HYDROGEOLOGICAL INVESTIGATION REPORT

15441 MOUNT PLEASANT ROAD

TOWN OF CALEDON REGION OF PEEL

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1.0 Introduction

C.F. Crozier & Associates Inc. (Crozier) has been retained by Design Plan Services Inc. to prepare a comprehensive Hydrogeological Investigation Report to support the proposed residential development located at 15441 Mount Pleasant Road in the Town of Caledon. The following report has been prepared to summarize existing conditions, characterize the hydrogeological system, and describe hydrogeological driven constraints for the development. The scope of this report was designed to meet the relevant Town of Caledon (Town), Region of Peel, and Toronto and Region Conservation Authority (TRCA) criteria.

Located at 15441 Mount Pleasant Road, in the Town of Caledon, Region of Peel, the development site (herein referred to as the Site) currently consists of trees, greenspace, ponds, and landscaped/forested areas (**Figure 1**). The Site is approximately 22.9 ha and is bounded by Mount Pleasant Road to the west, residential estate properties to the north and south, and wetlands to the east. The surrounding area consists mostly of rural residential lands.

According to the Draft Plan of Subdivision prepared by Design Plan Services Inc. dated April 12, 2024, the key elements envisioned for this development include:

- Five (5) estate residential lots.
- An internal roadway with Site access from Mount Pleasant Road.

2.0 Geology

The following sections below outline the existing conditions of the Study area based on literature review and field observations.

2.1 Physiography, Topography & Drainage

As shown in **Figure 2**, the Site is in the Oak Ridges Moraine physiographic region according to Chapman and Putnam (1984). The Oak Ridges Moraine extends from the Niagara Escarpment in the west to the Trent River in the East. The Oak Ridges Moraine is bounded by the South Slope in the south and covers an area of approximately 1295 km². The Oak Ridges Moraine is characterized as a hilly terrain that predominantly consists of sand and gravel soils.

The Site area is situated in the Black Creek – Humber River Outlet watershed. Surface drainage is interpreted to follow topography and drain roughly southeast. The nearest surface water feature to the Site is a tributary of the Humber River, which flows towards the main branch of the Humber River and ultimately, reaches Lake Ontario.

2.2 Regional Geology

According to Ontario Geological Survey (OGS) Mapping, the Site sits atop a bedrock basement of the Georgian Bay Formation. The Georgian Bay Formation is characterized as grey to green shale, siltstone, and limestone. Across the Site area, depth to bedrock is estimated to be approximately 70.3 meters below ground surface (mbgs) to 135.34 mbgs. Bedrock is overlain by clay to silt-textured till, derived from glaciolacustrine deposits or shale. North of the Site sandy, gravelly material is mapped where the Oak Ridges Moraine is located.

The bedrock and surficial geology of the Study Area are displayed in Figures 3 and 4, respectively.

2.3 Local Geology

A Geotechnical Investigation was completed on the Site to characterize the existing geological conditions and determine design constraints by AllRock Consulting Ltd. (AllRock). In November of 2023, ten (10) boreholes were advanced, and three (3) were converted into monitoring wells across the Site. In general, the following stratigraphy was encountered:

- 0-0.1 m dark brown sandy silt/silty sand topsoil
- 0.1 4.6 m brown to grey clayey silt with traces of sand and some gravel

According to nearby MECP well records, the primary overburden materials encountered near the Site include clay and sandy clay. The results of the geotechnical investigation performed by AllRock are consistent with MECP well records. For further details regarding the geotechnical investigation, please refer to the Geotechnical Investigation prepared by AllRock, submitted under separate cover. The borehole logs are appended to this report as Appendix A.

2.4 Source Water Protection Information

According to the Ministry of Environment, Conservation and Parks (MECP) Source Protection Information Atlas, the Site is located within the Toronto Source Protection Area and is governed by the CTC (Credit Valley-Toronto and Region-Central Lake Ontario) Source Protection Plan under the Clean Water Act (2006).

The Site Area is located atop of Highly Vulnerable Aquifer (HVA). The HVA below the Site area is noted to have a vulnerability score of 6. No significant drinking water threats and source protection policies related to the HVA are identified for the Site area under the Clean Drinking Water Act (2006).

Despite no **significant** drinking water threats being identified for the Site area, a number of low to moderate drinking water threats are identified for the future use of the property, including the following:

- 1) The application of road salt
- 2) The handling and storage of road salt.
- 3) The storage of snow.
- 4) An activity that reduces the recharge of an aquifer.

Best management strategies should be employed such that the prescribed low to moderate drinking water threats above will not become significant drinking water threats in the future.

3.0 Hydrogeology

The following sections below detail the existing hydrogeological conditions of the Site area based on regional studies, local studies, and relevant background information.

3.1 MECP Well Records

A review of the MECP well record database was completed for wells within 500 m of the Site area boundary (**Figure 5**). There are 19 identified well records within 500 m of the Site and the records are be summarized below.

- In stratigraphic order, the majority of well records encountered brown to grey clay, sand, grey to blue clay and shale.
- Of the nineteen (19) well records, thirteen (13) were identified for domestic use, two (2) were constructed for monitoring/observational purposes, one (1) abandoned and three (3) had an unspecified use.
- Of the fourteen (14) wells where pumping test were completed in, there was a maximum reported pumping rate of 75.71 litres per minute (LPM), and a minimum reported pumping rate of 0.95 LPM. The average pumping rate was 17.24 LPM.
- Static water levels range from 1.52 mbgs to 12.19 mbgs.

A summary table of the well records has been appended to this report as Appendix B.

3.2 Hydrostratigraphy

The hydrostratigraphic framework of the Humber River Watershed has been outlined in the Humber River Watershed, Scenario Modelling and Analysis Report prepared by the TRCA. There are eight (8) hydrostratigraphic units in the Humber River Watershed. The hydrostratigraphic units are summarized in Table 1 below.

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Unit	Hydrostratigraphic Unit Name	Function	System
Youngest – 1	Halton Aquitard	Aquitard	Overburden
2	Oak Ridges Aquifer	Aquifer	Overburden
3	Newmarket Aquitard	Aquitard	Overburden
4	Meltwater Channel Aquifers	Aquifer	Overburden
5	Thorncliffe Aquifer	Aquifer	Overburden
6	Sunnybrook Aquitard	Aquitard	Overburden
7	Scarborough Aquifer	Aquifer	Overburden
8	Upper Bedrock Aquitard	Aquitard	Bedrock Contact Zone

Table 1: Hydrostratigraphy of the Humber River Watershed (TRCA, 2008)

As shown in **Figure 4**, the edge of the Oak Ridges Moraine aquifer is located in the northern portion of the Site. The Oak Ridges Moraine is primarily sand and gravel and provides localized domestic water supplies in the community. The southern portion of the Site is overlain by silty clay to clayey silt glacial till defined as the Halton Till. The Halton Till is a regionally extensive aquitard however, sandy lens may provide water to local water users.

3.3 Groundwater Levels

Regional shallow and deep groundwater flow direction is interpreted to follow surface and bedrock topography and flow south towards the Humber River and Lake Ontario. According to the Oak Ridges Moraine Groundwater Program Mapping, regional groundwater elevations range approximately from 300 meters above sea level (masl) at Old Church Road to 250 at the Humber River branch to the south.

3.4 Groundwater Quality

Groundwater quality within the Humber River Watershed is obtained from monitoring wells within the Provincial Groundwater Monitoring Network (PGMN) and municipal data. Groundwater sampling results are compared to the Ontario Drinking Water Quality Standards (ODWQS) and any exceedances are flagged and investigated to determine the potential source and impact of the exceedance. According to the Humber River Watershed Report Card (2018), groundwater quality within the Humber River Watershed received an overall grading of "C" meaning the groundwater quality is fair. In general, exceedance of the guideline for chloride is noted in areas where excessive road salt application is occurring.

Localized groundwater quality sampling was conducted on the property and results are presented in Section 6.0 below.

4.0 Field Work

The following section outlines the field investigation conducted by Crozier staff and others to characterize the hydrogeologic regime and define hydrogeologic constraints for development.

4.1 Monitoring Well Installation

On November 24th – 28th 2023, ten (10) boreholes were advanced across the property to depths of approximately 8.5 mbgs to 9.1 mbgs. Soil sampling was conducted at regular intervals during drilling to classify the soils. Three (3) boreholes were converted into monitoring wells for hydrogeological purposes. A summary of the monitoring wells is provided in Table 2.

Monitoring Well Name	Total Depth (mbgs)	Screened Interval (mbgs)	Screened Material
MW 23-3	9.14	6.14 - 9.14	Grey silt, with traces of sand and clay.
MW 23-5	9.14	6.14 - 9.14	Grey to brown silt, with traces of sand and clay.
MW 23-10	9.14	6.14 - 9.14	Grey to brown silt, with traces of sand and clay.

Table 2: Monitoring Well Details

All monitoring wells were completed as 50 mm PVC pipe wells with 3.0 m, No.18 slotted well screen. The wells were installed to a total depth of 9.14 mbgs within the first water bearing unit encountered during drilling. Please refer to Appendix A for detailed borehole logs and **Figure 6** for a map of the monitoring well locations.

4.2 Groundwater Monitoring

Manual groundwater measurements were collected using an electronic water level meter and automatic level loggers were deployed in select monitoring wells across the Site. The water level loggers were set to measure water levels on an hourly basis to collect a more comprehensive dataset for a greater understanding of the shallow groundwater system. Results of groundwater monitoring to date is covered in Section 6.0 below.

4.3 Groundwater Quality Sampling

Groundwater quality sampling was conducted on May 30, 2024, within one (1) monitoring well, (MW 23-3). Three (3) well volumes were removed prior to sampling using hand purging methods. The raw, unfiltered sample was sent to a third-party laboratory for analysis. The resultant concentrations were compared to Provincial Water Quality Objectives (PWQO). Results are presented in Appendix C.

4.4 Hydraulic Conductivity Testing

In-situ hydraulic conductivity testing was performed at select monitoring wells to estimate the shallow infiltration rates of the soils. A falling head test was conducted at MW 23 - 3 and MW 23 – 10 and results were analyzed using Aqtesolv – Aquifer Test Analysis Software. A discussion of the results is presented in Section 5.3 below.

4.5 Door-to-Door Survey

As per the Region of Peel guidelines, a door-to-door well survey was conducted to evaluate the condition of and location of water supply wells nearby the Site. The survey was conducted in May 2024 via hand delivery to properties within 500 m of the Site boundary. The questionnaire was used to address the following about the wells on adjacent properties:

- Property address
- Existence of a well on the property
- Well use, age, depth
- History of water quantity and quality

A copy of the questionnaire and obtained responses are included in Appendix E. A map of the properties visited is included as **Figure 6**.

5.0 Results

5.1 Groundwater Levels

Two (2) manual groundwater measurements have been collected to date and are summarized in Table 3 below. Note that groundwater monitoring is ongoing on the property and additional results can be provided following additional monitoring.

Monitoring W/			Water Level (mbgs)									
Monitoring we		April 4, 2024	May 30, 2024	June 28, 2024								
MW 23-3	A394140	5.66	5.36	6.09								
MW 23-5	A394125	5.75	5.10	5.29								
MW 23-10	A394139	6.55	5.83	5.89								

Table 3: Groundwater	Levels (April 2024	– June 2024)
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Automatic level loggers were deployed in each monitoring well to capture continuous water levels. Hydrographs of the water level within each monitoring well are presented in Appendix F. As shown in Appendix F, water levels have ranged from 6.69 mbgs to 5.10 mbgs. Minor fluctuations in water level appear to occur following precipitation events. MW 23 - 3 appears to respond more than MW 23 - 5 and MW 23 - 10 to precipitation events; following rainfall, water level gradually increases over a few hours. Water level subsequently decreases gradually.

The monitoring wells are installed within a grey silt unit located 4.57 m below ground surface. This unit is representative of a leaky confined unit as demonstrated by the minor fluctuations recorded by the automatic level loggers. Therefore, the water bearing silt unit is slightly responsive to seasonal change. It is interpreted that the water level recorded in April 2024 is representative of seasonally high-water levels (**Figure 7**). It is anticipated that water levels will drop into the drier season and rise again next spring.

5.2 Groundwater Quality

As noted above, one (1) representative groundwater sample was collected from MW 23-3 and submitted to ALS Laboratories for analysis. Resultant concentrations were compared to Provincial Water Quality Objectives (PWQO) to determine if raw groundwater on the Site meets the provincial objectives. The detailed laboratory results are provided in Appendix C.

In summary, the following exceedances of the PWQO were reported:

- E. coli: <10 mg/L
- Total Coliforms: <1000 mg/L
- Total Aluminium: 90.1 mg/L
- Total Cadmium: 0.000852 mg/L
- Total Cobalt: 0.0898 mg/L
- Total Copper: 0.214 mg/L
- Total Iron: 171 mg/L
- Total Lead: 0.0925 mg/L
- Total Nickel: 0.164 mg/L
- Total Phosphorus: 9.81 mg/L
- Total Silver: 0.000368 mg/L
- Total Thallium: 0.000951 mg/L
- Total Uranium: 0.00724 mg/L
- Total Vanadium: 0.159 mg/L
- Total Zinc: 0.414 mg/L

Based on the results, filtration is recommended to meet the PWQO. Please note that design of treatment systems is beyond the scope of this report.

The laboratory results mention that the sample submitted contained a high concentration of solids and dilution was required. The elevated presence of solids is expected with the method of sampling used. Hand purging methods can stir settled sediments at the base of a monitoring well and/or pull in additional sediments through the screen. Crozier recommends additional sampling to occur prior to dewatering (if required) to determine if filtration and/or treatment is required prior to discharge Low flow sampling methods are suggested to eliminate potential high concentrations of solids within the groundwater sample.

5.3 Hydraulic Conductivity Testing

In-situ hydraulic conductivity testing was conducted at MW 23 - 3 and MW 23 - 10. A falling head test was performed at each location using a 3-ft standard slug. Water levels were monitored manually and automatically using a level logger.

It should be noted that both MW 23 - 3 and MW 23 - 10 were screened from 6.10 - 9.15 m (20 - 30 ft) in silt with traces of sand and clay.

The data was analyzed using Hvorslev and Bouwer-Rice methods. The Hvorslev method is used to analyze data within unconfined or confined aquifers, assuming quasi-steady-state flow conditions and neglecting aquifer storativity. Similarly, the Bouwer-Rice method assumes the same conditions as Hvorslev and is used to analyze data within unconfined conditions or leaky confined conditions.

The summary of the analysis results is presented below in Table 4 and calculations are provided in Appendix D.

Equation	MW 23 - 3	MW 23 - 10	
Hvorslev	5.56 x 10 ⁻³	4.96 x 10 ^{−3}	
Bouwer-Rice	5.56 x 10 ⁻³	4.96 x 10 ⁻³	
Geomet	ric Mean	5.26 x 10 ⁻³	

Table 4: In-Situ Hydraulic Conductivity Testing Results

The measured hydraulic conductivity values ranged from 4.96×10^{-3} to 5.26×10^{-3} m/s with a geometric mean of 5.26×10^{-3} m/s. These values are considered high compared to literature values for silts however, this is likely due to the traces of sand mentioned within the geotechnical investigation. It should be noted that the results of the hydraulic conductivity testing are representative of the hydraulic conductivity of the soils immediately around the well screen, approximately 6 meters below surface.

A hydraulic conductivity of 5.26 x 10⁻³ m/s corresponds to an infiltration rate of roughly 75 mm/hr based on Table C1 in the Low Impact Development Stormwater Management Planning and Design Guide. This is a reasonable estimate of infiltration rate given the large quantities of sand in the shallow surface material. Note that it is recommended that in-situ infiltration testing (using a Guelph permeameter) be completed in the areas of proposed infiltration features prior to construction to ensure any low impact development features function as designed.

5.4 Door-to-Door Survey Results

At the time of this report, only one (1) response has been received. The response shared has been appended to this report as Appendix E.

The resident indicated that they have a dug well onsite, installed at a depth of approximately 30 feet. The well is estimated to be roughly 50 years old. No water quantity or quality issues have been reported. The homeowner has a water softener treatment system in place.

It is not anticipated that the development will have an impact on any water supply wells within 500 m of the property. The proposed development is residential and only minimal dewatering may be required for construction purposes. Any temporary dewatering will occur within the upper silt unit and not within the domestic water supply unit. It is not anticipated that permanent dewatering will be required as long as the buildings are constructed above the water table.

6.0 Design Considerations

6.1 Water Balance

A water balance assessment was conducted to assess potential impacts of the proposed development on the local groundwater conditions. The water balance was conducted under existing (pre-development) and proposed (post-development) conditions. The water balance assessment was conducted in accordance with accepted site condition values from Table 6.3 of the Urban Storm Drainage Criteria Manual: Volume 1 (Urban Drainage and Flood Control District, 2016) and Table 3.1 of the MECP Stormwater Management Planning and Design Manual (MECP, 2003). The appropriate reference tables are provided in Appendix G.

The results of the water balance assessment are presented in Table 5 below.

Pre-Development	Post-Development Infiltration	Infiltration							
Infiltration	without Mitigation	Deficit							
(mm/yr)	(mm/yr)	(mm/yr)							
175.64	158.64	17.01							

Table 5: Summary of Water Balance Analysis

6.1.1 Methodology

The water balance on a site can be estimated from the following equation described in Thornthwaite and Mather 1957:

$$\mathsf{P} = \mathsf{S} + \mathsf{R} + \mathsf{I} + \mathsf{ET}$$

Where: P = precipitation

- S = change in groundwater storage
- R = surface water runoff
- I = infiltration
- ET = evapotranspiration/evaporation

The components of the water balance equation can be estimated using field observations of drainage conditions, land cover, soil types, groundwater conditions and local climate records.

6.1.2 Precipitation (P)

The nearest climate station to the Site is located approximately 5.79 km southwest of the Site and is known as Albion Field Centre Climate Station Number 6150103 (43°55'00.000" N, 79°50'00.000" W, elevation of 281.90 masl). Monthly average precipitation and climate data from 1981 – 2010 was used to complete the water balance calculations for the Site. The long-term monthly average for precipitation and climate is shown in Table 6 below.

Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Precipitation (mm)	60.4	50.2	50.3	67	76.1	75.5	81.8	77.4	75.0	68.3	81.7	57.7	821.4 ¹
Temperature (°C)	-7.0	-5.9	-1.4	6.1	12.4	17.3	19.9	19.1	14.3	8.1	2.1	-3.9	6.7 ²

Table 6: Climate Data (1981 – 2010) for Albion Field Centre Climate Station

1. Total average annual precipitation from 1981-2010

2. Average annual temperature from 1981-2010

Therefore, based on the data above, the long-term annual average precipitation for the area is 821.4 mm/year and the long-term average temperature for the Site area is 6.7 °C.

6.1.3 Storage (S)

Long-term groundwater storage (S) is assumed to be negligible as no evidence of groundwater impact on significant groundwater pumping or withdrawal is noted in regional studies of the area. The seasonal changes in water levels are expected to balance annually.

6.1.4 Evapotranspiration (ET)

The rate of evapotranspiration is a function of the water holding capacity of the soil, soil and vegetation type and land cover. Through the Thornthwaite and Mather method or a soil moisture balance approach and local climate data, the Potential Evapotranspiration (PET) and the Actual Evapotranspiration (AET) can be calculated (see Appendix G) using the following equations:

$$PET=16 \times \left(\frac{10Ta}{H_i}\right)^a$$

Where: Ta = average daily temperature, 0 degrees for negative temperature months

Hi = heat index value, assuming 12 hours per day, 30 days a month of daylight

The average heat index value is estimated using the following equation:

$$Hi = \sum_{i=1}^{12} \left(\frac{10Ta}{5}\right)^{1.514}$$

The evapotranspiration factor (α) is determined using the following equation:

 $\alpha = 0.49 + (0.0179 \times H_i) - (0.0000771 \times H_i^2) + (0.000000675 \times H_i^3)$

PET is adjusted to account for the average number of hours of daylight per month for a given location. The adjustment factor is dependent on the subject property's latitude and is presented in Appendix D (Thornthwaite and Mather, 1957). The PET is multiplied by the adjustment factor per month to determine the Adjusted Potential Evapotranspiration (PET_{adj}).

The Actual Evapotranspiration (AET) is determined using the following equation:

$$AET = PET_{adj} - \Delta S$$

The Change in Soil Storage (Δ S) is depended on the types of soil on the property and the Accumulated Potential Water Loss (APWL) per month. The Change in Soil Storage and Accumulated Potential Water Loss can be calculated using the following equations:

$$\Delta S = S_{mc} \mathbf{x}$$

Where: S_{mc} = soil moisture capacity

APWL = accumulated potential water loss

For
$$\Delta P < 0$$
: $APWL = -\Sigma_{i=0}^{12} PET_i$

For
$$\Delta P < 0$$
: $APWL = \frac{ln(\frac{|AET-PET|}{S_{mc}})}{S_{mc}}$

According to the Ministry of Agricultural, Food and Rural Affairs (OMAFRA), AgMaps mapping tool, the soil type on the property was identified as silt loam known as Type C Soil. Using the Ministry Environment, Conservation and Parks (MECP) Stormwater Management and Design Manual Table 3.1. (2003), the soil moisture capacity was estimated to be 200 mm for Soil Type B/C, under pasture and shrubs landscape conditions.

Therefore, based on local climate conditions the Actual Evapotranspiration (AET) is calculated to be 581.5 mm/year.

6.1.5 Water Surplus (R + I)

The difference between mean annual P and mean annual ET outputs the amount of water surplus for the Site. The water surplus either infiltrates (I) into the soil or travels across the site as runoff I.

The distribution of water that infiltrates into the soil is a function of an infiltration factor as described in Table 3.1 of the MECP Stormwater Management Planning and Design Manual (MECP, 2003). The infiltration factor for the Site is assumed to be 0.70 based on topographic factor of 0.3 flat land, a soils factor of 0.3 was for a Soil Type B/C, and a land cover factor of 0.1 for open area.

The calculated water surplus available for infiltration or runoff is 240 mm/year. Using MECP methodology, the water balance components, independent of temperature, infiltration and runoff are calculated to be 168 mm/year and 72 mm/year respectively.

The water balance components were used to estimate the pre-development and postdevelopment water balance scenarios. Detailed water balance calculations for the subject property can be seen in Appendix G.

6.1.6 Pre-Development Infiltration

The pre-development water balance calculations are presented in Appendix G. Under existing conditions, the infiltration for the Site is calculated to be 175.64 mm/yr.

6.1.7 Post-Development Infiltration

To complete the post-development infiltration calculation, the proposed development was separated by land use and assigned a percent imperviousness. Based on the water balance components, the calculated post-development infiltration volumes are estimated to be 158.64 mm/yr. In comparing the pre and post development infiltration volumes, the proposed development has the potential to decrease by 9%.

6.1.8 Water Balance Impact Assessment

Based on the results of the water balance, the proposed development has the potential to decrease infiltration by 17.01 mm/yr. Low impact development features should be designed to infiltrate 17.01 mm/yr to achieve water balance.

6.2 Short-Term & Long Term Dewatering

Discussion on the potential for future dewatering below is based on the interaction between the groundwater surface and proposed design elements for the Site.

If proposed building footings are to be extended below the reported seasonally high groundwater conditions, it can be expected that short-term and/or long-term groundwater dewatering will be required. It should be noted that dependent on the required discharge volumes during and post-construction, additional permitting requirements may apply. If construction volumes are expected to fall between 50,000 L/day and 400,000 L/day registration with the MECP Environmental Activity Sector Register is required. If construction dewatering volumes are to exceed 400,000 L/day, a Permit to Take Water will be required. Similarly, if daily permanent dewatering volumes are to exceed 50,000 L/day post-construction, an additional Permit to Take Water will be required for the groundwater discharge. Local permitting will also likely be required prior to any groundwater discharge.

It is presumed that groundwater dewatering volumes will be low is due to the deep groundwater conditions found on Site. However, groundwater dewatering volumes should be evaluated once final footings for the proposed buildings are determined.

6.3 Contingency Plan for Well Complaints

In the event of any well complaints from private water supply wells within 500 m of the Site, the following steps will be implemented to ensure a continued oversight of groundwater quantity and quality in the area during and following construction.

Based on the Hydrogeological Study requirements outlined in the Public Works Design, Specifications & Procedures Manual prepared by the Region of Peel (Region of Peel, 2009), Crozier recommends the Owner to conduct monitoring throughout construction, and one (1) year after the completion of construction. Given the assumption that groundwater flows in the southeastern direction, Crozier suggests the Owner to monitor MW 23-10, as it is the most down gradient monitoring well on Site and has the highest potential of being impacted by future On-Site activities.

As mentioned in Section 6.3 a raw groundwater sample was taken to establish baseline conditions for groundwater quality within the Site area. Within the monitoring period, yearly groundwater samples should be taken to ensure no interference with groundwater quality and that no exceedances of the PWQO have occurred.

Residences within 500 m of the Site area will be provided contact information (by the Owner) to address any well complaints. On site activities must be stopped and immediate Site investigation will be launched to address and resolve any negatively influencing factors on neighboring properties.

7.0 Conclusions & Recommendations

Based on the information presented above, Crozier is prepared to make the following conclusions and recommendations:

- The shallow surficial soils are primarily sandy silt atop clayey silt with trace sand and gravel. The Site is situated at the edge of the Oak Ridges Moraine and variable amounts of sand is expected to be encountered across the Site.
- Water levels have ranged from 5.10 mbgs to 7.35 mbgs within the shallow water bearing unit. Seasonally high groundwater elevations were captured in Spring 2024 and range from 260.96 masl at MW23-10 to 265.99 masl at MW23-5.
- The water bearing unit can be characterized as leaky confined and minor fluctuations in water level can be expected due to seasonal change and precipitation.
- According to the MECP Source Protection Information Atlas, the Site atop a highly vulnerable aquifer, however, no significant drinking water threats and source protection policies are identified for the Site Area.
- In-situ hydraulic conductivity testing was completed at 2 of the 3 onsite wells and a geometric mean of 5.26 x 10-3 m/s was estimated for the shallow soils. This corresponds to an infiltration rate of approximately 75 mm/hr.
- Note that it is recommended that localized Guelph Permeameter testing be completed prior to implementation of any LID infrastructure to confirm LIDs will function as designed.
- A site wide water balance was completed for the site. Using 175.64 mm/yr and postdevelopment infiltration was determined to be 158.64 mm/yr. Therefore, the infiltration deficit is calculated to be 17.01 mm/yr.
- Groundwater monitoring is ongoing, note that results and conclusions will be updated following the completion of the monitoring period.

Respectfully submitted,

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C.F. CROZIER & ASSOCIATES INC.

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Chris Gerrits, M.Sc., P.Eng. Manager, Hydrogeology

J:\2200\2227- 2818963 Ontario Inc\6259- 15441 Mount Pleasant Rd\Reports\Hydrogeology\2024.07.05_6259_Hydrogeological Investigation Report.docx

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APPENDIX A

Monitoring Well Logs



AllRock Consulting Ltd 24 Brydon Drive, Unit #5 Toronto, ON M9W 5R6 1-844-440-7625 www.allrockconsulting.com

APPENDIX A

Borehole Location Plan







AllRock Consulting Ltd 24 Brydon Drive, Unit #5 Toronto, ON M9W 5R6 1-844-440-7625 www.allrockconsulting.com

APPENDIX B

Borehole Logs



						BORING NUMBER BH	123-2
A		ck	AllRock	Consu	ılting	PAGE	1 OF 1
CLIEN	T _ 2818	963 C	Intario Inc.			PROJECT NAME Geotechnical Investigation	
PROJ	ECT NUN	IBER	23265			PROJECT LOCATION 15441 Mt. Pleasant Road, Caledon, ON	
DATE	STARTE	D _23	3-11-27		COMPLETED 23-11-27	GROUND ELEVATION _261.75 m HOLE SIZE _150mm	
DRILL		ITRAC	TOR Terr	a Firm	a	_ GROUND WATER LEVELS:	
DRILL	ING MET	HOD	Solid Sten	n Auge	er	AT TIME OF DRILLING	
LOGG	ED BY _	E. Sye	ed		CHECKED BY G. Davidson	AT END OF DRILLING	
NOTES	S	1	1	1	1	AFTER DRILLING	
DEPTH (m)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	GRAPHIC LOG		MATERIAL DESCRIPTION	
	1	98	1-2-3-6 (5)		0.10 Dark Brown sandy silt,tra Brown CLAYEY SILT, so -Sample becomes wet at	ace gravel, contains organic(TOPSOIL) ome sand, trace gravel t 1.5m	261.65
	2	98	3-5-8-11 (13)				
2	3	98	5-6-7-10 (13)				
	4	90	5-7-7-9 (14)				
	5	98	5-7-7-9 (14)				
GDT 23-12-2					4.47		257.28
:ANADA LAB. I I	6	90	4-4-5-6 (9)		Grey SILT, some clay, tra	ace sand	
9 GINT STD C							
D-GREGDAVIDSON.GI	7	90	11-16-19- 20 (35)	-			
INT LOGS-ERUMSYE	8	98	3-3-3-5 (6)	-			
	9	79	3-3-7-8 (10)		9.15		252 60
SAL BH / -					End of Borehole	Bottom of hole at 9.14 m.	202.00
GENER							

A		ok ck	AllRock	Consu	llting		v	VELL NUMB	ER MW23-3 PAGE 1 OF 1
CLIEN	T _2818	963 C	Intario Inc.				PROJECT NAME _ Geotechnica	I Investigation	
PROJ	ECT NUN	IBER	23265				PROJECT LOCATION 15441 M	It. Pleasant Road, Ca	aledon, ON
DATE	STARTE	D _23	3-11-28		COMPL	ETED 23-11-28	GROUND ELEVATION 271.3 m	HOLE SIZE 1	50mm
DRILL	ING CON	ITRAC	TOR Terra	a Firm	а		GROUND WATER LEVELS:		
DRILL	ING MET	HOD	Solid Stem	Auge	er		AT TIME OF DRILLING		
LOGG	ED BY _	E. Sye	ed		CHECK	ED BY G. Davidson	AT END OF DRILLING		
NOTE	S		1		1		<u> </u>	Elev 263.84 m	
DEPTH (m)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	GRAPHIC LOG		MATER	IAL DESCRIPTION	w	/ELL DIAGRAM
	1	74	2-2-3-4 (5)		0.10	Dark Brown sandy silt,tra Brown SANDY SILT -Samples become wet a	ice gravel, contains organic (TOPSOIL : 4.57	.)271.20	Flushmount Cap
	2	84	2-2-3-4 (5)						
2	3	66	2-3-2-4 (5)						
	4	98	4-6-9-11 (15)						C Backfill with Auger
	5	41	3-4-9-13 (13)						Cuttings 50 mm diameter pvc riser
ADA LAB.GDT 23-12-2 	6	98	6-9-11-13 (20)						
9									Bentonite Seal
	7	90	7-12-12-15 (24)		0.10	Grey SILT, trace sand an	id clay		
געושט ובע-טה 					Ţ				Filter Sand 50 mm
	8	33	8-11-7-9 (18)						diameter pvc screen
	9	41	4-7-10-11 (17)		9.15			262.15	
NERAL BH ,						End of Borehole Bo	tom of hole at 9.14 m.		
5									

	A	llRo	o c k	AllRock	Consu	ılting				BORING NUMBER BH23 PAGE 1 OI	-4 F 1
	Const	ilting Ltd									
		T <u>2818</u>	963 C	Ontario Inc.						_ PROJECT NAME _ Geotechnical Investigation	—
ľ	PROJE		IBER	23265						_ PROJECT LOCATION 15441 Mt. Pleasant Road, Caledon, ON	
		STARTE	D <u>23</u>	3-11-28		COM	PLETED	23-11-28		_ GROUND ELEVATION _270.53 m HOLE SIZE _150mm	—
			ITRAC	TOR Terra	a Firm	a				_ GROUND WATER LEVELS:	
	DRILL	ING MET	HOD	Solid Stem	n Auge	er				_ AT TIME OF DRILLING	—
	OGG	ED BY	E. Sy	ed		CHEC	KED BY	G. Davidso	on	_ AT END OF DRILLING	
Ľ		S	1	1	1	1				AFTER DRILLING	
	DEPTH (m)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	GRAPHIC LOG					MATERIAL DESCRIPTION	
-		1	98	3-3-5-6 (8)		<u>0.10</u> .	Dark Brow	Brown sandy n SANDY SIL	/ silt,tra _T	ace gravel, contains organic(TOPSOIL)	0.43
	-	2	98	2-3-3-3 (6)							
-	2	3	98	3-3-3-2 (6)							
-	-	4	90	3-4-10-12 (14)		0.05					7.40
-	-	5	98	4-11-11-13 (22)		3.05	Grey -Sam	to brown SIL ples become	T, trace wet at	e sand and clay t 4.57	<u>7.48</u>
B.GDT 23-12-2	4										
D CANADA LAI	-	6	90	7-20-22-48 (42)							
GPJ GINT STI	6										
GREGDAVIDSON.(-	7	98	10-11-11- 11 (22)	-						
LOGS-ERUMSYED-		8	98	9-11-13-14 (24)							
WELL GINT I	_	9	98	10-10-17- 20 (27)							
╞			L	I		9.15	End	of Borehole		26	1.38
AL BI										Bottom of hole at 9.14 m.	
ENER											
σ											

A	LLR O	o c k	AllRock (Consu	lting		W	ELL NUMBI	ER MW23-5 PAGE 1 OF 1
CLIEN	T _2818	963 C	Intario Inc.				PROJECT NAME Geotechnical	Investigation	
PROJ	ECT NUN	IBER	23265				PROJECT LOCATION 15441 Mt	. Pleasant Road, Cal	edon, ON
DATE	STARTE	D _23	3-11-24		COMPLETED	D _23-11-24	GROUND ELEVATION 271.09 m	HOLE SIZE15	0mm
DRILL	ING CON	ITRAC	TOR Terra	a Firm	а		GROUND WATER LEVELS:		
DRILL	ING MET	HOD	Solid Stem	Auge	r		AT TIME OF DRILLING		
LOGG	ED BY _	E. Sy	ed		CHECKED B	Y G. Davidson	AT END OF DRILLING		
NOTE	s	1	1	1	1		AFTER DRILLING 6.50 m / EI	ev 264.59 m	
DEPTH (m)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	GRAPHIC LOG		MATER	IAL DESCRIPTION	W	ell Diagram
	1	98	1-1-3-4 (4)		0.10 Dari Brov -Sar	k Brown sandy silt,tra wn SANDY SILT mples become wet a	ace gravel, contains organic (TOPSOIL) t 4.57	<u>270.99</u>	Flushmount Cap
	2	98	2-3-3-5 (6)						
2	3	90	2-3-3-6 (6)						
	4	90	5-6-7-14 (13)						Backfill with
	5	90	9-10-11-20 (21)						Cuttings 50 mm diameter pvc riser
8.GDT 23-12-2					4.57			266.52	
	6	90	9-12-16-23 (28)		Gre	y to brown SILT, trac	e sand and clay		
									Bentonite Seal
GREGDAVIDSON.C	7	98	10-12-14- 25 (26)		Ţ				
	8	98	18-26-39- 35 (65)						Filter Sand 50 mm diameter pvc screen
	9	98	10-30-20- 18 (50)		9.15			261.94	
ENERAL BH		-			End	l of Borehole Bo	ttom of hole at 9.14 m.		
ט									

A	LILR O	o c k	AllRock	Consu	Iting	BORING NUMBER BH23-6 PAGE 1 OF 1
	JT 2919	063 0	ntaria Inc			DDO IECT NAME Contracting Investigation
PROJ		IBFR	23265			PROJECT I OCATION 15441 Mt Pleasant Road Caledon ON
	STARTE	22 ח	20200		COMPLETED 23-11-24	GROLIND ELEVATION 261.4 m HOLE SIZE 150mm
			TOR Terr	a Firm	a	GROUND WATER EVELS:
DRILL		нор	Solid Sten	n Auge	er en	AT TIME OF DRILLING
LOGO	ED BY	F Sve	ed	in rugo	CHECKED BY G Davidson	AT END OF DRILLING
NOTE	S	,				AFTER DRILLING
DEPTH (m)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	GRAPHIC LOG		MATERIAL DESCRIPTION
	1	82	1-1-2-4		0.10 Dark brown silty sand, tr Brown SAND and SILT	ace gravel (TOPSOIL)
			(3)		-Samples become wet a	t 4.57
	2	82	1-2-2-3 (4)			
2	3	74	3-3-2-3 (5)			
	4	82	5-5-6-7 (11)			
	5	82	3-4-6-7 (10)			
LAB.GDT 23-12-2	- - 		2223			
T STD CANADA	6	90	(4)			
6 6			2-2-4-3			
ED-GREGDAVID		98	(6)			
	8	98	2-4-6-6 (10)			
	9	98	6-6-9-8 (15)			
BH/T	<u> </u>	1	1		End of Borehole	054.00
ENERAL				<u></u>	·,ə.JU	Bottom of hole at 9.14 m.
ВП						

