REPORT

Water Report Addendum

CBM Caledon Pit and Quarry

Submitted to:

CBM Aggregates - a division of St. Marys Cement Inc. (Canada)

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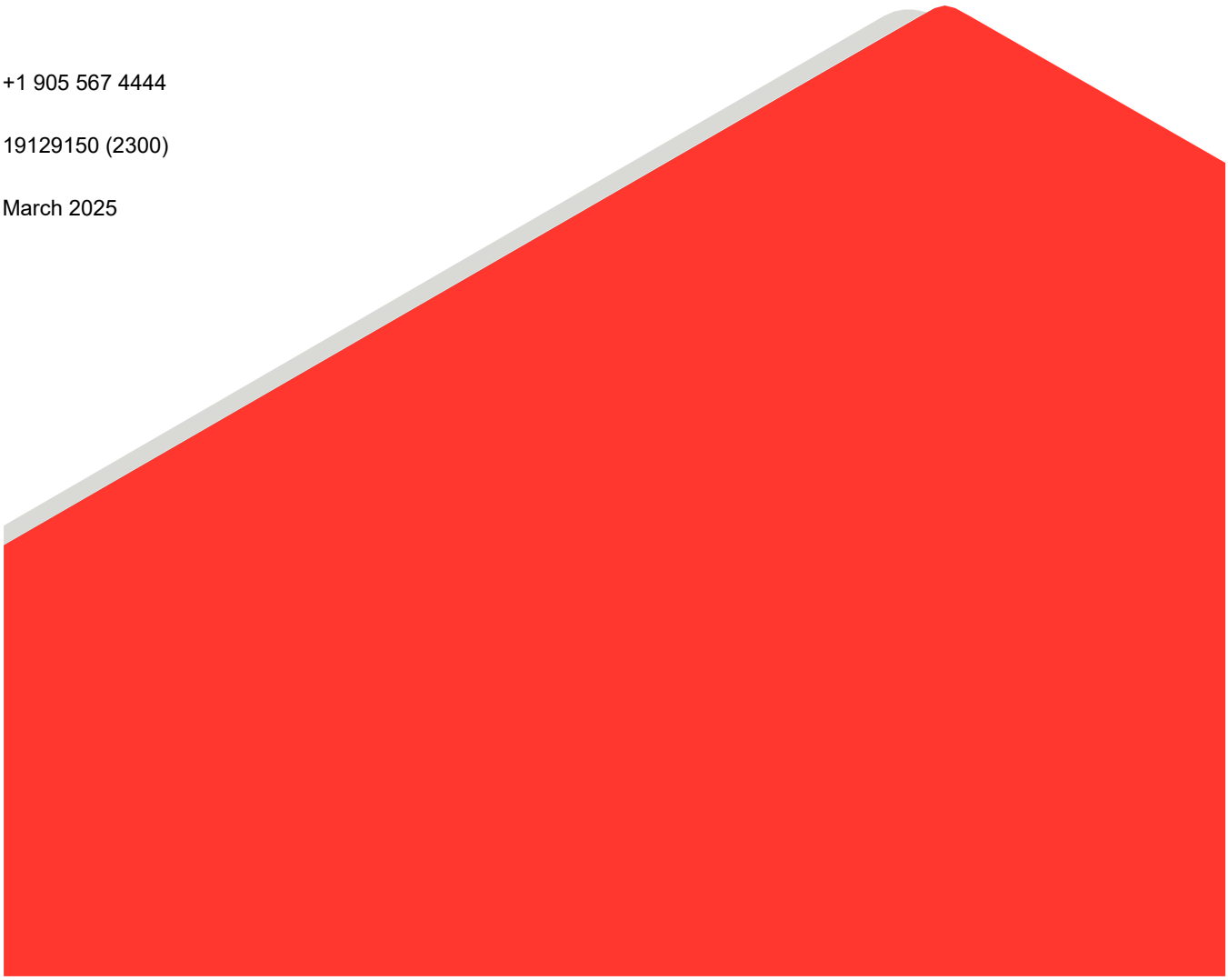
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1.0 INTRODUCTION

WSP Canada Inc. (WSP) is pleased to provide this Water Report Addendum to CBM Aggregates (CBM), a division of St. Marys Cement Inc. (Canada), for the Caledon Pit and Quarry project.

1.1 Background

CBM Aggregates (CBM), a division of St. Marys Cement Inc. (Canada) recently applied to the Ministry of Natural Resources (MNR) for a Class A Licence (Pit and Quarry Below Water) and to the Town of Caledon for an Official Plan Amendment and Zoning By-law Amendment to permit a mineral aggregate operation.

WSP Canada Inc. (WSP) was retained by CBM to complete a Water Report Level 1/2 (Water Report) for the proposed CBM Caledon Pit / Quarry in accordance with the Terms of Reference developed in consultation with the Development Application Review Team (DART), and the Aggregate Resources Act (ARA) Ontario Regulation 244/97. The Water Report was initially prepared in December 2022 and revised in July 2023 (revised Water Report).

Since the revised Water Report was issued, CBM received comments on the report from a number of agencies and stakeholders, including the following:

- Ministry of the Environment, Conservation and Parks (MECP) [23 comments];
- Town of Caledon (TC) [7 comments];
- Credit Valley Conservation (CVC) [2 comments];
- Ministry of Natural Resources (MNR) [23 comments];
- Six Nations of the Grand River (SNGR) [21 comments];
- Niagara Escarpment Commission (NEC) [2 comments];
- Trout Unlimited [2 comments];
- Ontario Parks [2 comments]; and
- Aquaterra Corporation [3 comments].

The majority of the comments received have been dispositioned by a simple response, however, some of the comments required more in-depth analysis, and or the collection of additional site data in order fully provide a comprehensive and fulsome response. In order to address the more in-depth comments, the following tasks are being undertaken by WSP:

- Conducting an additional one-time surface water and groundwater sampling event, which was carried out in the spring of 2024 (results presented in **Appendix E**).
- Undertaking a Preliminary Design Study for the proposed groundwater mitigation system, which began in the spring of 2024 (in progress); and
- Preparation of a Water Report Addendum that provides more in-depth analysis necessary to address the remaining comments received (this report).

1.2 Scope of Work

This Water Report Addendum provides technical responses to the following agency and stakeholder comments.

- Calculate monthly site water balances and discuss (MECP SW-2)
- Calculate a site water balance using High Carbon climate change assumptions (SNGR-3)
- Prepare additional cross-sections through the site showing hydrostratigraphy (MECP GW-3)
- Provide additional clarification of the data presented in private well impact table S-1 (MECP GW-11)

- Update well response plan to include timing of steps and the need to comply with O.Reg. 903 requirements (MECP GW-12, TC-3F)
- Update hydrogeologic analysis and mitigation measures to address potential groundwater contamination in the context of the site and study area being within a SGRA / HVA (MECP GW-13)
- Update groundwater monitoring plan scope to include water quality sampling and to demonstrate the effectiveness of the proposed groundwater mitigation system (MECP GW-14)
- Update impact assessment conclusions if required (MECP GW-15, MNR-43, 44)
- Provide a Spill Response Plan and reference it on the Site Plan (TC-3G)
- Replot hydrographs one per well nest, and other plots to facilitate interpretation, present drawdown graphs for pumping tests, including in Appendix H (MNR-24, 25)
- Present pumping test maps and cross-sections for each test (MNR-26)
- Replot Fig 6-5 with MW20-02 – it is missing on the hydrograph (MNR-27)
- HGS model clarifications: provide detailed calculations for the presented values of Calibration Statistics for the site; provide sensitivity analysis for the model; provide clarification on what is represented by Valley Skin Unit (MNR-32, 33, 34)

WSP's responses are provided in the subsections that follow.

2.0 COMMENT RESPONSES

2.1 Water Balance Comments

Report Comment

MECP (SW-2) commented that according to Section 7, surface water balance was assessed on an average annual basis. It is recommended to further explore this assessment by month/season. A seasonal analysis may better address any surface water concerns such as those associated with excess or low water.

WSP Response

The monthly site water balances illustrate seasonal trends in water surplus, highlighting significant patterns in precipitation and evaporation. Based on the meteorological data in the area, March has the highest surplus amount, primarily due to increased precipitation and lower evaporation rates typical of early spring. This combination fosters conditions for effective water accumulation in the system. For a comprehensive overview of the monthly water balance calculations, detailed information can be found in **Appendix A**.

In contrast, August experiences the highest precipitation at 88 mm; however, the overall water surplus remains minimal due to significantly higher evaporation rates during this period. Winter months average around 60 mm of precipitation, which contributes to a relatively lower water balance surplus. The combination of colder temperatures and reduced evaporation rates does not fully compensate for the lower precipitation levels, resulting in diminished water availability.

With reference to Appendix A, the total monthly surpluses during operational Phases 1 to 7 are similar in magnitude and show a similar seasonal variation to the surpluses under existing conditions, however, during quarry operations, runoff will be higher, and infiltration will be lower.

The increased runoff during operational phases will be managed by a combination of on-site water storage (via a 150,000 m^3 settling pond and an option to create an additional 376,000 m^3 lake in the North Area, the re-infiltration of stored water into the infiltration trench mitigation system (beginning at the end of Phase 3), and / or discharge of stored water to the golf course irrigation system.

The on-site water storage capacity is sufficient to ensure runoff can be moderated during high flow periods (i.e. spring freshet) and allowed to discharge at a controlled rate during low flow periods (i.e. summer months), when it can be used for golf course irrigation.

Report Comment

SNGR (SNGR-3) requested water balance calculations, incorporating climate change projections, including worst-case scenarios such as the High Carbon climate future condition of RCP 8.5. They emphasize the importance of considering these scenarios to accurately assess potential impacts on the water balance and understand the effects of the project on Treaty Territory.

WSP Response

There is no requirement under the Aggregate Resources Act to assess potential impacts of climate change on water, which is the reason it was not mentioned in the reports. It should be noted that the water balance was extensively reviewed by qualified hydrogeologists at the Town of Caledon, Credit River Conservation and Ministry of Environment, Conservation and Parks, each of which expressed no concerns with the water balance or hydrogeological assessment completed for the Site. An estimate of the effects of climate change on the site water balance is included in the attached **Appendix B**.

Climate estimates were provided by ClimateData.ca (a collaboration between Environment and Climate Change Canada and business/research partners). The water balance was also updated with model projections for future conditions ‘2050’ (2041-2070) and ‘2080’ (2071-2100). These monthly changes to temperature and precipitation were applied to the monthly data from the ECCC water budget data used in the water balance updates. Under 2050 projections, the increase in surplus as a result of the pit/quarry is 1-3 % in operations and ~10 % rehabilitation. Under the 2080 projections the change in surplus as a result of the pit/quarry is 1-3 % in operations and 12 % rehabilitation. These percent changes generally align with the changes estimated under the current water balance and therefore does not change the conclusions of the study, nor will it require any significant adjustment to water management operations.

2.2 Additional Hydrostratigraphic Cross-Sections

Report Comment

The MECP (GW-3) requested that WSP prepare additional hydrostratigraphic cross-sections for each phase of the Site and the five areas circled in the sketch below.

WSP Response

The additional cross-sections have been prepared and are presented as the following figures in **Appendix C**.

- Figure C-1 – North Quarry Area Cross-Sections A-A’ and B-B’
- Figure C-2 – Main Quarry Area Cross-Sections A-A’ and B-B’
- Figure C-3 – South Quarry Area Cross-Sections A-A’ and B-B’
- Figure C-4 – Additional Cross-Sections - Area 1 A-A’ and B-B’
- Figure C-5 – Additional Cross-Sections - Area 2 and 3 C-C’ and D-D’’
- Figure C-6 – Additional Cross-Sections - Area 4 E-E’
- Figure C-7 – Additional Cross-Sections - Area 4 and 5 F-F’ and G-G’

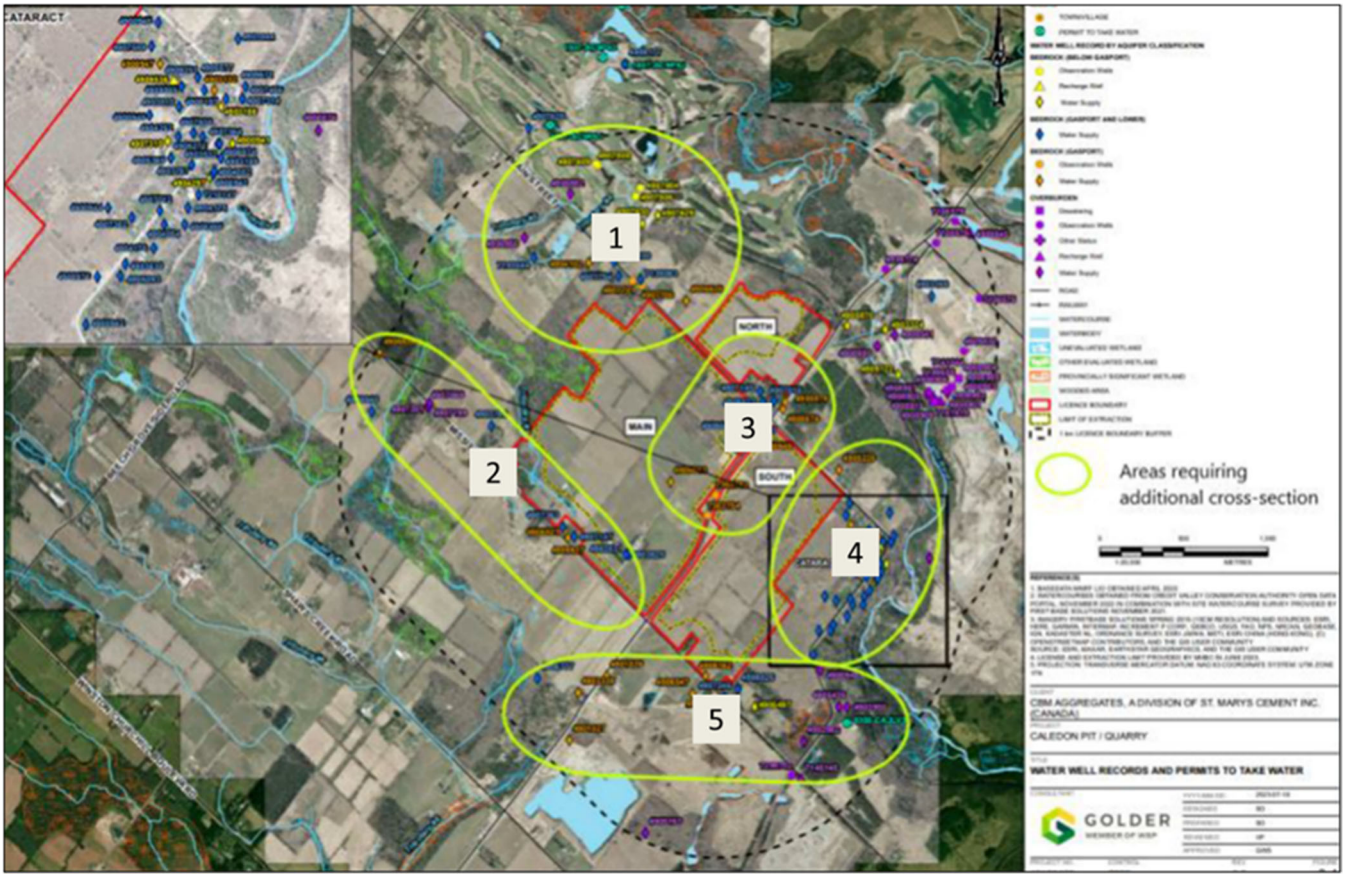


Figure 1: Areas where additional hydrostratigraphic cross-sections were requested (MECP GW-3)

The cross-sections include site hydrostratigraphy, wells and boreholes (with offset distance from the cross-section) and where present, the property boundary and lateral extraction limit within the site, noting that the lower extraction limit within the proposed pit and quarry is the base of the Gasport Formation.

2.3 Potential Private Well Impact Clarification

Report Comment

The MECP (GW-11) commented that according to Section 9.3 (Golder 2023a), the water supplies of fifteen (15) private wells could be impacted even with the implementation of groundwater mitigation measures. It is possible this value is under-estimated i.e. if the predicted maximum drawdown is in addition to the seasonal fluctuation of 2 to 3 metres or limited efficiency of proposed mitigation measures.

The MECP also asked that WSP provide additional clarification of data presented in Table S-1 (i.e., negative values/artesian vs. positive values/drawdown, maximum drawdown of 5.85 m).

WSP Response

The criteria set out in the revised Water Report for considering a private water well to have the potential to be impacted, are 1) there is an expected >10% reduction in water level in the well and, 2) that there is <10 m of remaining water column. The 10 m criterion was selected in part to account for both seasonal fluctuations in groundwater levels and for drawdown during typical pump operation. A well complaint response process is

proposed in the event that a water supply is impacted and includes steps to mitigate the impact on the private well user. Furthermore, the efficiency of the proposed mitigation system, we note that groundwater levels at the mitigation system will be monitored to ensure groundwater levels are maintained within their typical ranges, and minimizing the potential for impacts on private wells to occur.

With reference to Table S-1 of the revised Water Report, we provide the following clarification for the columns presented in the Water Well Impact Assessment table.

- Well ID – The MECP well record ID. Properties proximal to the site that likely have wells but did not have a well record registered, WSP assumed a well was present and that it was constructed similar to wells at neighbouring properties. Three such properties were identified, as shown on Figure 9-1, and those wells were designated “A”, “B” and “C”.
- Easting – UTM easting coordinate (m).
- Northing – UTM Northing coordinate (m).
- Elevation (masl) – Inferred ground surface elevation at the well, taken from the Digital Elevation Model (DEM) developed for the site
- Distance from Pit / Quarry (m) – Closest distance between the well and the proposed pit / quarry.
- Well Depth (m) – Well depth based on the water well record. In the case of an assumed well (noted above), a depth was assumed based on the depth of nearby wells.
- Modelled Static Water Level (m) – A modelled static water level (in metres below ground surface) was used for all wells as the baseline water level. This modelled level was the baseline water level from the HGS model calibrated to current conditions. This was used to ensure the assessment was done consistently for all private wells.
- Aquifer Description – The hydrostratigraphic unit(s) in which the well is screened based on the water well record. In the case of an assumed well (noted above), the aquifer unit was assumed based on nearby wells and the hydrostratigraphic model developed for the site.
- Well Purpose – Purpose stated in the water well record. In the case of an assumed well (noted above), purpose was assumed to be water supply.
- Well Use - Use stated in the water well record. In the case of an assumed well (noted above), use was assumed to be domestic.
- Initial Water Column Available (m) – Calculated as: well depth (m) – modelled static water level (m).
- Phase 1 to Phase 7 Max Drawdown (m) – Water level reduction predicted for that phase of operation relative to the modelled static water level.
- Rehab Max Drawdown (m) - Water level reduction predicted post-rehabilitation relative to the modelled static water level.
- Maximum Drawdown (any phase) (m) – Calculated as the maximum of the drawdowns predicted during Operational Phases 1 to 7 and post-rehabilitation.

- Phase of Max Drawdown – Phase in which the maximum drawdown was predicted to occur.
- Minimum Water Column Available (m) – The predicted water column in the well at the time when maximum drawdown occurs. Calculated as: Initial Water Column – Maximum Drawdown. Assigned 0 if maximum drawdown exceeds the initial water column (i.e. well predicted to be dry).
- Min Remaining Water Column – Minimum water column available during operational phases (see above), expressed as a % relative to the initial water column available.
- Remaining Water Column Rehab - Water column available post-rehabilitation, expressed as a % relative to the initial water column available.
- Criteria 1 Remaining in Water Column – Assigned a value based on the % calculated in the previous columns. **>90%** means that drawdown is less than 10% of the available water column. **<90%** means that drawdown is greater than 10% of the available water column.
- Criteria 2 Minimum Water Column – Assigned a value if Criteria 1 indicates maximum drawdown in the well will exceed 10% of the available water column. **<10m** means that there will be less than 10m of water column remaining. **>10m** means that there will be more than 10m of water column remaining.
- Potential for Impact – Assigned a value of Significant, Moderate, Low or Negligible based on Criteria 1 and 2, and considering the specific maximum drawdown relative to the available water column.

Negative water levels in the well indicates that the HGS model predicts artesian conditions for that aquifer unit either under current conditions, during an operational phase or post-rehabilitation. Negative drawdown in the wells indicates that groundwater levels are predicted to rise in that aquifer unit during that phase of operation or post-rehabilitation.

With respect to assumed well “C”, that assumed well is predicted to experience the greatest amount of drawdown of all the wells simulated in the impact assessment (5.85 m). However, that assumed well also will have 48.79 m of available drawdown at that time. As such, the potential to impact this assumed well is considered to be negligible.

2.4 Updated Well Response Plan

Report Comment

The MECP (GW-12) commented on the Water Well Complaint Response Plan for responding to well interference complaints. The MECP recommended the Plan also incorporate timing within all response and contingency measures, such as notification of appropriate Regulatory authorities related to well interference complaints. In addition, the proposed mitigation measures such as deepening a well, widening a well and relocating a well on a property must comply with the Ministry’s applicable regulations such as Ontario Regulation 903: Wells. Please note, the Ministry will not accept the installation of a cistern as a long-term mitigative measure in the event the quality and/or quantity of an existing water supply well is impacted.

The Town of Caledon (TC-3F) commented that the Water Well Complaint Response Plan should include a review of quality as well as quantity of water supply.

WSP Response

The Water Well Complaint Response Plan has been updated to address the comments and recommendations made by the MECP and Town of Caledon, and the updated Plan is provided in **Appendix D**.

2.5 Potential for Groundwater Contamination

Report Comment

The MECP commented (comment MECP GW-13) that according to Section 9.4 (Golder 2023a), the entire Site and Study Area is mapped as a Significant Groundwater Recharge Area (SGRA) and parts are identified as Highly Vulnerable Aquifers (HVA). No specific mitigation measures were presented to protect groundwater quality. There is a potential risk to groundwater quality from the migration of contaminants via multiple pathways across the Site due to complex geologic conditions and proposed extraction operations.

The MECP recommended additional information (i.e., groundwater travel times, how removal of unsaturated sand and gravel may alter the groundwater chemistry, spills mitigation plan, etc.) be provided to assess the potential for the migration of contaminants to down-gradient private water supply wells, seeps, springs and the Credit River system.

WSP Response

This section provides a response and additional information to further assess the potential risks to water quality for downstream receptors as a result of the proposed pit and quarry development and describes specific mitigation measures to protect groundwater quality. The Site is generally mapped as a Significant Groundwater Recharge Area because it is an area of relative high elevation with some areas of downward vertical hydraulic gradients. Because the southern portion of the Site is mainly comprised of sand and gravel overlying dolostone bedrock, it is mapped as a Highly Vulnerable Aquifer, as this area is potentially susceptible to groundwater contamination from surface sources, if present.

During pit and quarry operations, a potential contaminant of concern is petroleum hydrocarbons (PHC), which could be released at the Site as spills from equipment or on-site storage facilities (Blackport and Golder, 2006). To mitigate the risk of spills, CBM Aggregates has developed a comprehensive Spill Prevention and Response Plan for all of its operations, which is discussed further in Section 2.7 of this Addendum.

Another potential contaminant of concern during quarry operations are nitrogen-based residuals from blasting activities (NHDES, 2019). In order to prevent the potential contamination of groundwater due to blasting residuals, CBM Aggregates is committed to following Best Management Practices (BMPs) for all blasting activities including preparing, reviewing and following an approved blasting plan; proper drilling, explosive handing and loading procedures; observing the entire blasting procedures; evaluating blasting performance; and handling and storage of blasted rock. Under anaerobic conditions (i.e., below the water table), nitrate biodegrades over time, resulting in its conversion to inert nitrogen gas. Because nitrate degradation is very limited under aerobic conditions (i.e., above the water table), the removal of material above the water table is unlikely to reduce the rate nitrate degradation, which primarily occurs below the water table.

As discussed in Section 2.6 of this Addendum, the updated groundwater monitoring program proposed for the Site includes water quality monitoring for a range of parameters, including PHC (F1 to F4) and inorganics (including nitrate, nitrite and ammonia), which are the primary potential contaminants of concern during the Operational Phases of the proposed pit and quarry.

Furthermore, it is important to recognize that during aggregate extraction, groundwater on-Site where hydrocarbons and nitrogen-based explosives residuals may be present will be “captured and collected” in the Quarry Sump and retained on-Site in a Settling Pond prior to discharge. As noted in the Water Report (Golder, revised July 2023), any water discharged from the Settling Pond must first meet all necessary water quality discharge criteria specified in the PTTW and ECA, which will be obtained by CBM prior to any off-Site water discharge. This condition will ensure that all water discharged from the Site will meet water quality criteria before it is re-infiltrated into the ground through the mitigation system or be discharged off-Site for use in golf course irrigation.

Upon the cessation of aggregate operations, the Site will be rehabilitated to create permanent ponds in each of the Main, North and South Areas, as well as wetland and forested areas, and as such, the risks to groundwater quality under this future land use are considered to be very low.

Aggregate extraction and drinking water sources have successfully coexisted in places across Ontario for many years without impacts to water quality, including for example in Peel Region (Caledon) and Wellington County (Aberfoyle). A SENES Consultants report (2013) entitled “Ontario Case Studies: Water Supply and Aggregate Extraction” presented five case studies, including a case study in Caledon, and concluded that there is no evidence to suggest that aggregate operations have contaminated or depleted drinking water sources in Ontario.

The 28th Annual Coordinated Monitoring Report prepared in 2023 for Dufferin Aggregates on the Mill Creek Aggregate Pit concluded that there have been no impacts to date on water quality in Mill Creek that borders the property as a result of aggregate operations (WSP, 2023). It is also noted that aggregate pits in the Aberfoyle / Mill Creek area of Wellington County have been operational for decades alongside a Municipal groundwater supply system, many private wells, and a bottled water operation, without water quality issues.

While it is recognized that there is a potential risk to groundwater quality from the migration of contaminants, this potential risk can be readily mitigated. Under the *Clean Water Act* (2006), Source Water Protection Committees are required to identify activities that may constitute threats to drinking water quality for all areas within the Source Protection Committee’s jurisdiction. Under this assessment framework, it is unlikely that aggregate operations such as the proposed Caledon Pit / Quarry would be considered a significant threat to groundwater quality.

2.6 Updated Groundwater Quality Assessment and Revised Monitoring Program

Report Comment

MECP GW-14 comments that according to Section 9.8 (Golder 2023a), the groundwater monitoring program must be capable of demonstrating that the proposed mitigation measures are effective. There are no overburden monitoring wells located within the South Area and only one overburden monitor located along the southwest property boundary.

In addition, both on-site and off-site monitoring programs should include groundwater quality sampling representative of the hydrostratigraphic units. It is recommended a more comprehensive on-site and off-site monitoring program be developed to demonstrate that the mitigation program/infrastructure is effective in maintaining groundwater levels and groundwater quality.

WSP Response

A total of eight monitoring wells / well nests (MW20-01 to MW20-08) were initially installed by WSP in 2020 along the west, south and east sides of the South Area, as shown on the figure below, to support the hydrogeologic impact assessment. The four well nests installed on the east side of the South Area encountered only 2 m of overburden or less, and the overburden was dry at three of the four locations. Given the dry conditions and limited overburden thickness on the east side of the South Area, no overburden wells were installed there.

On the west and south side of the South Area, three of the four wells encountered approximately 4 to 5 m of saturated overburden thickness, and one location (MW20-03) encountered approximately 13 m of saturated overburden thickness. An overburden monitoring well was installed at MW20-03, but not at the other locations.

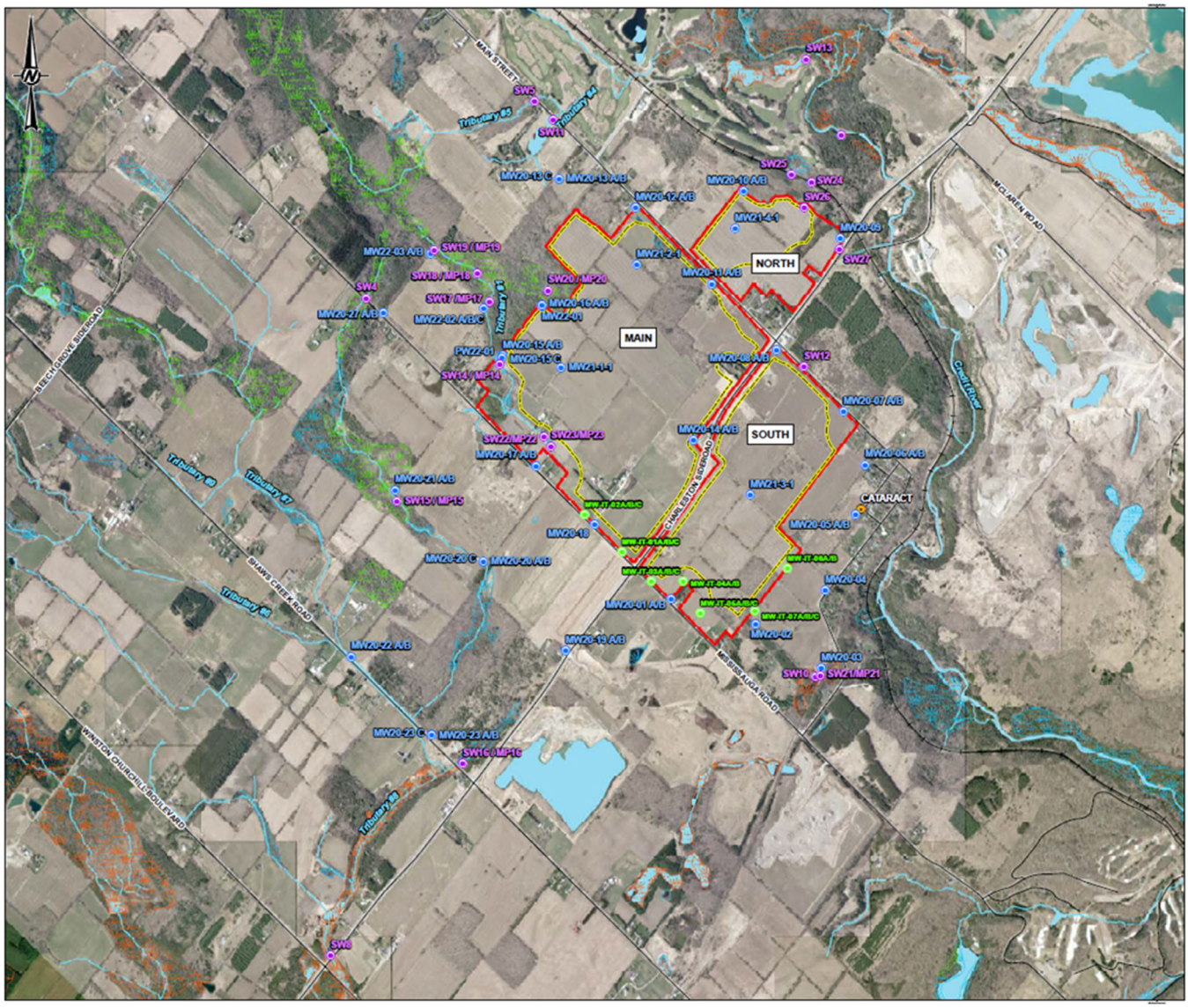


Figure 2: Proposed groundwater and surface water monitoring locations (also see Figure 1 in Appendix F)

As part of the revised Water Report, a groundwater infiltration trench mitigation system is proposed for the Main and South Quarry Areas, and as part of that system, seven additional monitoring well nests (IT-MW-01 to IT-MW-

07) have been proposed, as shown on the figure below. Each well nest includes an overburden monitoring well, and as such, five new overburden monitoring wells, in addition to MW20-03, have been included in the groundwater monitoring program around the South Area.

The new well nests IT-MW-01 to IT-MW-07 were drilled and installed by WSP in April of 2024 as part of a supplemental investigation along the proposed mitigation system alignment, to help advance the development of the design. This scope of work is reported under a separate cover. WSP also conducted a follow-up water quality sampling event in the spring of 2024, to further assess groundwater and surface water quality in the study area. The water quality results are provided and discussed in **Appendix E**.

WSP also proposes to update the groundwater monitoring program recommended in the revised Water Report to include annual water quality sampling for general chemistry, nutrients, inorganics and metals, as well as petroleum hydrocarbons (PHC F1 to F4) at representative locations within the hydrostratigraphic units. The proposed updated water monitoring program is presented in **Appendix F**.

With the additional of water quality sampling, the on-site and off-site monitoring program will demonstrate that the mitigation program/infrastructure is effective in maintaining both groundwater levels and groundwater quality.

2.7 Spill Response Plan

Report Comment

The Town of Caledon (TC-3G) commented that a Spills Plan should be included on the Operational Plan.

WSP Response

CBM Aggregates has a comprehensive Spill Prevention and Response Plan (Work Instruction EOP 5.1) for all of its operations, a copy of which is provided in **Appendix G**, along with a Spill Response posting that is displayed at all of its operating aggregate and ready-mix operations.

2.8 Replotted Hydrographs

Report Comment

The MNR commented (MNR-24) please improve the graphical presentation of hydrographs throughout the report, including Appendix E, to ensure the hydraulic heads' relative positions are easily interpretable at an appropriate scale. Consider consolidating hydrographs from each monitoring nest into one figure.

The MNR also commented (MNR-25) please present graphs that illustrate the drawdown of groundwater levels within the report, including in Appendix H, using a scale that facilitates easy visual analysis.

Lastly, the MNR commented (MNR-27) please plot MW20-02 data in Figure 6-5.

WSP Response

To address these comments from the MNR, WSP has replotted the monitoring well network hydrographs one per well nest as suggested, and provided additional pumping test hydrographs to help facilitate interpretation, where additional plots were warranted. These revised hydrographs are presented in **Appendix H**.

A 20-m scale was selected for the monitoring well network hydrographs to allow for easy visual analysis of groundwater elevations. A 10-m scale could not be used due to the variation at MW20-26, but we think it’s most valuable to have all hydrographs plotted on the same scale range.

To better observe drawdown in the monitoring wells, figures displaying the monitoring well water elevation data on a 10-m scale were created for the pumping tests at PW21-1, PW21-2 and PW21-4. The hydrograph showing the water elevations for the pump test at MW21-3-1 was already presented at a 10-m scale and therefore was not replotted. With reference to Appendix J of the revised Water Report, we note that the monitoring well water elevation data from the pumping test completed as part of the Northwest Area investigation were already presented on multiple figures in detail and did not warrant additional plots being created.

Regarding Fig 6-5, please note that it was not our intention to show MW20-02 on this plot, because it is located approximately 415 m upgradient of SW10 and is situated at a much higher elevation. As such, the groundwater level at MW20-02 is not indicative of the vertical hydraulic gradient in groundwater at SW10 but is generally indicative of horizontal groundwater flow from northwest to southeast in this area. On the other hand, MW20-03 is located proximal to SW10 and provides an indication of vertical hydraulic gradients in this area, which was the purpose of this figure and its associated discussion in the revised Water Report. The reference to MW20-02 on the figure legend is a typo should be ignored.

2.9 Pumping Test Maps and Cross-Sections

Report Comment

The MNR commented (MNR-26) please provide maps showing location of all monitoring wells used in the pumping tests, please include cross-sections for better visual presentation.

WSP Response

To address this comment from the MNR, WSP has prepared maps and cross-sections for each of the 5 pumping tests presented in the revised Water Report (i.e. PW21-1, PW21-2, PW21-3, PW21-4 and PW22-1). These maps and cross-sections are presented on Figures 1 to 5, respectively, in **Appendix I**.

2.10 HGS Model Clarifications

Report Comment

The MNR requested the following clarifications on the HGS model presented in the revised Water Report: provide detailed calculations for the presented values of calibration statistics for the Site (MNR-32); provide sensitivity analysis for the HGS model (MNR-33); and provide clarification on what is represented by Valley Skin Unit (MNR-34).

WSP Response

With respect to MNR-32, additional details for the calculations used to derive the calibration statistics presented in Golder 2023, Appendix Q for the Site (shown in Appendix Q Figure 4) are as follows:

- **Number of Observations:** the number of observations represented the number of groundwater level measurements considered in the calibration statistics. This number includes all multi level well locations; for example, if there are three measurement points at a single location, all 3 are included in the total number. For the local area, 128 groundwater level measurements were included in the calculations for calibration statistics. These include 88 groundwater monitoring well locations installed and monitored as outlined in WSP-Golder 2023, and 40 monitoring well locations at the Armbro-Pinchin site as outlined in CRA (1990 and 1994), totaling 128.
- **Mean Error:** This term indicates the average difference between observed and simulated water levels. The simulated groundwater level is subtracted from the observed groundwater level for each monitoring point (can

be referred to as the 'residual' or 'error'), and the average of these residual values is taken to get the 'mean error'. The mean error may suggest the degree to which the model is, on average, predicting heads above or below the observed dataset. For the 128 site wells, the residual values are shown in Appendix Q, Table 1, and the average of these values is calculated to be 0.03 m.

- **Mean Absolute Error:** This term indicates the average absolute difference between observed and simulated water levels. The absolute value of the 'residual' or 'error' is calculated for each monitoring point, and the average of these residual values is taken to get the 'absolute mean error'. The calculated average for the absolute values of residuals for the 128 site wells is 1.7 m.
- **Root Mean Squared Error (RMS):** RMS error reflects the average of the squared differences between observed and simulated water levels. RMS is akin to standard deviation and is a measure of the spread of error about the mean residual. The RMS for the 128 site wells is 2.2.
- **Normalized Root Mean Squared Error (NRMS)**: NRMS, is the RMS divided by (or normalized by) the range of observed values for the dataset multiplied by 100%. NRMS may be considered a better indicator of goodness of fit as it accounts for the scale of the potential range of water levels. The NRMS for the 128 site wells is 3.8%.

With respect to MNR-33, as part of the Golder 2023 Modelling Report (Appendix Q), a sensitivity analysis was done by increasing and decreasing the hydraulic conductivity of the slurry wall / grout zone along the proposed groundwater infiltration trench system. The result of these simulations are potential increases and decreases to the quarry inflows during each operational phase (i.e. changes to the site water balance).

In response to MNR-33, additional sensitivity simulations were done by increasing and decreasing the modelled average annual net surplus value by 20%, to assess changes to the quarry inflows under different simulated climate conditions. The results are summarized in the Table below.

Table 1: Sensitivity Analyses for Varying Climate Conditions during Operational Periods

Phase	Surplus 437 mm/yr, % change				Surplus 291 mm/yr, % change			
	Main Area	South Area	North Area	Total Inflow	Main Area	South Area	North Area	Total Inflow
3	14%		16%	14%	-17%		-25%	-18%
4	12%		16%	13%	-17%		-25%	-17%
5	6%		16%	7%	-8%		-25%	-9%
6	5%	16%	16%	6%	-6%	-23%	-25%	-7%
7	7%	14%	15%	11%	-8%	-3%	-22%	-5%

The simulated pit / quarry inflow is most sensitive to changes in the net surplus value in the North Area. Under a "wetter" climate scenario, the maximum increase in total inflows to the quarry is 14%, which occurs during Phase 3 of operations. Under a "dryer" climate scenario, the maximum decrease in total inflows to the quarry is 18%, which also occurs during Phase 3 of operations. These changes in total inflow to the quarry, should a wetter or dryer climate condition occur, where the surplus is 20% higher or lower than typical conditions, is not expected to adversely impact water management during operations.

With respect to MNR-34, the Valley Skin unit is an approximation representing the overburden soil layers (model layers 1-12) that exist within the Credit River valley. These soil layers facilitate the connection of the weathered bedrock and bedrock units to the Credit River in the deeply incised valley channel. There is some variability and uncertainty in the soil type and continuity within the valley channel, but conceptually it is represented by a silty sand to till material. This unit was divided into several zones in the model during the model calibration process, and parameters were varied to achieve the best match to observed data along the valley channel.

2.11 Impact Assessment Update

Report Comment

Both the MECP (MECP GW-15) and MNR (MNR-43, 44) indicated that the impact assessment conclusions presented in the revised Water Report should be updated, if needed, as a result of WSP's responses to comments.

WSP Response

The impact assessment conclusions presented in the revised Water Report do not require updating at this time.

Signature Page

We trust that this report meets your current needs. If you have any questions or require clarification, please contact the undersigned at your earliest convenience.

WSP Canada Inc.







