     |              |    |
|--|----------------------|-----------------|---------------------|--------------|----|
| GENERAL COLOUR   | MOST COMMON MATERIAL | OTHER MATERIALS | GENERAL DESCRIPTION | DEPTH - FEET |    |
|  |                      |                 |                     | FROM         | TO |
| Brown  | Sandy                | Soil            |                     | 0            | 2  |
| Brown  | Sandy                | Gravel          |                     | 2            | 9  |
| Grey   | Limestone            |                 |                     | 9            | 17 |
| Brown  | Shale                |                 | Water               | 17           | 19 |

31

32

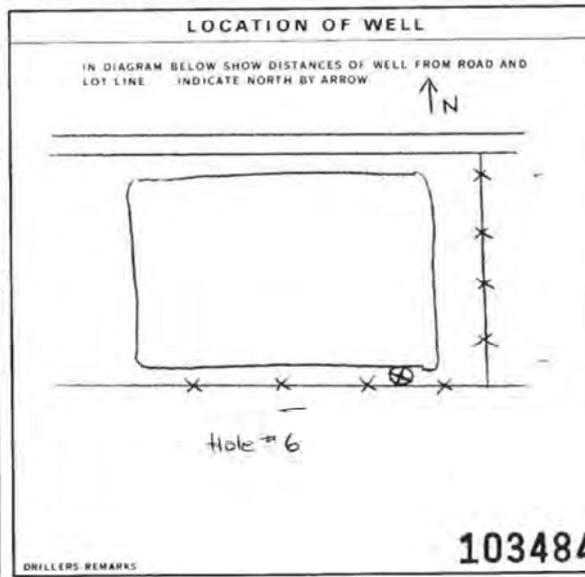
| 41 WATER RECORD       |  |
|-----------------------|--|
| WATER FOUND AT - FEET | KIND OF WATER  |
| 17                    | 1 <input type="checkbox"/> FRESH 3 <input type="checkbox"/> SULPHUR<br>2 <input type="checkbox"/> SALTY 4 <input type="checkbox"/> MINERALS<br>Untested 6 <input type="checkbox"/> GAS |
| 20-23                 | 1 <input type="checkbox"/> FRESH 3 <input type="checkbox"/> SULPHUR<br>2 <input type="checkbox"/> SALTY 4 <input type="checkbox"/> MINERALS<br>6 <input type="checkbox"/> GAS          |
| 25-24                 | 1 <input type="checkbox"/> FRESH 3 <input type="checkbox"/> SULPHUR<br>2 <input type="checkbox"/> SALTY 4 <input type="checkbox"/> MINERALS<br>6 <input type="checkbox"/> GAS          |
| 30-33                 | 1 <input type="checkbox"/> FRESH 3 <input type="checkbox"/> SULPHUR<br>2 <input type="checkbox"/> SALTY 4 <input type="checkbox"/> MINERALS<br>6 <input type="checkbox"/> GAS          |

| 51 CASING & OPEN HOLE RECORD |   |                       |              |    |    |
|------------------------------|---|-----------------------|--------------|----|----|
| INSIDE DIAM. INCHES          | MATERIAL  | WALL THICKNESS INCHES | DEPTH - FEET |    |    |
|                              |   |                       | FROM         | TO |    |
| 6 1/2                        | 1 <input checked="" type="checkbox"/> STEEL<br>2 <input type="checkbox"/> GALVANIZED<br>3 <input type="checkbox"/> CONCRETE<br>4 <input type="checkbox"/> OPEN HOLE<br>5 <input type="checkbox"/> PLASTIC | .188                  | +3           | 3  | 13 |
| 2                            | 1 <input type="checkbox"/> STEEL<br>2 <input type="checkbox"/> GALVANIZED<br>3 <input type="checkbox"/> CONCRETE<br>4 <input type="checkbox"/> OPEN HOLE<br>5 <input type="checkbox"/> PLASTIC            |                       | +3           | 16 |    |
| 1 1/2                        | 1 <input type="checkbox"/> STEEL<br>2 <input type="checkbox"/> GALVANIZED<br>3 <input type="checkbox"/> CONCRETE<br>4 <input type="checkbox"/> OPEN HOLE<br>5 <input type="checkbox"/> PLASTIC            |                       | +3           | 6  |    |

|        |                               |                        |              |
|--------|-------------------------------|------------------------|--------------|
| SCREEN | SIZE(S) OF OPENING (SLOT NO.) | DIAMETER               | LENGTH       |
|        |                               | 2" / 1 1/2"            | 5' / 6' / 1' |
|        | MATERIAL AND TYPE             | DEPTH TO TOP OF SCREEN |              |
|        | Plastic PVC                   | 16/6                   |              |

| 61 PLUGGING & SEALING RECORD |    |   |  |
|------------------------------|----|---|--|
| DEPTH SET AT - FEET          |    | MATERIAL AND TYPE (CEMENT GROUT, LEAD PACKER, ETC.) |  |
| FROM                         | TO |   |  |
| 10                           | 9  | Holeplug  |  |
| 6                            | 0  | Holeplug  |  |

| 71 PUMPING TEST   |  |
|---|--|
| PUMPING TEST METHOD   | PUMPING RATE   |
| 1 <input type="checkbox"/> PUMP 2 <input type="checkbox"/> BAILER | 15-18 GPM 17-18 MFL  |
| STATIC LEVEL  | WATER LEVELS DURING  |
| 19-21 FEET  | 15 MINUTES 20-28 FEET  |
|   | 30 MINUTES 29-31 FEET  |
|   | 45 MINUTES 32-34 FEET  |
|   | 60 MINUTES 35-37 FEET  |
| IF FLOWING GIVE RATE  | PUMP INTAKE SET AT   |
| 38-41 GPM   | FEET   |
| RECOMMENDED PUMP TYPE   | RECOMMENDED PUMP SETTING   |
| <input type="checkbox"/> SHALLOW <input type="checkbox"/> DEEP    | FEET   |
|   | WATER AT END OF TEST   |
|   | 1 <input type="checkbox"/> CLEAR 2 <input type="checkbox"/> CLOUDY |
|   | RECOMMENDED PUMPING RATE   |
|   | GPM  |



|                        |   |   |
|------------------------|---|---|
| FINAL STATUS OF WELL   | 1 <input type="checkbox"/> WATER SUPPLY<br>2 <input checked="" type="checkbox"/> OBSERVATION WELL<br>3 <input type="checkbox"/> TEST HOLE<br>4 <input type="checkbox"/> RECHARGE WELL   | 5 <input type="checkbox"/> ABANDONED - INSUFFICIENT SUPPLY<br>6 <input type="checkbox"/> ABANDONED - POOR QUALITY<br>7 <input type="checkbox"/> UNFINISHED<br>8 <input type="checkbox"/> DEWATERING                             |
| WATER USE              | 1 <input type="checkbox"/> DOMESTIC<br>2 <input type="checkbox"/> STOCK<br>3 <input type="checkbox"/> IRRIGATION<br>4 <input type="checkbox"/> INDUSTRIAL<br>5 <input checked="" type="checkbox"/> OTHER <i>monitoring</i>                  | 5 <input type="checkbox"/> COMMERCIAL<br>6 <input type="checkbox"/> MUNICIPAL<br>7 <input type="checkbox"/> PUBLIC SUPPLY<br>8 <input type="checkbox"/> COOLING OR AIR CONDITIONING<br>9 <input type="checkbox"/> NOT USED      |
| METHOD OF CONSTRUCTION | 1 <input checked="" type="checkbox"/> CABLE TOOL<br>2 <input type="checkbox"/> ROTARY (CONVENTIONAL)<br>3 <input type="checkbox"/> ROTARY (REVERSE)<br>4 <input type="checkbox"/> ROTARY (AIR)<br>5 <input type="checkbox"/> AIR PERCUSSION | 6 <input type="checkbox"/> BORING<br>7 <input type="checkbox"/> DIAMOND<br>8 <input type="checkbox"/> JETTING<br>9 <input type="checkbox"/> DRIVING<br>10 <input type="checkbox"/> DIGGING<br>11 <input type="checkbox"/> OTHER |

|            |   |   |
|------------|---|---|
| CONTRACTOR | NAME OF WELL CONTRACTOR<br><b>G. Hart &amp; Sons Well Drilling Ltd.</b> | WELL CONTRACTOR'S LICENCE NUMBER<br><b>2662</b> |
|            | ADDRESS<br><b>Box 850, R.R.#1, Fenelon Falls, Ont. K0M 1N0</b>          |   |
|            | NAME OF WELL TECHNICIAN<br><b>Dave MacDon</b>                           | WELL TECHNICIAN'S LICENCE NUMBER                |
|            | SIGNATURE OF TECHNICIAN/CONTRACTOR<br><i>Dave MacDon</i>                | SUBMISSION DATE<br>DAY _____ MO _____ YR _____  |

|                 |                    |             |                    |
|-----------------|--------------------|-------------|--------------------|
| OFFICE USE ONLY | DATA SOURCE        | CONTRACTOR  | DATE RECEIVED      |
|                 |                    | <b>2662</b> | <b>JAN 10 1992</b> |
|                 | DATE OF INSPECTION | INSPECTOR   |                    |
|                 |                    |             |                    |
|                 | REMARKS            |             |                    |



# WATER WELL RECORD

1. PRINT ONLY IN SPACES PROVIDED

2. CHECK  CORRECT BOX WHERE APPLICABLE

11 5115628 51008 CON 04

|   |   |   |                  |
|---|---|---|------------------|
| COUNTY OR DISTRICT<br><b>Peterborough</b>   | TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE<br><b>Dummer</b> | CON. BLK. TRACT SURVEY ETC.<br><b>Conc. 4</b>           | LOT<br><b>26</b> |
| OWNER (SURNAME FIRST)<br><b>Dummer Twp.</b> | ADDRESS<br><b>Dummer Twp. Landfill Site Hole #5</b>     | DATE COMPLETED<br>DAY <b>3</b> MO <b>7</b> YR <b>91</b> |                  |

21

U ZONE EASTING NORTHING EC ELEVATION MC BASIN CODE II III IV

| LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS) |                      |                 |                     |              |     |
|--|----------------------|-----------------|---------------------|--------------|-----|
| GENERAL COLOUR   | MOST COMMON MATERIAL | OTHER MATERIALS | GENERAL DESCRIPTION | DEPTH - FEET |     |
|  |                      |                 |                     | FROM         | TO  |
| Brown  | Sandy                | Clay            |                     | 0            | 6   |
| Brown  | Sandy                | Gravel          |                     | 6            | 10½ |
| Brown  | Sandy                | Clay            |                     | 10½          | 12  |
| Grey   | Limestone            |                 |                     | 12           | 23  |

31

32

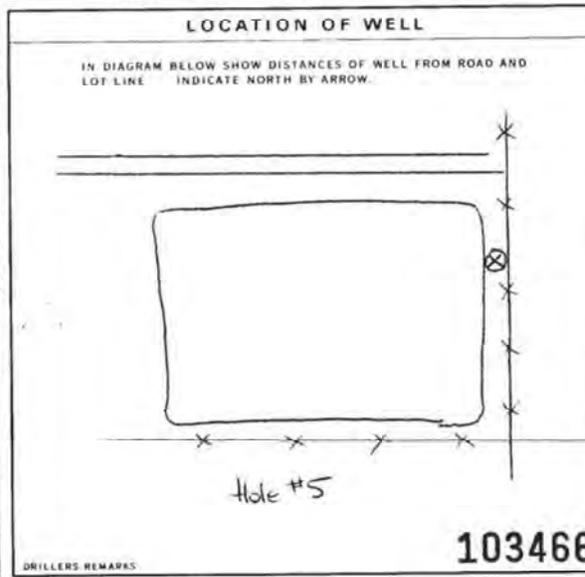
| 41 WATER RECORD       |   |
|-----------------------|---|
| WATER FOUND AT - FEET | KIND OF WATER   |
| 21                    | 1 <input type="checkbox"/> FRESH 3 <input type="checkbox"/> SULPHUR<br>2 <input type="checkbox"/> SALTY 4 <input type="checkbox"/> MINERALS<br>6 <input type="checkbox"/> GAS |
| 15-18                 | untreated   |
| 20-23                 | 1 <input type="checkbox"/> FRESH 3 <input type="checkbox"/> SULPHUR<br>2 <input type="checkbox"/> SALTY 4 <input type="checkbox"/> MINERALS<br>6 <input type="checkbox"/> GAS |
| 25-28                 | 1 <input type="checkbox"/> FRESH 3 <input type="checkbox"/> SULPHUR<br>2 <input type="checkbox"/> SALTY 4 <input type="checkbox"/> MINERALS<br>6 <input type="checkbox"/> GAS |
| 30-33                 | 1 <input type="checkbox"/> FRESH 3 <input type="checkbox"/> SULPHUR<br>2 <input type="checkbox"/> SALTY 4 <input type="checkbox"/> MINERALS<br>6 <input type="checkbox"/> GAS |