	A		o c k	AllRock	Consu	lting			BORING NUMBER BH23- PAGE 1 OF	- 7
	CLIEN	T 2818	963 C	Ontario Inc.					PROJECT NAME Geotechnical Investigation	
	PROJE		/BER	23265					PROJECT LOCATION 15441 Mt. Pleasant Road, Caledon, ON	_
	DATE	STARTE	D 23	3-11-24		COMP		23-11-24	GROUND FLEVATION 263 23 m HOLE SIZE 150mm	
				CTOR Terr	a Firm					—
				Solid Sten		r				
			E SW		TAugo	CHECK		G Davidson		—
	NOTES	<u> </u>	<u>L. Oy</u>	cu		UNEO		<u>G. Davidson</u>		—
┝		·		1	1					
	DEPTH (m)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	GRAPHIC LOG				MATERIAL DESCRIPTION	
				1-1-2-2	<u></u>	0.10~	Brow	n sand, trace grav	el (TOPSOIL)	.13
┟		1	/4	(3)			Brow	n fine to coarse gra	ined sand, trace gravel	
		2	84	1-2-2-1						
ł				(4)						
						1.52	Grey	SAND and SILT, tr	ace clay 261	./1
	2	3	66	1-1-2-4			-Sam	ples become wet a	t 3.05m	
┢				4-5-5-7	1					
		4	98	(10)						
ŀ		5	41	4-6-6-10						
		Ű		(12)						
12-21	4									
- 23-										
GDT										
A LAB				4_7_9_11	1					
NAD/		6	98	(16)						
DCA										
UT ST										
Ч С Г	6									
N.GP				11 11 11						
DSO		7	90	18						
DAV				(22)						
GREG										
YED-(
NMS										
S-ER	8	8	33	6-9-10-12						
Plog		Ŭ		(19)						
GINT				16-34-20	-					
VELL		9	41	28						
N / ≤				(63)		9.15			254	.08
BH /			•		<u> </u>		End o	of Borehole	Pottom of help of 0.14 m	
RAL.										
GENE										

							BOI	RING NUMBER	BH23-8
A		ck	AllRock	Consu	lting			PA	GE 1 OF 1
CLIEN	IT <u>2818</u>	963 C	Ontario Inc.				_ PROJECT NAME _ Geotechnical	Investigation	
PROJ	ECT NUN	IBER	23265				_ PROJECT LOCATION _15441 Mt	t. Pleasant Road, Caledon, C	DN
DATE	STARTE	D _23	3-11-28		COMPL	_ETED _23-11-28	GROUND ELEVATION _263.57 m	HOLE SIZE 150mm	
DRILL	ING CON	ITRAC	TOR Terra	a Firm	а		GROUND WATER LEVELS:		
DRILL	ING MET	HOD	Solid Stem	n Auge	r		AT TIME OF DRILLING		
LOGG	ED BY	E. Sy	ed		CHECK	ED BY G. Davidson	AT END OF DRILLING		
NOTE	s						AFTER DRILLING		
DEPTH (m)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	GRAPHIC LOG			MATERIAL DESCRIPTION		
	1	98	1-2-3-4 (5)		0.10	Brown sandy silt,trace g Brown CLAYEY SILT, so -Sample sbecome wet a	ravel, contains organic(TOPSOIL ome garvel, travel sand t 3.05m		263.47
	2	98	3-3-3-4 (6)						
2	3	90	3-3-4-5 (7)						
	4	98	3-6-6-9 (12)						
	5	98	4-8-10-13 (18)						
B.GDT 23-12-2	-				4.57				259.00
D CANADA LA	6	98	7-8-11-15 (19)			Grey to brown SILT, tarc	e sand and clay		
I.GPJ GINT ST	- 								
BREGDAVIDSON	8	98	8-14-10-15 (24)						
	7	90	8-10-11-12 (21)						
TP / WELL GINT	9	98	4-7-9-11 (16)		9.15				254.42
BH/				<u> </u>		End of Borehole	Dottom of hole -+ 0.44 m		_0
NERAL							DOLLOTTI OL HOLE AL 9.14 M.		
GE									

							BOI	RING NUMBER BH23	-9
A		ck	AllRock (Consu	Ilting			PAGE 1 OI	- 1
CLIEN	IT _ 2818	963 C	Intario Inc.				PROJECT NAME Geotechnical	Investigation	
PROJ	ECT NUM	IBER	23265				PROJECT LOCATION 15441 Mt	. Pleasant Road, Caledon, ON	
DATE	STARTE	D _23	8-11-28		COMP	PLETED 23-11-28	GROUND ELEVATION 263.5 m	HOLE SIZE 150mm	
DRILL	ING CON	ITRAC	TOR Terra	a Firm	а		GROUND WATER LEVELS:		
DRILL	ING MET	HOD	Solid Stem	n Auge	er		AT TIME OF DRILLING		
LOGG	ED BY	E. Sy	ed		CHEC	KED BY G. Davidson	AT END OF DRILLING		
NOTE	s		1		1		AFTER DRILLING		
DEPTH (m)	SAMPLE TYPE NUMBER	RECOVERY %	BLOW COUNTS (N VALUE)	GRAPHIC LOG			MATERIAL DESCRIPTION		
	1	08	1-2-3-3		0.10~	Dark Brown sandy silt,tra	ce gravel, contains organic (TOPSOIL)	26	3.40
		90	(5)			DIOWH SAINDY SILT, TRAC	e yıdvei		
	2	98	2-4-6-8 (10)						
2	3	90	3-8-11-14 (19)		2.29			26	1.21
	4	98	6-7-5-7 (12)			Brown to grey silt, trace s	and and clay (GLACIAL TILL)		
	5	98	3-9-10-10 (19)						
B.GDT 23-12-2	-								
D CANADA LA	6	98	10-16-18- 18 (34)						
REGDAVIDSOI	8	98	9-14-16-20 (30)						
	7	90	8-5-14-20 (19)						
	9	98	12-17-16- 22 (33)		9 15			25	4 25
ERAL BH / 1	I				10.10	End of Borehole	Bottom of hole at 9.14 m.	23	<u></u>
U B D									

CLIENT _2818963 Ontario Inc. PROJECT NAME _ Geotechnical Investigation PROJECT NUMBER _23265 PROJECT LOCATION _15411 ML Pleasant Ro DATE STARTED _23-11-27 GROUND ELEVATION _266.79 m	
PROJECT NUMBER 23265 PROJECT LOCATION 15441 Mt. Pleasant Ro DATE STARTED 23-11-27 GROUND ELEVATION 266.79 m HOLE SI DRILLING CONTRACTOR Terra Firma GROUND WATER LEVELS: GROUND WATER LEVELS: AT TIME OF DRILLING	
DATE STARTED 23-11-27 COMPLETED 23-11-27 GROUND ELEVATION 266.79 m HOLE SUD RILLING CONTRACTOR Terra Firma GROUND WATER LEVELS: DRILLING METHOD Solid Stem Auger AT TIME OF DRILLING AT END AT AT END OF DRILLING AT END AT AT END A	oad, Caledon, ON
DRILLING CONTRACTOR Terra Firma GROUND WATER LEVELS: DRILLING METHOD _Solid Stem Auger AT TIME OF DRILLING LOGGED BY E. Syed CHECKED BY G. Davidson AT END OF DRILLING NOTES	ZE _150mm
DRILLING METHOD _Solid Stem Auger AT TIME OF DRILLING LOGGED BY _E. Syed CHECKED BY _G. Davidson AT END OF DRILLING NOTES	
LOGGED BY E. Syed CHECKED BY G. Davidson AT END OF DRILLING	
NOTES ✓ AFTER DRILLING 7.00 m / Elev 259.79 m Hand Nation Nation Nation Nation Hand Nation Nation Nation Nation Hand Nation Nation Nation Nation Nation Nation Nation Nation Nation Nation Nation Nation Nation Nation Nation Nation Nation Nation Nation Nation Nation Nation Nation Nation Nation	
Hand S	
1 90 1-3-3-6 0.10 Dark Brown sandy silt, trace gravel, contains organic (TOPSOIL) 266.69 2 62 4-5-7-8 Brown SAND and SILT 2 3 82 4-6-7-9 4 70 4-5-6-8 (11) 3.05 2 66 5 66 5 66 6 82 8-12-16-24 (28)	WELL DIAGRAM
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	C Cap
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	
4 70 4-5-6-8 (11) 3.05 263.74 5 66 5-6-8-13 (14) Grey to brown SILT, trace sand and clay 263.74 4 6 82 8-12-16-24 (28) 6 8-12-16-24 (28) 6	
Grey to brown SILT, trace sand and clay	C Backfill with A Auger
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	Cuttings C 50 mm diameter pvc riser
- $ 6$ 82 $8-12-16-24$ (28)	
	Bentonite Seal
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	Filter Sand 50 mm diameter pvc screen
9 98 8-9-9-12 (18) 9.15 257.64	
End of Borehole Bottom of hole at 9.14 m.	



AllRock Consulting Ltd 24 Brydon Drive, Unit #5 Toronto, ON M9W 5R6 1-844-440-7625 www.allrockconsulting.com

APPENDIX C

Laboratory Testing Results

A [] onsulting	R		C	k								Siev	e An LS-60	alys)2	sis						Al 24 M9	l Rc Br 9W	ydo 5R	con Con Con Co,	ons Dri Toi	ultin ve, l conto	1g Lt Jnit # 5, Ont	d ≢5 t.
oject:		Geotech	nical In	vestig	gation a	and Slo	pe Sta	bility	/ Ass	essn	nent					Proj	ect N	umbe	r		2326	55						
ient: mple No.	-	281896. SS3	8 Ontari	o Inc.												Sam Sam	ple C ple D	lassifi epth	cation		1.52	-2.13	3					
te Sampled		Novemł	er 24, 2	2023												Date	Test	ed:			Dece	embe	er 7, 2	2023				
																Mois	sture	Conte	nt:		18.8	%						
100% -					•	•	-	•			•			•			\neg											
90% -																		$\overline{\ }$										
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100.	.000)					10.	000						1.00	00					0	.100							0.0

R (k								Si	eve LS	Anal -602	ysis						A 24 M	llRo 4 Br 9W	ock rydd 75R	Co on .6, '	onsu Driv Torc	l ting re, Ur onto,	g Ltd nit #5 Ont.
Geote	echnica 963 Or	al Inve stario l	stigation a	and Sl	ope St	ability	y Ass	sessme	ent						Pro San	ject N mle C	umber Iassific	ation	232	265					
SS6 Nove	mber 2	28, 202	3												San Dat Moi	iple D iple D e Test isture	epth ed: Contei	ıt:	4.5 Dec 15.	7-5.3 cembo 4%	3 er 7, 2	.023			
		-	-	-		-																			
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		Geotechnica 2818963 Or SS6 November 2	Geotechnical Inves 2818963 Ontario I SS6 November 28, 202	Geotechnical Investigation 2818963 Ontario Inc. SS6 November 28, 2023	Geotechnical Investigation and SI 2818963 Ontario Inc. SS6 November 28, 2023	Geotechnical Investigation and Slope St 2818963 Ontario Inc. SS6 November 28, 2023	Geotechnical Investigation and Slope Stability 2818963 Ontario Inc. SS6 November 28, 2023	Geotechnical Investigation and Slope Stability Ass 2818963 Ontario Inc. SS6 November 28, 2023	Geotechnical Investigation and Slope Stability Assessm 2818963 Ontario Inc. SS6 November 28, 2023	Cectechnical Investigation and Slope Stability Assessment 2818963 Ontario Inc. SS6 November 28, 2023	Geotechnical Investigation and Slope Stability Assessment 2818963 Ontario Inc. SS6 November 28, 2023	Cotechnical Investigation and Slope Stability Assessment 2818963 Ontario Inc. S6 November 28, 2023	Getechnical Investigation and Slope Stability Assessment 2818963 Ontario Inc. SS6 November 28, 2023	Sieve Analysis LS-602 Geotechnical Investigation and Slope Stability Assessment 2818963 Ontario Inc. SS6 November 28, 2023	Geotechnical Investigation and Slope Stability Assessment 2818963 Ontario Inc. S6 November 28, 2023	Sieve Analysis LS-602	Sieve Anarysis LS-602 Control Investigation and Slope Stability Assessment 2818963 Ontario Inc. SS6 November 28, 2023 Project N Sample D Date Test Moisture	Sieve Anarysis LS-602 <u>Geotechnical Investigation and Slope Stability Assessment</u> <u>2818963 Ontario Inc.</u> <u>S6</u> <u>November 28, 2023</u> <u>November 28, 2023</u> <u>November 28, 2023</u> <u>November 28, 2023</u> <u>Notice Conter</u> <u>Noisture Conter</u> <u>Noistu</u>	Sieve Anarysis LS-602 <u>Geotechnical Investigation and Slope Stability Assessment</u> <u>2818963 Ontario Inc.</u> <u>S6</u> <u>November 28, 2023</u> <u>November 28, 2023</u> <u>Notice Content:</u> <u>1000</u> <u>1000</u> <u>1000</u> <u>1000</u> <u>1000</u> <u>1000</u> <u>1000</u> <u>1000</u> <u>1000</u> <u>1000</u> <u>1000</u> <u>1000</u> <u>1000</u> <u>1000</u> <u>1000</u> <u>1000</u> <u>1000</u> <u>1000</u> <u>1000</u> <u>1000</u>	Sieve Analysis A LS-602 24 M M Geotechnical Investigation and Slope Stability Assessment 23 Site Sample Classification: Site Sample Depth 4.5 November 28, 2023 Date Tested: Dee Moisture Content: 15.	Sieve Analysis Analysis LS-602 24 Br M9W Geotechnical Investigation and Slope Stability Assessment Project Number Sis Sample Classification: November 28, 2023 Date Testel: Dot Date Testel: Dot Date Testel: Moisture Content: 15.4%	Silver Analysis Antioux LS-602 24 Bryde M9W 5R 2305 Geotechnical Investigation and Slope Stability Assessment Sample Classification: S86 Sample Depth 4.57-5.33 November 28, 2023 Date Tested: December 7,2 Mosture Content: 13.4%	Generation and Slope Stability Assessment Sample Classification: 32265 Status of the state o	Sieve Analysis Amote Consult LS-602 24 Brydon Driv M9W SR6, Tore 23265 Sample Classification: Sample Depth 256 Sample Depth Notember 28, 2023 Moisture Content: 154% 154%	Steve Analysis Antook Consuming LS-602 24 Brydon Drive, Ur M9W 5R6, Toronto, 9000 58000000000000000000000000000000000

	sulting I	Rock Sie	ve Analysis LS-602	AllRock Consulting Ltd 24 Brydon Drive, Unit #5 M9W 5R6, Toronto, Ont.																		
Proj Clia	ect:	Geotechnical Investigation and Slope Stability Assessment	Project Number	23265																		
Sam	n. ple No.	SS2	Sample Classification. Sample Depth	0.76-1.37																		
Date	Sampled	November 28, 2023	Date Tested: Moisture Content:	December 7, 2023 18.1%																		
	100% -																					
ge Passing (%)	95%																					
Percenta	90% -																					
	85% 100.0	000 10.000 Pa	1.000 ticle Diameter (mm)	0.100 0.010																		
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ct:	Geo	technica	ıl Invest	tigation a	and Slop	e Stabi	lity As	sessn	nent					Proje	ct Numbe	er	2320	65				
t: Ja Na	281	8963 Or	tario Ir	nc.										Samp	le Classif le Donth	ication:	0.0	61				
Sampled	Nov	ember 2	7, 2023	3										Samp Date	Tested:		<u>0-0.0</u> Dec	embei	7,202	23		
· · · · · P · · · ·			.,	-										Moist	ure Cont	ent:	20.3	%	,,			
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AllRock Consulting Ltd

24 Brydon Drive, Unit #5 Etobicoke, ON. M9W 5R6

Project Information					
Project Name:	Geotechnical Investigation and Slope Stability Assessment				
Project No.:	23265				
Client:	2818963 Ontario Inc.				
Borehole / Test Pit No.:	BH23-2				
Sample Depth:	7.62-8.23				
Sample No.:	SS8				
Sampled By:	E.Syed				
Sample Description:					
Sample Natural M/C %:	16.2%				
Date Sampled:	Monday, November 27, 2023				
Tested By:	A. Patel				
Date Tested:	Friday, December 15, 2023				
Reviewed By:	G.Davidson				

Grain	Size Analysis	Hydrometer Analysis			
Sieve Size (mm)	% Passing	Diameter (mm)	% Passing		
75.0	100%	0.036091286	75.8%		
63.0	100%	0.026149327	72.6%		
53.0	100%	0.017011827	68.7%		
37.5	100%	0.010241705	62.4%		
26.5	100%	0.007527205	56.2%		
19.0	100%	0.005445489	52.2%		
13.2	100%	0.002807541	42.8%		
9.5	99%	0.001237513	31.2%		
4.8	99%	ATTERBI	ERG LIMITS, %		
2.0	99%	Plastic Limit	-		
0.850	98%	Liquid Limit	-		
0.425	98%	Plastic Index	-		
0.250	97%				
0.106	91%				
0.075	87%]			





AllRock Consulting Ltd

24 Brydon Drive, Unit #5 Etobicoke, ON. M9W 5R6

Project Information						
Project Name:	Geotechnical Investigation and Slope Stability Assessment					
Project No.:	23265					
Client:	2818963 Ontario Inc.					
Borehole / Test Pit No.:	BH23-3					
Sample Depth:	8.38-8.99					
Sample No.:	SS9					
Sampled By:	E.Syed					
Sample Description:						
Sample Natural M/C %:	21.5%					
Date Sampled:	Tuesday, November 28, 2023					
Tested By:	A. Patel					
Date Tested:	Monday, December 11, 2023					
Reviewed By:	G.Davidson					

Grain	Size Analysis	Hydrometer Analysis			
Sieve Size (mm)	% Passing	Diameter (mm)	% Passing		
75.0	100%	0.034558041	56.6%		
63.0	100%	0.025164195	54.1%		
53.0	100%	0.017011827	47.9%		
37.5	100%	0.010474104	41.0%		
26.5	100%	0.007763348	35.4%		
19.0	100%	0.005730868	29.8%		
13.2	100%	0.002994247	20.5%		
9.5	100%	0.001296876	14.3%		
4.8	100%	ATTERBI	ERG LIMITS, %		
2.0	100%	Plastic Limit	-		
0.850	100%	Liquid Limit	-		
0.425	100%	Plastic Index	-		
0.250	100%				
0.106	93%				
0.075	87%				





AllRock Consulting Ltd

24 Brydon Drive, Unit #5 Etobicoke, ON. M9W 5R6

Project Information					
Project Name:	Geotechnical Investigation and Slope Stability Assessment				
Project No.:	23265				
Client:	2818963 Ontario Inc.				
Borehole / Test Pit No.:	BH23-7				
Sample Depth:	3.05-3.66				
Sample No.:	SS5				
Sampled By:	E.Syed				
Sample Description:					
Sample Natural M/C %:	22.6%				
Date Sampled:	Friday, November 24, 2023				
Tested By:	A. Patel				
Date Tested:	Wednesday, December 13, 2023				
Reviewed By:	G.Davidson				

Grain	Size Analysis	Hydrometer Analysis			
Sieve Size (mm)	% Passing	Diameter (mm)	% Passing		
75.0	100%	0.045792442	22.6%		
63.0	100%	0.032657735	21.5%		
53.0	100%	0.021678103	14.9%		
37.5	100%	0.012801103	11.6%		
26.5	100%	0.009117988	10.5%		
19.0	100%	0.006493893	9.4%		
13.2	100%	0.003203964	8.3%		
9.5	100%	0.001344344	7.2%		
4.8	100%	ATTERBI	ERG LIMITS, %		
2.0	100%	Plastic Limit	-		
0.850	100%	Liquid Limit	-		
0.425	100%	Plastic Index	-		
0.250	100%				
0.106	82%				
0.075	61%				





AllRock Consulting Ltd

24 Brydon Drive, Unit #5 Etobicoke, ON. M9W 5R6

Project Information					
Project Name:	Geotechnical Investigation and Slope Stability Assessment				
Project No.:	23265				
Client:	2818963 Ontario Inc.				
Borehole / Test Pit No.:	BH23-8				
Sample Depth:	7.38-7.99				
Sample No.:	SS7				
Sampled By:	E.Syed				
Sample Description:					
Sample Natural M/C %:	16.6%				
Date Sampled:	Monday, November 27, 2023				
Tested By:	A. Patel				
Date Tested:	Sunday, December 10, 2023				
Reviewed By:	G.Davidson				

Grain	Size Analysis	Hydrometer Analysis			
Sieve Size (mm)	% Passing	Diameter (mm)	% Passing		
75.0	100%	0.039892876	42.9%		
63.0	100%	0.028841435	40.4%		
53.0	100%	0.01920518	34.2%		
37.5	100%	0.011638883	27.7%		
26.5	100%	0.008432191	24.2%		
19.0	100%	0.00611198	20.5%		
13.2	100%	0.00312408	13.7%		
9.5	100%	0.001334985	9.3%		
4.8	100%	ATTERBI	ERG LIMITS, %		
2.0	100%	Plastic Limit	-		
0.850	100%	Liquid Limit	-		
0.425	100%	Plastic Index	-		
0.250	99%				
0.106	97%				
0.075	95%				



APPENDIX B

MECP Well Summary

Project Number: 2227-6259 Prepared by: VM

MECP WATER WELL RECORDS

Address: 15441 Mount Pleasant Rd Date completed: 01/03/2024

WELL ID	Diameter (cm)	Depth (m)	Static Level (m)	Quantity (Lpm)	Quality	Materials	Aquifer	Use	Date Completed
4900480	10.16	96.32	-	-	-	Soft Grey Clay	OB	Farm	01/29/1964
4900481	91.44	11.58	4.88	7.57	Cloudy	Quick Sand	OB	Farm	06/25/1965
4900482	12.70	61.87	4.27	15.14	Clear/Fresh	Fine Sand	OB	Domestic/Farm	01/04/1964
4900483	76.20	17.68	12.19	1.89	Clear/Fresh	Fine Grey Sand & Water	OB	House	05/20/1965
4903021	76.20	12.19	4.57	15.14	Clear/Fresh	Blue Clay	OB	House	04/27/1968
4903059	91.44	12.19	8.53	0.95	Cloudy/Fresh	Blue Clay	OB	House	07/26/1968
4903310	76.20	12.19	6.10	15.14	Fresh	Brown Sand	OB	Domestic	07/20/1969
4903698	91.44	12.80	6.71	7.57	-	Grey Sand	OB	Domestic	10/07/1971
4904243	76.20	10.67	2.44	7.57	Fresh	Blue Clay	OB	Domestic	10/19/1973
4905241	76.20	17.53	1.52	3.79	-	Grey Sand	OB	Domestic	11/25/1977
4905547	91.44	11.58	4.57	7.57	-	Blue Clay & Sand	OB	Water Supply	10/10/1979
4905562	-	-	-	-	-	-	-	-	09/28/1979
4905606	15.24	70.71	7.92	75.71	-	Brown Sand (Medium)	OB	Water Supply/Test Hole	05/29/1979
4905627	15.24	148.44	-	-	Salty	Blue Shale	BR	-	05/01/1979
4905855	76.20	18.28	9.75	7.57	-	Grey Sand	OB	Domestic	01/26/1982
4905996	15.24	17.37	11.58	3.78	-	Blue Clay	OB	Domestic	03/16/1983
4906291	76.20	21.95	3.05	7.57	-	Grey Clay	OB	Domestic	06/20/1984
4908090		72.54	3.65	37.85	-	Blue Clay	OB	Domestic	03/18/1996
						Grey Hard Packed Sand &			
4908344	76.20	23.16	1.83	18.93	Fresh	Clay	OB	Domestic	05/26/1998
7109485	15.88	61.87	7.92	56.78	-	Sand/Clay	OB	Domestic	06/04/2008
7119440	-	5.44	-	-	-	Grey Clay	OB	-	02/09/2009
7214203	15.24	132.89	9.35	15.14	-	Grey Sand	OB	Domestic	01/06/2014
7285427	-	-	-	-	-	-	-	Decomission	04/03/2017

${}^{\text{APPENDIX}} C$

Groundwater Quality Results

ALS Canada Ltd.



CERTIFICATE OF ANALYSIS							
Work Order	: WT2414011	Page	: 1 of 7				
Client	: CF Crozier & Associates	Laboratory	: ALS Environmental - Waterloo				
Contact	: Victoria Mazur	Account Manager	: Andrew Martin				
Address	2800 High Point Drive	Address	: 60 Northland Road, Unit 1				
	Milton ON Canada L9T 6P4		Waterloo ON Canada N2V 2B8				
Telephone	: (548) 708-0039	Telephone	: +1 519 886 6910				
Project	: 2227-69259	Date Samples Received	: 30-May-2024 13:20				
PO	:	Date Analysis Commenced	: 31-May-2024				
C-O-C number	: 23-1096606	Issue Date	: 06-Jun-2024 20:11				
Sampler	: Victoria Mazur						
Site	:						
Quote number	: 2024 SOA						
No. of samples received	: 1						
No. of samples analysed	: 1						

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QC Interpretive report to assist with Quality Review and Sample Receipt Notification (SRN).

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	Position	Laboratory Department
Nik Perkio	Senior Analyst	Inorganics, Waterloo, Ontario
Nik Perkio	Senior Analyst	Metals, Waterloo, Ontario
Zeba Patel	Analyst	Microbiology, Waterloo, Ontario



General Comments

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Refer to the ALS Quality Control Interpretive report (QCI) for applicable references and methodology summaries. Reference methods may incorporate modifications to improve performance.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference. Please refer to Quality Control Interpretive report (QCI) for information regarding Holding Time compliance.

Key : CAS Number: Chemical Abstracts Services number is a unique identifier assigned to discrete substances LOR: Limit of Reporting (detection limit).

Unit	Description
-	no units
μS/cm	microsiemens per centimetre
CFU/100mL	colony forming units per hundred millilitres
CU	colour units (1 cu = 1 mg/l pt)
mg/L	milligrams per litre
NTU	nephelometric turbidity units
pH units	pH units

<: less than.

>: greater than.

Surrogate: An analyte that is similar in behavior to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.

Test results reported relate only to the samples as received by the laboratory.

UNLESS OTHERWISE STATED on SRN or QCI Report, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

Workorder Comments

<1 or Not Detected with LOR of 1 equals Zero (0).

Not Detected = Absent; Detected = Present.

Qualifiers

Qualifier	Description
DLDS	Detection Limit Raised: Dilution required due to high Dissolved Solids / Electrical
	Conductivity.
DLHC	Detection Limit Raised: Dilution required due to high concentration of test analyte(s).
DLM	Detection Limit Adjusted due to sample matrix effects (e.g. chemical interference, colour, turbidity).

Page Work Order Client Project	:	3 of 7 WT2414011 CF Crozier & Associates 2227-69259	ALS
LPMB		Lab-Preserved for Total Metals. Sample received with pH > 2 and preserved at the	
TMV		lab. Total Metals results may be biased low. Turbidity exceeded upper limit of the nephelometric method. Minimum value reported.	



Sub-Matrix: Water Client sample ID					MW 23-3				
(Matrix: Water)									
		_	Client samp	ling date / time	30-May-2024 12:00				
Analyte	CAS Number	Method/Lab	LOR	Unit	WT2414011-001				
					Result				
Physical Tests									
Alkalinity, total (as CaCO3)		E290/WT	1.0	mg/L	2960 DLHC				
Colour, apparent		E330/WT	2.0	CU	19500 DLHC, DLM				
Conductivity		E100/WT	1.0	µS/cm	726				
Hardness (as CaCO3), dissolved		EC100/WT	0.50	mg/L	440				
рН		E108/WT	0.10	pH units	7.57				
Solids, total dissolved [TDS]		E162/WT	10	mg/L	473 DLDS				
Turbidity		E121/WT	0.10	NTU	>4000 ™				
Anions and Nutrients									
Ammonia, total (as N)	7664-41-7	E298/WT	0.0050	mg/L	0.0176				
Chloride	16887-00-6	E235.CI/WT	0.50	mg/L	<0.50				
Fluoride	16984-48-8	E235.F/WT	0.020	mg/L	0.070				
Nitrate (as N)	14797-55-8	E235.NO3/WT	0.020	mg/L	0.207				
Nitrite (as N)	14797-65-0	E235.NO2/WT	0.010	mg/L	<0.010				
Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U/WT	0.0010	mg/L	<0.0010				
Sulfate (as SO4)	14808-79-8	E235.SO4/WT	0.30	mg/L	28.4				
Microbiological Tests									
Coliforms, Escherichia coli [E. coli]		E012A.EC/WT	1	CFU/100mL	Not Detected DLM				
Coliforms, total		E012.TC/WT	1	CFU/100mL	Not Detected DLM				
Total Metals									
Aluminum, total	7429-90-5	E420/WT	0.0030	mg/L	90.1 DLHC, LPMB				
Antimony, total	7440-36-0	E420/WT	0.00010	mg/L	<0.00100 DLHC, LPMB				
Arsenic, total	7440-38-2	E420/WT	0.00010	mg/L	0.0331 LPMB				
Barium, total	7440-39-3	E420/WT	0.00010	mg/L	0.508 LPMB				
Beryllium, total	7440-41-7	E420/WT	0.000020	mg/L	0.00416 LPMB				
Bismuth, total	7440-69-9	E420/WT	0.000050	mg/L	0.00118 DLHC, LPMB				
Boron, total	7440-42-8	E420/WT	0.010	mg/L	<0.100 DLHC, LPMB				
Cadmium, total	7440-43-9	E420/WT	0.0000050	mg/L	0.000852 DLHC, LPMB				
Calcium, total	7440-70-2	E420/WT	0.050	mg/L	1590 DLHC, LPMB				
Cesium, total	7440-46-2	E420/WT	0.000010	mg/L	0.00656 DLHC, LPMB				
1 Contraction of the second		1			l i i i i i i i i i i i i i i i i i i i	• · · · · · · · · · · · · · · · · · · ·	• · · · · · · · · · · · · · · · · · · ·	•	



Sub-Matrix: Water		Cl	ient sample ID	MW 23-3	 	
(Matrix: Water)						
		Client samp	ling date / time	30-May-2024 12:00	 	
Analyte	CAS Number Method/Lab	LOR	Unit	WT2414011-001	 	
				Result	 	
Total Metals						
Chromium, total	7440-47-3 E420/WT	0.00050	mg/L	0.153 DLHC, LPMB	 	
Cobalt, total	7440-48-4 E420/WT	0.00010	mg/L	0.0898 DLHC, LPMB	 	
Copper, total	7440-50-8 E420/WT	0.00050	mg/L	0.214 DLHC, LPMB	 	
Iron, total	7439-89-6 E420/WT	0.010	mg/L	171 DLHC, LPMB	 	
Lead, total	7439-92-1 E420/WT	0.000050	mg/L	0.0925 DLHC, LPMB	 	
Lithium, total	7439-93-2 E420/WT	0.0010	mg/L	0.173 DLHC, LPMB	 	
Magnesium, total	7439-95-4 E420/WT	0.0050	mg/L	206 DLHC, LPMB	 	
Manganese, total	7439-96-5 E420/WT	0.00010	mg/L	7.39 DLHC, LPMB	 	
Molybdenum, total	7439-98-7 E420/WT	0.000050	mg/L	0.00103 DLHC, LPMB	 	
Nickel, total	7440-02-0 E420/WT	0.00050	mg/L	0.164 DLHC, LPMB	 	
Phosphorus, total	7723-14-0 E420/WT	0.050	mg/L	9.81 DLHC, LPMB	 	
Potassium, total	7440-09-7 E420/WT	0.050	mg/L	10.6 LPMB	 	
Rubidium, total	7440-17-7 E420/WT	0.00020	mg/L	0.0877 DLHC, LPMB	 	
Selenium, total	7782-49-2 E420/WT	0.000050	mg/L	0.000947 DLHC, LPMB	 	
Silicon, total	7440-21-3 E420/WT	0.10	mg/L	96.3 DLHC, LPMB	 	
Silver, total	7440-22-4 E420/WT	0.000010	mg/L	0.000368 DLHC, LPMB	 	
Sodium, total	7440-23-5 E420/WT	0.050	mg/L	14.4 DLHC, LPMB	 	
Strontium, total	7440-24-6 E420/WT	0.00020	mg/L	2.62 DLHC, LPMB	 	
Sulfur, total	7704-34-9 E420/WT	0.50	mg/L	19.2 DLHC, LPMB	 	
Tellurium, total	13494-80-9 E420/WT	0.00020	mg/L	<0.00200 DLHC, LPMB	 	
Thallium, total	7440-28-0 E420/WT	0.000010	mg/L	0.000951 DLHC, LPMB	 	
Thorium, total	7440-29-1 E420/WT	0.00010	mg/L	0.0376 DLHC, LPMB	 	
Tin, total	7440-31-5 E420/WT	0.00010	mg/L	0.00268 DLHC, LPMB	 	
Titanium, total	7440-32-6 E420/WT	0.00030	mg/L	1.19 DLHC, LPMB	 	
Tungsten, total	7440-33-7 E420/WT	0.00010	mg/L	<0.00100 DLHC, LPMB	 	
Uranium, total	7440-61-1 E420/WT	0.000010	mg/L	$0.00724 \begin{array}{c} \text{DLHC,} \\ \text{LPMB} \end{array}$	 	
Vanadium, total	7440-62-2 E420/WT	0.00050	mg/L	0.159 DLHC, LPMB	 	
Zinc, total	7440-66-6 E420/WT	0.0030	mg/L	0.414 DLHC, LPMB	 	
Zirconium, total	7440-67-7 E420/WT	0.00020	mg/L	<0.00200 DLHC, LPMB	 	
Dissolved Metals						



Sub-Matrix: Water		Cl	ient sample ID	MW 23-3	 	
(Matrix: Water)						
		Client samp	ling date / time	30-May-2024 12:00	 	
Analyte	CAS Number Method/Lab	LOR	Unit	WT2414011-001	 	
				Result	 	
Dissolved Metals						
Aluminum, dissolved	7429-90-5 E421/WT	0.0010	mg/L	0.0017	 	
Antimony, dissolved	7440-36-0 E421/WT	0.00010	mg/L	<0.00010	 	
Arsenic, dissolved	7440-38-2 E421/WT	0.00010	mg/L	0.00017	 	
Barium, dissolved	7440-39-3 E421/WT	0.00010	mg/L	0.0596	 	
Beryllium, dissolved	7440-41-7 E421/WT	0.000020	mg/L	<0.000020	 	
Bismuth, dissolved	7440-69-9 E421/WT	0.000050	mg/L	<0.000050	 	
Boron, dissolved	7440-42-8 E421/WT	0.010	mg/L	<0.010	 	
Cadmium, dissolved	7440-43-9 E421/WT	0.0000050	mg/L	<0.0000050	 	
Calcium, dissolved	7440-70-2 E421/WT	0.050	mg/L	138	 	
Cesium, dissolved	7440-46-2 E421/WT	0.000010	mg/L	<0.000010	 	
Chromium, dissolved	7440-47-3 E421/WT	0.00050	mg/L	0.00148	 	
Cobalt, dissolved	7440-48-4 E421/WT	0.00010	mg/L	0.00012	 	
Copper, dissolved	7440-50-8 E421/WT	0.00020	mg/L	0.00122	 	
Iron, dissolved	7439-89-6 E421/WT	0.010	mg/L	<0.010	 	
Lead, dissolved	7439-92-1 E421/WT	0.000050	mg/L	<0.000050	 	
Lithium, dissolved	7439-93-2 E421/WT	0.0010	mg/L	0.0099	 	
Magnesium, dissolved	7439-95-4 E421/WT	0.0050	mg/L	23.3	 	
Manganese, dissolved	7439-96-5 E421/WT	0.00010	mg/L	0.0104	 	
Molybdenum, dissolved	7439-98-7 E421/WT	0.000050	mg/L	0.000226	 	
Nickel, dissolved	7440-02-0 E421/WT	0.00050	mg/L	0.00060	 	
Phosphorus, dissolved	7723-14-0 E421/WT	0.050	mg/L	<0.050	 	
Potassium, dissolved	7440-09-7 E421/WT	0.050	mg/L	0.798	 	
Rubidium, dissolved	7440-17-7 E421/WT	0.00020	mg/L	0.00106	 	
Selenium, dissolved	7782-49-2 E421/WT	0.000050	mg/L	0.000394	 	
Silicon, dissolved	7440-21-3 E421/WT	0.050	mg/L	8.94	 	
Silver, dissolved	7440-22-4 E421/WT	0.000010	mg/L	<0.000010	 	
Sodium, dissolved	7440-23-5 E421/WT	0.050	mg/L	10.1	 	
Strontium, dissolved	7440-24-6 E421/WT	0.00020	mg/L	0.308	 	
Sulfur, dissolved	7704-34-9 E421/WT	0.50	mg/L	10.5	 	
Tellurium, dissolved	13494-80-9 E421/WT	0.00020	mg/L	<0.00020	 	



Sub-Matrix: Water			Cl	ient sample ID	MW 23-3	 	
(Matrix: Water)							
			Client samp	ling date / time	30-May-2024 12:00	 	
Analyte	CAS Number	Method/Lab	LOR	Unit	WT2414011-001	 	
					Result	 	
Dissolved Metals							
Thallium, dissolved	7440-28-0	E421/WT	0.000010	mg/L	0.000010	 	
Thorium, dissolved	7440-29-1	E421/WT	0.00010	mg/L	<0.00010	 	
Tin, dissolved	7440-31-5	E421/WT	0.00010	mg/L	<0.00010	 	
Titanium, dissolved	7440-32-6	E421/WT	0.00030	mg/L	<0.00030	 	
Tungsten, dissolved	7440-33-7	E421/WT	0.00010	mg/L	<0.00010	 	
Uranium, dissolved	7440-61-1	E421/WT	0.000010	mg/L	0.000688	 	
Vanadium, dissolved	7440-62-2	E421/WT	0.00050	mg/L	<0.00050	 	
Zinc, dissolved	7440-66-6	E421/WT	0.0010	mg/L	<0.0010	 	
Zirconium, dissolved	7440-67-7	E421/WT	0.00030	mg/L	<0.00030	 	
Dissolved metals filtration location		EP421/WT	-	-	Laboratory	 	

Please refer to the General Comments section for an explanation of any result qualifiers detected.