Craig DeVito, PEng
Senior Water Resources Engineer

George Schneider, PGeo
Senior Geoscientist

VP/GRP/PGM/RS/TG/SPC/CDV/GWS/

https://wsponline.sharepoint.com/sites/gld-114392/project files/6 deliverables/ph 2300-hydrogeology/505 water report addendum rev feb 2025/19129150 (2300) rpt water report addendum mar 2025 r2a.docx

APPENDIX A

Monthly Water Balance Calculations

TABLE 1
WATER BALANCE EXISTING CONDITION
CBM Caledon Pit and Quarry

					Forested Swamp			Wet Meadow			Impervious Built-Up Areas			Pervious Built-Up Areas			Forested Area			Moderately Rooted Agricultural Land / Meadow									
					WHC	250 mm		WHC	Precip. - Lake Evap.		WHC	3 mm		WHC	75 mm		WHC	300 mm		WHC	150 mm								
					Total Area (m^2)	11,065		Total Area (m^2)	8,244		Total Area (m^2)	120		Total Area (m^2)	21,106		Total Area (m^2)	229,498		Total Area (m^2)	2,349,774								
					Infiltration Factor	0.0		Infiltration Factor	0.0		Infiltration Factor	0.00		Infiltration Factor	0.70		Infiltration Factor	0.70		Infiltration Factor	0.65								
Month	Days	Temp	Precip-itation	Potential Evapo-transpiration	Actual Evapo-transpiration	Surplus		Actual Evapo-transpiration	Surplus		Actual Evapo-transpiration	Surplus		Actual Evapo-transpiration	Surplus		Actual Evapo-transpiration	Surplus		Actual Evapo-transpiration	Surplus		Total Surplus	Total Surplus (Runoff and Infiltration)		Total Infiltration		Total Runoff	
		(°C)	(mm)	(mm)	(mm)	(mm)	(m^3)	(mm)	(mm)	(m^3)	(mm)	(mm)	(m^3)	(mm)	(mm)	(m^3)	(mm)	(mm)	(m^3)	(mm)	(mm)	(m^3)	(m^3)	(L/s)	(L/min)	(m^3)	(L/s)	(m^3)	(L/s)
January	31	-7.8	66.0	1.0	1	25	277	94	36	297	1.0	37	4	1.0	36	760	1.0	25	5,737	1.0	31	72,843	**79,918**	29.84	1,790	51,896	19.38	28,022	10.46
February	28	-7.3	56.0	1.0	1	32	354	53	38	313	1.0	39	5	1.0	38	802	1.0	32	7,344	1.0	37	86,942	**95,760**	39.58	2,375	62,214	25.72	33,545	13.87
March	31	-2.2	61.0	7.0	7	91	1,007	37	95	783	7.0	95	11	7.0	95	2,005	7.0	91	20,884	7.0	94	220,879	**245,570**	91.69	5,501	159,594	59.59	85,976	32.10
April	30	5.0	73.0	30.0	30	78	863	15	78	643	30.0	78	9	30.0	78	1,646	30.0	78	17,901	30.0	78	183,282	**204,345**	78.84	4,730	132,817	51.24	71,528	27.60
May	31	11.7	80.0	73.0	73	18	199	6	18	148	63.0	18	2	73.0	18	380	73.0	18	4,131	73.0	18	42,296	**47,157**	17.61	1,056	30,650	11.44	16,507	6.16
June	30	16.8	83.0	107.0	107	9	100	15	9	74	73.0	10	1	102.0	9	190	107.0	9	2,065	107.0	9	21,148	**23,578**	9.10	546	15,325	5.91	8,253	3.18
July	31	19.3	80.0	125.0	125	0	0	37	0	0	79.0	2	0	100.0	0	0	125.0	0	0	121.0	0	0	**0**	0.00	0	0	0.00	0	0.00
August	31	18.4	88.0	111.0	109	2	22	65	2	16	79.0	8	1	87.0	2	42	109.0	2	459	99.0	2	4,700	**5,240**	1.96	117	3,406	1.27	1,835	0.69
September	30	14.3	81.0	75.0	73	4	44	77	7	58	61.0	19	2	63.0	7	148	73.0	4	918	66.0	4	9,399	**10,569**	4.08	245	6,855	2.64	3,714	1.43
October	31	8.1	79.0	38.0	38	7	77	81	16	132	36.0	42	5	36.0	16	338	38.0	7	1,606	37.0	8	18,798	**20,957**	7.82	469	13,580	5.07	7,377	2.75
November	30	1.9	79.0	12.0	12	25	277	82	44	363	12.0	61	7	12.0	44	929	12.0	25	5,737	12.0	29	68,143	**75,456**	29.11	1,747	48,960	18.89	26,497	10.22
December	31	-4.3	72.0	2.0	2	28	310	102	39	322	2.0	43	5	2.0	39	823	2.0	28	6,426	2.0	32	75,193	**83,078**	31.02	1,861	53,950	20.14	29,129	10.88
Total			***898.0***	***582.0***	***578***	***319***	***3,530***	***664***	***382***	***3,149***	***444***	***452***	***54***	***514***	***382***	***8,063***	***578***	***319***	***73,210***	***556***	***342***	***803,623***	***891,628***	***340.63***	***20,438***	***579,245***	***221.29***	***312,383***	**119.34**
Average		***6.2***																						***28.39***	***1,703***		***18.44***		***9.95***

Note: The Surplus values in (mm) are calculated using rainfall, melt and Actual Evapotranspiration
P = ET + R + I + S

TABLE 2
WATER BALANCE OPERATIONAL CONDITION - PHASE 1
CBM Caledon Pit and Quarry

					Forested Swamp			Wet Meadow			Impervious Built-Up Areas			Pervious Built-Up Areas			Forested Area			Moderately Rooted Agricultural Land / Meadow			Till / Rehab Area			Quarry Sump			Quarry Extraction Area									
					WHC	250 mm		WHC	Precip. - Lake Evap.		WHC	3 mm		WHC	75 mm		WHC	300 mm		WHC	150 mm		WHC	100 mm		WHC	Precip. - Lake Evap.		WHC	10 mm								
					Total Area (m^2)	11,065		Total Area (m^2)	8,244		Total Area (m^2)	120		Total Area (m^2)	17,934		Total Area (m^2)	178,785		Total Area (m^2)	1,778,535		Total Area (m^2)	186,269		Total Area (m^2)	27,900		Total Area (m^2)	410,956								
					Infiltration Factor	0.0		Infiltration Factor	0.0		Infiltration Factor	0.0		Infiltration Factor	0.7		Infiltration Factor	0.7		Infiltration Factor	0.7		Infiltration Factor	0.7		Infiltration Factor	0.0		Infiltration Factor	0.0								
Month	Days	Temp	Precipitation	Potential Evapo-transpiration	Actual Evapo-transpiration	Surplus		Actual Evapo-transpiration	Surplus		Actual Evapo-transpiration	Surplus		Actual Evapo-transpiration	Surplus		Actual Evapo-transpiration	Surplus		Actual Evapo-transpiration	Surplus		Actual Evapo-transpiration	Surplus		Actual Evapo-transpiration	Surplus		Actual Evapo-transpiration	Surplus		Total Surplus	Total Surplus (Runoff and Infiltration)		Total Infiltration		Total Runoff		Groundwater Seepage
		(°C)	(mm)	(mm)	(mm)	(mm)	(m^3)	(mm)	(mm)	(m^3)	(mm)	(mm)	(m^3)	(mm)	(mm)	(m^3)	(mm)	(mm)	(m^3)	(mm)	(mm)	(m^3)	(mm)	(mm)	(m^3)	(mm)	(mm)	(m^3)	(mm)	(mm)	(m^3)	(m^3)	(L/s)	(L/min)	(m^3)	(L/s)	(m^3)	(L/s)	(L/s)
January	31	-7.8	66.0	1.0	1	36	398	94	-28	-233	1	37	4	1	36	646	1	25	4,470	1	31	55,135	1	35	6,519	94	-28	-790	1	37	15,205	**81,354**	30.37	1,822	43,982	16.42	37,372	13.95	0.78
February	28	-7.3	56.0	1.0	1	38	420	53	3	25	1	39	5	1	37	664	1	32	5,721	1	37	65,806	1	38	7,078	53	3	86	1	39	16,027	**95,832**	39.61	2,377	52,198	21.58	43,635	18.04	0.78
March	31	-2.2	61.0	7.0	7	95	1,051	37	24	201	7	95	11	7	94	1,686	7	91	16,269	7	94	167,182	7	95	17,696	37	24	681	7	95	39,041	**243,819**	91.03	5,462	133,624	49.89	110,195	41.14	0.78
April	30	5.0	73.0	30.0	30	78	863	15	58	475	30	78	9	30	78	1,399	30	78	13,945	30	78	138,726	30	78	14,529	15	58	1,607	30	78	32,055	**203,607**	78.55	4,713	111,083	42.86	92,524	35.70	0.78
May	31	11.7	80.0	73.0	73	18	199	6	74	608	63	18	2	73	18	323	73	18	3,218	73	18	32,014	73	18	3,353	6	74	2,059	65	18	7,397	**49,173**	18.36	1,102	25,634	9.57	23,539	8.79	0.78
June	30	16.8	83.0	107.0	102	9	100	15	68	565	73	10	1	107	9	161	107	9	1,609	107	9	16,007	106	9	1,676	15	68	1,910	77	10	4,110	**26,139**	10.08	605	12,817	4.94	13,322	5.14	0.78
July	31	19.3	80.0	125.0	100	0	0	37	43	350	79	2	0	121	0	0	125	0	0	121	0	0	110	0	0	37	43	1,186	80	2	822	**2,359**	0.88	53	0	0.00	2,359	0.88	0.78
August	31	18.4	88.0	111.0	87	2	22	65	23	189	79	8	1	99	2	36	109	2	358	99	2	3,557	91	2	373	65	23	638	80	7	2,877	**8,049**	3.01	180	2,848	1.06	5,201	1.94	0.78
September	30	14.3	81.0	75.0	63	7	77	77	4	32	61	19	2	66	4	72	73	4	715	66	4	7,114	63	5	931	77	4	110	62	17	6,986	**16,040**	6.19	371	5,827	2.25	10,213	3.94	0.78
October	31	8.1	79.0	38.0	36	16	177	81	-2	-15	36	42	5	37	8	143	38	7	1,251	37	8	14,228	36	11	2,049	81	-2	-52	36	40	16,438	**34,225**	12.78	767	11,659	4.35	22,566	8.43	0.78
November	30	1.9	79.0	12.0	12	44	487	82	-3	-21	12	61	7	12	29	520	12	25	4,470	12	29	51,578	12	38	7,078	82	-3	-71	12	60	24,657	**88,705**	34.22	2,053	41,973	16.19	46,732	18.03	0.78
December	31	-4.3	72.0	2.0	2	39	432	102	-30	-247	2	43	5	2	32	574	2	28	5,006	2	32	56,913	2	36	6,706	102	-30	-836	2	43	17,671	**86,223**	32.19	1,932	45,593	17.02	40,630	15.17	0.78
Total			***898.0***	***582.0***	***514***	***382***	***4,227***	**664**	**234**	***1,929***	***444***	***452***	***54***	***556***	***347***	***6,223***	**578**	**319**	***57,032***	***556***	***342***	***608,259***	**532**	**365**	***67,988***	***664***	***234***	***6,527***	**453**	**446**	***183,286***	***935,525***	***357.28***	***21,437***	***487,239***	***186.14***	***448,287***	**171.14**	**9.30**
Average		***6.2***																														***29.77***	**1,786**		***15.51***		***14.26***	***0.78***

Note: The Surplus values in (mm) are calculated using rainfall, melt and Actual Evapotranspiration
P = ET + R + I + S

Groundwater seepage estimates derived from HGS model are presented for information only

TABLE 3
WATER BALANCE OPERATIONAL CONDITION - PHASE 2
CBM Caledon Pit and Quarry

					Forested Swamp			Wet Meadow			Impervious Built-Up Areas			Pervious Built-Up Areas			Forested Area			Moderately Rooted Agricultural Land / Meadow			Till / Rehab Area			Quarry Sump			Quarry Extraction Area										
					WHC	250 mm		WHC	Precip. - Lake Evap.		WHC	3 mm		WHC	75 mm		WHC	300 mm		WHC	150 mm		WHC	100 mm		WHC	Precip. - Lake Evap.		WHC	10 mm									
					Total Area (m^2)	11,065		Total Area (m^2)	8,244		Total Area (m^2)	120		Total Area (m^2)	16,822		Total Area (m^2)	161,010		Total Area (m^2)	1,578,321		Total Area (m^2)	337,364		Total Area (m^2)	27,900		Total Area (m^2)	478,961									
					Infiltration Factor	0.0		Infiltration Factor	0.0		Infiltration Factor	0.0		Infiltration Factor	0.7		Infiltration Factor	0.7		Infiltration Factor	0.7		Infiltration Factor	0.7		Infiltration Factor	0.0		Infiltration Factor	0.0									
Month	Days	Temp	Precipitation	Potential Evapo-transpiration	Actual Evapo-transpiration	Surplus		Actual Evapo-transpiration	Surplus		Actual Evapo-transpiration	Surplus		Actual Evapo-transpiration	Surplus		Actual Evapo-transpiration	Surplus		Actual Evapo-transpiration	Surplus		Actual Evapo-transpiration	Surplus		Actual Evapo-transpiration	Surplus		Actual Evapo-transpiration	Surplus		Total Surplus	Total Surplus (Runoff and Infiltration)		Total Infiltration		Total Runoff		Groundwater Seepage
		(°C)	(mm)	(mm)	(mm)	(mm)	(m^3)	(mm)	(mm)	(m^3)	(mm)	(mm)	(m^3)	(mm)	(mm)	(m^3)	(mm)	(mm)	(m^3)	(mm)	(mm)	(m^3)	(mm)	(mm)	(m^3)	(mm)	(mm)	(m^3)	(mm)	(mm)	(m^3)	(m^3)	(L/s)	(L/min)	(m^3)	(L/s)	(m^3)	(L/s)	(L/s)
January	31	-7.8	66.0	1.0	1	36	398	94	-28	-233	1	37	4	1	36	606	1	25	4,025	1	31	48,928	1	35	11,808	94	-28	-790	1	37	17,722	**82,467**	30.79	1,847	43,310	16.17	39,157	14.62	1.02
February	28	-7.3	56.0	1.0	1	38	420	53	3	25	1	39	5	1	38	639	1	32	5,152	1	37	58,398	1	38	12,820	53	3	86	1	39	18,679	**96,225**	39.78	2,387	50,987	21.08	45,239	18.70	1.02
March	31	-2.2	61.0	7.0	7	95	1,051	37	24	201	7	95	11	7	95	1,598	7	91	14,652	7	94	148,362	7	95	32,050	37	24	681	7	95	45,501	**244,108**	91.14	5,468	130,245	48.63	113,863	42.51	1.02
April	30	5.0	73.0	30.0	30	78	863	15	58	475	30	78	9	30	78	1,312	30	78	12,559	30	78	123,109	30	78	26,314	15	58	1,607	30	78	37,359	**203,607**	78.55	4,713	108,151	41.72	95,457	36.83	1.02
May	31	11.7	80.0	73.0	73	18	199	6	74	608	63	18	2	73	18	303	73	18	2,898	73	18	28,410	73	18	6,073	6	74	2,059	65	18	8,621	**49,173**	18.36	1,102	24,958	9.32	24,215	9.04	1.02
June	30	16.8	83.0	107.0	102	9	100	15	68	565	73	10	1	102	9	151	107	9	1,449	107	9	14,205	106	9	3,036	15	68	1,910	77	10	4,790	**26,207**	10.11	607	12,479	4.81	13,728	5.30	1.02
July	31	19.3	80.0	125.0	100	0	0	37	43	350	79	2	0	100	0	0	125	0	0	121	0	0	110	0	0	37	43	1,186	80	2	958	**2,495**	0.93	56	0	0.00	2,495	0.93	1.02
August	31	18.4	88.0	111.0	87	2	22	65	23	189	79	8	1	87	2	34	109	2	322	99	2	3,157	91	2	675	65	23	638	80	7	3,353	**8,389**	3.13	188	2,773	1.04	5,616	2.10	1.02
September	30	14.3	81.0	75.0	63	7	77	77	4	32	61	19	2	63	7	118	73	4	644	66	4	6,313	63	5	1,687	77	4	110	62	17	8,142	**17,126**	6.61	396	5,818	2.24	11,308	4.36	1.02
October	31	8.1	79.0	38.0	36	16	177	81	-2	-15	36	42	5	36	16	269	38	7	1,127	37	8	12,627	36	11	3,711	81	-2	-52	36	40	19,158	**37,007**	13.82	829	11,782	4.40	25,224	9.42	1.02
November	30	1.9	79.0	12.0	12	44	487	82	-3	-21	12	61	7	12	44	740	12	25	4,025	12	29	45,771	12	38	12,820	82	-3	-71	12	60	28,738	**92,496**	35.69	2,141	42,061	16.23	50,435	19.46	1.02
December	31	-4.3	72.0	2.0	2	39	432	102	-30	-247	2	43	5	2	39	656	2	28	4,508	2	32	50,506	2	36	12,145	102	-30	-836	2	43	20,595	**87,764**	32.77	1,966	44,946	16.78	42,819	15.99	1.02
Total			***898.0***	***582.0***	***514***	`	***4,227***	**664**	**234**	***1,929***	***444***	***452***	***54***	***514***	***382***	***6,426***	**578**	**319**	***51,362***	***556***	***342***	***539,786***	**532**	**365**	######	***664***	***234***	***6,527***	**453**	**446**	***213,616***	***947,065***	***361.67***	***21,700***	***477,509***	***182.42***	***469,556***	**179.25**	**12.20**
Average		***6.2***																														***30.14***	***1,808***		***15.20***		***14.94***	***1.02***

Note: The Surplus values in (mm) are calculated using rainfall, melt and Actual Evapotranspiration
P = ET + R + I + S

Groundwater seepage estimates derived from HGS model are presented for information only

TABLE 4
WATER BALANCE OPERATIONAL CONDITION - PHASE 3
CBM Caledon Pit and Quarry

					Forested Swamp			Wet Meadow			Impervious Built-Up Areas			Pervious Built-Up Areas			Forested Area			Moderately Rooted Agricultural Land / Meadow			Till / Rehab Area			Quarry Sump			Quarry Extraction Area									
					WHC	250 mm		WHC	Precip. - Lake Evap.		WHC	3 mm		WHC	75 mm		WHC	300 mm		WHC	150 mm		WHC	100 mm		WHC	Precip. - Lake Evap.		WHC	10 mm								
					Total Area (m^2)	11,065		Total Area (m^2)	8,244		Total Area (m^2)	120		Total Area (m^2)	15,901		Total Area (m^2)	146,280		Total Area (m^2)	1,412,398		Total Area (m^2)	436,300		Total Area (m^2)	27,900		Total Area (m^2)	561,600								
					Infiltration Factor	0.0		Infiltration Factor	0.0		Infiltration Factor	0.0		Infiltration Factor	0.7		Infiltration Factor	0.7		Infiltration Factor	0.7		Infiltration Factor	0.7		Infiltration Factor	0.0		Infiltration Factor	0.0								
Month	**Days**	**Temp**	**Precipitation**	**Potential Evapo-transpiration**	**Actual Evapo-transpiration**	**Surplus**		**Actual Evapo-transpiration**	**Surplus**		**Actual Evapo-transpiration**	**Surplus**		**Actual Evapo-transpiration**	**Surplus**		**Actual Evapo-transpiration**	**Surplus**		**Actual Evapo-transpiration**	**Surplus**		**Actual Evapo-transpiration**	**Surplus**		**Actual Evapo-transpiration**	**Surplus**		**Actual Evapo-transpiration**	**Surplus**		**Total Surplus**	**Total Surplus (Runoff and Infiltration)**		**Total Infiltration**		**Total Runoff**		**Groundwater Seepage**
		(°C)	**(mm)**	**(mm)**	**(mm)**	**(mm)**	**(m^3)**	**(mm)**	**(mm)**	**(m^3)**	**(mm)**	**(mm)**	**(m^3)**	**(mm)**	**(mm)**	**(m^3)**	**(mm)**	**(mm)**	**(m^3)**	**(mm)**	**(mm)**	**(m^3)**	**(mm)**	**(mm)**	**(m^3)**	**(mm)**	**(mm)**	**(m^3)**	**(mm)**	**(mm)**	**(m^3)**	**(m^3)**	**(L/s)**	**(L/min)**	**(m^3)**	**(L/s)**	**(m^3)**	**(L/s)**	**(L/s)**
January	31	-7.8	66.0	1.0	1	36	398	94	-28	-233	1	37	4	1	36	572	1	25	3,657	1	31	43,784	1	35	15,270	94	-28	-790	1	37	20,779	**83,443**	31.15	1,869	42,110	15.72	41,333	15.43	0.76
February	28	-7.3	56.0	1.0	1	38	420	53	3	25	1	39	5	1	38	604	1	32	4,681	1	37	52,259	1	38	16,579	53	3	86	1	39	21,902	**96,562**	39.91	2,395	49,273	20.37	47,289	19.55	0.76
March	31	-2.2	61.0	7.0	7	95	1,051	37	24	201	7	95	11	7	95	1,511	7	91	13,311	7	94	132,765	7	95	41,448	37	24	681	7	95	53,352	**244,333**	91.22	5,473	125,687	46.93	118,646	44.30	0.76
April	30	5.0	73.0	30.0	30	78	863	15	58	475	30	78	9	30	78	1,240	30	78	11,410	30	78	110,167	30	78	34,031	15	58	1,607	30	78	43,805	**203,607**	78.55	4,713	104,286	40.23	99,322	38.32	0.76
May	31	11.7	80.0	73.0	73	18	199	6	74	608	63	18	2	73	18	286	73	18	2,633	73	18	25,423	73	18	7,853	6	74	2,059	65	18	10,109	**49,173**	18.36	1,102	24,066	8.99	25,107	9.37	0.76
June	30	16.8	83.0	107.0	102	9	100	15	68	565	73	10	1	102	9	143	107	9	1,317	107	9	12,712	106	9	3,927	15	68	1,910	77	10	5,616	**26,290**	10.14	609	12,033	4.64	14,257	5.50	0.76
July	31	19.3	80.0	125.0	100	0	0	37	43	350	79	2	0	100	0	0	125	0	0	121	0	0	110	0	0	37	43	1,186	80	2	1,123	**2,660**	0.99	60	0	0.00	2,660	0.99	0.76
August	31	18.4	88.0	111.0	87	2	22	65	23	189	79	8	1	87	2	32	109	2	293	99	2	2,825	91	2	873	65	23	638	80	7	3,931	**8,803**	3.29	197	2,674	1.00	6,129	2.29	0.76
September	30	14.3	81.0	75.0	63	7	77	77	4	32	61	19	2	63	7	111	73	4	585	66	4	5,650	63	5	2,181	77	4	110	62	17	9,547	**18,296**	7.06	424	5,687	2.19	12,610	4.86	0.76
October	31	8.1	79.0	38.0	36	16	177	81	-2	-15	36	42	5	36	16	254	38	7	1,024	37	8	11,299	36	11	4,799	81	-2	-52	36	40	22,464	**39,955**	14.92	895	11,599	4.33	28,357	10.59	0.76
November	30	1.9	79.0	12.0	12	44	487	82	-3	-21	12	61	7	12	44	700	12	25	3,657	12	29	40,960	12	38	16,579	82	-3	-71	12	60	33,696	**95,994**	37.03	2,222	41,279	15.93	54,715	21.11	0.76
December	31	-4.3	72.0	2.0	2	39	432	102	-30	-247	2	43	5	2	39	620	2	28	4,096	2	32	45,197	2	36	15,707	102	-30	-836	2	43	24,149	**89,122**	33.27	1,996	43,674	16.31	45,448	16.97	0.76
Total			***898.0***	***582.0***	***514***	***382***	***4,227***	**664**	**234**	***1,929***	***444***	***452***	***54***	***514***	***382***	***6,074***	**578**	**319**	***46,663***	***556***	***342***	***483,040***	**532**	**365**	***159,249***	***664***	***234***	***6,527***	**453**	**446**	***250,474***	***958,237***	***365.91***	***21,955***	***462,367***	***176.63***	***495,870***	**189.28**	**9.10**
Average		***6.2***																															***30.49***	***1830***		***14.72***		***15.77***	***0.76***

Note: The Surplus values in (mm) are calculated using rainfall, melt and Actual Evapotranspiration
P = ET + R + I + S

Groundwater seepage estimates derived from HGS model are presented for information only

TABLE 5
WATER BALANCE OPERATIONAL CONDITION - PHASE 4
CBM Caledon Pit and Quarry

					Forested Swamp			Wet Meadow			Impervious Built-Up Areas			Pervious Built-Up Areas			Forested Area			Moderately Rooted Agricultural Land / Meadow			Till / Rehab Area			Quarry Sump			Quarry Extraction Area									
					WHC	250 mm		WHC	Precip. - Lake Evap.		WHC	3 mm		WHC	75 mm		WHC	300 mm		WHC	150 mm		WHC	100 mm		WHC	Precip. - Lake Evap.		WHC	10 mm								
					Total Area (m^2)	11,065		Total Area (m^2)	8,244		Total Area (m^2)	120		Total Area (m^2)	14,892		Total Area (m^2)	130,160		Total Area (m^2)	1,230,826		Total Area (m^2)	490,700		Total Area (m^2)	27,900		Total Area (m^2)	705,900								
					Infiltration Factor	0.0		Infiltration Factor	0.0		Infiltration Factor	0.0		Infiltration Factor	0.7		Infiltration Factor	0.7		Infiltration Factor	0.7		Infiltration Factor	0.7		Infiltration Factor	0.0		Infiltration Factor	0.0								
Month	Days	Temp	Precipitation	Potential Evapo-transpiration	Actual Evapo-transpiration	Surplus		Actual Evapo-transpiration	Surplus		Actual Evapo-transpiration	Surplus		Actual Evapo-transpiration	Surplus		Actual Evapo-transpiration	Surplus		Actual Evapo-transpiration	Surplus		Actual Evapo-transpiration	Surplus		Actual Evapo-transpiration	Surplus		Actual Evapo-transpiration	Surplus		Total Surplus	Total Surplus (Runoff and Infiltration)		Total Infiltration		Total Runoff		Groundwater Seepage
		(°C)	(mm)	(mm)	(mm)	(mm)	(m^3)	(mm)	(mm)	(m^3)	(mm)	(mm)	(m^3)	(mm)	(mm)	(m^3)	(mm)	(mm)	(m^3)	(mm)	(mm)	(m^3)	(mm)	(mm)	(m^3)	(mm)	(mm)	(m^3)	(mm)	(mm)	(m^3)	(m^3)	(L/s)	(L/min)	(m^3)	(L/s)	(m^3)	(L/s)	(L/s)
January	31	-7.8	66.0	1.0	1	36	398	94	-28	-233	1	37	4	1	36	536	1	25	3,254	1	31	38,156	1	35	17,174	94	-28	-790	1	37	26,118	**84,618**	31.59	1,896	39,476	14.74	45,142	16.85	1.03
February	28	-7.3	56.0	1.0	1	38	420	53	3	25	1	39	5	1	38	566	1	32	4,165	1	37	45,541	1	38	18,647	53	3	86	1	39	27,530	**96,985**	40.09	2,405	45,966	19.00	51,019	21.09	1.03
March	31	-2.2	61.0	7.0	7	95	1,051	37	24	201	7	95	11	7	95	1,415	7	91	11,845	7	94	115,698	7	95	46,616	37	24	681	7	95	67,061	**244,579**	91.32	5,479	117,117	43.73	127,462	47.59	1.03
April	30	5.0	73.0	30.0	30	78	863	15	58	475	30	78	9	30	78	1,162	30	78	10,152	30	78	96,004	30	78	38,275	15	58	1,607	30	78	55,060	**203,607**	78.55	4,713	97,115	37.47	106,492	41.08	1.03
May	31	11.7	80.0	73.0	73	18	199	6	74	608	63	18	2	73	18	268	73	18	2,343	73	18	22,155	73	18	8,833	6	74	2,059	65	18	12,706	**49,173**	18.36	1,102	22,411	8.37	26,762	9.99	1.03
June	30	16.8	83.0	107.0	102	9	100	15	68	565	73	10	1	102	9	134	107	9	1,171	107	9	11,077	106	9	4,416	15	68	1,910	77	10	7,059	**26,434**	10.20	612	11,206	4.32	15,228	5.88	1.03
July	31	19.3	80.0	125.0	100	0	0	37	43	350	79	2	0	100	0	0	125	0	0	121	0	0	110	0	0	37	43	1,186	80	2	1,412	**2,949**	1.10	66	0	0.00	2,949	1.10	1.03
August	31	18.4	88.0	111.0	87	2	22	65	23	189	79	8	1	87	2	30	109	2	260	99	2	2,462	91	2	981	65	23	638	80	7	4,941	**9,524**	3.56	213	2,490	0.93	7,034	2.63	1.03
September	30	14.3	81.0	75.0	63	7	77	77	4	32	61	19	2	63	7	104	73	4	521	66	4	4,923	63	5	2,453	77	4	110	62	17	12,000	**20,224**	7.80	468	5,355	2.07	14,869	5.74	1.03
October	31	8.1	79.0	38.0	36	16	177	81	-2	-15	36	42	5	36	16	238	38	7	911	37	8	9,847	36	11	5,398	81	-2	-52	36	40	28,236	**44,744**	16.71	1,002	10,983	4.10	33,761	12.60	1.03
November	30	1.9	79.0	12.0	12	44	487	82	-3	-21	12	61	7	12	44	655	12	25	3,254	12	29	35,694	12	38	18,647	82	-3	-71	12	60	42,354	**101,006**	38.97	2,338	38,990	15.04	62,016	23.93	1.03
December	31	-4.3	72.0	2.0	2	39	432	102	-30	-247	2	43	5	2	39	581	2	28	3,644	2	32	39,386	2	36	17,665	102	-30	-836	2	43	30,354	**90,984**	33.97	2,038	40,925	15.28	50,059	18.69	1.03
Total			***898.0***	***582.0***	***514***	***382***	***4,227***	**664**	**234**	***1,929***	***444***	***452***	***54***	***514***	***382***	***5,689***	**578**	**319**	***41,521***	***556***	***342***	***420,942***	**532**	**365**	***179,105***	***664***	***234***	***6,527***	**453**	**446**	***314,831***	***974,826***	***372.21***	***22,333***	***432,033***	***165.04***	***542,792***	***207.17***	**12.30**
Average		***6.2***																														***31.02***	***1,861***		***13.75***		***17.26***	***1.03***

Groundwater seepage estimates derived from HGS model are presented for information only

Note: The Surplus values in (mm) are calculated using rainfall, melt and Actual Evapotranspiration
P = ET + R + I + S

TABLE 6
WATER BALANCE OPERATIONAL CONDITION - PHASE 5
CBM Caledon Pit and Quarry

					Forested Swamp			Wet Meadow			Impervious Built-Up Areas			Pervious Built-Up Areas			Forested Area			Moderately Rooted Agricultural Land / Meadow			Till / Rehab Area			Quarry Sump			Quarry Extraction Area									
					WHC	250 mm		WHC	Precip. - Lake Evap.		WHC	3 mm		WHC	75 mm		WHC	300 mm		WHC	150 mm		WHC	100 mm		WHC	Precip. - Lake Evap.		WHC	10 mm								
					Total Area (m^2)	11,065		Total Area (m^2)	8,244		Total Area (m^2)	120		Total Area (m^2)	13,251		Total Area (m^2)	103,932		Total Area (m^2)	935,394		Total Area (m^2)	558,675		Total Area (m^2)	27,900		Total Area (m^2)	961,225								
					Infiltration Factor	0.0		Infiltration Factor	0.0		Infiltration Factor	0.0		Infiltration Factor	0.7		Infiltration Factor	0.7		Infiltration Factor	0.7		Infiltration Factor	0.7		Infiltration Factor	0.0		Infiltration Factor	0.0								
Month	**Days**	**Temp**	**Precipitation**	**Potential Evapo-transpiration**	**Actual Evapo-transpiration**	**Surplus**		**Actual Evapo-transpiration**	**Surplus**		**Actual Evapo-transpiration**	**Surplus**		**Actual Evapo-transpiration**	**Surplus**		**Actual Evapo-transpiration**	**Surplus**		**Actual Evapo-transpiration**	**Surplus**		**Actual Evapo-transpiration**	**Surplus**		**Actual Evapo-transpiration**	**Surplus**		**Actual Evapo-transpiration**	**Surplus**		**Total Surplus**	**Total Surplus (Runoff and Infiltration)**		**Total Infiltration**		**Total Runoff**		**Groundwater Seepage**
		(°C)	**(mm)**	**(mm)**	**(mm)**	**(mm)**	**(m^3)**	**(mm)**	**(mm)**	**(m^3)**	**(mm)**	**(mm)**	**(m^3)**	**(mm)**	**(mm)**	**(m^3)**	**(mm)**	**(mm)**	**(m^3)**	**(mm)**	**(mm)**	**(m^3)**	**(mm)**	**(mm)**	**(m^3)**	**(mm)**	**(mm)**	**(m^3)**	**(mm)**	**(mm)**	**(m^3)**	**(m^3)**	**(L/s)**	**(L/min)**	**(m^3)**	**(L/s)**	**(m^3)**	**(L/s)**	**(L/s)**
January	31	-7.8	66.0	1.0	1	36	398	94	-28	-233	1	37	4	1	36	477	1	25	2,598	1	31	28,997	1	35	19,554	94	-28	-790	1	37	35,565	**86,571**	32.32	1,939	34,688	12.95	51,882	19.37	4.11
February	28	-7.3	56.0	1.0	1	38	420	53	3	25	1	39	5	1	38	504	1	32	3,326	1	37	34,610	1	38	21,230	53	3	86	1	39	37,488	**97,693**	40.38	2,423	40,038	16.55	57,655	23.83	4.11
March	31	-2.2	61.0	7.0	7	95	1,051	37	24	201	7	95	11	7	95	1,259	7	91	9,458	7	94	87,927	7	95	53,074	37	24	681	7	95	91,316	**244,979**	91.46	5,488	101,806	38.01	143,173	53.45	4.11
April	30	5.0	73.0	30.0	30	78	863	15	58	475	30	78	9	30	78	1,034	30	78	8,107	30	78	72,961	30	78	43,577	15	58	1,607	30	78	74,976	**203,607**	78.55	4,713	84,326	32.53	119,281	46.02	4.11
May	31	11.7	80.0	73.0	73	18	199	6	74	608	63	18	2	73	18	239	73	18	1,871	73	18	16,837	73	18	10,056	6	74	2,059	65	18	17,302	**49,173**	18.36	1,102	19,460	7.27	29,713	11.09	4.11
June	30	16.8	83.0	107.0	102	9	100	15	68	565	73	10	1	102	9	119	107	9	935	107	9	8,419	106	9	5,028	15	68	1,910	77	10	9,612	**26,689**	10.30	618	9,730	3.75	16,959	6.54	4.11
July	31	19.3	80.0	125.0	100	0	0	37	43	350	79	2	0	100	0	0	125	0	0	121	0	0	110	0	0	37	43	1,186	80	2	1,922	**3,459**	1.29	77	0	0.00	3,459	1.29	4.11
August	31	18.4	88.0	111.0	87	2	22	65	23	189	79	8	1	87	2	27	109	2	208	99	2	1,871	91	2	1,117	65	23	638	80	7	6,729	**10,801**	4.03	242	2,162	0.81	8,638	3.23	4.11
September	30	14.3	81.0	75.0	63	7	77	77	4	32	61	19	2	63	7	93	73	4	416	66	4	3,742	63	5	2,793	77	4	110	62	17	16,341	**23,606**	9.11	546	4,743	1.83	18,863	7.28	4.11
October	31	8.1	79.0	38.0	36	16	177	81	-2	-15	36	42	5	36	16	212	38	7	728	37	8	7,483	36	11	6,145	81	-2	-52	36	40	38,449	**53,132**	19.84	1,190	9,824	3.67	43,308	16.17	4.11
November	30	1.9	79.0	12.0	12	44	487	82	-3	-21	12	61	7	12	44	583	12	25	2,598	12	29	27,126	12	38	21,230	82	-3	-71	12	60	57,674	**109,613**	42.29	2,537	34,720	13.40	74,893	28.89	4.11
December	31	-4.3	72.0	2.0	2	39	432	102	-30	-247	2	43	5	2	39	517	2	28	2,910	2	32	29,933	2	36	20,112	102	-30	-836	2	43	41,333	**94,158**	35.15	2,109	35,934	13.42	58,224	21.74	4.11
Total			***898.0***	***582.0***	***514***	***382***	***4,227***	**664**	**234**	***1,929***	***444***	***452***	***54***	***514***	***382***	***5,062***	**578**	**319**	***33,154***	***556***	***342***	***319,905***	**532**	**365**	***203,916***	***664***	***234***	***6,527***	**453**	**446**	***428,706***	***1,003,481***	***383.09***	***22,985***	***377,431***	***144.18***	***626,049***	**238.91**	**49.30**
Average		***6.2***																														***31.92***	***1,915***		***12.01***		***19.91***	***4.11***

Note: The Surplus values in (mm) are calculated using rainfall, melt and Actual Evapotranspiration
P = ET + R + I + S

Groundwater seepage estimates derived from HGS model are presented for information only

TABLE 7
WATER BALANCE OPERATIONAL CONDITION - PHASE 6
CBM Caledon Pit and Quarry

					Forested Swamp			Wet Meadow			Impervious Built-Up Areas			Pervious Built-Up Areas			Forested Area			Moderately Rooted Agricultural Land / Meadow			Till / Rehab Area			Quarry Sump			Quarry Extraction Area									
					WHC	250 mm		WHC	Precip. - Lake Evap.		WHC	3 mm		WHC	75 mm		WHC	300 mm		WHC	150 mm		WHC	100 mm		WHC	Precip. - Lake Evap.		WHC	10 mm								
					Total Area (m^2)	11,065		Total Area (m^2)	8,244		Total Area (m^2)	120		Total Area (m^2)	12,028		Total Area (m^2)	84,377		Total Area (m^2)	715,123		Total Area (m^2)	621,189		Total Area (m^2)	32,650		Total Area (m^2)	1,135,011								
					Infiltration Factor	0.0		Infiltration Factor	0.0		Infiltration Factor	0.0		Infiltration Factor	0.7		Infiltration Factor	0.7		Infiltration Factor	0.7		Infiltration Factor	0.7		Infiltration Factor	0.0		Infiltration Factor	0.0								
Month	**Days**	**Temp**	**Precipitation**	**Potential Evapo-transpiration**	**Actual Evapo-transpiration**	**Surplus**		**Actual Evapo-transpiration**	**Surplus**		**Actual Evapo-transpiration**	**Surplus**		**Actual Evapo-transpiration**	**Surplus**		**Actual Evapo-transpiration**	**Surplus**		**Actual Evapo-transpiration**	**Surplus**		**Actual Evapo-transpiration**	**Surplus**		**Actual Evapo-transpiration**	**Surplus**		**Actual Evapo-transpiration**	**Surplus**		**Total Surplus**	**Total Surplus (Runoff and Infiltration)**		**Total Infiltration**		**Total Runoff**		**Groundwater Seepage**
		(°C)	**(mm)**	**(mm)**	**(mm)**	**(mm)**	**(m^3)**	**(mm)**	**(mm)**	**(m^3)**	**(mm)**	**(mm)**	**(m^3)**	**(mm)**	**(mm)**	**(m^3)**	**(mm)**	**(mm)**	**(m^3)**	**(mm)**	**(mm)**	**(m^3)**	**(mm)**	**(mm)**	**(m^3)**	**(mm)**	**(mm)**	**(m^3)**	**(mm)**	**(mm)**	**(m^3)**	**(m^3)**	**(L/s)**	**(L/min)**	**(m^3)**	**(L/s)**	**(m^3)**	**(L/s)**	**(L/s)**
January	31	-7.8	66.0	1.0	1	36	398	94	-28	-233	1	37	4	1	36	433	1	25	2,109	1	31	22,169	1	35	21,742	94	-28	-924	1	37	41,995	**87,693**	32.74	1,964	31,409	11.73	56,285	21.01	1.38
February	28	-7.3	56.0	1.0	1	38	420	53	3	25	1	39	5	1	38	457	1	32	2,700	1	37	26,460	1	38	23,605	53	3	101	1	39	44,265	**98,038**	40.53	2,432	35,932	14.85	62,106	25.67	1.38
March	31	-2.2	61.0	7.0	7	95	1,051	37	24	201	7	95	11	7	95	1,143	7	91	7,678	7	94	67,222	7	95	59,013	37	24	797	7	95	107,826	**244,942**	91.45	5,487	91,178	34.04	153,765	57.41	1.38
April	30	5.0	73.0	30.0	30	78	863	15	58	475	30	78	9	30	78	938	30	78	6,581	30	78	55,780	30	78	48,453	15	58	1,880	30	78	88,531	**203,510**	78.51	4,711	75,437	29.10	128,073	49.41	1.38
May	31	11.7	80.0	73.0	73	18	199	6	74	608	63	18	2	73	18	217	73	18	1,519	73	18	12,872	73	18	11,181	6	74	2,409	65	18	20,430	**49,438**	18.46	1,107	17,409	6.50	32,029	11.96	1.38
June	30	16.8	83.0	107.0	102	9	100	15	68	565	73	10	1	102	9	108	107	9	759	107	9	6,436	106	9	5,591	15	68	2,236	77	10	11,350	**27,146**	10.47	628	8,704	3.36	18,441	7.11	1.38
July	31	19.3	80.0	125.0	100	0	0	37	43	350	79	2	0	100	0	0	125	0	0	121	0	0	110	0	0	37	43	1,388	80	2	2,270	**4,009**	1.50	90	0	0.00	4,009	1.50	1.38
August	31	18.4	88.0	111.0	87	2	22	65	23	189	79	8	1	87	2	24	109	2	169	99	2	1,430	91	2	1,242	65	23	747	80	7	7,945	**11,769**	4.39	264	1,934	0.72	9,834	3.67	1.38
September	30	14.3	81.0	75.0	63	7	77	77	4	32	61	19	2	63	7	84	73	4	338	66	4	2,860	63	5	3,106	77	4	128	62	17	19,295	**25,924**	10.00	600	4,329	1.67	21,595	8.33	1.38
October	31	8.1	79.0	38.0	36	16	177	81	-2	-15	36	42	5	36	16	192	38	7	591	37	8	5,721	36	11	6,833	81	-2	-61	36	40	45,400	**58,843**	21.97	1,318	9,050	3.38	49,793	18.59	1.38
November	30	1.9	79.0	12.0	12	44	487	82	-3	-21	12	61	7	12	44	529	12	25	2,109	12	29	20,739	12	38	23,605	82	-3	-83	12	60	68,101	**115,473**	44.55	2,673	31,851	12.29	83,622	32.26	1.38
December	31	-4.3	72.0	2.0	2	39	432	102	-30	-247	2	43	5	2	39	469	2	28	2,363	2	32	22,884	2	36	22,363	102	-30	-979	2	43	48,805	**96,095**	35.88	2,153	32,511	12.14	63,584	23.74	1.38
Total			***898.0***	***582.0***	***514***	***382***	***4,227***	**664**	**234**	***1,929***	***444***	***452***	***54***	***514***	***382***	***4,595***	**578**	**319**	***26,916***	***556***	***342***	***244,572***	**532**	**365**	***226,734***	***664***	***234***	***7,638***	**453**	**446**	***506,215***	***1,022,880***	***390.45***	***23,427***	***339,743***	***129.78***	***683,136***	**260.67**	**16.60**
Average		***6.2***																														***32.54***	***1,952***		***10.82***		***21.72***	***1.38***

Note: The Surplus values in (mm) are calculated using rainfall, melt and Actual Evapotranspiration
P = ET + R + I + S

Groundwater seepage estimates derived from HGS model are presented for information only

TABLE 8
WATER BALANCE OPERATIONAL CONDITION - PHASE 7
CBM Caledon Pit and Quarry

					Forested Swamp			Wet Meadow			Impervious Built-Up Areas			Pervious Built-Up Areas			Forested Area			Moderately Rooted Agricultural Land / Meadow			Till / Rehab Area			Quarry Sump			Quarry Extraction Area									
					WHC	250 mm		WHC	Precip. - Lake Evap.		WHC	3 mm		WHC	75 mm		WHC	300 mm		WHC	150 mm		WHC	100 mm		WHC	Precip. - Lake Evap.		WHC	10 mm								
					Total Area (m^2)	11,065		Total Area (m^2)	8,244		Total Area (m^2)	120		Total Area (m^2)	10,923		Total Area (m^2)	66,704		Total Area (m^2)	516,052		Total Area (m^2)	581,995		Total Area (m^2)	32,650		Total Area (m^2)	1,392,055								
					Infiltration Factor	0.0		Infiltration Factor	0.0		Infiltration Factor	0.0		Infiltration Factor	0.7		Infiltration Factor	0.7		Infiltration Factor	0.7		Infiltration Factor	0.7		Infiltration Factor	0.0		Infiltration Factor	0.0								
Month	**Days**	**Temp**	**Precipitation**	**Potential Evapo-transpiration**	**Actual Evapo-transpiration**	**Surplus**		**Actual Evapo-transpiration**	**Surplus**		**Actual Evapo-transpiration**	**Surplus**		**Actual Evapo-transpiration**	**Surplus**		**Actual Evapo-transpiration**	**Surplus**		**Actual Evapo-transpiration**	**Surplus**		**Actual Evapo-transpiration**	**Surplus**		**Actual Evapo-transpiration**	**Surplus**		**Actual Evapo-transpiration**	**Surplus**		**Total Surplus**	**Total Surplus (Runoff and Infiltration)**		**Total Infiltration**		**Total Runoff**		**Groundwater Seepage**
		(°C)	**(mm)**	**(mm)**	**(mm)**	**(mm)**	**(m^3)**	**(mm)**	**(mm)**	**(m^3)**	**(mm)**	**(mm)**	**(m^3)**	**(mm)**	**(mm)**	**(m^3)**	**(mm)**	**(mm)**	**(m^3)**	**(mm)**	**(mm)**	**(m^3)**	**(mm)**	**(mm)**	**(m^3)**	**(mm)**	**(mm)**	**(m^3)**	**(mm)**	**(mm)**	**(m^3)**	**(m^3)**	**(L/s)**	**(L/min)**	**(m^3)**	**(L/s)**	**(m^3)**	**(L/s)**	**(L/s)**
January	31	-7.8	66.0	1.0	1	36	398	94	-28	-233	1	37	4	1	36	393	1	25	1,668	1	31	15,998	1	35	20,370	94	-28	-924	1	37	51,506	**89,179**	33.30	1,998	26,100	9.74	63,079	23.55	1.98
February	28	-7.3	56.0	1.0	1	38	420	53	3	25	1	39	5	1	38	415	1	32	2,135	1	37	19,094	1	38	22,116	53	3	101	1	39	54,290	**98,601**	40.76	2,445	29,677	12.27	68,924	28.49	1.98
March	31	-2.2	61.0	7.0	7	95	1,051	37	24	201	7	95	11	7	95	1,038	7	91	6,070	7	94	48,509	7	95	55,290	37	24	797	7	95	132,245	**245,212**	91.55	5,493	75,209	28.08	170,003	63.47	1.98
April	30	5.0	73.0	30.0	30	78	863	15	58	475	30	78	9	30	78	852	30	78	5,203	30	78	40,252	30	78	45,396	15	58	1,880	30	78	108,580	**203,510**	78.51	4,711	62,179	23.99	141,331	54.53	1.98
May	31	11.7	80.0	73.0	73	18	199	6	74	608	63	18	2	73	18	197	73	18	1,201	73	18	9,289	73	18	10,476	6	74	2,409	65	18	25,057	**49,438**	18.46	1,107	14,349	5.36	35,089	13.10	1.98
June	30	16.8	83.0	107.0	102	9	100	15	68	565	73	10	1	102	9	98	107	9	600	107	9	4,644	106	9	5,238	15	68	2,236	77	10	13,921	**27,403**	10.57	634	7,175	2.77	20,228	7.80	1.98
July	31	19.3	80.0	125.0	100	0	0	37	43	350	79	2	0	100	0	0	125	0	0	121	0	0	110	0	0	37	43	1,388	80	2	2,784	**4,523**	1.69	101	0	0.00	4,523	1.69	1.98
August	31	18.4	88.0	111.0	87	2	22	65	23	189	79	8	1	87	2	22	109	2	133	99	2	1,032	91	2	1,164	65	23	747	80	7	9,744	**13,054**	4.87	292	1,594	0.60	11,460	4.28	1.98
September	30	14.3	81.0	75.0	63	7	77	77	4	32	61	19	2	63	7	76	73	4	267	66	4	2,064	63	5	2,910	77	4	128	62	17	23,665	**29,223**	11.27	676	3,619	1.40	25,604	9.88	1.98
October	31	8.1	79.0	38.0	36	16	177	81	-2	-15	36	42	5	36	16	175	38	7	467	37	8	4,128	36	11	6,402	81	-2	-61	36	40	55,682	**66,960**	25.00	1,500	7,614	2.84	59,346	22.16	1.98
November	30	1.9	79.0	12.0	12	44	487	82	-3	-21	12	61	7	12	44	481	12	25	1,668	12	29	14,965	12	38	22,116	82	-3	-83	12	60	83,523	**123,143**	47.51	2,851	26,712	10.31	96,430	37.20	1.98
December	31	-4.3	72.0	2.0	2	39	432	102	-30	-247	2	43	5	2	39	426	2	28	1,868	2	32	16,514	2	36	20,952	102	-30	-979	2	43	59,858	**98,828**	36.90	2,214	27,006	10.08	71,823	26.82	1.98
Total			***898.0***	***582.0***	***514***	***382***	***4,227***	**664**	**234**	***1,929***	***444***	***452***	***54***	***514***	***382***	***4,172***	**578**	**319**	***21,279***	***556***	***342***	***176,490***	**532**	**365**	***212,428***	***664***	***234***	***7,638***	**453**	**446**	***620,856***	***1,049,073***	***400.39***	***24,024***	***281,234***	***107.43***	***767,839***	**292.96**	**23.70**
Average		***6.2***																														***33.37***	***2,002***		***8.95***		***24.41***	***1.98***