| 51 CASING & OPEN HOLE RECORD |  |                       |            |    |
|------------------------------|--|-----------------------|------------|----|
| INSIDE DIAM INCHES           | MATERIAL   | WALL THICKNESS INCHES | DEPTH FEET |    |
|                              |  |                       | FROM       | TO |
| 6½"                          | 1 <input type="checkbox"/> STEEL<br>2 <input type="checkbox"/> GALVANIZED<br>3 <input type="checkbox"/> CONCRETE<br>4 <input type="checkbox"/> OPEN HOLE<br>5 <input type="checkbox"/> PLASTIC | .188                  | +3         | 3  |
| 2"                           | 1 <input type="checkbox"/> STEEL<br>2 <input type="checkbox"/> GALVANIZED<br>3 <input type="checkbox"/> CONCRETE<br>4 <input type="checkbox"/> OPEN HOLE<br>5 <input type="checkbox"/> PLASTIC |                       | +3         | 18 |
| 1½"                          | 1 <input type="checkbox"/> STEEL<br>2 <input type="checkbox"/> GALVANIZED<br>3 <input type="checkbox"/> CONCRETE<br>4 <input type="checkbox"/> OPEN HOLE<br>5 <input type="checkbox"/> PLASTIC |                       | +3         | 3  |

|        |                            |                        |              |
|--------|----------------------------|------------------------|--------------|
| SCREEN | SIZE OF OPENING (SLOT NO.) | DIAMETER               | LENGTH       |
|        |                            | 2" / 1½" INCHES        | 5' / 9' FEET |
|        | MATERIAL AND TYPE          | DEPTH TO TOP OF SCREEN |              |
|        | Plastic PVC                | 18/3 FEET              |              |

| 61 PLUGGING & SEALING RECORD |    |  |  |
|------------------------------|----|--|--|
| DEPTH SET AT FEET            |    | MATERIAL AND TYPE (CEMENT GROUT LEAD PACKER, ETC.) |  |
| FROM                         | TO |  |  |
| 13                           | 12 | Holeplug   |  |
| 6"                           | 0  | Holeplug   |  |

| 71 PUMPING TEST   |                          |
|---|--------------------------|
| PUMPING TEST METHOD   | PUMPING RATE             |
| 1 <input type="checkbox"/> PUMP 2 <input type="checkbox"/> BAILER | GPM                      |
| STATIC LEVEL  | WATER LEVELS DURING      |
| 18-21   | 15 MINUTES 28-28         |
| 22-24   | 30 MINUTES 29-31         |
| 25-27   | 45 MINUTES 32-34         |
| 28-29   | 60 MINUTES 35-37         |
| IF FLOWING GIVE RATE  | PUMP INTAKE SET AT       |
| 30-41   | FEET                     |
| RECOMMENDED PUMP TYPE   | RECOMMENDED PUMP SETTING |
| <input type="checkbox"/> SHALLOW <input type="checkbox"/> DEEP    | FEET                     |



| FINAL STATUS OF WELL                                   |  |
|--|--|
| 1 <input type="checkbox"/> WATER SUPPLY                | 4 <input type="checkbox"/> ABANDONED - INSUFFICIENT SUPPLY |
| 2 <input checked="" type="checkbox"/> OBSERVATION WELL | 5 <input type="checkbox"/> ABANDONED - POOR QUALITY        |
| 3 <input type="checkbox"/> TEST HOLE                   | 6 <input type="checkbox"/> UNFINISHED                      |
| 4 <input type="checkbox"/> RECHARGE WELL               | 7 <input type="checkbox"/> DEWATERING                      |

| WATER USE                                   |  |
|---|--|
| 1 <input type="checkbox"/> DOMESTIC         | 5 <input type="checkbox"/> COMMERCIAL                  |
| 2 <input type="checkbox"/> STOCK            | 6 <input type="checkbox"/> MUNICIPAL                   |
| 3 <input type="checkbox"/> IRRIGATION       | 7 <input type="checkbox"/> PUBLIC SUPPLY               |
| 4 <input type="checkbox"/> INDUSTRIAL       | 8 <input type="checkbox"/> COOLING OR AIR CONDITIONING |
| 9 <input checked="" type="checkbox"/> OTHER | 10 <input type="checkbox"/> NOT USED                   |

| METHOD OF CONSTRUCTION                           |   |
|--|---|
| 1 <input checked="" type="checkbox"/> CABLE TOOL | 4 <input type="checkbox"/> BORING                                 |
| 2 <input type="checkbox"/> ROTARY (CONVENTIONAL) | 5 <input type="checkbox"/> DIAMOND                                |
| 3 <input type="checkbox"/> ROTARY (REVERSE)      | 6 <input type="checkbox"/> JETTING                                |
| 4 <input type="checkbox"/> ROTARY (AIR)          | 7 <input type="checkbox"/> DRIVING                                |
| 5 <input type="checkbox"/> AIR PERCUSSION        | 8 <input type="checkbox"/> DIGGING <input type="checkbox"/> OTHER |

|   |   |
|---|---|
| NAME OF WELL CONTRACTOR<br><b>G. Hart &amp; Sons Well Drilling Ltd.</b> | WELL CONTRACTOR'S LICENCE NUMBER<br><b>2662</b> |
| ADDRESS<br><b>Box 850, R.R.#1, Fenelon Falls, Ont. K0M 1N0</b>          |   |
| NAME OF WELL TECHNICIAN<br><b>Dave MacDonald</b>                        | WELL TECHNICIAN'S LICENCE NUMBER                |
| SIGNATURE OF TECHNICIAN/CONTRACTOR<br><i>Dave MacDonald</i>             | SUBMISSION DATE<br>DAY _____ MO _____ YR _____  |

|                    |             |                    |
|--------------------|-------------|--------------------|
| DATA SOURCE        | CONTRACTOR  | DATE RECEIVED      |
|                    | <b>2662</b> | <b>JAN 10 1992</b> |
| DATE OF INSPECTION | INSPECTOR   |                    |
|                    |             |                    |
| REMARKS            |             |                    |
|                    |             |                    |

CSS.ES





# WATER WELL RECORD

1. PRINT ONLY IN SPACES PROVIDED  
2. CHECK  CORRECT BOX WHERE APPLICABLE

11 5115630 MUNICIPAL DISTRICT 51008 CON. 104

COUNTY OR DISTRICT: [REDACTED] TOWNSHIP BOROUGH CITY TOWN VILLAGE: [REDACTED] CONC. 4  
DATE COMPLETED: DAY 8 MO 7 YR 91  
Hole #3

| LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS) |                      |                 |                     |              |    |
|--|----------------------|-----------------|---------------------|--------------|----|
| GENERAL COLOUR   | MOST COMMON MATERIAL | OTHER MATERIALS | GENERAL DESCRIPTION | DEPTH - FEET |    |
|  |                      |                 |                     | FROM         | TO |
| Brown  | Sandy                | Clay            |                     | 0            | 3  |
| Brown  | Gravel               | Cobble/Clay     | Hard                | 3            | 5  |
| Grey   | Limestone            |                 |                     | 5            | 14 |

31  
32

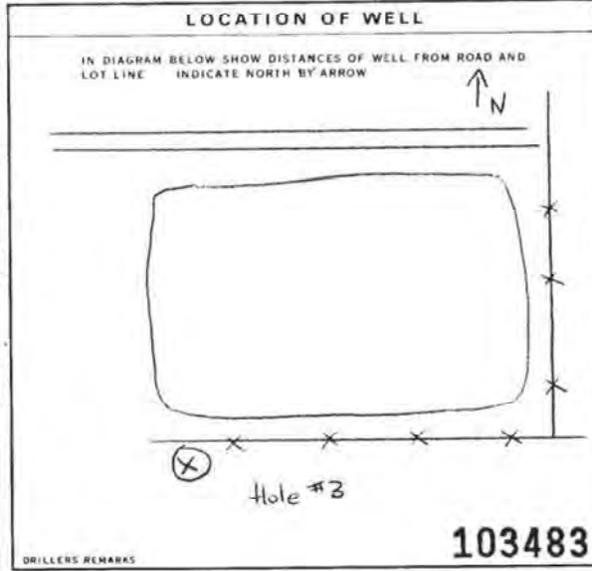
| 41 WATER RECORD       |   |
|-----------------------|---|
| WATER FOUND AT - FEET | KIND OF WATER   |
| 10-13                 | 1 <input type="checkbox"/> FRESH 3 <input type="checkbox"/> SULPHUR 4 <input type="checkbox"/> SALTY 5 <input type="checkbox"/> MINERALS 6 <input type="checkbox"/> GAS |
| 12                    | untested  |
| 15-18                 | 1 <input type="checkbox"/> FRESH 3 <input type="checkbox"/> SULPHUR 4 <input type="checkbox"/> SALTY 5 <input type="checkbox"/> MINERALS 6 <input type="checkbox"/> GAS |
| 20-23                 | 1 <input type="checkbox"/> FRESH 3 <input type="checkbox"/> SULPHUR 4 <input type="checkbox"/> SALTY 5 <input type="checkbox"/> MINERALS 6 <input type="checkbox"/> GAS |
| 25-28                 | 1 <input type="checkbox"/> FRESH 3 <input type="checkbox"/> SULPHUR 4 <input type="checkbox"/> SALTY 5 <input type="checkbox"/> MINERALS 6 <input type="checkbox"/> GAS |
| 30-33                 | 1 <input type="checkbox"/> FRESH 3 <input type="checkbox"/> SULPHUR 4 <input type="checkbox"/> SALTY 5 <input type="checkbox"/> MINERALS 6 <input type="checkbox"/> GAS |

| 51 CASING & OPEN HOLE RECORD |          |                       |              |    |
|------------------------------|----------|-----------------------|--------------|----|
| IN-IDE DIAM. INCHES          | MATERIAL | WALL THICKNESS INCHES | DEPTH - FEET |    |
|                              |          |                       | FROM         | TO |
| 6 1/4"                       | STEEL    | .188                  | +3           | 3  |
| 2"                           | PVC      |                       | +3           | 9  |
| 1 1/2"                       | PVC      |                       | +3           | 0  |

| SCREEN | SIZE/NO. OF OPENING (SLOT NO.) | DIAMETER                     | LENGTH       |
|--------|--------------------------------|------------------------------|--------------|
|        |                                | 2" / 1 1/2" S.S.             | 5' / 5' S.S. |
|        | MATERIAL AND TYPE              | DEPTH TO TOP OF SCREEN 41-88 |              |
|        | Plastic PVC                    | 9/0 FEET                     |              |

| 61 PLUGGING & SEALING RECORD |    |   |  |
|------------------------------|----|---|--|
| DEPTH SET AT - FEET          |    | MATERIAL AND TYPE (CEMENT GROUT LEAD PACKER ETC.) |  |
| FROM                         | TO |   |  |
| 6                            | 5  | Holeplug  |  |
| 6"                           | 0  | Holeplug  |  |

| 71 PUMPING TEST  |                          |
|--|--------------------------|
| PUMPING TEST METHOD  | PUMPING RATE             |
| 1 <input type="checkbox"/> PUMP 2 <input type="checkbox"/> BAILEY  | GPM                      |
| 15-16 HOURS  | 17-18 MIN.               |
| STATIC LEVEL   | WATER LEVELS DURING      |
| 19-21 FEET   | 15 MINUTES 26-28 FEET    |
|  | 30 MINUTES 29-31 FEET    |
|  | 45 MINUTES 32-34 FEET    |
|  | 60 MINUTES 35-37 FEET    |
| IF FLOWING GIVE RATE   | PUMP INTAKE SET AT       |
| 38-41 GPM  | FEET                     |
| RECOMMENDED PUMP TYPE  | RECOMMENDED PUMP SETTING |
| 1 <input type="checkbox"/> SHALLOW 2 <input type="checkbox"/> DEEP | 43-45 FEET               |
|  | 46-49 GPM                |



| 34 FINAL STATUS OF WELL                                |  |
|--|--|
| 1 <input type="checkbox"/> WATER SUPPLY                | 5 <input type="checkbox"/> ABANDONED INSUFFICIENT SUPPLY |
| 2 <input checked="" type="checkbox"/> OBSERVATION WELL | 6 <input type="checkbox"/> ABANDONED POOR QUALITY        |
| 3 <input type="checkbox"/> TEST HOLE                   | 7 <input type="checkbox"/> UNFINISHED                    |
| 4 <input type="checkbox"/> RECHARGE WELL               | 8 <input type="checkbox"/> DEWATERING                    |

| 35-36 WATER USE  |  |
|--|--|
| 1 <input type="checkbox"/> DOMESTIC                    | 5 <input type="checkbox"/> COMMERCIAL                  |
| 2 <input type="checkbox"/> STOCK                       | 6 <input type="checkbox"/> MUNICIPAL                   |
| 3 <input type="checkbox"/> IRRIGATION                  | 7 <input type="checkbox"/> PUBLIC SUPPLY               |
| 4 <input type="checkbox"/> INDUSTRIAL                  | 8 <input type="checkbox"/> COOLING OR AIR CONDITIONING |
| 9 <input checked="" type="checkbox"/> OTHER monitoring | 9 <input type="checkbox"/> NOT USED                    |

| 37 METHOD OF CONSTRUCTION                        |                                    |
|--|------------------------------------|
| 1 <input checked="" type="checkbox"/> CABLE TOOL | 4 <input type="checkbox"/> BORING  |
| 2 <input type="checkbox"/> ROTARY (CONVENTIONAL) | 5 <input type="checkbox"/> DIAMOND |
| 3 <input type="checkbox"/> ROTARY (REVERSE)      | 6 <input type="checkbox"/> JETTING |
| 4 <input type="checkbox"/> ROTARY (AIR)          | 7 <input type="checkbox"/> DRIVING |
| 8 <input type="checkbox"/> AIR PERCUSSION        | 8 <input type="checkbox"/> DIGGING |
|  | 9 <input type="checkbox"/> OTHER   |

| CONTRACTOR                                   |                                  |
|--|----------------------------------|
| NAME OF WELL CONTRACTOR                      | WELL CONTRACTOR'S LICENCE NUMBER |
| G. Hart & Sons Well Drilling Ltd.            | 2662                             |
| ADDRESS                                      |                                  |
| Box 850, R.R.#1, Fenelon Falls, Ont. K0M 1N0 |                                  |
| NAME OF WELL TECHNICIAN                      | WELL TECHNICIAN'S LICENCE NUMBER |
| Dave MacDonald                               |                                  |
| SIGNATURE OF TECHNICIAN/CONTRACTOR           | SUBMISSION DATE                  |
| <i>Dave MacDonald</i>                        | DAY _____ MO _____ YR _____      |

| OFFICE USE ONLY    |               |
|--------------------|---------------|
| DATE SOURCE        | CONTRACTOR    |
|                    | 2662          |
| DATE OF INSPECTION | DATE RECEIVED |
|                    | JAN 10 1992   |
| REMARKS            | INSPECTOR     |
|                    |               |