Please refer to the Accreditation section for an explanation of analyte accreditations.

ALS Canada Ltd.



QUALITY CONTROL REPORT Work Order Page WT2414011 : 1 of 17 CF Crozier & Associates Client Laboratory : ALS Environmental - Waterloo : Victoria Mazur Account Manager : Andrew Martin Contact Address Address : 2800 High Point Drive :60 Northland Road, Unit 1 Milton ON Canada L9T 6P4 Waterloo, Ontario Canada N2V 2B8 Telephone : (548) 708-0039 Telephone :+1 519 886 6910 Project :2227-69259 Date Samples Received : 30-May-2024 13:20 PO Date Analysis Commenced : 31-May-2024 :----C-O-C number Issue Date :06-Jun-2024 20:11 :23-1096606 Sampler : Victoria Mazur Site :----Quote number :2024 SOA No. of samples received :1 No. of samples analysed :1

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full. This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percent Difference (RPD) and Data Quality Objectives
- Matrix Spike (MS) Report; Recovery and Data Quality Objectives
- Method Blank (MB) Report; Recovery and Data Quality Objectives
- Laboratory Control Sample (LCS) Report; Recovery and Data Quality Objectives

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	Position	Laboratory Department
Nik Perkio	Senior Analyst	Waterloo Inorganics, Waterloo, Ontario
Nik Perkio	Senior Analyst	Waterloo Metals, Waterloo, Ontario
Zeba Patel	Analyst	Waterloo Microbiology, Waterloo, Ontario

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General Comments

The ALS Quality Control (QC) report is optionally provided to ALS clients upon request. ALS test methods include comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against predetermined Data Quality Objectives (DQOs) to provide confidence in the accuracy of associated test results. This report contains detailed results for all QC results applicable to this sample submission. Please refer to the ALS Quality Control Interpretation report (QCI) for applicable method references and methodology summaries.

Key :

Anonymous = Refers to samples which are not part of this work order, but which formed part of the QC process lot.

CAS Number = Chemical Abstracts Service number is a unique identifier assigned to discrete substances.

DQO = Data Quality Objective.

LOR = Limit of Reporting (detection limit).

RPD = Relative Percent Difference

= Indicates a QC result that did not meet the ALS DQO.

Workorder Comments

Holding times are displayed as "----" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

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Laboratory Duplicate (DUP) Report

A Laboratory Duplicate (DUP) is a randomly selected intralaboratory replicate sample. Laboratory Duplicates provide information regarding method precision and sample heterogeneity. ALS DQOs for Laboratory Duplicates are expressed as test-specific limits for Relative Percent Difference (RPD), or as an absolute difference limit of 2 times the LOR for low concentration duplicates within ~ 4-10 times the LOR (cut-off is test-specific).

Sub-Matrix: Water						Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifier
Physical Tests (QC	Lot: 1468699)										
WT2413918-006	Anonymous	Turbidity		E121	0.10	NTU	89.8	90.8	0.997%	15%	
Physical Tests (QC	Lot: 1469701)										
HA2401222-001	Anonymous	Colour, apparent		E330	2.0	CU	19.4	16.4	3.0	Diff <2x LOR	
Physical Tests (QC	Lot: 1472923)										
WT2413896-002	Anonymous	рН		E108	0.10	pH units	8.17	7.92	3.11%	4%	
Physical Tests (QC	Lot: 1472924)										
WT2413896-002	Anonymous	Alkalinity, total (as CaCO3)		E290	10.0	mg/L	254	255	0.260%	20%	
Physical Tests (QC	Lot: 1472925)										
WT2413896-002	Anonymous	Conductivity		E100	3.0	μS/cm	624	631	1.12%	10%	
Physical Tests (QC	Lot: 1476573)										
WT2413918-007	Anonymous	Solids, total dissolved [TDS]		E162	20	mg/L	262	259	1.15%	20%	
Anions and Nutrient	ts (QC Lot: 1470994)										
HA2401203-001	Anonymous	Ammonia, total (as N)	7664-41-7	E298	0.0050	mg/L	0.0315	0.0317	0.0002	Diff <2x LOR	
Anions and Nutrient	ts (QC Lot: 1472926)										
WT2414099-001	Anonymous	Nitrate (as N)	14797-55-8	E235.NO3	0.100	mg/L	<0.100	<0.100	0	Diff <2x LOR	
Anions and Nutrient	ts (QC Lot: 1472927)										
WT2414099-001	Anonymous	Nitrite (as N)	14797-65-0	E235.NO2	0.050	mg/L	<0.050	<0.050	0	Diff <2x LOR	
Anions and Nutrient	ts (QC Lot: 1472928)										
WT2414099-001	Anonymous	Chloride	16887-00-6	E235.Cl	2.50	mg/L	27.8	27.7	0.337%	20%	
Anions and Nutrient	ts (QC Lot: 1472929)										
WT2414099-001	Anonymous	Sulfate (as SO4)	14808-79-8	E235.SO4	1.50	mg/L	627	626	0.179%	20%	
Anions and Nutrient	ts (QC Lot: 1472930)										
WT2414099-001	Anonymous	Fluoride	16984-48-8	E235.F	0.100	mg/L	1.91	1.90	0.372%	20%	
Anions and Nutrient	ts (QC Lot: 1472940)										
WT2413896-002	Anonymous	Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.0030	mg/L	<0.0030	<0.0030	0	Diff <2x LOR	
Microbiological Tes	ts (QC Lot: 1469285)										
WT2414060-001	Anonymous	Coliforms, Escherichia coli [E. coli]		E012A.EC	1	CFU/100mL	2	1	1	Diff <2x LOR	
Microbiological Tes	ts (QC Lot: 1469287)										
WT2414059-001	Anonymous	Coliforms, total		E012.TC	100	CFU/100mL	<100	<100	0	Diff <2x LOR	
Total Metals (QC Lo	ot: 1468238)										

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Sub-Matrix: Water						Labora	tory Duplicate (DU	IP) Report			
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifier
Total Metals (QC Lo	t: 1468238) - continued										
BF2400040-001	Anonymous	Aluminum, total	7429-90-5	E420	0.0300	mg/L	0.546	0.542	0.557%	20%	
		Antimony, total	7440-36-0	E420	0.00100	mg/L	<0.00100	<0.00100	0	Diff <2x LOR	
		Arsenic, total	7440-38-2	E420	0.00100	mg/L	<0.00100	<0.00100	0	Diff <2x LOR	
		Barium, total	7440-39-3	E420	0.00100	mg/L	0.0151	0.0150	0.524%	20%	
		Beryllium, total	7440-41-7	E420	0.000200	mg/L	<0.000200	<0.000200	0	Diff <2x LOR	
		Bismuth, total	7440-69-9	E420	0.000500	mg/L	<0.000500	<0.000500	0	Diff <2x LOR	
		Boron, total	7440-42-8	E420	0.100	mg/L	<0.100	<0.100	0	Diff <2x LOR	
		Cadmium, total	7440-43-9	E420	0.0000500	mg/L	0.000266	0.000272	0.0000059	Diff <2x LOR	
		Calcium, total	7440-70-2	E420	0.500	mg/L	30.4	31.0	1.94%	20%	
		Cesium, total	7440-46-2	E420	0.000100	mg/L	<0.000100	<0.000100	0	Diff <2x LOR	
		Chromium, total	7440-47-3	E420	0.00500	mg/L	<0.00500	<0.00500	0	Diff <2x LOR	
		Cobalt, total	7440-48-4	E420	0.00100	mg/L	0.0290	0.0282	2.59%	20%	
		Copper, total	7440-50-8	E420	0.00500	mg/L	<0.00500	<0.00500	0	Diff <2x LOR	
		Iron, total	7439-89-6	E420	0.100	mg/L	1.36	1.42	4.17%	20%	
		Lead, total	7439-92-1	E420	0.000500	mg/L	<0.000500	<0.000500	0	Diff <2x LOR	
		Lithium, total	7439-93-2	E420	0.0100	mg/L	0.0563	0.0588	0.0025	Diff <2x LOR	
		Magnesium, total	7439-95-4	E420	0.0500	mg/L	130	128	1.42%	20%	
		Manganese, total	7439-96-5	E420	0.00100	mg/L	10.8	10.7	1.15%	20%	
		Molybdenum, total	7439-98-7	E420	0.000500	mg/L	0.000940	0.000836	0.000104	Diff <2x LOR	
		Nickel, total	7440-02-0	E420	0.00500	mg/L	0.0190	0.0184	0.00068	Diff <2x LOR	
		Phosphorus, total	7723-14-0	E420	0.500	mg/L	<0.500	<0.500	0	Diff <2x LOR	
		Potassium, total	7440-09-7	E420	0.500	mg/L	5.22	5.17	0.908%	20%	
		Rubidium, total	7440-17-7	E420	0.00200	mg/L	0.00938	0.00918	0.00020	Diff <2x LOR	
		Selenium, total	7782-49-2	E420	0.000500	mg/L	0.00219	0.00219	0.0000003	Diff <2x LOR	
		Silicon, total	7440-21-3	E420	1.00	mg/L	1.75	1.78	0.03	Diff <2x LOR	
		Silver, total	7440-22-4	E420	0.000100	mg/L	<0.000100	<0.000100	0	Diff <2x LOR	
		Sodium, total	7440-23-5	E420	0.500	mg/L	44.8	42.9	4.46%	20%	
		Strontium, total	7440-24-6	E420	0.00200	mg/L	0.0764	0.0784	2.62%	20%	
		Sulfur, total	7704-34-9	E420	5.00	mg/L	182	186	2.30%	20%	
		Tellurium, total	13494-80-9	E420	0.00200	mg/L	<0.00200	<0.00200	0	Diff <2x LOR	
		Thallium, total	7440-28-0	E420	0.000100	mg/L	0.000181	0.000168	0.000013	Diff <2x LOR	
		Thorium, total	7440-29-1	E420	0.00100	mg/L	<0.00100	<0.00100	0	Diff <2x LOR	
		Tin, total	7440-31-5	E420	0.00100	mg/L	<0.00100	<0.00100	0	Diff <2x LOR	
		Titanium, total	7440-32-6	E420	0.00540	mg/L	<0.00540	<0.00540	0	Diff <2x LOR	
					-						

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Sub-Matrix: Water							Labora	tory Duplicate (DU	JP) Report		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifier
Total Metals (QC Lo	t: 1468238) - continued										
BF2400040-001	Anonymous	Tungsten, total	7440-33-7	E420	0.00100	mg/L	<0.00100	<0.00100	0	Diff <2x LOR	
		Uranium, total	7440-61-1	E420	0.000100	mg/L	<0.000100	<0.000100	0	Diff <2x LOR	
		Vanadium, total	7440-62-2	E420	0.00500	mg/L	<0.00500	<0.00500	0	Diff <2x LOR	
		Zinc, total	7440-66-6	E420	0.0300	mg/L	<0.0300	<0.0300	0	Diff <2x LOR	
		Zirconium, total	7440-67-7	E420	0.00200	mg/L	<0.00200	<0.00200	0	Diff <2x LOR	
Dissolved Metals (Q	C Lot: 1469428)										
WT2413774-002	Anonymous	Aluminum, dissolved	7429-90-5	E421	0.0100	mg/L	0.0656	0.0643	0.0013	Diff <2x LOR	
		Antimony, dissolved	7440-36-0	E421	0.00100	mg/L	<0.00100	<0.00100	0	Diff <2x LOR	
		Arsenic, dissolved	7440-38-2	E421	0.00100	mg/L	0.00132	0.00131	0.00001	Diff <2x LOR	
		Barium, dissolved	7440-39-3	E421	0.00100	mg/L	0.0178	0.0176	0.814%	20%	
		Beryllium, dissolved	7440-41-7	E421	0.000200	mg/L	<0.000200	<0.000200	0	Diff <2x LOR	
		Bismuth, dissolved	7440-69-9	E421	0.000500	mg/L	<0.000500	<0.000500	0	Diff <2x LOR	
		Boron, dissolved	7440-42-8	E421	0.100	mg/L	<0.100	<0.100	0	Diff <2x LOR	
		Cadmium, dissolved	7440-43-9	E421	0.0000500	mg/L	<0.0000500	<0.0000500	0	Diff <2x LOR	
		Calcium, dissolved	7440-70-2	E421	0.500	mg/L	29.5	30.5	3.27%	20%	
		Cesium, dissolved	7440-46-2	E421	0.000100	mg/L	<0.000100	<0.000100	0	Diff <2x LOR	
		Chromium, dissolved	7440-47-3	E421	0.00500	mg/L	<0.00500	<0.00500	0	Diff <2x LOR	
		Cobalt, dissolved	7440-48-4	E421	0.00100	mg/L	<0.00100	<0.00100	0	Diff <2x LOR	
		Copper, dissolved	7440-50-8	E421	0.00200	mg/L	0.0155	0.0156	0.00009	Diff <2x LOR	
		Iron, dissolved	7439-89-6	E421	0.100	mg/L	<0.100	<0.100	0	Diff <2x LOR	
		Lead, dissolved	7439-92-1	E421	0.000500	mg/L	0.00539	0.00542	0.497%	20%	
		Lithium, dissolved	7439-93-2	E421	0.0100	mg/L	<0.0100	<0.0100	0	Diff <2x LOR	
		Magnesium, dissolved	7439-95-4	E421	0.0500	mg/L	5.72	5.79	1.09%	20%	
		Manganese, dissolved	7439-96-5	E421	0.00100	mg/L	0.00237	0.00255	0.00018	Diff <2x LOR	
		Molybdenum, dissolved	7439-98-7	E421	0.000500	mg/L	0.00284	0.00283	0.000006	Diff <2x LOR	
		Nickel, dissolved	7440-02-0	E421	0.00500	mg/L	<0.00500	<0.00500	0	Diff <2x LOR	
		Phosphorus, dissolved	7723-14-0	E421	0.500	mg/L	<0.500	<0.500	0	Diff <2x LOR	
		Potassium, dissolved	7440-09-7	E421	0.500	mg/L	29.9	30.2	0.752%	20%	
		Rubidium, dissolved	7440-17-7	E421	0.00200	mg/L	0.0176	0.0182	0.00060	Diff <2x LOR	
		Selenium, dissolved	7782-49-2	E421	0.000500	mg/L	<0.000500	<0.000500	0	Diff <2x LOR	
		Silicon, dissolved	7440-21-3	E421	0.500	mg/L	2.56	2.60	0.042	Diff <2x LOR	
		Silver, dissolved	7440-22-4	E421	0.000100	mg/L	<0.000100	<0.000100	0	Diff <2x LOR	
		Sodium, dissolved	7440-23-5	E421	0.500	mg/L	23.6	24.3	2.88%	20%	
		Strontium, dissolved	7440-24-6	E421	0.00200	mg/L	0.348	0.353	1.28%	20%	

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Work Order	:	WT2414011
Client	:	CF Crozier & Associates
Project	:	2227-69259



Sub-Matrix: Water						Labora	tory Duplicate (DU	JP) Report			
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifier
Dissolved Metals (C	C Lot: 1469428) - contir	nued									
WT2413774-002	Anonymous	Sulfur, dissolved	7704-34-9	E421	5.00	mg/L	16.0	15.1	0.93	Diff <2x LOR	
		Tellurium, dissolved	13494-80-9	E421	0.00200	mg/L	<0.00200	<0.00200	0	Diff <2x LOR	
		Thallium, dissolved	7440-28-0	E421	0.000100	mg/L	<0.000100	<0.000100	0	Diff <2x LOR	
		Thorium, dissolved	7440-29-1	E421	0.00100	mg/L	<0.00100	<0.00100	0	Diff <2x LOR	
		Tin, dissolved	7440-31-5	E421	0.00100	mg/L	<0.00100	<0.00100	0	Diff <2x LOR	
		Titanium, dissolved	7440-32-6	E421	0.00300	mg/L	<0.00300	<0.00300	0	Diff <2x LOR	
		Tungsten, dissolved	7440-33-7	E421	0.00100	mg/L	<0.00100	<0.00100	0	Diff <2x LOR	
		Uranium, dissolved	7440-61-1	E421	0.000100	mg/L	0.000587	0.000577	0.000011	Diff <2x LOR	
		Vanadium, dissolved	7440-62-2	E421	0.00500	mg/L	<0.00500	<0.00500	0	Diff <2x LOR	
		Zinc, dissolved	7440-66-6	E421	0.0100	mg/L	0.174	0.181	4.29%	20%	
		Zirconium, dissolved	7440-67-7	E421	0.00300	mg/L	<0.00300	<0.00300	0	Diff <2x LOR	

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Method Blank (MB) Report

A Method Blank is an analyte-free matrix that undergoes sample processing identical to that carried out for test samples. Method Blank results are used to monitor and control for potential contamination from the laboratory environment and reagents. For most tests, the DQO for Method Blanks is for the result to be < LOR.

Analyta	CAS Number	Method	LOR	Unit	Booult	Qualifier
Analyte			LON	om	Result	Quantier
Physical lests (QCLOI: 1468699)		E121	0.1	NTU	<0.10	
			0.1	NIO	-0.10	
Physical Tests (QCLot: 1469701)		5000		011		
Colour, apparent		E330	2	CU	<2.0	
Physical Tests (QCLot: 1472924)						
Alkalinity, total (as CaCO3)		E290	1	mg/L	<1.0	
Physical Tests (QCLot: 1472925)						
Conductivity		E100	1	μS/cm	1.3	
Physical Tests (QCLot: 1476573)						
Solids, total dissolved [TDS]		E162	10	mg/L	<10	
Anions and Nutrients (QCLot: 1470994)						
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	<0.0050	
Anions and Nutrients (QCLot: 1472926)					1 1	
Nitrate (as N)	14797-55-8	E235.NO3	0.02	mg/L	<0.020	
Anions and Nutrients (OCI of: 1472927)						
Nitrite (as N)	14797-65-0	E235.NO2	0.01	mg/L	<0.010	
Aniona and Nutrianta (OCI at: 1472028)				Ŭ		
Chloride	16887-00-6	E235 CI	0.5	mg/l	<0.50	
	10007 00 0		0.0	ing/E	-0.00	
Anions and Nutrients (QCLot: 1472929)	14909 70 9	E225 SO4	0.3	ma/l	<0.20	
Suilate (as 504)	14808-79-8	2235.304	0.3	IIIg/L	<0.30	
Anions and Nutrients (QCLot: 1472930)	10001 10 0	5005 F	0.00			
Fluoride	16984-48-8	E235.F	0.02	mg/L	<0.020	
Anions and Nutrients (QCLot: 1472940)						
Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.001	mg/L	<0.0010	
Microbiological Tests (QCLot: 1469285)						
Coliforms, Escherichia coli [E. coli]		E012A.EC	1	CFU/100mL	<1	
Microbiological Tests <u>(QCLot: 1469287)</u>						
Coliforms, total		E012.TC	1	CFU/100mL	<1	
Fotal Metals (QCLot: <u>1468238)</u>						
Aluminum, total	7429-90-5	E420	0.003	mg/L	<0.0030	
Antimony, total	7440-36-0	E420	0.0001	mg/L	<0.00010	
Arsenic, total	7440-38-2	E420	0.0001	mg/L	<0.00010	
Barium total	7440-39-3	E420	0.0001	ma/L	<0.00010	
Sanan, tota			0.0001			

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Work Order	:	WT2414011
Client	:	CF Crozier & Associates
Project	:	2227-69259



Sub-Matrix: Water

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Total Metals (QCLot: 1468238) - co	ontinued					
Beryllium, total	7440-41-7	E420	0.00002	mg/L	<0.000020	
Bismuth, total	7440-69-9	E420	0.00005	mg/L	<0.000050	
Boron, total	7440-42-8	E420	0.01	mg/L	<0.010	
Cadmium, total	7440-43-9	E420	0.000005	mg/L	<0.000050	
Calcium, total	7440-70-2	E420	0.05	mg/L	<0.050	
Cesium, total	7440-46-2	E420	0.00001	mg/L	<0.000010	
Chromium, total	7440-47-3	E420	0.0005	mg/L	<0.00050	
Cobalt, total	7440-48-4	E420	0.0001	mg/L	<0.00010	
Copper, total	7440-50-8	E420	0.0005	mg/L	<0.00050	
Iron, total	7439-89-6	E420	0.01	mg/L	<0.010	
Lead, total	7439-92-1	E420	0.00005	mg/L	<0.000050	
Lithium, total	7439-93-2	E420	0.001	mg/L	<0.0010	
Magnesium, total	7439-95-4	E420	0.005	mg/L	<0.0050	
Manganese, total	7439-96-5	E420	0.0001	mg/L	<0.00010	
Molybdenum, total	7439-98-7	E420	0.00005	mg/L	<0.000050	
Nickel, total	7440-02-0	E420	0.0005	mg/L	<0.00050	
Phosphorus, total	7723-14-0	E420	0.05	mg/L	<0.050	
Potassium, total	7440-09-7	E420	0.05	mg/L	<0.050	
Rubidium, total	7440-17-7	E420	0.0002	mg/L	<0.00020	
Selenium, total	7782-49-2	E420	0.00005	mg/L	<0.000050	
Silicon, total	7440-21-3	E420	0.1	mg/L	<0.10	
Silver, total	7440-22-4	E420	0.00001	mg/L	<0.000010	
Sodium, total	7440-23-5	E420	0.05	mg/L	<0.050	
Strontium, total	7440-24-6	E420	0.0002	mg/L	<0.00020	
Sulfur, total	7704-34-9	E420	0.5	mg/L	<0.50	
Tellurium, total	13494-80-9	E420	0.0002	mg/L	<0.00020	
Thallium, total	7440-28-0	E420	0.00001	mg/L	<0.000010	
Thorium, total	7440-29-1	E420	0.0001	mg/L	<0.00010	
Tin, total	7440-31-5	E420	0.0001	mg/L	<0.00010	
Titanium, total	7440-32-6	E420	0.0003	mg/L	<0.00030	
Tungsten, total	7440-33-7	E420	0.0001	mg/L	<0.00010	
Uranium, total	7440-61-1	E420	0.00001	mg/L	<0.000010	
Vanadium, total	7440-62-2	E420	0.0005	mg/L	<0.00050	
Zinc, total	7440-66-6	E420	0.003	mg/L	<0.0030	
Zirconium, total	7440-67-7	E420	0.0002	mg/L	<0.00020	
			• · · · · · · · · · · · · · · · · · · ·		e de la construcción de la constru	

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Work Order	:	WT2414011
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Sub-Matrix: Water

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Dissolved Metals (QCLot: 1469428)						
Aluminum, dissolved	7429-90-5	E421	0.001	mg/L	<0.0010	
Antimony, dissolved	7440-36-0	E421	0.0001	mg/L	<0.00010	
Arsenic, dissolved	7440-38-2	E421	0.0001	mg/L	<0.00010	
Barium, dissolved	7440-39-3	E421	0.0001	mg/L	<0.00010	
Beryllium, dissolved	7440-41-7	E421	0.00002	mg/L	<0.000020	
Bismuth, dissolved	7440-69-9	E421	0.00005	mg/L	<0.000050	
Boron, dissolved	7440-42-8	E421	0.01	mg/L	<0.010	
Cadmium, dissolved	7440-43-9	E421	0.000005	mg/L	<0.000050	
Calcium, dissolved	7440-70-2	E421	0.05	mg/L	<0.050	
Cesium, dissolved	7440-46-2	E421	0.00001	mg/L	<0.000010	
Chromium, dissolved	7440-47-3	E421	0.0005	mg/L	<0.00050	
Cobalt, dissolved	7440-48-4	E421	0.0001	mg/L	<0.00010	
Copper, dissolved	7440-50-8	E421	0.0002	mg/L	<0.00020	
Iron, dissolved	7439-89-6	E421	0.01	mg/L	<0.010	
Lead, dissolved	7439-92-1	E421	0.00005	mg/L	<0.000050	
Lithium, dissolved	7439-93-2	E421	0.001	mg/L	<0.0010	
Magnesium, dissolved	7439-95-4	E421	0.005	mg/L	<0.0050	
Manganese, dissolved	7439-96-5	E421	0.0001	mg/L	<0.00010	
Molybdenum, dissolved	7439-98-7	E421	0.00005	mg/L	<0.000050	
Nickel, dissolved	7440-02-0	E421	0.0005	mg/L	<0.00050	
Phosphorus, dissolved	7723-14-0	E421	0.05	mg/L	<0.050	
Potassium, dissolved	7440-09-7	E421	0.05	mg/L	<0.050	
Rubidium, dissolved	7440-17-7	E421	0.0002	mg/L	<0.00020	
Selenium, dissolved	7782-49-2	E421	0.00005	mg/L	<0.000050	
Silicon, dissolved	7440-21-3	E421	0.05	mg/L	<0.050	
Silver, dissolved	7440-22-4	E421	0.00001	mg/L	<0.000010	
Sodium, dissolved	7440-23-5	E421	0.05	mg/L	<0.050	
Strontium, dissolved	7440-24-6	E421	0.0002	mg/L	<0.00020	
Sulfur, dissolved	7704-34-9	E421	0.5	mg/L	<0.50	
Tellurium, dissolved	13494-80-9	E421	0.0002	mg/L	<0.00020	
Thallium, dissolved	7440-28-0	E421	0.00001	mg/L	<0.000010	
Thorium, dissolved	7440-29-1	E421	0.0001	mg/L	<0.00010	
Tin, dissolved	7440-31-5	E421	0.0001	mg/L	<0.00010	
Titanium, dissolved	7440-32-6	E421	0.0003	mg/L	<0.00030	
Tungsten, dissolved	7440-33-7	E421	0.0001	mg/L	<0.00010	

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Sub-Matrix: Water

Analyte	CAS Number Me	fethod	LOR	Unit	Result	Qualifier
Dissolved Metals (QCLot: 1469428) - o	continued					
Uranium, dissolved	7440-61-1 E4	421	0.00001	mg/L	<0.000010	
Vanadium, dissolved	7440-62-2 E4	421	0.0005	mg/L	<0.00050	
Zinc, dissolved	7440-66-6 E4	421	0.001	mg/L	<0.0010	
Zirconium, dissolved	7440-67-7 E4	421	0.0002	mg/L	<0.00020	



Laboratory Control Sample (LCS) Report

A Laboratory Control Sample (LCS) is an analyte-free matrix that has been fortified (spiked) with test analytes at known concentration and processed in an identical manner to test samples. LCS results are expressed as percent recovery, and are used to monitor and control test method accuracy and precision, independent of test sample matrix.

Sub-Matrix: Water						Laboratory Co	ontrol Sample (LCS)	Report	
					Spike	Spike Recovery (%) Recovery Limits (%)			
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Physical Tests (QCLot: 1468699)									
Turbidity		E121	0.1	NTU	200 NTU	102	85.0	115	
Physical Tests (QCLot: 1469701)									
Colour, apparent		E330	2	CU	25 CU	101	70.0	130	
Physical Tests (QCLot: 1472923)									
pH		E108		pH units	7 pH units	100	98.0	102	
Physical Tests (QCLot: 1472924)									
Alkalinity, total (as CaCO3)		E290	1	mg/L	150 mg/L	95.6	85.0	115	
Physical Tests (QCLot: 1472925)									
Conductivity		E100	1	μS/cm	1410 µS/cm	99.8	90.0	110	
Physical Tests (QCLot: 1476573)									
Solids, total dissolved [TDS]		E162	10	mg/L	1000 mg/L	104	85.0	115	
Anions and Nutrients (QCLot: 1470994)		2000	0.005						
Ammonia, total (as N)	/664-41-/	E298	0.005	mg/L	0.2 mg/L	99.5	85.0	115	
Anions and Nutrients (QCLot: 1472926)	1 1707 55 0	FORENOR	0.00		0.5 "	00.0	00.0	110	
Nitrate (as N)	14797-55-8	E235.NO3	0.02	mg/L	2.5 mg/L	99.6	90.0	110	
Anions and Nutrients (QCLot: 1472927)	14707.65.0	E225 NO2	0.01	m a //	0.5 mg/l	00.0	00.0	110	
Nitrite (as N)	14797-65-0	E235.NO2	0.01	mg/L	0.5 mg/L	99.0	90.0	110	
Anions and Nutrients (QCLot: 1472928)	40007.00.0	F005 01	0.5		400	100	00.0	110	
Chioride	16887-00-6	E235.CI	0.5	mg/L	100 mg/L	100	90.0	110	
Anions and Nutrients (QCLot: 1472929)	14909 70 9	E225 804	0.2		100 mg/l	101	00.0	110	
Sulfate (as SO4)	14000-79-0	E235.504	0.5	ing/∟	100 mg/L	101	90.0	110	
Anions and Nutrients (QCLot: 1472930)	16094 49 9	E225 E	0.02	mg/l	1 mg/l	102	00.0	110	
Fluonde	10904-40-0	E233.F	0.02	ilig/L	T Hig/L	102	90.0	110	
Anions and Nutrients (QCLot: 1472940)	14265 44 2	E378 II	0.001	mg/l	0.031 mg/l	07.3	80.0	120	
Phosphate, ortho-, dissolved (as P)	14205-44-2	2370-0	0.001	ilig/L	0.031 Hig/L	97.5	80.0	120	
Aluminum total	7429-90-5	E420	0.003	ma/L	0.1 ma/L	107	80.0	120	
Antimony, total	7440-36-0	E420	0.0001	ma/L	0.05 ma/L	108	80.0	120	
Arsenic, total	7440-38-2	E420	0.0001	mg/L	0.05 mg/L	109	80.0	120	
Barium, total	7440-39-3	E420	0.0001	mg/L	0.012 mg/L	103	80.0	120	
I a film the second		l		J					