Note: The Surplus values in (mm) are calculated using rainfall, melt and Actual Evapotranspiration
P = ET + R + I + S

Groundwater seepage estimates derived from HGS model are presented for information only

TABLE 9
WATER BALANCE POST-REHABILITATION
CBM Caledon Pit and Quarry

					Forested Swamp			Wet Meadow / Wetland			Forested Area			Post-Agricultural land / Meadow / Grassland / Island			Lake							
					WHC	250 mm		WHC	Precip. - Lake Evap.		WHC	300 mm		WHC	150 mm		WHC	Precip.- Lake Evap						
					Total Area (m^2)	11,065		Total Area (m^2)	56,244		Total Area (m^2)	540,353		Total Area (m^2)	429,145		Total Area (m^2)	1,583,000						
					Infiltration Factor	0.0		Infiltration Factor	0.0		Infiltration Factor	0.7		Infiltration Factor	0.7		Infiltration Factor	1.0						
Month	Days	Temp	Precipitation	Potential Evapotranspiration	Actual Evapotranspiration	Surplus		Actual Evapotranspiration	Surplus		Actual Evapotranspiration	Surplus		Actual Evapotranspiration	Surplus		Actual Evapotranspiration	Surplus		Total Surplus	Total Surplus (Runoff and Infiltration)		Total Infiltration		Total Runoff	
		(°C)	(mm)	(mm)	(mm)	(mm)	(m^3)	(mm)	(mm)	(m^3)	(mm)	(mm)	(m^3)	(mm)	(mm)	(m^3)	(mm)	(mm)	(m^3)	(m^3)	(L/s)	(L/min)	(m^3)	(L/s)	(m^3)	(L/s)
January	31	-7.8	66.0	1.0	1	26	288	94	-28	-1,593	1	37	19,993	1	25	10,729	94	-28	-44,822	**0**	0.00	0	0	0.00	0	0.00
February	28	-7.3	56.0	1.0	1	33	365	53	3	173	1	39	21,074	1	32	13,733	53	3	4,876	**40,221**	16.63	998	28,554	11.80	11,667	4.82
March	31	-2.2	61.0	7.0	7	91	1,007	37	24	1,373	7	95	51,334	7	91	39,052	37	24	38,640	**131,406**	49.06	2,944	99,957	37.32	31,448	11.74
April	30	5.0	73.0	30.0	30	78	863	15	58	3,239	30	78	42,148	30	78	33,473	15	58	91,159	**170,882**	65.93	3,956	142,420	54.95	28,462	10.98
May	31	11.7	80.0	73.0	73	18	199	6	74	4,150	65	18	9,726	73	18	7,725	6	74	116,811	**138,611**	51.75	3,105	128,640	48.03	9,971	3.72
June	30	16.8	83.0	107.0	107	9	100	15	68	3,851	77	10	5,404	107	9	3,862	15	68	108,397	**121,614**	46.92	2,815	114,690	44.25	6,924	2.67
July	31	19.3	80.0	125.0	125	0	0	37	43	2,391	80	2	1,081	125	0	0	37	43	67,295	**70,767**	26.42	1,585	68,051	25.41	2,715	1.01
August	31	18.4	88.0	111.0	107	2	22	65	23	1,286	80	7	3,782	109	2	858	65	23	36,199	**42,148**	15.74	944	39,405	14.71	2,743	1.02
September	30	14.3	81.0	75.0	71	4	44	77	4	221	62	17	9,186	73	4	1,717	77	4	6,213	**17,381**	6.71	402	13,759	5.31	3,622	1.40
October	31	8.1	79.0	38.0	38	7	77	81	-2	-105	36	40	21,614	38	7	3,004	81	-2	-2,961	**21,630**	8.08	485	14,122	5.27	7,508	2.80
November	30	1.9	79.0	12.0	12	25	277	82	-3	-143	12	60	32,421	12	25	10,729	82	-3	-4,039	**39,244**	15.14	908	25,630	9.89	13,615	5.25
December	31	-4.3	72.0	2.0	2	28	310	102	-30	-1,686	2	43	23,235	2	28	12,016	102	-30	-47,450	**0**	0.00	0	0	0.00	0	0.00
Total			***898.0***	***582.0***	***574***	***321***	***3,552***	**664**	**234**	***13,157***	***453***	***446***	***240,997***	***578***	***319***	***136,897***	**664**	**234**	***370,319***	***793,903***	***302.36***	***18,142***	***675,229***	***256.93***	***118,674***	**45.43**
Average		***6.2***																			***25.20***	***1,512***		***21.41***		***3.79***

Note: The Surplus values in (mm) are calculated using rainfall, melt and Actual Evapotranspiration
P = ET + R + I + S

APPENDIX B

Water Balance Calculations - High Carbon Climate Future

Table 1: Water Balance Existing Condition 2050 Climate Projection CBM Caledon

					Forested Swamp			Wet Meadow			Impervious Built-Up Areas			Pervious Built-Up Areas			Forested Area			Moderately Rooted Agricultural Land / Meadow							
					WHC	250 mm		WHC	Precip. - Lake Evap.		WHC	3 mm		WHC	75 mm		WHC	300 mm		WHC	150 mm							
					Total Area (m^2)	11,065		Total Area (m^2)	8,244		Total Area (m^2)	120		Total Area (m^2)	21,106		Total Area (m^2)	229,498		Total Area (m^2)	2,349,774							
					Infiltration Factor	0.0		Infiltration Factor	0.0		Infiltration Factor	0.00		Infiltration Factor	0.70		Infiltration Factor	0.70		Infiltration Factor	0.65							
Month	Days	Temp	Precipitation	Potential Evapotranspiration	Actual Evapotranspiration	Surplus		Actual Evapotranspiration	Surplus		Actual Evapotranspiration	Surplus		Actual Evapotranspiration	Surplus		Actual Evapotranspiration	Surplus		Actual Evapotranspiration	Surplus		Total Surplus	Total Surplus (Runoff and Infiltration)		Total Infiltration		Total Runoff	
		(°C)	(mm)	(mm)	(mm)	(mm)	(m^2)	(mm)	(mm)	(m^2)	(mm)	(mm)	(m^2)	(mm)	(mm)	(m^2)	(mm)	(mm)	(m^2)	(mm)	(mm)	(m^2)	(m^2)	(L/s)	(L/min)	(m^2)	(L/s)	(m^2)	(L/s)
January	31	-4.0	75.4	0.0	0	0	0	94	-19	-156	0.0	0	0	0.0	0	0	0.0	0	0	0.0	0	0	**0**	0.00	0	0	0.00	0	0.00
February	28	-4.0	63.0	0.0	0	0	0	53	10	83	0.0	0	0	0.0	0	0	0.0	0	0	0.0	0	0	**83**	0.03	2	0	0.00	83	0.03
March	31	0.9	71.3	2.5	2	287	3,177	37	35	286	2.5	287	35	2.5	287	6,061	2.5	287	65,902	2.5	287	674,751	**750,212**	280.10	16,806	488,962	182.56	261,250	97.54
April	30	7.4	84.5	32.5	32	52	576	15	69	570	32.5	52	6	32.5	52	1,099	32.5	52	11,945	32.5	52	122,300	**136,495**	52.66	3,160	88,625	34.19	47,870	18.47
May	31	14.2	84.7	77.9	78	7	76	6	79	647	77.9	7	1	77.9	7	144	77.9	7	1,570	77.9	7	16,073	**18,511**	6.91	415	11,648	4.35	6,864	2.56
June	30	19.1	84.7	114.6	115	0	0	15	70	579	87.7	0	0	114.6	0	0	114.6	0	0	114.6	0	0	**579**	0.22	13	0	0.00	579	0.22
July	31	21.9	78.9	129.7	130	0	0	37	41	342	78.9	0	0	124.0	0	0	129.7	0	0	129.7	0	0	**342**	0.13	8	0	0.00	342	0.13
August	31	21.3	91.0	116.5	117	0	0	65	26	213	91.0	0	0	91.0	0	0	116.5	0	0	116.5	0	0	**213**	0.08	5	0	0.00	213	0.08
September	30	17.1	83.7	80.4	80	0	0	77	7	54	80.4	0	0	80.4	0	0	80.4	0	0	80.4	0	0	**54**	0.02	1	0	0.00	54	0.02
October	31	10.8	80.4	44.5	45	0	0	81	0	-4	44.5	36	4	44.5	0	0	44.5	0	0	44.5	0	0	**1**	0.00	0	0	0.00	1	0.00
November	30	4.3	87.1	13.1	13	7	76	82	6	46	13.1	74	9	13.1	38	805	13.1	7	1,575	13.1	7	16,129	**18,639**	7.19	431	12,150	4.69	6,490	2.50
December	31	-1.2	80.0	0.0	0	0	0	102	-22	-181	0.0	0	0	0.0	0	0	0.0	0	0	0.0	0	0	**0**	0.00	0	0	0.00	0	0.00
Total			***964.7***	***611.8***	***612***	***353***	***3,905***	***664***	***301***	***2,478***	***509***	***456***	***55***	***581***	***384***	***8,109***	***612***	***353***	***80,992***	***612***	***353***	***829,253***	***925,129***			***601,385***		***323,744***	
Average		***9.0***																						***28.95***	***1,737***		***18.82***		***10.13***

Note: The Surplus values in (mm) are calculated using rainfall, melt and Actual Evapotranspiration

P = ET + R + I + S

Table 2: Water Balance Operational Condition - Phase 1 2050 Climate Projection CBM Caledon

					Forested Swamp			Wet Meadow			Impervious Built-Up Areas			Pervious Built-Up Areas			Forested Area			Moderately Rooted Agricultural Land / Meadow			Till / Rehab Area			Quarry Sump			Quarry Extraction Area							
					WHC	250 mm		WHC	Precip. - Lake Evap.		WHC	3 mm		WHC	75 mm		WHC	300 mm		WHC	150 mm		WHC	100 mm		WHC	Precip. - Lake Evap.		WHC	10 mm						
					Total Area (m²)	11,065		Total Area (m²)	8,244		Total Area (m²)	120		Total Area (m²)	17,934		Total Area (m²)	178,785		Total Area (m²)	1,778,535		Total Area (m²)	186,269		Total Area (m²)	27,900		Total Area (m²)	410,956						
					Infiltration Factor	0.0		Infiltration Factor	0.0		Infiltration Factor	0.0		Infiltration Factor	0.7		Infiltration Factor	0.7		Infiltration Factor	0.7		Infiltration Factor	0.7		Infiltration Factor	0.0		Infiltration Factor	0.0						
Month	Days	Temp	Precipitation	Potential Evapotranspiration	Actual Evapotranspiration	Surplus		Actual Evapotranspiration	Surplus		Actual Evapotranspiration	Surplus		Actual Evapotranspiration	Surplus		Actual Evapotranspiration	Surplus		Actual Evapotranspiration	Surplus		Actual Evapotranspiration	Surplus		Actual Evapotranspiration	Surplus		Actual Evapotranspiration	Surplus		Total Surplus	Total Surplus (Runoff and Infiltration)		Total Infiltration	Total Runoff	
		(°C)	(mm)	(mm)	(mm)	(mm)	(m³)	(mm)	(mm)	(m³)	(mm)	(mm)	(m³)	(mm)	(mm)	(m³)	(mm)	(mm)	(m³)	(mm)	(mm)	(m³)	(mm)	(mm)	(m³)	(mm)	(mm)	(m³)	(mm)	(mm)	(m³)	(m³)	(L/s)	(L/min)	(m³)	(L/s)	(m³)	(L/s)
January	31	-4.0	75.4	0.0	0	0	0	94	-19	-156	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	94	-19	-528	0	0	0	**0**	0.00	0	0	0.00	0	0.00
February	28	-4.0	63.0	0.0	0	0	0	53	10	83	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	53	10	281	0	0	0	**364**	0.15	9	0	0.00	364	0.15
March	31	0.9	71.3	2.5	2	287	3,177	37	35	286	2	287	35	2	287	5,150	2	287	51,339	2	287	510,717	7	287	53,488	37	35	968	2	287	118,008	**743,168**	277.47	16,648	408,950	152.68	334,218	124.78
April	30	7.4	84.5	32.5	32	52	576	15	69	570	32	52	6	32	52	933	32	52	9,305	32	52	92,568	30	52	9,695	15	69	1,928	32	52	21,389	**136,970**	52.84	3,171	74,123	28.60	62,848	24.25
May	31	14.2	84.7	77.9	78	7	76	6	79	647	78	7	1	78	7	123	78	7	1,223	78	7	12,166	73	7	1,274	6	79	2,191	78	7	2,811	**20,511**	7.66	459	9,742	3.64	10,769	4.02
June	30	19.1	84.7	114.6	115	0	0	15	70	579	88	0	0	115	0	0	115	0	0	115	0	0	106	0	0	15	70	1,959	95	0	0	**2,538**	0.98	59	0	0.00	2,538	0.98
July	31	21.9	78.9	129.7	130	0	0	37	41	342	79	0	0	124	0	0	130	0	0	130	0	0	110	0	0	37	41	1,156	79	0	0	**1,497**	0.56	34	0	0.00	1,497	0.56
August	31	21.3	91.0	116.5	117	0	0	65	26	213	91	0	0	91	0	0	117	0	0	117	0	0	91	0	0	65	26	721	91	0	0	**934**	0.35	21	0	0.00	934	0.35
September	30	17.1	83.7	80.4	80	0	0	77	7	54	80	0	0	80	0	0	80	0	0	80	0	0	63	0	0	77	7	184	80	0	0	**239**	0.09	6	0	0.00	239	0.09
October	31	10.8	80.4	44.5	45	0	0	81	0	-4	45	36	4	45	0	0	45	0	0	45	0	0	36	0	0	81	0	-12	45	29	11,995	**11,983**	4.47	268	0	0.00	11,983	4.47
November	30	4.3	87.1	13.1	13	7	76	82	6	46	13	74	9	13	38	684	13	7	1,227	13	7	12,208	12	13	2,446	82	6	154	13	74	30,387	**47,237**	18.22	1,093	10,985	4.24	36,252	13.99
December	31	-1.2	80.0	0.0	0	0	0	102	-22	-181	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	102	-22	-613	0	0	0	**0**	0.00	0	0.00	0	0.00	0
Total			***964.7***	***611.8***	***612***	***353***	***3,905***	***664***	***301***	***2,478***	***509***	***456***	***55***	***581***	***384***	***6,890***	***612***	***353***	***63,094***	***612***	***353***	***627,659***	***531***	***359***	***66,903***	***664***	***301***	***8,387***	***516***	***449***	***184,591***	***965,441***			***503,799***		***461,642***	
Average		***9.0***																														***30.23***	***1,814***		***15.76***		***14.47***

Note: The Surplus values in (mm) are calculated using rainfall, melt and Actual Evapotranspiration

P = ET + R + I + S

Table 3: Water Balance Operational Condition - Phase 2 2050 Climate Projection CBM Caledon

					Forested Swamp		Wet Meadow		Impervious Built-Up Areas		Pervious Built-Up Areas		Forested Area		Moderately Rooted Agricultural Land / Meadow		Till / Rehab Area		Quarry Sump		Quarry Extraction Area					
					WHC	250 mm	WHC	Precip. - Lake Evap.	WHC	3 mm	WHC	75 mm	WHC	300 mm	WHC	150 mm	WHC	100 mm	WHC	Precip. - Lake Evap.	WHC	10 mm				
					Total Area (m^2)	11,065	Total Area (m^2)	8,244	Total Area (m^2)	120	Total Area (m^2)	16,822	Total Area (m^2)	161,010	Total Area (m^2)	1,578,321	Total Area (m^2)	337,364	Total Area (m^2)	27,900	Total Area (m^2)	478,961					
					Infiltration Factor	0.0	Infiltration Factor	0.0	Infiltration Factor	0.0	Infiltration Factor	0.7	Infiltration Factor	0.7	Infiltration Factor	0.7	Infiltration Factor	0.7	Infiltration Factor	0.0	Infiltration Factor	0.0					
Month	Days	Temp	Precipitation	Potential Evapotranspiration	Actual Evapotranspiration	Surplus	Actual Evapotranspiration	Surplus	Actual Evapotranspiration	Surplus	Actual Evapotranspiration	Surplus	Actual Evapotranspiration	Surplus	Actual Evapotranspiration	Surplus	Actual Evapotranspiration	Surplus	Actual Evapotranspiration	Surplus	Actual Evapotranspiration	Surplus	Total Surplus	Total Surplus (Runoff and Infiltration)	Total Infiltration	Total Runoff
		(°C)	(mm)	(mm)	(mm)	(mm) (m^3)	(mm)	(mm) (m^3)	(mm)	(mm) (m^3)	(mm)	(mm) (m^3)	(mm)	(mm) (m^3)	(mm)	(mm) (m^3)	(mm)	(mm) (m^3)	(mm)	(mm) (m^3)	(mm)	(mm) (m^3)	(m^3)	(L/s) (L/min)	(m^3) (L/s)	(m^3) (L/s)
January	31	-4.0	75.4	0.0	0	0 0	94	-19 -156	0	0 0	0	0 0	0	0 0	0	0 0	0	0 0	94	-19 -528	0	0 0	**0**	0.00 0	0 0.00	0 0.00
February	28	-4.0	63.0	0.0	0	0 0	53	10 83	0	0 0	0	0 0	0	0 0	0	0 0	0	0 0	53	10 281	0	0 0	**364**	0.15 9	0 0.00	364 0.15
March	31	0.9	71.3	2.5	2	287 3,177	37	35 286	2	287 35	2	287 4,831	2	287 46,235	2	287 453,224	2	287 96,876	37	35 968	2	287 137,536	**743,168**	277.47 16,648	398,155 148.65	345,013 128.81
April	30	7.4	84.5	32.5	32	52 576	15	69 570	32	52 6	32	52 876	32	52 8,380	32	52 82,148	32	52 17,559	15	69 1,928	32	52 24,929	**136,970**	52.84 3,171	72,166 27.84	64,804 25.00
May	31	14.2	84.7	77.9	78	7 76	6	79 647	78	7 1	78	7 115	78	7 1,101	78	7 10,796	78	7 2,308	6	79 2,191	78	7 3,276	**20,511**	7.66 459	9,485 3.54	11,027 4.12
June	30	19.1	84.7	114.6	115	0 0	15	70 579	88	0 0	115	0 0	115	0 0	115	0 0	115	0 0	15	70 1,959	95	0 0	**2,538**	0.96 59	0 0.00	2,538 0.98
July	31	21.9	78.9	129.7	130	0 0	37	41 342	79	0 0	124	0 0	130	0 0	130	0 0	130	0 0	37	41 1,156	79	0 0	**1,497**	0.56 34	0 0.00	1,497 0.56
August	31	21.3	91.0	116.5	117	0 0	65	26 213	91	0 0	91	0 0	117	0 0	117	0 0	110	0 0	65	26 721	91	0 0	**934**	0.35 21	0 0.00	934 0.35
September	30	17.1	83.7	80.4	80	0 0	77	7 54	80	0 0	80	0 0	80	0 0	80	0 0	80	0 0	77	7 184	80	0 0	**239**	0.09 6	0 0.00	239 0.09
October	31	10.8	80.4	44.5	45	0 0	81	0 -4	45	36 4	45	0 0	45	0 0	45	0 0	45	0 0	81	0 -12	45	29 13,980	**13,968**	5.22 313	0 0.00	13,968 5.22
November	30	4.3	87.1	13.1	13	7 76	82	6 46	13	74 9	13	38 641	13	7 1,105	13	7 10,834	13	13 4,430	82	6 154	13	74 35,416	**52,711**	20.34 1,220	11,365 4.38	41,346 15.95
December	31	-1.2	80.0	0.0	0	0 0	102	-22 -181	0	0 0	0	0 0	0	0 0	0	0 0	0	0 0	102	-22 -613	0	0 0	**0**	0.00 0	0 0.00	0 0.00
Total			***964.7***	***611.8***	***612***	***353 3,905***	***664***	***301 2,478***	***509***	***456 55***	***581***	***384 6,463***	***612***	***353 56,822***	***612***	***353 557,002***	***606***	***359 121,173***	***664***	***301 8,387***	***516***	***449 215,137***	***972,900***		***491,171***	***481,729***
Average		***9.0***																						***30.47 1,828***	***15.37***	***15.10***

Note: The Surplus values in (mm) are calculated using rainfall, melt and Actual Evapotranspiration

P = ET + R + I + S

Table 4: Water Balance Operational Condition - Phase 3 2050 Climate Projection CBM Caledon

					Forested Swamp		Wet Meadow		Impervious Built-Up Areas		Pervious Built-Up Areas		Forested Area		Moderately Rooted Agricultural Land / Meadow		Till / Rehab Area		Quarry Sump		Quarry Extraction Area					
					WHC	250 mm	WHC	Precip. - Lake Evap.	WHC	3 mm	WHC	75 mm	WHC	300 mm	WHC	150 mm	WHC	100 mm	WHC	Precip. - Lake Evap.	WHC	10 mm				
					Total Area (m^2)	11,065	Total Area (m^2)	8,244	Total Area (m^2)	120	Total Area (m^2)	15,901	Total Area (m^2)	146,280	Total Area (m^2)	1,412,398	Total Area (m^2)	436,300	Total Area (m^2)	27,900	Total Area (m^2)	561,600					
					Infiltration Factor	0.0	Infiltration Factor	0.0	Infiltration Factor	0.0	Infiltration Factor	0.7	Infiltration Factor	0.7	Infiltration Factor	0.7	Infiltration Factor	0.7	Infiltration Factor	0.0	Infiltration Factor	0.0					
Month	Days	Temp	Precipitation	Potential Evapotranspiration	Actual Evapotranspiration	Surplus	Actual Evapotranspiration	Surplus	Actual Evapotranspiration	Surplus	Actual Evapotranspiration	Surplus	Actual Evapotranspiration	Surplus	Actual Evapotranspiration	Surplus	Actual Evapotranspiration	Surplus	Actual Evapotranspiration	Surplus	Actual Evapotranspiration	Surplus	Total Surplus	Total Surplus (Runoff and Infiltration)	Total Infiltration	Total Runoff
		(°C)	(mm)	(mm)	(mm)	(mm) (m^3)	(mm)	(mm) (m^3)	(mm)	(mm) (m^3)	(mm)	(mm) (m^3)	(mm)	(mm) (m^3)	(mm)	(mm) (m^3)	(mm)	(mm) (m^3)	(mm)	(mm) (m^3)	(mm)	(mm) (m^3)	(m^3)	(L/s) (L/min)	(m^3) (L/s)	(m^3) (L/s)
January	31	-4.0	75.4	0.0	0	0 0	94	-19 -156	0	0 0	0	0 0	0	0 0	0	0 0	0	0 0	94	-19 -528	0	0 0	**0**	0.00 0	0 0.00	0 0.00
February	28	-4.0	63.0	0.0	0	0 0	53	10 83	0	0 0	0	0 0	0	0 0	0	0 0	0	0 0	53	10 281	0	0 0	**364**	0.15 9	0 0.00	364 0.15
March	31	0.9	71.3	2.5	2	287 3,177	37	35 286	2	287 35	2	287 4,566	2	287 42,005	2	287 405,578	2	287 125,286	37	35 968	2	287 161,267	**743,168**	277.47 16,648	383,926 143.34	359,242 134.13
April	30	7.4	84.5	32.5	32	52 576	15	69 570	32	52 6	32	52 828	32	52 7,613	32	52 73,512	32	52 22,708	15	69 1,928	32	52 29,230	**136,970**	52.84 3,171	69,587 26.85	67,383 26.00
May	31	14.2	84.7	77.9	78	7 76	6	79 647	78	7 1	78	7 109	78	7 1,001	78	7 9,661	78	7 2,984	6	79 2,191	78	7 3,842	**20,511**	7.66 459	9,146 3.41	11,366 4.24
June	30	19.1	84.7	114.6	115	0 0	15	70 579	88	0 0	115	0 0	115	0 0	115	0 0	115	0 0	15	70 1,959	95	0 0	**2,538**	0.98 59	0 0.00	2,538 0.98
July	31	21.9	78.9	129.7	130	0 0	37	41 342	79	0 0	124	0 0	130	0 0	130	0 0	130	0 0	37	41 1,156	79	0 0	**1,497**	0.56 34	0 0.00	1,497 0.56
August	31	21.3	91.0	116.5	117	0 0	65	26 213	91	0 0	91	0 0	117	0 0	117	0 0	110	0 0	65	26 721	91	0 0	**934**	0.35 21	0 0.00	934 0.35
September	30	17.1	83.7	80.4	80	0 0	77	7 54	80	0 0	80	0 0	80	0 0	80	0 0	80	0 0	77	7 184	80	0 0	**239**	0.09 6	0 0.00	239 0.09
October	31	10.8	80.4	44.5	45	0 0	81	0 -4	45	36 4	45	0 0	45	0 0	45	0 0	45	0 0	81	0 -12	45	29 16,392	**16,380**	6.12 367	0 0.00	16,380 6.12
November	30	4.3	87.1	13.1	13	7 76	82	6 46	13	74 9	13	38 606	13	7 1,004	13	7 9,695	13	13 5,729	82	6 154	13	74 41,527	**58,846**	22.70 1,362	11,439 4.41	47,406 18.29
December	31	-1.2	80.0	0.0	0	0 0	102	-22 -181	0	0 0	0	0 0	0	0 0	0	0 0	0	0 0	102	-22 -613	0	0 0	**0**	0.00 0	0 0.00	0 0.00
Total			***964.7***	***611.8***	***612***	***353 3,905***	***664***	***301 2,478***	***509***	***456 55***	***581***	***384 6,109***	***612***	***353 51,623***	***612***	***353 498,446***	***606***	***359 156,708***	***664***	***301 8,387***	***516***	***449 252,257***	***981,446***		***474,098***	***507,349***
Average		***9.0***																						***30.74 1,845***	**14.83**	**15.91**

Note: The Surplus values in (mm) are calculated using rainfall, melt and Actual Evapotranspiration

P = ET + R + I + S

Table 5: Water Balance Operational Condition - Phase 4 2050 Climate Projection CBM Caledon

				Forested Swamp			Wet Meadow			Impervious Built-Up Areas			Pervious Built-Up Areas			Forested Area			Moderately Rooted Agricultural Land / Meadow			Till / Rehab Area			Quarry Sump			Quarry Extraction Area							
				WHC	250 mm		WHC	Precip. - Lake Evap.		WHC	3 mm		WHC	75 mm		WHC	300 mm		WHC	150 mm		WHC	100 mm		WHC	Precip. - Lake Evap.		WHC	10 mm						
				Total Area (m^2)	11,065		Total Area (m^2)	8,244		Total Area (m^2)	120		Total Area (m^2)	14,892		Total Area (m^2)	130,160		Total Area (m^2)	1,230,826		Total Area (m^2)	490,700		Total Area (m^2)	27,900		Total Area (m^2)	705,900						
				Infiltration Factor	0.0		Infiltration Factor	0.0		Infiltration Factor	0.0		Infiltration Factor	0.7		Infiltration Factor	0.7		Infiltration Factor	0.7		Infiltration Factor	0.7		Infiltration Factor	0.0		Infiltration Factor	0.0						
Month	Days	Temp	Precipitation	Potential Evapotranspiration	Actual Evapotranspiration	Surplus		Actual Evapotranspiration	Surplus		Actual Evapotranspiration	Surplus		Actual Evapotranspiration	Surplus		Actual Evapotranspiration	Surplus		Actual Evapotranspiration	Surplus		Actual Evapotranspiration	Surplus		Actual Evapotranspiration	Surplus		Actual Evapotranspiration	Surplus		Total Surplus	Total Surplus (Runoff and Infiltration)		Total Infiltration	Total Runoff	
		(°C)	(mm)	(mm)	(mm)	(mm)	(m^3)	(mm)	(mm)	(m^3)	(mm)	(mm)	(m^3)	(mm)	(mm)	(m^3)	(mm)	(mm)	(m^3)	(mm)	(mm)	(m^3)	(mm)	(mm)	(m^3)	(mm)	(mm)	(m^3)	(mm)	(mm)	(m^3)	(m^3)	(L/s)	(L/min)	(m^3)	(L/s)	(m^3)	(L/s)
January	31	-4.0	75.4	0.0	0	0	0	94	-19	-156	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	94	-19	-528	0	0	0	**0**	0.00	0	0	0.00	0	0.00
February	28	-4.0	63.0	0.0	0	0	0	53	10	83	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	53	10	281	0	0	0	**364**	0.15	9	0	0.00	364	0.15
March	31	0.9	71.3	2.5	2	287	3,177	37	35	286	2	287	35	2	287	4,276	2	287	37,376	2	287	353,439	2	287	140,907	37	35	968	2	287	202,703	**743,168**	277.47	16,648	357,527	133.49	385,641	143.98
April	30	7.4	84.5	32.5	32	52	576	15	69	570	32	52	6	32	52	775	32	52	6,775	32	52	64,061	32	52	25,540	15	69	1,928	32	52	36,740	**136,970**	52.84	3,171	64,802	25.00	72,168	27.84
May	31	14.2	84.7	77.9	78	7	76	6	79	647	78	7	1	78	7	102	78	7	890	78	7	8,419	78	7	3,357	6	79	2,191	78	7	4,829	**20,511**	7.66	459	8,517	3.18	11,994	4.48
June	30	19.1	84.7	114.6	115	0	0	15	70	579	88	0	0	115	0	0	115	0	0	115	0	0	115	0	0	15	70	1,959	95	0	0	**2,538**	0.98	59	0	0.00	2,538	0.98
July	31	21.9	78.9	129.7	130	0	0	37	41	342	79	0	0	124	0	0	130	0	0	130	0	0	130	0	0	37	41	1,156	79	0	0	**1,497**	0.56	34	0	0.00	1,497	0.56
August	31	21.3	91.0	116.5	117	0	0	65	26	213	91	0	0	91	0	0	117	0	0	117	0	0	110	0	0	65	26	721	91	0	0	**934**	0.35	21	0	0.00	934	0.35
September	30	17.1	83.7	80.4	80	0	0	77	7	54	80	0	0	80	0	0	80	0	0	80	0	0	80	0	0	77	7	184	80	0	0	**239**	0.09	6	0	0.00	239	0.09
October	31	10.8	80.4	44.5	45	0	0	81	0	-4	45	36	4	45	0	0	45	0	0	45	0	0	45	0	0	81	0	-12	45	29	20,604	**20,592**	7.69	461	0	0.00	20,592	7.69
November	30	4.3	87.1	13.1	13	7	76	82	6	46	13	74	9	13	38	568	13	7	893	13	7	8,448	13	13	6,443	82	6	154	13	74	52,197	**68,835**	26.56	1,593	11,025	4.25	57,810	22.30
December	31	-1.2	80.0	0.0	0	0	0	102	-22	-181	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	102	-22	-613	0	0	0	**0**	0.00	0	0	0.00	0	0.00
Total			***964.7***	***611.8***	***612***	***353***	***3,905***	***664***	***301***	***2,478***	***509***	***456***	***55***	***581***	***384***	***5,721***	***612***	***353***	***45,935***	***612***	***353***	***434,368***	***606***	***359***	***176,247***	***664***	***301***	***8,387***	***516***	***449***	***317,073***	***995,647***			***441,671***		***553,776***	
Average		***9.0***																														***31.20***	***1,872***		***13.83***		***17.37***

Note: The Surplus values in (mm) are calculated using rainfall, melt and Actual Evapotranspiration

P = ET + R + I + S

Table 6: Water Balance Operational Condition - Phase 5 2050 Climate Projection CBM Caledon

				Forested Swamp			Wet Meadow			Impervious Built-Up Areas			Pervious Built-Up Areas			Forested Area			Moderately Rooted Agricultural Land / Meadow			Till / Rehab Area			Quarry Sump			Quarry Extraction Area						
				WHC	250 mm		WHC	Precip. - Lake Evap.		WHC	3 mm		WHC	75 mm		WHC	300 mm		WHC	150 mm		WHC	100 mm		WHC	Precip. - Lake Evap.		WHC	10 mm					
				Total Area (m^2)	11,065		Total Area (m^2)	8,244		Total Area (m^2)	120		Total Area (m^2)	13,251		Total Area (m^2)	103,932		Total Area (m^2)	935,394		Total Area (m^2)	558,675		Total Area (m^2)	27,900		Total Area (m^2)	961,225					
				Infiltration Factor	0.0		Infiltration Factor	0.0		Infiltration Factor	0.0		Infiltration Factor	0.7		Infiltration Factor	0.7		Infiltration Factor	0.7		Infiltration Factor	0.7		Infiltration Factor	0.0		Infiltration Factor	0.0					
Month	Days	Temp	Precipitation	Potential Evapotranspiration	Actual Evapotranspiration	Surplus		Actual Evapotranspiration	Surplus		Actual Evapotranspiration	Surplus		Actual Evapotranspiration	Surplus		Actual Evapotranspiration	Surplus		Actual Evapotranspiration	Surplus		Actual Evapotranspiration	Surplus		Actual Evapotranspiration	Surplus		Actual Evapotranspiration	Surplus		Total Surplus	Total Surplus (Runoff and Infiltration)		Total Infiltration		Total Runoff	
		(°C)	(mm)	(mm)	(mm)	(mm)	(m^3)	(mm)	(mm)	(m^3)	(mm)	(mm)	(m^3)	(mm)	(mm)	(m^3)	(mm)	(mm)	(m^3)	(mm)	(mm)	(m^3)	(mm)	(mm)	(m^3)	(mm)	(mm)	(m^3)	(mm)	(mm)	(m^3)	(m^3)	(L/s)	(L/min)	(m^3)	(L/s)	(m^3)	(L/s)
January	31	-4.0	75.4	0.0	0	0	0	94	-19	-156	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	94	-19	-528	0	0	0	**0**	0.00	0	0	0.00	0	0.00
February	28	-4.0	63.0	0.0	0	0	0	53	10	83	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	53	10	281	0	0	0	**364**	0.15	9	0	0.00	364	0.15
March	31	0.9	71.3	2.5	2	287	3,177	37	35	286	2	287	35	2	287	3,805	2	287	29,845	2	287	268,604	2	287	160,427	37	35	968	2	287	276,021	**743,168**	277.47	16,648	310,446	115.91	432,721	161.56
April	30	7.4	84.5	32.5	32	52	576	15	69	570	32	52	6	32	52	690	32	52	5,409	32	52	48,685	32	52	29,078	15	69	1,928	32	52	50,029	**136,970**	52.84	3,171	56,269	21.71	80,701	31.13
May	31	14.2	84.7	77.9	78	7	76	6	79	647	78	7	1	78	7	91	78	7	711	78	7	6,398	78	7	3,822	6	79	2,191	78	7	6,575	**20,511**	7.66	459	7,395	2.76	13,116	4.90
June	30	19.1	84.7	114.6	115	0	0	15	70	579	88	0	0	115	0	0	115	0	0	115	0	0	115	0	0	15	70	1,959	95	0	0	**2,538**	0.98	59	0	0.00	2,538	0.98
July	31	21.9	78.9	129.7	130	0	0	37	41	342	79	0	0	124	0	0	130	0	0	130	0	0	130	0	0	37	41	1,156	79	0	0	**1,497**	0.56	34	0	0.00	1,497	0.56
August	31	21.3	91.0	116.5	117	0	0	65	26	213	91	0	0	91	0	0	117	0	0	117	0	0	110	0	0	65	26	721	91	0	0	**934**	0.35	21	0	0.00	934	0.35
September	30	17.1	83.7	80.4	80	0	0	77	7	54	80	0	0	80	0	0	80	0	0	80	0	0	80	0	0	77	7	184	80	0	0	**239**	0.09	6	0	0.00	239	0.09
October	31	10.8	80.4	44.5	45	0	0	81	0	-4	45	36	4	45	0	0	45	0	0	45	0	0	45	0	0	81	0	-12	45	29	28,056	**28,045**	10.47	628	0	0.00	28,045	10.47
November	30	4.3	87.1	13.1	13	7	76	82	6	46	13	74	9	13	38	505	13	7	713	13	7	6,421	13	13	7,336	82	6	154	13	74	71,076	**86,336**	33.31	1,999	10,162	3.92	76,175	29.39
December	31	-1.2	80.0	0.0	0	0	0	102	-22	-181	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	102	-22	-613	0	0	0	**0**	0.00	0	0	0.00	0	0.00
Total			***964.7***	***611.8***	***612***	***353***	***3,905***	***664***	***301***	***2,478***	***509***	***456***	***55***	***581***	***384***	***5,091***	***612***	***353***	***36,679***	***612***	***353***	***330,108***	***606***	***359***	***200,662***	***664***	***301***	***8,387***	***516***	***449***	***431,758***	***1,020,601***			***384,272***		***636,329***	
Average		***9.0***																															***31.99***	***1,919***		***12.02***		***19.96***

Note: The Surplus values in (mm) are calculated using rainfall, melt and Actual Evapotranspiration

P = ET + R + I + S

Table 7: Water Balance Operational Condition - Phase 6 2050 Climate Projection CBM Caledon

					Forested Swamp		Wet Meadow		Impervious Built-Up Areas		Pervious Built-Up Areas		Forested Area		Moderately Rooted Agricultural Land / Meadow		Till / Rehab Area		Quarry Sump		Quarry Extraction Area						
					WHC	250 mm	WHC	Precip. - Lake Evap.	WHC	3 mm	WHC	75 mm	WHC	300 mm	WHC	150 mm	WHC	100 mm	WHC	Precip. - Lake Evap.	WHC	10 mm					
					Total Area (m²)	11,065	Total Area (m²)	8,244	Total Area (m²)	120	Total Area (m²)	12,028	Total Area (m²)	84,377	Total Area (m²)	715,123	Total Area (m²)	621,189	Total Area (m²)	32,650	Total Area (m²)	1,135,011					
					Infiltration Factor	0.0	Infiltration Factor	0.0	Infiltration Factor	0.0	Infiltration Factor	0.7	Infiltration Factor	0.7	Infiltration Factor	0.7	Infiltration Factor	0.7	Infiltration Factor	0.0	Infiltration Factor	0.0					
Month	Days	Temp	Precipitation	Potential Evapotranspiration	Actual Evapotranspiration	Surplus	Actual Evapotranspiration	Surplus	Actual Evapotranspiration	Surplus	Actual Evapotranspiration	Surplus	Actual Evapotranspiration	Surplus	Actual Evapotranspiration	Surplus	Actual Evapotranspiration	Surplus	Actual Evapotranspiration	Surplus	Actual Evapotranspiration	Surplus	Total Surplus	Total Surplus (Runoff and Infiltration)		Total Infiltration		Total Runoff	
		(°C)	(mm)	(mm)	(mm)	(mm) (m³)	(mm)	(mm) (m³)	(mm)	(mm) (m³)	(mm)	(mm) (m³)	(mm)	(mm) (m³)	(mm)	(mm) (m³)	(mm)	(mm) (m³)	(mm)	(mm) (m³)	(mm)	(mm) (m³)	(m³)	(L/s)	(L/min)	(m³)	(L/s)	(m³)	(L/s)
January	31	-4.0	75.4	0.0	0	0 0	94	-19 -156	0	0 0	0	0 0	0	0 0	0	0 0	0	0 0	94	-19 -618	0	0 0	**0**	0.00	0	0	0.00	0	0.00
February	28	-4.0	63.0	0.0	0	0 0	53	10 83	0	0 0	0	0 0	0	0 0	0	0 0	0	0 0	53	10 329	0	0 0	**412**	0.17	10	0	0.00	412	0.17
March	31	0.9	71.3	2.5	2	287 3,177	37	35 286	2	287 35	2	287 3,454	2	287 24,229	2	287 205,352	2	287 178,378	37	35 1,133	2	287 325,925	**741,969**	277.02	16,621	277,722	103.69	464,247	173.33
April	30	7.4	84.5	32.5	32	52 576	15	69 570	32	52 6	32	52 626	32	52 4,392	32	52 37,220	32	52 32,331	15	69 2,256	32	52 59,075	**137,051**	52.87	3,172	50,338	19.42	86,714	33.45
May	31	14.2	84.7	77.9	78	7 76	6	79 647	78	7 1	78	7 82	78	7 577	78	7 4,892	78	7 4,249	6	79 2,563	78	7 7,764	**20,852**	7.79	467	6,616	2.47	14,236	5.32
June	30	19.1	84.7	114.6	115	0 0	15	70 579	88	0 0	115	0 0	115	0 0	115	0 0	115	0 0	15	70 2,292	95	0 0	**2,871**	1.11	66	0	0.00	2,871	1.11
July	31	21.9	78.9	129.7	130	0 0	37	41 342	79	0 0	124	0 0	130	0 0	130	0 0	130	0 0	37	41 1,353	79	0 0	**1,694**	0.63	38	0	0.00	1,694	0.63
August	31	21.3	91.0	116.5	117	0 0	65	26 213	91	0 0	91	0 0	117	0 0	117	0 0	110	0 0	65	26 843	91	0 0	**1,056**	0.39	24	0	0.00	1,056	0.39
September	30	17.1	83.7	80.4	80	0 0	77	7 54	80	0 0	80	0 0	80	0 0	80	0 0	80	0 0	77	7 215	80	0 0	**270**	0.10	6	0	0.00	270	0.10
October	31	10.8	80.4	44.5	45	0 0	81	0 -4	45	36 4	45	0 0	45	0 0	45	0 0	45	0 0	81	0 -14	45	29 33,128	**33,115**	12.36	742	0	0.00	33,115	12.36
November	30	4.3	87.1	13.1	13	7 76	82	6 46	13	74 9	13	38 459	13	7 579	13	7 4,909	13	13 8,157	82	6 181	13	74 83,926	**98,341**	37.94	2,276	9,627	3.71	88,714	34.23
December	31	-1.2	80.0	0.0	0	0 0	102	-22 -181	0	0 0	0	0 0	0	0 0	0	0 0	0	0 0	102	-22 -718	0	0 0	**0**	0.00	0	0	0.00	0	0.00
Total			***964.7***	***611.8***	***612***	***353 3,905***	***664***	***301 2,478***	***509***	***456 55***	***581***	***384 4,621***	***612***	***353 29,777***	***612***	***353 252,372***	**606**	***359 223,115***	***664***	***301 9,815***	***516***	***449 509,818***	***1,037,631***			***344,302***		***693,329***	
Average		***9.0***																						***32.53***	***1,952***		***10.77***		***21.76***