# WATER WELL RECORD

1. PRINT ONLY IN SPACES PROVIDED  
2. CHECK  CORRECT BOX WHERE APPLICABLE

11

5115631

MUNICIP 51008

CON CON

104

|   |   |  |                  |
|---|---|--|------------------|
| COUNTY OR DISTRICT<br><b>Peterborough</b>   | TOWNSHIP BOROUGH CITY TOWN VILLAGE<br><b>Dummer</b> | CONC. BLOCK TRACT SURVEY ETC<br><b>Conc. 4</b>           | LOT<br><b>26</b> |
| OWNER (SURNAME FIRST)<br><b>Dummer Twp.</b> | ADDRESS<br><b>Dummer Twp. Landfill Site Hole #2</b> | DATE COMPLETED<br>DAY <b>28</b> MO <b>6</b> YR <b>91</b> |                  |

|    |      |         |          |    |           |    |           |    |     |    |
|----|------|---------|----------|----|-----------|----|-----------|----|-----|----|
| 21 | ZONE | EASTING | NORTHING | RC | ELEVATION | RC | BASE CODE | II | III | IV |
|----|------|---------|----------|----|-----------|----|-----------|----|-----|----|

| LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS) |                      |                 |                     | DEPTH - FEET |    |
|--|----------------------|-----------------|---------------------|--------------|----|
| GENERAL COLOUR   | MOST COMMON MATERIAL | OTHER MATERIALS | GENERAL DESCRIPTION | FROM         | TO |
| Brown  | Sand                 | Cobble          | Fill                | 0            | 4  |
|  | Garbage              |                 |                     | 4            | 10 |
| Brown  | Sand                 | Cobble          |                     | 10           | 16 |
| Grey   | Gravel               |                 |                     | 16           | 18 |
| Brown  | Shale                |                 | Wet                 | 18           | 22 |
| Grey   | Limestone            |                 |                     | 22           | 28 |
| Brown  | Shale                |                 | Water Bearing       | 28           | 30 |

|    |  |  |  |  |  |  |  |  |  |  |
|----|--|--|--|--|--|--|--|--|--|--|
| 31 |  |  |  |  |  |  |  |  |  |  |
| 32 |  |  |  |  |  |  |  |  |  |  |

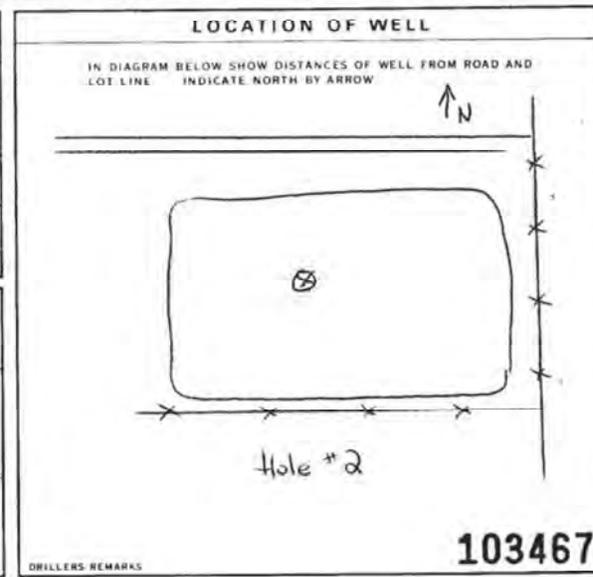
| 41 WATER RECORD       |   |
|-----------------------|---|
| WATER FOUND AT - FEET | KIND OF WATER   |
| 10-13                 | 1 <input type="checkbox"/> FRESH 3 <input type="checkbox"/> SULPHUR 4 <input type="checkbox"/> MINERALS 5 <input type="checkbox"/> SALTY 6 <input type="checkbox"/> GAS |
| 15-18                 | 1 <input type="checkbox"/> FRESH 3 <input type="checkbox"/> SULPHUR 4 <input type="checkbox"/> MINERALS 5 <input type="checkbox"/> SALTY 6 <input type="checkbox"/> GAS |
| 20-23                 | 1 <input type="checkbox"/> FRESH 3 <input type="checkbox"/> SULPHUR 4 <input type="checkbox"/> MINERALS 5 <input type="checkbox"/> SALTY 6 <input type="checkbox"/> GAS |
| 24-24                 | 1 <input type="checkbox"/> FRESH 3 <input type="checkbox"/> SULPHUR 4 <input type="checkbox"/> MINERALS 5 <input type="checkbox"/> SALTY 6 <input type="checkbox"/> GAS |
| 30-33                 | 1 <input type="checkbox"/> FRESH 3 <input type="checkbox"/> SULPHUR 4 <input type="checkbox"/> MINERALS 5 <input type="checkbox"/> SALTY 6 <input type="checkbox"/> GAS |

| 51 CASING & OPEN HOLE RECORD |  |                       |            |
|------------------------------|--|-----------------------|------------|
| INSIDE DIAM. INCHES          | MATERIAL   | WELL THICKNESS INCHES | DEPTH FEET |
| 6 1/2"                       | 1 <input type="checkbox"/> STEEL 2 <input type="checkbox"/> GALVANIZED 3 <input type="checkbox"/> CONCRETE 4 <input type="checkbox"/> OPEN HOLE 5 <input type="checkbox"/> PLASTIC | .188                  | +3 3       |
| 2"                           | 1 <input type="checkbox"/> STEEL 2 <input type="checkbox"/> GALVANIZED 3 <input type="checkbox"/> CONCRETE 4 <input type="checkbox"/> OPEN HOLE 5 <input type="checkbox"/> PLASTIC | PVC                   | +3 25      |
| 1 1/2"                       | 1 <input type="checkbox"/> STEEL 2 <input type="checkbox"/> GALVANIZED 3 <input type="checkbox"/> CONCRETE 4 <input type="checkbox"/> OPEN HOLE 5 <input type="checkbox"/> PLASTIC | PVC                   | +3 4       |

|        |                            |                        |          |
|--------|----------------------------|------------------------|----------|
| SCREEN | SIZE OF OPENING (SLOT NO.) | DIAMETER               | LENGTH   |
|        |                            | 2" / 1 1/2"            | 5' / 15' |
|        | MATERIAL AND TYPE          | DEPTH TO TOP OF SCREEN |          |
|        | PVC Plastic                | 25/4                   |          |

| 61 PLUGGING & SEALING RECORD |                   |                        |                           |
|------------------------------|-------------------|------------------------|---------------------------|
| DEPTH SET AT FEET            | MATERIAL AND TYPE | DEPTH TO TOP OF SCREEN | DEPTH TO BOTTOM OF SCREEN |
| 24                           | Holeplug          | 23                     | 0                         |
| 6"                           | Holeplug          | 0                      | 0                         |

| 71 PUMPING TEST  |   |
|--|---|
| PUMPING TEST METHOD<br>1 <input type="checkbox"/> PUMP 2 <input type="checkbox"/> BAILER | DURATION OF PUMPING<br>15-16 HOURS 17-18 MIN. |
| STATIC LEVEL   | WATER LEVEL DURING PUMPING                    |
| 19-21 FEET   | 22-24 FEET                                    |
| IF FLOWING GIVE RATE   | PUMP INTAKE SET AT                            |
| 38-41 GPM  | FEET  |
| RECOMMENDED PUMP TYPE<br><input type="checkbox"/> SHALLOW <input type="checkbox"/> DEEP  | RECOMMENDED PUMP SETTING                      |
| 42-43 FEET   | FEET  |



|                        |   |  |
|------------------------|---|--|
| FINAL STATUS OF WELL   | 1 <input checked="" type="checkbox"/> WATER SUPPLY 2 <input type="checkbox"/> OBSERVATION WELL 3 <input type="checkbox"/> TEST HOLE 4 <input type="checkbox"/> RECHARGE WELL  | 5 <input type="checkbox"/> ABANDONED INSUFFICIENT SUPPLY 6 <input type="checkbox"/> ABANDONED POOR QUALITY 7 <input type="checkbox"/> UNFINISHED 8 <input type="checkbox"/> DEWATERING                           |
| WATER USE              | 1 <input type="checkbox"/> DOMESTIC 2 <input type="checkbox"/> STOCK 3 <input type="checkbox"/> IRRIGATION 4 <input type="checkbox"/> INDUSTRIAL 5 <input checked="" type="checkbox"/> OTHER monitoring                         | 6 <input type="checkbox"/> COMMERCIAL 7 <input type="checkbox"/> MUNICIPAL 8 <input type="checkbox"/> PUBLIC SUPPLY 9 <input type="checkbox"/> COOLING OR AIR CONDITIONING 10 <input type="checkbox"/> NOT USED  |
| METHOD OF CONSTRUCTION | 1 <input checked="" type="checkbox"/> CABLE TOOL 2 <input type="checkbox"/> ROTARY (CONVENTIONAL) 3 <input type="checkbox"/> ROTARY (REVERSE) 4 <input type="checkbox"/> ROTARY (AIR) 5 <input type="checkbox"/> AIR PERCUSSION | 6 <input type="checkbox"/> BORING 7 <input type="checkbox"/> DIAMOND 8 <input type="checkbox"/> JETTING 9 <input type="checkbox"/> DRIVING 10 <input type="checkbox"/> DIGGING 11 <input type="checkbox"/> OTHER |

|            |   |   |
|------------|---|---|
| CONTRACTOR | NAME OF WELL CONTRACTOR<br><b>G. Hart &amp; Sons Well Drilling Ltd.</b> | WELL CONTRACTOR'S LICENCE NUMBER<br><b>2662</b> |
|            | ADDRESS<br><b>Box 850, R.R.#1, Fenelon Falls, Ont. K0M 1N0</b>          |   |
|            | NAME OF WELL TECHNICIAN<br><b>Dave MacDonald</b>                        | WELL TECHNICIAN'S LICENCE NUMBER                |
|            | SIGNATURE OF TECHNICIAN/CONTRACTOR<br><i>Dave MacDonald</i>             | SUBMISSION DATE<br>DAY _____ MO _____ YR _____  |

|                 |                            |                                     |
|-----------------|----------------------------|-------------------------------------|
| OFFICE USE ONLY | DATE SOURCE<br><b>2662</b> | DATE RECEIVED<br><b>JAN 10 1992</b> |
|                 | DATE OF INSPECTION         | INSPECTION                          |
|                 | REMARKS                    |                                     |
|                 | <b>CSS.ES</b>              |                                     |

Print only in spaces provided. Mark correct box with a checkmark, where applicable.