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Analya CAS Mumb Mather Unit Spike Recovery (?d) Leve Hege Analya Total Mubble (CCLOL: 1485238) - continued Mubble Engliam, India 7440-474 E20 0.0002 mg/L 0.05 mg/L 101 80.0 122 Serier, Mal 7440-474 E20 0.005 mg/L 0.05 mg/L 104 60.0 122 Serier, Mal 7440-474 E20 0.05 mg/L 0.05 mg/L 104 60.0 122 Serier, Mal 7440-45 E20 0.05 mg/L 0.02 mg/L 104 60.0 122 Scrier, Mal 7444-45 E20 0.055 mg/L 0.012 mg/L 101 60.0 122 Scrier, Mal 7444-45 E20 0.055 mg/L 0.012 mg/L 101 60.0 122 Scrier, Mal <t< th=""><th colspan="5">Sub-Matrix: Water</th><th colspan="6">Laboratory Control Sample (LCS) Report</th></t<>	Sub-Matrix: Water					Laboratory Control Sample (LCS) Report					
AnalysicRoreMoveLoreMoveTope ConcentrationLocsLocsMove						Spike	Recovery (%)	Recovery	Limits (%)		
Croal Marchal (Oct.of: 1468239) - continued Add.4.17 Factor Onomo mpi, O.05 mpi, Disord Mode	Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier	
genitery7404-07F×200.0007mgl0.005 mgl1.010.000.010	Total Metals (QCLot: 1468238) - co	ontinued									
Bismuth, bailTADDEEXD0.000mpL0.05 mpL10160.00.0.00Castura, totaTA440-20EXD0.01mpL0.000 mpL0.020.030	Beryllium, total	7440-41-7	E420	0.00002	mg/L	0.005 mg/L	110	80.0	120		
born, pdplYH4058FA/3BORmpL0.05 mpL9.028.009.009.009.00Calcum, bdaYH4070FA/30.00000mpL0.0007 mpL10.008.0010.0010.00Calcum, bdaYH4070FA/30.0000mpL0.0007 mpL10.008.0010.0010.00Calcum, bdaYH4070FA/30.0000mpL0.012 mpL10.001	Bismuth, total	7440-69-9	E420	0.00005	mg/L	0.05 mg/L	106	80.0	120		
Carning hainMarchResResMarch<	Boron, total	7440-42-8	E420	0.01	mg/L	0.05 mg/L	102	80.0	120		
Calcim, thaiTypeFact <td>Cadmium, total</td> <td>7440-43-9</td> <td>E420</td> <td>0.000005</td> <td>mg/L</td> <td>0.005 mg/L</td> <td>98.3</td> <td>80.0</td> <td>120</td> <td></td>	Cadmium, total	7440-43-9	E420	0.000005	mg/L	0.005 mg/L	98.3	80.0	120		
DeclaminationTableFace0.00001mgl0.0012 mgl1.080.000.012 mglChromination7440-43Face0.0005mgl0.012 mgl1.030.000.012 mgl1.030.000.012 mgl0.012 mgl0.010	Calcium, total	7440-70-2	E420	0.05	mg/L	2.5 mg/L	104	80.0	120		
ChorningChorningChorningOutput <th< td=""><td>Cesium, total</td><td>7440-46-2</td><td>E420</td><td>0.00001</td><td>mg/L</td><td>0.002 mg/L</td><td>108</td><td>80.0</td><td>120</td><td></td></th<>	Cesium, total	7440-46-2	E420	0.00001	mg/L	0.002 mg/L	108	80.0	120		
Chank Compari, that Compari, that Comp	Chromium, total	7440-47-3	E420	0.0005	mg/L	0.012 mg/L	104	80.0	120		
Capper, totalT440-SeeE4200.0005mg/L0.012 mg/L10188.00120 	Cobalt, total	7440-48-4	E420	0.0001	mg/L	0.012 mg/L	103	80.0	120		
ionindiain	Copper, total	7440-50-8	E420	0.0005	mg/L	0.012 mg/L	101	80.0	120		
Lad, totalYanasaFace0.0000mgl.0.025 mgl.1080.0210.0	Iron, total	7439-89-6	E420	0.01	mg/L	0.05 mg/L	102	80.0	120		
Linkin, totalT438-33E420.001mgl.0.012 mgl.1.010M30.1.201.20Magnensen, totalT4398-84200.0001mgl.2.5 mgl.1.0108.001.20Magnensen, totalT4394-84200.0001mgl.0.012 mgl.1.0108.001.20Mayensen, totalT4404-04200.0000mgl.0.012 mgl.1.0108.001.20Noshout, totalT4404-04200.000mgl.0.05 mgl.1.0108.001.20Noshout, totalT4404-04200.000mgl.0.05 mgl.1.0108.001.20Noshout, totalT4404-04200.000mgl.0.05 mgl.1.0108.001.20Noshout, totalT4404-74200.000mgl.0.05 mgl.1.0108.001.20Noshout, totalT4404-74200.000mgl.0.05 mgl.1.0108.001.20Noshout, totalT4404-74200.000mgl.0.05 mgl.1.028.001.20Noshout, totalT4404-74200.000mgl.0.05 mgl.1.028.001.20Noshout, totalT4404-74200.000mgl.0.05 mgl.1.021.00Noshout, totalT4404-74200.000mgl.0.05 mgl.1.021.00 <td>Lead, total</td> <td>7439-92-1</td> <td>E420</td> <td>0.00005</td> <td>mg/L</td> <td>0.025 mg/L</td> <td>106</td> <td>80.0</td> <td>120</td> <td></td>	Lead, total	7439-92-1	E420	0.00005	mg/L	0.025 mg/L	106	80.0	120		
Magesium, totalTA930-96R200.005mg/L0.25 mg/L11080.00120Mangese, totalTA930-96E200.0000mg/L0.012 mg/L10460.001206Maly dedenum, totalTA940-97E200.0000mg/L0.022 mg/L10660.001206Prosphorus, totalTA940-97E200.000mg/L0.05 mg/L11060.001206Prosphorus, totalTA940-97E200.005mg/L0.005 mg/L10180.001206Subicitur, totalTA940-97E200.005mg/L0.005 mg/L10180.001206Subicitur, totalTA940-97E200.005mg/L0.005 mg/L10180.001206Subicitur, totalTA92-97E200.005mg/L0.005 mg/L10380.001206Subicitur, totalTA92-97E200.005mg/L0.005 mg/L10380.001206Subicitur, totalTA92-97E200.01mg/L0.005 mg/L10380.001206Subicitur, totalTA92-97E200.01mg/L10080.001206Subicitur, totalTA92-97E200.01mg/L2.5 mg/L10380.001206Subicitur, totalTA92-97E200.01mg/L2.5 mg/L1001206<	Lithium, total	7439-93-2	E420	0.001	mg/L	0.012 mg/L	105	80.0	120		
Manganese, total7439-e8Fe200.0001mgL0.012 mgL1048.0.01020 <td>Magnesium, total</td> <td>7439-95-4</td> <td>E420</td> <td>0.005</td> <td>mg/L</td> <td>2.5 mg/L</td> <td>110</td> <td>80.0</td> <td>120</td> <td></td>	Magnesium, total	7439-95-4	E420	0.005	mg/L	2.5 mg/L	110	80.0	120		
Modedenun, totalY43949Ka200.0005mg/L0.012 mg/L10580.01020102010201020Nickel, totalY4402.06200.005mg/L0.025 mg/L10280.0012001010Phosphonus, totalY7234.047234.046200.05mg/L0.5 mg/L101080.00120012001200Pasatium, totalY4404.776200.005mg/L0.005 mg/L103180.00120012001200Silein, totalY4402.46200.0001mg/L0.05 mg/L812080.00120012001200Silein, totalY4402.46200.0001mg/L0.05 mg/L812080.00120012001200Silein, totalY4402.46200.0001mg/L0.05 mg/L101080.00120012001200Silein, totalY4402.46200.0001mg/L0.012 mg/L101080.00120012001200Silein, totalY4402.46200.000mg/L0.012 mg/L101080.001200120012001200Silein, totalY4402.46200.000mg/L0.012 mg/L101080.001200120012001200Silein, totalY4402.46200.000mg/L0.005 mg/L101080.00120012001200Silein, totalY4402.46200.000mg/L0.005 mg/L1010	Manganese, total	7439-96-5	E420	0.0001	mg/L	0.012 mg/L	104	80.0	120		
Nickel, totalT404000Re200.0005mg/L0.025 mg/L1028.00.12.0Phosphorus, totalT723-140E4200.05mg/L0.5 mg/L1.05 mg/L1.01080.0012.00Potasphorus, totalT440-07E4200.005mg/L0.05 mg/L107080.0012.00Subicin, totalT724-24E4200.0005mg/L0.05 mg/L108.080.0012.00Siloen, totalT440-23E4200.0001mg/L0.05 mg/L108.080.0012.00Siloen, totalT440-24E4200.0001mg/L0.005 mg/L108.080.0012.00Siloen, totalT440-24E4200.0001mg/L0.005 mg/L108.080.0012.00Sodum, totalT440-24E4200.0002mg/L0.012 mg/L108.080.0012.00Soluen, totalT440-24E4200.0002mg/L0.012 mg/L10.0080.0012.00Soluen, totalT440-24E4200.0001mg/L0.012 mg/L10.0080.0012.00Soluen, totalT440-24E4200.0001mg/L0.05 mg/L10.0280.0012.00Feldurin, totalT440-45E4200.0001mg/L0.05 mg/L10.0280.0012.00Feldurin, totalT440-45E4200.001mg/L0.	Molybdenum, total	7439-98-7	E420	0.00005	mg/L	0.012 mg/L	105	80.0	120		
Phosphorus,total7723-140F4200.05mg/L0.5mg/L11080.0120Polassium, total7440-07F4200.05mg/L2.5mg/L10180.0120Subidin, total7440-07F4200.0000mg/L0.005mg/L10780.0120Selenium, total7724-02F4200.0001Mg/L0.5mg/L98.280.00120Siloor, total7440-23F4200.0001Mg/L0.5mg/L98.280.00120Solum, total7440-24F4200.0001Mg/L0.005mg/L10380.00120Solum, total7440-24F4200.0001Mg/L0.012mg/L10480.00120Solum, total740-24F4200.0002Mg/L0.012mg/L10480.00120Subir, total740-24F4200.0002Mg/L0.005mg/L10280.00120Subir, total740-24F4200.0002Mg/L0.005mg/L10280.00120Felutum, total740-24F4200.0001Mg/L0.005mg/L10280.00120Felutum, total740-24F4200.0001Mg/L0.055mg/L10280.00120Fundum, total740-24F4200.0001Mg/L0.055mg/L10280.00120Fundum, total<	Nickel, total	7440-02-0	E420	0.0005	mg/L	0.025 mg/L	102	80.0	120		
Perbasium, total7440-9784200.05mg/L2.5 mg/L10180.0120Rubidum, total7440-1776200.00005mg/L0.005 mg/L10780.00120Selen, total7782-426200.00005mg/L0.05 mg/L98.280.00120Silicon, total7440-236200.0010mg/L0.005 mg/L98.280.00120Solum, total7440-246200.0010mg/L0.005 mg/L10480.00120Solum, total7440-246200.001mg/L0.012 mg/L10480.00120Solum, total7440-246200.002mg/L0.012 mg/L10480.00120Solum, total7440-246200.002mg/L0.012 mg/L10480.00120Solum, total7440-246200.002mg/L0.05 mg/L10280.00120Solum, total7440-246200.002mg/L0.05 mg/L10280.00120Fortun, total7440-246200.001mg/L0.05 mg/L10280.00120Fortun, total740-246200.001mg/L0.05 mg/L10180.00120Fortun, total740-246200.001mg/L0.05 mg/L10180.00120Fortun	Phosphorus, total	7723-14-0	E420	0.05	mg/L	0.5 mg/L	110	80.0	120		
Rubidium, total7440-778200.0000mg/L0.005 mg/L10780.0120Selenium, total7782-4228200.00005mg/L0.05 mg/L10380.0120Siltor, total7440-238200.1mg/L0.05 mg/L982.080.0120Siltor, total7440-248200.0001mg/L0.05 mg/L10480.0120Soltur, total740-2458200.0002mg/L0.012 mg/L10980.0120Stortium, total740-2458200.002mg/L0.012 mg/L10980.0120Sulfur, total740-2468200.002mg/L0.05 mg/L10280.0120Fellum, total740-2478200.002mg/L0.05 mg/L10280.0120Fellum, total740-2488200.001mg/L0.05 mg/L10280.0120Fellum, total740-2478200.001mg/L0.05 mg/L10180.0120Findum, total740-2488200.001mg/L0.05 mg/L10180.0120Findum, total740-2478200.001mg/L0.05 mg/L10180.0120Findum, total740-4588200.001mg/L0.05 mg/L10180.0120Findum, total	Potassium, total	7440-09-7	E420	0.05	mg/L	2.5 mg/L	101	80.0	120		
Selenium, total7782-4984200.00000mg/L0.05 mg/L10380.0120Silicon, total7440-2384200.1mg/L0.5 mg/L98.280.0120Silver, total7440-2484200.0001mg/L0.005 mg/L10380.0120Sodium, total7440-248200.0002mg/L0.012 mg/L10480.0120Strottium, total7440-248200.0002mg/L0.012 mg/L101480.0120Sulfur, total7744-348200.0002mg/L0.005 mg/L10280.0120Flahium, total7440-248200.0002mg/L0.005 mg/L10280.0120Flahium, total7440-348200.0002mg/L0.005 mg/L10280.0120Flahium, total7440-358200.0001mg/L0.005 mg/L10280.0120Flahium, total7440-358200.001mg/L0.005 mg/L10180.0120Finduitu, total7440-358200.001mg/L0.005 mg/L10180.0120Finduitu, total7440-358200.001mg/L0.005 mg/L10180.0120Inaste, total7440-358200.0001mg/L0.005 mg/L10180.0120 <td>Rubidium, total</td> <td>7440-17-7</td> <td>E420</td> <td>0.0002</td> <td>mg/L</td> <td>0.005 mg/L</td> <td>107</td> <td>80.0</td> <td>120</td> <td></td>	Rubidium, total	7440-17-7	E420	0.0002	mg/L	0.005 mg/L	107	80.0	120		
Silicon, total7440-21aE4200.1mg/L0.5 mg/L98.288.0120Silver, total7440-22aE4200.0001mg/L0.005 mg/L10388.0120Sodium, total7440-23aE4200.05mg/L2.5 mg/L10480.0120Stortium, total7404-24aE4200.002mg/L0.012 mg/L10980.0120Suffur, total7704-34aE4200.002mg/L0.005 mg/L10280.0120Fellurim, total7404-26aE4200.002mg/L0.005 mg/L10280.0120Fellurim, total7440-26aE4200.002mg/L0.005 mg/L10280.0120Finlum, total7440-27E4200.001mg/L0.005 mg/L10280.0120Finlum, total7440-28E4200.001mg/L0.005 mg/L10180.0120Finlum, total7440-29E4200.001mg/L0.005 mg/L10180.0120Finlum, total7440-29E4200.001mg/L0.012 mg/L10180.0120Finlum, total7440-29E4200.001mg/L0.012 mg/L10180.0120Finlum, total7440-29E4200.001mg/L0.012 mg/L10180.0120Finlum	Selenium, total	7782-49-2	E420	0.00005	mg/L	0.05 mg/L	103	80.0	120		
Silver, total7440-2248200.0001mg/L0.005 mg/L10388.0120Sodium, total7440-23584200.05mg/L2.5 mg/L10480.0120Storntium, total7440-2468200.0022mg/L0.012 mg/L10280.0120Sulfur, total7704-3498200.002mg/L0.005 mg/L10280.0120Fellurium, total13494.8098200.002mg/L0.005 mg/L10280.0120Fhilm, total7440-2498200.0001mg/L0.05 mg/L10280.0120Fhilm, total7440-2498200.0001mg/L0.05 mg/L10280.0120Fin, total7440-2498200.0001mg/L0.05 mg/L10280.0120Fin, total7440-2498200.0001mg/L0.05 mg/L10280.0120Fin, total7440-2498200.001mg/L0.025 mg/L10280.0120Finalum, total7440-348200.001mg/L0.005 mg/L10480.0120Jantim, total7440-458200.001mg/L0.005 mg/L10480.0120Jantim, total7440-458200.001mg/L0.005 mg/L10480.0120Jantim, total <td< td=""><td>Silicon, total</td><td>7440-21-3</td><td>E420</td><td>0.1</td><td>mg/L</td><td>0.5 mg/L</td><td>98.2</td><td>80.0</td><td>120</td><td></td></td<>	Silicon, total	7440-21-3	E420	0.1	mg/L	0.5 mg/L	98.2	80.0	120		
Sodium, total740-203F4200.05mg/L2.5 mg/L10480.0120Strotium, total740-244F4200.0002mg/L0.012 mg/L10980.0120Sulfur, total770-344F4200.5mg/L2.5 mg/L10280.0120Tellurium, total13494-80F4200.0002mg/L0.005 mg/L10280.0120Thalium, total740-248F4200.0001mg/L0.05 mg/L10280.0120Tin, total740-249F4200.0001mg/L0.005 mg/L10180.0120Tin, total740-249F4200.0001mg/L0.025 mg/L10180.0120Tin, total740-249F4200.0001mg/L0.012 mg/L10180.0120Tin, total740-249F4200.0001mg/L0.012 mg/L10180.0120Tin, total740-249F4200.0001mg/L0.012 mg/L10180.0120Tin, total740-249F4200.0001mg/L0.012 mg/L10180.0120Tin, total740-249F4200.0001mg/L0.012 mg/L10180.0120Tin, total740-74F420F4200.0001mg/L0.012 mg/L10180.0120Tin,	Silver, total	7440-22-4	E420	0.00001	mg/L	0.005 mg/L	103	80.0	120		
Strontium, total7440-2484200.0002mg/L0.012 mg/L10980.001209Sulfur, total7704-3484200.5mg/L2.5 mg/L10280.001209Tellurium, total13494.0984200.0002mg/L0.005 mg/L10280.001209Thalium, total7440-2484200.0001mg/L0.005 mg/L94.6080.001209Thorium, total7440-2584200.001mg/L0.005 mg/L94.6080.001209Fin, total7440-3584200.001mg/L0.005 mg/L10180.001209Finaum, total7440-3784200.001mg/L0.005 mg/L10180.001209Juranum, total7440-3784200.001mg/L0.005 mg/L10480.001209Juranum, total7440-618200.001mg/L0.005 mg/L10480.001209Juranum, total7440-628200.005mg/L0.005 mg/L10480.001209Juranum, total7440-628200.005mg/L0.025 mg/L10580.001209Juranum, total7440-638200.005mg/L0.025 mg/L10580.001209Juranum, total7440-648200.005mg/L0.025 mg/L10580.001209	Sodium, total	7440-23-5	E420	0.05	mg/L	2.5 mg/L	104	80.0	120		
Sulfar, total7704-3498200.5mg/L2.5 mg/L10280.0120Tellurium, total13494-8096200.0002mg/L0.005 mg/L10280.0120Thallium, total7440-2806200.0001mg/L0.005 mg/L10280.00120Tin, total7440-2916400.0001mg/L0.005 mg/L94.6080.00120Tin, total7440-3206400.0001mg/L0.005 mg/L10180.00120Tin, total7440-3206400.0001mg/L0.005 mg/L10180.00120Tungsten, total7440-3306400.0001mg/L0.005 mg/L10180.00120Jranium, total7440-326400.0001mg/L0.005 mg/L10180.00120Jranium, total7440-326400.0001mg/L0.005 mg/L10180.00120Jranium, total7440-636400.0001mg/L0.005 mg/L10580.00120Jranium, total7440-646400.0001mg/L0.025 mg/L10580.00120Jranium, total7440-656400.0005mg/L0.025 mg/L10580.00120Jranium, total7440-666400.000mg/L0.025 mg/L10180.00120<	Strontium, total	7440-24-6	E420	0.0002	mg/L	0.012 mg/L	109	80.0	120		
Tellurium, total13494-808200.0002mg/L0.005 mg/L10280.0120Thalium, total7440-206200.0001mg/L0.05 mg/L10280.0120Thorium, total7440-216200.001mg/L0.005 mg/L94.680.00120Tin, total7440-236200.001mg/L0.025 mg/L10180.00120Tin, total7440-316200.003mg/L0.012 mg/L10280.00120Tungsten, total7440-336200.001mg/L0.005 mg/L10480.00120Jranium, total7440-346200.001mg/L0.005 mg/L10480.00120Jranium, total7440-346200.001mg/L0.005 mg/L10480.00120Jranium, total7440-346200.001mg/L0.025 mg/L10480.00120Jranium, total7440-346200.001mg/L0.025 mg/L10580.00120Jranium, total7440-346200.001mg/L0.025 mg/L10580.00120Jranium, total7440-346200.003mg/L0.025 mg/L10580.00120Jranium, total7440-346200.003mg/L0.025 mg/L10580.00120<	Sulfur, total	7704-34-9	E420	0.5	mg/L	2.5 mg/L	102	80.0	120		
Thalium, total7440-280E4200.0001mg/L0.05 mg/L10280.00120Thorium, total7440-291E4200.0001mg/L0.005 mg/L94.6080.00120Tin, total7440-360E4200.0001mg/L0.025 mg/L10180.00120Tinatium, total7440-367E4200.0001mg/L0.012 mg/L10280.00120Tungsten, total7440-367E4200.0001mg/L0.005 mg/L10480.00120Jranium, total7440-667E4200.0001mg/L0.005 mg/L10180.00120Jranium, total7440-667E4200.0005mg/L0.025 mg/L10580.00120Jranium, total7440-667E4200.005mg/L0.025 mg/L10580.00120Jranium, total7440-667E4200.005mg/L0.025 mg/L10580.00120Jranium, total7440-667E4200.005mg/L0.025 mg/L10580.00120Jranium, total7440-667E4200.002mg/L0.025 mg/L10580.00120Jranium, total7440-667E4200.002mg/L0.025 mg/L10580.00120Jranium, total7440-667E4200.002mg/L0.055 mg/L10180.00	Tellurium, total	13494-80-9	E420	0.0002	mg/L	0.005 mg/L	102	80.0	120		
Thorium, total7440-29184200.0001mg/L0.005 mg/L94.680.0120Tin, total7440-3164200.0001mg/L0.025 mg/L10180.0120Tinatium, total7440-3284200.003mg/L0.012 mg/L10280.0120Tungsten, total7440-3484200.0001mg/L0.005 mg/L10480.0120Jranium, total7440-6484200.0001mg/L0.005 mg/L10780.0120/andium, total7440-6484200.005mg/L0.025 mg/L10580.0120/andium, total7440-6484200.005mg/L0.025 mg/L10580.0120/andium, total7440-6484200.005mg/L0.025 mg/L11580.0120/andium, total7440-6484200.003mg/L0.025 mg/L11580.0120/andium, total740-6484200.003mg/L0.025 mg/L11580.0120/andium, total740-6484200.003mg/L0.025 mg/L11580.0120/andium, total740-6484200.003mg/L0.050 mg/L10180.0120/andium, total740-6484200.003mg/L0.050 mg/L10180.0120/a	Thallium, total	7440-28-0	E420	0.00001	mg/L	0.05 mg/L	102	80.0	120		
Tin total7440-31-5E4200.0001mg/L0.025 mg/L10180.0120Tinanum, total7440-32-E4200.0003mg/L0.005 mg/L10280.0120Tungsten, total7440-31-E4200.0001mg/L0.005 mg/L10480.0120Jranium, total7440-61-E4200.0001mg/L0.005 mg/L10780.0120/andium, total7440-62-E4200.005mg/L0.025 mg/L10580.0120Zinc, total7440-66E4200.003mg/L0.025 mg/L11580.0120Linc, total7440-67E4200.003mg/L0.025 mg/L11580.0120Linc, total7440-67E4200.002mg/L0.025 mg/L11580.0120Linc, total740-67E4200.002mg/L0.055 mg/L10180.0120	Thorium, total	7440-29-1	E420	0.0001	mg/L	0.005 mg/L	94.6	80.0	120		
Titanium, total7440-32-8E4200.0003mg/L0.012 mg/L10288.0120Tungsten, total7440-33-7E4200.0001mg/L0.005 mg/L10480.0120Jranium, total7440-61E4200.0005mg/L0 mg/L10780.0120Jrandium, total7440-62E4200.005mg/L0.025 mg/L10580.0120Zinc, total7440-66E4200.003mg/L0.025 mg/L11580.0120Zinc, total7440-67E4200.002mg/L0.005 mg/L10180.0120	Tin, total	7440-31-5	E420	0.0001	mg/L	0.025 mg/L	101	80.0	120		
Tungsten, total 7440-33- E420 0.0001 mg/L 0.005 mg/L 104 80.0 120 Jranium, total 7440-61 E420 0.0001 mg/L 0 mg/L 107 80.0 120 Jranadium, total 7440-62- E420 0.005 mg/L 0.025 mg/L 105 80.0 120 Jinc, total 7440-66- E420 0.003 mg/L 0.025 mg/L 115 80.0 120 Jinc, total 7440-67- E420 0.003 mg/L 0.025 mg/L 115 80.0 120 Jinc, total 7440-67- E420 0.002 mg/L 0.025 mg/L 115 80.0 120 Jinc, total 7440-67- E420 0.002 mg/L 0.005 mg/L 101 80.0 120	Titanium, total	7440-32-6	E420	0.0003	mg/L	0.012 mg/L	102	80.0	120		
Uranium, total 7440-61-1 E420 0.0001 mg/L 0 mg/L 107 88.0 120 vanadium, total 7440-62-2 E420 0.0005 mg/L 0.025 mg/L 105 80.0 120 zinc, total 7440-66-6 E420 0.003 mg/L 0.025 mg/L 115 80.0 120 zinc, total 7440-67-7 E420 0.002 mg/L 0.005 mg/L 115 80.0 120	Tungsten, total	7440-33-7	E420	0.0001	mg/L	0.005 mg/L	104	80.0	120		
Vanadium, total 7440-62-2 E420 0.005 mg/L 0.025 mg/L 105 80.0 120 Zinc, total 7440-66-6 E420 0.003 mg/L 0.025 mg/L 115 80.0 120 Zirconium, total 7440-67-7 E420 0.002 mg/L 0.005 mg/L 101 80.0 120	Uranium, total	7440-61-1	E420	0.00001	mg/L	0 mg/L	107	80.0	120		
Zinc, total 7440-66-6 E420 0.003 mg/L 0.025 mg/L 115 80.0 120 Zirconium, total 7440-67-7 E420 0.0002 mg/L 0.005 mg/L 101 80.0 120	Vanadium, total	7440-62-2	E420	0.0005	mg/L	0.025 mg/L	105	80.0	120		
Zirconium, total 7440-67-7 E420 0.0002 mg/L 0.005 mg/L 101 80.0 120	Zinc, total	7440-66-6	E420	0.003	mg/L	0.025 mg/L	115	80.0	120		
	Zirconium, total	7440-67-7	E420	0.0002	mg/L	0.005 mg/L	101	80.0	120		
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Sub-Matrix: Water					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery	Limits (%)	
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Dissolved Metals (QCLot: 1469428)									
Aluminum, dissolved	7429-90-5	E421	0.001	mg/L	0.1 mg/L	109	80.0	120	
Antimony, dissolved	7440-36-0	E421	0.0001	mg/L	0.05 mg/L	103	80.0	120	
Arsenic, dissolved	7440-38-2	E421	0.0001	mg/L	0.05 mg/L	112	80.0	120	
Barium, dissolved	7440-39-3	E421	0.0001	mg/L	0.012 mg/L	108	80.0	120	
Beryllium, dissolved	7440-41-7	E421	0.00002	mg/L	0.005 mg/L	106	80.0	120	
Bismuth, dissolved	7440-69-9	E421	0.00005	mg/L	0.05 mg/L	109	80.0	120	
Boron, dissolved	7440-42-8	E421	0.01	mg/L	0.05 mg/L	99.2	80.0	120	
Cadmium, dissolved	7440-43-9	E421	0.000005	mg/L	0.005 mg/L	104	80.0	120	
Calcium, dissolved	7440-70-2	E421	0.05	mg/L	2.5 mg/L	104	80.0	120	
Cesium, dissolved	7440-46-2	E421	0.00001	mg/L	0.002 mg/L	112	80.0	120	
Chromium, dissolved	7440-47-3	E421	0.0005	mg/L	0.012 mg/L	104	80.0	120	
Cobalt, dissolved	7440-48-4	E421	0.0001	mg/L	0.012 mg/L	103	80.0	120	
Copper, dissolved	7440-50-8	E421	0.0002	mg/L	0.012 mg/L	102	80.0	120	
Iron, dissolved	7439-89-6	E421	0.01	mg/L	0.05 mg/L	104	80.0	120	
Lead, dissolved	7439-92-1	E421	0.00005	mg/L	0.025 mg/L	107	80.0	120	
Lithium, dissolved	7439-93-2	E421	0.001	mg/L	0.012 mg/L	98.0	80.0	120	
Magnesium, dissolved	7439-95-4	E421	0.005	mg/L	2.5 mg/L	114	80.0	120	
Manganese, dissolved	7439-96-5	E421	0.0001	mg/L	0.012 mg/L	109	80.0	120	
Molybdenum, dissolved	7439-98-7	E421	0.00005	mg/L	0.012 mg/L	108	80.0	120	
Nickel, dissolved	7440-02-0	E421	0.0005	mg/L	0.025 mg/L	102	80.0	120	
Phosphorus, dissolved	7723-14-0	E421	0.05	mg/L	0.5 mg/L	110	80.0	120	
Potassium, dissolved	7440-09-7	E421	0.05	mg/L	2.5 mg/L	105	80.0	120	
Rubidium, dissolved	7440-17-7	E421	0.0002	mg/L	0.005 mg/L	116	80.0	120	
Selenium, dissolved	7782-49-2	E421	0.00005	mg/L	0.05 mg/L	106	80.0	120	
Silicon, dissolved	7440-21-3	E421	0.05	mg/L	0.5 mg/L	98.7	60.0	140	
Silver, dissolved	7440-22-4	E421	0.00001	mg/L	0.005 mg/L	106	80.0	120	
Sodium, dissolved	7440-23-5	E421	0.05	mg/L	2.5 mg/L	104	80.0	120	
Strontium, dissolved	7440-24-6	E421	0.0002	mg/L	0.012 mg/L	111	80.0	120	
Sulfur, dissolved	7704-34-9	E421	0.5	mg/L	2.5 mg/L	103	80.0	120	
Tellurium, dissolved	13494-80-9	E421	0.0002	mg/L	0.005 mg/L	104	80.0	120	
Thallium, dissolved	7440-28-0	E421	0.00001	mg/L	0.05 mg/L	105	80.0	120	
Thorium, dissolved	7440-29-1	E421	0.0001	mg/L	0.005 mg/L	99.9	80.0	120	
Tin, dissolved	7440-31-5	E421	0.0001	mg/L	0.025 mg/L	108	80.0	120	
Titanium, dissolved	7440-32-6	E421	0.0003	mg/L	0.012 mg/L	105	80.0	120	
Tunasten, dissolved	7440-33-7	E421	0.0001	mg/L	0.005 mg/L	107	80.0	120	
Uranium, dissolved	7440-61-1	E421	0.00001	mg/L	0 mg/L	107	80.0	120	
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Work Order	:	WT2414011
Client	:	CF Crozier & Associates
Project	:	2227-69259



Sub-Matrix: Water						Laboratory Co	ontrol Sample (LCS)	Report	
					Spike	Recovery (%)	Recovery	Limits (%)	
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Dissolved Metals (QCLot: 1469428) - con	ntinued								
Vanadium, dissolved	7440-62-2	E421	0.0005	mg/L	0.025 mg/L	106	80.0	120	
Zinc, dissolved	7440-66-6	E421	0.001	mg/L	0.025 mg/L	107	80.0	120	
Zirconium, dissolved	7440-67-7	E421	0.0002	mg/L	0.005 mg/L	106	80.0	120	



Matrix Spike (MS) Report

A Matrix Spike (MS) is a randomly selected intra-laboratory replicate sample that has been fortified (spiked) with test analytes at known concentration, and processed in an identical manner to test samples. Matrix Spikes provide information regarding analyte recovery and potential matrix effects. MS DQO exceedances due to sample matrix may sometimes be unavoidable; in such cases, test results for the associated sample (or similar samples) may be subject to bias. ND – Recovery not determined, background level >= 1x spike level.