Note: The Surplus values in (mm) are calculated using rainfall, melt and Actual Evapotranspiration

P = ET + R + I + S

Table 8: Water Balance Operational Condition - Phase 7 2050 Climate Projection CBM Caledon

					Forested Swamp		Wet Meadow		Impervious Built-Up Areas		Pervious Built-Up Areas		Forested Area		Moderately Rooted Agricultural Land / Meadow		Till / Rehab Area		Quarry Sump		Quarry Extraction Area					
					WHC	250 mm	WHC	Precip. - Lake Evap.	WHC	3 mm	WHC	75 mm	WHC	350 mm	WHC	150 mm	WHC	100 mm	WHC	Precip. - Lake Evap.	WHC	10 mm				
					Total Area (m^2)	11,065	Total Area (m^2)	8,244	Total Area (m^2)	120	Total Area (m^2)	10,923	Total Area (m^2)	66,704	Total Area (m^2)	516,052	Total Area (m^2)	581,995	Total Area (m^2)	32,650	Total Area (m^2)	1,392,055					
					Infiltration Factor	0.0	Infiltration Factor	0.0	Infiltration Factor	0.0	Infiltration Factor	0.7	Infiltration Factor	0.7	Infiltration Factor	0.7	Infiltration Factor	0.7	Infiltration Factor	0.0	Infiltration Factor	0.0					
Month	Days	Temp	Precipitation	Potential Evapotranspiration	Actual Evapotranspiration	Surplus	Actual Evapotranspiration	Surplus	Actual Evapotranspiration	Surplus	Actual Evapotranspiration	Surplus	Actual Evapotranspiration	Surplus	Actual Evapotranspiration	Surplus	Actual Evapotranspiration	Surplus	Actual Evapotranspiration	Surplus	Actual Evapotranspiration	Surplus	Total Surplus	Total Surplus (Runoff and Infiltration)		Total Infiltration		Total Runoff	
		(°C)	(mm)	(mm)	(mm)	(mm) (m^3)	(mm)	(mm) (m^3)	(mm)	(mm) (m^3)	(mm)	(mm) (m^3)	(mm)	(mm) (m^3)	(mm)	(mm) (m^3)	(mm)	(mm) (m^3)	(mm)	(mm) (m^3)	(mm)	(mm) (m^3)	(m^3)	(L/s)	(L/min)	(m^3)	(L/s)	(m^3)	(L/s)
January	31	-4.0	75.4	0.0	0	0 0	94	-19 -156	0	0 0	0	0 0	0	0 0	0	0 0	0	0 0	94	-19 -618	0	0 0	**0**	0.00	0	0	0.00	0	0.00
February	28	-4.0	63.0	0.0	0	0 0	53	10 83	0	0 0	0	0 0	0	0 0	0	0 0	0	0 0	53	10 329	0	0 0	**412**	0.17	10	0	0.00	412	0.17
March	31	0.9	71.3	2.5	2	287 3,177	37	35 286	2	287 35	2	287 3,136	2	287 19,154	2	287 148,187	2	287 167,123	37	35 1,133	2	287 399,737	**741,969**	277.02	16,621	228,912	85.47	513,057	191.55
April	30	7.4	84.5	32.5	32	52 576	15	69 570	32	52 6	32	52 568	32	52 3,472	32	52 26,859	32	52 30,291	15	69 2,296	32	52 72,453	**137,051**	52.87	3,172	41,491	16.01	95,561	36.87
May	31	14.2	84.7	77.9	78	7 76	6	79 647	78	7 1	78	7 75	78	7 456	78	7 3,530	78	7 3,981	6	79 2,563	78	7 9,522	**20,852**	7.79	467	5,453	2.04	15,399	5.75
June	30	19.1	84.7	114.6	115	0 0	15	70 579	88	0 0	115	0 0	115	0 0	115	0 0	115	0 0	15	70 2,292	95	0 0	**2,871**	1.11	66	0	0.00	2,871	1.11
July	31	21.9	78.9	129.7	130	0 0	37	41 342	79	0 0	124	0 0	130	0 0	130	0 0	130	0 0	37	41 1,353	79	0 0	**1,694**	0.63	38	0	0.00	1,694	0.63
August	31	21.3	91.0	116.5	117	0 0	65	26 213	91	0 0	91	0 0	117	0 0	117	0 0	110	0 0	65	26 843	91	0 0	**1,056**	0.39	24	0	0.00	1,056	0.39
September	30	17.1	83.7	80.4	80	0 0	77	7 54	80	0 0	80	0 0	80	0 0	80	0 0	80	0 0	77	7 215	80	0 0	**270**	0.10	6	0	0.00	270	0.10
October	31	10.8	80.4	44.5	45	0 0	81	0 -4	45	36 4	45	0 0	45	0 0	45	0 0	45	0 0	81	0 -14	45	29 40,631	**40,618**	15.16	910	0	0.00	40,618	15.16
November	30	4.3	87.1	13.1	13	7 76	82	6 46	13	74 9	13	38 416	13	7 458	13	7 3,542	13	13 7,642	82	6 181	13	74 102,933	**115,303**	44.48	2,669	8,264	3.19	107,039	41.30
December	31	-1.2	80.0	0.0	0	0 0	102	-22 -181	0	0 0	0	0 0	0	0 0	0	0 0	0	0 0	102	-22 -718	0	0 0	**0**	0.00	0	0	0.00	0	0.00
Total			***964.7***	***611.8***	***612***	***353 3,905***	***664***	***301 2,478***	***509***	***456 55***	***581***	***384 4,196***	***612***	***353 23,540***	***612***	***353 182,119***	***606***	***359 209,038***	***664***	***301 9,815***	***516***	***449 625,276***	***1,062,095***			***284,119***		***777,976***	
Average		***9.0***																						***33.31***	***1,999***		***8.89***		***24.42***

Note: The Surplus values in (mm) are calculated using rainfall, melt and Actual Evapotranspiration

P = ET + R + I + S

Table 9: Water Balance Rehabilitated Condition 2050 ClimateProjection CBM Caledon

		Forested Swamp						Wet Meadow / Wetland			Forested Area			Post-Agricultural land / Meadow / Grassland / Island			Lake							
		WHC		250 mm				WHC	Precip. - Lake Evap.		WHC		300 mm	WHC		150 mm	WHC		Precip.- Lake Evap					
		Total Area (m^2)		11,065				Total Area (m^2)	56,244		Total Area (m^2)		540,353	Total Area (m^2)		429,145	Total Area (m^2)		1,583,000					
		Infiltration Factor		0.0				Infiltration Factor	0.0		Infiltration Factor		0.7	Infiltration Factor		0.7	Infiltration Factor		1.0					
Month	Days	Temp	Precipitation	Potential Evapotranspiration	Actual Evapotranspiration	Surplus		Actual Evapotranspiration	Surplus		Actual Evapotranspiration	Surplus		Actual Evapotranspiration	Surplus		Actual Evapotranspiration	Surplus		Total Surplus	Total Surplus (Runoff and Infiltration)		Total Infiltration		Total Runoff	
		(°C)	(mm)	(mm)	(mm)	(mm)	(m^3)	(mm)	(mm)	(m^3)	(mm)	(mm)	(m^3)	(mm)	(mm)	(m^3)	(mm)	(mm)	(m^3)	(m^3)	(L/s)	(L/min)	(m^3)	(L/s)	(m^3)	(L/s)
January	31	-4.0	75.4	0.0	0	0	0	94	-19	-1,065	0	0	0	0	0	0	94	-19	-29,967	**0**	0.00	0	0	0.00	0	0.00
February	28	-4.0	63.0	0.0	0	0	0	53	10	566	0	0	0	0	0	0	53	10	15,934	**16,500**	6.82	409	15,934	6.59	566	0.23
March	31	0.9	71.3	2.5	2	287	3,177	37	35	1,951	2	287	155,166	2	287	123,232	37	35	54,914	**338,440**	126.36	7,582	243,631	90.96	94,809	35.40
April	30	7.4	84.5	32.5	32	52	576	15	69	3,886	32	52	28,124	32	52	22,336	15	69	109,366	**164,288**	63.38	3,803	143,572	55.39	20,716	7.99
May	31	14.2	84.7	77.9	78	7	76	6	79	4,416	78	7	3,696	78	7	2,936	6	79	124,287	**135,410**	50.56	3,033	128,783	48.08	6,628	2.47
June	30	19.1	84.7	114.6	115	0	0	15	70	3,949	115	0	0	115	0	0	15	70	111,144	**115,092**	44.40	2,664	111,144	42.88	3,949	1.52
July	31	21.9	78.9	129.7	130	0	0	37	41	2,330	130	0	0	130	0	0	37	41	65,583	**67,913**	25.36	1,521	65,583	24.49	2,330	0.87
August	31	21.3	91.0	116.5	117	0	0	65	26	1,453	117	0	0	117	0	0	65	26	40,890	**42,343**	15.81	949	40,890	15.27	1,453	0.54
September	30	17.1	83.7	80.4	80	0	0	77	7	371	80	0	0	80	0	0	77	7	10,445	**10,816**	4.17	250	10,445	4.03	371	0.14
October	31	10.8	80.4	44.5	45	0	0	81	0	-24	45	0	0	45	0	0	81	0	-689	**0**	0.00	0	0	0.00	0	0.00
November	30	4.3	87.1	13.1	13	7	76	82	6	311	13	7	3,709	13	7	2,946	82	6	8,763	**15,805**	6.10	366	13,274	5.12	2,531	0.98
December	31	-1.2	80.0	0.0	0	0	0	102	-22	-1,236	0	0	0	0	0	0	102	-22	-34,795	**0**	0.00	0	0	0.00	0	0.00
Total			***964.7***	***611.8***	***612***	***353***	***3,905***	**664**	**301**	***16,908***	***612***	***353***	***190,695***	**612**	**353**	***151,449***	**664**	**301**	***475,874***	***906,607***			***773,253***		***133,354***	
Average		***9.0***																			***28.58***	***1,715***		***24.40***		***4.18***

Note: The Surplus values in (mm) are calculated using rainfall, melt and Actual Evapotranspiration
P = ET + R + I + S

Table 10: Water Balance Existing Condition 2080 Climate Projection CBM Caledon

					Forested Swamp			Wet Meadow			Impervious Built-Up Areas			Pervious Built-Up Areas			Forested Area			Moderately Rooted Agricultural Land / Meadow								
					WHC	250 mm		WHC	Precip. - Lake Evap.		WHC	3 mm		WHC	75 mm		WHC	300 mm		WHC	150 mm								
					Total Area (m^2)	11,065		Total Area (m^2)	8,244		Total Area (m^2)	120		Total Area (m^2)	21,106		Total Area (m^2)	229,498		Total Area (m^2)	2,349,774								
					Infiltration Factor	0.0		Infiltration Factor	0.0		Infiltration Factor	0.00		Infiltration Factor	0.70		Infiltration Factor	0.70		Infiltration Factor	0.65								
Month	Days	Temp	Precipitation	Potential Evapotranspiration	Actual Evapotranspiration	Surplus		Actual Evapotranspiration	Surplus		Actual Evapotranspiration	Surplus		Actual Evapotranspiration	Surplus		Actual Evapotranspiration	Surplus		Actual Evapotranspiration	Surplus		Total Surplus	Total Surplus (Runoff and Infiltration)		Total Infiltration		Total Runoff	
		(°C)	(mm)	(mm)	(mm)	(mm)	(m^3)	(mm)	(mm)	(m^3)	(mm)	(mm)	(m^3)	(mm)	(mm)	(m^3)	(mm)	(mm)	(m^3)	(mm)	(mm)	(m^3)	(m^3)	(L/s)	(L/min)	(m^3)	(L/s)	(m^3)	(L/s)
January	31	-2.5	80.9	0.0	0	0	0	94	-13	-111	0.0	0	0	0.0	0	0	0.0	0	0	0.0	0	0	**0**	0.00	0	0	0.00	0	0.00
February	28	-2.3	67.1	0.0	0	0	0	53	14	117	0.0	0	0	0.0	0	0	0.0	0	0	0.0	0	0	**117**	0.05	3	0	0.00	117	0.05
March	31	1.6	72.6	4.4	4	298	3,296	37	36	297	4.4	298	36	4.4	298	6,288	4.4	298	68,367	4.4	298	699,994	**778,277**	290.58	17,435	507,254	189.39	271,023	101.19
April	30	8.2	86.9	34.4	34	52	581	15	71	589	34.4	52	6	34.4	52	1,107	34.4	52	12,041	34.4	52	123,288	**137,613**	53.09	3,185	89,341	34.47	48,272	18.62
May	31	14.9	82.3	79.9	80	2	27	6	76	627	79.9	2	0	79.9	2	51	79.9	2	558	79.9	2	5,713	**6,976**	2.60	156	4,140	1.55	2,837	1.06
June	30	20.1	82.2	119.7	120	0	0	15	68	558	85.2	0	0	119.7	0	0	119.7	0	0	119.7	0	0	**558**	0.22	13	0	0.00	558	0.22
July	31	22.9	79.9	135.5	135	0	0	37	42	350	79.9	0	0	117.4	0	0	135.5	0	0	135.5	0	0	**350**	0.13	8	0	0.00	350	0.13
August	31	22.2	92.5	121.1	121	0	0	65	27	226	92.5	0	0	92.5	0	0	121.1	0	0	121.1	0	0	**226**	0.08	5	0	0.00	226	0.08
September	30	18.1	84.1	84.2	84	0	0	77	7	58	84.1	0	0	84.1	0	0	84.2	0	0	84.2	0	0	**58**	0.02	1	0	0.00	58	0.02
October	31	11.7	80.4	46.6	47	0	0	81	0	-4	46.6	31	4	46.6	0	0	46.6	0	0	46.6	0	0	**0**	0.00	0	0	0.00	0	0.00
September	30	4.9	86.7	14.1	14	0	0	82	5	42	14.1	73	9	14.1	31	663	14.1	0	0	14.1	0	0	**714**	0.28	17	464	0.18	250	0.10
December	31	-0.2	81.7	0.0	0	0	0	102	-20	-167	0.0	0	0	0.0	0	0	0.0	0	0	0.0	0	0	**0**	0.00	0	0	0.00	0	0.00
Total			***977.3***	***639.8***	***640***	***353***	***3,904***	***664***	***313***	***2,582***	***521***	***456***	***55***	***593***	***384***	***8,110***	***640***	***353***	***80,966***	***640***	***353***	***828,995***	***924,889***			***601,200***		***323,690***	
Average		***10.0***																						***28.92***	***1,735***		***18.80***		***10.12***

Note: The Surplus values in (mm) are calculated using rainfall, melt and Actual Evapotranspiration

P = ET + R + I + S

Table 11: Water Balance Operational Condition - Phase 1 2080 Climate Projection CBM Caledon

					Forested Swamp			Wet Meadow			Impervious Built-Up Areas			Pervious Built-Up Areas			Forested Area			Moderately Rooted Agricultural Land / Meadow			Till / Rehab Area			Quarry Sump			Quarry Extraction Area								
					WHC	250 mm		WHC	Precip. - Lake Evap.		WHC	3 mm		WHC	75 mm		WHC	300 mm		WHC	150 mm		WHC	100 mm		WHC	Precip. - Lake Evap.		WHC	10 mm							
					Total Area (m²)	11,065		Total Area (m²)	8,244		Total Area (m²)	120		Total Area (m²)	17,934		Total Area (m²)	179,785		Total Area (m²)	1,778,535		Total Area (m²)	186,269		Total Area (m²)	27,900		Total Area (m²)	410,956							
					Infiltration Factor	0.0		Infiltration Factor	0.0		Infiltration Factor	0.0		Infiltration Factor	0.7		Infiltration Factor	0.7		Infiltration Factor	0.7		Infiltration Factor	0.7		Infiltration Factor	0.0		Infiltration Factor	0.0							
Month	Days	Temp	Precipitation	Potential Evapotranspiration	Actual Evapotranspiration	Surplus		Actual Evapotranspiration	Surplus		Actual Evapotranspiration	Surplus		Actual Evapotranspiration	Surplus		Actual Evapotranspiration	Surplus		Actual Evapotranspiration	Surplus		Actual Evapotranspiration	Surplus		Actual Evapotranspiration	Surplus		Actual Evapotranspiration	Surplus		Total Surplus	Total Surplus (Runoff and Infiltration)		Total Infiltration		Total Runoff	
		(°C)	(mm)	(mm)	(mm)	(mm)	(m³)	(mm)	(mm)	(m³)	(mm)	(mm)	(m³)	(mm)	(mm)	(m³)	(mm)	(mm)	(m³)	(mm)	(mm)	(m³)	(mm)	(mm)	(m³)	(mm)	(mm)	(m³)	(mm)	(mm)	(m³)	(m³)	(L/s)	(L/min)	(m³)	(L/s)	(m³)	(L/s)
January	31	-2.5	80.9	0.0	0	0	0	94	-13	-111	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	94	-13	-374	0	0	0	**0**	0.00	0	0	0.00	0	0.00
February	28	-2.3	67.1	0.0	0	0	0	53	14	117	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	53	14	396	0	0	0	**513**	0.21	13	0	0.00	513	0.21
March	31	1.6	72.6	4.4	4	298	3,296	37	36	297	4	298	36	4	298	5,342	4	298	53,260	4	298	529,823	4	298	55,489	37	36	1,005	4	298	122,423	**770,971**	287.85	17,271	424,249	158.40	346,722	129.45
April	30	8.2	86.9	34.4	34	52	581	15	71	589	34	52	6	34	52	941	34	52	9,380	34	52	93,316	34	52	9,773	15	71	1,994	34	52	21,562	**138,144**	53.30	3,198	74,722	28.83	63,422	24.47
May	31	14.9	82.3	79.9	80	2	27	6	76	627	80	2	0	80	2	44	80	2	435	80	2	4,324	80	2	453	6	76	2,123	80	2	999	**9,032**	3.37	202	3,462	1.29	5,569	2.08
June	30	20.1	82.2	119.7	120	0	0	15	68	558	85	0	0	120	0	0	120	0	0	120	0	0	120	0	0	15	68	1,888	92	0	0	**2,446**	0.94	57	0	0.00	2,446	0.94
July	31	22.9	79.9	135.5	135	0	0	37	42	350	80	0	0	117	0	0	135	0	0	135	0	0	135	0	0	37	42	1,183	80	0	0	**1,533**	0.57	34	0	0.00	1,533	0.57
August	31	22.2	92.5	121.1	121	0	0	65	27	226	93	0	0	93	0	0	121	0	0	121	0	0	99	0	0	65	27	764	93	0	0	**989**	0.37	22	0	0.00	989	0.37
September	30	18.1	84.1	84.2	84	0	0	77	7	58	84	0	0	84	0	0	84	0	0	84	0	0	84	0	0	77	7	196	84	0	0	**254**	0.10	6	0	0.00	254	0.10
October	31	11.7	80.4	46.6	47	0	0	81	0	-4	47	31	4	47	0	0	47	0	0	47	0	0	47	0	0	81	0	-13	47	24	9,775	**9,762**	3.64	219	0	0.00	9,762	3.64
November	30	4.9	86.7	14.1	14	0	0	82	5	42	14	73	9	14	31	564	14	0	0	14	0	0	14	6	1,197	82	5	144	14	73	29,852	**31,807**	12.27	736	1,232	0.48	30,575	11.80
December	31	-0.2	81.7	0.0	0	0	0	102	-20	-167	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	102	-20	-566	0	0	0	**0**	0.00	0	0	0.00	0	0.00
Total			***977.3***	***639.8***	***640***	***353***	***3,904***	***664***	***313***	***2,582***	***521***	***456***	***55***	***593***	***384***	***6,891***	***640***	***353***	***63,075***	***640***	***353***	***627,463***	***618***	***359***	***66,912***	***664***	***313***	***8,739***	***528***	***449***	***184,611***	***965,450***			***503,665***		***461,785***	
Average		***10.0***																														***30.22***	***1,813***		***15.75***		***14.47***

Note: The Surplus values in (mm) are calculated using rainfall, melt and Actual Evapotranspiration

P = ET + R + I + S

Table 12: Water Balance Operational Condition - Phase 2 2080 Climate Projection CBM Caledon

					Forested Swamp			Wet Meadow			Impervious Built-Up Areas			Pervious Built-Up Areas			Forested Area			Moderately Rooted Agricultural Land / Meadow			Till / Rehab Area			Quarry Sump			Quarry Extraction Area							
					WHC	250 mm		WHC	Precip. - Lake Evap.		WHC	3 mm		WHC	75 mm		WHC	300 mm		WHC	150 mm		WHC	100 mm		WHC	Precip. - Lake Evap.		WHC	10 mm						
					Total Area (m²)	11,065		Total Area (m²)	8,244		Total Area (m²)	120		Total Area (m²)	16,822		Total Area (m²)	161,010		Total Area (m²)	1,578,321		Total Area (m²)	337,364		Total Area (m²)	27,800		Total Area (m²)	478,961						
					Infiltration Factor	0.0		Infiltration Factor	0.0		Infiltration Factor	0.0		Infiltration Factor	0.7		Infiltration Factor	0.7		Infiltration Factor	0.7		Infiltration Factor	0.7		Infiltration Factor	0.0		Infiltration Factor	0.0						
Month	Days	Temp	Precipitation	Potential Evapotranspiration	Actual Evapotranspiration	Surplus		Actual Evapotranspiration	Surplus		Actual Evapotranspiration	Surplus		Actual Evapotranspiration	Surplus		Actual Evapotranspiration	Surplus		Actual Evapotranspiration	Surplus		Actual Evapotranspiration	Surplus		Actual Evapotranspiration	Surplus		Actual Evapotranspiration	Surplus		Total Surplus	Total Surplus (Runoff and Infiltration)		Total Infiltration		Total Runoff	
		(°C)	(mm)	(mm)	(mm)	(mm)	(m³)	(mm)	(mm)	(m³)	(mm)	(mm)	(m³)	(mm)	(mm)	(m³)	(mm)	(mm)	(m³)	(mm)	(mm)	(m³)	(mm)	(mm)	(m³)	(mm)	(mm)	(m³)	(mm)	(mm)	(m³)	(m³)	(L/s)	(L/min)	(m³)	(L/s)	(m³)	(L/s)
January	31	-2.5	80.9	0.0	0	0	0	94	-13	-111	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	94	-13	-374	0	0	0	**0**	0.00	0	0	0.00	0	0.00
February	28	-2.3	67.1	0.0	0	0	0	53	14	117	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	53	14	396	0	0	0	**513**	0.21	13	0	0.00	513	0.21
March	31	1.6	72.6	4.4	4	298	3,296	37	36	297	4	298	36	4	298	5,011	4	298	47,965	4	298	470,179	4	298	100,500	37	36	1,005	4	298	142,682	**770,971**	287.85	17,271	413,050	154.22	357,921	133.63
April	30	8.2	86.9	34.4	34	52	581	15	71	589	34	52	6	34	52	883	34	52	8,448	34	52	82,812	34	52	17,701	15	71	1,994	34	52	25,130	**138,144**	53.30	3,198	72,750	28.07	65,394	25.23
May	31	14.9	82.3	79.9	80	2	27	6	76	627	80	2	0	80	2	41	80	2	391	80	2	3,837	80	2	820	6	76	2,123	80	2	1,164	**9,032**	3.37	202	3,371	1.26	5,661	2.11
June	30	20.1	82.2	119.7	120	0	0	15	68	558	85	0	0	120	0	0	120	0	0	120	0	0	120	0	0	15	68	1,888	92	0	0	**2,446**	0.94	57	0	0.00	2,446	0.94
July	31	22.9	79.9	135.5	135	0	0	37	42	350	80	0	0	117	0	0	135	0	0	135	0	0	135	0	0	37	42	1,183	80	0	0	**1,533**	0.57	34	0	0.00	1,533	0.57
August	31	22.2	92.5	121.1	121	0	0	65	27	226	93	0	0	93	0	0	121	0	0	121	0	0	99	0	0	65	27	764	93	0	0	**989**	0.37	22	0	0.00	989	0.37
September	30	18.1	84.1	84.2	84	0	0	77	7	58	84	0	0	84	0	0	84	0	0	84	0	0	84	0	0	77	7	196	84	0	0	**254**	0.10	6	0	0.00	254	0.10
October	31	11.7	80.4	46.6	47	0	0	81	0	-4	47	31	4	47	0	0	47	0	0	47	0	0	47	0	0	81	0	-13	47	24	11,393	**11,380**	4.25	255	0	0.00	11,380	4.25
November	30	4.9	86.7	14.1	14	0	0	82	5	42	14	73	9	14	31	529	14	0	0	14	0	0	14	6	2,168	82	5	144	14	73	34,792	**37,683**	14.54	872	1,888	0.73	35,795	13.81
December	31	-0.2	81.7	0.0	0	0	0	102	-20	-167	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	102	-20	-566	0	0	0	**0**	0.00	0	0	0.00	0	0.00
Total			***977.3***	***639.8***	***640***	***353***	***3,904***	***664***	***313***	***2,582***	***521***	***456***	***55***	***593***	***384***	***6,463***	***640***	***353***	***56,804***	***640***	***353***	***556,828***	***618***	***359***	***121,189***	***664***	***313***	***8,739***	***528***	***449***	***215,161***	***972,944***			***491,058***		***481,886***	
Average		***10.0***																															***30.46***	***1,827***		***15.36***		***15.10***

Note: The Surplus values in (mm) are calculated using rainfall, melt and Actual Evapotranspiration

P = ET + R + I + S

Table 13: Water Balance Operational Condition - Phase 3 2080 Climate Projection CBM Caledon

	Forested Swamp		Wet Meadow		Impervious Built-Up Areas		Pervious Built-Up Areas		Forested Area		Moderately Rooted Agricultural Land / Meadow		Till / Rehab Area		Quarry Sump		Quarry Extraction Area							
	WHC	250 mm	WHC	Precip. - Lake Evap.	WHC	3 mm	WHC	75 mm	WHC	300 mm	WHC	150 mm	WHC	100 mm	WHC	Precip. - Lake Evap.	WHC	10 mm						
	Total Area (m^2)	11,065	Total Area (m^2)	8,244	Total Area (m^2)	129	Total Area (m^2)	15,901	Total Area (m^2)	146,280	Total Area (m^2)	1,412,398	Total Area (m^2)	436,300	Total Area (m^2)	27,900	Total Area (m^2)	561,600						
	Infiltration Factor	0.0	Infiltration Factor	0.0	Infiltration Factor	0.0	Infiltration Factor	0.7	Infiltration Factor	0.7	Infiltration Factor	0.7	Infiltration Factor	0.7	Infiltration Factor	0.0	Infiltration Factor	0.0						
Month	Days	Temp	Precipitation	Potential Evapotranspiration	Actual Evapotranspiration	Surplus	Actual Evapotranspiration	Surplus	Actual Evapotranspiration	Surplus	Actual Evapotranspiration	Surplus	Actual Evapotranspiration	Surplus	Actual Evapotranspiration	Surplus	Actual Evapotranspiration	Surplus	Actual Evapotranspiration	Surplus	Actual Evapotranspiration	Surplus	Total Surplus	Total Surplus (Runoff and Infiltration)		Total Infiltration		Total Runoff	
		(°C)	(mm)	(mm)	(mm)	(mm) (m^3)	(mm)	(mm) (m^3)	(mm)	(mm) (m^3)	(mm)	(mm) (m^3)	(mm)	(mm) (m^3)	(mm)	(mm) (m^3)	(mm)	(mm) (m^3)	(mm)	(mm) (m^3)	(mm)	(mm) (m^3)	(m^3)	(L/s)	(L/min)	(m^3)	(L/s)	(m^3)	(L/s)
January	31	-2.5	80.9	0.0	0	0 0	94	-13 -111	0	0 0	0	0 0	0	0 0	0	0 0	0	0 0	94	-13 -374	0	0 0	**0**	0.00	0	0	0.00	0	0.00
February	28	-2.3	67.1	0.0	0	0 0	53	14 117	0	0 0	0	0 0	0	0 0	0	0 0	0	0 0	53	14 396	0	0 0	**513**	0.21	13	0	0.00	513	0.21
March	31	1.6	72.6	4.4	4	298 3,296	37	36 297	4	298 36	4	298 4,737	4	298 43,576	4	298 420,751	4	298 129,973	37	36 1,005	4	298 167,300	**770,971**	287.85	17,271	398,289	148.70	372,682	139.14
April	30	8.2	86.9	34.4	34	52 581	15	71 589	34	52 6	34	52 834	34	52 7,675	34	52 74,106	34	52 22,892	15	71 1,994	34	52 29,466	**138,144**	53.30	3,198	70,150	27.06	67,994	26.23
May	31	14.9	82.3	79.9	80	2 27	6	76 627	80	2 0	80	2 39	80	2 356	80	2 3,434	80	2 1,061	6	76 2,123	80	2 1,365	**9,032**	3.37	202	3,250	1.21	5,781	2.16
June	30	20.1	82.2	119.7	120	0 0	15	68 558	85	0 0	120	0 0	120	0 0	120	0 0	120	0 0	15	68 1,888	92	0 0	**2,446**	0.94	57	0	0.00	2,446	0.94
July	31	22.9	79.9	135.5	135	0 0	37	42 350	80	0 0	117	0 0	135	0 0	135	0 0	135	0 0	37	42 1,183	80	0 0	**1,533**	0.57	34	0	0.00	1,533	0.57
August	31	22.2	92.5	121.1	121	0 0	65	27 226	93	0 0	93	0 0	121	0 0	121	0 0	121	0 0	99	0 0	65	27 764	93	0 0	**989**	0.37	22	0	0.00	989	0.37
September	30	18.1	84.1	84.2	84	0 0	77	7 58	84	0 0	84	0 0	84	0 0	84	0 0	84	0 0	84	0 0	77	7 196	84	0 0	**254**	0.10	6	0	0.00	254	0.10
October	31	11.7	80.4	46.6	47	0 0	81	0 -4	47	31 4	47	0 0	47	0 0	47	0 0	47	0 0	81	0 -13	47	24 13,359	**13,346**	4.98	299	0	0.00	13,346	4.98
November	30	4.9	86.7	14.1	14	0 0	82	5 42	14	73 9	14	31 509	14	0 0	14	0 0	14	6 2,804	82	5 144	14	73 40,794	**44,293**	17.09	1,025	2,313	0.89	41,980	16.20
December	31	-0.2	81.7	0.0	0	0 0	102	-20 -167	0	0 0	0	0 0	0	0 0	0	0 0	0	0 0	102	-20 -566	0	0 0	**0**	0.00	0	0	0.00	0	0.00
Total			***977.3***	***639.8***	***640***	***353 3,904***	***664***	***313 2,582***	***521***	***456 55***	***593***	***384 6,109***	***640***	***353 51,607***	***640***	***353 498,291***	**618**	**359 156,730**	***664***	***313 6,739***	**528**	**449 252,284**	***981,519***			***474,001***		***507,518***	
Average		***10.0***																						***30.73***	***1,844***		***14.82***		***15.91***

Note: The Surplus values in (mm) are calculated using rainfall, melt and Actual Evapotranspiration

P = ET + R + I + S

Table 14: Water Balance Operational Condition - Phase 4 2080 Climate Projection CBM Caledon

					Forested Swamp			Wet Meadow			Impervious Built-Up Areas			Pervious Built-Up Areas			Forested Area			Moderately Rooted Agricultural Land / Meadow			Till / Rehab Area			Quarry Sump			Quarry Extraction Area								
					WHC	250 mm		WHC	Precip. - Lake Evap.		WHC	3 mm		WHC	75 mm		WHC	300 mm		WHC	150 mm		WHC	100 mm		WHC	Precip. - Lake Evap.		WHC	10 mm							
					Total Area (m^2)	11,065		Total Area (m^2)	8,244		Total Area (m^2)	120		Total Area (m^2)	14,892		Total Area (m^2)	130,160		Total Area (m^2)	1,230,626		Total Area (m^2)	490,700		Total Area (m^2)	27,900		Total Area (m^2)	765,900							
					Infiltration Factor	0.0		Infiltration Factor	0.0		Infiltration Factor	0.0		Infiltration Factor	0.7		Infiltration Factor	0.7		Infiltration Factor	0.7		Infiltration Factor	0.7		Infiltration Factor	0.0		Infiltration Factor	0.0							
Month	Days	Temp	Precipitation	Potential Evapotranspiration	Actual Evapotranspiration	Surplus		Actual Evapotranspiration	Surplus		Actual Evapotranspiration	Surplus		Actual Evapotranspiration	Surplus		Actual Evapotranspiration	Surplus		Actual Evapotranspiration	Surplus		Actual Evapotranspiration	Surplus		Actual Evapotranspiration	Surplus		Actual Evapotranspiration	Surplus		Total Surplus	Total Surplus (Runoff and Infiltration)		Total Infiltration		Total Runoff	
		(°C)	(mm)	(mm)	(mm)	(mm)	(m^3)	(mm)	(mm)	(m^3)	(mm)	(mm)	(m^3)	(mm)	(mm)	(m^3)	(mm)	(mm)	(m^3)	(mm)	(mm)	(m^3)	(mm)	(mm)	(m^3)	(mm)	(mm)	(m^3)	(mm)	(mm)	(m^3)	(m^3)	(L/s)	(L/min)	(m^3)	(L/s)	(m^3)	(L/s)
January	31	-2.5	80.9	0.0	0	0	0	94	-13	-111	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	94	-13	-374	0	0	0	**0**	0.00	0	0	0.00	0	0.00
February	28	-2.3	67.1	0.0	0	0	0	53	14	117	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	53	14	396	0	0	0	**513**	0.21	13	0	0.00	513	0.21
March	31	1.6	72.6	4.4	4	298	3,296	37	36	297	4	298	36	4	298	4,436	4	298	38,774	4	298	366,661	4	298	146,179	37	36	1,005	4	298	210,286	**779,971**	287.85	17,271	370,902	138.48	400,068	149.37
April	30	8.2	86.9	34.4	34	52	581	15	71	589	34	52	6	34	52	781	34	52	6,829	34	52	64,579	34	52	25,746	15	71	1,994	34	52	37,037	**138,144**	53.30	3,198	65,326	25.20	72,818	28.09
May	31	14.9	82.3	79.9	80	2	27	6	76	627	80	2	0	80	2	36	80	2	316	80	2	2,992	80	2	1,193	6	76	2,123	80	2	1,716	**9,032**	3.37	202	3,027	1.13	6,005	2.24
June	30	20.1	82.2	119.7	120	0	0	15	68	558	85	0	0	120	0	0	120	0	0	120	0	0	120	0	0	15	68	1,888	92	0	0	**2,446**	0.94	57	0	0.00	2,446	0.94
July	31	22.9	79.9	135.5	135	0	0	37	42	350	80	0	0	117	0	0	135	0	0	135	0	0	135	0	0	37	42	1,183	80	0	0	**1,533**	0.57	34	0	0.00	1,533	0.57
August	31	22.2	92.5	121.1	121	0	0	65	27	226	93	0	0	93	0	0	121	0	0	121	0	0	99	0	0	65	27	764	93	0	0	**989**	0.37	22	0	0.00	989	0.37
September	30	18.1	84.1	84.2	84	0	0	77	7	58	84	0	0	84	0	0	84	0	0	84	0	0	84	0	0	77	7	196	84	0	0	**254**	0.10	6	0	0.00	254	0.10
October	31	11.7	80.4	46.6	47	0	0	81	0	-4	47	31	4	47	0	0	47	0	0	47	0	0	47	0	0	81	0	-13	47	24	16,791	**16,778**	6.26	376	0	0.00	16,778	6.26
November	30	4.9	86.7	14.1	14	0	0	82	5	42	14	73	9	14	31	468	14	0	0	14	0	0	14	6	3,154	82	5	144	14	73	51,276	**55,093**	21.25	1,275	2,535	0.98	52,558	20.28
December	31	-0.2	81.7	0.0	0	0	0	102	-20	-167	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	102	-20	-566	0	0	0	**0**	0.00	0	0	0.00	0	0.00
Total			***977.3***	***639.8***	***640***	***353***	***3,904***	***664***	***313***	***2,582***	***521***	***456***	***55***	***593***	***384***	***5,722***	***640***	***353***	***45,920***	***640***	***353***	***434,232***	***618***	***369***	***176,271***	***664***	***313***	***8,739***	***528***	***449***	***317,107***	***995,751***			***441,791***		***553,961***	
Average		***10.0***																														***31.19***	***1,871***		***13.82***		***17.37***

Note: The Surplus values in (mm) are calculated using rainfall, melt and Actual Evapotranspiration

P = ET + R + I + S

Table 15: Water Balance Operational Condition - Phase 5 2080 Climate Projection CBM Caledon

					Forested Swamp			Wet Meadow			Impervious Built-Up Areas			Pervious Built-Up Areas			Forested Area			Moderately Rooted Agricultural Land / Meadow			Till / Rehab Area			Quarry Sump			Quarry Extraction Area							
					WHC	250 mm		WHC	Precip. - Lake Evap.		WHC	3 mm		WHC	75 mm		WHC	300 mm		WHC	150 mm		WHC	100 mm		WHC	Precip. - Lake Evap.		WHC	10 mm						
					Total Area (m^2)	11,065		Total Area (m^2)	8,244		Total Area (m^2)	120		Total Area (m^2)	13,251		Total Area (m^2)	103,932		Total Area (m^2)	935,394		Total Area (m^2)	558,675		Total Area (m^2)	27,900		Total Area (m^2)	961,225						
					Infiltration Factor	0.0		Infiltration Factor	0.0		Infiltration Factor	0.0		Infiltration Factor	0.7		Infiltration Factor	0.7		Infiltration Factor	0.7		Infiltration Factor	0.7		Infiltration Factor	0.0		Infiltration Factor	0.0						
Month	Days	Temp	Precipitation	Potential Evapotranspiration	Actual Evapotranspiration	Surplus		Actual Evapotranspiration	Surplus		Actual Evapotranspiration	Surplus		Actual Evapotranspiration	Surplus		Actual Evapotranspiration	Surplus		Actual Evapotranspiration	Surplus		Actual Evapotranspiration	Surplus		Actual Evapotranspiration	Surplus		Actual Evapotranspiration	Surplus		Total Surplus	Total Surplus (Runoff and Infiltration)		Total Infiltration		Total Runoff	
		(°C)	(mm)	(mm)	(mm)	(mm)	(m^3)	(mm)	(mm)	(m^3)	(mm)	(mm)	(m^3)	(mm)	(mm)	(m^3)	(mm)	(mm)	(m^3)	(mm)	(mm)	(m^3)	(mm)	(mm)	(m^3)	(mm)	(mm)	(m^3)	(mm)	(mm)	(m^3)	(m^3)	(L/s)	(L/min)	(m^3)	(L/s)	(m^3)	(L/s)
January	31	-2.5	80.9	0.0	0	0	0	94	-13	-111	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	94	-13	-374	0	0	0	**0**	0.00	0	0	0.00	0	0.00
February	28	-2.3	67.1	0.0	0	0	0	53	14	117	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	53	14	396	0	0	0	**513**	0.21	13	0	0.00	513	0.21
March	31	1.6	72.6	4.4	4	298	3,296	37	36	297	4	298	36	4	298	3,948	4	298	30,961	4	298	278,652	4	298	166,428	37	36	1,005	4	298	286,347	**770,971**	287.85	17,271	322,060	120.24	448,910	167.60
April	30	8.2	86.9	34.4	34	52	581	15	71	589	34	52	6	34	52	695	34	52	5,453	34	52	49,078	34	52	29,313	15	71	1,994	34	52	50,434	**138,144**	53.30	3,198	56,724	21.88	81,420	31.41
May	31	14.9	82.3	79.9	80	2	27	6	76	627	80	2	0	80	2	32	80	2	253	80	2	2,274	80	2	1,358	6	76	2,123	80	2	2,337	**9,032**	3.37	202	2,628	0.98	6,403	2.39
June	30	20.1	82.2	119.7	120	0	0	15	68	558	85	0	0	120	0	0	120	0	0	120	0	0	120	0	0	15	68	1,888	92	0	0	**2,446**	0.94	57	0	0.00	2,446	0.94
July	31	22.9	79.9	135.5	135	0	0	37	42	350	80	0	0	117	0	0	135	0	0	135	0	0	135	0	0	37	42	1,183	80	0	0	**1,533**	0.57	34	0	0.00	1,533	0.57
August	31	22.2	92.5	121.1	121	0	0	65	27	226	93	0	0	93	0	0	121	0	0	121	0	0	99	0	0	65	27	764	93	0	0	**989**	0.37	22	0	0.00	989	0.37
September	30	18.1	84.1	84.2	84	0	0	77	7	58	84	0	0	84	0	0	84	0	0	84	0	0	84	0	0	77	7	196	84	0	0	**254**	0.10	6	0	0.00	254	0.10
October	31	11.7	80.4	46.6	47	0	0	81	0	-4	47	31	4	47	0	0	47	0	0	47	0	0	47	0	0	81	0	-13	47	24	22,865	**22,851**	8.53	512	0	0.00	22,851	8.53
November	30	4.9	86.7	14.1	14	0	0	82	5	42	14	73	9	14	31	416	14	0	0	14	0	0	14	6	3,590	82	5	144	14	73	69,823	**74,025**	28.56	1,714	2,805	1.08	71,220	27.48
December	31	-0.2	81.7	0.0	0	0	0	102	-20	-167	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	102	-20	-666	0	0	0	**0**	0.00	0	0	0.00	0	0.00
Total			***977.3***	***639.8***	***640***	***353***	***3,904***	**664**	**313**	***2,582***	***521***	***456***	***55***	***593***	***384***	***5,092***	**640**	**353**	***36,667***	***640***	***353***	***330,005***	**618**	**359**	***200,690***	***664***	***313***	***8,739***	**528**	**448**	***431,806***	***1,020,757***			***384,217***		***636,540***	
Average		***10.0***																														***31.98***	***1,919***		***12.02***		***19.97***

Note: The Surplus values in (mm) are calculated using rainfall, melt and Actual Evapotranspiration

P = ET + R + I + S

Table 16: Water Balance Operational Condition - Phase 6 2080 Climate Projection CBM Caledon

	Forested Swamp		Wet Meadow		Impervious Built-Up Areas		Pervious Built-Up Areas		Forested Area		Moderately Rooted Agricultural Land / Meadow		Till / Rehab Area		Quarry Sump		Quarry Extraction Area							
	WHC	250 mm	WHC	Precip. - Lake Evap.	WHC	3 mm	WHC	75 mm	WHC	300 mm	WHC	150 mm	WHC	100 mm	WHC	Precip. - Lake Evap.	WHC	10 mm						
	Total Area (m^2)	11,065	Total Area (m^2)	8,244	Total Area (m^2)	120	Total Area (m^2)	12,028	Total Area (m^2)	94,377	Total Area (m^2)	715,123	Total Area (m^2)	621,189	Total Area (m^2)	32,650	Total Area (m^2)	1,135,911						
	Infiltration Factor	0.0	Infiltration Factor	0.0	Infiltration Factor	0.0	Infiltration Factor	0.7	Infiltration Factor	0.7	Infiltration Factor	0.7	Infiltration Factor	0.7	Infiltration Factor	0.0	Infiltration Factor	0.0						