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5117608

Municipality 51008 Con 04

|  |            |  |  |  |                  |
|--|------------|--|--|--|------------------|
| County or District<br><b>Peterborough</b>    |            | Township/Borough/City/Town/Village<br><b>Dummer Twp., Hall Glen Landfill</b>             |  | Con block tract survey, etc.<br><b>Con.4</b> | Lot<br><b>26</b> |
| Owner's surname<br><b>Township of Dummer</b> | First name | Address<br><b>C/O Totten Sims Hubicki Assoc.<br/>300 Water St., Whitby, Ont. L1N 9J2</b> |  | Date completed<br><b>18 03 97</b>            |                  |

21

Zone Easting Northing RC Elevation RC Basin Code

| LOG OF OVERBURDEN AND BEDROCK MATERIALS (see instructions) |                      |                 |                     |              |     |
|--|----------------------|-----------------|---------------------|--------------|-----|
| General colour   | Most common material | Other materials | General description | Depth - feet |     |
|  |                      |                 |                     | From         | To  |
| Black  | Topsoil              | stones          | soft                | 0            | 1   |
| Brown  | Gravelly Clay        | stones          | soft-caving         | 1            | 9   |
| Brown  | Shale                |                 | soft                | 9            | 14  |
| Gray   | Limestone            |                 | hard                | 14           | 18  |
| Brown  | Limestone            |                 | very hard           | 18           | 22½ |
| * Finished depth @ 21 ft.                                  |                      |                 |                     |              |     |

31

32

| <b>41 WATER RECORD</b><br>Water found at - feet<br><b>9</b> <input type="checkbox"/> Fresh <input type="checkbox"/> Salty <input type="checkbox"/> Sulphur Minerals <input type="checkbox"/> Gas<br><b>18</b> <input type="checkbox"/> Fresh <input type="checkbox"/> Salty <input type="checkbox"/> Sulphur Minerals <input type="checkbox"/> Gas  |   | <b>51 CASING &amp; OPEN HOLE RECORD</b><br><table border="1"> <tr> <th>Inside diam inches</th> <th>Material</th> <th>Wall thickness inches</th> <th colspan="2">Depth - feet</th> </tr> <tr> <td>6½</td> <td>Steel<br/>Galvanized<br/>Concrete<br/>Open hole<br/>Plastic</td> <td>.188</td> <td>+ 2</td> <td>3</td> </tr> <tr> <td>2</td> <td>Steel<br/>Galvanized<br/>Concrete<br/>Open hole<br/>Plastic</td> <td>Pieso</td> <td>+ 2</td> <td>16</td> </tr> <tr> <td>2</td> <td>Steel<br/>Galvanized<br/>Concrete<br/>Open hole<br/>Plastic</td> <td>Pieso</td> <td>+ 2</td> <td>4</td> </tr> </table> |              | Inside diam inches                                | Material | Wall thickness inches | Depth - feet |   | 6½ | Steel<br>Galvanized<br>Concrete<br>Open hole<br>Plastic | .188 | + 2 | 3      | 2   | Steel<br>Galvanized<br>Concrete<br>Open hole<br>Plastic | Pieso     | + 2 | 16  | 2      | Steel<br>Galvanized<br>Concrete<br>Open hole<br>Plastic | Pieso | + 2       | 4 | <b>SCREEN</b><br>Sizes of opening (Slot No.) <b>10</b> Diameter <b>2</b> inches Length <b>2@ 5</b> feet<br>Material and type <b>PVC</b> Depth at top of screen <b>4 &amp; 16</b> feet |  |
|---|---|---|--------------|---|----------|-----------------------|--------------|---|----|---|------|-----|--------|-----|---|-----------|-----|-----|--------|---|-------|-----------|---|---|--|
| Inside diam inches  | Material  | Wall thickness inches   | Depth - feet |   |          |                       |              |   |    |   |      |     |        |     |   |           |     |     |        |   |       |           |   |   |  |
| 6½  | Steel<br>Galvanized<br>Concrete<br>Open hole<br>Plastic | .188  | + 2          | 3   |          |                       |              |   |    |   |      |     |        |     |   |           |     |     |        |   |       |           |   |   |  |
| 2   | Steel<br>Galvanized<br>Concrete<br>Open hole<br>Plastic | Pieso   | + 2          | 16  |          |                       |              |   |    |   |      |     |        |     |   |           |     |     |        |   |       |           |   |   |  |
| 2   | Steel<br>Galvanized<br>Concrete<br>Open hole<br>Plastic | Pieso   | + 2          | 4   |          |                       |              |   |    |   |      |     |        |     |   |           |     |     |        |   |       |           |   |   |  |
| <b>61 PLUGGING &amp; SEALING RECORD</b><br><input checked="" type="checkbox"/> Annular space <input type="checkbox"/> Abandonment<br>Depth set at - feet<br><table border="1"> <tr> <th>From</th> <th>To</th> <th>Material and type (Cement grout, bentonite, etc.)</th> </tr> <tr> <td>0</td> <td>3</td> <td>Mud Slurry</td> </tr> <tr> <td>3</td> <td>4</td> <td>Bentonite</td> </tr> <tr> <td>4</td> <td>11½</td> <td>Gravel</td> </tr> <tr> <td>11½</td> <td>16</td> <td>Bentonite</td> </tr> <tr> <td>16</td> <td>22½</td> <td>Gravel</td> </tr> <tr> <td>22½</td> <td>21</td> <td>Bentonite</td> </tr> </table> |   | From  | To           | Material and type (Cement grout, bentonite, etc.) | 0        | 3                     | Mud Slurry   | 3 | 4  | Bentonite   | 4    | 11½ | Gravel | 11½ | 16  | Bentonite | 16  | 22½ | Gravel | 22½   | 21    | Bentonite |   |   |  |
| From  | To  | Material and type (Cement grout, bentonite, etc.)   |              |   |          |                       |              |   |    |   |      |     |        |     |   |           |     |     |        |   |       |           |   |   |  |
| 0   | 3   | Mud Slurry  |              |   |          |                       |              |   |    |   |      |     |        |     |   |           |     |     |        |   |       |           |   |   |  |
| 3   | 4   | Bentonite   |              |   |          |                       |              |   |    |   |      |     |        |     |   |           |     |     |        |   |       |           |   |   |  |
| 4   | 11½   | Gravel  |              |   |          |                       |              |   |    |   |      |     |        |     |   |           |     |     |        |   |       |           |   |   |  |
| 11½   | 16  | Bentonite   |              |   |          |                       |              |   |    |   |      |     |        |     |   |           |     |     |        |   |       |           |   |   |  |
| 16  | 22½   | Gravel  |              |   |          |                       |              |   |    |   |      |     |        |     |   |           |     |     |        |   |       |           |   |   |  |
| 22½   | 21  | Bentonite   |              |   |          |                       |              |   |    |   |      |     |        |     |   |           |     |     |        |   |       |           |   |   |  |

71

Pumping test method  Pump  Bailor Pumping rate **10 GPM** Duration of pumping **30** mins

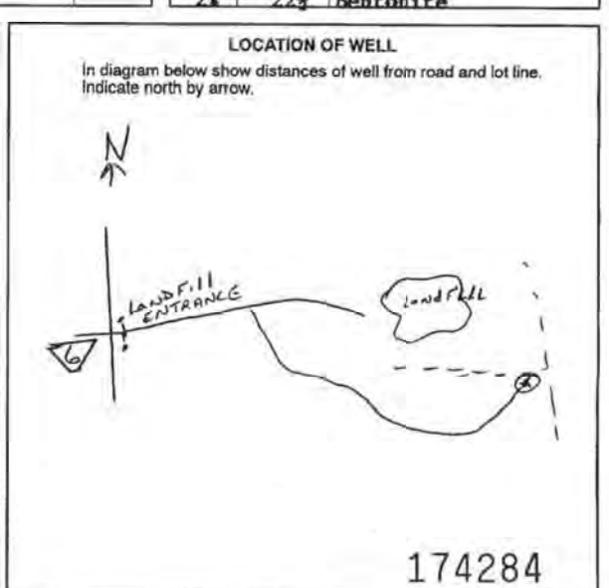
Static level **6** feet Water level end of pumping **11** feet

Water levels during Pumping

| 15 minutes     | 30 minutes     | 45 minutes     | 60 minutes     |
|----------------|----------------|----------------|----------------|
| <b>11</b> feet | <b>11</b> feet | <b>11</b> feet | <b>11</b> feet |

If flowing give rate **6** GPM Pump intake set at **11** feet Water at end of test  Clear  Cloudy

Recommended pump type  Shallow  Deep Recommended pump setting **11** feet Recommended pump rate **10** GPM



**FINAL STATUS OF WELL**

Water supply  Abandoned, insufficient supply  Unfinished  
 Observation well  Abandoned, poor quality  Replacement well  
 Test hole  Abandoned (Other)  
 Recharge well  Dewatering

**WATER USE**

Domestic  Commercial  Not used  
 Stock  Municipal  Other **Pesticides**  
 Irrigation  Public supply  
 Industrial  Cooling & air conditioning

**METHOD OF CONSTRUCTION**

Cable tool  Air percussion  Driving  
 Rotary (conventional)  Boring  Digging  
 Rotary (reverse)  Diamond  Other  
 Rotary (air)  Jetting

|  |  |                                     |
|--|--|-------------------------------------|
| Name of Well Contractor<br><b>G.Hart &amp; Sons Well Drilling Ltd.</b> | Well Contractor's Licence No.<br><b>2662</b>   | Date received<br><b>OCT 06 1997</b> |
| Address<br><b>Box 850, Fenelon Falls, Ontario</b>                      | Inspector                                      |                                     |
| Name of Well Technician<br><b>Greg Bullock</b>                         | Well Technician's Licence No.<br><b>T-2108</b> | Remarks                             |
| Signature of Technician/Contractor<br><i>Greg Bullock</i>              | Submission date<br>day mo yr                   |                                     |

Print only in spaces provided.  
Mark correct box with a checkmark, where applicable.

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5118965

Municipality **51008** Con **20N** 04

|  |  |  |                  |
|--|--|--|------------------|
| County or District<br><b>Peterborough</b>    | Township/Borough/City/Town/Village (BH-8)<br><b>Dummer Twp., Halls Glen-Landfill</b> | Con block tract survey, etc.<br><b>Con.4</b>   | Lot<br><b>26</b> |
| Owner's surname<br><b>Township of Dummer</b> | First Name   | Address<br><b>C/O TOTTEN SIMS HUBICKI ASSOC.<br/>300 WATER ST., WHITBY, ON L1N 9J2</b> |                  |
| Date completed<br><b>1 11 01</b>             |  | day month year   |                  |

21

Zone Easting Northing RC Elevation RC Basin Code II III IV

| LOG OF OVERBURDEN AND BEDROCK MATERIALS (see instructions) |                      |                 |                     |              |    |
|--|----------------------|-----------------|---------------------|--------------|----|
| General colour   | Most common material | Other materials | General description | Depth - feet |    |
|  |                      |                 |                     | From         | To |
| Black  | Topsoil              |                 |                     | 0            | 1  |
| Brown  | Gravel               | sand            |                     | 1            | 9  |
| Brown  | Gravel               | stones          |                     | 9            | 15 |
| Brown  | Rock                 |                 | broken              | 15           | 17 |
| Gray   | Limestone            |                 |                     | 17           | 35 |

31

32

| 41 WATER RECORD       |  |
|-----------------------|--|
| Water found at - feet | Kind of water  |
| 19                    | <input type="checkbox"/> Fresh<br><input checked="" type="checkbox"/> Salty<br><input type="checkbox"/> Sulphur<br><input type="checkbox"/> Minerals<br><input type="checkbox"/> Gas |
| 28                    | <input type="checkbox"/> Fresh<br><input checked="" type="checkbox"/> Salty<br><input type="checkbox"/> Sulphur<br><input type="checkbox"/> Minerals<br><input type="checkbox"/> Gas |
| 20-30                 | <input type="checkbox"/> Fresh<br><input type="checkbox"/> Salty<br><input type="checkbox"/> Sulphur<br><input type="checkbox"/> Minerals<br><input type="checkbox"/> Gas            |
| 25-28                 | <input type="checkbox"/> Fresh<br><input type="checkbox"/> Salty<br><input type="checkbox"/> Sulphur<br><input type="checkbox"/> Minerals<br><input type="checkbox"/> Gas            |
| 30-33                 | <input type="checkbox"/> Fresh<br><input type="checkbox"/> Salty<br><input type="checkbox"/> Sulphur<br><input type="checkbox"/> Minerals<br><input type="checkbox"/> Gas            |

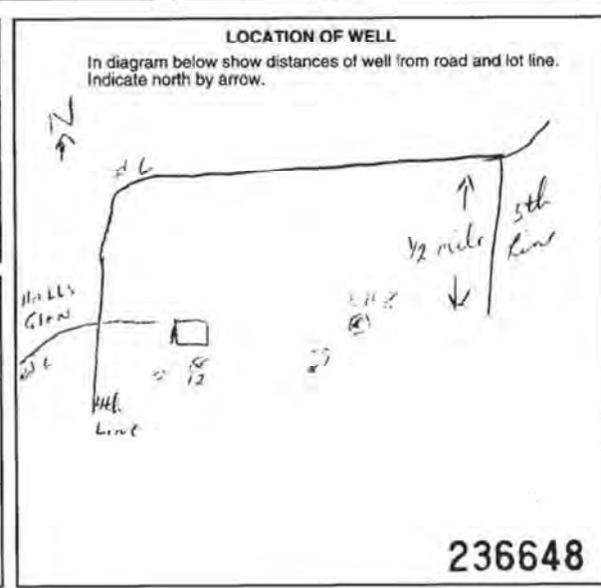
| 51 CASING & OPEN HOLE RECORD |  |                       |              |        |
|------------------------------|--|-----------------------|--------------|--------|
| Inside diam inches           | Material   | Wall thickness inches | Depth - feet |        |
|                              |  |                       | From         | To     |
| 6 1/2                        | <input checked="" type="checkbox"/> Steel<br><input checked="" type="checkbox"/> Galvanized<br><input type="checkbox"/> Concrete<br><input type="checkbox"/> Open hole<br><input type="checkbox"/> Plastic | .188                  | +2 1/2       | 17     |
| 2                            | <input type="checkbox"/> Steel<br><input checked="" type="checkbox"/> Galvanized<br><input type="checkbox"/> Concrete<br><input type="checkbox"/> Open hole<br><input checked="" type="checkbox"/> Plastic | Pieso                 | +2 1/2       | 30     |
| 2                            | <input type="checkbox"/> Steel<br><input checked="" type="checkbox"/> Galvanized<br><input type="checkbox"/> Concrete<br><input type="checkbox"/> Open hole<br><input checked="" type="checkbox"/> Plastic | Pieso                 | +2 1/2       | 17 1/2 |

| 60 SCREEN                       |          |  |
|---------------------------------|----------|--|
| Sizes of opening (Slot No.)     | Diameter | Length   |
| 10                              | 2 inches | 2 x 5 feet                                       |
| Material and type<br><b>PVC</b> |          | Depth of top of screen<br><b>30, 17 1/2</b> feet |

| 61 PLUGGING & SEALING RECORD                      |   |
|---|---|
| <input checked="" type="checkbox"/> Annular space | <input type="checkbox"/> Abandonment              |
| Depth set at - feet                               | Material and type (Cement grout, bentonite, etc.) |
| From To   |   |
| 0 17 1/2  | <b>Bentonite &amp; Mudslurry</b>                  |
| 18-21   | 32-25   |
| 20-29   | 30-33   |