Closelaw sample 0Closel multipleRecovery 000Recovery 000Recove	Sub-Matrix: Water				Matrix Spike (MS) Report						
Likona and NutriLikona partialIndepinIndepinIndepinIndepinIndepinIndepinIndepinAnoma NutriNamymoneNamymoneNamenik, Ikal (en N)7664.47E200.019 rgr.0.019 rgr.91.60125 <th></th> <th></th> <th></th> <th></th> <th></th> <th>Spi</th> <th>ke</th> <th>Recovery (%)</th> <th>Recovery</th> <th>Limits (%)</th> <th></th>						Spi	ke	Recovery (%)	Recovery	Limits (%)	
Anions and Nutrients (OCL-01: 1472930) Version (sold (as N) 7664-17 E286 O.011 mg/L 0.1 mg/L 91.6 7.6 1.25 Anions and Nutrients (OCL-01: 1472920) Normono Normono 14797-55-6 E235 NO.3 1.2.5 mg/L 96.4 7.6.0 1.2.5 Anions and Nutrients (OCL-01: 1472920) Version (as N) 1.4797-55-6 E235 NO.3 2.5 mg/L 1.2.5 mg/L 96.4 7.6.0 1.2.5 Anions and Nutrients (OCL-01: 1472920) Name (as N) 1.4797-65-0 E235 NO.3 2.5 mg/L 2.5 mg/L 1.01 7.5.0 1.2.5 Norms and Nutrients (OCL-01: 1472920) Version (as SO-4) 1.8007.9-0 E235 SCI 4.96 mg/L 5.0 mg/L 9.0.2 7.5.0 1.2.5 V72414059.001 Anonymous Salidle (as SO-4) 1.8007.9-0 E235 SCI 9.0 mg/L 0.0.7.0 1.05 7.5.0 1.2.5 V72414059.001 Anonymous Salidle (as SO-4) 1.9064-40 E235 SCI 9.0 mg/L 0.0.7 mg/L 0.0.7	Laboratory sample l	D Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
INA26002.001 Anonyoas Ammonia, local (as N) 7864.41-7 E296 0.0916 mg/L 0.1 mg/L 91.6 75.0 126 Anions and Nutrients (QCL cit: 1472926) Witzle (as N) 14797-65-8 E295 NOS 12.0 mg/L 12.5 mg/L 96.4 75.0 125 Anions and Nutrients (QCL cit: 1472937) Witzle (as N) 14797-65-8 E295 NOS 2.5 mg/L 2.5 mg/L 96.4 75.0 12.5 Anions and Nutrients (QCL cit: 1472937) Mitzle (as N) 14797-65-8 E295 NOS 2.5 mg/L 500 mg/L 99.2 75.0 12.5 Anions and Nutrients (QCL cit: 1472930) Witzle (as NOA) 14008-76-8 E295 F04 M0 mg/L ND 75.0 12.5 V724140890-00 Anonymous Fluode 16984-68-8 E235 F04 M0 mg/L ND 75.0 12.5 V724140890-00 Anonymous Plonde 16984-68-8 E235 F04 M0 mg/L 0.00 m	Anions and Nutr	ients (QCLot: 1470994)									
Anionand Nutrients (OCL01: 1472926) V072410092001 Avernymona Nintse (as N) 14707455-8 E205 NO3 12.0 mgl. 12.5 mgl. 06.4 7.0 12.5 Anions and Nutrients (OCL01: 1472927) W1724104095-001 Avernymona Nintse (as N) 14797-68-0 E205 NO2 2.5 mgl. 101 76.0 12.5 Anions and Nutrients (OCL01: 1472928) W1724104095-001 Avernymona Nintse (as N) 14808-76-8 E205 SC4 486 mgl. 500 mgl. 99.2 7.0 12.5 Anions and Nutrients (OCL01: 1472929) W1724104099-001 Avernymona Sulfair (ns SO4) 14808-76-8 E205 SC4 496 mgl. 500 mgl. 99.2 7.0 12.5 Anions and Nutrients (OCL01: 1472930) W17241009-76-8 E205 SC4 ND mgl. mol. 70.0 12.5 V17241009-001 Avernymona Floorida 16898-46-8 E205 F 5.26 mgl. 5 mgl. 10.6 70.0 12.5 V172410090-001 Avernymona Floorida	HA2401203-001	Anonymous	Ammonia, total (as N)	7664-41-7	E298	0.0916 mg/L	0.1 mg/L	91.6	75.0	125	
VIT241408-001 Anorymous Nature (as N) 14797-65-0 E235 NO3 12.0 mg/L 12.5 mg/L 90.4 75.0 12.5 Anions and Nutrients (QCLot: 1472927) Kille (as N) 14797-65-0 E235 NO2 2.5 mg/L 101 75.0 12.5 Anions and Nutrients (QCLot: 1472928) Kille (as N) 14797-65-0 E235 SCI 496 mg/L 500 mg/L 98.2 75.0 12.5 Anions and Nutrients (QCLot: 1472829) Kille (as SCI4) 14808-79.8 E235 SCI 496 mg/L ND 75.0 12.5 Anions and Nutrients (QCLot: 147280) Kille (as SCI4) 14808-79.8 E235 SCI ND mg/L ND 75.0 12.5 Anions and Nutrients (QCLot: 1472800) Koorymous Fluxide 1688-46.8 E235 F 5.25 mg/L 5 mg/L 10.5 TO VIT2414089-01 Anorymous Phosphate.artho.dissoved (as P) 1226 Anions and Nutrients	Anions and Nutr	ients (QCLot: 1472926)									
Ahlones and Nutrients (QCL.0t: 14729287) VT2814009-001 Anonymous Nite (as N) 14707-465 E235.NO2 2.5 mgL 2.6 mgL 101 75.0 125 Norma and Nutrients (CL.0t. 1472928) Chains and Nutrients (CL.0t. 1472930) 600 mgL 699.2 75.0 125 Anions and Nutrients (CL.0t. 1472930) Suthate (as SO4) 14808-79-8 E235.SO4 ND mgL ND 75.0 125 Anions and Nutrients (CCL.0t. 1472930) Janonymous Suthate (as SO4) 14808-79-8 E235.SO4 ND mgL ND 75.0 125 Anions and Nutrients (CCL.0t. 1472930) Janonymous Suthate (as SO4) 14808-79-8 E235.FS 5.5 mgL 105 75.0 125 VT24130890-001 Anonymous Puophate: ontho: disoalwed (as P) 14265-44-2 E374-U 0.023 mgL 0.02 mgL 118 70.0 130 VT24130890-002 Anonymous Automous, total <td>WT2414099-001</td> <td>Anonymous</td> <td>Nitrate (as N)</td> <td>14797-55-8</td> <td>E235.NO3</td> <td>12.0 mg/L</td> <td>12.5 mg/L</td> <td>96.4</td> <td>75.0</td> <td>125</td> <td></td>	WT2414099-001	Anonymous	Nitrate (as N)	14797-55-8	E235.NO3	12.0 mg/L	12.5 mg/L	96.4	75.0	125	
VIT2414090-001 Anonymouta Nittle (as N) 14797-85-0 E235 NO2 2.5 mg/L 101 7.6.0 126 Anions and Nutriunts (CCL0t: 1472928) Chiotice 16887-00.6 E235.CI 496 mg/L 500 mg/L 99.2 7.5.0 125 Anions and Nutriunts (CCL0t: 1472929) Vir2141099-001 Anonymous Sulfate (as SO4) 14808-79-8 E235.SC4 ND mg/L ND 75.0 125 Anions and Nutrients (CCL0t: 1472930) Vir2141090-001 Anonymous Placide 16984-48-8 E235.SC4 ND mg/L ND 75.0 125 Anions and Nutrients (CCL0t: 1472940) Vir2141090-001 Anonymous Place64-48-8 E237.EU 5.02 0.02 mg/L 118 70.0 130 Vir2141090-001 Anonymous Place64-48-8 E237.EU 0.02 mg/L 0.02 mg/L 118 70.0 130 Vir2141090-002 Anonymous Place64-48-2 E420	Anions and Nutr	ients (QCLot: 1472927)									
Anions and Nutrients (QCLot: 1472928) Choide 1887-00-6 E23.C.I 496 mg/L 500 mg/L 99.2 75.0 125 Anions and Nutrients (QCLot: 1472929) VIT2314099-001 Anonymous Sulfate (as SO4) 14808-79-8 E23.5 SO4 ND mg/L ND 75.0 125 Anions and Nutrients (QCLot: 1472930) ND 75.0 125 VT2414099-001 Anonymous Flooride 16984-48-8 E23.5 5.25 mg/L 5 mg/L 105 75.0 125 VT2414089-001 Anonymous Phosphate, ortho-, dissolved (as P) 14285-44-2 E37.6-U 0.02 mg/L 118 70.0 130 Total Metals (QCLot: 1472940) Ataminum, total 7429-80-5 E420 0.05 mg/L 0.06 mg/L 106 70.0 130 Total Metals QCLot: 1469233 Ataminum, total 7440-38-2 E420 0.012 mg/L 0.06 mg/L 70.0 130	WT2414099-001	Anonymous	Nitrite (as N)	14797-65-0	E235.NO2	2.53 mg/L	2.5 mg/L	101	75.0	125	
NT2414092-01 Anonymous Chloride 16887-00-6 E285.Cl 496 mgL 500 mgL 99.2 75.0 125 Anions and Nutrients V072414092-001 Anonymous Sulfale (as SCA) 18808-79-8 E235.SCA ND mgL ND 75.0 125 Anions and Nutrients (QCLot: 1472830) Fluoride 1984-48-8 E235.F 5.25 mgL 5 mgL 105 75.0 125 Anions and Nutrients (QCLot: 1472830) Phosphale, ortho-, dissolved (as P) 1428-44-2 E378-J 0.023 mgL 0.02 mgL 118 70.0 130 Total Metals (QCLot: 1468238) Phosphale, ortho-, dissolved (as P) 1428-44-2 E378-J 0.023 mgL 0.01 mgL 106 70.0 130 Total Metals (QCLot: 1468238) Phosphale, ortho-, dissolved (as P) 1428-42 0.0532 mgL 0.05 mgL 106 70.0 130 BF240040-002 Anonymous Aurinum, total 7440-359 E420 0.0647 mgL 0.06 mgL 91.4 70.0 <td>Anions and Nutr</td> <td>ients (QCLot: 1472928)</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	Anions and Nutr	ients (QCLot: 1472928)									
Anions and Nutrients (QCLot: 1472929) Sulfate (as SO4) 14808-70-8 E235.SO4 ND mg/L ND 75.0 125 Anions and Nutrients (QCLot: 1472930) Fluoride 1984-48-8 E235.FS 5.25 mg/L 105 75.0 125 Anions and Nutrients (QCLot: 1472940) Fluoride 1984-48-8 E237.FL 5.25 mg/L 0.02 mg/L 118 70.0 130 VT2414386-002 Anonymous Phosphate, ortho-, dissolved (as P) 1425-44-2 E378-U 0.0230 mg/L 0.02 mg/L 118 70.0 130 VT2414386-002 Anonymous Phosphate, ortho-, dissolved (as P) 1420-5 E420 0.0332 mg/L 0.05 mg/L 106 70.0 130 Total Metals (QCLot: 1468238) E420 0.014 mg/L 0.16 mg/L 106 70.0 130 Berlam, Iotal 7440-38-3 E420 0.012 mg/L 0.05 mg/L 106 70.0 130 Berlam, Iotal 7440-43-9 E420	WT2414099-001	Anonymous	Chloride	16887-00-6	E235.Cl	496 mg/L	500 mg/L	99.2	75.0	125	
WT2414099-001 Anorymous Suifate (as SO4) 14808-79-8 E235.SO4 ND mg/L ND 75.0 125 Anions and Nutrients (QCLot: 1472930) Fluoride 16984-48-8 E235.F 5.25 mg/L 5 mg/L 105 75.0 125 Anions and Nutrients (QCLot: 1472930) Normous Phosphate, ortho-, dissolved (as P) 14285-44-2 E378-U 0.023 mg/L 0.02 mg/L 118 70.0 130 Total Metals (QCLot: 1472940) Anonymous Phosphate, ortho-, dissolved (as P) 14285-44-2 E378-U 0.023 mg/L 0.1 mg/L 104 70.0 130 Total Metals (QCLot: 1478940-5 E420 0.0432 mg/L 0.05 mg/L 106 70.0 130 BF240040-002 Anonymous Aluminum, total 7440-38-0 E420 0.0532 mg/L 0.05 mg/L 106 70.0 130 BF240040-02 Anonymous Aluminum, total 7440-48-2 E420 0.0447 mg/L	Anions and Nutr	ients (QCLot: 1472929)									
Anions and Nutrients (QCLot: 1472330) VTT2414099-001 Anonymous Fluoride 16884-48-8 E235.F 5.25 mg/L 5 mg/L 105 75.0 125 Anlons and Nutrients (QCLot: 1472340) VT2413896-002 Anonymous Phosphate, orthor, dissolved (as P) 14265-44-2 E378-U 0.0230 mg/L 0.02 mg/L 118 70.0 130 Total Metals (QCLot: 1468238) Auminum, total 7429-80-5 E420 0.014 mg/L 0.1 mg/L 104 70.0 130 Antimory, total 7440-38-2 E420 0.0532 mg/L 0.05 mg/L 106 70.0 130 Beryllimi, total 7440-38-2 E420 0.0457 mg/L 0.05 mg/L 106 70.0 130 Bismuth, total 7440-42-8 E420 0.0475 mg/L 0.05 mg/L 101 70.0 130 Calcium, total 7440-42-8 E420 0.0475 mg/L 0.05 mg/L 101 70.0 130	WT2414099-001	Anonymous	Sulfate (as SO4)	14808-79-8	E235.SO4	ND mg/L		ND	75.0	125	
WT2414099-001 Anonymous Fluoride 16984-88-8 E235.F 5.25 mg/L 5 mg/L 105 75.0 125 Anionymous Phosphate, ortho-, dissolved (as P) 14265-44-2 E378-U 0.023 mg/L 0.02 mg/L 118 70.0 130 Total Metals (QCLot: 1478240) 6420 0.014 mg/L 0.1 mg/L 104 70.0 130 Total Metals (QCLot: 1468238) Aluminum, total 7429-90-5 E420 0.058 mg/L 0.05 mg/L 106 70.0 130 BF2400040-002 Anonymous Aluminum, total 7440-38-2 E420 0.058 mg/L 0.05 mg/L 106 70.0 130 Brown, total 7440-38-2 E420 0.012 mg/L 0.005 mg/L 91.4 70.0 130 Brown, total 7440-48-2 E420 0.0475 mg/L 0.005 mg/L 91.4 70.0 130 Cadium, total 7440-48-9 E420 0.0475 mg/L	Anions and Nutr	ients (QCLot: 1472930)									
Anions and Nutrients (QCLot: 1472940) IWT2413896-002 Anonymous Phosphate, ortho-, dissolved (as P) 14265-44-2 E378-U 0.0230 mg/L 0.02 mg/L 118 70.0 130 Total Metals (QCLot: 1465238) BF2400040-002 Antimum, total 7429-90-5 E420 0.104 mg/L 0.11 mg/L 104 70.0 130 BF2400040-002 Anonymous Aluminum, total 7429-90-5 E420 0.0532 mg/L 0.05 mg/L 106 70.0 130 BF2400040-002 Anonymous Aluminum, total 7440-38-2 E420 0.0532 mg/L 0.05 mg/L 106 70.0 130 Beryllimin, total 7440-41-7 E420 0.00475 mg/L 0.05 mg/L 96.3 70.0 130 Boron, total 7440-42-8 E420 0.0475 mg/L 0.05 mg/L 95.1 70.0 130 Cadmium, total 7440-42-8 E420 0.00507 mg/L 0.005 mg/L 101 70.0 <td< td=""><td>WT2414099-001</td><td>Anonymous</td><td>Fluoride</td><td>16984-48-8</td><td>E235.F</td><td>5.25 mg/L</td><td>5 mg/L</td><td>105</td><td>75.0</td><td>125</td><td></td></td<>	WT2414099-001	Anonymous	Fluoride	16984-48-8	E235.F	5.25 mg/L	5 mg/L	105	75.0	125	
WT2413898-002 Anonymous Phosphate, ortho-, dissolved (as P) 14265-44-2 E378-U 0.0230 mg/L 0.02 mg/L 118 70.0 130 Total Metals (QCL.ct: 1458238) BF2400040-002 Anonymous Aluminum, total 7429-90-5 E420 0.104 mg/L 0.104 mg/L 104 70.0 130 Artimory, total 7440-38-0 E420 0.0532 mg/L 0.05 mg/L 106 70.0 130 Berylliun, total 7440-38-2 E420 0.0122 mg/L 0.05 mg/L 196.3 70.0 130 Berylliun, total 7440-41-7 E420 0.0475 mg/L 0.05 mg/L 93.7 70.0 130 Bismuth, total 7440-42-8 E420 0.047 mg/L 0.05 mg/L 93.7 70.0 130 Cadimum, total 7440-42-8 E420 0.00260 mg/L 0.002 mg/L 101 70.0 130 Cadimum, total 7440-45-2 E420 0.00260 mg/L	Anions and Nutr	ients (QCLot: 1472940)									
Total Metals (QCLot: 1468238) Aluminum, total 7429-90-5 E420 0.104 mg/L 0.1 mg/L 104 70.0 130 BF2400040-002 Anonymous Aluminum, total 7440-38-0 E420 0.0532 mg/L 0.05 mg/L 106 70.0 130 Barium, total 7440-38-0 E420 0.0532 mg/L 0.05 mg/L 106 70.0 130 Barium, total 7440-39-3 E420 0.0120 mg/L 0.012 mg/L 96.3 70.0 130 Beryllium, total 7440-43-9 E420 0.0475 mg/L 0.005 mg/L 91.4 70.0 130 Bismuth, total 7440-42-8 E420 0.0475 mg/L 0.055 mg/L 93.7 70.0 130 Cadmium, total 7440-70-2 E420 0.00507 mg/L 0.005 mg/L 93.7 70.0 130 Cabium, total 7440-74-2 E420 0.00260 mg/L 0.002 mg/L 101 70.0 130	WT2413896-002	Anonymous	Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.0230 mg/L	0.02 mg/L	118	70.0	130	
BF2400040-002 Anonymous Atuminum, total 7429-90-5 E420 0.104 mg/L 0.1 mg/L 104 70.0 130 Animony, total 7440-36-0 E420 0.0532 mg/L 0.05 mg/L 106 70.0 130 Arsenic, total 7440-38-2 E420 0.0532 mg/L 0.05 mg/L 106 70.0 130 Barium, total 7440-39-3 E420 0.0512 mg/L 0.012 mg/L 96.3 70.0 130 Beryllium, total 7440-41-7 E420 0.0475 mg/L 0.05 mg/L 91.4 70.0 130 Bismuth, total 7440-42-8 E420 0.0475 mg/L 0.05 mg/L 93.7 70.0 130 Calcinum, total 7440-42-2 E420 0.00260 rg/L 0.005 mg/L 101 70.0 130 Calcinum, total 7440-47-3 E420 0.0122 mg/L 0.012 mg/L 101 70.0 130 Calcinum, total	Total Metals (QC	CLot: 1468238)									
Antimony, total 7440-36-0 E420 0.0532 mg/L 0.05 mg/L 106 70.0 130 Arsenic, total 7440-38-2 E420 0.0532 mg/L 0.05 mg/L 106 70.0 130 Barium, total 7440-38-2 E420 0.0457 mg/L 0.005 mg/L 91.4 70.0 130 Berylium, total 7440-68-9 E420 0.0475 mg/L 0.055 mg/L 91.4 70.0 130 Bismuth, total 7440-48-8 E420 0.0475 mg/L 0.055 mg/L 91.4 70.0 130 Cadrium, total 7440-42-8 E420 0.0475 mg/L 0.055 mg/L 91.4 70.0 130 Cadrium, total 7440-42-8 E420 0.0057 mg/L 0.005 mg/L 101 70.0 130 Cadrium, total 7440-42-8 E420 0.00260 mg/L 0.002 mg/L 104 70.0 130 Cadrium, total 7440-46-2 E420 0.0122 mg/L 0.012 mg/L 101 70.0 130 <	BF2400040-002	Anonymous	Aluminum, total	7429-90-5	E420	0.104 mg/L	0.1 mg/L	104	70.0	130	
Arsenic, total 7440-38-2 E420 0.0532 mg/L 0.06 mg/L 106 70.0 130 Barium, total 7440-39-3 E420 0.012 mg/L 0.012 mg/L 96.3 70.0 130 Berylium, total 7440-41-7 E420 0.00475 mg/L 0.05 mg/L 95.1 70.0 130 Boron, total 7440-42-8 E420 0.0475 mg/L 0.05 mg/L 93.7 70.0 130 Cadmium, total 7440-42-8 E420 0.0057 mg/L 0.05 mg/L 93.7 70.0 130 Cadmium, total 7440-42-8 E420 0.0057 mg/L 0.005 mg/L 93.7 70.0 130 Cadmium, total 7440-47-2 E420 0.00580 mg/L 0.002 mg/L 104 70.0 130 Cabit, total 7440-47-2 E420 0.0122 mg/L 0.012 mg/L 101 70.0 130 Cobatt, total 7440-47-2 E420 0.0122 mg/L 0.012 mg/L 101 70.0 130			Antimony, total	7440-36-0	E420	0.0532 mg/L	0.05 mg/L	106	70.0	130	
Barium, total 7440-39-3 E420 0.012 mg/L 0.012 mg/L 96.3 70.0 130 Beryllium, total 7440-41-7 E420 0.00475 mg/L 0.005 mg/L 91.4 70.0 130 Bismuth, total 7440-64-9 E420 0.0475 mg/L 0.05 mg/L 93.7 70.0 130 Boron, total 7440-42-8 E420 0.00507 mg/L 0.050 mg/L 101 70.0 130 Cadmium, total 7440-43-9 E420 0.00507 mg/L 0.005 mg/L 101 70.0 130 Cadrium, total 7440-45-2 E420 0.00260 mg/L 0.002 mg/L 101 70.0 130 Calcium, total 7440-45-2 E420 0.0122 mg/L 0.012 mg/L 103 70.0 130 Chromium, total 7440-45-2 E420 0.0122 mg/L 0.012 mg/L 103 70.0 130 Cobalt, total 7440-45-3 E420 0.0122 mg/L 0.012 mg/L 101 70.0 130 <			Arsenic, total	7440-38-2	E420	0.0532 mg/L	0.05 mg/L	106	70.0	130	
Beryllium, total 7440-41-7 E420 0.00457 mg/L 0.005 mg/L 91.4 70.0 130 Bismuth, total 7440-69-9 E420 0.0475 mg/L 0.05 mg/L 95.1 70.0 130 Boron, total 7440-42-8 E420 0.0477 mg/L 0.05 mg/L 101 70.0 130 Cadmium, total 7440-43-9 E420 0.00507 mg/L 0.05 mg/L 101 70.0 130 Cadium, total 7440-45-2 E420 0.00260 mg/L 0.002 mg/L 104 70.0 130 Cesium, total 7440-45-2 E420 0.00260 mg/L 0.002 mg/L 104 70.0 130 Cobat, total 7440-45-2 E420 0.012 mg/L 0.012 mg/L 104 70.0 130 Cobat, total 7440-45-8 E420 0.012 mg/L 0.012 mg/L 101 70.0 130 Iron, total 7439-85-6 E420 ND mg/			Barium, total	7440-39-3	E420	0.0120 mg/L	0.012 mg/L	96.3	70.0	130	
Bismuth, total 7440-69-9 E420 0.0475 mg/L 0.05 mg/L 95.1 70.0 130 Boron, total 740-42-8 E420 0.047 mg/L 0.05 mg/L 93.7 70.0 130 Cadmium, total 7440-42-8 E420 0.005 mg/L 0.005 mg/L 101 70.0 130 Calcium, total 7440-70-2 E420 ND mg/L ND 70.0 130 Cesium, total 7440-46-2 E420 0.00260 mg/L 0.002 mg/L 104 70.0 130 Chomium, total 7440-47-3 E420 0.0129 mg/L 0.012 mg/L 103 70.0 130 Cobat, total 7440-48-4 E420 0.0129 mg/L 0.012 mg/L 103 70.0 130 Copper, total 7440-84-8 E420 0.012 mg/L 0.012 mg/L 97.7 70.0 130 Iron, total 7439-85-4 E420 0.012 mg/L 0.012 mg/L 95.7 70.0 130 Lead, total<			Beryllium, total	7440-41-7	E420	0.00457 mg/L	0.005 mg/L	91.4	70.0	130	
Boron, total 7440-42-8 E420 0.047 mg/L 0.05 mg/L 93.7 70.0 130			Bismuth, total	7440-69-9	E420	0.0475 mg/L	0.05 mg/L	95.1	70.0	130	
Cadmium, total 7440-43-9 E420 0.00507 mg/L 0.005 mg/L 101 70.0 130 Calcium, total 7440-70-2 E420 ND mg/L ND 70.0 130 Cesium, total 7440-46-2 E420 0.00260 mg/L 0.002 mg/L 104 70.0 130 Chromium, total 7440-47-3 E420 0.0129 mg/L 0.012 mg/L 103 70.0 130 Cobalt, total 7440-47-3 E420 0.012 mg/L 0.012 mg/L 101 70.0 130 Cobalt, total 7440-68-8 E420 0.012 mg/L 0.012 mg/L 101 70.0 130 Copper, total 7440-68-8 E420 0.012 mg/L 0.012 mg/L 101 70.0 130 Iron, total 7439-89-6 E420 ND mg/L ND 70.0 130 Lead, total 7439-92-1 E420 0.0111 mg/L 0.012 mg/L 89.1 70.0 130 Magnesium, total			Boron, total	7440-42-8	E420	0.047 mg/L	0.05 mg/L	93.7	70.0	130	
Calcium, total 7440-70-2 E420 ND mg/L ND 70.0 130 Cesium, total 7440-46-2 E420 0.00260 mg/L 0.002 mg/L 104 70.0 130 Chromium, total 7440-47-3 E420 0.012 mg/L 0.012 mg/L 103 70.0 130 Cobalt, total 7440-48-4 E420 0.012 mg/L 0.012 mg/L 101 70.0 130 Cobalt, total 7440-48-4 E420 0.012 mg/L 0.012 mg/L 101 70.0 130 Copper, total 7440-50-8 E420 0.012 mg/L 0.012 mg/L 101 70.0 130 Iron, total 7439-89-6 E420 ND mg/L ND 70.0 130 Lead, total 7439-93-2 E420 0.011 mg/L 0.012 mg/L 89.1 70.0 130 Magnesium, total 7439-95-4 E420 ND mg/L ND 70.0 130 Magnese, total 743			Cadmium, total	7440-43-9	E420	0.00507 mg/L	0.005 mg/L	101	70.0	130	
Cesium, total 7440-46-2 E420 0.00260 mg/L 0.002 mg/L 104 70.0 130 Chromium, total 7440-47-3 E420 0.012 gg/L 0.012 mg/L 103 70.0 130 Cobalt, total 7440-48-4 E420 0.012 gg/L 0.012 mg/L 97.7 70.0 130 Copper, total 7440-50-8 E420 0.012 6 mg/L 0.012 mg/L 101 70.0 130 Iron, total 7439-89-6 E420 0.0126 mg/L 0.012 mg/L 101 70.0 130 Lead, total 7439-89-6 E420 ND mg/L ND 70.0 130 Lead, total 7439-92-1 E420 0.023 mg/L 0.025 mg/L 95.7 70.0 130 Lithium, total 7439-93-2 E420 0.0111 mg/L 0.012 mg/L 89.1 70.0 130 Magnesium, total 7439-95.4 E420 ND mg/L ND 70.0 130 Molybdenum, total<			Calcium, total	7440-70-2	E420	ND mg/L		ND	70.0	130	
Chromium, total 7440-47-3 E420 0.0129 mg/L 0.012 mg/L 103 70.0 130 Cobalt, total 7440-48-4 E420 0.0122 mg/L 0.012 mg/L 97.7 70.0 130 Copper, total 7440-50-8 E420 0.0126 mg/L 0.012 mg/L 101 70.0 130 Iron, total 7439-89-6 E420 ND mg/L ND 70.0 130 Lead, total 7439-89-6 E420 ND mg/L ND 70.0 130 Lead, total 7439-92-1 E420 0.0239 mg/L 0.025 mg/L 95.7 70.0 130 Lithium, total 7439-93-2 E420 0.0111 mg/L 0.012 mg/L 89.1 70.0 130 Magnesium, total 7439-95-4 E420 ND mg/L ND 70.0 130 Manganese, total 7439-96-5 E420 ND mg/L ND 70.0 130 Molybdenum, total 7439			Cesium, total	7440-46-2	E420	0.00260 mg/L	0.002 mg/L	104	70.0	130	
Cobalt, total 7440-48-4 E420 0.0122 mg/L 0.012 mg/L 97.7 70.0 130 Copper, total 7440-50-8 E420 0.0126 mg/L 0.012 mg/L 101 70.0 130 Iron, total 7439-89-6 E420 ND mg/L ND 70.0 130 Lead, total 7439-89-6 E420 ND mg/L ND 70.0 130 Lead, total 7439-92-1 E420 0.0239 mg/L 0.025 mg/L 95.7 70.0 130 Magnesium, total 7439-93-2 E420 0.0111 mg/L 0.012 mg/L 89.1 70.0 130 Magnesium, total 7439-95-4 E420 ND mg/L ND 70.0 130 Manganese, total 7439-96-5 E420 ND mg/L ND 70.0 130 Molybdenum, total 7439-98-7 E420 0.0129 mg/L 0.012 mg/L 103 70.0 130 Nolybdenum, total			Chromium, total	7440-47-3	E420	0.0129 mg/L	0.012 mg/L	103	70.0	130	
Copper, total 7440-50-8 E420 0.0126 mg/L 0.012 mg/L 101 70.0 130 Iron, total 7439-89-6 E420 ND mg/L ND 70.0 130 Lead, total 7439-89-6 E420 0.0239 mg/L 0.025 mg/L 95.7 70.0 130 Lithium, total 7439-93-2 E420 0.0111 mg/L 0.012 mg/L 89.1 70.0 130 Magnesium, total 7439-93-2 E420 ND mg/L ND 70.0 130 Magnesium, total 7439-95-4 E420 ND mg/L ND 70.0 130 Manganese, total 7439-96-5 E420 ND mg/L ND 70.0 130 Molybdenum, total 7439-98-7 E420 0.0129 mg/L 0.012 mg/L 103 70.0 130 Nolybdenum, total 7439-98-7 E420 0.0237 mg/L 0.025 mg/L 103 70.0 130 Nokel, total <td< td=""><td></td><td></td><td>Cobalt, total</td><td>7440-48-4</td><td>E420</td><td>0.0122 mg/L</td><td>0.012 mg/L</td><td>97.7</td><td>70.0</td><td>130</td><td></td></td<>			Cobalt, total	7440-48-4	E420	0.0122 mg/L	0.012 mg/L	97.7	70.0	130	
Iron, total 7439-89-6 E420 ND mg/L ND 70.0 130 Lead, total 7439-92-1 E420 0.0239 mg/L 0.025 mg/L 95.7 70.0 130 Lithium, total 7439-93-2 E420 0.0111 mg/L 0.012 mg/L 89.1 70.0 130 Magnesium, total 7439-95-4 E420 ND mg/L ND 70.0 130 Magnesium, total 7439-95-4 E420 ND mg/L ND 70.0 130 Molybdenum, total 7439-96-5 E420 ND mg/L ND 70.0 130 Molybdenum, total 7439-98-7 E420 0.012 mg/L 0.012 mg/L 103 70.0 130 Nolybdenum, total 7439-98-7 E420 0.0237 mg/L 0.012 mg/L 103 70.0 130 Nolybdenum, total 7439-98-7 E420 0.0237 mg/L 0.025 mg/L 103 70.0 130 Nickel, total			Copper, total	7440-50-8	E420	0.0126 mg/L	0.012 mg/L	101	70.0	130	
Lead, total 7439-92-1 E420 0.023 mg/L 0.025 mg/L 95.7 70.0 130 Lithium, total 7439-93-2 E420 0.0111 mg/L 0.012 mg/L 89.1 70.0 130 Magnesium, total 7439-95-4 E420 ND mg/L ND 70.0 130 Manganese, total 7439-96-5 E420 ND mg/L ND 70.0 130 Molybdenum, total 7439-96-7 E420 0.0129 mg/L 0.012 mg/L 103 70.0 130 Molybdenum, total 7439-98-7 E420 0.0237 mg/L 0.012 mg/L 103 70.0 130 Nokel, total 7440-02-0 E420 0.0237 mg/L 0.025 mg/L 94.6 70.0 130 Nickel, total 7440-02-0 E420 0.0237 mg/L 0.025 mg/L 108 70.0 130			Iron, total	7439-89-6	E420	ND mg/L		ND 05.7	70.0	130	
Litrium, total 7439-93-2 E420 0.011 mg/L 0.012 mg/L 89.1 70.0 130 Magnesium, total 7439-95-4 E420 ND mg/L ND 70.0 130 Manganese, total 7439-96-5 E420 ND mg/L ND 70.0 130 Molybdenum, total 7439-98-7 E420 0.0129 mg/L 0.012 mg/L 103 70.0 130 Nickel, total 7440-02-0 E420 0.0237 mg/L 0.025 mg/L 94.6 70.0 130 Phosphousus total 7723-14-0 E420 0.542 mg/L 0.58g/L 118 70.0 130				7439-92-1	E420	0.0239 mg/L	0.025 mg/L	95.7	70.0	130	
Magnesium, total 7439-95-4 E420 ND mg/L ND 70.0 130 Manganese, total 7439-96-5 E420 ND mg/L ND 70.0 130 Molybdenum, total 7439-98-7 E420 0.0129 mg/L 0.012 mg/L 103 70.0 130 Nickel, total 7440-02-0 E420 0.0237 mg/L 0.025 mg/L 94.6 70.0 130			Litnium, total	7439-93-2	E420	0.0111 mg/L	0.012 mg/L	89.1 ND	70.0	130	
Molyadese, total 7435-50-3 E420 ND mig/L ND 70.0 130 Molydenum, total 7439-98-7 E420 0.0129 mg/L 0.012 mg/L 103 70.0 130 Nickel, total 7440-02-0 E420 0.0237 mg/L 0.025 mg/L 94.6 70.0 130 Phosphorus total 7723-14-0 E420 0.542 mg/L 0.5 mg/L 108 70.0 130			Manganese total	1409-90-4 7130 06 5	E420				70.0	120	
Nickel, total 7430-30-7 E420 0.012 mg/L 0.02 mg/L 103 70.0 130 Nickel, total 7440-02-0 E420 0.023 mg/L 0.025 mg/L 94.6 70.0 130 Phosphorus total 772-14-0 E420 0.542 mg/L 0.5 mg/L 108 70.0 130			Molybdenum total	7439-90-3	E420		 0.012 mg/l	103	70.0	130	
Phosphorus total 7723-14-0 E420 0.523 mg/L 0			Nickel total	7440-02-0	E420	0.0129 mg/L	0.012 mg/L	94.6	70.0	130	
	1		Phosphorus total	7723-14-0	F420	0.542 mg/l	0.5 mg/L	108	70.0	130	

Page	:	16 of 17
Work Order	:	WT2414011
Client	:	CF Crozier & Associates
Project	:	2227-69259



Sub-Matrix: Water					Matrix Spike (MS) Report					
					Spi	ke	Recovery (%)	Recovery	Limits (%)	
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Total Metals (QCI	Lot: 1468238) - conti	inued								
BF2400040-002	Anonymous	Potassium, total	7440-09-7	E420	2.31 mg/L	2.5 mg/L	92.3	70.0	130	
		Rubidium, total	7440-17-7	E420	0.00515 mg/L	0.005 mg/L	103	70.0	130	
		Selenium, total	7782-49-2	E420	0.0509 mg/L	0.05 mg/L	102	70.0	130	
		Silicon, total	7440-21-3	E420	0.46 mg/L	0.5 mg/L	92.6	70.0	130	
		Silver, total	7440-22-4	E420	0.00497 mg/L	0.005 mg/L	99.4	70.0	130	
		Sodium, total	7440-23-5	E420	ND mg/L		ND	70.0	130	
		Strontium, total	7440-24-6	E420	ND mg/L		ND	70.0	130	
		Sulfur, total	7704-34-9	E420	ND mg/L		ND	70.0	130	
		Tellurium, total	13494-80-9	E420	0.00492 mg/L	0.005 mg/L	98.5	70.0	130	
		Thallium, total	7440-28-0	E420	0.0477 mg/L	0.05 mg/L	95.4	70.0	130	
		Thorium, total	7440-29-1	E420	0.00474 mg/L	0.005 mg/L	94.8	70.0	130	
		Tin, total	7440-31-5	E420	0.0259 mg/L	0.025 mg/L	104	70.0	130	
		Titanium, total	7440-32-6	E420	0.0118 mg/L	0.012 mg/L	94.9	70.0	130	
		Tungsten, total	7440-33-7	E420	0.00515 mg/L	0.005 mg/L	103	70.0	130	
		Uranium, total	7440-61-1	E420	0.000254 mg/L	0 mg/L	102	70.0	130	
		Vanadium, total	7440-62-2	E420	0.0259 mg/L	0.025 mg/L	104	70.0	130	
		Zinc, total	7440-66-6	E420	0.0258 mg/L	0.025 mg/L	103	70.0	130	
		Zirconium, total	7440-67-7	E420	0.00520 mg/L	0.005 mg/L	104	70.0	130	
Dissolved Metals	(QCLot: 1469428)									
WT2413852-001	Anonymous	Aluminum, dissolved	7429-90-5	E421	0.110 mg/L	0.1 mg/L	110	70.0	130	
		Antimony, dissolved	7440-36-0	E421	0.0510 mg/L	0.05 mg/L	102	70.0	130	
		Arsenic, dissolved	7440-38-2	E421	0.0578 mg/L	0.05 mg/L	116	70.0	130	
		Barium, dissolved	7440-39-3	E421	ND mg/L		ND	70.0	130	
		Beryllium, dissolved	7440-41-7	E421	0.00568 mg/L	0.005 mg/L	114	70.0	130	
		Bismuth, dissolved	7440-69-9	E421	0.0481 mg/L	0.05 mg/L	96.2	70.0	130	
		Boron, dissolved	7440-42-8	E421	ND mg/L		ND	70.0	130	
		Cadmium, dissolved	7440-43-9	E421	0.00487 mg/L	0.005 mg/L	97.4	70.0	130	
		Calcium, dissolved	7440-70-2	E421	ND mg/L		ND	70.0	130	
		Cesium, dissolved	7440-46-2	E421	0.00273 mg/L	0.002 mg/L	109	70.0	130	
		Chromium, dissolved	7440-47-3	E421	0.0130 mg/L	0.012 mg/L	104	70.0	130	
		Cobalt, dissolved	7440-48-4	E421	0.0124 mg/L	0.012 mg/L	98.8	70.0	130	
		Copper, dissolved	7440-50-8	E421	0.0118 mg/L	0.012 mg/L	94.5	70.0	130	
				E421	ND	•	ND	70.0	130	
		Iron, dissolved	7439-89-6	E4Z I	ND mg/L		ND			
		Iron, dissolved Lead, dissolved	7439-89-6 7439-92-1	E421	0.0246 mg/L	0.025 mg/L	98.4	70.0	130	
		Iron, dissolved Lead, dissolved Lithium, dissolved	7439-89-6 7439-92-1 7439-93-2	E421 E421 E421	0.0246 mg/L 0.0137 mg/L	0.025 mg/L 0.012 mg/L	98.4 110	70.0 70.0	130 130	
		Iron, dissolved Lead, dissolved Lithium, dissolved Magnesium, dissolved	7439-89-6 7439-92-1 7439-93-2 7439-95-4	E421 E421 E421 E421	0.0246 mg/L 0.0137 mg/L ND mg/L	0.025 mg/L 0.012 mg/L 	98.4 110 ND	70.0 70.0 70.0	130 130 130	
		Iron, dissolved Lead, dissolved Lithium, dissolved Magnesium, dissolved Manganese, dissolved	7439-89-6 7439-92-1 7439-93-2 7439-95-4 7439-96-5	E421 E421 E421 E421 E421	ND mg/L 0.0246 mg/L 0.0137 mg/L ND mg/L ND mg/L	0.025 mg/L 0.012 mg/L 	98.4 110 ND ND	70.0 70.0 70.0 70.0	130 130 130 130	
		Iron, dissolved Lead, dissolved Lithium, dissolved Magnesium, dissolved Manganese, dissolved Molybdenum, dissolved	7439-89-6 7439-92-1 7439-93-2 7439-95-4 7439-96-5 7439-98-7	E421 E421 E421 E421 E421 E421	ND mg/L 0.0246 mg/L 0.0137 mg/L ND mg/L ND mg/L 0.0136 mg/L	0.025 mg/L 0.012 mg/L 0.012 mg/L	98.4 110 ND ND 109	70.0 70.0 70.0 70.0 70.0	130 130 130 130 130 130	
		Iron, dissolved Lead, dissolved Lithium, dissolved Magnesium, dissolved Manganese, dissolved Molybdenum, dissolved Nickel, dissolved	7439-89-6 7439-92-1 7439-93-2 7439-95-4 7439-96-5 7439-98-7 7440-02-0	E421 E421 E421 E421 E421 E421 E421	ND mg/L 0.0246 mg/L 0.0137 mg/L ND mg/L 0.0136 mg/L 0.0237 mg/L	0.025 mg/L 0.012 mg/L 0.012 mg/L 0.025 mg/L	98.4 110 ND ND 109 94.9	70.0 70.0 70.0 70.0 70.0 70.0	130 130 130 130 130 130	
		Iron, dissolved Lead, dissolved Lithium, dissolved Magnesium, dissolved Manganese, dissolved Molybdenum, dissolved Nickel, dissolved Phosphorus, dissolved	7439-89-6 7439-92-1 7439-93-2 7439-95-4 7439-96-5 7439-98-7 7440-02-0 7723-14-0	E421 E421 E421 E421 E421 E421 E421 E421	ND mg/L 0.0246 mg/L 0.0137 mg/L ND mg/L 0.0136 mg/L 0.0237 mg/L 0.590 mg/L	0.025 mg/L 0.012 mg/L 0.012 mg/L 0.025 mg/L 0.5 mg/L	98.4 110 ND ND 109 94.9 118	70.0 70.0 70.0 70.0 70.0 70.0 70.0	130 130 130 130 130 130 130	
		Iron, dissolved Lead, dissolved Lithium, dissolved Magnesium, dissolved Manganese, dissolved Molybdenum, dissolved Nickel, dissolved Phosphorus, dissolved Potassium, dissolved	7439-89-6 7439-92-1 7439-93-2 7439-95-4 7439-96-5 7439-98-7 7440-02-0 7723-14-0 7440-09-7	E421 E421 E421 E421 E421 E421 E421 E421	ND mg/L 0.0246 mg/L 0.0137 mg/L ND mg/L 0.0136 mg/L 0.0237 mg/L 0.590 mg/L ND mg/L	0.025 mg/L 0.012 mg/L 0.012 mg/L 0.025 mg/L 0.5 mg/L 	98.4 110 ND 109 94.9 118 ND	70.0 70.0 70.0 70.0 70.0 70.0 70.0 70.0	130 130 130 130 130 130 130 130	
		Iron, dissolved Lead, dissolved Lithium, dissolved Magnesium, dissolved Manganese, dissolved Molybdenum, dissolved Nickel, dissolved Phosphorus, dissolved Rubidium, dissolved	7439-89-6 7439-92-1 7439-93-2 7439-95-4 7439-96-5 7439-98-7 7440-02-0 7723-14-0 7440-09-7 7440-17-7	E421 E421 E421 E421 E421 E421 E421 E421	ND mg/L 0.0246 mg/L 0.0137 mg/L ND mg/L 0.0136 mg/L 0.0237 mg/L 0.590 mg/L ND mg/L 0.00566 ma/L	0.025 mg/L 0.012 mg/L 0.012 mg/L 0.025 mg/L 0.5 mg/L 0.005 mg/L	98.4 110 ND 109 94.9 118 ND 113	70.0 70.0 70.0 70.0 70.0 70.0 70.0 70.0	130 130 130 130 130 130 130 130 130	
		Iron, dissolved Lead, dissolved Lithium, dissolved Magnesium, dissolved Manganese, dissolved Molybdenum, dissolved Nickel, dissolved Phosphorus, dissolved Rubidium, dissolved Selenium, dissolved	7439-89-6 7439-92-1 7439-93-2 7439-95-4 7439-96-5 7439-98-7 7440-02-0 7723-14-0 7440-09-7 7440-17-7 7440-17-7 7782-49-2	E421 E421 E421 E421 E421 E421 E421 E421	ND mg/L 0.0246 mg/L 0.0137 mg/L ND mg/L 0.0136 mg/L 0.0237 mg/L 0.590 mg/L ND mg/L 0.00566 mg/L 0.0535 mg/L	0.025 mg/L 0.012 mg/L 0.012 mg/L 0.025 mg/L 0.5 mg/L 0.005 mg/L 0.05 mg/L	98.4 110 ND 109 94.9 118 ND 113 107	70.0 70.0 70.0 70.0 70.0 70.0 70.0 70.0	130 130 130 130 130 130 130 130 130 130	

Page	:	17 of 17
Work Order	:	WT2414011
Client	:	CF Crozier & Associates
Project	:	2227-69259



Sub-Matrix: Wate

Sub-Matrix: Water	ub-Matrix: Water					Matrix Spike (MS) Report				
					Spi	ke	Recovery (%)	Recovery	Limits (%)	
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Dissolved Metals	(QCLot: 1469428) - cor	ntinued								
WT2413852-001	Anonymous	Silver, dissolved	7440-22-4	E421	0.00292 mg/L	0.005 mg/L	58.3	70.0	130	MS-Ag
		Sodium, dissolved	7440-23-5	E421	ND mg/L		ND	70.0	130	
		Strontium, dissolved	7440-24-6	E421	ND mg/L		ND	70.0	130	
		Sulfur, dissolved	7704-34-9	E421	2.84 mg/L	2.5 mg/L	114	70.0	130	
		Tellurium, dissolved	13494-80-9	E421	0.00487 mg/L	0.005 mg/L	97.4	70.0	130	
		Thallium, dissolved	7440-28-0	E421	0.0487 mg/L	0.05 mg/L	97.4	70.0	130	
		Thorium, dissolved	7440-29-1	E421	0.00467 mg/L	0.005 mg/L	93.3	70.0	130	
		Tin, dissolved	7440-31-5	E421	0.0259 mg/L	0.025 mg/L	104	70.0	130	
		Titanium, dissolved	7440-32-6	E421	0.0136 mg/L	0.012 mg/L	109	70.0	130	
		Tungsten, dissolved	7440-33-7	E421	0.00525 mg/L	0.005 mg/L	105	70.0	130	
		Uranium, dissolved	7440-61-1	E421	ND mg/L		ND	70.0	130	
		Vanadium, dissolved	7440-62-2	E421	0.0274 mg/L	0.025 mg/L	110	70.0	130	
		Zinc, dissolved	7440-66-6	E421	0.0263 mg/L	0.025 mg/L	105	70.0	130	
		Zirconium, dissolved	7440-67-7	E421	0.00549 mg/L	0.005 mg/L	110	70.0	130	
Qualifiers										
Qualifier	D	Description								

MS-Ag

MS-Ag: Matrix Spike recovery for silver was marginally below DQO (40 to <60%) due to its instability in the sample matrix. Silver was not detected. Reported result (< LOR) is reliable



	QUALITY CONTROL INTERPRETIVE REPORT									
Work Order	:WT2414011	Page	: 1 of 11							
Client	CF Crozier & Associates	Laboratory	: ALS Environmental - Waterloo							
Contact	: Victoria Mazur	Account Manager	: Andrew Martin							
Address	2800 High Point Drive	Address	: 60 Northland Road, Unit 1							
	Milton ON Canada L9T 6P4		Waterloo, Ontario Canada N2V 2B8							
Telephone	: (548) 708-0039	Telephone	: +1 519 886 6910							
Project	: 2227-69259	Date Samples Received	: 30-May-2024 13:20							
PO	:	Issue Date	: 06-Jun-2024 20:11							
C-O-C number	: 23-1096606									
Sampler	: Victoria Mazur									
Site	:									
Quote number	: 2024 SOA									
No. of samples received	:1									
No. of samples analysed	·1									

This report is automatically generated by the ALS LIMS (Laboratory Information Management System) through evaluation of Quality Control (QC) results and other QA parameters associated with this submission, and is intended to facilitate rapid data validation by auditors or reviewers. The report highlights any exceptions and outliers to ALS Data Quality Objectives, provides holding time details and exceptions, summarizes QC sample frequencies, and lists applicable methodology references and summaries.