Month	Days	Temp	Precipitation	Potential Evapotranspiration	Actual Evapotranspiration	Surplus		Actual Evapotranspiration	Surplus		Actual Evapotranspiration	Surplus		Actual Evapotranspiration	Surplus		Actual Evapotranspiration	Surplus		Actual Evapotranspiration	Surplus		Actual Evapotranspiration	Surplus		Actual Evapotranspiration	Surplus		Total Surplus	Total Surplus (Runoff and Infiltration)		Total Infiltration		Total Runoff	
		(°C)	(mm)	(mm)	(mm)	(mm)	(m^3)	(mm)	(mm)	(m^3)	(mm)	(mm)	(m^3)	(mm)	(mm)	(m^3)	(mm)	(mm)	(m^3)	(mm)	(mm)	(m^3)	(mm)	(mm)	(m^3)	(mm)	(mm)	(m^3)	(m^3)	(L/s)	(L/min)	(m^3)	(L/s)	(m^3)	(L/s)
January	31	-2.5	80.9	0.0	0	0	0	94	-13	-111	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	94	-13	-438	0	0	0	0	0.00	0	0.00
February	28	-2.3	67.1	0.0	0	0	0	53	14	117	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	53	14	463	0	0	0	0	0.00	580	0.24
March	31	1.6	72.6	4.4	4	298	3,296	37	36	297	4	298	36	4	298	3,583	4	298	25,136	4	298	213,034	4	298	185,051	37	36	1,176	4	298	338,118	**769,727**	287.38	17,243	288,111	107.57	481,615	179.81
April	30	8.2	86.9	34.4	34	52	581	15	71	589	34	52	6	34	52	631	34	52	4,427	34	52	37,521	34	52	32,593	15	71	2,334	34	52	59,552	**138,234**	53.33	3,200	50,744	19.58	87,490	33.75
May	31	14.9	82.3	79.9	80	2	27	6	76	627	80	2	0	80	2	29	80	2	205	80	2	1,739	80	2	1,510	6	76	2,484	80	2	2,759	**9,381**	3.50	210	2,351	0.88	7,030	2.62
June	30	20.1	82.2	119.7	120	0	0	15	68	558	85	0	0	120	0	0	120	0	0	120	0	0	120	0	0	15	68	2,210	92	0	0	**2,768**	1.07	64	0	0.00	2,768	1.07
July	31	22.9	79.9	135.5	135	0	0	37	42	350	80	0	0	117	0	0	135	0	0	135	0	0	135	0	0	37	42	1,385	80	0	0	**1,734**	0.65	39	0	0.00	1,734	0.65
August	31	22.2	92.5	121.1	121	0	0	65	27	226	93	0	0	93	0	0	121	0	0	121	0	0	99	0	0	65	27	894	93	0	0	**1,119**	0.42	25	0	0.00	1,119	0.42
September	30	18.1	84.1	84.2	84	0	0	77	7	58	84	0	0	84	0	0	84	0	0	84	0	0	84	0	0	77	7	229	84	0	0	**287**	0.11	7	0	0.00	287	0.11
October	31	11.7	80.4	46.6	47	0	0	81	0	-4	47	31	4	47	0	0	47	0	0	47	0	0	47	0	0	81	0	-15	47	24	26,999	**26,983**	10.07	604	0	0.00	26,983	10.07
November	30	4.9	86.7	14.1	14	0	0	82	5	42	14	73	9	14	31	378	14	0	0	14	0	0	14	6	3,992	82	5	168	14	73	82,447	**87,036**	33.58	2,015	3,059	1.18	83,977	32.40
December	31	-0.2	81.7	0.0	0	0	0	102	-20	-167	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	102	-20	-662	0	0	0	**0**	0.00	0	0.00	0.00	0	0.00
Total			***977.3***	***639.8***	***640***	***353***	***3,904***	***664***	***313***	***2,582***	***521***	***456***	***55***	***593***	***384***	***4,621***	**640**	**353**	***29,768***	***640***	***353***	***252,294***	**618**	**359**	***223,146***	***664***	***313***	***10,227***	**528**	**449**	***509,875***	***1,037,850***			***344,266***		***693,584***	
Average		***10.0***																														***32.53***	***1,952***		***10.77***		***21.76***

Note: The Surplus values in (mm) are calculated using rainfall, melt and Actual Evapotranspiration

P = ET + R + I + S

Table 17: Water Balance Operational Condition - Phase 7 2080 Climate Projection CBM Caledon

					Forested Swamp		Wet Meadow			Impervious Built-Up Areas		Pervious Built-Up Areas		Forested Area		Moderately Rooted Agricultural Land / Meadow		Till / Rehab Area		Quarry Sump		Quarry Extraction Area							
					WHC	250 mm	WHC	Precip. - Lake Evap.		WHC	3 mm	WHC	75 mm	WHC	300 mm	WHC	150 mm	WHC	100 mm	WHC	Precip. - Lake Evap.	WHC	10 mm						
					Total Area (m²)	11,065	Total Area (m²)	8,244		Total Area (m²)	120	Total Area (m²)	10,923	Total Area (m²)	66,704	Total Area (m²)	516,052	Total Area (m²)	581,995	Total Area (m²)	32,659	Total Area (m²)	1,392,055						
					Infiltration Factor	0.0	Infiltration Factor	0.0		Infiltration Factor	0.0	Infiltration Factor	0.7	Infiltration Factor	0.7	Infiltration Factor	0.7	Infiltration Factor	0.7	Infiltration Factor	0.0	Infiltration Factor	0.0						
Month	Days	Temp	Precipitation	Potential Evapotranspiration	Actual Evapotranspiration	Surplus	Actual Evapotranspiration	Surplus		Actual Evapotranspiration	Surplus	Actual Evapotranspiration	Surplus	Actual Evapotranspiration	Surplus	Actual Evapotranspiration	Surplus	Actual Evapotranspiration	Surplus	Actual Evapotranspiration	Surplus	Actual Evapotranspiration	Surplus	Total Surplus	Total Surplus (Runoff and Infiltration)		Total Infiltration		Total Runoff	
		(°C)	(mm)	(mm)	(mm)	(mm) (m³)	(mm)	(mm)	(m³)	(mm)	(mm) (m³)	(mm)	(mm) (m³)	(mm)	(mm) (m³)	(mm)	(mm)	(m³)	(mm)	(m³)	(mm)	(mm)	(mm) (m³)	(mm)	(mm) (m³)	(m³)	(L/s)	(L/min)	(m³) (L/s)		(m³) (L/s)	
January	31	-2.5	80.9	0.0	0	0 0	94	-13	-111	0	0 0	0	0 0	0	0 0	0	0	0	0	0	0	94	-13	-438	0	0 0	**0**	0.00	0	0	0.00	0	0.00
February	28	-2.3	67.1	0.0	0	0 0	53	14	117	0	0 0	0	0 0	0	0 0	0	0	0	0	0	0	53	14	463	0	0 0	**580**	0.24	14	0	0.00	580	0.24
March	31	1.6	72.6	4.4	4	298 3,296	37	36	297	4	298 36	4	298 3,254	4	298 19,871	4	298	153,731	4	298 173,375	37	36	1,176	4	298 414,691	**769,727**	287.38	17,243	237,475	88.66	532,251	198.72
April	30	8.2	86.9	34.4	34	52 581	15	71	589	34	52 6	34	52 573	34	52 3,500	34	52	27,076	34	52 30,536	15	71	2,334	34	52 73,039	**138,234**	53.33	3,200	41,826	16.14	96,408	37.19
May	31	14.9	82.3	79.9	80	2 27	6	76	627	80	2 0	80	2 27	80	2 162	80	2	1,255	80	2 1,415	6	76	2,484	80	2 3,384	**9,381**	3.50	210	1,938	0.72	7,443	2.78
June	30	20.1	82.2	119.7	120	0 0	15	68	558	85	0 0	120	0 0	120	0 0	120	0	0	120	0 0	15	68	2,210	92	0 0	**2,768**	1.07	64	0	0.00	2,768	1.07
July	31	22.9	79.9	135.5	135	0 0	37	42	350	80	0 0	117	0 0	135	0 0	135	0	0	135	0 0	37	42	1,385	80	0 0	**1,734**	0.65	39	0	0.00	1,734	0.65
August	31	22.2	92.5	121.1	121	0 0	65	27	226	93	0 0	93	0 0	121	0 0	121	0	0	99	0 0	65	27	894	93	0 0	**1,119**	0.42	25	0	0.00	1,119	0.42
September	30	18.1	84.1	84.2	84	0 0	77	7	58	84	0 0	84	0 0	84	0 0	84	0	0	84	0 0	77	7	229	84	0 0	**287**	0.11	7	0	0.00	287	0.11
October	31	11.7	80.4	46.6	47	0 0	81	0	-4	47	31 4	47	0 0	47	0 0	47	0	0	47	0 0	81	0	-15	47	31 42,857	**42,842**	16.00	960	0	0.00	42,842	16.00
November	30	4.9	86.7	14.1	14	0 0	82	5	42	14	73 9	14	31 343	14	0 0	14	0	0	14	6 3,740	82	5	168	14	73 101,118	**105,421**	40.67	2,440	2,858	1.10	102,563	39.57
December	31	-0.2	81.7	0.0	0	0 0	102	-20	-167	0	0 0	0	0 0	0	0 0	0	0	0	0	0 0	102	-20	-662	0	0 0	**0**	0.00	0	0	0.00	0	0.00
Total			***977.3***	***639.8***	***640***	***353 3,904***	***664***	***313***	***2,582***	***521***	***456 55***	***593***	***384 4,197***	***640***	***353 23,533***	***640***	***353***	***182,062***	**618**	**359 209,067**	***664***	***313***	***10,227***	**528**	**456 635,089**	***1,072,093***			***284,098***		***787,996***	
Average		***10.0***																									***33.61***	***2,017***		***8.89***		***24.73***

Note: The Surplus values in (mm) are calculated using rainfall, melt and Actual Evapotranspiration

P = ET + R + I + S

Table 18: Water Balance Rehabilitated Condition 2080 Climate Projection CBM Caledon

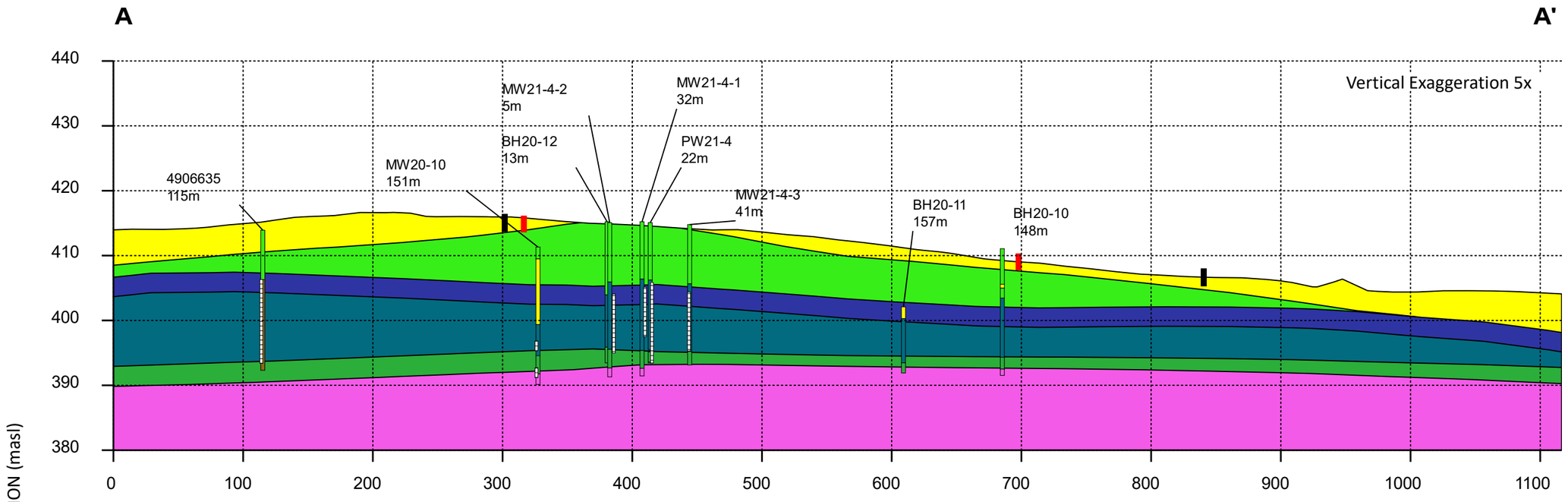
					Forested Swamp		Wet Meadow / Wetland			Forested Area			Post-Agricultural land / Meadow / Grassland / Island			Lake							
					WHC	250 mm	WHC	Precip. - Lake Evap.		WHC	300 mm		WHC	150 mm		WHC	Precip.- Lake Evap						
					Total Area (m^2)	11,065	Total Area (m^2)	56,244		Total Area (m^2)	540,353		Total Area (m^2)	429,145		Total Area (m^2)	1,583,000						
					Infiltration Factor	0.0	Infiltration Factor	0.0		Infiltration Factor	0.7		Infiltration Factor	0.7		Infiltration Factor	1.0						
Month	Days	Temp	Precipitation	Potential Evapotranspiration	Actual Evapotranspiration	Surplus	Actual Evapotranspiration	Surplus		Actual Evapotranspiration	Surplus		Actual Evapotranspiration	Surplus		Actual Evapotranspiration	Surplus		Total Surplus	Total Surplus (Runoff and Infiltration)		Total Infiltration		Total Runoff	
		(°C)	(mm)	(mm)	(mm)	(mm) (m^3)	(mm)	(mm)	(m^3)	(mm)	(mm)	(m^3)	(mm)	(mm)	(m^3)	(mm)	(mm)	(m^3)	(m^3)	(L/s)	(L/min)	(m^3)	(L/s)	(m^3)	(L/s)
January	31	-2.5	80.9	0.0	0	0 0	94	-13	-754	0	0	0	0	0	0	94	-13	-21,235	**0**	0.00	0	0	0.00	0	0.00
February	28	-2.3	67.1	0.0	0	0 0	53	14	798	0	0	0	0	0	0	53	14	22,448	**23,245**	9.61	577	22,448	9.28	798	0.33
March	31	1.6	72.6	4.4	4	298 3,296	37	36	2,025	4	298	160,970	4	298	127,842	37	36	57,003	**351,136**	131.10	7,866	252,779	94.38	98,357	36.72
April	30	8.2	86.9	34.4	34	52 581	15	71	4,021	34	52	28,351	34	52	22,516	15	71	113,163	**168,632**	65.06	3,904	147,644	56.96	20,987	8.10
May	31	14.9	82.3	79.9	80	2 27	6	76	4,280	80	2	1,314	80	2	1,043	6	76	120,452	**127,115**	47.46	2,848	122,050	45.57	5,066	1.89
June	30	20.1	82.2	119.7	120	0 0	15	68	3,806	120	0	0	120	0	0	15	68	107,131	**110,937**	42.80	2,568	107,131	41.33	3,806	1.47
July	31	22.9	79.9	135.5	135	0 0	37	42	2,385	135	0	0	135	0	0	37	42	67,137	**69,522**	25.96	1,557	67,137	25.07	2,385	0.89
August	31	22.2	92.5	121.1	121	0 0	65	27	1,539	121	0	0	121	0	0	65	27	43,323	**44,862**	16.75	1,005	43,323	16.17	1,539	0.57
September	30	18.1	84.1	84.2	84	0 0	77	7	395	84	0	0	84	0	0	77	7	11,120	**11,515**	4.44	267	11,120	4.29	395	0.15
October	31	11.7	80.4	46.6	47	0 0	81	0	-26	47	0	0	47	0	0	81	0	-745	**0**	0.00	0	0	0.00	0	0.00
November	30	4.9	86.7	14.1	14	0 0	82	5	290	14	0	0	14	0	0	82	5	8,150	**8,440**	3.26	195	8,150	3.14	290	0.11
December	31	-0.2	81.7	0.0	0	0 0	102	-20	-1,140	0	0	0	0	0	0	102	-20	-32,095	**0**	0.00	0	0	0.00	0	0.00
Total			***977.3***	***639.8***	***640***	***353 3,904***	**664**	**313**	***17,618***	***640***	***353***	***190,635***	**640**	**353**	***151,401***	**664**	**313**	***495,851***	***915,405***			***781,781***		***133,624***	
Average		***10.0***																		***28.87***	***1,732***		***24.68***		***4.19***

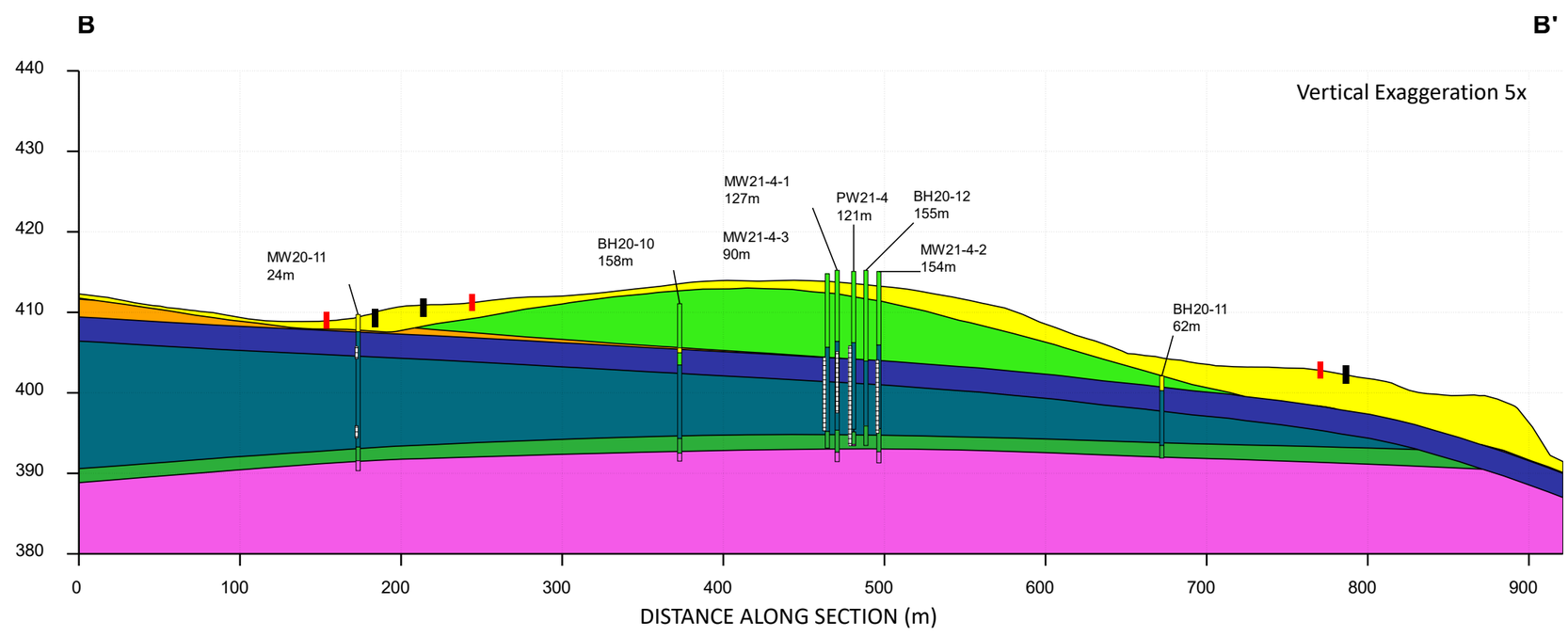
Note: The Surplus values in (mm) are calculated using rainfall, melt and Actual Evapotranspiration

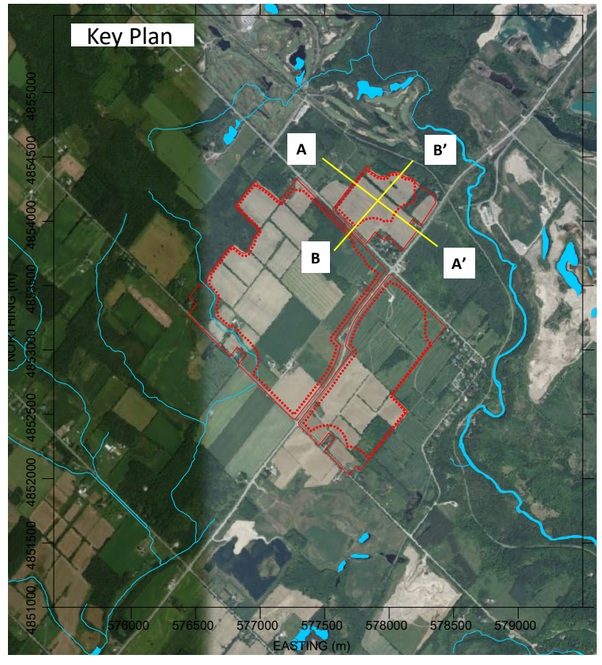
P = ET + R + I + S

APPENDIX C

Additional Hydrostratigraphic Cross-Sections







LEGEND

- Property Boundary
- Extraction Extent
- Well Screen Location
- Borehole Location (MW20-11, 24m) — Borehole/ Monitoring Well ID, Offset Distance from Section

- Eramosa Formation (Dolostone)
- Goat Island Formation (Dolostone)
- Gasport Formation (Dolostone)
- Shaley Dolostone
- Cabot Head Formation (Shale)
- Manitoulin Formation (Shaley Dolostone)
- Lower Sand/ Channel Sediment
- Till
- Upper Sand
- Weathered Bedrock

NOTES

1. MECP boreholes shown do not differentiate between different rock formations and are all shown in brown as 'rock'

CLIENT
CBM AGGREGATES, A DIVISION OF ST. MARYS CEMENT INC. (CANADA)

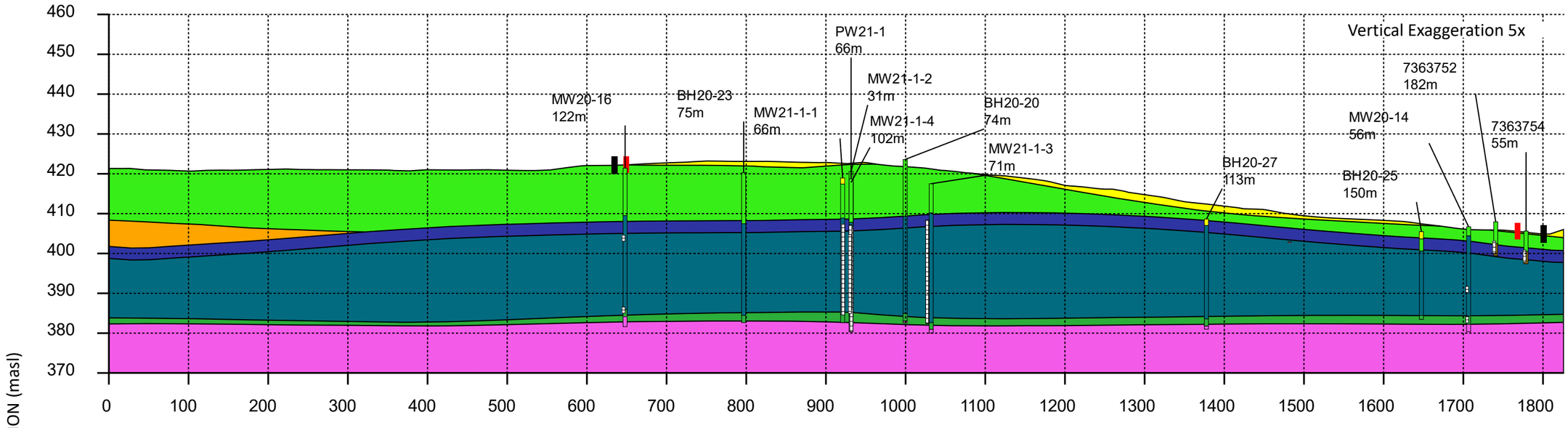
CONSULTANT
wsp

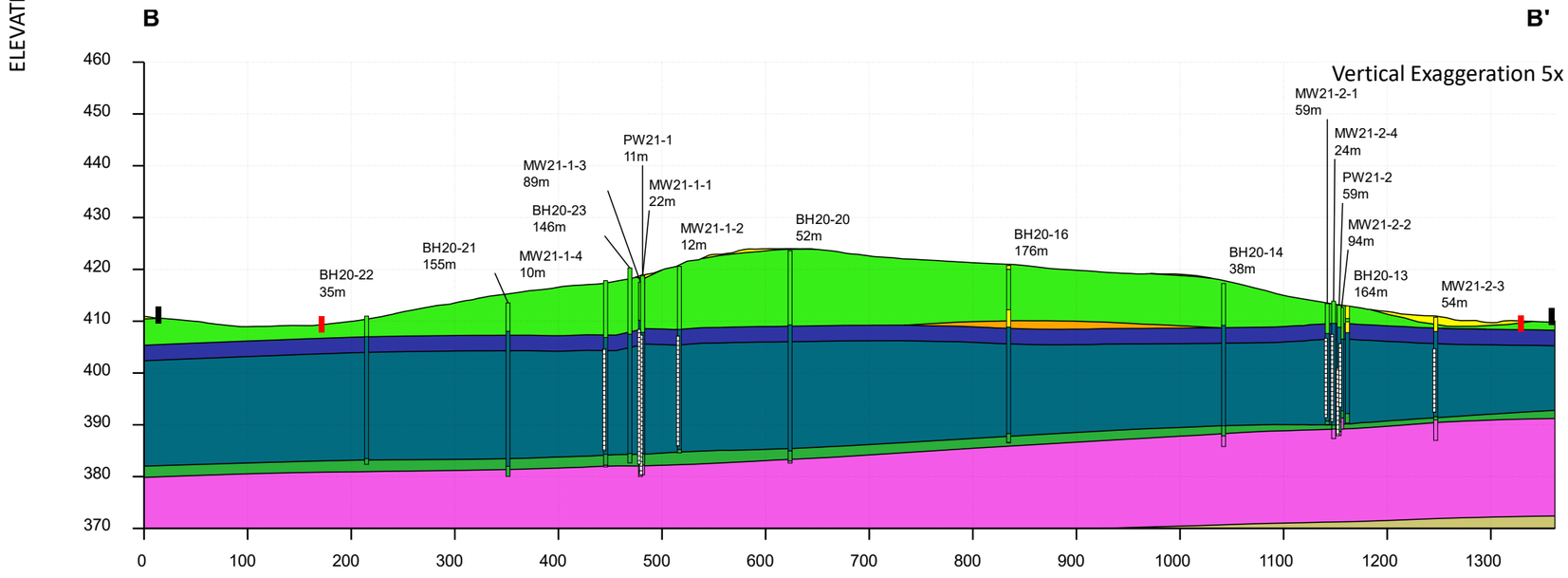
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PREPARED	HW
DESIGN	GWS
REVIEW	GRP
APPROVED	GWS

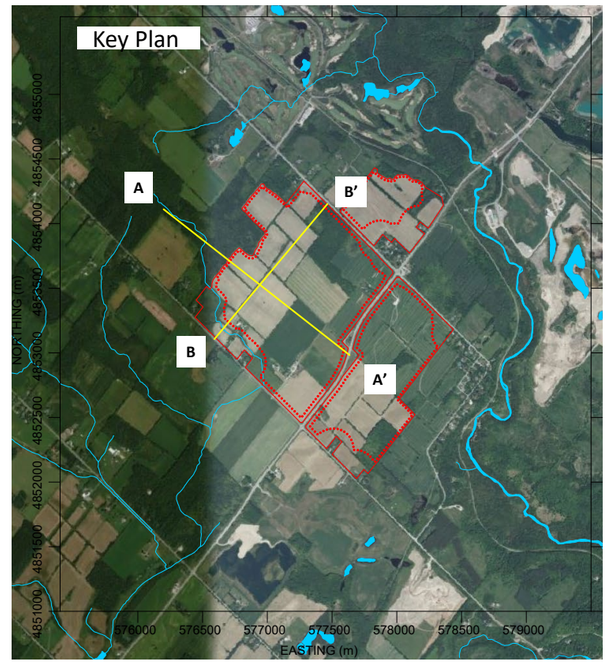
PROJECT
CALEDON PIT/ QUARRY
WATER RESOURCES REPORT ADDENDUM

TITLE
NORTH QUARRY AREA CROSS SECTIONS

PROJECT No. CA003798.7018 | Rev. A | FIG. 1







DISTANCE ALONG SECTION (m)

LEGEND

- Property Boundary
- Extraction Extent
- Well Screen Location
- Borehole Location
  - Borehole/ Monitoring Well ID
  - Offset Distance from Section

- Eramosa Formation (Dolostone)
- Goat Island Formation (Dolostone)
- Gasport Formation (Dolostone)
- Shaley Dolostone
- Cabot Head Formation (Shale)
- Manitoulin Formation (Shaley Dolostone)
- Lower Sand/ Channel Sediment
- Till
- Upper Sand
- Weathered Bedrock

NOTES

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CLIENT
CBM AGGREGATES, A DIVISION OF ST. MARYS CEMENT INC. (CANADA)

CONSULTANT
wsp

YYYY-MM-DD	2024-07-15
PREPARED	HW
DESIGN	GWS
REVIEW	GRP
APPROVED	GWS

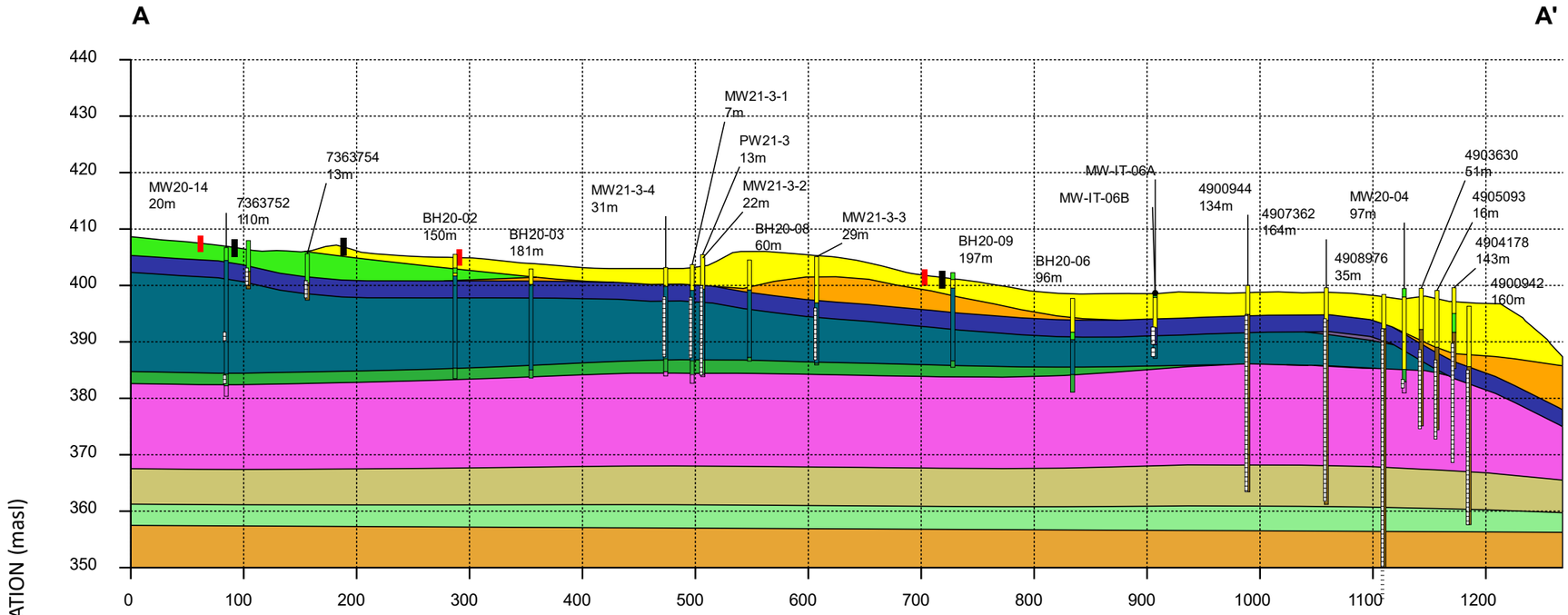
PROJECT
CALEDON PIT/ QUARRY
WATER RESOURCES REPORT ADDENDUM

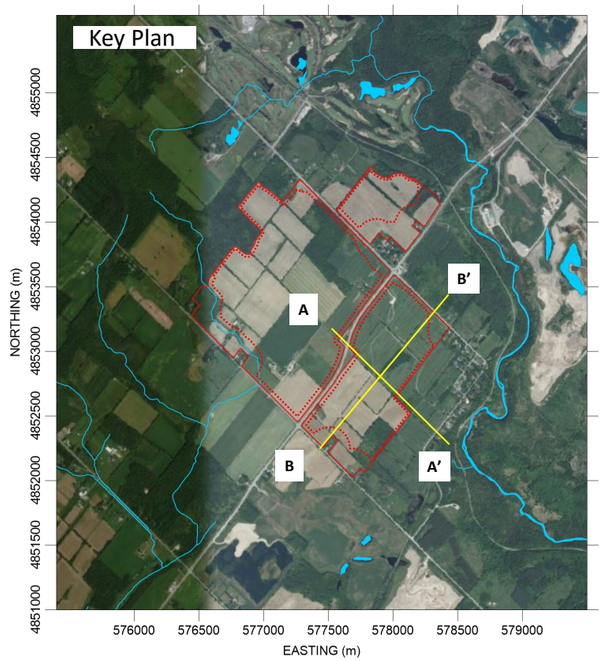
TITLE
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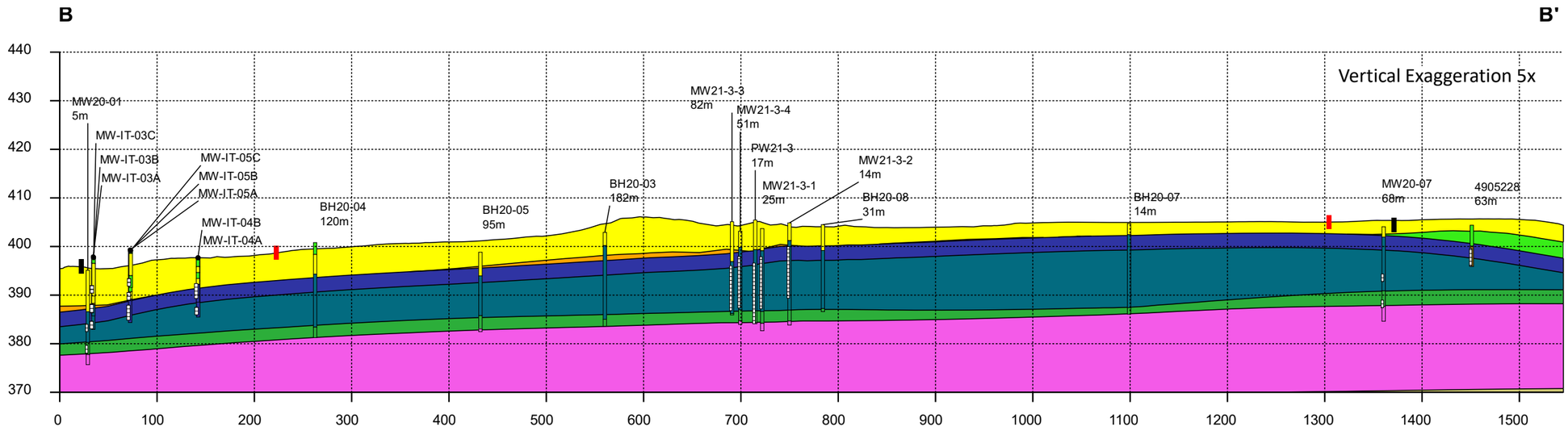
PROJECT No. CA003798.7018

Rev. A

FIG. 2







DISTANCE ALONG SECTION (m)

LEGEND

- Property Boundary
- Extraction Extent
- Well Screen Location
- Borehole Location (MW20-11, 24m) — Borehole/ Monitoring Well ID, Offset Distance from Section
- Eramosa Formation (Dolostone)
- Goat Island Formation (Dolostone)
- Gasport Formation (Dolostone)
- Shaley Dolostone
- Cabot Head Formation (Shale)
- Manitoulin Formation (Shaley Dolostone)
- Lower Sand/ Channel Sediment
- Till
- Upper Sand
- Weathered Bedrock

NOTES

1. MECP boreholes shown do not differentiate between different rock formations and are all shown in brown as 'rock'

CLIENT
CBM AGGREGATES, A DIVISION OF ST. MARYS CEMENT INC. (CANADA)

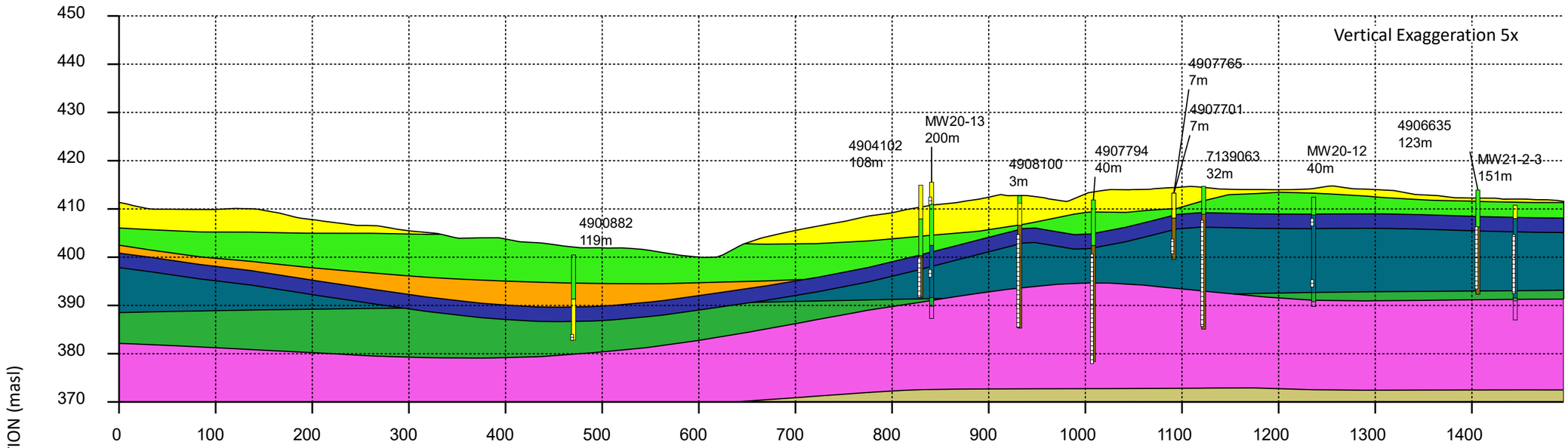
CONSULTANT
wsp

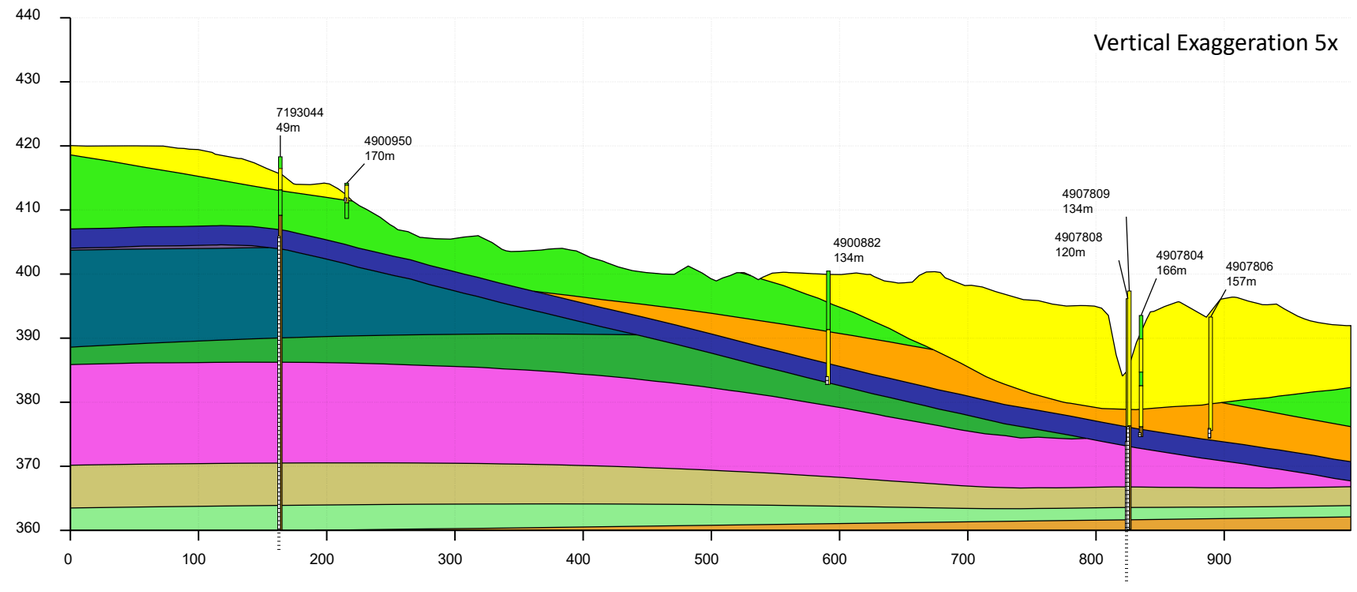
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PREPARED	HW
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REVIEW	GRP
APPROVED	GWS

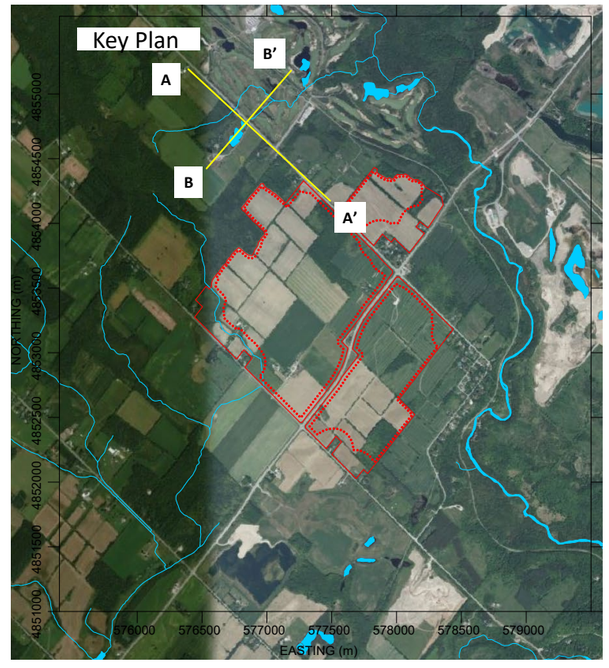
PROJECT
CALEDON PIT/ QUARRY
WATER RESOURCES REPORT ADDENDUM

TITLE
SOUTH QUARRY AREA CROSS SECTIONS

PROJECT No. CA003798.7018 | Rev. A | FIG. 3







LEGEND

- Property Boundary
- Extraction Extent
- Well Screen Location
- Borehole Location (MW20-11, 24m) — Borehole/ Monitoring Well ID, Offset Distance from Section
- Eramosa Formation (Dolostone)
- Goat Island Formation (Dolostone)
- Gasport Formation (Dolostone)
- Shaley Dolostone
- Cabot Head Formation (Shale)
- Manitoulin Formation (Shaley Dolostone)
- Lower Sand/ Channel Sediment
- Till
- Upper Sand
- Weathered Bedrock

NOTES

1. MECP boreholes shown do not differentiate between different rock formations and are all shown in brown as 'rock'

CLIENT
CBM AGGREGATES, A DIVISION OF ST. MARYS CEMENT INC. (CANADA)