| 71 PUMPING TEST   |  |
|---|--|
| Pumping test method<br><input type="checkbox"/> Pump <input checked="" type="checkbox"/> Bailer   | Pumping rate<br><b>8-10</b> GPM              |
| Duration of pumping<br><b>30</b> Hours <b>30</b> Mins   |  |
| Static level<br><b>15</b> feet  | Water level end of pumping<br><b>15</b> feet |
| Water levels during<br>15 minutes: <b>15</b> feet<br>30 minutes: <b>15</b> feet<br>45 minutes: <b>15</b> feet<br>60 minutes: <b>15</b> feet |  |
| If flowing give rate<br>GPM   | Pump intake set at<br>feet                   |
| Recommended pump type<br><input type="checkbox"/> Shallow <input type="checkbox"/> Deep   | Recommended pump setting<br>feet             |
| Water at end of test<br><input type="checkbox"/> Clear <input type="checkbox"/> Cloudy  | Recommended pump rate<br>GPM                 |



| FINAL STATUS OF WELL                                 |   |   |
|--|---|---|
| <input checked="" type="checkbox"/> Water supply     | <input type="checkbox"/> Abandoned, insufficient supply | <input type="checkbox"/> Unfinished       |
| <input checked="" type="checkbox"/> Observation well | <input type="checkbox"/> Abandoned, poor quality        | <input type="checkbox"/> Replacement well |
| <input type="checkbox"/> Test hole                   | <input type="checkbox"/> Abandoned (Other)              |   |
| <input type="checkbox"/> Recharge well               | <input type="checkbox"/> Dewatering                     |   |

| WATER USE                           |   |  |
|-------------------------------------|---|--|
| <input type="checkbox"/> Domestic   | <input type="checkbox"/> Commercial                 | <input type="checkbox"/> Not used                        |
| <input type="checkbox"/> Stock      | <input type="checkbox"/> Municipal                  | <input checked="" type="checkbox"/> Other <b>MONITOR</b> |
| <input type="checkbox"/> Irrigation | <input type="checkbox"/> Public supply              |  |
| <input type="checkbox"/> Industrial | <input type="checkbox"/> Cooling & air conditioning |  |

| METHOD OF CONSTRUCTION                         |   |                                  |
|--|---|----------------------------------|
| <input checked="" type="checkbox"/> Cable tool | <input type="checkbox"/> Air percussion | <input type="checkbox"/> Driving |
| <input type="checkbox"/> Rotary (conventional) | <input type="checkbox"/> Boring         | <input type="checkbox"/> Digging |
| <input type="checkbox"/> Rotary (reverse)      | <input type="checkbox"/> Diamond        | <input type="checkbox"/> Other   |
| <input type="checkbox"/> Rotary (air)          | <input type="checkbox"/> Jetting        |                                  |

|  |  |
|--|--|
| Name of Well Contractor<br><b>G.Hart &amp; Sons Well Drilling Ltd.</b> | Well Contractor's Licence No.<br><b>2662</b>   |
| Address<br><b>Box 850, Fenelon Falls, Ontario</b>                      |  |
| Name of Well Technician<br><b>Jim Lean</b>                             | Well Technician's Licence No.<br><b>T-0546</b> |
| Signature of Technician/Contractor<br><i>Jim Lean</i>                  | Submission date<br>day mo yr                   |

| MINISTRY USE ONLY          |                                     |
|----------------------------|-------------------------------------|
| Data source<br><b>2662</b> | Date received<br><b>MAR 11 2002</b> |
| Date of inspection         | Inspector                           |
| Remarks<br><b>033 852</b>  |                                     |



Print only in spaces provided.  
Mark correct box with a checkmark, where applicable.

5118967

51008 CON

04

|                                       |  |   |  |
|---------------------------------------|--|---|--|
| County or District<br>Peterborough    | Township/Borough/City/Town/Village (BH-11)<br>Dummer Twp., Halls Glen-Landfill | Con block tract survey, etc.<br>Con.4                                       | Lot<br>26                                |
| Owner's surname<br>Township of Dummer | First Name   | Address c/o Totten Sims Hubicki Assoc.<br>300 Water St., Whitby, ON L1N 9J2 | Date completed<br>5 day 11 month 01 year |

| LOG OF OVERBURDEN AND BEDROCK MATERIALS (see instructions) |                      |                 |                     |              |    |
|--|----------------------|-----------------|---------------------|--------------|----|
| General colour   | Most common material | Other materials | General description | Depth - feet |    |
|  |                      |                 |                     | From         | To |
| Black  | Topsoil              |                 |                     | 0            | 1  |
| Brown  | Gravel               |                 |                     | 1            | 5  |
| Brown  | Gravel               | boulder         |                     | 5            | 10 |
| Brown  | Broken Rock          |                 |                     | 10           | 12 |
| Gray   | Limestone            |                 |                     | 12           | 30 |
|  |                      |                 |                     |              |    |
|  |                      |                 |                     |              |    |
|  |                      |                 |                     |              |    |
|  |                      |                 |                     |              |    |
|  |                      |                 |                     |              |    |

| WATER RECORD          |  |
|-----------------------|--|
| Water found at - feet | Kind of water  |
| 19                    | <input checked="" type="checkbox"/> Fresh<br><input checked="" type="checkbox"/> Salty<br><input type="checkbox"/> Sulphur<br><input type="checkbox"/> Minerals<br><input type="checkbox"/> Gas<br><i>UNTESTED</i> |
| 29                    | <input type="checkbox"/> Fresh<br><input type="checkbox"/> Salty<br><input type="checkbox"/> Sulphur<br><input type="checkbox"/> Minerals<br><input type="checkbox"/> Gas<br><i>UNTESTED</i>                       |
|                       | <input type="checkbox"/> Fresh<br><input type="checkbox"/> Salty<br><input type="checkbox"/> Sulphur<br><input type="checkbox"/> Minerals<br><input type="checkbox"/> Gas  |
|                       | <input type="checkbox"/> Fresh<br><input type="checkbox"/> Salty<br><input type="checkbox"/> Sulphur<br><input type="checkbox"/> Minerals<br><input type="checkbox"/> Gas  |

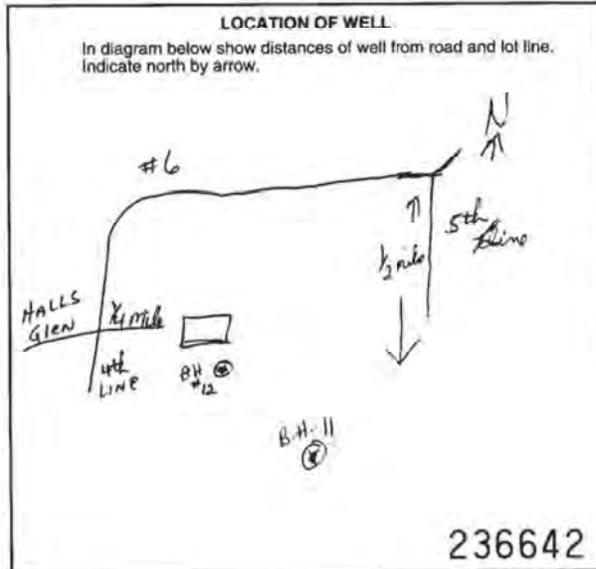
| CASING & OPEN HOLE RECORD |   |                       |              |    |
|---------------------------|---|-----------------------|--------------|----|
| Inside diam inches        | Material  | Wall thickness inches | Depth - feet |    |
|                           |   |                       | From         | To |
| 6 1/2                     | <input checked="" type="checkbox"/> Steel<br><input type="checkbox"/> Galvanized<br><input type="checkbox"/> Concrete<br><input type="checkbox"/> Open hole<br><input type="checkbox"/> Plastic | .188                  | +2 1/2       | 12 |
| 2                         | <input type="checkbox"/> Steel<br><input type="checkbox"/> Galvanized<br><input type="checkbox"/> Concrete<br><input type="checkbox"/> Open hole<br><input checked="" type="checkbox"/> Plastic | Pieso                 | +2 1/2       | 25 |
| 2                         | <input type="checkbox"/> Steel<br><input type="checkbox"/> Galvanized<br><input type="checkbox"/> Concrete<br><input type="checkbox"/> Open hole<br><input checked="" type="checkbox"/> Plastic | Pieso                 | +2 1/2       | 15 |

|                                   |                                       |                     |
|-----------------------------------|---------------------------------------|---------------------|
| Sizes of opening (Slot No.)<br>10 | Diameter<br>2 inches                  | Length<br>2x 5 feet |
| Material and type<br>PVC          | Depth at top of screen<br>25, 15 feet |                     |

| PLUGGING & SEALING RECORD                         |   |                          |
|---|---|--------------------------|
| <input checked="" type="checkbox"/> Annular space |   |                          |
| <input type="checkbox"/> Abandonment              |   |                          |
| Depth set at - feet                               | Material and type (Cement grout, bentonite, etc.) |                          |
| From  | To  |                          |
| 0   | 12  | Holeplug (outside steel) |
| 11  | 20  | Sand                     |
| 20  | 22  | Holeplug                 |
| 22  | 30  | Sand                     |

|   |                                  |  |
|---|----------------------------------|--|
| Pumping test method<br><input type="checkbox"/> Pump <input type="checkbox"/> Bailor    | Pumping rate<br>2-3 GPM          | Duration of pumping<br>Hours 30 Mins   |
| Static level  | Water level end of pumping       | Water levels during  |
| 9 feet  | feet                             | <input type="checkbox"/> Pumping <input type="checkbox"/> Recovery<br>15 minutes 30 minutes 45 minutes 60 minutes<br>feet feet feet feet feet feet |
| If flowing give rate<br>GPM   | Pump intake set at<br>feet       | Water at end of test<br><input type="checkbox"/> Clear <input type="checkbox"/> Cloudy   |
| Recommended pump type<br><input type="checkbox"/> Shallow <input type="checkbox"/> Deep | Recommended pump setting<br>feet | Recommended pump rate<br>GPM   |

|  |  |  |
|--|--|--|
| FINAL STATUS OF WELL   |  |  |
| <input type="checkbox"/> Water supply<br><input checked="" type="checkbox"/> Observation well<br><input type="checkbox"/> Test hole<br><input type="checkbox"/> Recharge well          | <input type="checkbox"/> Abandoned, insufficient supply<br><input type="checkbox"/> Abandoned, poor quality<br><input type="checkbox"/> Abandoned (Other)<br><input type="checkbox"/> Dewatering | <input type="checkbox"/> Unfinished<br><input type="checkbox"/> Replacement well                       |
| WATER USE  |  |  |
| <input type="checkbox"/> Domestic<br><input type="checkbox"/> Stock<br><input type="checkbox"/> Irrigation<br><input type="checkbox"/> Industrial                                      | <input type="checkbox"/> Commercial<br><input type="checkbox"/> Municipal<br><input type="checkbox"/> Public supply<br><input type="checkbox"/> Cooling & air conditioning                       | <input type="checkbox"/> Not used<br><input checked="" type="checkbox"/> Other <i>MONITOR</i>          |
| METHOD OF CONSTRUCTION   |  |  |
| <input checked="" type="checkbox"/> Cable tool<br><input type="checkbox"/> Rotary (conventional)<br><input type="checkbox"/> Rotary (reverse)<br><input type="checkbox"/> Rotary (air) | <input type="checkbox"/> Air percussion<br><input type="checkbox"/> Boring<br><input type="checkbox"/> Diamond<br><input type="checkbox"/> Jetting   | <input type="checkbox"/> Driving<br><input type="checkbox"/> Digging<br><input type="checkbox"/> Other |



|  |   |
|--|---|
| Name of Well Contractor<br>G.HART & Sons Well Drilling Ltd | Well Contractor's Licence No.<br>2662   |
| Address<br>Box 850, Fenelon Falls, Ontario                 |   |
| Name of Well Technician<br>Jim Lean                        | Well Technician's Licence No.<br>T-0546 |
| Signature of Technician/Contractor<br><i>Jim Lean</i>      | Submission date<br>day mo yr            |

|                   |      |             |
|-------------------|------|-------------|
| MINISTRY USE ONLY | 2662 | MAR 11 2002 |
|                   |      |             |
|                   |      |             |

Print only in spaces provided. Mark correct box with a checkmark, where applicable.