Key

Anonymous: Refers to samples which are not part of this work order, but which formed part of the QC process lot.

CAS Number: Chemical Abstracts Service number is a unique identifier assigned to discrete substances.

DQO: Data Quality Objective.

LOR: Limit of Reporting (detection limit).

RPD: Relative Percent Difference.

Workorder Comments

Holding times are displayed as "---" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Summary of Outliers Outliers : Quality Control Samples

- No Method Blank value outliers occur.
- No Duplicate outliers occur.
- No Laboratory Control Sample (LCS) outliers occur
- Matrix Spike outliers occur please see following pages for full details.
- No Test sample Surrogate recovery outliers exist.

Outliers: Reference Material (RM) Samples

• No Reference Material (RM) Sample outliers occur.

Outliers : Analysis Holding Time Compliance (Breaches) Analysis Holding Time Outliers exist - please see following pages for full details.

Outliers : Frequency of Quality Control Samples

• <u>No</u> Quality Control Sample Frequency Outliers occur.



Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: Water

Analyte Group		Laboratory sample ID	Client/Ref Sample ID	Analyte	CAS Number	Method	Result	Limits	Comment	
Matrix Spike (MS) Recoveries										
Dissolved Metals		Anonymous	Anonymous	Silver, dissolved	7440-22-4	E421	58.3 % ^{MS-Ag}	70.0-130%	Recovery less than lower	
									data quality objective	
Result Qualifiers										
Qualifier	Description									
MS-Ag	MS-Ag: Matrix Spike recovery for silver was marginally below DQO (40 to <60%) due to its instability in the sample matrix. Silver was not detected. Reported result (< LOR) is reliable									



Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times, which are selected to meet known provincial and /or federal requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by organizations such as CCME, US EPA, APHA Standard Methods, ASTM, or Environment Canada (where available). Dates and holding times reported below represent the first dates of extraction or analysis. If subsequent tests or dilutions exceeded holding times, qualifiers are added (refer to COA).

If samples are identified below as having been analyzed or extracted outside of recommended holding times, measurement uncertainties may be increased, and this should be taken into consideration when interpreting results.

Where actual sampling date is not provided on the chain of custody, the date of receipt with time at 00:00 is used for calculation purposes.

Where only the sample date without time is provided on the chain of custody, the sampling date at 00:00 is used for calculation purposes.

Matrix: Water					Ev	/aluation: × =	Holding time excee	edance ; 🔹	= Within	Holding Time
Analyte Group : Analytical Method	Method	Sampling Date	Extraction / Preparation				Analysis			
Container / Client Sample ID(s)			Preparation	ation Holding		Eval	Analysis Date	Holding Times		Eval
			Date	Rec	Actual			Rec	Actual	
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) [ON MECP] MW 23-3	E298	30-May-2024	01-Jun-2024	28	2 days	1	03-Jun-2024	28 days	4 days	*
				days						
Anions and Nutrients : Chloride in Water by IC										
HDPE [ON MECP]										
MW 23-3	E235.CI	30-May-2024	03-Jun-2024	28	4 days	1	04-Jun-2024	28 days	5 days	✓
				days						
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Le	vel 0.001 mg/L)									
HDPE [ON MECP]										
MW 23-3	E378-U	30-May-2024	03-Jun-2024	7 days	4 days	~	05-Jun-2024	7 days	6 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE [ON MECP]	E235 E	30-May-2024	03- lun-2024	20	4 days	1	04- lun-2024	28 days	5 days	1
	E200.1	00-may-2024	00-0011-2024	20 davs	- duy5		04-0411-2024	20 00 33	0 ddy5	, i
Anions and Nutrients : Nitrate in Water by IC				,						
HDPE ION MECP1										
MW 23-3	E235.NO3	30-May-2024	03-Jun-2024	7 days	4 days	1	04-Jun-2024	7 days	5 days	✓
Anions and Nutrients : Nitrite in Water by IC										
HDPE [ON MECP]										
MW 23-3	E235.NO2	30-May-2024	03-Jun-2024	7 days	4 days	1	04-Jun-2024	7 days	5 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE [ON MECP]	5005.00.1	00.14								
MW 23-3	E235.SO4	30-May-2024	03-Jun-2024	28	4 days	*	04-Jun-2024	28 days	5 days	*
				days						


Analytical MethodMethodSampling Date $Euroscin / PreparationU = V = V = V = V = V = V = V = V = V = $	Matrix: Water					Ev	aluation: × =	Holding time exce	edance ; •	= Within	Holding Time
Londing / Clinic Sample D(s) Programmon / Moding Tartes Eval / Rei Analysis Date Prodeting Tartes / Rei Eval / Rei Analysis Date Prodeting Tartes / Rei Eval / Rei Analysis Date Prodeting Tartes / Rei Eval / Rei Analysis Date Prodeting Tartes Eval / Rei Analysis Date Disting Tartes Column Date Disting Tartes Distin Massin	Analyte Group : Analytical Method	Method	Sampling Date	Ext	traction / P	reparation			Analys		
Daskowd Meals : Dissolved Meals in Water by CRC ICPMS Fee: Actual Dissolved Meals : Dissolved Meals in Water by CRC ICPMS E421 30-May-2024 31-May-2024 0 hrs 27 hrs Actual MW 23-3 E421 30-May-2024 31-May-2024 0 hrs 27 hrs Actual MW 23-3 E612 30-May-2024 UCP 31-May-2024 48 hrs 24 hrs Seried HDPE (dotted coll forms (MF-mEnde) E012A_EC 30-May-2024 31-May-2024 48 hrs 24 hrs More Addum Into suppate (DN MECP) E012A_EC 30-May-2024 31-May-2024 48 hrs 24 hrs Seriet HDPE (Soldum Into suppate) (DN MECP) E012A_EC 30-May-2024 31-May-2024 48 hrs 24 hrs More Difference (DN MECP] More Soldum Into suppate) (DN MECP] More Soldum Into suppate) (DN MECP]	Container / Client Sample ID(s)			Preparation	Holdin	g Times	Eval	Analysis Date	Holding	g Times	Eval
Disselved Media : Dissolved Media in Water by CRC ICPMS V <				Date	Rec	Actual			Rec	Actual	
INDECP1 MW 23.3 E421 30-May-2024 0 hrs 27 hrs * 31-May-2024 0 hrs 27 hrs * UCP Microbiological Tests : E. coli (MF-mEC-BCIG) Starline MDE (Sodium thiosulphato) [ON MECP] ED12A.EC 30-May-2024 Image: Starline MDE (Sodium thiosulphato) [ON MECP] # # # # Microbiological Tests : Total Coliforms (MF-mEndo) ED12A.EC 30-May-2024 Image: Starline MDE (Sodium thiosulphato) [ON MECP] #	Dissolved Metals : Dissolved Metals in Water by CRC ICPMS								1		
MW 23.3 E421 30-May-2024 0 hrs 27 hrs * 31-May-2024 0 hrs 27 hrs * Microbiological Tests : E. coli (MF-mEC-BCIQ) ED12A.EC 30-May-2024 31-May-2024 48 hrs 24 hrs Microbiological Tests : E. coli (MF-mEC-BCIQ) ED12A.EC 30-May-2024 31-May-2024 48 hrs 24 hrs Microbiological Tests : Total Coliforms (MF-mEndo) ED12A.EC 30-May-2024 31-May-2024 48 hrs 24 hrs Microbiological Tests : Alalanity Species by Titration ED12.TC 30-May-2024 0 31-May-2024 48 hrs 24 hrs MV 23.3 ED10 30-May-2024 0 0 0	HDPE [ON MECP]										
Increase Image: Im	MW 23-3	E421	30-May-2024	31-May-2024	0 hrs	27 hrs	*	31-May-2024	0 hrs	27 hrs	*
Microbiological Tests : El. coll (MF-mFC-BCIG) ED12A.EC 30-May-2024							UCP				UCP
Steric HOPE (Sodium thiosulphate) [ON MECP] MV 23-3 E012A.EC 30-May-2024 Image: Solid mathiosulphate (Solid mathiosulphate) [ON MECP] MV 23-3 Solid Mathiosulphate (Solid mathiosulphate) [ON MECP] Solid Mathiosulphate (Solid mathiosulphate) (SO MECP] Solid Mathiosulphate (Solid mathiosulphate) (Sol	Microbiological Tests : E. coli (MF-mFC-BCIG)					1					
MW 23-3 E012A.EC 30-May-2024 31-May-2024 48 hrs 24 hrs Microbiological Tests : Total Collforms (MF-mEndo) E012.TC 30-May-2024 Image: Second Colliforms (MF-mEndo) Sterile HDPE (Sodium thiosulphate) [ON MECP] E012.TC 30-May-2024 Image: Second Colliforms (MF-mEndo) Mucrobiological Tests : Atkalinity Species by Titration HDPE (ON MECP] Image: Second Colliforms (MF-mEndo) Image: Second Colliforms (MF-mEndo) Image: Second Colliforms (MF-mEndo) Image: Second Colliforms (MF-mEndo) Mucrobiological Tests : Atkalinity Species by Titration HDPE (ON MECP] Image: Second Colliforms (MF-mEndo) Image: Second Colliforms (MF-mEndo) Image: Second Colliforms (MF-mEndo) MV 23-3 E290 30-May-2024 03-Jun-2024 14 day days Image: Second Colliforms (MF-mEndo) MV 23-3 Second Colliforms (MF-mEndo) E100 30-May-2024 Image: Second Colliforms (MF-mEndo) Image: Second Colliforms (MF-mEndo) Image: Second Colliforms (MF-mEndo) MV 23-3 E100 30-May-2024 Image: Second Colliforms (MF-mEndo) Image: Second Colliforms (MF-mEndo) Image: Second Colliforms (MF-mEndo) Image: Second Colliforms (MF-mEndo) Ima	Sterile HDPE (Sodium thiosulphate) [ON MECP]										
Indecode Instrume	MW 23-3	E012A.EC	30-May-2024					31-May-2024	48 hrs	24 hrs	✓
Microbiological Tests : Total Coliforms (MF-nEndo) E012.TC 30-May-2024 31-May-2024 48 hrs 24 hrs ✓ Physical Tests : Alkalinity Species by Titration E012.TC 30-May-2024 31-May-2024 48 hrs 24 hrs ✓ Physical Tests : Alkalinity Species by Titration E290 30-May-2024 14 days 4 days ✓ 05-Jun-2024 14 days 6 days ✓ Physical Tests : Colour (Apparent) by Spectrometer E330 30-May-2024 31-May-2024 48 hrs 27 hrs ✓ Physical Tests : Conductivity in Water E330 30-May-2024 31-May-2024 48 hrs 27 hrs ✓ Physical Tests : Conductivity in Water E100 30-May-2024 03-Jun-2024 28 days 4 days ✓ 05-Jun-2024 28 days 6 days ✓ Physical Tests : Ph by Meter HDPE [ON MECP] MV 23-3 E108 30-May-2024 03-Jun-2024 14 days 4 days ✓ 05-Jun-2024 14 days 6 days ✓											
Sterile HOPE [Sodium thiosulphate] [ON MECP] MW 23-3 ED12.TC 30-May-2024 Image: Sodium thiosulphate] [ON MECP] MW 23-3 24 hrs 24 hrs Physical Tests : Alkalinity Species by Titration E290 30-May-2024 03-Jun-2024 14 days 4 days 05-Jun-2024 14 days 6 days Physical Tests : Colour (Apparent) by Spectrometer E330 30-May-2024 Image: Sodium thiosulphate] 6 days Physical Tests : Colour (Apparent) by Spectrometer E330 30-May-2024 Image: Sodium thiosulphate] 8 days 9 days 6 days Physical Tests : Colour (Apparent) by Spectrometer E100 30-May-2024 03-Jun-2024 28 days 6 days Physical Tests : Conductivity in Water E100 30-May-2024 03-Jun-2024 28 days 6 days <td>Microbiological Tests : Total Coliforms (MF-mEndo)</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>1</td> <td></td> <td></td>	Microbiological Tests : Total Coliforms (MF-mEndo)								1		
MW 23-3 E012.TC 30-May-2024 31-May-2024 48 hrs 24 hrs Physical Tests : Alkalinity Species by Titration E290 30-May-2024 03-Jun-2024 14 4 days 05-Jun-2024 14 days 6 days Physical Tests : Colour (Apparent) by Spectrometer E290 30-May-2024 03-Jun-2024 14 4 days 05-Jun-2024 14 days 6 days Physical Tests : Colour (Apparent) by Spectrometer E330 30-May-2024 Mu 23-3 48 hrs 27 hrs Physical Tests : Colour (Apparent) by Spectrometer E330 30-May-2024	Sterile HDPE (Sodium thiosulphate) [ON MECP]										
Image: Constraint of the state of the s	MW 23-3	E012.TC	30-May-2024					31-May-2024	48 hrs	24 hrs	✓
Physical Tests : Alkalinity Species by Titration E290 30-May-2024 03-Jun-2024 14 days 4 days ✓ 05-Jun-2024 14 days 6 days ✓ Physical Tests : Colour (Apparent) by Spectrometer 6 days ✓ <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>											
HOPE [ON MECP] MW 23-3 E290 30-May-2024 03-Jun-2024 14 days 4 days ✓ 05-Jun-2024 14 days 6 days ✓ Physical Tests : Colour (Apparent) by Spectrometer E330 30-May-2024 Image: Colour (Apparent) by Spectrometer HOPE [ON MECP] MW 23-3 Image: Colour (Apparent) by Spectrometer E330 30-May-2024 Image: Colour (Apparent) by Spectrometer Image: Colour (Apparent) by Spectrometer Physical Tests : Conductivity in Water E130 30-May-2024 Image: Colour (Apparent) by Spectrometer Image: Colour (Apparent) by Spectrometer <tht< td=""><td>Physical Tests : Alkalinity Species by Titration</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tht<>	Physical Tests : Alkalinity Species by Titration										
MW 23.3 E290 30-May-2024 14 days 4 days ✓ 05-Jun-2024 14 days 6 days ✓ Physical Tests : Colour (Apparent) by Spectrometer E330 30-May-2024 Idays 31-May-2024 48 hrs 27 hrs ✓ MV 23-3 E330 30-May-2024 Idays 4 days ✓ 05-Jun-2024 48 hrs 27 hrs ✓ Physical Tests : Conductivity in Water E100 30-May-2024 03-Jun-2024 28 days 6 days ✓ 6 days ✓ Physical Tests : Deb MeCPI MW 23-3 E100 30-May-2024 03-Jun-2024 28 days 6 days ✓ ✓ Physical Tests : pH by Meter E108 30-May-2024 03-Jun-2024 14 days v 05-Jun-2024 14 days 6 days ✓ Physical Tests : DTD by Gravimetry E108 30-May-2024 03-Jun-2024 14 days v 05-Jun-2024 14 days 6 days ✓ Physical Tests : TDS by Gravimetry E102 30-May-2024 05-Jun-20	HDPE [ON MECP]										
Image: Constraint of the sector of the se	MW 23-3	E290	30-May-2024	03-Jun-2024	14	4 days	✓	05-Jun-2024	14 days	6 days	✓
Physical Tests : Colour (Apparent) by Spectrometer HOPE [ON MECP] MW 23-3 E330 30-May-2024 31-May-2024 48 hrs 27 hrs ✓ Physical Tests : Conductivity in Water E100 30-May-2024 03-Jun-2024 28 days 4 days ✓ 05-Jun-2024 28 days 6 days ✓ Physical Tests : Conductivity in Water E100 30-May-2024 03-Jun-2024 28 days 4 days ✓ 05-Jun-2024 28 days 6 days ✓ Physical Tests : PH by Meter E100 30-May-2024 03-Jun-2024 14 days ✓ 05-Jun-2024 14 days 6 days ✓ Physical Tests : TDS by Gravimetry E108 30-May-2024 03-Jun-2024 14 days ✓ 05-Jun-2024 14 days 6 days ✓ Physical Tests : TDS by Gravimetry E162 30-May-2024 05-Jun-2024 7 days 6 days ✓ Physical Tests : Turbidity by Nephelometry HDPE [ON MECP] MW 23-3 E121 30-May-2024 31-May-2024 48 hrs 21 hrs ✓ <td></td> <td></td> <td></td> <td></td> <td>days</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>					days						
HDPE [ON MECP] MW 23-3 E330 30-May-2024 31-May-2024 48 hrs 27 hrs ✓ Physical Tests : Conductivity in Water 48 hrs 27 hrs ✓ Physical Tests : Conductivity in Water 28 4 days ✓ 05-Jun-2024 28 days 6 days ✓ MW 23-3 E100 30-May-2024 03-Jun-2024 28 4 days ✓ 05-Jun-2024 28 days 6 days ✓ Physical Tests : pH by Meter 14 4 days ✓ 05-Jun-2024 14 days 6 days ✓ MW 23-3 E108 30-May-2024 03-Jun-2024 14 days ✓ 05-Jun-2024 14 days 6 days ✓ Physical Tests : TDS by Gravimetry 05-Jun-2024 7 days 6 days ✓ Physical Tests : Turbidity by Nephelometry 05-Jun-2024 7 days 6 days ✓ Physical Tests : Turbidity by Ne	Physical Tests : Colour (Apparent) by Spectrometer										
MW 23-3 E330 30-May-2024 Image: Similar Conductivity in Water Physical Tests : Conductivity in Water Image: Similar Conductivity in Water MW 23-3 E100 30-May-2024 03-Jun-2024 28 days 4 days Image: Similar Conductivity in Water Physical Tests : ph by Meter 28 days 4 days Image: Similar Conductivity in Water HDPE [ON MECP] MW 23-3 Meter 4 days Image: Similar Conductivity in Water HDPE [ON MECP] MW 23-3 E108 30-May-2024 03-Jun-2024 14 days Image: Similar Conductivity in Water Physical Tests : TDS by Gravimetry E108 30-May-2024 03-Jun-2024 14 days 6 days Image: Similar Conductivity in Water HDPE [ON MECP] MW 23-3 E162 30-May-2024 Image: Similar Conductivity in Water HDPE [ON MECP] MW 23-3 E121 30-May-2024 Image: Similar Conductivity in Water Image: Similar Conductivity in Water Image: Similar Conductivity in Water HDPE [HDPE [ON MECP]										
Image: Construction of the sector of the	MW 23-3	E330	30-May-2024					31-May-2024	48 hrs	27 hrs	✓
Physical Tests : Conductivity in Water HDPE [ON MECP] MW 23-3 E100 30-May-2024 03-Jun-2024 28 days 4 days ✓ 05-Jun-2024 28 days 6 days ✓ Physical Tests : pH by Meter E108 30-May-2024 03-Jun-2024 14 days ✓ 05-Jun-2024 18 days 6 days ✓ Physical Tests : pH by Meter E108 30-May-2024 03-Jun-2024 14 days ✓ 05-Jun-2024 14 days 6 days ✓ Physical Tests : TDS by Gravimetry E108 30-May-2024 03-Jun-2024 14 days ✓ 05-Jun-2024 14 days 6 days ✓ Physical Tests : TDS by Gravimetry E162 30-May-2024 05-Jun-2024 7 days 6 days ✓ Physical Tests : Turbidity by Nephelometry E162 30-May-2024 31-May-2024 48 hrs 21 hrs ✓											
HDPE [ON MECP] MW 23-3 E100 30-May-2024 03-Jun-2024 28 days 4 days ✓ 05-Jun-2024 28 days 6 days ✓ Physical Tests : pH by Meter HDPE [ON MECP] MW 23-3 Masses So-May-2024 03-Jun-2024 14 days 4 days ✓ 05-Jun-2024 14 days 6 days ✓ Physical Tests : DS by Gravimetry E108 30-May-2024 03-Jun-2024 14 days 4 days ✓ 05-Jun-2024 14 days 6 days ✓ Physical Tests : DS by Gravimetry E108 30-May-2024 1 05-Jun-2024 14 days 6 days ✓ Physical Tests : TDS by Gravimetry E162 30-May-2024 Image: So-Sum-2024 7 days 6 days ✓ Physical Tests : Turbidity by Nephelometry E121 30-May-2024 Image: So-Sum-2024 A days Ø days Ø days Ø Physical Tests : Turbidity by Nephelometry E121 30-May-2024 Image: So-Sum 2014 A days Ø days Ø days Ø	Physical Tests : Conductivity in Water										
MW 23-3 E100 30-May-2024 03-Jun-2024 28 days 4 days ✓ 05-Jun-2024 28 days 6 days ✓ Physical Tests : pH by Meter HDPE [ON MECP] MW 23-3 Masses Masses Masses ✓ 05-Jun-2024 28 days 6 days ✓ Physical Tests : DS by Gravimetry E108 30-May-2024 03-Jun-2024 14 days 4 days ✓ 05-Jun-2024 14 days 6 days ✓ Physical Tests : DS by Gravimetry E108 30-May-2024 03-Jun-2024 14 days 4 days ✓ 05-Jun-2024 14 days 6 days ✓ Physical Tests : DS by Gravimetry E162 30-May-2024 D5-Jun-2024 7 days 6 days ✓ Physical Tests : Turbidity by Nephelometry E121 30-May-2024 S1-May-2024 48 hrs 21 hrs ✓	HDPE [ON MECP]										
Image: constraint of the state of the s	MW 23-3	E100	30-May-2024	03-Jun-2024	28	4 days	✓	05-Jun-2024	28 days	6 days	✓
Physical Tests : pH by Meter HDPE [ON MECP] MW 23-3 E108 30-May-2024 03-Jun-2024 14 days 4 days ✓ 05-Jun-2024 14 days 6 days ✓ Physical Tests : TDS by Gravimetry E102 30-May-2024 14. 4 days ✓ 05-Jun-2024 14 days 6 days ✓ Physical Tests : TDS by Gravimetry E162 30-May-2024 05-Jun-2024 14 days 6 days ✓ Physical Tests : TDS by Gravimetry E162 30-May-2024 05-Jun-2024 7 days 6 days ✓ Physical Tests : Turbidity by Nephelometry E121 30-May-2024 31-May-2024 48 hrs 21 hrs ✓					days						
HDPE [ON MECP] MW 23-3 E108 30-May-2024 03-Jun-2024 14 days 4 days ✓ 05-Jun-2024 14 days 6 days ✓ Physical Tests : TDS by Gravimetry E162 30-May-2024 05-Jun-2024 14 days 6 days ✓ MDPE [ON MECP] MW 23-3 E162 30-May-2024 05-Jun-2024 7 days 6 days ✓ Physical Tests : Turbidity by Nephelometry E162 30-May-2024 05-Jun-2024 7 days 6 days ✓ Physical Tests : Turbidity by Nephelometry E121 30-May-2024 Image: Simple Comment of the comment o	Physical Tests : pH by Meter										
MW 23-3 E108 30-May-2024 03-Jun-2024 14 days 4 days ✓ 05-Jun-2024 14 days 6 days ✓ Physical Tests : TDS by Gravimetry E102 30-May-2024 14 days 4 days ✓ 05-Jun-2024 14 days 6 days ✓ MDPE [ON MECP] MW 23-3 Mage State Mage State </td <td>HDPE [ON MECP]</td> <td></td>	HDPE [ON MECP]										
Image: Physical Tests : TDS by Gravimetry Image: Physical T	MW 23-3	E108	30-May-2024	03-Jun-2024	14	4 days	✓	05-Jun-2024	14 days	6 days	✓
Physical Tests : TDS by Gravimetry HDPE [ON MECP] MW 23-3 E162 30-May-2024 05-Jun-2024 7 days 6 days ✓ Physical Tests : Turbidity by Nephelometry E121 30-May-2024 31-May-2024 48 hrs 21 hrs ✓					days						
HDPE [ON MECP] MW 23-3 E162 30-May-2024 05-Jun-2024 7 days 6 days Physical Tests : Turbidity by Nephelometry HDPE [ON MECP] MW 23-3 E121 30-May-2024 31-May-2024 48 hrs 21 hrs	Physical Tests : TDS by Gravimetry										
MW 23-3 E162 30-May-2024 05-Jun-2024 7 days 6 days Physical Tests : Turbidity by Nephelometry HDPE [ON MECP] MW 23-3 E121 30-May-2024 31-May-2024 48 hrs 21 hrs	HDPE [ON MECP]										
Physical Tests : Turbidity by Nephelometry E121 30-May-2024 31-May-2024 48 hrs 21 hrs ✓	MW 23-3	E162	30-May-2024					05-Jun-2024	7 days	6 days	✓
Physical Tests : Turbidity by Nephelometry HDPE [ON MECP] MW 23-3 E121 30-May-2024 31-May-2024 48 hrs 21 hrs ✓											
HDPE [ON MECP] B121 30-May-2024 S1-May-2024 48 hrs 21 hrs ✓	Physical Tests : Turbidity by Nephelometry										
MW 23-3 E121 30-May-2024 31-May-2024 48 hrs 21 hrs ✓	HDPE [ON MECP]										
	MW 23-3	E121	30-May-2024					31-May-2024	48 hrs	21 hrs	✓



Matrix: Water					E١	aluation: × =	Holding time excee	edance ; •	= Within	Holding Time
Analyte Group : Analytical Method	Method	Sampling Date		Analysis						
Container / Client Sample ID(s)			Preparation	Holding	g Times	Eval	Analysis Date	Holding	g Times	Eval
			Date	Rec	Actual			Rec	Actual	
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE [ON MECP] MW 23-3	E420	30-May-2024	31-May-2024	0 hrs	16 hrs	× UCP	31-May-2024	0 hrs	23 hrs	× UCP

Legend & Qualifier Definitions

Rec. HT: ALS recommended hold time (see units).

UCP: Unsuitable Container and/or Preservative used (invalidates standard hold time). Maximum hold time of zero applied. Test results may be biased low / unreliable, and may not meet regulatory requirements.



Quality Control Parameter Frequency Compliance

The following report summarizes the frequency of laboratory QC samples analyzed within the analytical batches (QC lots) in which the submitted samples were processed. The actual frequency should be greater than or equal to the expected frequency.

Matrix: Water Evaluation: × = QC frequency outside specification; ✓ = QC frequency within specification; ✓ = QC frequency withi												
Quality Control Sample Type			Co	unt								
Analytical Methods	Method	QC Lot #	QC	Regular	Actual	Expected	Evaluation					
Laboratory Duplicates (DUP)												
Alkalinity Species by Titration	E290	1472924	1	20	5.0	5.0	✓					
Ammonia by Fluorescence	E298	1470994	1	20	5.0	5.0	✓					
Chloride in Water by IC	E235.Cl	1472928	1	20	5.0	5.0	✓					
Colour (Apparent) by Spectrometer	E330	1469701	1	16	6.2	5.0	✓					
Conductivity in Water	E100	1472925	1	20	5.0	5.0	✓					
Dissolved Metals in Water by CRC ICPMS	E421	1469428	1	20	5.0	5.0	✓					
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	1472940	1	19	5.2	5.0	✓					
E. coli (MF-mFC-BCIG)	E012A.EC	1469285	1	20	5.0	5.0	✓					
Fluoride in Water by IC	E235.F	1472930	1	8	12.5	5.0	✓					
Nitrate in Water by IC	E235.NO3	1472926	1	20	5.0	5.0	✓					
Nitrite in Water by IC	E235.NO2	1472927	1	20	5.0	5.0	✓					
pH by Meter	E108	1472923	1	20	5.0	5.0	✓					
Sulfate in Water by IC	E235.SO4	1472929	1	20	5.0	5.0	✓					
TDS by Gravimetry	E162	1476573	1	20	5.0	5.0	✓					
Total Coliforms (MF-mEndo)	E012.TC	1469287	1	20	5.0	5.0	✓					
Total Metals in Water by CRC ICPMS	E420	1468238	1	18	5.5	5.0	✓					
Turbidity by Nephelometry	E121	1468699	1	20	5.0	5.0	✓					
Laboratory Control Samples (LCS)												
Alkalinity Species by Titration	E290	1472924	1	20	5.0	5.0	✓					
Ammonia by Fluorescence	E298	1470994	1	20	5.0	5.0	✓					
Chloride in Water by IC	E235.Cl	1472928	1	20	5.0	5.0	✓					
Colour (Apparent) by Spectrometer	E330	1469701	1	16	6.2	5.0	✓					
Conductivity in Water	E100	1472925	1	20	5.0	5.0	✓					
Dissolved Metals in Water by CRC ICPMS	E421	1469428	1	20	5.0	5.0	✓					
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	1472940	1	19	5.2	5.0	✓					
Fluoride in Water by IC	E235.F	1472930	1	8	12.5	5.0	✓					
Nitrate in Water by IC	E235.NO3	1472926	1	20	5.0	5.0	✓					
Nitrite in Water by IC	E235.NO2	1472927	1	20	5.0	5.0	✓					
pH by Meter	E108	1472923	1	20	5.0	5.0	✓					
Sulfate in Water by IC	E235.SO4	1472929	1	20	5.0	5.0	✓					
TDS by Gravimetry	E162	1476573	1	20	5.0	5.0	✓					
Total Metals in Water by CRC ICPMS	E420	1468238	1	18	5.5	5.0	✓					
Turbidity by Nephelometry	E121	1468699	1	20	5.0	5.0	✓					
Method Blanks (MB)												
Alkalinity Species by Titration	E290	1472924	1	20	5.0	5.0	✓					

Page	:	8 of 11
Work Order	:	WT2414011
Client	:	CF Crozier & Associates
Project	:	2227-69259



Matrix: Water		Evaluation	n: × = QC freque	ency outside spe	cification; ✓ = 0	QC frequency wit	hin specification.
Quality Control Sample Type			Co	ount		Frequency (%))
Analytical Methods	Method	QC Lot #	QC	Regular	Actual	Expected	Evaluation
Method Blanks (MB) - Continued							
Ammonia by Fluorescence	E298	1470994	1	20	5.0	5.0	✓
Chloride in Water by IC	E235.Cl	1472928	1	20	5.0	5.0	✓
Colour (Apparent) by Spectrometer	E330	1469701	1	16	6.2	5.0	✓
Conductivity in Water	E100	1472925	1	20	5.0	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1469428	1	20	5.0	5.0	✓
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	1472940	1	19	5.2	5.0	✓
E. coli (MF-mFC-BCIG)	E012A.EC	1469285	1	20	5.0	5.0	✓
Fluoride in Water by IC	E235.F	1472930	1	8	12.5	5.0	✓
Nitrate in Water by IC	E235.NO3	1472926	1	20	5.0	5.0	✓
Nitrite in Water by IC	E235.NO2	1472927	1	20	5.0	5.0	✓
Sulfate in Water by IC	E235.SO4	1472929	1	20	5.0	5.0	✓
TDS by Gravimetry	E162	1476573	1	20	5.0	5.0	✓
Total Coliforms (MF-mEndo)	E012.TC	1469287	1	20	5.0	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1468238	1	18	5.5	5.0	✓
Turbidity by Nephelometry	E121	1468699	1	20	5.0	5.0	\checkmark
Matrix Spikes (MS)							
Ammonia by Fluorescence	E298	1470994	1	20	5.0	5.0	✓
Chloride in Water by IC	E235.Cl	1472928	1	20	5.0	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1469428	1	20	5.0	5.0	✓
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	1472940	1	19	5.2	5.0	✓
Fluoride in Water by IC	E235.F	1472930	1	8	12.5	5.0	✓
Nitrate in Water by IC	E235.NO3	1472926	1	20	5.0	5.0	✓
Nitrite in Water by IC	E235.NO2	1472927	1	20	5.0	5.0	✓
Sulfate in Water by IC	E235.SO4	1472929	1	20	5.0	5.0	✓
Total Metals in Water by CRC ICPMS	E420	1468238	1	18	5.5	5.0	✓



Methodology References and Summaries

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Reference methods may incorporate modifications to improve performance (indicated by "mod").