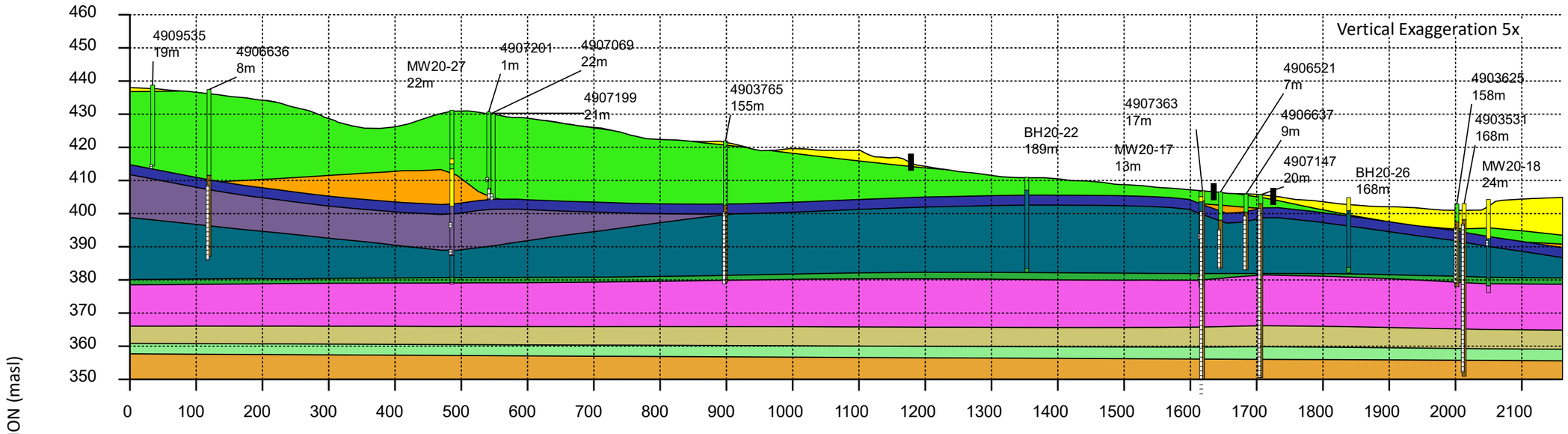
CONSULTANT
wsp

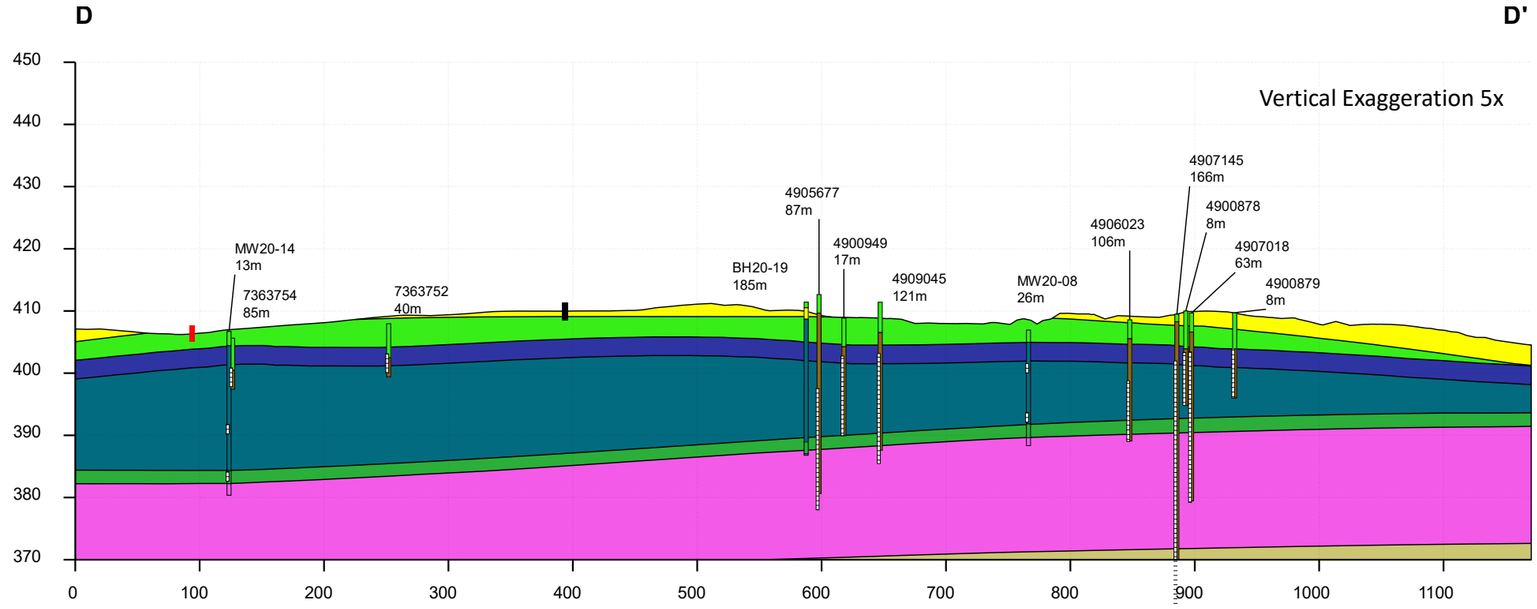
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PREPARED	HW
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REVIEW	GRP
APPROVED	GWS

PROJECT
CALEDON PIT/ QUARRY
WATER RESOURCES REPORT ADDENDUM

TITLE
ADDITIONAL CROSS SECTIONS - AREA 1

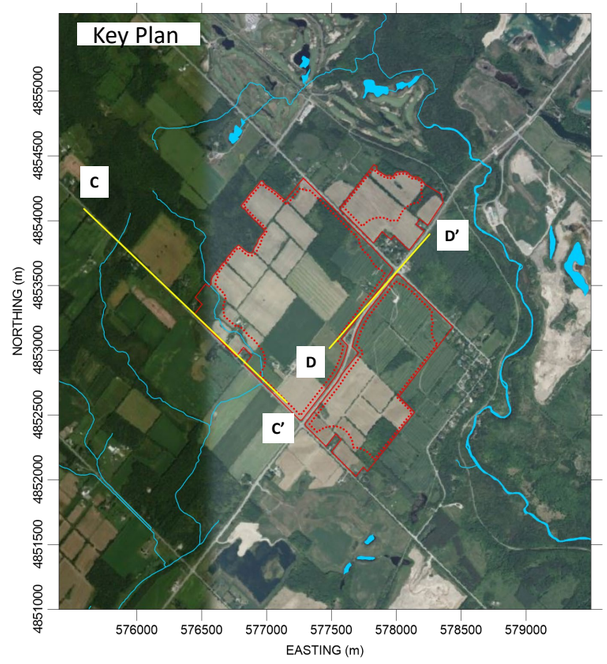
PROJECT No. CA003798.7018 | Rev. A | FIG. 4





ELEVATION (masl)

DISTANCE ALONG SECTION (m)



LEGEND

- Property Boundary
- Extraction Extent
- Well Screen Location
- Borehole Location (MW20-11, 24m) — Borehole/ Monitoring Well ID, Offset Distance from Section
- Eramosa Formation (Dolostone)
- Goat Island Formation (Dolostone)
- Gasport Formation (Dolostone)
- Shaley Dolostone
- Cabot Head Formation (Shale)
- Manitoulin Formation (Shaley Dolostone)
- Lower Sand/ Channel Sediment
- Till
- Upper Sand
- Weathered Bedrock

NOTES

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CLIENT
CBM AGGREGATES, A DIVISION OF ST. MARYS CEMENT INC. (CANADA)

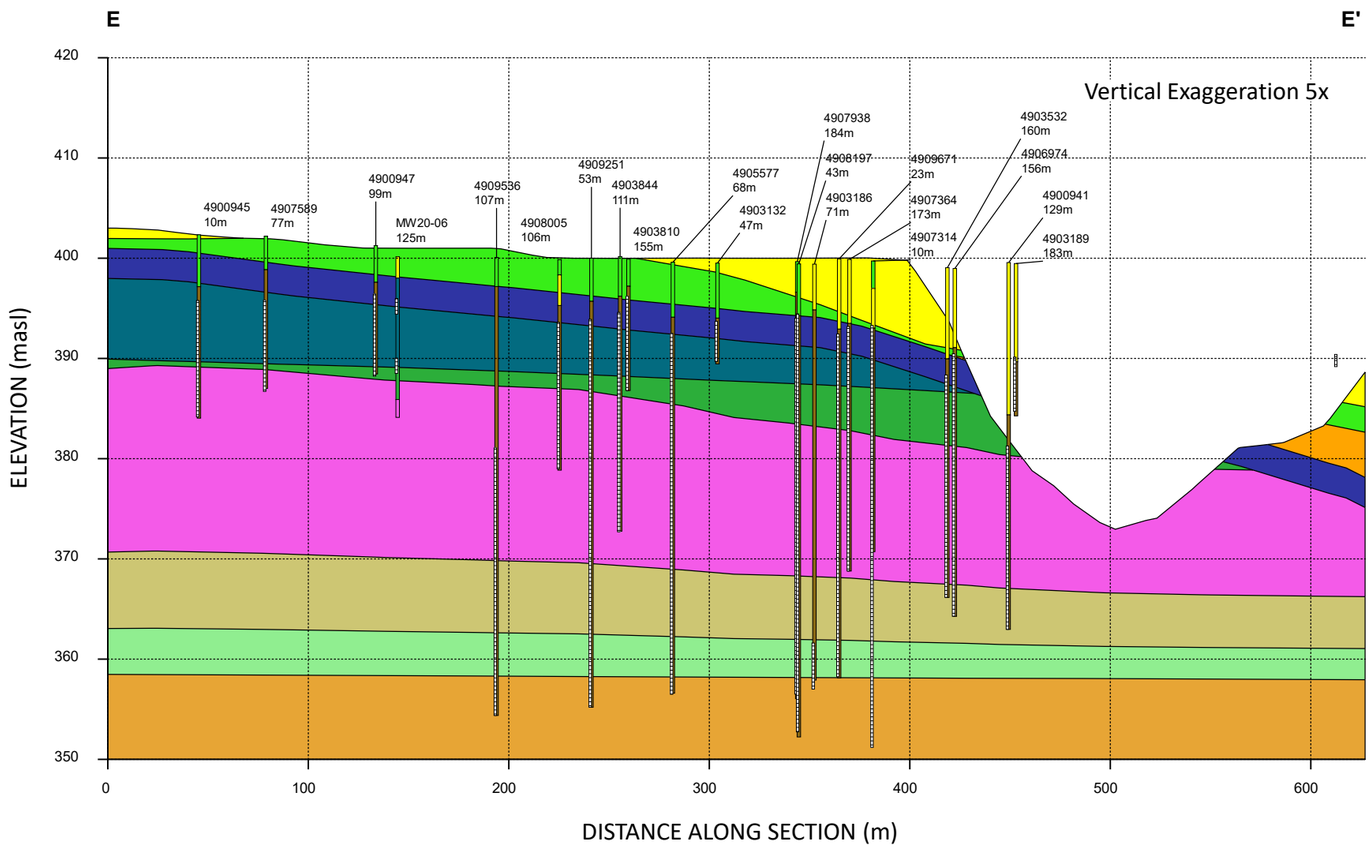
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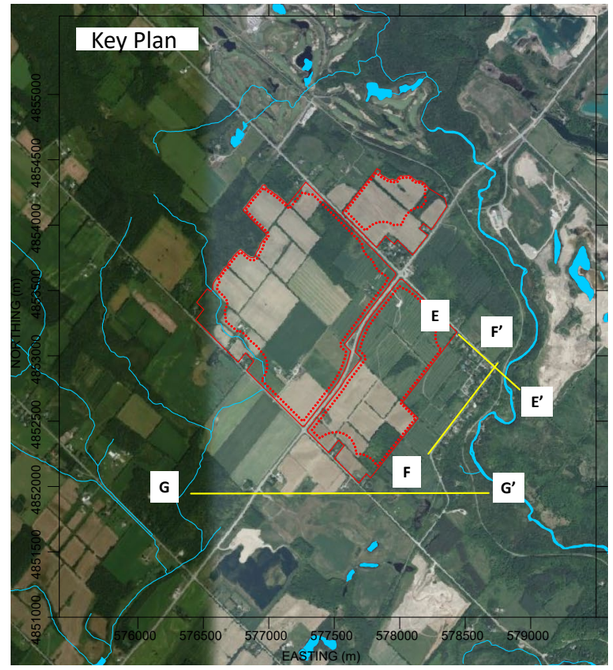
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PREPARED	HW
DESIGN	GWS
REVIEW	GRP
APPROVED	GWS

PROJECT
CALEDON PIT/ QUARRY
WATER RESOURCES REPORT ADDENDUM

TITLE
ADDITIONAL CROSS SECTIONS – AREA 2 AND 3

PROJECT No. CA003798.7018 | Rev. A | FIG. 5





LEGEND

- Property Boundary
- Extraction Extent
- Well Screen Location
- Borehole Location (MW20-11, 24m)
  - Borehole/ Monitoring Well ID
  - Offset Distance from Section
- Eramosa Formation (Dolostone)
- Goat Island Formation (Dolostone)
- Gasport Formation (Dolostone)
- Shaley Dolostone
- Cabot Head Formation (Shale)
- Manitoulin Formation (Shaley Dolostone)
- Lower Sand/ Channel Sediment
- Till
- Upper Sand
- Weathered Bedrock

NOTES

1. MECP boreholes shown do not differentiate between different rock formations and are all shown in brown as 'rock'

CLIENT
CBM AGGREGATES, A DIVISION OF ST. MARYS CEMENT INC. (CANADA)

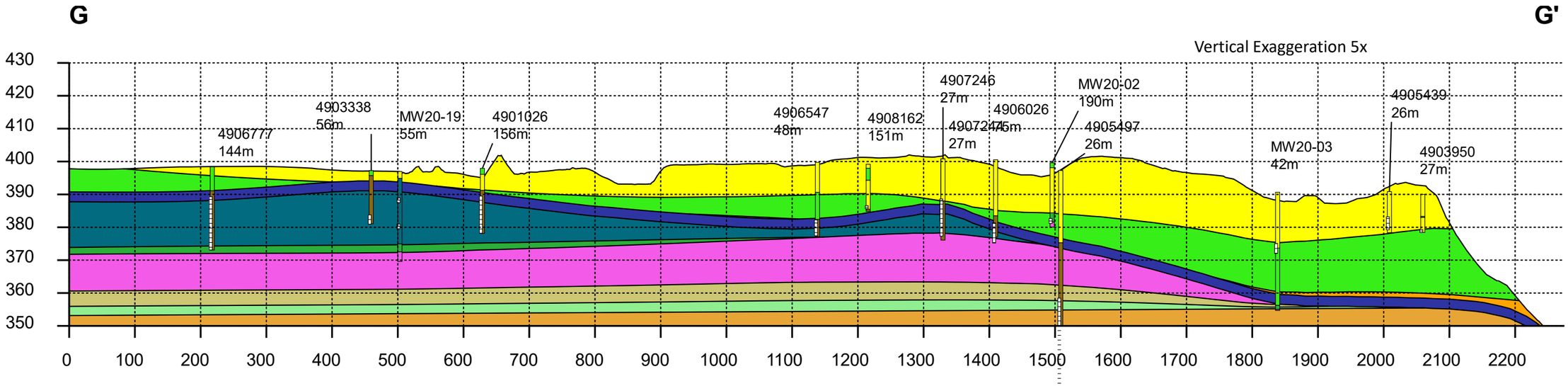
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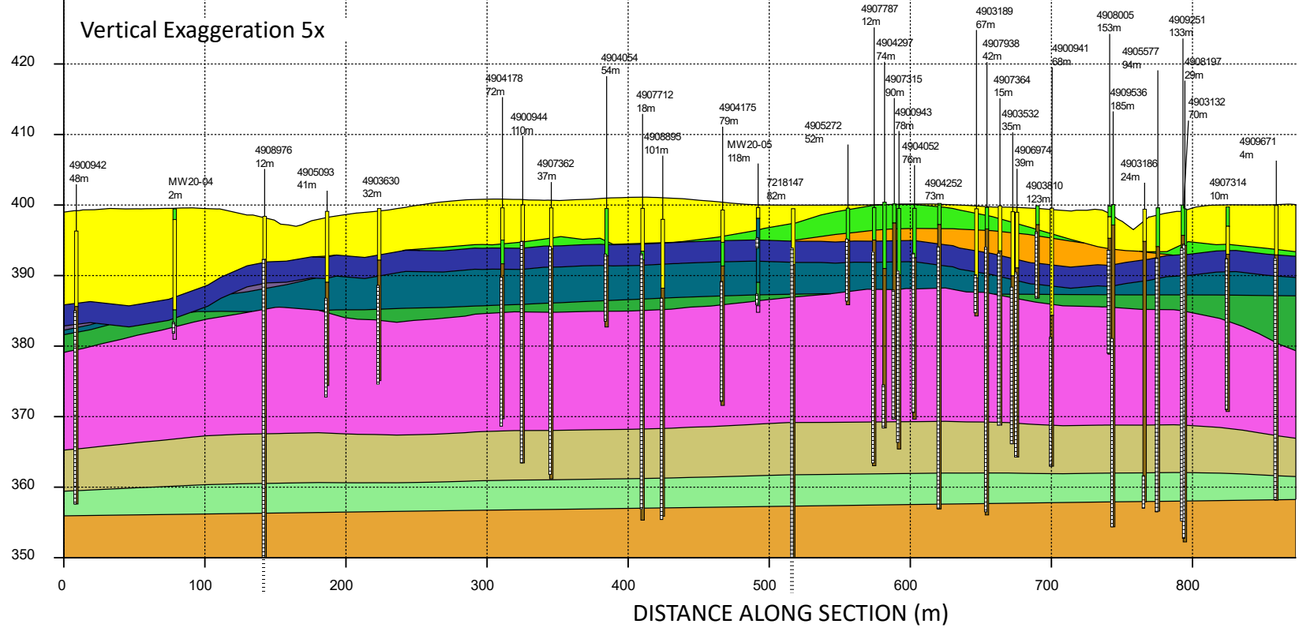
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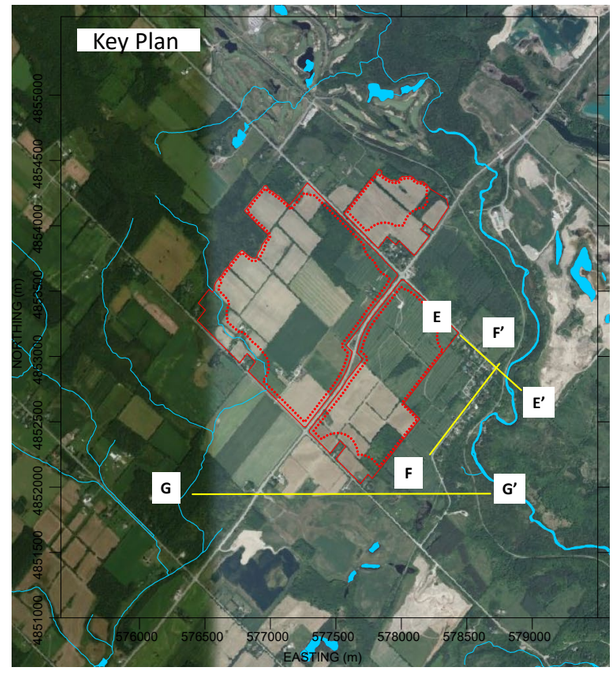
PROJECT
CALEDON PIT/ QUARRY
WATER RESOURCES REPORT ADDENDUM

TITLE
ADDITIONAL CROSS SECTIONS – AREA 4

PROJECT No. CA003798.7018 | Rev. A | FIG. 6







LEGEND

- Property Boundary
- Extraction Extent
- Well Screen Location
- Borehole Location (MW20-11, 24m) Borehole/ Monitoring Well ID, Offset Distance from Section
- Eramosa Formation (Dolostone)
- Goat Island Formation (Dolostone)
- Gasport Formation (Dolostone)
- Shaley Dolostone
- Cabot Head Formation (Shale)
- Manitoulin Formation (Shaley Dolostone)
- Lower Sand/ Channel Sediment
- Till
- Upper Sand
- Weathered Bedrock

NOTES

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CLIENT
CBM AGGREGATES, A DIVISION OF ST. MARYS CEMENT INC. (CANADA)

CONSULTANT
wsp

YYYY-MM-DD	2024-07-15
PREPARED	HW
DESIGN	GWS
REVIEW	GRP
APPROVED	GWS

PROJECT
CALEDON PIT/ QUARRY
WATER RESOURCES REPORT ADDENDUM

TITLE
ADDITIONAL CROSS SECTIONS – AREA 4 AND 5

PROJECT No. CA003798.7018
Rev. A
FIG. 7

APPENDIX D

Revised Water Well Complaint Response Plan

TECHNICAL MEMORANDUM

DATE February 25, 2025 **Project No.** 19129150 (2300)

TO David Hanratty
CBM Aggregates (CBM), a Division of St. Marys Cement Inc. (Canada)

CC Mike Lebreton (CBM)

FROM Greg Padusenko, George Schneider **EMAIL george.schneider@wsp.com**

CALEDON PIT / QUARRY – WATER WELL COMPLAINT RESPONSE PLAN

This water well complaint response plan is intended to help ensure CBM can promptly respond to and remedy, if necessary, potential water supply impacts to any neighbouring private water well user (referred to herein as "resident") should their water supply be affected by the future proposed Caledon Pit / Quarry aggregate operation. As indicated in the Revised Water Report (Golder, 2023), there is a potential for adverse effects to a small number of neighbouring private wells as a result of the proposed aggregate operations.

It should be noted that a water monitoring program (Section 9 of the Revised Water Report; Golder, 2023) shall be implemented throughout the operation of the pit / quarry. The data collected through the monitoring program will allow the aggregate operator to identify the potential for impacts to neighbouring private water wells before they occur. This will provide the aggregate operator with relevant information to proactively address potential interference with neighbouring water supplies before impacts occur. Furthermore, an additional private well survey shall be conducted prior to the start of aggregate operations at the Site, to help establish water use, well construction details, and the available drawdown within each neighbouring private well.

Well complaints in the neighbouring area shall be evaluated on a case by case basis and the appropriate actions shall be undertaken to address the issue, as is the current practice by CBM at all its pits and quarries. Although the potential impacts on wells related to the proposed pit / quarry development is generally expected to be minimal, CBM shall respond to well complaints in accordance with the procedures proposed herein. The process is described below.

WATER WELL INTERFERENCE PROCESS

If a water well complaint is received by CBM for a private well located within the estimated zone of influence (within 1,000 m) the following actions shall be taken:

- A representative from CBM shall meet with the resident within 24 hours and discuss the complaint. If warranted, CBM shall contact a local well contractor, and the resident shall be supplied a temporary water source within 24 hours if the issue cannot be easily determined and rectified (see steps below).
- If the issue raised by the resident is related to a loss of water supply, CBM shall have a consultant / well contractor determine the likely causes of the loss of water supply, which can result from a number of factors, including pump failure, extended overuse of the well or lowering of the water level in the well from potential

aggregate operations interference. The assessment process would be carried out at the expense of the licensee and the results of the assessment shall be provided to the resident.

- The consultant / well contractor will be able to readily determine if pump failure or extended use of the well is the problem and, if so, it is not the licensee's responsibility to remedy.
- If, however, well interference is determined to potentially have been caused by aggregate extraction and dewatering activities relating to this licence, then water well supply mitigation shall be reviewed with the resident and the best course of action to restore an equivalent water supply to the resident shall be implemented at the licensee's expense. For instance, if the water level in the well is lowered to a point where it has interfered with pumping, then potential solutions shall be evaluated including adjusting the pump pressure and / or lowering the pump level in the well.
- In the event that the well is incapable of providing an adequate supply of water (i.e., the water level is too low in comparison to the depth of the well), or the repair to the pumping system will be more than a day, the consultant / well contractor shall continue to supply a potable water source to the resident (until restoration of the well is complete). These actions would be carried out at the expense of the licensee. In rare cases where the water level in the well has been lowered significantly, the well may have to be deepened, widened or relocated at the licensee's expense). Any replacement well shall constructed in accordance O.Reg.903, as amended Standards.
- If the issue raised by the land owner is related to water quality, the licensee will have a consultant/contractor determine the likely causes of the change in water quality, and review monitoring results at the quarry and background monitoring results from the baseline well survey to determine if there is any potential correlation with the quarry. If it has been determined that the quarry caused a water quality issue, the quarry shall continue to supply water at the licensee's expense until the problem is rectified. The licensee shall be responsible for restoring the water supply by replacing the well or providing a water treatment system. Only at the request of a landowner would a cistern be supplied. The licensee is responsible for the expense to restore the water quality.
- For issues deemed to be related to CBM aggregate extraction and dewatering activities then CBM shall immediately notify the Peel District office of the Ministry of Environment, Conservation and Parks (MECP) at 800-335-5906 to notify them of the issue. Follow-up correspondence will be provided to the MECP to indicate what mitigation measures were implemented and that the issue has been resolved.

SUMMARY

Should mitigation options be required as a result of CBM's extraction and dewatering activities negatively affecting neighbouring water levels, the following options could potentially be implemented:

1) lowering of the pump to take advantage of existing storage within the well;
2) deepening of the well to increase the available water column;
3) widening of the well to increase the available storage of water;
4) relocation of the well to another area on the property; and/or
5) the installation of multiple wells that would collectively deliver the required water supply to the resident;

The requirement for any of these mitigation measures would be determined based on the results of the groundwater monitoring program and the assessment of the specific private water supply well in question. It would

also take into account the recommendation of the consultant and/or well contractor that were involved in the assessment. All well or well system modifications will be completed in accordance with O.Reg 903, as amended.

Contact Information

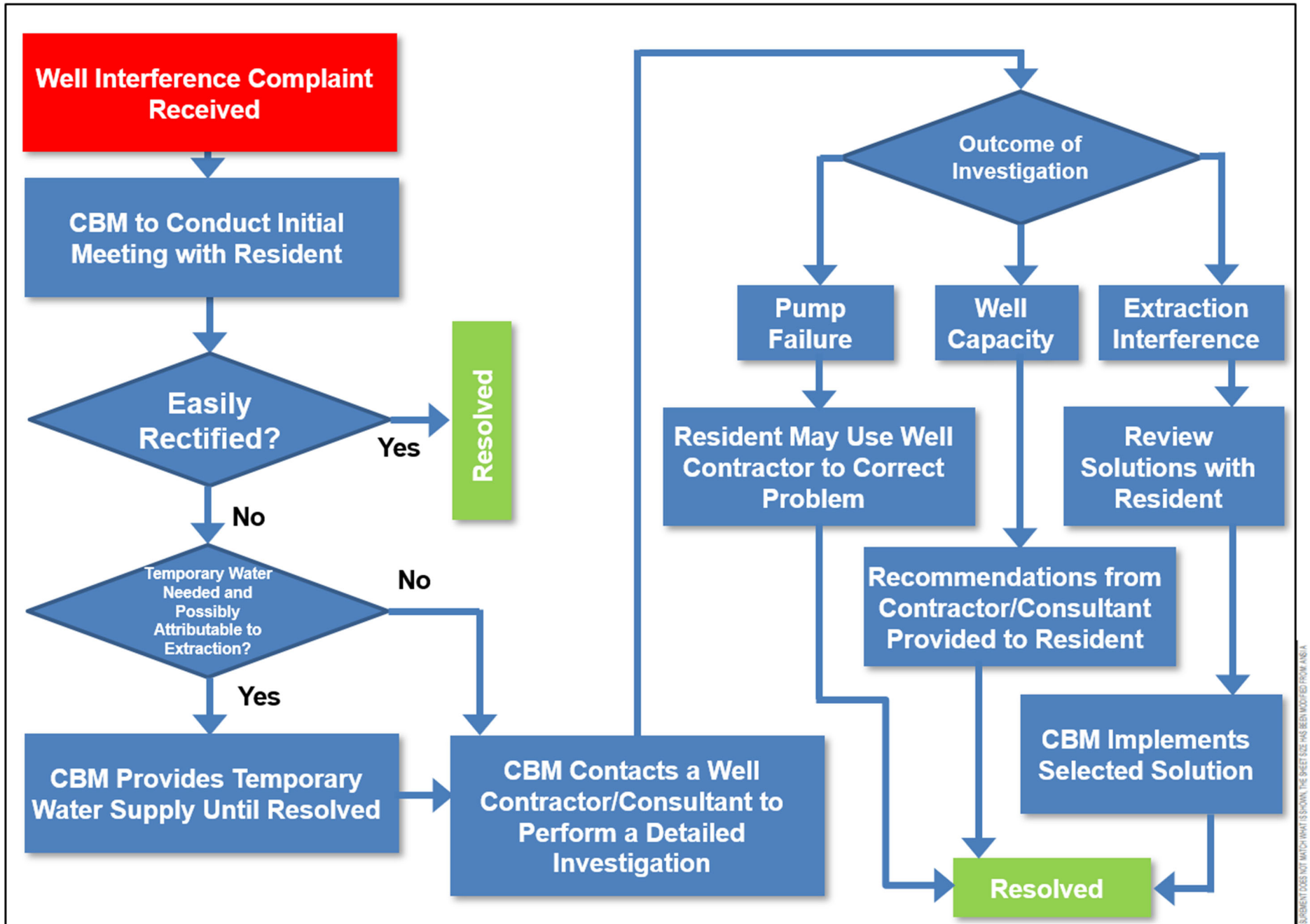
The public would be provided with contact information for CBM employees in the following positions at the start of operations:

1) Land & Resource Manager
2) Area Manager
3) Plant Manager

Contact information, including cell phone number and email address, would be provided for each person filling these positions at the start of operations and would be updated, as needed, during the duration of the operation.

Attachments: Water Well Complaint Response Flow Chart

https://wsponline.sharepoint.com/sites/gld-114392/project files/6 deliverables/ph 2300-hydrogeology/505 water report addendum rev feb 2025/s2-04 updated well response plan to mecp gw-12/rev2 - feb 2025/19129150 cbm well complaint response plan r2a feb2025.docx



CBM AGGREGATES (CBM), A DIVISION OF ST. MARYS CEMENT INC. (CANADA)

wsp

YYYY-MM-DD	2024-10-21
PREPARED	PGM
DESIGN	PGM
REVIEW	GRP
APPROVED	GWS

Caledon Pit and Quarry

Well Interference Complaint Response Flow Chart

PROJECT No.	PHASE	Rev.	FIGURE
19129150	2300	A	R-1

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ANSI A

APPENDIX E

Results of 2024 Water Quality Sampling Event

TECHNICAL MEMORANDUM

DATE October 15, 2024 **Project No.** 19129150

TO David Hanratty; Mike Le Breton
CBM Aggregates

CC Greg Padusenko; Heather Melcher; Paul Menkveld

FROM George Schneider; Victoria Propp **EMAIL george.schneider@wsp.com**

BASELINE GROUNDWATER QUALITY UPDATE – PROPOSED CBM CALEDON PIT / QUARRY

1.0 INTRODUCTION

CBM Aggregates (CBM), a division of St. Marys Cement Inc. (Canada) recently applied to the Ministry of Natural Resources and Forestry (MNRF) for a Class A Licence (Pit and Quarry Below Water) and to the Town of Caledon for an Official Plan Amendment and Zoning By-law Amendment to permit a mineral aggregate operation. Technical comments related to the Level 1/2 Water Report have been received from nine agency / stakeholder groups. The Ministry of the Environment Conservation and Parks (MECP) and Shared Value Solutions on behalf of Six Nations of the Grand River (SNGR) provided comments relating to the baseline groundwater and surface water quality collected at the Site to date.

As part of the response to these comments, WSP Canada Inc. (WSP) conducted a follow-up groundwater and surface water quality sampling event in the spring of 2024, to collect additional baseline data across the Site and surrounding area. This technical memorandum presents the results of this additional groundwater sampling event. Groundwater quality data from the 2024 sampling event as well as baseline data collected in previous groundwater sampling events are presented herein and the results are organized and discussed by aquifer unit.

The well locations at the proposed Caledon Pit and quarry Site are shown on Figure 1 and includes monitoring wells installed by WSP from 2020 to 2022, and several older monitoring wells installed as part of previous hydrogeologic investigations. Details on the monitoring well network at the Site are provided in the Level 1/2 Water Report. All well nests installed as part of the hydrogeologic investigation installed by a licensed well driller in accordance with O.Reg. 903 (as amended) and were developed and completed with dedicated groundwater water sampling equipment (tubing and Waterra foot-valves) and locking protective casings shortly after their installation. Older monitoring wells from previous investigations were used to monitor groundwater levels, and were not part of the baseline water quality sampling program.

2.0 FIELD WORK

The 2024 groundwater sampling event was carried out in mid-late April 2024 under spring conditions and comprised the following main tasks.

- Each well was purged and then sampled. Field parameters (including pH, electrical conductivity, and temperature) were recorded after each purge volume, to ensure water chemistry had stabilized prior to sampling.
- The water samples were collected in pre-supplied laboratory bottles, placed in ice-packed coolers, and delivered to the Bureau Veritas (BV) Labs in Mississauga following standard Chain of Custody protocols.
- The samples were analysed at BV Labs for the RCAP groundwater suite (which includes general chemistry, nutrients, inorganics and metals), as well as benzene, toluene, ethylbenzene and xylene (BTEX) and petroleum hydrocarbons (PHC) F1 to F4.
- For discussion purposes, analytical results were compared to:
  - Table 2: Full Depth Generic Site Condition Standards [SCS] in a Potable Groundwater Condition - Coarse Grained Sediments - Residential / Parkland / Institutional Use from the MECP Soil, ground water and sediment standards for use under Part XV.1 of the Environmental Protection Act, dated July 1, 2011;
  - Ontario Drinking Water Quality Standards (ODWS) from the MECP Safe Drinking Water Act, dated January 1, 2020; and
  - Provincial Water Quality Objectives (PWQO) from Policies, Guidelines, Provincial Water Quality Objectives of the Ministry of Environment and Energy, reprinted February, 1999.

The initial groundwater quality sampling was carried out by WSP field personnel on February 17, 2021, June 21 to 28, 2021 and on July 24, 2021. The sampling date varied depending on the date of installation for each respective well nest. Groundwater sampling was conducted at monitoring wells MW20-01 to MW20-28 with the locations shown on Figure 1.

The 2024 groundwater quality sampling event was carried out by WSP field personnel between April 15, 2024 to April 23, 2024. Groundwater sampling was conducted at one monitoring well per nest at locations MW20-01 to MW20-18, PW21-1 to PW21-4, and MW22-01 to MW22-04, as shown on Figure 1. Wells within each nest were selected for sampling to provide representative coverage of all formations screened, with a focus on the Gasport Formation where a majority of the dewatering would occur. Wells located upgradient and outside of the proposed licence limit were excluded from the 2024 sampling event. Quality assurance / quality control (QA/QC) samples, including field duplicates, were also collected.

3.0 RESULTS

Water quality results are presented in Table 1 (summary by well) and Table 2 (summary by formation) (following text) with MECP Table 2, ODWS and PWQO criteria presented along side the data for comparison purposes. A full set of analytical results from the laboratory, including chain of custody and certificates of analysis, are provided in Appendix A.

The groundwater samples analysed for dissolved metals were field filtered with a high volume 0.45 um in-line filter for comparison to MECP Table 2 and ODWS. It should be noted that PWQO are typically compared to total metal concentrations, which may be higher than dissolved metal concentrations (the exception being aluminium which requires a 0.2 um filter for the sample to be considered “clay free”). Nonetheless, the comparison of 0.45 um filtered groundwater to the PWQO for metals is helpful in understanding water quality relative to surface water criteria.

In general, the water quality was in the range expected for groundwater in this hydrogeologic environment. There were some exceedances of ODWS and MECP Table 2 and PWQO criteria, as summarized in Table 3 below. Elevated hardness and metals are not uncommon in groundwater within these formations and their presence are due to natural conditions.

There were several locations that exhibited one or more elevated parameters typically related to anthropogenic activities, including chloride and sodium (MW20-11B, MW20-15A, and MW20-26C), nitrate (MW20-10B, MW21-2-2, MW21-4-1, MW20-10A), PHCs (MW20-17B and MW20-19B) and trace detections of one or more BTEX parameter (MW20-13B, MW20-14B, MW20-16B, MW20-22B, MW22-01, and MWW22-02C).

Groundwater quality results were generally consistent between the various formations, noting that some metal parameters (e.g. boron) were elevated in shale bearing rock units (i.e. shaley dolostone / Cabot Head Formation).

Table 3: Comparison of Groundwater Quality Results to ODWS, MECP Table 2 and PWQO

Parameter Exceedance	Formation Sampled			
	Overburden	Goat Island	Gasport	Shaley Dolostone / Cabot Head
Hardness	ODWS: All wells	ODWS: All wells	ODWS: All wells	ODWS: All wells
Total Dissolved Solids	ODWS: MW20-26C	ODWS: MW20-22A/B, MW20-23B, MW20-24B, MW20-25B, MW20-26B, MW20-27A	ODWS: MW20-07B, MW20-08B, MW20-11B, MW20-14B, MW20-18, MW20-20B, MW20-21A, MW20-25A, MW20-26A	ODWS: MW20-01A, MW20-14A, MW20-15A, MW20-17A, MW20-20A, MW20-23A
Sulphate	-	ODWS: MW20-22A/B, MW20-23B, MW20-25B, MW20-27A	ODWS: MW20-21A, MW20-25A, MW20-26A	ODWS: MW20-14A, MW20-15A, MW20-20A, MW20-23A
Chloride	ODWS: MW20-26C	-	ODWS: MW20-11B	-
Nitrate	-	-	ODWS: MW20-10B, MW21-2-2, MW21-4-1	ODWS: MW20-10A
Unionized Ammonia	-	-	PWQO: MW20-21B	PWQO: MW20-14A, MW20-15A, MW20-20A, MW20-23A
Dissolved Organic Carbon	-	-	ODWS: MW20-21B	-
Aluminum	ODWS & PWQO: MW20-15C	-	ODWS & PWQO: MW20-06A, MW20-08A, MW20-11B, MW20-12A, MW20-16B, MW20-21B PWQO: MW20-07B, MW20-20C, MW20-24A	ODWS & PWQO: MW20-01A, MW20-02, MW20-10A, MW20-15A PWQO: MW20-17A, MW20-23A
Arsenic	ODWS: MW22-02C	ODWS: MW20-22B, MW20-23B	ODWS: MW20-21A	ODWS: MW20-15A ODWS & MECP: MW20-17A
Boron	-	-	-	PWQO: MW20-01A, MW20-14A, MW20-15A,
Cadmium	-	PWQO: MW20-24B	PWQO: MW20-11B,	PWQO: MW20-23A
Cobalt	PWQO: MW20-15C	-	PWQO: MW20-11B	PWQO & MECP: MW20-02 PWQO: MW20-10A, MW20-15A, MW20-17A
Copper	-	-	PWQO: MW20-08A, MW20-11B, MW20-18, MW20-24A	PWQO: MW20-02

Parameter Exceedance	Formation Sampled			
	Overburden	Goat Island	Gasport	Shaley Dolostone / Cabot Head
Iron	ODWS & PWQO: MW20-15C	ODWS & PWQO: MW20-22A, MW20-23B, MW20-24B, MW20-25B, MW20-27A, MW20-27B	ODWS & PWQO: MW20-06A, MW20-11B, MW20-12A, MW20-16B, MW20-19A/B, MW20-21A/B, MW20-24A, MW20-25A, MW20-26A	ODWS & PWQO: MW20-01A, MW20-02, MW20-10A, MW20-14A, MW20-15A, MW20-17A, MW20-20A, MW20-23A
Lead	-	-	PWQO: MW20-11B	PWQO: MW20-02, MW20-10A
Manganese	ODWS: MW20-03, MW20-13C, MW20-15C, MW22-02C	-	ODWS: MW20-11A/B, MW20-12A, MW20-17B, MW20-28A/B	ODWS:MW20-01A, MW20-02, MW20-10A, MW20-14A, MW20-15A, MW20-17A, MW20-23A
Molybdenum	PWQO: MW22-02C	-	-	PWQO & MECP: MW20-15A
Silver	-	-	PWQO: MW20-11B	PWQO: MW20-23A
Uranium	-	-	-	ODWS, PWQO & MECP: MW20-15A
Zinc	-	PWQO: MW20-24B	PWQO: MW20-11B	-
Phosphorus	PWQO: MW20-15C	-	-	PWQO: MW20-10A
Sodium	-	-	ODWS: MW20-11B	ODWS: MW20-15A
F3 PHC	-	-	MECP: MW20-17B, MW20-19B	-
F4 PHC	-	-	MECP: MW20-19B	-

PWQO metals standards apply to unfiltered water samples. Included here for comparison to filtered groundwater samples.

4.0 SUMMARY

The additional groundwater sampling event conducted in the spring of 2024 has improved the understanding of baseline water quality at the proposed CBM Caledon Pit / Quarry. The spring 2024 results were generally consistent with previous baseline water quality sampling carried out in 2021.

The water quality results indicate that the groundwater generated by dewatering during the operational phases of the pit / quarry is expected to be suitable to be returned to the groundwater system via the proposed infiltration trench system and / or be transferred to the Osprey Valley Golf Course for use in irrigation.

5.0 CLOSURE

We trust that this memorandum meets your current needs. If you have any questions or require clarification, please contact the undersigned at your earliest convenience.

WSP Canada Inc.