11

5118968

Municipality: 51008 Con: 04

|  |   |   |                  |
|--|---|---|------------------|
| County or District<br><b>Peterborough</b>    | Township/Borough/City/Town/Village (BH-12)<br><b>Dummer Twp., Halls Glen - Landfill</b> | Con block tract survey, etc.<br><b>Con.4</b>  | Lot<br><b>26</b> |
| Owner's surname<br><b>Township of Dummer</b> | First Name  | Address <b>c/o Totten Sims Hubicki Assoc.<br/>300 Water St., Whitby, ON L1N 9J2</b> |                  |
| Date completed<br><b>7 11 01</b>             |   | day month year  |                  |

21

Zone Easting Northing RC Elevation RC Basin Code

| LOG OF OVERBURDEN AND BEDROCK MATERIALS (see instructions) |                      |                 |                     |              |    |
|--|----------------------|-----------------|---------------------|--------------|----|
| General colour   | Most common material | Other materials | General description | Depth - feet |    |
|  |                      |                 |                     | From         | To |
| Black  | Topsoil              |                 |                     | 0            | 1  |
| Brown  | Gravel               |                 |                     | 1            | 8  |
| Brown  | Gravel               | broken rock     |                     | 8            | 13 |
| Gray   | Limestone            |                 |                     | 13           | 29 |
| Gray   | Limestone            |                 | soft                | 29           | 30 |
| Gray   | limestone            |                 |                     | 30           | 40 |

31

32

| 41 WATER RECORD       |  |
|-----------------------|--|
| Water found at - feet | Kind of water  |
| 10-13<br><b>13</b>    | <input checked="" type="checkbox"/> Fresh<br><input type="checkbox"/> Salty<br><input type="checkbox"/> Sulphur<br><input type="checkbox"/> Minerals<br><input type="checkbox"/> Gas |
| 15-18<br><b>29</b>    | <input type="checkbox"/> Fresh<br><input type="checkbox"/> Salty<br><input checked="" type="checkbox"/> Sulphur<br><input type="checkbox"/> Minerals<br><input type="checkbox"/> Gas |
| 20-23                 | <input type="checkbox"/> Fresh<br><input type="checkbox"/> Salty<br><input type="checkbox"/> Sulphur<br><input type="checkbox"/> Minerals<br><input type="checkbox"/> Gas            |
| 25-28                 | <input type="checkbox"/> Fresh<br><input type="checkbox"/> Salty<br><input type="checkbox"/> Sulphur<br><input type="checkbox"/> Minerals<br><input type="checkbox"/> Gas            |
| 30-33                 | <input type="checkbox"/> Fresh<br><input type="checkbox"/> Salty<br><input type="checkbox"/> Sulphur<br><input type="checkbox"/> Minerals<br><input type="checkbox"/> Gas            |

| 51 CASING & OPEN HOLE RECORD |   |                       |              |        |
|------------------------------|---|-----------------------|--------------|--------|
| Inside diam inches           | Material  | Wall thickness inches | Depth - feet |        |
|                              |   |                       | From         | To     |
| 6 1/2                        | Steel<br>Galvanized<br>Concrete<br>Open hole<br>Plastic | .188                  | +3           | 13     |
| 2                            | Steel<br>Galvanized<br>Concrete<br>Open hole<br>Plastic | Pieso                 | +3           | 35     |
| 2                            | Steel<br>Galvanized<br>Concrete<br>Open hole<br>Plastic | Pieso                 | +3           | 25 1/2 |
| 2                            | Steel<br>Galvanized<br>Concrete<br>Open hole<br>Plastic | Pieso                 | +3           | 14 1/2 |

|  |                             |   |
|--|-----------------------------|---|
| Sizes of opening (Slot No.)<br><b>10</b> | Diameter<br><b>2</b> inches | Length<br><b>3 5</b> feet                   |
| Material and type<br><b>PVC</b>          |                             | Depth at top of screen<br><b>35.25</b> feet |

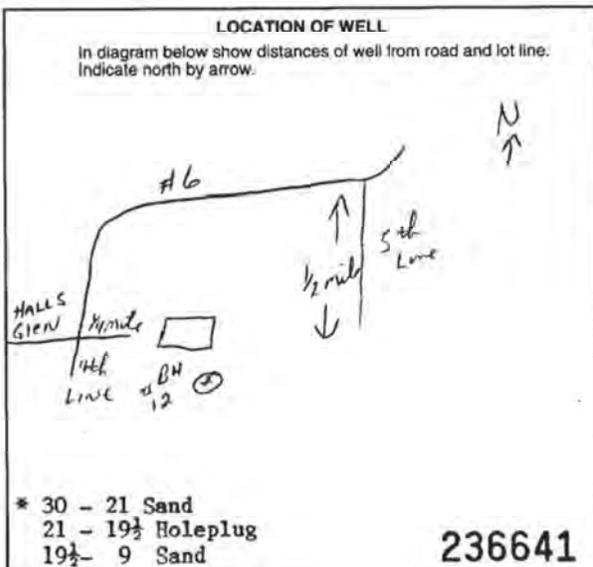
| 61 PLUGGING & SEALING RECORD   |    |   |
|--|----|---|
| <input checked="" type="checkbox"/> Annular space <input type="checkbox"/> Abandonment |    |   |
| Depth set at - feet  |    | Material and type (Concrete grout, bentonite, etc.) |
| From   | To |   |
| 0  | 13 | Bentonite (outside)                                 |
| 40   | 31 | Sand (inside)                                       |
| 31   | 30 | Holeplug, driller remark                            |

| 71 PUMPING TEST  |  |  |                                   |              |
|--|--|--|-----------------------------------|--------------|
| Pumping test method  | Pumping rate   | Duration of pumping  |                                   | Static level |
| <input type="checkbox"/> Pump <input checked="" type="checkbox"/> Bailor | <b>10 - 15</b> GPM                                   | 0-14 Hours   | 15-18 Mins                        |              |
| Water level end of pumping   | Water levels during                                  | <input type="checkbox"/> Pumping                               | <input type="checkbox"/> Recovery |              |
| 4 feet   | 15 minutes<br>30 minutes<br>45 minutes<br>60 minutes |  |                                   |              |
| If flowing give rate   | Pump intake set at                                   | Water at end of test   |                                   |              |
|  |  | <input type="checkbox"/> Clear <input type="checkbox"/> Cloudy |                                   |              |
| Recommended pump type  | Recommended pump setting                             | Recommended pump rate  |                                   |              |
| <input type="checkbox"/> Shallow <input type="checkbox"/> Deep           |  | GPM  |                                   |              |

| FINAL STATUS OF WELL                                 |   |   |
|--|---|---|
| <input type="checkbox"/> Water supply                | <input type="checkbox"/> Abandoned, insufficient supply | <input type="checkbox"/> Unfinished       |
| <input checked="" type="checkbox"/> Observation well | <input type="checkbox"/> Abandoned, poor quality        | <input type="checkbox"/> Replacement well |
| <input type="checkbox"/> Test hole                   | <input type="checkbox"/> Abandoned (Other)              |   |
| <input type="checkbox"/> Recharge well               | <input type="checkbox"/> Dewatering                     |   |

| WATER USE                           |   |   |
|-------------------------------------|---|---|
| <input type="checkbox"/> Domestic   | <input type="checkbox"/> Commercial                 | <input type="checkbox"/> Not used         |
| <input type="checkbox"/> Stock      | <input type="checkbox"/> Municipal                  | <input checked="" type="checkbox"/> Other |
| <input type="checkbox"/> Irrigation | <input type="checkbox"/> Public supply              |   |
| <input type="checkbox"/> Industrial | <input type="checkbox"/> Cooling & air conditioning |   |

| METHOD OF CONSTRUCTION                         |   |                                  |
|--|---|----------------------------------|
| <input checked="" type="checkbox"/> Cable tool | <input type="checkbox"/> Air percussion | <input type="checkbox"/> Driving |
| <input type="checkbox"/> Rotary (conventional) | <input type="checkbox"/> Boring         | <input type="checkbox"/> Digging |
| <input type="checkbox"/> Rotary (reverse)      | <input type="checkbox"/> Diamond        | <input type="checkbox"/> Other   |
| <input type="checkbox"/> Rotary (air)          | <input type="checkbox"/> Jetting        |                                  |



|  |  |
|--|--|
| Name of Well Contractor<br><b>C.Hart &amp; Sons Well Drilling Ltd.</b> | Well Contractor's Licence No.<br><b>2662</b>   |
| Address<br><b>Box 850, Fenelon Falls, Ontario</b>                      |  |
| Name of Well Technician<br><b>Jim Lean</b>                             | Well Technician's Licence No.<br><b>T-0546</b> |
| Signature of Technician/Contractor<br><i>Jim Lean</i>                  | Submission date<br>day mo yr                   |

|                    |                            |                                     |
|--------------------|----------------------------|-------------------------------------|
| MINISTRY USE ONLY  | Date source<br><b>2662</b> | Date received<br><b>MAR 11 2002</b> |
| Date of inspection | Inspector                  |                                     |
| Remarks            |                            |                                     |

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Print only in spaces provided.  
Mark correct box with a checkmark, where applicable.

11

5118969

Municipality: 51008 Con: 04

|  |   |   |                  |
|--|---|---|------------------|
| County or District<br><b>Peterborough</b>    | Township/Borough/City/Town/Village (BH-10)<br><b>Dummer Twp., Halls Glen-Landfill</b> | Con block tract survey, etc.<br><b>Con.4</b>  | Lot<br><b>26</b> |
| Owner's surname<br><b>Township of Dummer</b> | First Name  | Address <b>c/o Totten Sims Hubicki Assoc.<br/>300 Water St., Whitby, ON L1N 9J2</b> |                  |
| Date completed<br><b>2 11 01</b>             |   | day month year  |                  |

Zone: 21 Easting: 11 Northing: 11 Elevation: 11 Basin Code: 11

| LOG OF OVERBURDEN AND BEDROCK MATERIALS (see instructions) |                      |                 |                     |              |    |
|--|----------------------|-----------------|---------------------|--------------|----|
| General colour   | Most common material | Other materials | General description | Depth - feet |    |
|  |                      |                 |                     | From         | To |
| Black  | Topsoil              |                 |                     | 0            | 1  |
| Brown  | Gravel               |                 |                     | 1            | 9  |
| Brown  | Gravel               | broken rock     |                     | 9            | 15 |
| Gray   | Limestone            |                 |                     | 15           | 30 |
|  |                      |                 |                     |              |    |
|  |                      |                 |                     |              |    |
|  |                      |                 |                     |              |    |
|  |                      |                 |                     |              |    |
|  |                      |                 |                     |              |    |

31 11 32 11

| 41 WATER RECORD       |  |
|-----------------------|--|
| Water found at - feet | Kind of water  |
| 13                    | <input checked="" type="checkbox"/> Fresh <input type="checkbox"/> Salty <input type="checkbox"/> Sulphur <input type="checkbox"/> Minerals <input type="checkbox"/> Gas |
| 26                    | <input type="checkbox"/> Fresh <input checked="" type="checkbox"/> Salty <input type="checkbox"/> Sulphur <input type="checkbox"/> Minerals <input type="checkbox"/> Gas |
| 20-23                 | <input type="checkbox"/> Fresh <input type="checkbox"/> Salty <input type="checkbox"/> Sulphur <input type="checkbox"/> Minerals <input type="checkbox"/> Gas            |
| 25-28                 | <input type="checkbox"/> Fresh <input type="checkbox"/> Salty <input type="checkbox"/> Sulphur <input type="checkbox"/> Minerals <input type="checkbox"/> Gas            |
| 30-33                 | <input type="checkbox"/> Fresh <input type="checkbox"/> Salty <input type="checkbox"/> Sulphur <input type="checkbox"/> Minerals <input type="checkbox"/> Gas            |

| 51 CASING & OPEN HOLE RECORD |  |                       |              |      |
|------------------------------|--|-----------------------|--------------|------|
| Inside diam inches           | Material   | Wall thickness inches | Depth - feet |      |
|                              |  |                       | From         | To   |
| 6 1/2                        | <input checked="" type="checkbox"/> Steel <input checked="" type="checkbox"/> Galvanized <input type="checkbox"/> Concrete <input type="checkbox"/> Open hole <input type="checkbox"/> Plastic | .188                  | +2 1/2       | 13   |
| 2                            | <input type="checkbox"/> Steel <input checked="" type="checkbox"/> Galvanized <input type="checkbox"/> Concrete <input type="checkbox"/> Open hole <input checked="" type="checkbox"/> Plastic | Pieso                 | +2 1/2       | 25   |
| 2                            | <input type="checkbox"/> Steel <input checked="" type="checkbox"/> Galvanized <input type="checkbox"/> Concrete <input type="checkbox"/> Open hole <input checked="" type="checkbox"/> Plastic | Pieso                 | +2 1/2       | 14.3 |

|                             |                        |           |
|-----------------------------|------------------------|-----------|
| Sizes of opening (Slot No.) | Diameter               | Length    |
| 10                          | 2 inches               | 2x 5 feet |
| Material and type           | Depth at top of screen |           |
| PVC                         | 25, 14, 3 feet         |           |