Total Coliforms (MF-mEndo) E012.TC Water APHA 9222B (mod) Following filtration (0.45 µm), and incubation at 35.0 ±0.5°C for 24 hours, color exhibiting characteristic morphology of the target organism are enumerated a confirmed. E. coli (MF-mFC-BCIG) E012A.EC Water ON E3433 (mod) Following filtration (0.45 µm), and incubation at 44.5±0.2°C for 24 hours, color exhibiting characteristic morphology of the target organism are enumerated a confirmed. Conductivity in Water E012A.EC Water ON E3433 (mod) Following filtration (0.45 µm), and incubation at 44.5±0.2°C for 24 hours, color exhibiting characteristic morphology of the target organism are enumerated. Conductivity in Water E012A.EC Water ON E3433 (mod) Following filtration (0.45 µm), and incubation at 44.5±0.2°C for 24 hours, color exhibiting characteristic morphology of the target organism are enumerated. Conductivity in Water E012A.EC Water ON E3433 (mod) Following filtration (0.45 µm), and incubation at 44.5±0.2°C for 24 hours, color exhibiting characteristic morphology of the target organism are enumerated. Materioo ALS Environmental - Waterloo Conductivity, also known as Electrical Conductivity (EC) or Specific Conductance, measured by inmersion of a conductivity performental - Waterloo pH is determined by potentiometric measurement with a pH electrode, and is conduct at ambient taboratory temperature (normally 20 ± 5°C). For high accuracy test resu pH should be measured in the field within the recommended 15 minute hold t	Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
ALS Environmental - Waterioo ALS Environmental - Waterioo confirmed. E. coli (MF-mFC-BCIG) E012A_EC Water ON E3433 (mod) Following filtration (0.45 µm), and incubation at 44.5±0.2*C for 24 hours, color exhibiting characteristic morphology of the target organism are enumerated. ALS Environmental - Waterioo ALS Environmental - Waterioo APHA 2510 (mod) Conductivity, also known as Electrical Conductivity (EC) or Specific Conductance, measured by immersion of a conductivity cell with platinum electrodes into a wa sample. Conductivity measurements are temperature-compensated to 25°C. PH by Meter E108 Water APHA 4500-H (mod) pH is determined by potentiometric measurement with a pH electrode, and is conduct at ambient laboratory temperature (normally 20 ± 5°C). For high accuracy test resu pH should be measured in the field within the recommended 15 minute hold time. Turbidity by Nephelometry E121 Water APHA 2130 B (mod) Turbidity is measured by the nephelometric method, by measuring the intensity of lig scatter under defined conditions. TDS by Gravimetry E162 Water APHA 2540 C (mod) Total Dissolved Solids (TDS) are determined by filtering a sample through a class filt	Total Coliforms (MF-mEndo)	E012.TC	Water	APHA 9222B (mod)	Following filtration (0.45 µm), and incubation at 35.0 ±0.5°C for 24 hours, colonies exhibiting characteristic morphology of the target organism are enumerated and
Waterloo Value E. coli (MF-mFC-BCIG) E012A.EC Water ON E3433 (mod) Following filtration (0.45 µm), and incubation at 44.5±0.2°C for 24 hours, color exhibiting characteristic morphology of the target organism are enumerated. ALS Environmental - Waterloo ALS Environmental - Waterloo APHA 2510 (mod) Conductivity, also known as Electrical Conductivity (EC) or Specific Conductance, measured by immersion of a conductivity cell with platinum electrodes into a was sample. Conductivity measurements are temperature-compensated to 25°C. pH by Meter E108 Water APHA 4500-H (mod) pH is determined by potentiometric measurement with a pH electrode, and is conduct at ambient laboratory temperature (normally 20 ± 5°C). For high accuracy test resu pH should be measured in the field within the recommended 15 minute hold time. Turbidity by Nephelometry E121 Water APHA 2130 B (mod) Turbidity is measured by the nephelometric method, by measuring the intensity of lig scatter under defined conditions. TDS by Gravimetry E162 Water APHA 2540 C (mod) Total Dissolved Solids (TDS) are determined by filtering a sample through a class filter		ALS Environmental -			confirmed.
E. coli (MF-mFC-BCIG) E012A.EC Water ON E3433 (mod) Following filtration (0.45 μm), and incubation at 44.5±0.2*C for 24 hours, color exhibiting characteristic morphology of the target organism are enumerated. Conductivity in Water E100 Water APHA 2510 (mod) Conductivity, also known as Electrical Conductivity (EC) or Specific Conductance, measured by immersion of a conductivity cell with platinum electrodes into a wa sample. Conductivity measurements are temperature-compensated to 25°C. pH by Meter E108 Water APHA 4500-H (mod) pH is determined by potentiometric measurement with a pH electrode, and is conduct at ambient laboratory temperature (normally 20 ± 5°C). For high accuracy test resu pH should be measured in the field within the recommended 15 minute hold time. Turbidity by Nephelometry E121 Water APHA 2130 B (mod) Turbidity is measured by the nephelometric method, by measuring the intensity of lig scatter under defined conditions. TDS by Gravimetry E162 Water APHA 2540 C (mod) Total Dissolved Solids (TDS) are determined by filtering a sample through a class filt		Waterloo			
ALS Environmental - Waterloo ALS Environmental - Waterloo APHA 2510 (mod) Conductivity, also known as Electrical Conductivity (EC) or Specific Conductance, measured by immersion of a conductivity cell with platinum electrodes into a wa sample. Conductivity measurements are temperature-compensated to 25°C. pH by Meter E108 Water APHA 4500-H (mod) pH is determined by potentiometric measurement with a pH electrode, and is conduct at ambient laboratory temperature (normally 20 ± 5°C). For high accuracy test resu pH should be measured in the field within the recommended 15 minute hold time. Turbidity by Nephelometry E121 Water APHA 2130 B (mod) Turbidity is measured by the nephelometric method, by measuring the intensity of lig scatter under defined conditions. TDS by Gravimetry E162 Water APHA 2540 C (mod) Total Dissolved Solids (TDS) are determined by filtering a sample through a class filt	E. coli (MF-mFC-BCIG)	E012A.EC	Water	ON E3433 (mod)	Following filtration (0.45 μm), and incubation at 44.5±0.2°C for 24 hours, colonies exhibiting characteristic morphology of the target organism are enumerated.
Waterioo Water APHA 2510 (mod) Conductivity, also known as Electrical Conductivity (EC) or Specific Conductance, measured by immersion of a conductivity cell with platinum electrodes into a wa sample. Conductivity measurements are temperature-compensated to 25°C. pH by Meter E108 Water APHA 4500-H (mod) pH is determined by potentiometric measurement with a pH electrode, and is conductivity temperature (normally 20 ± 5°C). For high accuracy test resu pH should be measured in the field within the recommended 15 minute hold time. Turbidity by Nephelometry E121 Water APHA 2130 B (mod) Turbidity is measured by the nephelometric method, by measuring the intensity of lig scatter under defined conditions. TDS by Gravimetry E162 Water APHA 2540 C (mod) Total Dissolved Solids (TDS) are determined by filtering a sample through a class filtering a		ALS Environmental -			
Conductivity in Water E100 Water APHA 2510 (mod) Conductivity, also known as Electrical Conductivity (EC) or Specific Conductance, measured by immersion of a conductivity cell with platinum electrodes into a wa sample. Conductivity measurements are temperature-compensated to 25°C. pH by Meter E108 Water APHA 4500-H (mod) pH is determined by potentiometric measurement with a pH electrode, and is conduct at ambient laboratory temperature (normally 20 ± 5°C). For high accuracy test resu pH should be measured in the field within the recommended 15 minute hold time. Turbidity by Nephelometry E121 Water APHA 2130 B (mod) Turbidity is measured by the nephelometric method, by measuring the intensity of lig scatter under defined conditions. TDS by Gravimetry E162 Water APHA 2540 C (mod) Total Dissolved Solids (TDS) are determined by filtering a sample through a glass filt		Waterloo			
ALS Environmental - Waterloo ALS Environmental - Waterloo sample. Conductivity measurements are temperature-compensated to 25°C. pH by Meter E108 Water APHA 4500-H (mod) pH is determined by potentiometric measurement with a pH electrode, and is conduct at ambient laboratory temperature (normally 20 ± 5°C). For high accuracy test resu pH should be measured in the field within the recommended 15 minute hold time. Turbidity by Nephelometry E121 Water APHA 2130 B (mod) Turbidity is measured by the nephelometric method, by measuring the intensity of lig scatter under defined conditions. TDS by Gravimetry E162 Water APHA 2540 C (mod) Total Dissolved Solids (TDS) are determined by filtering a sample through a glass filt	Conductivity in Water	E100	Water	APHA 2510 (mod)	Conductivity, also known as Electrical Conductivity (EC) or Specific Conductance, is measured by immersion of a conductivity cell with platinum electrodes into a water
Waterloo Waterloo pH by Meter E108 Water APHA 4500-H (mod) pH is determined by potentiometric measurement with a pH electrode, and is conduct at ambient laboratory temperature (normally 20 ± 5°C). For high accuracy test result pH should be measured in the field within the recommended 15 minute hold time. Turbidity by Nephelometry E121 Water APHA 2130 B (mod) Turbidity is measured by the nephelometric method, by measuring the intensity of liquid scatter under defined conditions. TDS by Gravimetry E162 Water APHA 2540 C (mod) Total Dissolved Solids (TDS) are determined by filtering a sample through a glass filter		ALS Environmental -			sample. Conductivity measurements are temperature-compensated to 25°C.
pH by Meter E108 Water APHA 4500-H (mod) pH is determined by potentiometric measurement with a pH electrode, and is conduct at ambient laboratory temperature (normally 20 ± 5°C). For high accuracy test result at ambient laboratory temperature (normally 20 ± 5°C). For high accuracy test result pH should be measured in the field within the recommended 15 minute hold time. Turbidity by Nephelometry E121 Water APHA 2130 B (mod) Turbidity is measured by the nephelometric method, by measuring the intensity of light scatter under defined conditions. TDS by Gravimetry E162 Water APHA 2540 C (mod) Total Dissolved Solids (TDS) are determined by filtering a sample through a glass filt		Waterloo			
ALS Environmental - Waterloo pH should be measured in the field within the recommended 15 minute hold time. Turbidity by Nephelometry E121 Water APHA 2130 B (mod) Turbidity is measured by the nephelometric method, by measuring the intensity of light scatter under defined conditions. TDS by Gravimetry E162 Water APHA 2540 C (mod) Total Dissolved Solids (TDS) are determined by filtering a sample through a glass filter	pH by Meter	E108	Water	APHA 4500-H (mod)	pH is determined by potentiometric measurement with a pH electrode, and is conducted at ambient laboratory temperature (normally 20 ± 5°C). For high accuracy test results,
Waterloo Waterloo Turbidity by Nephelometry E121 Water APHA 2130 B (mod) Turbidity is measured by the nephelometric method, by measuring the intensity of line scatter under defined conditions. ALS Environmental - Waterloo Waterloo APHA 2540 C (mod) Total Dissolved Solids (TDS) are determined by filtering a sample through a glass filter		ALS Environmental -			pH should be measured in the field within the recommended 15 minute hold time.
Turbidity by Nephelometry E121 Water APHA 2130 B (mod) Turbidity is measured by the nephelometric method, by measuring the intensity of list scatter under defined conditions. ALS Environmental - Waterloo Water APHA 2540 C (mod) Total Dissolved Solids (TDS) are determined by filtering a sample through a glass filt		Waterloo			
ALS Environmental - Waterloo Als Environmental - Waterloo APHA 2540 C (mod) Total Dissolved Solids (TDS) are determined by filtering a sample through a glass filt	Turbidity by Nephelometry	E121	Water	APHA 2130 B (mod)	Turbidity is measured by the nephelometric method, by measuring the intensity of light scatter under defined conditions.
Waterloo Waterloo TDS by Gravimetry E162 Water APHA 2540 C (mod) Total Dissolved Solids (TDS) are determined by filtering a sample through a glass filtering a glas gl		ALS Environmental -			
TDS by Gravimetry E162 Water APHA 2540 C (mod) Total Dissolved Solids (TDS) are determined by filtering a sample through a glass fil		Waterloo			
filter, with evaporation of the filtrate at 180 ± 2°C for 16 hours or to constant weight	TDS by Gravimetry	E162	Water	APHA 2540 C (mod)	Total Dissolved Solids (TDS) are determined by filtering a sample through a glass fibre filter, with evaporation of the filtrate at 180 ± 2°C for 16 hours or to constant weight,
ALS Environmental - with gravimetric measurement of the residue.		ALS Environmental -			with gravimetric measurement of the residue.
Waterloo		Waterloo			
Chloride in Water by IC E235.CI Water EPA 300.1 (mod) Inorganic anions are analyzed by Ion Chromatography with conductivity and /or detection.	Chloride in Water by IC	E235.Cl	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and /or UV detection.
ALS Environmental -		ALS Environmental -			
Waterloo		Waterloo			
Fluoride in Water by IC E235.F Water EPA 300.1 (mod) Inorganic anions are analyzed by Ion Chromatography with conductivity and /or detection.	Fluoride in Water by IC	E235.F	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and /or UV detection.
ALS Environmental -		ALS Environmental -			
Waterloo		Waterloo			
Nitrite in Water by IC E235.NO2 Water EPA 300.1 (mod) Inorganic anions are analyzed by Ion Chromatography with conductivity and /or detection.	Nitrite in Water by IC	E235.NO2	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and /or UV detection.
ALS Environmental -		ALS Environmental -			
Waterloo		Waterloo			
Nitrate in Water by IC E235.NO3 Water EPA 300.1 (mod) Inorganic anions are analyzed by Ion Chromatography with conductivity and /or detection.	Nitrate in Water by IC	E235.NO3	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and /or UV detection.
ALS Environmental -		ALS Environmental -			
Waterloo		Waterloo			

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Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Sulfate in Water by IC	E235.SO4	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and /or UV detection.
	ALS Environmental -			
Alkalinity Species by Titration	F290	Water	APHA 2320 B (mod)	Total alkalinity is determined by potentiometric titration to a pH 4.5 endpoint. Bicarbonate
	2200			carbonate and hydroxide alkalinity are calculated from phenolphthalein alkalinity and total
	ALS Environmental -			alkalinity values.
	Waterloo			
Ammonia by Fluorescence	E298	Water	Method Fialab 100, 2018	Ammonia in water is determined by automated continuous flow analysis with membrane diffusion and fluorescence detection, after reaction with OPA (ortho-phthalaldehyde).
	ALS Environmental -			This method is approved under US EPA 40 CFR Part 136 (May 2021)
	Waterloo			
Colour (Apparent) by Spectrometer	E330	Water	APHA 2120 C (mod)	Colour (Apparent) is measured in an unfiltered sample spectrophotometrically using the single wavelength method. The colour contribution of settleable solids are not included
	ALS Environmental - Waterloo			in the result. This method is intended for potable waters.
				Colour measurements can be highly pH dependent, and apply to the pH of the sample as received (at time of testing), without pH adjustment.
Dissolved Orthophosphate by Colourimetry	E378-U	Water	APHA 4500-P F (mod)	Dissolved Orthophosphate is determined colourimetrically on a sample that has been lab
(Ultra Trace Level 0.001 mg/L)	ALC Environmental			or field filtered through a 0.45 micron membrane filter.
	ALS Environmental - Waterloo			Field filtration is recommended to ensure test results represent conditions at time of
	Matoneo			sampling.
Total Metals in Water by CRC ICPMS	E420	Water	EPA 200.2/6020B (mod)	Water samples are digested with nitric and hydrochloric acids, and analyzed by Collision/Reaction Cell ICPMS.
	ALS Environmental -			
	Waterloo			Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method.
Dissolved Metals in Water by CRC ICPMS	E421	Water	APHA 3030B/EPA 6020B (mod)	Water samples are filtered (0.45 um), preserved with nitric acid, and analyzed by Collision/Reaction Cell ICPMS.
	ALS Environmental -		· · · ·	
	Waterloo			Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method.
Dissolved Hardness (Calculated)	EC100	Water	APHA 2340B	"Hardness (as CaCO3), dissolved" is calculated from the sum of dissolved Calcium and Magnesium concentrations, expressed in CaCO3 equivalents. "Total Hardness" refers
	ALS Environmental -			to the sum of Calcium and Magnesium Hardness. Hardness is normally or preferentially
	Waterloo			calculated from dissolved Calcium and Magnesium concentrations, because it is a
				property of water due to dissolved divalent cations.
Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Preparation for Ammonia	EP298	Water		Sample preparation for Preserved Nutrients Water Quality Analysis.
	ALS Environmental - Waterloo			

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Work Order	:	WT2414011
Client	:	CF Crozier & Associates
Project	:	2227-69259



Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Dissolved Metals Water Filtration	EP421	Water	APHA 3030B	Water samples are filtered (0.45 um), and preserved with HNO3.
AL	S Environmental -			

Released by: ANN C		Are samples for hun	Are samples taken t	Drinking V	The second		The second second				ALS Sample # (ALS use only)	ALS Lab Work	LSD:	PO / AFE:	Job / Project #:	ALS Client Code	A Manager	Contact:	Company:	INVOICE TO	Postal Code:	City/Province:	Street:		Phone:	Company: Contact:	Report To	ALS		
Crozier May 30, 20		nan consumption/ use?	NO	Vater (DW) Samples ¹ (client use)		fingers within and the function	allowing the state of the state	and the second product with fields		MW 23-3	Sample Identification and/or C (This description will appear on	Order # (ALS use only): $WTZ4/4$	the state of the s		2227-6259	1 QUOTE #: "A John And And	Project Information	mbattocecrozier		Same as Report To	LAT 6PH	Hilton, U DIU	2800 High Point Dri	Company address below will appear on the final report	11102 - 873 - 0074	Ut Crotier	Contact and company name below will appear on the fine	www.alsglobal.com	MM-6+1 N-	
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A Received by 15 Date		INIITIAL COOLER TEMPERATURES °C	Method: NONE DITE DATE PAC	SAMPLE RECEIPT DE						>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>	VI Proval Tota GE Tota E.C	A incia ity NCI al (iol i	sol tE	M. Rec	HI STAN	rds etal	5	Indicate Filtered (F), Preserved (P) or Filte	Analysi	For all tests with rush TATs requested, p	Date and Time Required for all E&P TATs:	Additional faces may apply to rush requests on w	wy [E] if received by 3pm M-+ - 100% rush surcharge m me day [E2] if received by 10am M-S - 200% rush surch	by [P2] if received by 3pm M-F - 50% rush surcharge n	aay (P4) if received by 3pm M-F- 20% rush surcharge m day (P3) if received by 3pm M-F - 25% rush surcharge n	utine [R] if received by 3pm M-F - no surcharges apply	Turnaround Time (TAT) Requested	and the second second	Page of	
1 RECEPTION (ALS USE ONLY)	14	Sample Custody Seals Intact: FINAL COOLER TEMPE	CKS ROZEN CO	ETAILS (ALS use only)										A STARLE FOR THE AVENUE				ered and Preserved (F/P) below	is Request	Please co Telephone : +1 51		veekends	minimur harne	minimur	ninimum	- VV 124	Work Order	Environmen Waterloo		
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APPENDIX D

Hydraulic Conductivity Testing





APPENDIX E

Door-to-Door Survey

MAY 30, 2024

PROJECT NO: 2227-6259

SENT VIA: HAND DELIVERED

Attention: Property Owner/Tenant

RE: DOOR TO DOOR WELL AND SEPTIC SURVEY QUESTIONNAIRE REGION OF PEEL, ONTARIO

To whom it may concern,

C.F. Crozier & Associates Inc. (Crozier) has been retained to complete a detailed study of the nearby area to assess groundwater conditions and potential impacts occurring to the shallow groundwater system. Hence, Crozier is conducting a door-to-door survey to determine the location of any water supply wells, cisterns and private sewage systems in your area. We would appreciate participation in this survey to assist us in our study.

Attached is a questionnaire concerning your property and private well, cistern and/orseptic system (if applicable). Please review and provide your responses using the forms located in the QR code below or via email to <u>vmazur@cfcrozier.ca</u>. Alternatively, please feel free to call our office to provide us with your questionnaire responses. Please provide your response by June 21st, 2024, if possible. Rest assured, we will not share your contact information with any third parties and the information provided in this questionnaire will only be used for the purposes of this study.

Should you have any questions or require any further information, please do not hesitate to contact the undersigned.

Scan QR Code below.



Sincerely,

CROZIER CONSULTING ENGINEERS

Victoria Mazur, ElT Hydrogeology

2800 High Point Dr., Suite 100 Milton, ON L9T 6P4 T. 905.875.0026 F. 905.875.4915 cfcrozier.ca



Door to Door Well & Septic Survey Questionnaire

1. What is your address?

The following questions 2 – 8 pertain to private water supply wells. If you do not have a well on your property, you may skip to question 9.

- 2. Do you have a private well on your property?
- 3. Does your well supply your drinking water?
- 4. What is the age of your well?
- 5. Is it a dug or drilled well?
- 6. How deep is your well?
- 7. Have you had any quantity or quality issues with your well? Briefly describe any issues.
- 8. Would you be willing to allow us to collect a sample of your water for laboratory analysis at no cost to you? All results will be provided to you for your records.

The following questions 9 - 10 pertain to cisterns. If you do not have a cistern on your property, you may skip to question 11.

- 9. Do you have a cistern on your property?
- 10. Does the cistern supply your drinking water?

- 11. What size is your cistern? Is it external or internal?
- 12. Do you have a surface water intake on your property?
- 13. Do you have any water treatment systems (e.g., water softener, chlorinator etc.)?
- 14. Do you have a septic system on your property?
- 15. Where is your sewage system located (i.e., front of your home, side yard etc.)?
- 16. What type of sewage system is it (i.e., septic tan with a leaching bed or holding tank)?
- 17. What is the age of your septic system?

If you are willing, please provide your contact information for any follow up questions we may have. If you answered yes to question 8, please provide your preferred method of contact so we may coordinate sampling:

Reminder: Your contact information will not be shared with any third parties.

MAY 30, 2024

MAY 2 9 2024

PROJECT NO: 2227-6259

SENT VIA: HAND DELIVERED

Attention: Property Owner/Tenant

RE: DOOR TO DOOR WELL AND SEPTIC SURVEY QUESTIONNAIRE REGION OF PEEL, ONTARIO

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Should you have any questions or require any further information, please do not hesitate to contact the undersigned.

Scan QR Code below.



Sincerely,

CROZIER CONSULTING ENGINEERS

Victoria Mazur, EIT Hydrogeology

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RECEIVED

MAY 2 9 2024

Door to Door Well & Septic Survey May 30, 2024

Door to Door Well & Septic Survey Questionnaire

1. What is your address?

15486

Mount Pleasant Rd, Caledon LTE 3M4

The following questions 2 - 8 pertain to private water supply wells. If you do not have a well on your property, you may skip to question 9.

2. Do you have a private well on your property?

3. Does your well supply your drinking water?

4. What is the age of your well?

- 5. Is it a dug or drilled well? DuG
- 6. How deep is your well? 30'
- 7. Have you had any quantity or quality issues with your well? Briefly describe any issues.

No

Tes

8. Would you be willing to allow us to collect a sample of your water for laboratory analysis at no cost to you? All results will be provided to you for your records.

The following questions 9 - 10 pertain to cisterns. If you do not have a cistern on your property. you may skip to question 11.

9. Do you have a cistern on your property?

NO

10. Does the cistern supply your drinking water?

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11. What size is your cistern? Is it external or internal?

12. Do you have a surface water intake on your property?

13. Do you have any water treatment systems (e.g., water softener, chlorinator etc.)?

R.O.

14. Do you have a septic system on your property?

Yes

15. Where is your sewage system located (i.e., front of your home, side yard etc.)? BACK of home

16. What type of sewage system is it (i.e., septic tan with a leaching bed or holding tank)?

17. What is the age of your septic system? 1970?

If you are willing, please provide your contact information for any follow up questions we may have. If you answered yes to question 8, please provide your preferred method of contact so we may coordinate sampling:

barbara, blair @ brantas.com

Reminder: Your contact information will not be shared with any third parties.

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APPENDIX F

Hydrographs







APPENDIX G

Water Balance Assessment



Water Balance Parameters

Thornthwaite & Mather Method

Project Name: 15441 Mount Pleasant Road Project Number: 2227-6259 Created By: VM Checked By: CM Date: 2024-07-04

15441 Mount Pleasant Road Region of Peel

LATITUDE

Project Name: Location:

> DEGREES 43

 Climate Station:
 ALBION FIELD CENTRE

 Longitude:
 79°50'00.000" W

 Latitude:
 43°55'00.000" N

 Elevation:
 281.9 m

 Station ID:
 6150103

Month	Mean Temperature (C°) ¹	Heat Index $[i = (1/5)^{1.514}]$	α	Potential Evapotranspiration (PET) (mm)	Correction Factor ²	Adjusted Potential Evapotranspiration (APET) (mm)	Total Precipitation (P) (mm) ¹	P - APET (mm)	APET- P (mm)
January	-7	0.0000	0.4924	0.0000	0.81	0	60.4	60.4	0.0
February	-5.9	0.0000	0.4924	0.0000	0.82	0	50.2	50.2	0.0
March	-1.4	0.0000	0.4924	0.0000	1.02	0	50.3	50.3	0.0
April	6.1	1.3513	0.5165	28.8545	1.12	32	67	34.7	0.0
May	12.4	3.9555	0.5621	60.8270	1.26	77	76.1	0.0	0.5
June	17.3	6.5488	0.6066	86.3244	1.28	110	75.5	0.0	35.0
July	19.9	8.0951	0.6328	100.0131	1.29	129	81.8	0.0	47.2
August	19.1	7.6075	0.6246	95.7908	1.2	115	77.4	0.0	37.5
September	14.3	4.9084	0.5786	70.6617	1.04	73	75	1.5	0.0
October	8.1	2.0759	0.5293	38.8760	0.95	37	68.3	31.4	0.0
November	2.1	0.2689	0.4972	9.4052	0.81	8	81.7	74.1	0.0
December	-3.9	0.0000	0.4924	0.0000	0.77	0	57.7	57.7	0.0
TOTAL		34.8	1.1			581.5	821.4	360.24	120.30

TOTAL WATER DEFICIT = 120.30 mm TOTAL WATER SURPLUS (SURPLUS - DEFICIT) = 239.94 mm

NOTES: 1. Precipitation and Temperature data from the ALBION FIELD CENTRE (Station No.6150103) Environment Canada Station Data 2. Latitude adjustment factors determined based on site latitude assuming 12 hours of sunlight per day for 30 days



Pre-Development Water Balance Thornthwaite & Mather Method

Project Name: 15441 Mount Pleasant Road Project Number: 2227-6259 Created By: VM Checked By: CM Date: 2024-07-04

		Project Name	ə:	15441 Mount	Pleasant Road		Date:	2024-07-04					
		Location:		Region	of Peel								
	228 400			Pre-Deve	elopment Site	Summary							
IOTAL SHE AREA (III.)	220,000	<u></u>											
Land Use	Grass	Gravel	Pond	Woodlot									
Topography - flat/rolling/hilly	0.30	0.30	0.30	0.30									
Solis	0.30	0.30	0.30	0.30									
Sum (Infiltration Factor)	0.70	0.70	0.70	0.80									
Soil Moisture Capacity (mm)	100	100	100	400									
Catchment Area (m ²)	102,256	950	45,521	79,873									
Percent Imperviousness (%)	0%	100%	0%	0%									
Land Use	Grass	Gravel	103	104									
Total Impervious Area (m ²)	0	950	0	0									
Percentage of Impervious Area (%)	0%	100%	0%	0%									
Total Pervious Area (m ²)	102,256	0	45,521	79,873									
Percentage of Pervious Ared (%)	100%	0%	100%	100%									
Land Use	Grass												
				Evapotransp	iration/Evapor	ation Analysis							
Month	Jan	Feb	Mar	Apr	May	Jun	luL	Aug	Sep	Oct	Nov	Dec	Year
Adjusted Potential Evapotranspiration	- 00			0/	/0	/0	02	//	/3	00	- 02	- 30	021
(APET)	0	0	0	32	77	110	129	115	73	37	8	0	581
P-APET	60	50	50	35	-1	-35	-47	-38	2	31	74	58	240
Change in Storage	0	0	0	0	-1	-35	-47	-38	2	31	74	13	120
Slordge (S) (mm)	100	100	100	Pervious Are	a Infiltration/R	unoff Analysis	17	-20	-17	13	0/	100	I
Water Surplus (mm)	60	50	50	35	0	0	0	0	0	0	0	44	240
Potential Infiltration (I) (mm)	42	35	35	24	0	0	0	0	0	0	0	31	168
Potential Direct Surface Water Runoff (R) (mm)	18	15	15	10	0	0	0	0	0	0	0	13	72
			Imperviou	is Area Evapotri	anspiration/Ev	aporation/Rur	off Analysis			1	1	1	u
Impervious													
Evapotranspiration/Evaporation (mm)	0	0	0	10	11	11	12	12	11	10	12	0	90
Impervious Runoff (mm)	60	50	50	57	65	64	70	66	64	58	69	58	731
2		1 .	1 .	Comb	pined Water Bo	alance			I				
Pervious ET (m ²)	0	0	0	3305	7837	11299	13193	11754	7515	3777	779	0	59458
Impervious EI (m ⁻) Reprious Rupoff (m ³)	1853	1540	1543	1064	0	0	0	0	0	0	0	1361	7361
	0	0	0	0	0	0	0	0	0	0	0	0	0
Pervious Infiltration (m ³)	4323	3593	3600	2483	0	0	0	0	0	0	0	3175	17175
Impervious Infiltration (m ³)	0	0	0	0	0	0	0	0	0	0	0	0	0
		1											
Land Use	Gravel			Evapotransp	iration/Evanor	ration Analysis							
Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
Precipitation (P)	60	50	50	67	76	76	82	77	75	68	82	58	821
Adjusted Potential Evapotranspiration	0	0	0	32	77	110	129	115	73	37	8	0	581
P-APET	60	50	50	35	-1	-35	-47	-38	2	31	74	58	240
Change in Storage	0	0	0	0	-1	-35	-47	-38	2	31	74	13	120
Storage (S) (mm)	100	100	100	100	99	64	17	-20	-19	13	87	100	
Water Surplus (mm)	40	50	50	Pervious Are	a Intiltration/R	unoff Analysis	0	0	0	0	0	44	240
Potential Infiltration (I) (mm)	42	35	35	24	0	0	0	0	0	0	0	31	168
Potential Direct Surface Water Runoff	19	15	15	10	0	0	0	0	0	0	0	13	72
(R) (mm)	10	15	10	10	anenira# /	/P	off Anglinit	0	0			15	12
	1	1	Imperviou	is Area Evapotri	anspiration/Ev	aporation/Rur	off Analysis	1	1				1
Impervious Evapotranspiration/Evaporation (mm)	0	0	0	10	11	11	12	12	11	10	12	0	90
Impervious Runoff (mm)	60	50	50	57	65	64	70	66	64	58	69	58	731
Pervious FT (m ³)	0	0	0	0 Comb	nea water Bo	nance 0	0	0	0	0	0	0	0
Impervious ET (m ³)	0	0	0	10	11	11	12	11	11	10	12	0	86
Pervious Runoff (m ³)	0	0	0	0	0	0	0	0	0	0	0	0	0
Impervious Runoff (m ³)	57	48	48	54	61	61	66	63	61	55	66	55	694
Pervious Infiltration (m ³)	0	0	0	0	0	0	0	0	0	0	0	0	0
Impervious Infiltration (m ³)	0	0	0	0	0	0	0	0	0	0	0	0	0