Victoria Propp MSc, GIT
Hydrogeologist-in-training

George Schneider MSc, PGeo
Senior Geoscientist

PGM/VRP/GRP/GWS

Attachments: Table 1: Baseline Groundwater Quality Results to Date
Table 2: Groundwater Quality Results by Formation
Figure 1: Well Locations - Groundwater Monitoring and Aquifer Testing Program
Appendix A: Chain of Custody / Certificates of Analysis

https://wsponline.sharepoint.com/sites/gld-114392/project files/6 deliverables/ph 2300-hydrogeology/502 sw gw quality tm/19129150-tm-reva-cbm caledon 2024 gw quality addendum-25feb2025.docx

TABLES

Table 1: Baseline Groundwater Quality Results to Date
CBM Caledon Pit / Quarry

	Units	PWQO	Criteria, ODWS				MECP Table 2	Max	MW20-01A	MW20-01A	MW20-01B	MW20-02	MW20-02	MW20-03	MW20-03	MW20-04	MW20-04	MW20-05A	MW20_05A	MW20-06A	MW20-06A	MW20-06B	MW20-07A	MW20_07A	MW20-07B
									22-Jun-21	22-Apr-24	22-Jun-21	22-Jun-21	23-Apr-24	22-Jun-21	22-Apr-24	22-Jun-21	23-Apr-24	22-Jun-21	23-Apr-24	22-Jun-21	22-Apr-24	22-Jun-21	21-Jun-21	23-Apr-24	21-Jun-21
			MAC	IMAC	AO	OG			Shaley Dolostone or Cabot Head Fm	Shaley Dolostone or Cabot Head Fm	Gasport Fm	Shaley Dolostone or Cabot Head Fm	Shaley Dolostone or Cabot Head Fm	Overburden	Overburden	Shaley Dolostone or Cabot Head Fm	Shaley Dolostone or Cabot Head Fm	Shaley Dolostone or Cabot Head Fm	Shaley Dolostone or Cabot Head Fm	Gasport Fm	Gasport Fm	Gasport Fm	Shaley Dolostone or Cabot Head Fm	Shaley Dolostone or Cabot Head Fm	Gasport Fm
Physical Tests (Water)																									
Anion Sum	me/L							31.6	11	10.4	8.68	7.55	6.94	7.21	6.88	8.34	6.85	7.09	7.07	8.04	7.25	6.89	7.85	7.61	9.08
Bicarb. Alkalinity (calc. as CaCO3)	mg/L							380	200	190	250	240	220	270	260	230	210	230	220	260	240	230	250	250	260
Calculated TDS	mg/L				500			2200	690	640	460	410	400	380	370	460	380	380	390	440	400	370	410	410	500
Carb. Alkalinity (calc. as CaCO3)	mg/L							5.2	1.3	1.3	1.7	1.7	1.9	2.3	1.9	2	1.8	2	1.7	2.3	1.9	1.9	2.7	2	3.1
Cation Sum	me/L							34.9	11.7	10.8	8.24	7.4	8.1	7.18	7.27	8.38	6.96	6.94	6.9	8.2	7.66	6.82	7.75	7.79	9.08
Hardness (CaCO3)	mg/L					80-100		1500	470	440	300	300	330	300	310	310	280	310	300	340	320	300	330	320	270
Ion Balance (% Difference)	%							13	2.81	2.09	2.62	1	7.7	0.19	2.71	0.21	0.82	1.11	1.2	1.02	2.7	0.52	0.61	1.16	0
Langelier Index (@ 20C)	N/A							1.27	0.825	0.813	0.753	0.762	0.816	0.888	0.828	0.819	0.743	0.837	0.763	0.903	0.807	0.82	0.928	0.79	0.901
Langelier Index (@ 4C)	N/A							1.02	0.578	0.566	0.505	0.514	0.567	0.64	0.58	0.571	0.494	0.589	0.514	0.655	0.558	0.572	0.679	0.541	0.653
Saturation pH (@ 20C)	N/A							7.86	7.02	7.06	7.11	7.13	7.13	7.06	7.06	7.14	7.21	7.13	7.16	7.07	7.12	7.12	7.13	7.14	7.19
Saturation pH (@ 4C)	N/A							8.11	7.27	7.3	7.36	7.38	7.38	7.3	7.31	7.39	7.46	7.38	7.41	7.32	7.37	7.37	7.38	7.39	7.44
Inorganics																									
Total Ammonia-N	mg/L							2.1	0.9	1	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.052	<0.050	<0.050	<0.050	0.28
Unionized Ammonia	mg/L	0.02							0.0172	0.0199	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.0012	<0.02	<0.02	<0.02	0.0092
Conductivity	umho/cm							2600	1000	980	840	730	690	680	660	810	680	680	670	760	720	670	740	740	870
Dissolved Organic Carbon	mg/L				5			5.5	1.2	0.56	1.2	1.5	1.1	3	0.7	0.86	1	0.7	0.83	0.4	0.65	0.81	0.55	0.45	0.88
Orthophosphate (P)	mg/L							0	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
pH	pH	6.5-8.5				6.5-8.5		8.36	7.85	7.87	7.87	7.89	7.95	7.94	7.89	7.96	7.96	7.97	7.92	7.97	7.93	7.94	8.06	7.93	8.09
Dissolved Sulphate (SO4)	mg/L				500			1300	310	280	24	33	33	22	17	20	17	39	45	26	22	16	40	41	20
Alkalinity (Total as CaCO3)	mg/L	not decreased by >25% of natural concentration				30-500		380	200	190	250	240	220	280	260	240	210	240	220	260	240	240	250	250	270
Dissolved Chloride (Cl-)	mg/L				250		790	490	23	21	100	64	57	40	41	97	56	39	41	66	53	45	68	62	100
Nitrite (N)	mg/L		1.0					0.133	<0.010	<0.010	<0.010	<0.010	<0.010	0.016	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.0	<0.010
Nitrate (N)	mg/L		10.0					13.1	<0.10	<0.10	3.87	3.85	2.68	1.85	2.94	6.24	9.97	6.28	7.31	6.44	6.77	8.03	0.73	0.69	5.2
Nitrate + Nitrite (N)	mg/L							13.1	<0.10	<0.10	3.87	3.85	2.68	1.86	2.94	6.24	9.97	6.28	7.31	6.44	6.77	8.03	0.73	0.71	5.2
Metals		[1]																							
Dissolved Aluminum (Al)	ug/L	75				100		1100	**300**	<4.9	17	<4.9	**340**	40	<4.9	30	<4.9	27	<4.9	**230**	22	63	53	9.4	**92**
Dissolved Antimony (Sb)	ug/L	20		6			6	2.2	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dissolved Arsenic (As)	ug/L	100		10			25	33	9.7	5.9	<1.0	<1.0	3.2	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	7.9	6.8	<1.0
Dissolved Barium (Ba)	ug/L		1000				1000	170	15	14	42	55	75	75	67	41	34	110	52	30	25	19	56	56	34
Dissolved Beryllium (Be)	ug/L	1100					4	0	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40
Dissolved Boron (B)	ug/L	200		5000			5000	1100	**680**	**600**	17	12	11	14	12	11	<10	11	11	12	<10	11	23	21	19
Dissolved Cadmium (Cd)	ug/L	0.2	5				3	0.29	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090
Dissolved Calcium (Ca)	ug/L							490000	150000	140000	88000	87000	92000	88000	93000	88000	80000	86000	86000	94000	87000	88000	81000	82000	71000
Dissolved Chromium (Cr)	ug/L	1 CrVI or 8.9 CrIII	50				50	0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Dissolved Cobalt (Co)	ug/L	1					4	7.1	0.56	<0.50	<0.50	<0.50	**7.1**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dissolved Copper (Cu)	ug/L	5			1000		87	9.3	<0.90	<0.90	1	<0.90	**9.3**	<0.90	<0.90	1.6	0.95	2.1	0.94	1	<0.90	1.2	<0.90	<0.90	2.8
Dissolved Iron (Fe)	ug/L	300			300			1700	**940**	140	<100	<100	**1700**	<100	<100	110	<100	<100	<100	**400**	<100	<100	<100	<100	<100
Dissolved Lead (Pb)	ug/L	5	10				10	6.9	0.92	<0.50	<0.50	<0.50	**6.9**	<0.50	<0.50	0.63	<0.50	<0.50	<0.50	2.3	<0.50	<0.50	<0.50	<0.50	<0.50
Dissolved Magnesium (Mg)	ug/L							94000	22000	21000	19000	20000	23000	19000	18000	21000	18000	22000	21000	27000	24000	19000	30000	29000	22000
Dissolved Manganese (Mn)	ug/L				50			370	62	19	2.2	4.4	140	120	<2.0	5.9	<2.0	3.9	<2.0	36	<2.0	3.9	26	16	46
Dissolved Molybdenum (Mo)	ug/L	40					70	150	1.6	1.5	<0.50	0.87	<0.50	7.3	1.7	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	1.5	1.4	5.5
Dissolved Nickel (Ni)	ug/L	25					100	23	2.2	<1.0	<1.0	1.8	4.6	1.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.1	<1.0	<1.0	1.1	2.8
Dissolved Phosphorus (P)	ug/L	30						130	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
Dissolved Potassium (K)	ug/L							14000	11000	11000	1300	1700	1800	2100	1700	1600	1300	1500	1600	2000	2100	1200	2400	2400	1500
Dissolved Selenium (Se)	ug/L	100	50				10	2.8	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Dissolved Silicon (Si)	ug/L							11000	4200	3500	2700	3100	3500	4100	3900	2900	2500	2600	2600	3500	3000	2300	3900	3900	3700
Dissolved Silver (Ag)	ug/L	0.1					2	0.19	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090
Dissolved Sodium (Na)	ug/L				200000			240000	42000	39000	52000	32000	33000	26000	25000	51000	33000	17000	19000	29000	29000	20000	26000	28000	83000
Dissolved Strontium (Sr)	ug/L							9800	5800	6900	160	220	250	190	170	180	140	1400	1000	320	310	100	2600	2300	220
Dissolved Thallium (Tl)	ug/L	0.3					2	0.0855	<0.050	<0.050	<0.050	<0.050	0.056	<0.050	<0.050	<0.050	<0.050	0.065	<0.050	<0.050	<0.050	<0.050	0.056	0.061	0.079
Dissolved Titanium (Ti)	ug/L							23	7.7	<5.0	<5.0	<5.0	<5.0	7.3	<5.0	<5.0	<5.0	<5.0	<5.0	11	<5.0	<5.0	<5.0	<5.0	<5.0
Dissolved Uranium (U)	ug/L	5	20				20	21	0.23	0.18	0.33	0.57	0.92	0.77	0.57	0.22	0.18	0.23	0.24	0.25	0.18	0.13	0.53	0.52	1.2
Dissolved Vanadium (V)	ug/L	6					6.2	1.7	0.55	<0.50	<0.50	<0.50	1.2	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dissolved Zinc (Zn)	ug/L	20			5000		1100	180	<5.0	<5.0	<5.0	<5.0	6.1	<5.0	<5.0	<5.0	<5.0	5.5	<5.0	10	<5.0	<5.0	<5.0	<5.0	9.5
BTEX & F1 Hydrocarbons																									
Benzene	ug/L	100.00	1				5	0		<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20		<0.20		<0.20	<0.20		<0.20	<0.20
Toluene	ug/L	0.80	60		24		24	0.33		<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20		<0.20		<0.20	<0.20		<0.20	<0.20
Ethylbenzene	ug/L	8	140		1.6		2.4	0		<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20		<0.20		<0.20	<0.20		<0.20	<0.20
o-Xylene	ug/L	40						0		<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20		<0.20		<0.20	<0.20		<0.20	<0.20
p+m-Xylene	ug/L	2-m and 30-p						0		<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40		<0.40		<0.40	<0.40		<0.40	<0.40
Total Xylenes	ug/L		90		20		300	0		<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40		<0.40		<0.40	<0.40		<0.40	<0.40
F1 (C6-C10)	ug/L						750	86		<25	<25	<25	<25	<25	<25	<25	<25		<25		<25	<25		<25	<25
F1 (C6-C10) - BTEX	ug/L							86		<25	<25	<25	<25	<25	<25	<25	<25		<25		<25	<25		<25	<25
F2-F4 Hydrocarbons																									
F2 (C10-C16 Hydrocarbons)	ug/L						150	0		<100	<100	<100	<100	<100	<100	<100	<100		<100		<100	<100		<100	<100
F3 (C16-C34 Hydrocarbons)	ug/L						500	1100		<200	<200	<200	<200	<200	<200	<200	<200		<200		<200	<200		<200	360
F4 (C34-C50 Hydrocarbons)	ug/L						500	810		<200	<200	<200	<200	<200	<200	<200	<200		<200		<200	<200		<200	<200

Notes:
1) PWQO metals standards apply to unfiltered surface water samples. Included here for comparison to filtered groundwater samples.
2) PWQO exceedances bolded.
3) ODWS exceedance highlighted yellow.
4) MECP Table 2 exceednaces cell borders bolded.

Table 1: Baseline Groundwater Quality Results to Date
CBM Caledon Pit / Quarry

	Units	PWQO	Criteria, ODWS				MECP Table 2	MW20-08A	MW20-08A	MW20-08B	MW20-09	MW20-09	MW20-10A	MW20-10A	MW20-10B	MW20-11A	MW20-11B	MW20-11B	MW20-12A	MW20-12A	MW20-12B	MW20-13A	MW20-13B	MW20-13B	MW20-13C
								21-Jun-21	22-Apr-24	21-Jun-21	23-Jun-21	15-Apr-24	24-Jul-21	15-Apr-24	24-Jul-21	24-Jul-21	24-Jul-21	18-Apr-24	24-Jul-21	18-Apr-24	24-Jul-21	24-Jul-21	24-Jul-21	18-Apr-24	24-Jul-21
			MAC	IMAC	AO	OG		Gasport Fm	Gasport Fm	Gasport Fm	Shaley Dolostone or Cabot Head Fm	Shaley Dolostone or Cabot Head Fm	Shaley Dolostone or Cabot Head Fm	Shaley Dolostone or Cabot Head Fm	Gasport Fm	Gasport Fm	Gasport Fm	Gasport Fm	Gasport Fm	Gasport Fm	Gasport Fm	Shaley Dolostone or Cabot Head Fm	Gasport Fm	Gasport Fm	Overburden
Physical Tests (Water)																									
Anion Sum	me/L							9.16	8.68	13.1	6.84	6.05	8.43	7.85	8.14	6.95	18.3	13.9	6.36	6.47	6.65	4.6	4.56	4.37	6.69
Bicarb. Alkalinity (calc. as CaCO3)	mg/L							270	260	280	270	230	290	280	280	250	380	320	260	260	260	190	190	190	280
Calculated TDS	mg/L				500			490	470	720	360	330	460	450	450	370	1000	780	340	360	350	240	240	230	340
Carb. Alkalinity (calc. as CaCO3)	mg/L							2.9	2.2	2.8	2	1.5	3	1.9	2.7	4.7	3.6	1.6	2.9	1.6	2.9	2.7	3.6	1	5
Cation Sum	me/L							9.23	9.1	13.2	6.73	6.3	8.45	8.78	8.41	6.91	19.2	15.1	6.36	7.1	6.78	4.45	4.54	4.56	6.72
Hardness (CaCO3)	mg/L					80-100		330	320	320	320	310	370	380	370	230	430	370	300	320	300	200	200	200	320
Ion Balance (% Difference)	%							0.4	2.36	0.69	0.85	2.02	0.09	5.54	1.64	0.29	2.27	4.11	0.03	4.67	0.92	1.66	0.25	2.05	0.16
Langelier Index (@ 20C)	N/A							0.947	0.836	0.925	0.833	0.684	1.05	0.862	0.994	0.959	1.11	0.721	0.942	0.703	0.96	0.693	0.806	0.27	1.12
Langelier Index (@ 4C)	N/A							0.699	0.588	0.679	0.584	0.435	0.797	0.613	0.746	0.71	0.868	0.474	0.693	0.454	0.712	0.444	0.556	0.021	0.874
Saturation pH (@ 20C)	N/A							7.12	7.13	7.1	7.06	7.14	7.01	7.01	7.02	7.34	6.89	7	7.14	7.11	7.11	7.49	7.5	7.49	7.15
Saturation pH (@ 4C)	N/A							7.37	7.37	7.35	7.3	7.39	7.25	7.26	7.26	7.59	7.14	7.24	7.39	7.36	7.36	7.74	7.75	7.74	7.4
Inorganics																									
Total Ammonia-N	mg/L							0.1	0.056	<0.050	<0.050	<0.050	0.081	<0.050	<0.050	0.081	<0.050	0	<0.050	0	<0.050	0.21	<0.050	0	0.11
Unionized Ammonia	mg/L	0.02						0.0031	0.0014	<0.02	<0.02	<0.02	0.0024	<0.02	<0.02	0.0042	<0.02	0.0011	<0.02	0.0010	<0.02	0.0084	<0.02	0.0019	0.0054
Conductivity	umho/cm							900	890	1400	610	560	720	740	670	670	1800	1400	550	610	600	410	410	410	580
Dissolved Organic Carbon	mg/L				5			0.45	0.89	1.2	0.7	0.88	0.8	0.8	0.69	0.61	1	1.4	<0.40	1	0.68	<0.40	<0.40	1	1.3
Orthophosphate (P)	mg/L							<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
pH	pH	6.5-8.5				6.5-8.5		8.07	7.96	8.03	7.89	7.82	8.05	7.87	8.01	8.3	8.01	7.72	8.08	7.81	8.07	8.18	8.3	7.76	8.27
Dissolved Sulphate (SO4)	mg/L				500			22	18	17	16	15	22	19	18	42	37	19	26	27	13	37	31	28	33
Alkalinity (Total as CaCO3)	mg/L	not decreased by >25% of natural concentration				30-500		270	260	280	270	240	290	280	280	250	380	320	260	270	260	190	190	190	290
Dissolved Chloride (Cl-)	mg/L				250		790	110	99	240	18	15	43	40	44	35	350	240	7.4	7.2	35	1.4	1.1	<1.0	3
Nitrite (N)	mg/L		1.0					<0.010	<0.010	<0.010	<0.010	<0.010	0.013	<0.010	<0.010	0.013	<0.010	<0.010	<0.010	0.0	<0.010	<0.010	<0.010	<0.010	0.133
Nitrate (N)	mg/L		10.0					3.65	3.84	4.31	7.61	8.29	13	10.3	13.1	0.18	2.73	3.63	4.91	5.45	2.45	<0.10	<0.10	<0.10	1.76
Nitrate + Nitrite (N)	mg/L							3.65	3.84	4.31	7.61	8.29	13	10.3	13.1	0.19	2.73	3.63	4.91	5.48	2.45	<0.10	<0.10	<0.10	1.89
Metals		[1]																							
Dissolved Aluminum (Al)	ug/L	75				100		**120**	<4.9	6.5	8.2	<4.9	**150**	**1100**	7.8	28	**520**	<4.9	<4.9	**130**	6.1	12	5.9	12	7.7
Dissolved Antimony (Sb)	ug/L	20		6			6	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dissolved Arsenic (As)	ug/L	100		10			25	<1.0	<1.0	<1.0	<1.0	<1.0	1.4	3.5	<1.0	5.9	<1.0	<1.0	<1.0	1.2	<1.0	2.7	2.6	5.8	<1.0
Dissolved Barium (Ba)	ug/L		1000				1000	41	28	31	19	15	46	64	25	96	61	31	52	69	30	43	57	64	37
Dissolved Beryllium (Be)	ug/L	1100					4	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40
Dissolved Boron (B)	ug/L	200		5000			5000	<10	<10	<10	<10	<10	11	13	10	46	15	<10	12	14	<10	67	56	60	27
Dissolved Cadmium (Cd)	ug/L	0.2	5				3	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	**0.25**	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090
Dissolved Calcium (Ca)	ug/L							82000	83000	92000	88000	83000	98000	100000	99000	49000	120000	100000	74000	79000	80000	43000	41000	42000	66000
Dissolved Chromium (Cr)	ug/L	1 CrVI or 8.9 CrIII	50				50	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Dissolved Cobalt (Co)	ug/L	1					4	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**1.6**	<0.50	0.63	**1.2**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.89
Dissolved Copper (Cu)	ug/L	5			1000		87	**5.7**	<0.90	1.6	1.1	<0.90	1.2	4	<0.90	<0.90	**5.3**	1	<0.90	1.2	<0.90	2.1	<0.90	<0.90	<0.90
Dissolved Iron (Fe)	ug/L	300			300			200	<100	<100	<100	<100	240	**1500**	<100	<100	**590**	<100	<100	**680**	<100	<100	110	140	<100
Dissolved Lead (Pb)	ug/L	5	10				10	1.1	<0.50	<0.50	<0.50	<0.50	1.2	**6.7**	<0.50	<0.50	**5.2**	<0.50	<0.50	2	<0.50	<0.50	<0.50	<0.50	<0.50
Dissolved Magnesium (Mg)	ug/L							30000	29000	22000	25000	24000	30000	30000	29000	26000	33000	27000	28000	29000	23000	22000	25000	24000	38000
Dissolved Manganese (Mn)	ug/L				50			15	<2.0	<2.0	<2.0	<2.0	17	67	<2.0	180	370	<2.0	16	110	7.4	31	21	27	220
Dissolved Molybdenum (Mo)	ug/L	40					70	0.56	<0.50	<0.50	<0.50	<0.50	0.64	<0.50	<0.50	15	<0.50	<0.50	0.77	2.9	<0.50	2.8	2.5	2.4	15
Dissolved Nickel (Ni)	ug/L	25					100	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.7	<1.0	4.3	4.2	<1.0	<1.0	2.5	<1.0	<1.0	<1.0	<1.0	1.6
Dissolved Phosphorus (P)	ug/L	30						<100	<100	<100	<100	<100	<100	**100**	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
Dissolved Potassium (K)	ug/L							880	970	920	1100	820	1200	1800	1100	1600	1300	830	3400	3700	1600	2100	1700	1800	1200
Dissolved Selenium (Se)	ug/L	100	50				10	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Dissolved Silicon (Si)	ug/L							3900	3800	2700	4300	3700	4800	11000	4700	4300	5200	3100	4800	5300	4000	6200	6400	6900	3300
Dissolved Silver (Ag)	ug/L	0.1					2	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	**0.19**	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090
Dissolved Sodium (Na)	ug/L				200000			61000	60000	160000	6400	3800	25000	24000	24000	51000	240000	170000	6200	14000	19000	10000	9700	9400	6100
Dissolved Strontium (Sr)	ug/L							230	210	160	140	130	960	2200	150	1100	200	160	330	340	110	1700	960	940	250
Dissolved Thallium (Tl)	ug/L	0.3					2	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dissolved Titanium (Ti)	ug/L							6.8	<5.0	<5.0	<5.0	<5.0	7	19	<5.0	<5.0	16	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Dissolved Uranium (U)	ug/L	5	20				20	0.88	0.33	0.21	0.14	0.13	0.98	1.5	0.14	3.9	1.1	0.3	0.47	0.83	0.24	0.29	0.28	0.32	1.2
Dissolved Vanadium (V)	ug/L	6					6.2	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	1.6	<0.50	0.77	0.87	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.55
Dissolved Zinc (Zn)	ug/L	20			5000		1100	9.3	<5.0	<5.0	<5.0	<5.0	<5.0	14	<5.0	<5.0	**29**	<5.0	<5.0	9	<5.0	<5.0	<5.0	<5.0	<5.0
BTEX & F1 Hydrocarbons																									
Benzene	ug/L	100.00	1				5		<0.20	<0.20	<0.20	<0.20		<0.20	<0.20		<0.20	<0.20		<0.20	<0.20		<0.20	<0.20	
Toluene	ug/L	0.80	60		24		24		<0.20	<0.20	<0.20	<0.20		<0.20	<0.20		<0.20	<0.20		<0.20	<0.20		0.29	<0.20	
Ethylbenzene	ug/L	8	140		1.6		2.4		<0.20	<0.20	<0.20	<0.20		<0.20	<0.20		<0.20	<0.20		<0.20	<0.20		<0.20	<0.20	
o-Xylene	ug/L	40							<0.20	<0.20	<0.20	<0.20		<0.20	<0.20		<0.20	<0.20		<0.20	<0.20		<0.20	<0.20	
p+m-Xylene	ug/L	2-m and 30-p							<0.40	<0.40	<0.40	<0.40		<0.40	<0.40		<0.40	<0.40		<0.40	<0.40		<0.40	<0.40	
Total Xylenes	ug/L		90		20		300		<0.40	<0.40	<0.40	<0.40		<0.40	<0.40		<0.40	<0.40		<0.40	<0.40		<0.40	<0.40	
F1 (C6-C10)	ug/L						750		<25	<25	<25	<25		<25	<25		<25	<25		<25	<25		<25	<25	
F1 (C6-C10) - BTEX	ug/L								<25	<25	<25	<25		<25	<25		<25	<25		<25	<25		<25	<25	
F2-F4 Hydrocarbons																									
F2 (C10-C16 Hydrocarbons)	ug/L						150		<100	<100	<100	<100		<100	<100		<100	<100		<100	<100		<100	<100	
F3 (C16-C34 Hydrocarbons)	ug/L						500		<200	<200	<200	<200		<200	<200		<200	<200		<200	<200		<200	<200	
F4 (C34-C50 Hydrocarbons)	ug/L						500		<200	<200	<200	<200		<200	<200		<200	<200		<200	<200		<200	<200	

Notes:
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Table 1: Baseline Groundwater Quality Results to Date
CBM Caledon Pit / Quarry

	Units	PWQO	Criteria, ODWS MAC	IMAC	AO	OG	MECP Table 2	MW20-14A 17-Feb-21 Shaley Dolostone or Cabot Head Fm	MW20-14B 17-Feb-21 Gasport Fm	MW20-14B 18-Apr-24 Gasport Fm	MW20-15A 25-Jun-21 Shaley Dolostone or Cabot Head Fm	MW20-15A 16-Apr-24 Shaley Dolostone or Cabot Head Fm	MW20-15B 25-Jun-21 Gasport Fm	MW20-15C 25-Jun-21 Overburden	MW20-16A 28-Jun-21 Gasport Fm	MW20-16B 28-Jun-21 Gasport Fm	MW20-16B 16-Apr-24 Gasport Fm	MW20-17A 22-Jun-21 Shaley Dolostone or Cabot Head Fm	MW20-17B 22-Jun-21 Gasport Fm	MW20-17B 17-Apr-24 Gasport Fm	MW20-18 22-Jun-21 Gasport Fm	MW20_18 22-Apr-24 Gasport Fm	MW20-19A 23-Jun-21 Gasport Fm	MW20-19B 23-Jun-21 Gasport Fm	MW20-20A 23-Jun-21 Shaley Dolostone or Cabot Head Fm
Physical Tests (Water)																										
Anion Sum	me/L							15.6	6.52	8.85	28.8	31.6	6.49	6.46	5.57	6.43	4.11	9.25	7.43	6.81	12	6.88	9.06	7.25	26.3
Bicarb. Alkalinity (calc. as CaCO3)	mg/L							200	240	220	190	170	210	290	200	240	190	210	240	230	260	200	240	260	180
Calculated TDS	mg/L				500			980	340	500	1900	2200	370	360	290	350	240	560	410	390	660	360	490	370	1700
Carb. Alkalinity (calc. as CaCO3)	mg/L							2.3	3.2	1.3	1.2	1.4	2	2.7	3.2	5.2	2.5	2.4	2.1	2.2	2.2	1.7	2.1	2.4	<1.0
Cation Sum	me/L							15.3	6.35	9.62	30.6	34.9	6.63	8.4	5.04	6.56	5.31	9.8	8.14	7.78	12.1	6.8	8.56	6.66	26.3
Hardness (CaCO3)	mg/L					80-100		630	300	330	1000	1200	320	400	230	180	220	440	340	330	390	260	420	310	1300
Ion Balance (% Difference)	%							1.11	1.28	4.18	3.06	4.98	1.11	13	4.96	1.02	12.7	2.89	4.54	6.6	0.78	0.53	2.85	4.22	0
Langelier Index (@ 20C)	N/A							1.11	0.957	0.569	0.996	1.12	0.803	0.985	0.842	0.822	0.72	1.05	0.874	0.882	0.938	0.725	0.806	0.859	0.952
Langelier Index (@ 4C)	N/A							0.864	0.708	0.321	0.753	0.878	0.555	0.736	0.593	0.573	0.471	0.797	0.626	0.634	0.691	0.476	0.558	0.611	0.708
Saturation pH (@ 20C)	N/A							6.96	7.19	7.21	6.86	6.82	7.21	7.01	7.38	7.54	7.43	7.05	7.09	7.13	7.01	7.24	7.16	7.14	6.74
Saturation pH (@ 4C)	N/A							7.2	7.44	7.46	7.1	7.06	7.45	7.26	7.63	7.78	7.68	7.3	7.34	7.38	7.26	7.49	7.4	7.39	6.98
Inorganics																										
Total Ammonia-N	mg/L							1.2	<0.050	<0.050	1.5	2.1	0.052	<0.050	0.063	0.23	0.33	0.19	<0.050	0	<0.050	<0.050	<0.050	<0.050	0.22
Unionized Ammonia	mg/L	0.02						**0.0375**	<0.02	<0.02	**0.0286**	**0.0491**	0.0014	<0.02	0.0027	0.0136	0.0123	0.0062	<0.02	0.0055	<0.02	<0.02	<0.02	<0.02	0.0029
Conductivity	um/ho/cm							1300	600	940	2500	2600	630	600	520	590	400	850	730	670	1300	720	780	640	2000
Dissolved Organic Carbon	mg/L				5			0.52	0.65	0.77	1.7	0.89	0.46	0.52	0.66	2.5	0.48	1.9	0.67	0.7	1.6	3.7	1.1	0.62	<0.40
Orthophosphate (P)	mg/L							<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
pH	pH	6.5-8.5				6.5-8.5		8.07	8.14	7.78	7.85	7.94	8.01	7.99	8.22	8.36	8.15	8.09	7.97	8.01	7.95	7.96	7.96	8	7.69
Dissolved Sulphate (SO4)	mg/L				500			540	33	28	1200	1300	110	25	58	29	8.2	230	54	52	23	12	190	76	1100
Alkalinity (Total as CaCO3)	mg/L	not decreased by >25% of natural concentration				30-500		210	240	220	190	170	210	290	210	250	190	210	250	230	260	200	250	260	180
Dissolved Chloride (Cl-)	mg/L				250		790	6.4	15	120	11	3.6	2.1	3.4	8.5	32	2.9	9.5	47	39	210	86	7.1	18	4.2
Nitrite (N)	mg/L		1.0					0.027	<0.010	<0.010	0.039	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Nitrate (N)	mg/L		10.0					0.21	7.35	7.81	0.31	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.74	0.75	3.04	1.62	<0.10	<0.10	<0.10
Nitrate + Nitrite (N)	mg/L							0.23	7.35	7.81	0.35	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.74	0.75	3.04	1.62	<0.10	<0.10	<0.10
Metals		[1]																								
Dissolved Aluminum (Al)	ug/L	75				100		18	5.8	<4.9	**200**	<4.9	<4.9	**600**	5.8	6.6	**250**	**80**	44	<4.9	15	<4.9	46	6.5	26
Dissolved Antimony (Sb)	ug/L	20		6			6	<0.50	<0.50	<0.50	2.2	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dissolved Arsenic (As)	ug/L	100		10			25	3	<1.0	<1.0	23	12	2	7.3	8.2	5.8	6.7	33	3.8	2.7	<1.0	<1.0	1.3	4.3	4.8
Dissolved Barium (Ba)	ug/L		1000				1000	30	38	53	24	16	19	170	42	73	140	31	55	52	87	37	22	35	8.1
Dissolved Beryllium (Be)	ug/L	1100					4	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40
Dissolved Boron (B)	ug/L	200		5000			5000	**640**	<10	<10	**720**	**1100**	60	31	53	53	24	160	26	29	14	<10	35	12	54
Dissolved Cadmium (Cd)	ug/L	0.2	5				3	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090
Dissolved Calcium (Ca)	ug/L							190000	72000	81000	330000	400000	81000	92000	53000	32000	48000	130000	92000	90000	120000	77000	83000	77000	430000
Dissolved Chromium (Cr)	ug/L	1 CrVI or 8.9 CrIII	50				50	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Dissolved Cobalt (Co)	ug/L	1					4	<0.50	<0.50	<0.50	0.6	**1.1**	<0.50	**1.4**	<0.50	<0.50	<0.50	**1.1**	<0.50	0.5	<0.50	<0.50	<0.50	<0.50	<0.50
Dissolved Copper (Cu)	ug/L	5			1000		87	**6.9**	1.5	1.6	1.3	<0.90	<0.90	4.7	<0.90	<0.90	1.4	3.4	<0.90	<0.90	**7.4**	2.7	<0.90	<0.90	<0.90
Dissolved Iron (Fe)	ug/L	300			300			**380**	<100	<100	210	**770**	<100	**1200**	110	<100	**370**	**900**	<100	<100	<100	<100	**310**	**380**	**620**
Dissolved Lead (Pb)	ug/L	5	10				10	<0.50	<0.50	<0.50	1.1	<0.50	<0.50	3.2	<0.50	<0.50	3	<0.50	1.4	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dissolved Magnesium (Mg)	ug/L							39000	30000	30000	51000	51000	27000	42000	23000	24000	25000	30000	27000	25000	23000	16000	50000	29000	54000
Dissolved Manganese (Mn)	ug/L				50			120	<2.0	<2.0	54	120	16	130	11	21	26	61	35	76	16	2.7	7	48	41
Dissolved Molybdenum (Mo)	ug/L	40					70	3	0.55	<0.50	**150**	**49**	2.2	1.4	4.6	35	5.7	8.1	1.2	0.78	1.4	<0.50	1.6	3.4	2
Dissolved Nickel (Ni)	ug/L	25					100	2.9	<1.0	<1.0	2	22	<1.0	2.1	<1.0	4.1	1.1	23	1.9	1.6	3.3	<1.0	<1.0	2.2	<1.0
Dissolved Phosphorus (P)	ug/L	30						<100	<100	<100	<100	<100	<100	**130**	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
Dissolved Potassium (K)	ug/L							11000	740	990	12000	14000	1600	1700	2100	1600	1600	5300	1400	1400	1800	1300	1700	730	1600
Dissolved Selenium (Se)	ug/L	100	50				10	<2.0	<2.0	<2.0	2.8	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Dissolved Silicon (Si)	ug/L							4200	3200	2900	5500	5600	6800	8500	5800	5200	7400	4900	5300	5600	3200	2400	3900	2900	6700
Dissolved Silver (Ag)	ug/L	0.1					2	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090
Dissolved Sodium (Na)	ug/L				200000			54000	6500	70000	220000	240000	6500	5100	11000	67000	17000	17000	29000	27000	100000	36000	4400	8800	7100
Dissolved Strontium (Sr)	ug/L							5000	91	100	4700	6100	1700	430	1000	210	230	3800	750	790	200	130	1500	610	8600
Dissolved Thallium (Tl)	ug/L	0.3					2	<0.050	<0.050	<0.050	0.052	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dissolved Titanium (Ti)	ug/L							<5.0	<5.0	<5.0	7.7	<5.0	<5.0	18	<5.0	<5.0	11	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Dissolved Uranium (U)	ug/L	5	20				20	0.45	0.31	0.14	**21**	**9.3**	0.25	1.2	0.67	2.8	2.8	0.87	0.61	0.52	0.82	0.37	0.12	0.13	0.17
Dissolved Vanadium (V)	ug/L	6					6.2	<0.50	<0.50	<0.50	0.78	<0.50	<0.50	1.7	<0.50	<0.50	0.72	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dissolved Zinc (Zn)	ug/L	20			5000		1100	5.9	<5.0	7.6	8.9	5.1	<5.0	13	<5.0	<5.0	11	8.6	<5.0	<5.0	8	<5.0	<5.0	<5.0	<5.0
BTEX & F1 Hydrocarbons																										
Benzene	ug/L	100.00	1				5	<0.20	<0.20	<0.20		<0.20	<0.20			<0.20	<0.20		<0.20	<0.20	<0.20	<0.20		<0.20	
Toluene	ug/L	0.80	60		24		24	<0.20	0.23	<0.20		<0.20	<0.20			0.21	<0.20		<0.20	<0.20	<0.20	<0.20		<0.20	
Ethylbenzene	ug/L	8	140		1.6		2.4	<0.20	<0.20	<0.20		<0.20	<0.20			<0.20	<0.20		<0.20	<0.20	<0.20	<0.20		<0.20	
o-Xylene	ug/L	40						<0.20	<0.20	<0.20		<0.20	<0.20			<0.20	<0.20		<0.20	<0.20	<0.20	<0.20		<0.20	
p+m-Xylene	ug/L	2-m and 30-p						<0.40	<0.40	<0.40		<0.40	<0.40			<0.40	<0.40		<0.40	<0.40	<0.40	<0.40		<0.40	
Total Xylenes	ug/L		90		20		300	<0.40	<0.40	<0.40		<0.40	<0.40			<0.40	<0.40		<0.40	<0.40	<0.40	<0.40		<0.40	
F1 (C6-C10)	ug/L						750	<25	<25	<25		<25	<25			86	<25		<25	<25	<25	<25		<25	
F1 (C6-C10) - BTEX	ug/L							<25	<25	<25		<25	<25			86	<25		<25	<25	<25	<25		<25	
F2-F4 Hydrocarbons																										
F2 (C10-C16 Hydrocarbons)	ug/L						150	<100	<100	<100		<100	<100			<100	<100		<100	<100	<100	<100		<100	
F3 (C16-C34 Hydrocarbons)	ug/L						500	<200	<200	<200		<200	<200			<200	<200		520	270	<200	<200		1100	
F4 (C34-C50 Hydrocarbons)	ug/L						500	<200	<200	<200		<200	<200			<200	<200		420	<200	<200	<200		810	

Notes:
1) PWQO metals standards apply to unfiltered surface water samples. Included here for comparison to filtered groundwater samples.
2) PWQO exceedances bolded.
3) ODWS exceedance highlighted yellow.
4) MECP Table 2 exceednaces cell borders bolded.

Table 1: Baseline Groundwater Quality Results to Date
CBM Caledon Pit / Quarry

	Units	PWQO	Criteria, ODWS MAC	IMAC	AO	OG	MECP Table 2	MW20-20B 23-Jun-21 Gasport Fm	MW20-20C 23-Jun-21 Gasport Fm	MW20-21A 28-Jun-21 Gasport Fm	MW20-21B 28-Jun-21 Gasport Fm	MW20-22A 23-Jun-21 Goat Island Fm	MW20-22B 23-Jun-21 Goat Island Fm	MW20-23A 22-Jun-21 Shaley Dolostone or Cabot Head Fm	MW20-23B 22-Jun-21 Goat Island Fm	MW20-23C 22-Jun-21 Overburden	MW20-24A 25-Jun-21 Gasport Fm	MW20-24B 25-Jun-21 Goat Island Fm	MW20-25A 25-Jun-21 Gasport Fm	MW20-25B 25-Jun-21 Goat Island Fm	MW20-26A 24-Jun-21 Gasport Fm	MW20-26B 24-Jun-21 Goat Island Fm	MW20-26C 24-Jun-21 Overburden	MW20-27A 24-Jun-21 Goat Island Fm	MW20-27B 24-Jun-21 Goat Island Fm
Physical Tests (Water)																									
Anion Sum	me/L							8.64	7.54	27.5	7.21	27	18.7	28	20.9	6.46	7.93	11.5	29.8	15.5	22.9	11.2	18.7	22.8	8.56
Bicarb. Alkalinity (calc. as CaCO3)	mg/L							200	310	200	290	200	220	190	210	240	270	290	180	180	180	200	230	190	210
Calculated TDS	mg/L				500			500	380	1800	410	1700	1200	1900	1300	340	430	620	2000	1000	1500	680	1000	1500	490
Carb. Alkalinity (calc. as CaCO3)	mg/L							1.3	2.2	1.9	4.7	<1.0	1.9	1.4	1.1	2.5	2	1.9	<1.0	1.1	1.4	2.2	1.3	1.8	2.6
Cation Sum	me/L							8.13	7.34	28.6	8.22	25.7	18.9	31.2	21	6.53	8.48	11.9	31.6	16.8	23	11.6	18.7	22.3	8.18
Hardness (CaCO3)	mg/L					80-100		400	340	1400	350	1300	870	1500	990	280	350	500	1500	810	1100	540	840	1100	370
Ion Balance (% Difference)	%							3.03	1.38	2	6.59	2.53	0.68	5.49	0.2	0.48	3.36	1.67	3.01	3.97	0.16	1.84	0.11	1.09	2.27
Langelier Index (@ 20C)	N/A							0.715	0.904	1.27	1.22	0.961	1.15	1.22	0.979	0.921	0.78	0.916	1.06	0.909	1.1	1.04	0.936	1.24	0.956
Langelier Index (@ 4C)	N/A							0.467	0.655	1.02	0.97	0.717	0.902	0.971	0.734	0.672	0.532	0.669	0.821	0.663	0.85	0.788	0.69	0.991	0.708
Saturation pH (@ 20C)	N/A							7.13	6.97	6.73	7.01	6.73	6.81	6.67	6.76	7.14	7.12	6.93	6.7	6.91	6.84	7.03	6.86	6.77	7.17
Saturation pH (@ 4C)	N/A							7.38	7.22	6.98	7.26	6.98	7.05	6.91	7	7.39	7.37	7.17	6.95	7.15	7.08	7.28	7.11	7.02	7.42
Inorganics																									
Total Ammonia-N	mg/L							<0.050	<0.050	0.085	0.61	0.07	0.15	0.23	0.2	<0.050	0.094	<0.050	0.11	0.064	0.09	<0.050	<0.050	0.081	0.1
Unionized Ammonia	mg/L	0.02						<0.02	<0.02	0.0023	**0.0272**	0.0009	0.0036	0.0047	0.0030	<0.02	0.0020	<0.02	0.0018	0.0011	0.0021	<0.02	<0.02	0.0022	0.0036
Conductivity	umho/cm							740	660	2100	640	2000	1500	2300	1700	630	770	1200	2400	1400	1900	1000	2000	1800	750
Dissolved Organic Carbon	mg/L				5			<0.40	4.6	0.92	5.5	1.2	0.85	0.68	0.69	1.6	2.4	0.63	1.1	0.67	1.7	1.4	<0.40	0.68	0.66
Orthophosphate (P)	mg/L							<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
pH	pH	6.5-8.5				6.5-8.5		7.85	7.88	8	8.23	7.69	7.95	7.88	7.74	8.06	7.9	7.84	7.77	7.82	7.93	8.07	7.8	8.01	8.13
Dissolved Sulphate (SO4)	mg/L				500			220	15	1100	56	1100	650	1100	770	23	79	36	1300	570	920	340	24	910	200
Alkalinity (Total as CaCO3)	mg/L	not decreased by >25% of natural concentration				30-500		200	310	200	300	200	230	190	210	240	270	290	180	180	180	200	230	190	210
Dissolved Chloride (Cl-)	mg/L			250			790	4.5	35	15	3.1	7.2	24	13	23	39	31	170	3.9	2	8	5	490	2.1	6.2
Nitrite (N)	mg/L		1.0					<0.010	<0.010	<0.010	<0.010	<0.010	0.01	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Nitrate (N)	mg/L		10.0					<0.10	0.13	<0.10	<0.10	<0.10	0.25	<0.10	<0.10	1.39	<0.10	0.98	<0.10	<0.10	<0.10	<0.10	0.12	<0.10	<0.10
Nitrate + Nitrite (N)	mg/L							<0.10	0.13	<0.10	<0.10	<0.10	0.26	<0.10	<0.10	1.39	<0.10	0.98	<0.10	<0.10	<0.10	<0.10	0.12	<0.10	<0.10
Metals		[1]																							
Dissolved Aluminum (Al)	ug/L	75				100		<4.9	**80**	7.4	**500**	9.4	9.7	**79**	64	<4.9	**79**	<4.9	<4.9	<4.9	14	7.6	6.9	<4.9	<4.9
Dissolved Antimony (Sb)	ug/L	20		6			6	<0.50	<0.50	<0.50	<0.50	<0.50	1.8	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dissolved Arsenic (As)	ug/L	100		10			25	5.5	<1.0	14	9.3	2.8	11	5.5	10	<1.0	<1.0	<1.0	9.6	<1.0	8.7	2.9	<1.0	5.4	1.9
Dissolved Barium (Ba)	ug/L		1000				1000	14	33	17	130	7.7	13	14	14	40	56	120	10	6.6	12	20	110	18	26
Dissolved Beryllium (Be)	ug/L	1100					4	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40
Dissolved Boron (B)	ug/L	200		5000			5000	13	16	110	47	71	54	130	48	10	31	24	89	58	53	30	<10	42	24
Dissolved Cadmium (Cd)	ug/L	0.2	5				3	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	**0.2**	<0.090	<0.090	<0.090	**0.29**	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090
Dissolved Calcium (Ca)	ug/L							110000	95000	390000	91000	400000	260000	480000	320000	82000	79000	130000	490000	240000	330000	150000	210000	360000	93000
Dissolved Chromium (Cr)	ug/L	1 CrVI or 8.9 CrIII	50				50	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Dissolved Cobalt (Co)	ug/L	1					4	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.52	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dissolved Copper (Cu)	ug/L	5			1000		87	<0.90	2	<0.90	3.1	<0.90	1	3.5	2.6	3.2	**5.4**	2.1	<0.90	<0.90	<0.90	<0.90	<0.90	1	<0.90	<0.90
Dissolved Iron (Fe)	ug/L	300			300			180	110	**810**	**1100**	**350**	<100	**340**	**1000**	<100	**640**	**460**	**460**	**330**	**590**	150	<100	**690**	**430**
Dissolved Lead (Pb)	ug/L	5	10				10	<0.50	<0.50	<0.50	2.1	<0.50	<0.50	0.85	<0.50	<0.50	0.72	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dissolved Magnesium (Mg)	ug/L							30000	26000	94000	30000	62000	57000	71000	46000	19000	38000	45000	77000	53000	70000	42000	74000	49000	33000
Dissolved Manganese (Mn)	ug/L				50			6.7	6	21	41	39	34	62	47	<2.0	27	20	36	20	43	26	13	34	25
Dissolved Molybdenum (Mo)	ug/L	40					70	2.1	<0.50	4	5.1	2.9	24	5.4	7.1	0.61	20	1.7	8.7	9	8.6	8.1	0.55	3	11
Dissolved Nickel (Ni)	ug/L	25					100	<1.0	<1.0	<1.0	5.2	3.9	5.9	5.7	4	<1.0	1.7	2.1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Dissolved Phosphorus (P)	ug/L	30						<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
Dissolved Potassium (K)	ug/L							820	1100	3200	1100	2200	2000	3600	820	2600	1700	1300	2700	1800	2300	1600	1100	1700	820
Dissolved Selenium (Se)	ug/L	100	50				10	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Dissolved Silicon (Si)	ug/L							7300	4700	6600	10000	5600	4700	6100	5700	2900	5200	6600	5400	5400	5100	5600	6900	5500	5500
Dissolved Silver (Ag)	ug/L	0.1					2	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	**0.11**	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090
Dissolved Sodium (Na)	ug/L				200000			3300	11000	33000	25000	14000	32000	29000	23000	19000	31000	41000	18000	11000	18000	17000	45000	10000	18000
Dissolved Strontium (Sr)	ug/L							2700	150	7100	1200	7200	4700	7900	5300	150	130	170	8100	4400	5700	2400	320	9800	3000
Dissolved Thallium (Tl)	ug/L	0.3					2	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dissolved Titanium (Ti)	ug/L							<5.0	<5.0	<5.0	23	<5.0	<5.0	<5.0	8.8	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Dissolved Uranium (U)	ug/L	5	20				20	<0.10	0.8	0.2	1.8	0.22	1.4	0.2	0.93	0.71	0.2	0.7	<0.10	<0.10	0.27	0.86	0.52	0.47	1.6
Dissolved Vanadium (V)	ug/L	6					6.2	<0.50	<0.50	<0.50	1.2	<0.50	1.2	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dissolved Zinc (Zn)	ug/L	20			5000		1100	<5.0	<5.0	<5.0	9.8	<5.0	<5.0	<5.0	<5.0	8.9	7.6	**180**	<5.0	<5.0	14	<5.0	<5.0	<5.0	<5.0
BTEX & F1 Hydrocarbons																									
Benzene	ug/L	100.00	1				5	<0.20			<0.20		<0.20		<0.20			<0.20		<0.20		<0.20			<0.20
Toluene	ug/L	0.80	60		24		24	<0.20			<0.20		0.27		<0.20			<0.20		<0.20		<0.20			<0.20
Ethylbenzene	ug/L	8	140		1.6		2.4	<0.20			<0.20		<0.20		<0.20			<0.20		<0.20		<0.20			<0.20
o-Xylene	ug/L	40						<0.20			<0.20		<0.20		<0.20			<0.20		<0.20		<0.20			<0.20
p+m-Xylene	ug/L	2-m and 30-p						<0.40			<0.40		<0.40		<0.40			<0.40		<0.40		<0.40			<0.40
Total Xylenes	ug/L		90		20		300	<0.40			<0.40		<0.40		<0.40			<0.40		<0.40		<0.40			<0.40
F1 (C6-C10)	ug/L						750	<25			<25		<25		<25			<25		<25		<25			<25
F1 (C6-C10) - BTEX	ug/L							<25			<25		<25		<25			<25		<25		<25			<25
F2-F4 Hydrocarbons																									
F2 (C10-C16 Hydrocarbons)	ug/L						150	<100			<100		<100		<100			<100		<100		<100			<100
F3 (C16-C34 Hydrocarbons)	ug/L						500	330			<200		<200		<200			<200		<200		<200			<200
F4 (C34-C50 Hydrocarbons)	ug/L						500	<200			<200		<200		<200			<200		<200		<200			<200

Notes:
1) PWQO metals standards apply to unfiltered surface water samples. Included here for comparison to filtered groundwater samples.
2) PWQO exceedances bolded.
3) ODWS exceedance highlighted yellow.
4) MECP Table 2 exceednaces cell borders bolded.