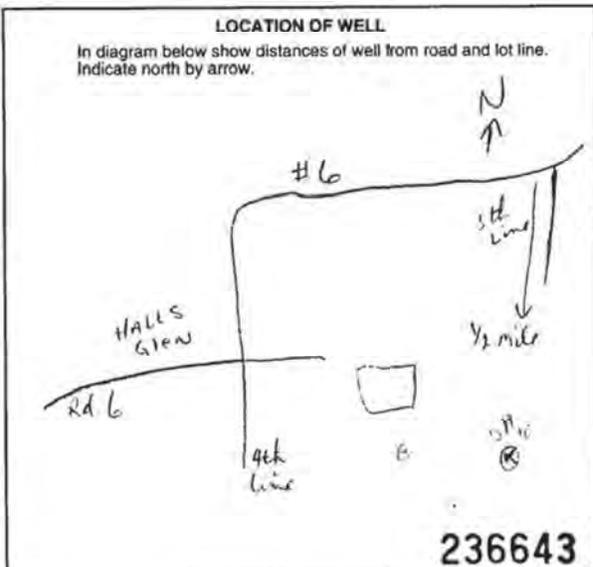
| 61 PLUGGING & SEALING RECORD                      |   |                       |
|---|---|-----------------------|
| <input checked="" type="checkbox"/> Annular space | <input type="checkbox"/> Abandonment              |                       |
| Depth set at - feet                               | Material and type (Gement grout, bentonite, etc.) |                       |
| From  | To  |                       |
| 0   | 13  | Holeplug (outside 6") |
| 13  | 20 1/2  | Sand                  |
| 20 1/2  | 22  | Holeplug              |
| 22  | 30  | Sand                  |

| 71 PUMPING TEST   |  |
|---|--|
| Pumping test method<br><input type="checkbox"/> Pump <input checked="" type="checkbox"/> Bailor | Pumping rate<br><b>5-6</b> GPM                                     |
| Duration of pumping<br><b>30</b> Hours <b>30</b> Mins   |  |
| Static level  | Water level end of pumping   |
| 19-21   | 22-24  |
| 8.5 feet  | feet   |
| Water levels during   | <input type="checkbox"/> Pumping <input type="checkbox"/> Recovery |
| 15 minutes 25-28  | 30 minutes 25-31   |
| 45 minutes 32-34  | 60 minutes 35-37   |
| feet  | feet   |
| If flowing give rate  | Pump intake set at   |
| GPM   | feet   |
| Recommended pump type<br><input type="checkbox"/> Shallow <input type="checkbox"/> Deep         | Recommended pump setting   |
|   | feet   |
| Water at end of test<br><input type="checkbox"/> Clear <input type="checkbox"/> Cloudy          | Recommended pump rate  |
|   | GPM  |

| FINAL STATUS OF WELL                                 |   |   |
|--|---|---|
| <input type="checkbox"/> Water supply                | <input type="checkbox"/> Abandoned, insufficient supply | <input type="checkbox"/> Unfinished       |
| <input checked="" type="checkbox"/> Observation well | <input type="checkbox"/> Abandoned, poor quality        | <input type="checkbox"/> Replacement well |
| <input type="checkbox"/> Test hole                   | <input type="checkbox"/> Abandoned (Other)              |   |
| <input type="checkbox"/> Recharge well               | <input type="checkbox"/> Dewatering                     |   |

| WATER USE                           |   |  |
|-------------------------------------|---|--|
| <input type="checkbox"/> Domestic   | <input type="checkbox"/> Commercial                 | <input type="checkbox"/> Not use                             |
| <input type="checkbox"/> Stock      | <input type="checkbox"/> Municipal                  | <input checked="" type="checkbox"/> Other <u>Residential</u> |
| <input type="checkbox"/> Irrigation | <input type="checkbox"/> Public supply              |  |
| <input type="checkbox"/> Industrial | <input type="checkbox"/> Cooling & air conditioning |  |

| METHOD OF CONSTRUCTION                         |   |                                  |
|--|---|----------------------------------|
| <input checked="" type="checkbox"/> Cable tool | <input type="checkbox"/> Air percussion | <input type="checkbox"/> Driving |
| <input type="checkbox"/> Rotary (conventional) | <input type="checkbox"/> Boring         | <input type="checkbox"/> Digging |
| <input type="checkbox"/> Rotary (reverse)      | <input type="checkbox"/> Diamond        | <input type="checkbox"/> Other   |
| <input type="checkbox"/> Rotary (air)          | <input type="checkbox"/> Jetting        |                                  |



|  |  |
|--|--|
| Name of Well Contractor<br><b>G.Hart &amp; Sons Well Drilling Ltd.</b> | Well Contractor's Licence No.<br><b>2662</b>   |
| Address<br><b>Box 850, Fenelon Falls, Ontario</b>                      |  |
| Name of Well Technician<br><b>Jim Lean</b>                             | Well Technician's Licence No.<br><b>T-0546</b> |
| Signature of Technician/Contractor<br><i>Jim Lean</i>                  | Submission date<br>day mo yr                   |

|                           |                            |                                     |
|---------------------------|----------------------------|-------------------------------------|
| MINISTRY USE ONLY         | Date sou/06<br><b>2662</b> | Date received<br><b>MAR 11 2002</b> |
| Date of inspection        | Inspector                  |                                     |
| Remarks<br><b>CO-8702</b> |                            |                                     |



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5119268

Municipality: 51008 Con: CON OS

|  |   |   |                  |
|--|---|---|------------------|
| County or District<br><b>PETERBORO</b>           | Township/Borough/City/Town/Village<br><b>DOURO / DUMMER</b> | Con. block tract survey, etc.<br><b>CON 5</b> | Lot<br><b>27</b> |
| Address<br><b>2069 5<sup>th</sup> ROAD NORTH</b> |   | Date completed<br><b>31 12 02</b>             |                  |

21

Zone Easting Northing RC Elevation RC Basin Code

| LOG OF OVERBURDEN AND BEDROCK MATERIALS (see instructions) |                      |                 |                     |              |     |
|--|----------------------|-----------------|---------------------|--------------|-----|
| General colour   | Most common material | Other materials | General description | Depth - feet |     |
|  |                      |                 |                     | From         | To  |
| BLACK  | TOPSOIL              |                 | SOFT                | 0            | 1   |
| GREY   | CLAY                 | BOULDERS        |                     | 1            | 6   |
| GREY   | LIMESTONE            |                 | HARD                | 6            | 18  |
| RED  | LIMESTONE            |                 | POUROUS             | 18           | 19  |
| GREY   | LIMESTONE            |                 | HARD                | 19           | 138 |
| GREY   | GRANITE              |                 | HARD                | 138          | 147 |

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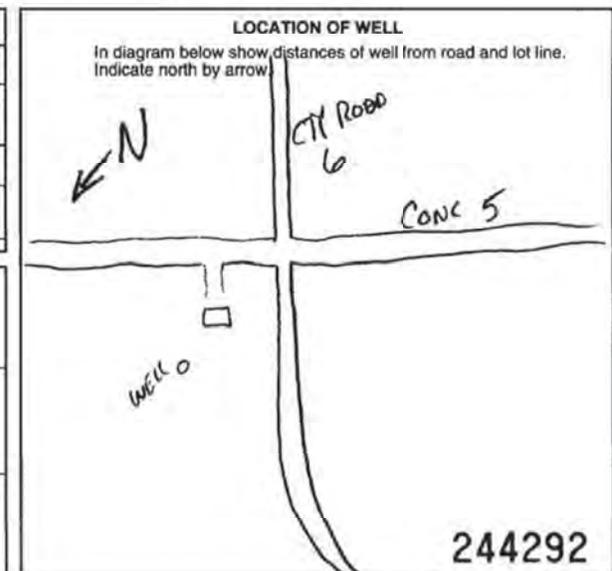
| 41 WATER RECORD       |   |   |  |
|-----------------------|---|---|--|
| Water found at - feet | Kind of water   |   |  |
| 18-19                 | <input checked="" type="checkbox"/> Fresh<br><input type="checkbox"/> Salty | <input type="checkbox"/> Sulphur<br><input type="checkbox"/> Minerals<br><input type="checkbox"/> Gas |  |
| 15-18                 | <input type="checkbox"/> Fresh<br><input type="checkbox"/> Salty            | <input type="checkbox"/> Sulphur<br><input type="checkbox"/> Minerals<br><input type="checkbox"/> Gas |  |
| 20-23                 | <input type="checkbox"/> Fresh<br><input type="checkbox"/> Salty            | <input type="checkbox"/> Sulphur<br><input type="checkbox"/> Minerals<br><input type="checkbox"/> Gas |  |
| 25-28                 | <input type="checkbox"/> Fresh<br><input type="checkbox"/> Salty            | <input type="checkbox"/> Sulphur<br><input type="checkbox"/> Minerals<br><input type="checkbox"/> Gas |  |
| 28-33                 | <input type="checkbox"/> Fresh<br><input type="checkbox"/> Salty            | <input type="checkbox"/> Sulphur<br><input type="checkbox"/> Minerals<br><input type="checkbox"/> Gas |  |

| 51 CASING & OPEN HOLE RECORD |          |                       |              |     |
|------------------------------|----------|-----------------------|--------------|-----|
| Inside diam inches           | Material | Wall thickness inches | Depth - feet |     |
|                              |          |                       | From         | To  |
| 6 5/8                        | Steel    | 188                   | 0            | 10  |
| 6 1/8                        | Steel    |                       | 10           | 147 |

| SIZES OF OPENING (Slot No.) | Diameter inches | Length feet | Material and type | Depth at top of screen feet |
|-----------------------------|-----------------|-------------|-------------------|-----------------------------|
|                             |                 |             |                   |                             |

| 61 PLUGGING & SEALING RECORD |      |             |   |
|------------------------------|------|-------------|---|
| Annular space                |      | Abandonment |   |
| Depth set at - feet          | From | To          | Material and type (Cement grout, bentonite, etc.) |
|                              | 0    | 10          | HOLEPLUG & BEUSEAL                                |

| 71 PUMPING TEST  |                            |  |                      |
|--|----------------------------|--|----------------------|
| Pumping test method  | Pumping rate               | Duration of pumping  |                      |
| <input checked="" type="checkbox"/> Pump<br><input type="checkbox"/> Baker   | 1/4 GPM                    | 6 Hours  | 17:18 Mins           |
| Static level   | Water level and of pumping | Water levels during Pumping  |                      |
| 12 feet  | 147 feet                   | 15 minutes: 70 feet  | 30 minutes: 95 feet  |
|  |                            | 45 minutes: 130 feet   | 60 minutes: 147 feet |
| If flowing gives rate  | Pump intake set at         | Water at end of test   |                      |
|  | 140 feet                   | <input checked="" type="checkbox"/> Clear<br><input type="checkbox"/> Cloudy |                      |
| Recommended pump type  | Recommended pump setting   | Recommended pump rate  |                      |
| <input type="checkbox"/> Shallow<br><input checked="" type="checkbox"/> Deep | 140 feet                   | 1/4 GPM  |                      |



| FINAL STATUS OF WELL                             |   |   |  |
|--|---|---|--|
| <input checked="" type="checkbox"/> Water supply | <input type="checkbox"/> Abandoned, insufficient supply | <input type="checkbox"/> Unrefreshed      |  |
| <input type="checkbox"/> Observation well        | <input type="checkbox"/> Abandoned, poor quality        | <input type="checkbox"/> Replacement well |  |
| <input type="checkbox"/> Test hole               | <input type="checkbox"/> Abandoned (Other)              |   |  |
| <input type="checkbox"/> Recharge well           | <input type="checkbox"/> Dewatering                     |   |  |

| WATER USE                                    |   |                                  |  |
|--|---|----------------------------------|--|
| <input checked="" type="checkbox"/> Domestic | <input type="checkbox"/> Commercial                 | <input type="checkbox"/> Not use |  |
| <input type="checkbox"/> Stock               | <input type="checkbox"/> Municipal                  | <input type="checkbox"/> Other   |  |
| <input type="checkbox"/> Irrigation          | <input type="checkbox"/> Public supply              |                                  |  |
| <input type="checkbox"/> Industrial          | <input type="checkbox"/> Cooling & air conditioning |                                  |  |

| METHOD OF CONSTRUCTION                         |   |                                  |  |
|--|---|----------------------------------|--|
| <input checked="" type="checkbox"/> Cable tool | <input type="checkbox"/> Air percussion | <input type="checkbox"/> Driving |  |
| <input type="checkbox"/> Rotary (conventional) | <input type="checkbox"/> Boring         | <input type="checkbox"/> Digging |  |
| <input type="checkbox"/> Rotary (reverse)      | <input type="checkbox"/> Diamond        | <input type="checkbox"/> Other   |  |
| <input type="checkbox"/> Rotary (air)          | <input type="checkbox"/> Jetting        |                                  |  |

|  |  |
|--|--|
| Name of Well Contractor<br><b>WENSLEY WATER WELL</b>     | Well Contractor's Licence No.<br><b>6578</b> |
| Address<br><b>RR 2 LAKEFIELD</b>                         |  |
| Name of Well Technician<br><b>ERIC WENSLEY</b>           | Well Technician's Licence No.<br><b>632</b>  |
| Signature of Technician/Contractor<br><i>[Signature]</i> | Submission date<br><b>16 01 03</b>           |

| MINISTRY USE ONLY  |                           |               |                    |
|--------------------|---------------------------|---------------|--------------------|
| Data source        | Contractor<br><b>6578</b> | Date received | <b>JAN 24 2003</b> |
| Date of inspection | Inspector                 |               |                    |
| Remarks            |                           |               |                    |
| <b>CSS.ES3</b>     |                           |               |                    |

Print only in spaces provided. Mark correct box with a checkmark, where applicable.