Land Use	Pond												
				Evapotransp	iration/Evapo	ration Analysis							
Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
Precipitation (P)	60	50	50	67	76	76	82	77	75	68	82	58	821
Adjusted Potential Evapotranspiration (APFT)	0	0	0	32	77	110	129	115	73	37	8	0	581
P-APET	60	50	50	35	-1	-35	-47	-38	2	31	74	58	240
Change in Storage	0	0	0	0	-1	-35	-47	-38	2	31	74	13	120
Storage (S) (mm)	100	100	100	100	99	64	17	-20	-19	13	87	100	
				Pervious Are	a Infiltration/R	unoff Analysis							
Water Surplus (mm)	60	50	50	35	0	0	0	0	0	0	0	44	240
Potential Infiltration (I) (mm)	42	35	35	24	0	0	0	0	0	0	0	31	168
Potential Direct Surface Water Runoff (R) (mm)	18	15	15	10	0	0	0	0	0	0	0	13	72
			Imperviou	s Area Evapotr	anspiration/Ev	/aporation/Rur	noff Analysis						
Impervious Evapotranspiration/Evaporation (mm)	0	0	0	10	11	11	12	12	11	10	12	0	90
Impervious Runoff (mm)	60	50	50	57	65	64	70	66	64	58	69	58	731
				Com	oined Water B	alance							
Pervious ET (m ³)	0	0	0	1471	3489	5030	5873	5233	3345	1681	347	0	26469
Impervious ET (m ³)	0	0	0	0	0	0	0	0	0	0	0	0	0
Pervious Runoff (m ³)	825	686	687	474	0	0	0	0	0	0	0	606	3277
Impervious Runoff (m ³)	0	0	0	0	0	0	0	0	0	0	0	0	0
Pervious Infiltration (m ³)	1925	1600	1603	1105	0	0	0	0	0	0	0	1413	7646
	0	0	0	0	0	0	0	0	0	0	0	0	0
	-		-	-	-	-	-	-			÷	-	
Catchment ID	Woodlot												
Catchment ID	Woodlot			Evapotransp	iration/Evapo	ration Analysis							
Catchment ID Month	Woodlot Jan	Feb	Mar	Evapotransp Apr	iration/Evapo May	ration Analysis	Jul	Aug	Sep	Oct	Nov	Dec	Year
Catchment ID Month Precipitation (P)	Woodlot Jan 60	Feb 50	Mar 50	Evapotransp Apr 67	iration/Evapo May 76	ration Analysis Jun 76	Jul 82	Aug 77	Sep 75	Oct 68	Nov 82	Dec 58	Year 821
Catchment ID Month Precipitation (P) Adjusted Potential Evapotranspiration (APET)	Voodlot Jan 60 0	Feb 50 0	Mar 50 0	Evapotransp Apr 67 32	iration/Evapo May 76 77	ration Analysis Jun 76 110	Jul 82 129	Aug 77 115	Sep 75 73	Oct 68 37	Nov 82 8	Dec 58 0	Year 821 581
Catchment ID Month Precipitation (P) Adjusted Potential Evapotranspiration (APEI) P-APET	Woodlot Jan 60 0 60	Feb 50 0 50	Mar 50 0 50	Evapotransp Apr 67 32 35	iration/Evapo May 76 77 -1	ration Analysis Jun 76 110 -35	Jul 82 129 -47	Aug 77 115 -38	Sep 75 73 2	Oct 68 37 31	Nov 82 8 74	Dec 58 0 58	Year 821 581 240
Catchment ID Month Precipitation (P) Adjusted Potential Evapotranspiration (APEI) P-APET Change in Storage	Woodlot Jan 60 0 60 0 60	Feb 50 0 50 0	Mar 50 0 50 0	Evapotransp Apr 67 32 35 0	iration/Evapo May 76 77 -1 -1	Tation Analysis Jun 76 110 -35 -35	Jul 82 129 -47 -47	Aug 77 115 -38 -38	Sep 75 73 2 2	Oct 68 37 31 31	Nov 82 8 74 74	Dec 58 0 58 13	Year 821 581 240 120
Catchment ID Month Precipitation (P) Adjusted Potential Evapotranspiration (APET) P-APET Change in Storage Storage (S) (mm)	Woodlot Jan 60 0 60 0 400	Feb 50 0 50 0 400	Mar 50 0 50 0 400	Evapotransp Apr 67 32 35 0 400	iration/Evapo May 76 77 -1 -1 399	Tation Analysis Jun 76 110 -35 -35 364	Jul 82 129 -47 -47 317	Aug 77 115 -38 -38 280	Sep 75 73 2 2 2 281	Oct 68 37 31 31 313	Nov 82 8 74 74 387	Dec 58 0 58 13 400	Year 821 581 240 120
Catchment ID Month Precipitation (P) Adjusted Potential Evapotranspiration (APEI) P-APET Change in Storage Storage (S) (mm)	Woodlot Jan 60 0 60 0 400	Feb 50 0 50 0 400	Mar 50 0 50 0 400	Evapotransp Apr 67 32 35 0 400 Pervious Are	iration/Evapo May 76 77 -1 -1 399 a Infiltration/R	ration Analysis Jun 76 110 -35 -35 364 cunoff Analysis	Jul 82 129 -47 -47 317	Aug 77 115 -38 -38 280	Sep 75 73 2 2 281	Oct 68 37 31 31 31 313	Nov 82 8 74 74 74 387	Dec 58 0 58 13 400	Year 821 581 240 120
Catchment ID Month Precipitation (P) Adjusted Potential Evapotranspiration (APET) P-APET Change in Storage Storage (S) (mm) Water Surplus (mm)	Woodlot Jan 60 0 60 0 400 60	Feb 50 0 50 0 400 50	Mar 50 0 50 0 400	Evapotransp Apr 32 35 0 400 Pervious Are 35	iration/Evapo May 76 77 -1 -1 399 a Infiltration/R 0	Internation Analysis Jun 76 110 -35 -35 364 Unoff Analysis 0	Jul 82 129 -47 -47 317 0	Aug 77 115 -38 -38 280 0	Sep 75 73 2 2 281 0	Oct 68 37 31 31 313 0	Nov 82 8 74 74 387 0	Dec 58 0 58 13 400 44	Year 821 581 240 120 240
Catchment ID Month Precipitation (P) Adjusted Potential Evapotranspiration (APET) P-APET Change in Storage Storage (S) (mm) Water Surplus (mm) Potential Infiltration (I) (mm)	Woodlot Jan 60 0 60 0 400 60 400	Feb 50 0 50 0 400 50 40	Mar 50 0 50 0 400 50 40	Evapofransp Apr 67 32 35 0 400 Pervious Are 35 28	iration/Evapo May 76 77 -1 -1 399 a Infitration/R 0 0	ration Analysis Jun 76 110 -35 -35 364 vunoff Analysis 0 0	Jul 82 129 -47 -47 317 0 0	Aug 77 115 -38 -38 280 0 0	Sep 75 73 2 281 0 0	Oct 68 37 31 31 313 0 0	Nov 82 8 74 74 387 0 0	Dec 58 0 58 13 400 44 35	Year 821 581 240 120 240 192
Catchment ID Month Precipitation (P) Adjusted Potential Evapotranspiration (APET) P-APET Change in Storage Storage (S) (mm) Water Surplus (mm) Potential Infiltration (I) (mm) Potential Infiltration (I) (mm) Potential Direct' Surface Water Runoff (R) (mm)	Woodlot Jan 60 0 60 0 400 60 48 12	Feb 50 0 50 0 400 50 40 10	Mar 50 0 50 0 400 50 40 10	Evapotransp Apr 67 32 35 0 400 Pervious Are 35 28 7	iration/Evapo May 76 77 -1 -1 -1 399 a Infiltration/F 0 0 0	ration Analysis Jun 76 110 -35 -35 -35 364 tunoff Analysis 0 0 0	Jul 82 129 -47 -47 317 0 0 0	Aug 77 115 -38 -38 280 0 0 0 0	Sep 75 73 2 281 0 0 0 0	Oct 68 37 31 31 313 0 0 0	Nov 82 8 74 74 387 0 0 0	Dec 58 0 58 13 400 44 35 9	Year 821 581 240 120 120 192 48
Catchment ID Month Precipitation (P) Adjusted Potential Evapotranspiration (APEI) P-APET Change in Storage Storage (S) (mm) Water Surplus (mm) Potential Inflication (I) (mm) Potential Inflication (I) (mm) Potential Inflication (I) (mm)	Woodlot Jan 60 0 60 0 60 0 400 60 48 12	Feb 50 0 50 0 400 50 40 10	Mar 50 0 50 0 400 50 40 10 10	Evapotransp Apr 67 32 35 0 400 Pervious Are 35 28 7 s Area Evapotr	iration/Evapo May 76 -1 -1 -1 399 a Infiltration/R 0 0 0 anspiration/Ev	ration Analysis Jun 76 110 -35 -35 364 runoff Analysis 0 0 0 0 0	Jul 82 129 -47 -47 317 0 0 0 0 0	Aug 77 115 -38 -38 280 0 0 0	Sep 75 73 2 2 2 2 81 0 0 0	Oct 68 37 31 31 313 0 0 0 0	Nov 82 8 74 74 387 0 0 0	Dec 58 0 58 13 400 440 35 9	Year 821 581 240 120 240 192 48
Catchment ID Month Precipitation (P) Adjusted Potential Evapotranspiration (APE1) P-APET Change in Storage Storage (S) (mm) Water Surplus (mm) Potential Infiltration (I) (mm) Potential Direct Surface Water Runoff (R) (mm) Impervious Evapotranspiration/Evaporation (mm)	Woodlot Jan 60 0 60 0 60 0 400 60 48 12 0	Feb 50 0 50 400 50 40 10	Mar 50 0 50 400 10 Impervious 0	Evapotransp Apr 67 32 35 0 400 Pervious Are 35 28 7 7 s Area Evapotr 10	iration/Evapo May 76 77 -1 -1 399 a Infiltration/F 0 0 0 anspiration/Ev 11	ration Analysis Jun 76 110 -35 -35 -364 tunoff Analysis 0 0 0 0 0 vaporation/Run 11	Jul 82 129 -47 -47 317 0 0 0 0 0 0 0 12	Aug 77 115 -38 -38 280 0 0 0 0	Sep 75 73 2 2 2 81 0 0 0 0 0	Oct 68 37 31 313 0 0 0 0 10	Nov 82 8 74 74 387 0 0 0 0	Dec 58 0 58 13 400 44 35 9	Yeor 821 581 240 120 240 192 48 90
Catchment ID Month Precipitation (P) Adjusted Potential Evapotranspiration (APEI) P-APET Change in Storage Storage (S) (mm) Water Surplus (mm) Potential Initiation (I) (mm) Potential Direct Surface Water Runoff (R) (mm) Impervious Evapotranspiration/Evaporation (mm) Impervious Runoff (mm)	Woodlot Jan 60 0 60 0 400 60 48 12 0 60 60	Feb 50 0 50 0 400 50 40 10 0 50	Mar 50 0 50 400 50 400 10 10 10 0 50	Evapotransp Apr 67 32 35 0 400 Pervious Are 35 28 7 s Area Evapotr 10 57	iration/Evapo May 76 77 -1 -1 399 a Infiltration/R 0 0 0 anspiration/Ev 11 65	Jun 76 110 -35 -35 -364 0 0 0 0 0 0 111 64	Jul 82 129 -47 -47 317 0 0 0 0 0 0 0 12 12 70	Aug 77 115 -38 -38 280 0 0 0 12 12 66	Sep 75 73 2 2 281 0 0 11 64	Oct 68 37 31 313 0 0 0 10 58	Nov 82 8 74 74 387 0 0 0 0 12 69	Dec 58 0 58 13 400 44 35 9 0 58	Year 821 581 240 120 240 192 48 90 731
Catchment ID Month Precipitation (P) Adjusted Potential Evapotranspiration (APEI) P-APET Change in Storage Storage (S) (mm) Water Surplus (mm) Potential Inflitation (I) (mm) Potential Inflitation (I) (mm) Impervious Evapotranspiration/Evaporation (mm) Impervious Runoff (mm)	Woodlot Jan 60 0 60 0 400 60 48 12 0 60 60	Feb 50 0 50 400 400 10 0 50 50	Mar 50 0 50 0 400 10 Imperviou: 0 50	Evapotransp Apr 67 32 35 0 400 Pervious Are 35 28 7 s Area Evapotr 10 57 Coml	irction/Evapo May 76 77 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1	ration Analysis Jun 76 110 -35 -35 364 unoff Analysis 0 0 0 0 apporation/Run 11 64 alance	Jul 82 129 -47 -47 317 0 0 0 0 0 0 0 0 0 0 12 70	Aug 77 115 -38 -38 280 0 0 0 0 12 12 66	Sep 75 73 2 2 281 0 0 0 11 64	Oct 68 37 31 313 313 0 0 0 0 10 58	Nov 82 8 74 74 387 0 0 0 0 0 12 69	Dec 58 0 58 13 400 35 9 0 58 58	Yeor 821 581 240 120 240 192 48 90 731
Catchment ID Month Precipitation (P) Adjusted Potential Evapotranspiration (APE1) P-APET Change in Storage Storage (S) (mm) Water Surplus (mm) Potential Infiltration (I) (mm) Potential Direct Surface Water Runoff (R) (mm) Impervious Evapotranspiration/Evaporation (mm) Impervious Et (m ³) Pervious Et (m ³)	Woodlof Jan 60 60 0 60 0 400 60 48 12 0 60 60 0	Feb 50 50 0 400 50 400 10 0 50 0	Mor 50 0 50 400 50 10 Imperviou 50 0 50 0	Evapotransp Apr 67 32 35 0 400 Pervious Area 35 28 7 s Area Evapotr 10 57 Coml 2581	irction/Evapo May 76 77 -1 -1 399 o Infiltration/Fu 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	ration Analysis Jun 76 110 -35 -35 364 runoff Analysis 0 0 0 raporation/Run 11 64 alance 8826	Jul 82 129 -47 -47 317 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Aug 77 115 -38 -38 280 0 0 0 0 12 66	Sep 75 73 2 2 281 0 0 0 11 64 5870 5870	Oct 68 37 31 31 313 0 0 0 0 0 10 58 2950	Nov 82 8 74 74 387 0 0 0 0 0 2 0 0 0 2 8 7 4 387 2 4 9 608	Dec 58 0 58 13 400 44 35 9 0 0 58 0	Year 821 581 240 120 120 192 48 90 731 46443
Catchment ID Month Precipitation (P) Adjusted Potential Evapotranspiration (APEI) P-APET Change in Storage Storage (S) (mm) Water Surplus (mm) Potential Inflication (I) (mm) Potential Direct Surface Water Runoff (R) (mm) Impervious Evapotranspiration/Evaporation (mm) Impervious Runoff (mm) Pervious Et (m ³) Impervious Et (m ³)	Woodlot Jan 60 0 60 0 400 60 48 12 0 60 60 0 0 0 0 0 0	Feb 50 0 400 50 400 10 0 50 50 0 0	Mar 50 0 50 0 400 50 10 Imperviou 0 50 0 0	Evopotransp Apr 67 32 0 400 Pervious Are 28 7 3 5 7 3 4 Area Evopotr 10 5 7 5 7 6 0 0	iration/Evapo May 76 77 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1	ration Analysis Jun 76 110 -35 -35 364 unoff Analysis 0 0 0 0 raporation/Run 11 64 alance 8826 0	Jul 82 129 -47 -47 317 0 0 0 0 0 0 0 0 0 12 270 10305 0	Aug 77 115 -38 -38 280 0 0 0 0 0 0 0 12 66 46	Sep 75 73 2 2 281 0 0 0 11 64 5870 0	Oct 68 37 31 31 313 0 0 0 0 10 58 2950 0	Nov 82 8 74 74 387 0 0 0 0 0 12 12 69 608 0	Dec 58 0 58 13 400 44 35 9 0 0 58	Yeor 821 581 240 120 240 192 48 90 731 46443 0
Catchment ID Month Precipitation (P) Adjusted Potential Evapotranspiration (APE1) P-APET Change in Storage Storage (S) (mm) Water Surplus (mm) Potential Infiltration (I) (mm) Potential Direct Surface Water Runoff (R) (mm) Impervious Evapotranspiration/Evaporation (mm) Impervious Et (m ²) Pervious Runoff (m ²) Pervious Runoff (m ²)	Woodlof Jan 60 60 0 60 0 60 0 400 400 60 48 12 0 60 60 60 9 60 9	Feb 50 0 50 400 400 40 10 50 50 0 0 0 802	Mar 50 50 0 50 0 50 0 400 10 Imperviour 0 50 0 0 50 0 0 0 804	Evapotransp Apr 67 32 35 0 400 Pervious Are 35 28 7 7 Area Evapotr 10 57 Coml 2581 0 554	irction/Evapo May 76 77 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1	ration Analysis Jun 76 110 -35 -35 364 tunoff Analysis 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Jul 82 129 -47 -47 317 0 0 0 0 0 0 0 0 0 0 0 0 12 70 10305 0 0 0	Aug 77 115 -38 280 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Sep 75 73 2 2 2 281 0 0 0 11 64 5870 0 0 0	Oct 68 37 31 31 313 0 0 0 0 0 10 58 2950 0 0	Nov 82 8 74 74 387 0 0 0 0 0 12 12 69 608 0 0	Dec 58 0 58 13 400 444 35 9 9 0 58 0 0 709	Yeor 821 581 240 120 240 192 48 90 731 46443 0 3833
Catchment ID Month Precipitation (P) Adjusted Potential Evapotranspiration (APE1) P-APET Change in Storage Storage (S) (mm) Water Surplus (mm) Potential Infiltration (I) (mm) Potential Direct Surface Water Runoff (R) (mm) Impervious Evapotranspiration/Evaporation (mm) Impervious EI (m ³) Impervious EI (m ³) Impervious Runoff (m ³)	Woodlof Jan 60 60 0 60 0 400 48 12 0 60 60 60 0 0 60 0 0 0 60 0 0 0 0 0 0 0 0 0 0 0 0	Feb 50 50 0 400 50 400 10 50 0 50 0 50 0 0 800 0 0 800 0 0	Mor 50 0 50 0 400 50 400 10 Imperviou 0 50 0 0 80 0 0 80 0 0	Evapotransp Apr 67 32 35 0 400 Pervious Area 35 28 7 8 Area Evapotr 10 57 Coml 57 Coml 55 0 0 55 0 0 55 0	irction/Evapo May 76 77 -1 -1 -399 a infiltration/Fu 0 0 0 conspiration/Ev 11 65 bined Water B 6122 0 0 0	ration Analysis Jun 76 110 -35 -35 364 Unoff Analysis 0 0 0 0 0 0 0 0 0 0 0 0 0	Jul 82 129 -47 -47 317 0 0 0 0 0 0 0 0 0 12 70 10305 0 0 0 0 0	Aug 77 115 -38 280 0 0 0 0 12 66 66 9181 0 0 0	Sep 75 73 2 2 2 281 0 0 0 11 64 5870 0 0 0	Oct 68 37 31 313 0 0 0 0 0 0 0 0 0 0 0 0 0	Nov 82 8 74 74 387 0 0 0 0 0 0 12 69 608 0 0 0 0	Dec 58 0 58 13 400 44 35 9 0 0 58 0 0 0 709 0	Yeor 821 581 240 120 240 192 48 90 731 46443 0 3833 0
Catchment ID Month Precipitation (P) Adjusted Potential Evapotranspiration (APE1) P-APE1 Change in Storage Storage (S) (mm) Water Surplus (mm) Potential Inflitration (I) (mm) Potential Inflitration (I) (mm) Potential Direct Surface Water Runoff (R) (mm) Impervious Evapotranspiration/Evaporation (mm) Impervious Et (m ³) Impervious Et (m ³) Pervious Et (m ³) Pervious Runoff (m ³) Pervious Runoff (m ³) Pervious Runoff	Woodlot Jan 60 0 60 0 60 0 400 60 48 12 0 60 0 60 0 60 3859	Feb 50 0 50 0 400 50 40 10 0 50 0 50 0 802 0 3208	Mar 50 0 30 0 400 50 400 10 <i>Imperviou</i> 0 50 0 0 804 0 804 0 3214	Evopotransp Apr 67 32 35 0 400 Pervious her 35 28 7 8 Area Evopotr 10 57 Coml 2581 0 554 0 2216	iration/Evapo May 76 77 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1	ration Analysis Jun 76 110 -35 -35 364 unoff Analysis 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Jul 82 129 -47 -47 317 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Aug 77 115 -38 280 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Sep 75 73 2 2 2 281 0 0 0 11 64 5870 0 0 0 0 0	Oct 68 37 31 313 0 0 0 10 58 2950 0 0 0 0 0 0 0 0 0 0 0 0 0	Nov 82 8 74 74 387 0 0 0 0 12 69 608 0 0 0 0 0 0	Dec 58 0 13 400 44 35 9 0 0 58 0 0 709 0 2834	Year 821 581 240 120 240 192 48 90 731 46443 0 3833 0 3833 0 15332

Pre-Development Water Balance Summary									
Pre-Development Infiltration	40152.3	m³/yr	175.6	mm/yr					
Pre-Development Runoff	15164.7	m³/yr	66.3	mm/yr					

NOTES: 1. Areas and percent imperviousness determined using Part 1 of Lot 18, Concession 9 dated April 2024 prepared by Design Plan Services Inc., 2. The infiltration factor is determined using the MECP Methodology outlined in Stormwater Drainage Manual 2003.
 3. Additional assumptions:

 > Surplus water is unavailable for runoff and recharge in months where water losses from AET exceed precipitation inputs.
 > Runoff, infiltration and evapotranspiration do not occur when average temperature is below zero.
 > Precipitation during winter months (Dec. through Mar. is assumed to be accumulated as snow.
 > Soil Moisture Capacity is at a maximum in April.



Post-Development Water Balance Thornthwaite & Mather Method

Project Name: 15441 Mount Pleasant Road Project Number: 2227-6259 Created By: VM Checked By: CM Date: 2024-07-04

TOTAL SITE AREA (m²)	228,600	Location.		Post-De	velopment	Site Summary							
TOTAL SITE AREA (m ²)	228,600			1031.00	reiopiniem	one communary							
		1											
Land Use	Single Residential Homes	Streets	Grass	Pond	Woodlot								
Topography - flat/rolling/hilly	0.3	0.3	0.3	0.3	0.3								
Soils	0.3	0.3	0.3	0.3	0.3								
Cover - cultivated/woodland	0.1	0.1	0.1	0.1	0.2								
Sum (Infiltration Factor)	0.7	0.7	0.7	0.7	0.8								
Soil Moisture Capacity (mm)	100	100	100	100	400								
Catchment Area (m²)	25,000	10,350	67,856	45,521	79,873								
Percent Imperviousness (%)	50%	100%	0%	0%	0%								
I and lise	Single Residential	Streets	Grass	Pond	Woodlot								
Tatal Impanyiaus Arag (m ²)	Homes	10250	0	0	0								
Percentage of Impervious Area (97)	12300	10330	1007	097	07								
Total Banvious Area (m ²)	10.500	100%	100%	0/6	70.972								
Percentage of Pervious Area (9)	12,300	077	67,636	43,321	17,073								
reicentage of reivious Area (%)	30%	0%	0%	100%	100%								
Land Use	Residential I	Homes											
Month	lan	Feb	Mar		May	Jun	111	Aug	Sen	Oct	Nov	Dec	Year
Precipitation (P)	20	50	50	Δµ1 27	72	72	101	77	30P 75	20	100	59	201
Adjusted Potential Evapotranspiration	60	50	30	0/	/0	/0	02	//	/3	00	02	50	021
(APFT)	0	0	0	32	77	110	129	115	73	37	8	0	581
P-APET	60	50	50	35	-1	-35	-47	-38	2	31	74	58	240
Change in Storage	0	0	0	0	-1	-35	-47	-38	2	31	74	13	
Storage (S) (mm)	100	100	100	100	99	64	17	-20	-19	13	87	100	-
				Pervious Ar	ea Infiltratio	on/Runoff Ana	lysis						
Water Surplus (mm)	60	50	50	35	0	0	0	0	0	0	0	44	240
Potential Infiltration (I) (mm)	42	35	35	24	0	0	0	0	0	0	0	31	168
Potential Direct Surface Water Runoff (R) (mm)	18	15	15	10	0	0	0	0	0	0	0	13	72
			Impervious A	Area Evapo	transpiratio	n/Evaporation	/Runoff An	alysis	1	1	1	1	
Impervious Evapotranspiration/Evaporation (mm)	0	0	0	10	11	11	12	12	11	10	12	0	90
Impervious Runoff (mm)	60	50	50	57	65	64	70	66	64	58	69	58	731
	0	0	0	Con	ibinea wai	er Balance	1/12	1 407	010	4/0	05	0	70/0
Pervious ET (m [×])	0	0	0	404	958	1381	1613	143/	919	462	95	0	7268
Impervious ET (m ²)	0	0	0	126	143	142	153	145	141	128	153	0	1130
Pervious Runoff (m ³)	227	188	189	130	0	0	0	0	0	0	0	166	900
Impervious Runoff (m ³)	755	628	629	712	809	802	869	822	797	726	868	721	9137
Pervious Infiltration (m ³)	529	439	440	303	0	0	0	0	0	0	0	388	2099
Impervious Infiltration (m ³)	0	0	0	0	0	0	0	0	0	0	0	0	0
Land Use	Streets												
				Evapotrans	piration/Evo	aporation Ana	ılysis						
Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
Precipitation (P)	60	50	50	67	76	76	82	77	75	68	82	58	821
Adjusted Potential Evapotranspiration (APET)	0	0	0	32	77	110	129	115	73	37	8	0	581
P-APET	60	50	50	35	-1	-35	-47	-38	2	31	74	58	240
Change in Storage	0	0	0	0	-1	-35	-47	-38	2	31	74	13	
Storage (S) (mm)	100	100	100	100	99	64	17	-20	-19	13	87	100	
	(0	50	50	Pervious Ar	ea Intiltratio	n/Runoff Anal	lysis	0	0				0.40
Water Surplus (mm)	60	50	50	35	0	0	0	0	0	0	0	44	240
Potential Intiltration (I) (mm)	42	35	35	24	0	0	0	0	0	0	0	31	168
(R) (mm)	18	15	15	10	0	0	0	0	0	0	0	13	72
			Impervious A	Area Evapo	transpiratio	n/Evaporation	/Runoff An	alysis					
Impervious Evapotranspiration/Evaporation (mm)	0	0	0	10	11	11	12	12	11	10	12	0	90
Impervious Runoff (mm)	60	50	50	57	65	64	70	66	64	58	69	58	731
				Con	nbined Wat	er Balance							
Pervious ET (m ³)	0	0	0	0	0	0	0	0	0	0	0	0	0
Impervious ET (m ³)	0	0	0	104	118	117	127	120	116	106	127	0	936
Pervious Runoff (m ³)	0	0	0	0	0	0	0	0	0	0	0	0	0
Impervious Runoff (m ³)	625	520	521	589	669	664	720	681	660	601	719	597	7566
Pervious Infiltration (m ³)	0	0	0	0	0	0	0	0	0	0	0	0	0
Impervious Infiltration (m ³)	0	0	0	0	0	0	0	0	0	0	0	0	0

Land Use	Grass												
			E	vapotransp	piration/Evo	aporation Ana	lysis						
Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
Precipitation (P)	60	50	50	67	76	76	82	77	75	68	82	58	821
Adjusted Potential Evapotranspiration	0	0	0	32	77	110	129	115	73	37	8	0	581
(APEI)	(0	50	50	25	,	25	47	20	0	21	74	50	0.40
Change in Storage	0	50	50	35	-1	-35	-4/	-38	2	31	74	38	240
Storage (S) (mm)	100	100	100	100	-1	-33	-4/	-38	-19	13	87	100	
storage (s) (mm)	100	100	100	Pervious Are	a Infiltratio		veic	-20	-17	15	0/	100	11
Water Surplus (mm)	60	50	50	35	0	0	0	0	0	0	0	44	240
Potential Infiltration (I) (mm)	42	35	35	24	0	0	0	0	0	0	0	31	168
Potential Direct Surface Water Runoff	10	15	15	10					-			10	70
(R) (mm)	18	15	15	10	0	0	0	0	0	0	0	13	/2
		lı	mpervious A	rea Evapoti	ranspiratio	n/Evaporation	/Runoff An	alysis					
Impervious													
Evapotranspiration/Evaporation (mm)	0	0	0	10	11	11	12	12	11	10	12	0	90
	(0)	50	50	67			70			50	(0)	50	
Impervious Runoff (mm)	60	50	50	5/	65 bipod Wat	64	70	66	64	58	69	58	/31
a b c c 3	0	0	0	0102	5001	2400	0755	7000	4007	0507	517	0	20455
Pervious EI (m ⁻)	0	0	0	2193	5201	/498	8/55	7800	498/	2506	517	0	37455
Impervious EI (m ⁻)	0	1000	0	0	0	0	0	0	0	0	0	0	400.4
rervious Runott (m ⁻)	1230	1022	1024	/06	U	U	0	U	0	0	U	703	4884
Impervious kunott (m ²)	0	0	0	0	0	U	0	U	0	0	0	2107	U 11207
	2867	2384	2387	164/	0	0	0	U	0	0	0	2107	11397
Impervious Intiltration (m)	U	U	U	U	U	U	U	U	U	U	U	U	U
and like	Rend	1											
Lana use	Pond		r	vapotrapor	viration /Fu	appration Ana	husia						
Month	lan	Feb	Mar	Anr	May		lul	Aug	Sen	Oct	Nov	Dec	Year
Precipitation (P)	60	50	50	67	74	74	82	77	75	84	82	58	821
Adjusted Potential Evapotranspiration	00			0/	70	,,,	02		/5	00	02		021
(APET)	0	0	0	32	77	110	129	115	73	37	8	0	581
P-APET	60	50	50	35	-1	-35	-47	-38	2	31	74	58	240
Change in Storage	0	0	0	0	-1	-35	-47	-38	2	31	74	13	
Storage (S) (mm)	100	100	100	100	99	64	17	-20	-19	13	87	100	
	-			Pervious Are	ea Infiltratio	on/Runoff Anal	ysis						
Water Surplus (mm)	60	50	50	35	0	0	0	0	0	0	0	44	240
Potential Infiltration (I) (mm)	42	35	35	24	0	0	0	0	0	0	0	31	168
Potential Direct Surface Water Runott	18	15	15	10	0	0	0	0	0	0	0	13	72
(K) (IIIII)			mpon/ious A	l roa Evanoti	ranspiratio	n/Evaporation	/Runoff An	alveis					
		1	преглова л	lea Lvapoli	anspiratio	In/Lvaporation		Ulysis					
Impervious	0	0	0	10	11	11	12	12	11	10	12	0	90
Evapotranspiration/Evaporation (mm)		-	-									-	
Impervious Runoff (mm)	60	50	50	57	65	64	70	66	64	58	69	58	731
				Com	bined Wat	er Balance							
Pervious ET (m ³)	0	0	0	1471	3489	5030	5873	5233	3345	1681	347	0	26469
Impervious ET (m ³)	0	0	0	0	0	0	0	0	0	0	0	0	0
Pervious Runoff (m ³)	825	686	687	474	0	0	0	0	0	0	0	606	3277
Impervious Runoff (m ³)	0	0	0	0	0	0	0	0	0	0	0	0	0
Pervious Infiltration (m ³)	1925	1600	1603	1105	0	0	0	0	0	0	0	1413	7646
Impervious Infiltration (m ³)	0	0	0	0	0	0	0	0	0	0	0	0	0
				-						-			
Land Use	Woodlot	1											
			E	vapotransp	piration/Evo	aporation Ana	lysis				-		
Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
Precipitation (P)	60	50	50	67	/6	76	82	77	75	68	82	58	821
(APET)	0	0	0	32	77	110	129	115	73	37	8	0	581
P-APET	60	50	50	35	-1	-35	-47	-38	2	31	74	58	240
Chanae in Storage	0	0	0	0	-1	-35	-47	-38	2	31	74	13	210
Storage (S) (mm)	400	400	400	400	399	364	317	280	281	313	387	400	
			1	Pervious Are	ea Infiltratio	on/Runoff Anal	ysis						
Water Surplus (mm)	60	50	50	35	0	0	0	0	0	0	0	44	240
Potential Infiltration (I) (mm)	48	40	40	28	0	0	0	0	0	0	0	35	192
Potential Direct Surface Water Runoff	12	10	10	7	0	0	0	0	0	0	0	9	48
(R) (mm)	12	10	10		Ŭ	Ŭ	Ŭ	0	0	U	Ŭ	'	40
	r	li	mpervious A	rea Evapoti	ranspiratio	n/Evaporation	/Runoff An	alysis	1	1	1	1	T.
Impervious			0	10	.,	.,	10	10		10	10		
Evapotranspiration/Evaporation (mm)	U	U	U	10	11		12	12		10	12	U	90
Impervious Runoff (mm)	60	50	50	57	65	6.4	70	44	4.4	5.8	64	58	731
in per noos konon phiny	50		50	Com	bined Wat	er Balance	70	00		50	57	50	
Pervious FI (m ³)	0	0	0	2581	6122	8826	10305	9181	5870	2950	608	0	46443
Impervious ET (m ³)	0	ň	n	0	0	0	0	0	0	0	0	n	0
Pervious Runoff (m ³)	965	802	804	554	0	n	0	0	n	0	0	709	3833
Impervious Runoff (m ³)	0	0	0	0	0	ő	0	0	0	0	0	0	0
Pervious Infiltration (m ³)	3859	3208	3214	2216	0	0	0	0	0	0	0	2834	15332
Impervious Infiltration (m ³)	0	0	0	0	0	0	0	0	0	0	0	0	0
		· · · · · · · · · · · · · · · · · · ·											

	Post-Development Water Balance Summary								
Post-Development Infiltration	36474.0	m ³ /yr	159.6	mm/yr	0.0051	L/s			
Post-Development Runoff	29596.8	m ³ /yr	129.5	mm/yr	0.0041	L/s			

NOTES: 1.Areas and percent imperviousness determined using Part 1 of Lot 18, Concession 9 dated April 2024 prepared by Design Plan Services Inc..
 2.The infiltration factor is determined using the MECP Methodology outlined in SWM 2003 Manual.
 3. Additional assumptions:
 > Surplus water is unavailable for runoff and recharge in months where water losses from AET exceed precipitation inputs.
 > Runoff, infiltration and evapotranspiration do not occur when average temperature is below zero.
 > Precipitation during winter months (Dec. through Mar. is assumed to be accumulated as snow.
 > Soil Moisture Capacity is at a maximum in April.



Water Balance Summary Thornthwaite & Mather Method Project Name: 15441 Mount Pleasant Road Project Number: 2227-6259 Created By: VM Checked By: CM Date: 2024-07-04

Project Name:	
Location:	

15441 Mount Pleasant Road Region of Peel

Characteristic	Pre-Development	Post-Development	% Change (Pre to Post)
Precipitation (mm/yr)	821.40	821.40	0%
Water Surplus (mm/yr)	239.94	239.94	0%
Evapotranspiration (mm/yr)	581.46	581.46	0%
Natural Infiltration (mm/yr)	175.64	159.55	-9%
Total Runoff (mm/yr)	66.34	129.47	95%

Infiltration Deficit (mm/yr)

16.09

Latitude °C	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
50	0.74	0.70	1.00	1.15	1.00	1.07	1.07	1.05	1.07	0.00	0.7/	0.70
50	0.74	0.78	1.02	1.15	1.33	1.36	1.3/	1.25	1.06	0.92	0.76	0.70
47	0.73	0.79	1.02	1.14	1.32	1.34	1.33	1.24	1.05	0.73	0.76	0.71
40	0.76	0.00	1.02	1.14	1.31	1.33	1.34	1.23	1.05	0.73	0.77	0.72
4/	0.77	0.80	1.02	1.14	1.30	1.32	1.33	1.22	1.04	0.73	0.78	0.73
40	0.80	0.01	1.02	1.13	1.27	1.01	1.32	1.22	1.04	0.74	0.79	0.74
45	0.81	0.82	1.02	1.13	1.20	1.27	1.30	1.21	1.04	0.74	0.77	0.75
44	0.01	0.02	1.02	1.13	1.2/	1.27	1.00	1.20	1.04	0.75	0.80	0.70
40	0.01	0.02	1.02	1.12	1.20	1.20	1.27	1.20	1.04	0.75	0.87	0.79
42	0.83	0.00	1.03	1.12	1.20	1.27	1.20	1.17	1.04	0.75	0.82	0.80
40	0.84	0.83	1.03	1 1 1	1.20	1.25	1.27	1.12	1.04	0.70	0.83	0.81
39	0.85	0.84	1.03	1 1 1	1.24	1.20	1.26	1.10	1.04	0.70	0.84	0.82
38	0.85	0.84	1.03	1.10	1.23	1.24	1.25	1.10	1.04	0.70	0.84	0.83
37	0.86	0.84	1.03	1.10	1.20	1.24	1.25	1.17	1.04	0.70	0.85	0.83
36	0.87	0.85	1.03	1 10	1 21	1.20	1.20	1.16	1.03	0.97	0.86	0.84
35	0.87	0.85	1.03	1.09	1 21	1 21	1 23	1 16	1.03	0.97	0.86	0.85
34	0.88	0.85	1.03	1.09	1 20	1 20	1 22	1 16	1.03	0.97	0.87	0.86
33	0.88	0.86	1.03	1.09	1 19	1 20	1 22	1 1.5	1.03	0.97	0.88	0.86
32	0.89	0.86	1.03	1.08	1.19	1.19	1.21	1.15	1.03	0.98	0.88	0.87
31	0.90	0.87	1.03	1.08	1.18	1.18	1.20	1.14	1.03	0.98	0.89	0.88
30	0.90	0.87	1.03	1.08	1.18	1.17	1.20	1.14	1.03	0.98	0.89	0.88
29	0.91	0.87	1.03	1.07	1.17	1.16	1.19	1.13	1.03	0.98	0.90	0.89
28	0.91	0.88	1.03	1.07	1.16	1.16	1.18	1.13	1.02	0.98	0.90	0.90
27	0.92	0.88	1.03	1.07	1.16	1.15	1.18	1.13	1.02	0.99	0.90	0.90
26	0.92	0.88	1.03	1.06	1.15	1.15	1.17	1.12	1.02	0.99	0.91	0.91
25	0.93	0.89	1.03	1.06	1.15	1.14	1.17	1.12	1.02	0.99	0.91	0.91
20	0.95	0.90	1.03	1.05	1.13	1.11	1.14	1.11	1.02	1.00	0.93	0.94
15	0.97	0.91	1.03	1.04	1.11	1.08	1.12	1.08	1.02	1.01	0.95	0.97
10	1.00	0.91	1.03	1.03	1.08	1.06	1.08	1.07	1.02	1.02	0.98	0.99
5	1.02	0.93	1.03	1.02	1.06	1.03	1.06	1.05	1.01	1.03	0.99	1.02
0	1.04	0.94	1.04	1.01	1.04	1.01	1.04	1.04	1.01	1.04	1.01	1.04
-5	1.06	0.91	1.04	1.00	1.02	0.99	1.02	1.03	1.00	1.05	1.03	1.06
-10	1.08	0.97	1.05	0.99	1.01	0.96	1.00	1.01	1.00	1.06	1.05	1.10
-15	1.12	0.98	1.05	0.98	0.98	0.94	0.97	1.00	1.00	1.07	1.07	1.12
-20	1.14	1.00	1.05	0.97	0.96	0.91	0.95	0.99	1.00	1.08	1.09	1.15
-25	1.17	1.01	1.05	0.96	0.94	0.88	0.93	0.98	1.00	1.10	1.11	1.18
-30	1.20	1.03	1.06	0.95	0.92	0.85	0.90	0.96	1.00	1.12	1.14	1.21
-35	1.23	1.04	1.06	0.94	0.89	0.82	0.87	0.94	1.00	1.13	1.17	1.25
-45	1.2/	1.06	1.07	0.93	0.86	0.78	0.84	0.92	1.00	1.15	1.20	1.29
-42	1.28	1.07	1.07	0.92	0.85	0.76	0.82	0.92	1.00	1.16	1.22	1.31
-44	1.30	1.08	1.07	0.92	0.83	0./4	0.81	0.91	0.99	1.17	1.23	1.33
-46	1.32	1.10	1.07	0.91	0.82	0./2	0.79	0.90	0.99	1.17	1.25	1.35
-48	1.34	1.11	1.08	0.90	0.80	0.70	0.76	0.89	0.99	1.18	1.2/	1.3/
-50	1.37	1.12	80.1	0.89	0.//	0.6/	0./4	0.88	0.99	1.19	1.29	1.41

Adjustment Factors Based on Site Latitude Based on 12 hours of Sunlight per day for 30 days

Source: Dunne, T. and Leopold, L.B., 1978. Water in environmental planning, Freeman Publishers.

FIGURES









16 Queenston Formation: red shale and siltstone, minor green shale and siltstone, and variable calcareous siltstone to sandstone and limestone interbeds

14 Georgian Bay Formation: interbedded grey-green to dark grey shale and fossiliferous calcareous siltstone to bioclastic limestone

Property Limits

Railway

- Municipal Boundary
- Waterbody
- ∕ Watercourse

DRAWING NOTES:

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Date	2024-07-03	Projection EPSG:26917	Scale	1:30,000	Dwg.	FIG.	03






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	SCALE: 1:200,000
	LEGEND
	Property Limits
	Railway
	Municipal Boundary
1	🥏 Waterbody
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	Door-to-Door Survey Location
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