11

5119301

Municipality 51008 Con 04

|  |  |  |   |
|--|--|--|---|
| County or District<br><b>Peterborough</b>    | Township/Borough/City/Town/Village<br><b>Dummer Twp. Halls Glen-Landfill</b> | Con block tract survey, etc.<br><b>4</b>   | Lot<br><b>26</b>                                    |
| Owner's surname<br><b>Township of Dummer</b> | First Name   | Address<br><b>c/o Totten Sims Hubicki Assoc.<br/>300 Water St., Whitby, ON L1N 9J2</b> | Date completed<br><b>29 10 02</b><br>day month year |

Zone Easting Northing RC Elevation RC Basin Code

LOG OF OVERBURDEN AND BEDROCK MATERIALS (see instructions)

| General colour | Most common material | Other materials | General description | Depth - feet |    |
|----------------|----------------------|-----------------|---------------------|--------------|----|
|                |                      |                 |                     | From         | To |
| Black          | Topsoil              |                 |                     | 0            | .5 |
| Brown          | Gravel               | boulders        |                     | .5           | 9  |
| Grey           | Limestone            |                 |                     | 9            | 17 |

31 32

| <p>41 WATER RECORD</p> <p>Water found at - feet<br/><b>15.5</b></p> <p>Kind of water<br/> <input type="checkbox"/> Fresh <input type="checkbox"/> Sulphur <input type="checkbox"/> Minerals <input type="checkbox"/> Gas<br/> <input type="checkbox"/> Salty <input type="checkbox"/> Minerals <input type="checkbox"/> Gas</p> | <p>51 CASING &amp; OPEN HOLE RECORD</p> <table border="1"> <thead> <tr> <th rowspan="2">Inside diam inches</th> <th rowspan="2">Material</th> <th rowspan="2">Wall thickness inches</th> <th colspan="2">Depth - feet</th> </tr> <tr> <th>From</th> <th>To</th> </tr> </thead> <tbody> <tr> <td>6 1/2</td> <td><input checked="" type="checkbox"/> Steel<br/><input type="checkbox"/> Galvanized<br/><input type="checkbox"/> Concrete<br/><input type="checkbox"/> Open hole<br/><input type="checkbox"/> Plastic</td> <td>.188</td> <td>+3</td> <td>6</td> </tr> <tr> <td>2</td> <td><input type="checkbox"/> Steel<br/><input type="checkbox"/> Galvanized<br/><input type="checkbox"/> Concrete<br/><input type="checkbox"/> Open hole<br/><input checked="" type="checkbox"/> Plastic</td> <td>.180</td> <td>+3</td> <td>6</td> </tr> <tr> <td>2</td> <td><input type="checkbox"/> Steel<br/><input type="checkbox"/> Galvanized<br/><input type="checkbox"/> Concrete<br/><input type="checkbox"/> Open hole<br/><input checked="" type="checkbox"/> Plastic</td> <td>.180</td> <td>+3</td> <td>12</td> </tr> </tbody> </table> | Inside diam inches | Material | Wall thickness inches | Depth - feet          |              | From | To | 6 1/2 | <input checked="" type="checkbox"/> Steel<br><input type="checkbox"/> Galvanized<br><input type="checkbox"/> Concrete<br><input type="checkbox"/> Open hole<br><input type="checkbox"/> Plastic | .188 | +3 | 6 | 2 | <input type="checkbox"/> Steel<br><input type="checkbox"/> Galvanized<br><input type="checkbox"/> Concrete<br><input type="checkbox"/> Open hole<br><input checked="" type="checkbox"/> Plastic | .180 | +3 | 6 | 2 | <input type="checkbox"/> Steel<br><input type="checkbox"/> Galvanized<br><input type="checkbox"/> Concrete<br><input type="checkbox"/> Open hole<br><input checked="" type="checkbox"/> Plastic | .180 | +3 | 12 | <p>60 SCREEN</p> <p>Sizes of opening (Slot No.) <b>10</b> Diameter <b>2</b> inches Length <b>3'8 1/2'</b> feet</p> <p>Material and type<br/><b>PVC</b></p> <p>Depth at top of screen <b>6, 12</b> feet</p> |
|---|---|--------------------|----------|-----------------------|-----------------------|--------------|------|----|-------|---|------|----|---|---|---|------|----|---|---|---|------|----|----|--|
| Inside diam inches  | Material  |                    |          |                       | Wall thickness inches | Depth - feet |      |    |       |   |      |    |   |   |   |      |    |   |   |   |      |    |    |  |
|   |   | From               | To       |                       |                       |              |      |    |       |   |      |    |   |   |   |      |    |   |   |   |      |    |    |  |
| 6 1/2   | <input checked="" type="checkbox"/> Steel<br><input type="checkbox"/> Galvanized<br><input type="checkbox"/> Concrete<br><input type="checkbox"/> Open hole<br><input type="checkbox"/> Plastic   | .188               | +3       | 6                     |                       |              |      |    |       |   |      |    |   |   |   |      |    |   |   |   |      |    |    |  |
| 2   | <input type="checkbox"/> Steel<br><input type="checkbox"/> Galvanized<br><input type="checkbox"/> Concrete<br><input type="checkbox"/> Open hole<br><input checked="" type="checkbox"/> Plastic   | .180               | +3       | 6                     |                       |              |      |    |       |   |      |    |   |   |   |      |    |   |   |   |      |    |    |  |
| 2   | <input type="checkbox"/> Steel<br><input type="checkbox"/> Galvanized<br><input type="checkbox"/> Concrete<br><input type="checkbox"/> Open hole<br><input checked="" type="checkbox"/> Plastic   | .180               | +3       | 12                    |                       |              |      |    |       |   |      |    |   |   |   |      |    |   |   |   |      |    |    |  |

| <p>71 PUMPING TEST</p> <p>Pumping test method<br/><input type="checkbox"/> Pump <input checked="" type="checkbox"/> Bailor</p> <p>Pumping rate <b>7</b> GPM</p> <p>Duration of pumping <b>15</b> mins</p> <p>Static level <b>7</b> feet</p> <p>Water level end of pumping</p> <p>Water levels during<br/>         15 minutes <b>7</b> feet<br/>         30 minutes <b>7</b> feet<br/>         45 minutes <b>7</b> feet<br/>         60 minutes <b>7</b> feet</p> <p>If flowing give rate <b>7</b> GPM</p> <p>Recommended pump type<br/><input type="checkbox"/> Shallow <input type="checkbox"/> Deep</p> | <p>61 PLUGGING &amp; SEALING RECORD</p> <p><input checked="" type="checkbox"/> Annular space <input type="checkbox"/> Abandonment</p> <table border="1"> <thead> <tr> <th>Depth set at - feet</th> <th>Material and type (Cement grout, bentonite, etc.)</th> </tr> </thead> <tbody> <tr> <td>17' - 11'</td> <td>sand</td> </tr> <tr> <td>11' - 9'</td> <td>holeplug</td> </tr> <tr> <td>9' - 0'</td> <td>sand holeplug</td> </tr> </tbody> </table> | Depth set at - feet | Material and type (Cement grout, bentonite, etc.) | 17' - 11' | sand | 11' - 9' | holeplug | 9' - 0' | sand holeplug |
|---|--|---------------------|---|-----------|------|----------|----------|---------|---------------|
| Depth set at - feet   | Material and type (Cement grout, bentonite, etc.)  |                     |   |           |      |          |          |         |               |
| 17' - 11'   | sand   |                     |   |           |      |          |          |         |               |
| 11' - 9'  | holeplug   |                     |   |           |      |          |          |         |               |
| 9' - 0'   | sand holeplug  |                     |   |           |      |          |          |         |               |

|  |   |
|--|---|
| <p>FINAL STATUS OF WELL</p> <p><input type="checkbox"/> Water supply <input type="checkbox"/> Abandoned, insufficient supply <input type="checkbox"/> Unfinished<br/> <input checked="" type="checkbox"/> Observation well <input type="checkbox"/> Abandoned, poor quality <input type="checkbox"/> Replacement well<br/> <input type="checkbox"/> Test hole <input type="checkbox"/> Abandoned (Other)<br/> <input type="checkbox"/> Recharge well <input type="checkbox"/> Dewatering</p> <p>WATER USE</p> <p><input type="checkbox"/> Domestic <input type="checkbox"/> Commercial <input type="checkbox"/> Not use<br/> <input type="checkbox"/> Stock <input type="checkbox"/> Municipal <input checked="" type="checkbox"/> Other Monitor<br/> <input type="checkbox"/> Irrigation <input type="checkbox"/> Public supply<br/> <input type="checkbox"/> Industrial <input type="checkbox"/> Cooling &amp; air conditioning</p> <p>METHOD OF CONSTRUCTION</p> <p><input checked="" type="checkbox"/> Cable tool <input type="checkbox"/> Air percussion <input type="checkbox"/> Driving<br/> <input type="checkbox"/> Rotary (conventional) <input type="checkbox"/> Boring <input type="checkbox"/> Digging<br/> <input type="checkbox"/> Rotary (reverse) <input type="checkbox"/> Diamond <input type="checkbox"/> Other<br/> <input type="checkbox"/> Rotary (air) <input type="checkbox"/> Jetting</p> | <p>LOCATION OF WELL</p> <p>In diagram below show distances of well from road and lot line. Indicate north by arrow.</p> <p>252361</p> |
|--|---|

|  |  |                            |                                     |
|--|--|----------------------------|-------------------------------------|
| Name of Well Contractor<br><b>G.Hart &amp; Sons Well Drilling Ltd.</b> | Well Contractor's Licence No.<br><b>2662</b>   | Date source<br><b>2662</b> | Date received<br><b>FEB 19 2003</b> |
| Address<br><b>Box 850, Fenelon Falls, ON K0M 1N0</b>                   |  | Date of inspection         | Inspector                           |
| Name of Well Technician<br><b>Jim Lean</b>                             | Well Technician's Licence No.<br><b>T-0546</b> | Remarks<br><b>CSS.ES3</b>  |                                     |
| Signature of Technician/Contractor<br><i>Blake W...</i>                | Submission date                                |                            |                                     |



Measurements recorded in:  Metric  Imperial

A 123083

Well Owner's Information

First Name, Last Name / Organization, E-mail Address, Mailing Address, Municipality, Province, Postal Code, Telephone No.

Well Location

Address of Well Location, Township, Lot, Concession, County/District/Municipality, City/Town/Village, Province, Postal Code, UTM Coordinates, Zone, Easting, Northing, Municipal Plan and Sublot Number

Overburden and Bedrock Materials/Abandonment Sealing Record (see instructions on the back of this form)

Table with columns: General Colour, Most Common Material, Other Materials, General Description, Depth (m/ft) From, To

Annular Space: Depth Set at (m/ft) From, To; Type of Sealant Used (Material and Type); Volume Placed (m³/ft³)

Results of Well Yield Testing: After test of well yield, water was; Draw Down (Time, Water Level); Recovery (Time, Water Level); Pumping rate; Duration of pumping; Final water level end of pumping; Recommended pump depth; Recommended pump rate; Well production; Disinfected?

Method of Construction: Cable Tool, Rotary, Borehole, Air percussion, etc.; Well Use: Public, Commercial, Municipal, etc.

Construction Record - Casing: Inside Diameter, Open Hole OR Material, Wall Thickness, Depth (m/ft) From, To; Status of Well: Water Supply, Replacement Well, etc.

Construction Record - Screen: Outside Diameter, Material, Slot No., Depth (m/ft) From, To; Status of Well: Abandoned, insufficient Supply, etc.

Water Details: Water found at Depth (m/ft), Kind of Water (Fresh, Untested, Gas, Other); Hole Diameter: Depth (m/ft) From, To, Diameter (cm/in)

Well Contractor and Well Technician Information: Business Name of Well Contractor, Well Contractor's Licence No., Business Address, Municipality, Province, Postal Code, Business E-mail Address, Bus. Telephone No., Name of Well Technician, Well Technician's Licence No., Signature of Technician and/or Contractor, Date Submitted



Comments: TEST WELL #3

Well owner's information package delivered: Date Package Delivered, Date Work Completed, Ministry Use Only: Audit No., Received: JAN 03 2012



Measurements recorded in:  Metric  Imperial

Page 1 of 1

A123084

Well Owner's Information

First Name, Last Name / Organization, E-mail Address, Mailing Address, Municipality, Province, Postal Code, Telephone No.

Well Location

Address of Well Location, Township, Lot, Concession, County/District/Municipality, City/Town/Village, Province, Postal Code, UTM Coordinates, Northing, Municipal Plan and Sublot Number

Overburden and Bedrock Materials/Abandonment Sealing Record

Table with columns: General Colour, Most Common Material, Other Materials, General Description, Depth (m/ft) From, To

Annular Space table with columns: Depth Set at (m/ft) From, To, Type of Sealant Used, Volume Placed (m³/ft³)

Results of Well Yield Testing table with columns: Draw Down, Recovery, Time (min), Water Level (m/ft)

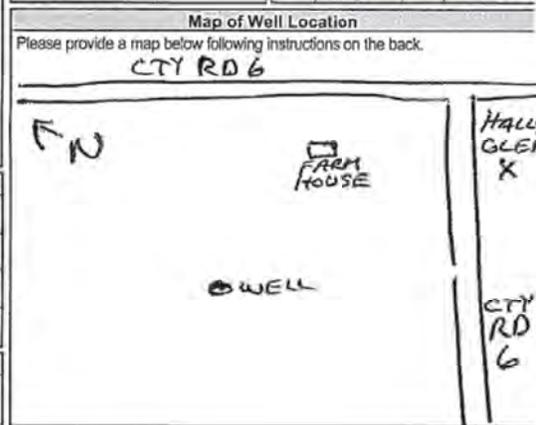
Method of Construction, Well Use checkboxes

Construction Record - Casing table with columns: Inside Diameter, Open Hole OR Material, Wall Thickness, Depth (m/ft) From, To, Status of Well

Construction Record - Screen table with columns: Outside Diameter, Material, Slot No., Depth (m/ft) From, To

Water Details and Hole Diameter tables

Well Contractor and Well Technician Information



Business Name of Well Contractor, Business Address, Province, Postal Code, Business E-mail Address, Bus. Telephone No., Name of Well Technician, Well Technician's Licence No., Signature of Technician and/or Contractor, Date Submitted

Comments, Well owner's information package delivered, Date Package Delivered, Date Work Completed, Ministry Use Only, Audit No., Received