Table 1: Baseline Groundwater Quality Results to Date
CBM Caledon Pit / Quarry

	Units	PWQO	Criteria, ODWS MAC	IMAC	AO	OG	MECP Table 2	MW20-28A 24-Jun-21 Gasport Fm	MW20-28B 24-Jun-21 Gasport Fm	MW21-1-1 16-Apr-24 Gasport Fm	MW21-2-2 22-Apr-24 Gasport Fm	MW21-3-3 23-Apr-24 Gasport Fm	MW21-4-1 15-Apr-24 Gasport Fm	MW22-01 16-Apr-24 Overburden	MW22-02C 17-Apr-24 Overburden	MW22-03A 17-Apr-24 Overburden	DUP 1 15-Apr-24 Gasport Fm MW21-4-1	DUP 2 22-Apr-24 Overburden MW20-03	DUP1 22-Jun-21 Gasport Fm MW20-17B	DUP2 23-Jun-21 Shaley Dolostone or Cabot Head Fm; MW20-09	DUP3 24-Jun-21 Gasport Fm MW20-28B	DUP4 24-Jun-21 Gasport Fm MW20-12B	DUP5 24-Jun-21 Goat Island Fm MW20-26B	DUP6 25-Jun-21 Goat Island Fm MW20-25B
Physical Tests (Water)																								
Anion Sum	me/L							4.78	4.78	6.09	5.02	7.84	6.77	6.41	4.29	3.5	6.86	6.86	7.46	6.82	4.74	6.65	11.2	15.8
Bicarb. Alkalinity (calc. as CaCO3)	mg/L							200	200	230	180	230	270	230	170	160	270	250	250	270	200	260	200	180
Calculated TDS	mg/L				500			250	250	330	280	430	370	370	240	180	370	370	400	360	250	350	680	1000
Carb. Alkalinity (calc. as CaCO3)	mg/L							3.4	3.1	3.2	1.8	1.8	2.2	1.4	3	3.1	2.2	1.9	2.1	1.9	3.2	2.9	2.1	1
Cation Sum	me/L							4.66	4.67	6.57	5.02	8.22	6.96	7.54	4.78	3.57	6.91	7.23	7.45	6.57	4.67	6.74	11.4	16.9
Hardness (CaCO3)	mg/L					80-100		220	220	310	250	310	330	370	180	140	330	310	320	310	220	290	530	820
Ion Balance (% Difference)	%							1.31	1.2	3.75	0.05	2.4	1.4	8.09	5.43	0.92	0.41	2.61	0.05	1.87	0.82	0.66	1.24	3.44
Langelier Index (@ 20C)	N/A							0.853	0.824	0.923	0.711	0.745	0.842	0.721	0.572	0.461	0.845	0.819	0.847	0.807	0.833	0.954	1.02	0.871
Langelier Index (@ 4C)	N/A							0.604	0.575	0.674	0.462	0.497	0.594	0.473	0.323	0.211	0.596	0.571	0.598	0.558	0.583	0.705	0.772	0.625
Saturation pH (@ 20C)	N/A							7.39	7.39	7.24	7.32	7.17	7.09	7.09	7.72	7.86	7.09	7.07	7.11	7.07	7.39	7.13	7.04	6.91
Saturation pH (@ 4C)	N/A							7.64	7.64	7.49	7.57	7.42	7.34	7.34	7.97	8.11	7.34	7.32	7.36	7.32	7.64	7.38	7.28	7.16
Inorganics																								
Total Ammonia-N	mg/L							<0.050	0.051	0.053	<0.050	<0.050	<0.050	0.069	0.32	0.19	<0.050	<0.050	<0.050	<0.050	0.053	<0.050	0.071	0.078
Unionized Ammonia	mg/L	0.02						<0.02	0.0022	0.0020	<0.02	<0.02	<0.02	0.0012	0.0163	0.0103	<0.02	<0.02	<0.02	<0.02	0.0023	<0.02	0.0021	0.0013
Conductivity	umho/cm							450	430	570	480	790	620	670	420	330	620	660	730	610	430	590	1000	1400
Dissolved Organic Carbon	mg/L				5			<0.40	<0.40	0.56	0.91	0.58	0.64	0.78	0.83	1.2	0.58	0.82	0.68	0.65	<0.40	0.63	1.4	0.66
Orthophosphate (P)	mg/L							<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
pH	pH	6.5-8.5				6.5-8.5		8.25	8.21	8.16	8.03	7.92	7.94	7.81	8.29	8.32	7.93	7.89	7.96	7.88	8.22	8.08	8.05	7.78
Dissolved Sulphate (SO4)	mg/L				500			29	29	51	15	29	13	19	34	9.7	14	17	53	16	29	13	340	580
Alkalinity (Total as CaCO3)	mg/L	not decreased by >25% of natural concentration				30-500		210	210	240	180	230	270	240	170	160	270	250	250	270	210	260	200	180
Dissolved Chloride (Cl-)	mg/L				250		790	1	1	11	10	77	13	26	7.6	1.8	13	42	47	20	<1.0	36	4.2	1.5
Nitrite (N)	mg/L		1.0					<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Nitrate (N)	mg/L		10.0					<0.10	<0.10	<0.10	12.00	6.52	10.60	7.92	<0.10	<0.10	10.20	2.99	0.74	7.76	<0.10	2.42	<0.10	<0.10
Nitrate + Nitrite (N)	mg/L							<0.10	<0.10	<0.10	12	6.52	10.6	7.92	<0.10	<0.10	10.2	2.99	0.74	7.76	<0.10	2.42	<0.10	<0.10
Metals		[1]																						
Dissolved Aluminum (Al)	ug/L	75				100		20	5.8	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	25	<4.9	<4.9	32	7.1	7.8	<4.9	<4.9	<4.9
Dissolved Antimony (Sb)	ug/L	20		6			6	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dissolved Arsenic (As)	ug/L	100		10			25	<1.0	<1.0	3.1	<1.0	<1.0	<1.0	<1.0	14	3.8	<1.0	<1.0	3.8	<1.0	<1.0	<1.0	2.9	<1.0
Dissolved Barium (Ba)	ug/L		1000				1000	12	11	99	14	46	23	44	69	64	24	68	52	19	10	29	21	6.9
Dissolved Beryllium (Be)	ug/L	1100					4	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40
Dissolved Boron (B)	ug/L	200		5000			5000	23	22	13	<10	<10	<10	<10	66	44	<10	11	25	<10	21	<10	32	47
Dissolved Cadmium (Cd)	ug/L	0.2	5				3	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090
Dissolved Calcium (Ca)	ug/L							49000	50000	65000	70000	83000	82000	94000	29000	20000	82000	92000	87000	86000	50000	78000	150000	240000
Dissolved Chromium (Cr)	ug/L	1 CrVI or 8.9 CrIII	50				50	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Dissolved Cobalt (Co)	ug/L	1					4	<0.50	<0.50	<0.50	<0.50	<0.50	0.84	<0.50	<0.50	<0.50	0.84	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dissolved Copper (Cu)	ug/L	5			1000		87	<0.90	1.6	<0.90	<0.90	<0.90	<0.90	<0.90	<0.90	<0.90	<0.90	<0.90	<0.90	<0.90	<0.90	<0.90	<0.90	<0.90
Dissolved Iron (Fe)	ug/L	300			300			<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	150	**330**
Dissolved Lead (Pb)	ug/L	5	10				10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	1	<0.50	<0.50	<0.50	<0.50	<0.50
Dissolved Magnesium (Mg)	ug/L							23000	23000	37000	18000	25000	31000	33000	26000	22000	31000	19000	24000	24000	23000	24000	40000	53000
Dissolved Manganese (Mn)	ug/L				50			93	98	13	<2.0	<2.0	<2.0	<2.0	53	23	<2.0	<2.0	32	<2.0	100	7.2	26	21
Dissolved Molybdenum (Mo)	ug/L	40					70	2.4	1.9	0.91	<0.50	<0.50	0.57	<0.50	**52**	10	0.54	1.6	1.2	<0.50	1.9	<0.50	8.1	8.8
Dissolved Nickel (Ni)	ug/L	25					100	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.2	<1.0	<1.0	<1.0	1.9	<1.0	<1.0	<1.0	<1.0	<1.0
Dissolved Phosphorus (P)	ug/L	30						<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
Dissolved Potassium (K)	ug/L							1300	1200	1400	380	1100	550	800	3400	1100	550	1700	1300	1100	1200	1700	1500	1800
Dissolved Selenium (Se)	ug/L	100	50				10	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Dissolved Silicon (Si)	ug/L							6300	6600	7600	2600	2800	6100	6700	7200	6100	6200	3900	4900	4000	6700	3900	5500	5400
Dissolved Silver (Ag)	ug/L	0.1					2	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090
Dissolved Sodium (Na)	ug/L				200000			5700	6000	5500	1400	46000	6500	2600	25000	16000	6700	25000	25000	6200	6000	19000	17000	11000
Dissolved Strontium (Sr)	ug/L							460	420	150	77	160	100	150	340	460	100	170	740	140	420	110	2300	4600
Dissolved Thallium (Tl)	ug/L	0.3					2	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dissolved Titanium (Ti)	ug/L							<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Dissolved Uranium (U)	ug/L	5	20				20	0.38	0.44	1.2	0.12	0.28	1	0.36	0.31	0.11	1	0.55	0.58	0.14	0.43	0.23	0.87	<0.10
Dissolved Vanadium (V)	ug/L	6					6.2	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dissolved Zinc (Zn)	ug/L	20			5000		1100	5.4	11	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	8.1	<5.0	<5.0	<5.0
BTEX & F1 Hydrocarbons																								
Benzene	ug/L	100.00	1				5		<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Toluene	ug/L	0.80	60		24		24		<0.20	<0.20	<0.20	<0.20	<0.20	0.33	0.23	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Ethylbenzene	ug/L	8	140		1.6		2.4		<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
o-Xylene	ug/L	40							<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
p+m-Xylene	ug/L	2-m and 30-p							<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40
Total Xylenes	ug/L		90		20		300		<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40
F1 (C6-C10)	ug/L						750		<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25
F1 (C6-C10) - BTEX	ug/L								<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25
F2-F4 Hydrocarbons																								
F2 (C10-C16 Hydrocarbons)	ug/L						150		<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
F3 (C16-C34 Hydrocarbons)	ug/L						500		<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	410	<200	<200	<200	<200	<200
F4 (C34-C50 Hydrocarbons)	ug/L						500		<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	300	<200	<200	<200	<200	<200

Notes:
1) PWQO metals standards apply to unfiltered surface water samples. Included here for comparison to filtered groundwater samples.
2) PWQO exceedances bolded.
3) ODWS exceedance highlighted yellow.
4) MECP Table 2 exceednaces cell borders bolded.

	Units	PWQO	Criteria, ODWS				MECP Table 2	Max	MW20-01A	MW20-01A	MW20-02	MW20-02	MW20-04	MW20-04	MW20-05A	MW20-05A	MW20-07A	MW20_07A	MW20-09	MW20-09	MW20-10A	MW20-10A	MW20-13A	MW20-14A	MW20-15A	MW20-15A	MW20-17A
			MAC	IMAC	AO	OG			22-Jun-21	22-Apr-24	22-Jun-21	23-Apr-24	22-Jun-21	23-Apr-24	22-Jun-21	23-Apr-24	21-Jun-21	23-Apr-24	23-Jun-21	15-Apr-24	24-Jul-21	15-Apr-24	24-Jul-21	17-Feb-21	25-Jun-21	16-Apr-24	22-Jun-21
									Shaley Dolostone or Cabot Head Fm	Shaley Dolostone or Cabot Head Fm	Shaley Dolostone or Cabot Head Fm	Shaley Dolostone or Cabot Head Fm	Shaley Dolostone or Cabot Head Fm	Shaley Dolostone or Cabot Head Fm	Shaley Dolostone or Cabot Head Fm	Shaley Dolostone or Cabot Head Fm	Shaley Dolostone or Cabot Head Fm	Shaley Dolostone or Cabot Head Fm	Shaley Dolostone or Cabot Head Fm	Shaley Dolostone or Cabot Head Fm	Shaley Dolostone or Cabot Head Fm	Shaley Dolostone or Cabot Head Fm	Shaley Dolostone or Cabot Head Fm	Shaley Dolostone or Cabot Head Fm	Shaley Dolostone or Cabot Head Fm	Shaley Dolostone or Cabot Head Fm	Shaley Dolostone or Cabot Head Fm
Physical Tests (Water)																											
Anion Sum	me/L							31.6	11	10.4	7.55	6.94	8.34	6.85	7.09	7.07	7.85	7.61	6.84	6.05	8.43	7.85	4.6	15.6	28.8	31.6	9.25
Bicarb. Alkalinity (calc. as CaCO3)	mg/L							380	200	190	240	220	230	210	230	220	250	250	270	230	290	280	190	200	190	170	210
Calculated TDS	mg/L				500			2200	690	640	410	400	460	380	380	390	410	410	360	330	460	450	240	980	1900	2200	560
Carb. Alkalinity (calc. as CaCO3)	mg/L							5.2	1.3	1.3	1.7	1.9	2	1.8	2	1.7	2.7	2	2	1.5	3	1.9	2.7	2.3	1.2	1.4	2.4
Cation Sum	me/L							34.9	11.7	10.8	7.4	8.1	8.38	6.96	6.94	6.9	7.75	7.79	6.73	6.3	8.45	8.78	4.45	15.3	30.6	34.9	9.8
Hardness (CaCO3)	mg/L					80-100		1500	470	440	300	330	310	280	310	300	330	320	320	310	370	380	200	630	1000	1200	440
Ion Balance (% Difference)	%							13	2.81	2.09	1	7.7	0.21	0.82	1.11	1.2	0.61	1.16	0.85	2.02	0.09	5.54	1.66	1.11	3.06	4.98	2.89
Langelier Index (@ 20C)	N/A							1.27	0.825	0.813	0.762	0.816	0.819	0.743	0.837	0.763	0.928	0.79	0.833	0.684	1.05	0.862	0.693	1.11	0.996	1.12	1.05
Langelier Index (@ 4C)	N/A							1.02	0.578	0.566	0.514	0.567	0.571	0.494	0.589	0.514	0.679	0.541	0.584	0.435	0.797	0.613	0.444	0.864	0.753	0.878	0.797
Saturation pH (@ 20C)	N/A							7.86	7.02	7.06	7.13	7.13	7.14	7.21	7.13	7.16	7.13	7.14	7.06	7.14	7.01	7.01	7.49	6.96	6.86	6.82	7.05
Saturation pH (@ 4C)	N/A							8.11	7.27	7.3	7.38	7.38	7.39	7.46	7.38	7.41	7.38	7.39	7.3	7.39	7.25	7.26	7.74	7.2	7.1	7.06	7.3
Inorganics																											
Total Ammonia-N	mg/L							2.1	0.9	1	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.081	<0.050	0.21	1.2	1.5	2.1	0.19
Unionized Ammonia	mg/L	0.02							0.0172	0.0199	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.0024	<0.02	0.0084	**0.0375**	**0.0286**	**0.0491**	0.0062
Conductivity	umho/cm							2600	1000	980	730	690	810	680	680	670	740	740	610	560	720	740	410	1300	2500	2600	850
Dissolved Organic Carbon	mg/L				5			5.5	1.2	0.56	1.5	1.1	0.86	1	0.7	0.83	0.55	0.45	0.7	0.88	0.8	0.8	<0.40	0.52	1.7	0.89	1.9
Orthophosphate (P)	mg/L							0	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
pH	pH	6.5-8.5				6.5-8.5		8.36	7.85	7.87	7.89	7.95	7.96	7.96	7.97	7.92	8.06	7.93	7.89	7.82	8.05	7.87	8.18	8.07	7.85	7.94	8.09
Dissolved Sulphate (SO4)	mg/L				500			1300	310	280	33	33	20	17	39	45	40	41	16	15	22	19	37	540	1200	1300	230
Alkalinity (Total as CaCO3)	mg/L	not decreased by >25% of natural concentration				30-500		380	200	190	240	220	240	210	240	220	250	250	270	240	290	280	190	210	190	170	210
Dissolved Chloride (Cl-)	mg/L				250		790	490	23	21	64	57	97	56	39	41	68	62	18	15	43	40	1.4	6.4	11	3.6	9.5
Nitrite (N)	mg/L		1.0					0.133	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.0	<0.010	<0.010	0.013	<0.010	<0.010	0.027	0.039	<0.010	<0.010
Nitrate (N)	mg/L		10.0					13.1	<0.10	<0.10	3.85	2.68	6.24	9.97	6.28	7.31	0.73	0.69	7.61	8.29	13	10.3	<0.10	0.21	0.31	<0.10	<0.10
Nitrate + Nitrite (N)	mg/L							13.1	<0.10	<0.10	3.85	2.68	6.24	9.97	6.28	7.31	0.73	0.71	7.61	8.29	13	10.3	<0.10	0.23	0.35	<0.10	<0.10
Metals		[1]																									
Dissolved Aluminum (Al)	ug/L	75				100		1100	**300**	<4.9	<4.9	**340**	30	<4.9	27	<4.9	53	9.4	8.2	<4.9	**150**	**1100**	12	18	**200**	<4.9	**80**
Dissolved Antimony (Sb)	ug/L	20		6			6	2.2	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	2.2	<0.50	<0.50
Dissolved Arsenic (As)	ug/L	100		10			25	33	9.7	5.9	<1.0	3.2	<1.0	<1.0	<1.0	<1.0	7.9	6.8	<1.0	<1.0	1.4	3.5	2.7	3	23	12	33
Dissolved Barium (Ba)	ug/L		1000				1000	170	15	14	55	75	41	34	110	52	56	56	19	15	46	64	43	30	24	16	31
Dissolved Beryllium (Be)	ug/L	1100					4	0	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40
Dissolved Boron (B)	ug/L	200		5000			5000	1100	**680**	**600**	12	11	11	<10	11	11	23	21	<10	<10	11	13	67	**640**	**720**	**1100**	160
Dissolved Cadmium (Cd)	ug/L	0.2	5				3	0.29	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090
Dissolved Calcium (Ca)	ug/L							490000	150000	140000	87000	92000	88000	80000	86000	86000	81000	82000	88000	83000	98000	100000	43000	190000	330000	400000	130000
Dissolved Chromium (Cr)	ug/L	1 CrVI or 8.9 CrIII	50				50	0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Dissolved Cobalt (Co)	ug/L	1					4	7.1	0.56	<0.50	<0.50	**7.1**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	**1.6**	<0.50	<0.50	0.6	**1.1**	**1.1**
Dissolved Copper (Cu)	ug/L	5			1000		87	9.3	<0.90	<0.90	<0.90	**9.3**	1.6	0.95	2.1	0.94	<0.90	<0.90	1.1	<0.90	1.2	4	2.1	**6.9**	1.3	<0.90	3.4
Dissolved Iron (Fe)	ug/L	300			300			1700	**940**	140	<100	**1700**	110	<100	<100	<100	<100	<100	<100	<100	240	**1500**	<100	**380**	210	**770**	**900**
Dissolved Lead (Pb)	ug/L	5	10				10	6.9	0.92	<0.50	<0.50	**6.9**	0.63	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	1.2	**6.7**	<0.50	<0.50	1.1	<0.50	<0.50
Dissolved Magnesium (Mg)	ug/L							94000	22000	21000	20000	23000	21000	18000	22000	21000	30000	29000	25000	24000	30000	30000	22000	39000	51000	51000	30000
Dissolved Manganese (Mn)	ug/L				50			370	62	19	4.4	140	5.9	<2.0	3.9	<2.0	26	16	<2.0	<2.0	17	67	31	120	54	120	61
Dissolved Molybdenum (Mo)	ug/L	40					70	150	1.6	1.5	0.87	<0.50	<0.50	<0.50	<0.50	<0.50	1.5	1.4	<0.50	<0.50	0.64	<0.50	2.8	3	**150**	**49**	8.1
Dissolved Nickel (Ni)	ug/L	25					100	23	2.2	<1.0	1.8	4.6	<1.0	<1.0	<1.0	<1.0	<1.0	1.1	<1.0	<1.0	<1.0	1.7	<1.0	2.9	2	22	23
Dissolved Phosphorus (P)	ug/L	30						130	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	**100**	<100	<100	<100	<100	<100
Dissolved Potassium (K)	ug/L							14000	11000	11000	1700	1800	1600	1300	1500	1600	2400	2400	1100	820	1200	1800	2100	11000	12000	14000	5300
Dissolved Selenium (Se)	ug/L	100	50				10	2.8	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.8	<2.0	<2.0
Dissolved Silicon (Si)	ug/L							11000	4200	3500	3100	3500	2900	2500	2600	2600	3900	3900	4300	3700	4800	11000	6200	4200	5500	5600	4900
Dissolved Silver (Ag)	ug/L	0.1					2	0.19	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090
Dissolved Sodium (Na)	ug/L				200000			240000	42000	39000	32000	33000	51000	33000	17000	19000	26000	28000	6400	3800	25000	24000	10000	54000	220000	240000	17000
Dissolved Strontium (Sr)	ug/L							9800	5800	6900	220	250	180	140	1400	1000	2600	2300	140	130	960	2200	1700	5000	4700	6100	3800
Dissolved Thallium (Tl)	ug/L	0.3					2	0.0855	<0.050	<0.050	<0.050	0.056	<0.050	<0.050	0.065	<0.050	0.056	0.061	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.052	<0.050	<0.050
Dissolved Titanium (Ti)	ug/L							23	7.7	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	7	19	<5.0	<5.0	7.7	<5.0	<5.0
Dissolved Uranium (U)	ug/L	5	20				20	21	0.23	0.18	0.57	0.92	0.22	0.18	0.23	0.24	0.53	0.52	0.14	0.13	0.98	1.5	0.29	0.45	**21**	**9.3**	0.87
Dissolved Vanadium (V)	ug/L	6					6.2	1.7	0.55	<0.50	<0.50	1.2	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	1.6	<0.50	<0.50	0.78	<0.50	<0.50
Dissolved Zinc (Zn)	ug/L	20			5000		1100	180	<5.0	<5.0	<5.0	6.1	<5.0	<5.0	5.5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	14	<5.0	5.9	8.9	5.1	8.6
BTEX & F1 Hydrocarbons																											
Benzene	ug/L	100.00	1				5	0		<0.20	<0.20	<0.20	<0.20	<0.20		<0.20		<0.20	<0.20	<0.20		<0.20		<0.20		<0.20	
Toluene	ug/L	0.80	60		24		24	0.33		<0.20	<0.20	<0.20	<0.20	<0.20		<0.20		<0.20	<0.20	<0.20		<0.20		<0.20		<0.20	
Ethylbenzene	ug/L	8	140		1.6		2.4	0		<0.20	<0.20	<0.20	<0.20	<0.20		<0.20		<0.20	<0.20	<0.20		<0.20		<0.20		<0.20	
o-Xylene	ug/L	40						0		<0.20	<0.20	<0.20	<0.20	<0.20		<0.20		<0.20	<0.20	<0.20		<0.20		<0.20		<0.20	
p+m-Xylene	ug/L	2-m and 30-p						0		<0.40	<0.40	<0.40	<0.40	<0.40		<0.40		<0.40	<0.40	<0.40		<0.40		<0.40		<0.40	
Total Xylenes	ug/L		90		20		300	0		<0.40	<0.40	<0.40	<0.40	<0.40		<0.40		<0.40	<0.40	<0.40		<0.40		<0.40		<0.40	
F1 (C6-C10)	ug/L						750	86		<25	<25	<25	<25	<25		<25		<25	<25	<25		<25		<25		<25	
F1 (C6-C10) - BTEX	ug/L							86		<25	<25	<25	<25	<25		<25		<25	<25	<25		<25		<25		<25	
F2-F4 Hydrocarbons																											
F2 (C10-C16 Hydrocarbons)	ug/L						150	0		<100	<100	<100	<100	<100		<100		<100	<100	<100		<100		<100		<100	
F3 (C16-C34 Hydrocarbons)	ug/L						500	1100		<200	<200	<200	<200	<200		<200		<200	<200	<200		<200		<200		<200	
F4 (C34-C50 Hydrocarbons)	ug/L						500	810		<200	<200	<200	<200	<200		<200		<200	<200	<200		<200		<200		<200	

Notes:
1) PWQO metals standards apply to unfiltered surface water samples. Included here for comparison to filtered groundwater samples.
2) PWQO exceedances bolded.
3) ODWS exceedance highlighted yellow.
4) MECP Table 2 exceednaces cell borders bolded.

Table 2: Groundwater Quality Results by Formation
CBM Caledon Pit / Quarry

	Units	PWQO	Criteria, ODWS				MECP Table 2	MW20-20A	MW20-23A	DUP2	MW20-01B	MW20-06A	MW20-06A	MW20-06B	MW20-07B	MW20-08A	MW20-08A	MW20-08B	MW20-10B	MW20-11A	MW20-11B	MW20-11B	MW20-12A	MW20-12A	MW20-12B	MW20-13B
								23-Jun-21	22-Jun-21	23-Jun-21	22-Jun-21	22-Jun-21	22-Apr-24	22-Jun-21	21-Jun-21	21-Jun-21	22-Apr-24	21-Jun-21	24-Jul-21	24-Jul-21	24-Jul-21	18-Apr-24	24-Jul-21	18-Apr-24	24-Jul-21	24-Jul-21
			MAC	IMAC	AO	OG		Shaley Dolostone or Cabot Head Fm	Shaley Dolostone or Cabot Head Fm	Shaley Dolostone or Cabot Head Fm; MW20-09	Gasport Fm	Gasport Fm	Gasport Fm	Gasport Fm	Gasport Fm	Gasport Fm	Gasport Fm	Gasport Fm	Gasport Fm	Gasport Fm	Gasport Fm	Gasport Fm	Gasport Fm	Gasport Fm	Gasport Fm	Gasport Fm
Physical Tests (Water)																										
Anion Sum	me/L							26.3	28	6.82	8.68	8.04	7.25	6.89	9.08	9.16	8.68	13.1	8.14	6.95	18.3	13.9	6.36	6.47	6.65	4.56
Bicarb. Alkalinity (calc. as CaCO3)	mg/L							180	190	270	250	260	240	230	260	270	260	280	280	250	380	320	260	260	260	190
Calculated TDS	mg/L				500			1700	1900	360	460	440	400	370	500	490	470	720	450	370	1000	780	340	360	350	240
Carb. Alkalinity (calc. as CaCO3)	mg/L							<1.0	1.4	1.9	1.7	2.3	1.9	1.9	3.1	2.9	2.2	2.8	2.7	4.7	3.6	1.6	2.9	1.6	2.9	3.6
Cation Sum	me/L							26.3	31.2	6.57	8.24	8.2	7.66	6.82	9.08	9.23	9.1	13.2	8.41	6.91	19.2	15.1	6.36	7.1	6.78	4.54
Hardness (CaCO3)	mg/L					80-100		1300	1500	310	300	340	320	300	270	330	320	320	370	230	430	370	300	320	300	200
Ion Balance (% Difference)	%							0	5.49	1.87	2.62	1.02	2.7	0.52	0	0.4	2.36	0.69	1.64	0.29	2.27	4.11	0.03	4.67	0.92	0.25
Langelier Index (@ 20C)	N/A							0.952	1.22	0.807	0.753	0.903	0.807	0.82	0.901	0.947	0.836	0.925	0.994	0.959	1.11	0.721	0.942	0.703	0.96	0.806
Langelier Index (@ 4C)	N/A							0.708	0.971	0.558	0.505	0.655	0.558	0.572	0.653	0.699	0.588	0.679	0.746	0.71	0.868	0.474	0.693	0.454	0.712	0.556
Saturation pH (@ 20C)	N/A							6.74	6.67	7.07	7.11	7.07	7.12	7.12	7.19	7.12	7.13	7.1	7.02	7.34	6.89	7	7.14	7.11	7.11	7.5
Saturation pH (@ 4C)	N/A							6.98	6.91	7.32	7.36	7.32	7.37	7.37	7.44	7.37	7.37	7.35	7.26	7.59	7.14	7.24	7.39	7.36	7.36	7.75
Inorganics																										
Total Ammonia-N	mg/L							0.22	0.23	<0.050	<0.050	<0.050	0.052	<0.050	0.28	0.1	0.056	<0.050	<0.050	0.081	<0.050	0	<0.050	0	<0.050	<0.050
Unionized Ammonia	mg/L	0.02						0.0029	0.0047	<0.02	<0.02	<0.02	0.0012	<0.02	0.0092	0.0031	0.0014	<0.02	<0.02	0.0042	<0.02	0.0011	<0.02	0.0010	<0.02	<0.02
Conductivity	umho/cm							2000	2300	610	840	760	720	670	870	900	890	1400	670	670	1800	1400	550	610	600	410
Dissolved Organic Carbon	mg/L				5			<0.40	0.68	0.65	1.2	0.4	0.65	0.81	0.88	0.45	0.89	1.2	0.69	0.61	1	1.4	<0.40	1	0.68	<0.40
Orthophosphate (P)	mg/L							<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
pH	pH	6.5-8.5				6.5-8.5		7.69	7.88	7.88	7.87	7.97	7.93	7.94	8.09	8.07	7.96	8.03	8.01	8.3	8.01	7.72	8.08	7.81	8.07	8.3
Dissolved Sulphate (SO4)	mg/L				500			1100	1100	16	24	26	22	16	20	22	18	17	18	42	37	19	26	27	13	31
Alkalinity (Total as CaCO3)	mg/L	not decreased by >25% of natural concentration				30-500		180	190	270	250	260	240	240	270	270	260	280	280	250	380	320	260	270	260	190
Dissolved Chloride (Cl-)	mg/L				250		790	4.2	13	20	100	66	53	45	100	110	99	240	44	35	350	240	7.4	7.2	35	1.1
Nitrite (N)	mg/L		1.0					<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.013	<0.010	<0.010	<0.010	0.0	<0.010	<0.010
Nitrate (N)	mg/L		10.0					<0.10	<0.10	7.76	3.87	6.44	6.77	8.03	5.2	3.65	3.84	4.31	13.1	0.18	2.73	3.63	4.91	5.45	2.45	<0.10
Nitrate + Nitrite (N)	mg/L							<0.10	<0.10	7.76	3.87	6.44	6.77	8.03	5.2	3.65	3.84	4.31	13.1	0.19	2.73	3.63	4.91	5.48	2.45	<0.10
Metals		[1]																								
Dissolved Aluminum (Al)	ug/L	75				100		26	**79**	7.1	17	**230**	22	63	**92**	**120**	<4.9	6.5	7.8	28	**520**	<4.9	<4.9	**130**	6.1	5.9
Dissolved Antimony (Sb)	ug/L	20		6			6	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dissolved Arsenic (As)	ug/L	100		10			25	4.8	5.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	5.9	<1.0	<1.0	<1.0	1.2	<1.0	2.6
Dissolved Barium (Ba)	ug/L		1000				1000	8.1	14	19	42	30	25	19	34	41	28	31	25	96	61	31	52	69	30	57
Dissolved Beryllium (Be)	ug/L	1100					4	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40
Dissolved Boron (B)	ug/L	200		5000			5000	54	130	<10	17	12	<10	11	19	<10	<10	<10	10	46	15	<10	12	14	<10	56
Dissolved Cadmium (Cd)	ug/L	0.2	5				3	<0.090	**0.2**	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	**0.25**	<0.090	<0.090	<0.090	<0.090	<0.090
Dissolved Calcium (Ca)	ug/L							430000	480000	86000	88000	94000	87000	88000	71000	82000	83000	92000	99000	49000	120000	100000	74000	79000	80000	41000
Dissolved Chromium (Cr)	ug/L	[1] CrVI or 8.9 CrIII	50				50	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Dissolved Cobalt (Co)	ug/L	1					4	<0.50	0.52	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.63	**1.2**	<0.50	<0.50	<0.50	<0.50	<0.50
Dissolved Copper (Cu)	ug/L	5			1000		87	<0.90	3.5	<0.90	1	1	<0.90	1.2	2.8	**5.7**	<0.90	1.6	<0.90	<0.90	**5.3**	1	<0.90	1.2	<0.90	<0.90
Dissolved Iron (Fe)	ug/L	300			300			**620**	**340**	<100	<100	**400**	<100	<100	<100	200	<100	<100	<100	<100	**590**	<100	<100	**680**	<100	110
Dissolved Lead (Pb)	ug/L	5	10				10	<0.50	0.85	<0.50	<0.50	2.3	<0.50	<0.50	<0.50	1.1	<0.50	<0.50	<0.50	<0.50	**5.2**	<0.50	<0.50	2	<0.50	<0.50
Dissolved Magnesium (Mg)	ug/L							54000	71000	24000	19000	27000	24000	19000	22000	30000	29000	22000	29000	26000	33000	27000	28000	29000	23000	25000
Dissolved Manganese (Mn)	ug/L				50			41	62	<2.0	2.2	36	<2.0	3.9	46	15	<2.0	<2.0	<2.0	180	370	<2.0	16	110	7.4	21
Dissolved Molybdenum (Mo)	ug/L	40					70	2	5.4	<0.50	<0.50	<0.50	<0.50	<0.50	5.5	0.56	<0.50	<0.50	<0.50	15	<0.50	<0.50	0.77	2.9	<0.50	2.5
Dissolved Nickel (Ni)	ug/L	25					100	<1.0	5.7	<1.0	<1.0	<1.0	1.1	<1.0	2.8	<1.0	<1.0	<1.0	<1.0	4.3	4.2	<1.0	<1.0	2.5	<1.0	<1.0
Dissolved Phosphorus (P)	ug/L	30						<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
Dissolved Potassium (K)	ug/L							1600	3600	1100	1300	2000	2100	1200	1500	880	970	920	1100	1600	1300	830	3400	3700	1600	1700
Dissolved Selenium (Se)	ug/L	100	50				10	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Dissolved Silicon (Si)	ug/L							6700	6100	4000	2700	3500	3000	2300	3700	3900	3800	2700	4700	4300	5200	3100	4800	5300	4000	6400
Dissolved Silver (Ag)	ug/L	0.1					2	<0.090	**0.11**	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	**0.19**	<0.090	<0.090	<0.090	<0.090	<0.090
Dissolved Sodium (Na)	ug/L				200000			7100	29000	6200	52000	29000	29000	20000	83000	61000	60000	160000	24000	51000	240000	170000	6200	14000	19000	9700
Dissolved Strontium (Sr)	ug/L							8600	7900	140	160	320	310	100	220	230	210	160	150	1100	200	160	330	340	110	960
Dissolved Thallium (Tl)	ug/L	0.3					2	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.079	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dissolved Titanium (Ti)	ug/L							<5.0	<5.0	<5.0	<5.0	11	<5.0	<5.0	<5.0	6.8	<5.0	<5.0	<5.0	<5.0	16	<5.0	<5.0	<5.0	<5.0	<5.0
Dissolved Uranium (U)	ug/L	5	20				20	0.17	0.2	0.14	0.33	0.25	0.18	0.13	1.2	0.88	0.33	0.21	0.14	3.9	1.1	0.3	0.47	0.83	0.24	0.28
Dissolved Vanadium (V)	ug/L	6					6.2	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.77	0.87	<0.50	<0.50	<0.50	<0.50	<0.50
Dissolved Zinc (Zn)	ug/L	20			5000		1100	<5.0	<5.0	<5.0	<5.0	10	<5.0	<5.0	9.5	9.3	<5.0	<5.0	<5.0	<5.0	**29**	<5.0	<5.0	9	<5.0	<5.0
BTEX & F1 Hydrocarbons																										
Benzene	ug/L	100.00	1				5			<0.20	<0.20		<0.20	<0.20	<0.20		<0.20	<0.20	<0.20		<0.20	<0.20		<0.20	<0.20	<0.20
Toluene	ug/L	0.80	60		24		24			<0.20	<0.20		<0.20	<0.20	<0.20		<0.20	<0.20	<0.20		<0.20	<0.20		<0.20	<0.20	0.29
Ethylbenzene	ug/L	8	140		1.6		2.4			<0.20	<0.20		<0.20	<0.20	<0.20		<0.20	<0.20	<0.20		<0.20	<0.20		<0.20	<0.20	<0.20
o-Xylene	ug/L	40								<0.20	<0.20		<0.20	<0.20	<0.20		<0.20	<0.20	<0.20		<0.20	<0.20		<0.20	<0.20	<0.20
p+m-Xylene	ug/L	2-m and 30-p								<0.40	<0.40		<0.40	<0.40	<0.40		<0.40	<0.40	<0.40		<0.40	<0.40		<0.40	<0.40	<0.40
Total Xylenes	ug/L		90		20		300			<0.40	<0.40		<0.40	<0.40	<0.40		<0.40	<0.40	<0.40		<0.40	<0.40		<0.40	<0.40	<0.40
F1 (C6-C10)	ug/L						750			<25	<25		<25	<25	<25		<25	<25	<25		<25	<25		<25	<25	<25
F1 (C6-C10) - BTEX	ug/L									<25	<25		<25	<25	<25		<25	<25	<25		<25	<25		<25	<25	<25
F2-F4 Hydrocarbons																										
F2 (C10-C16 Hydrocarbons)	ug/L						150			<100	<100		<100	<100	<100		<100	<100	<100		<100	<100		<100	<100	<100
F3 (C16-C34 Hydrocarbons)	ug/L						500			<200	<200		<200	<200	360		<200	<200	<200		<200	<200		<200	<200	<200
F4 (C34-C50 Hydrocarbons)	ug/L						500			<200	<200		<200	<200	<200		<200	<200	<200		<200	<200		<200	<200	<200

Notes:
1) PWQO metals standards apply to unfiltered surface water samples. Included here for comparison to filtered groundwater samples.
2) PWQO exceedances bolded.
3) ODWS exceedance highlighted yellow.
4) MECP Table 2 exceednaces cell borders bolded.

Table 2: Groundwater Quality Results by Formation
CBM Caledon Pit / Quarry

	Units	PWQO	Criteria, ODWS				MECP Table 2	MW20-13B	MW20-14B	MW20-14B	MW20-15B	MW20-16A	MW20-16B	MW20-16B	MW20-17B	MW20-17B	MW20-18	MW20_18	MW20-19A	MW20-19B	MW20-20B	MW20-20C	MW20-21A	MW20-21B	MW20-24A	MW20-25A
			MAC	IMAC	AO	OG		18-Apr-24	17-Feb-21	18-Apr-24	25-Jun-21	28-Jun-21	28-Jun-21	16-Apr-24	22-Jun-21	17-Apr-24	22-Jun-21	22-Apr-24	23-Jun-21	23-Jun-21	23-Jun-21	23-Jun-21	28-Jun-21	28-Jun-21	25-Jun-21	25-Jun-21
								Gasport Fm	Gasport Fm	Gasport Fm	Gasport Fm	Gasport Fm	Gasport Fm	Gasport Fm	Gasport Fm	Gasport Fm	Gasport Fm	Gasport Fm	Gasport Fm	Gasport Fm	Gasport Fm	Gasport Fm	Gasport Fm	Gasport Fm	Gasport Fm	Gasport Fm
Physical Tests (Water)																										
Anion Sum	me/L							4.37	6.52	8.85	6.49	5.57	6.43	4.11	7.43	6.81	12	6.88	9.06	7.25	8.64	7.54	27.5	7.21	7.93	29.8
Bicarb. Alkalinity (calc. as CaCO3)	mg/L							190	240	220	210	200	240	190	240	230	260	200	240	260	200	310	200	290	270	180
Calculated TDS	mg/L				500			230	340	500	370	290	350	240	410	390	660	360	490	370	500	380	1800	410	430	2000
Carb. Alkalinity (calc. as CaCO3)	mg/L							1	3.2	1.3	2	3.2	5.2	2.5	2.1	2.2	2.2	1.7	2.1	2.4	1.3	2.2	1.9	4.7	2	<1.0
Cation Sum	me/L							4.56	6.35	9.62	6.63	5.04	6.56	5.31	8.14	7.78	12.1	6.8	8.56	6.66	8.13	7.34	28.6	8.22	8.48	31.6
Hardness (CaCO3)	mg/L					80-100		200	300	330	320	230	180	220	340	330	390	260	420	310	400	340	1400	350	350	1500
Ion Balance (% Difference)	%							2.05	1.28	4.18	1.11	4.96	1.02	12.7	4.54	6.6	0.78	0.53	2.85	4.22	3.03	1.38	2	6.59	3.36	3.01
Langelier Index (@ 20C)	N/A							0.27	0.957	0.569	0.803	0.842	0.822	0.72	0.874	0.882	0.938	0.725	0.806	0.859	0.715	0.904	1.27	1.22	0.78	1.06
Langelier Index (@ 4C)	N/A							0.021	0.708	0.321	0.555	0.593	0.573	0.471	0.626	0.634	0.691	0.476	0.558	0.611	0.467	0.655	1.02	0.97	0.532	0.821
Saturation pH (@ 20C)	N/A							7.49	7.19	7.21	7.21	7.38	7.54	7.43	7.09	7.13	7.01	7.24	7.16	7.14	7.13	6.97	6.73	7.01	7.12	6.7
Saturation pH (@ 4C)	N/A							7.74	7.44	7.46	7.45	7.63	7.78	7.68	7.34	7.38	7.26	7.49	7.4	7.39	7.38	7.22	6.98	7.26	7.37	6.95
Inorganics																										
Total Ammonia-N	mg/L							0	<0.050	<0.050	0.052	0.063	0.23	0.33	<0.050	0	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.085	0.61	0.094	0.11
Unionized Ammonia	mg/L	0.02						0.0019	<0.02	<0.02	0.0014	0.0027	0.0136	0.0123	<0.02	0.0055	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.0023	**0.0272**	0.0020	0.0018
Conductivity	umho/cm							410	600	940	630	520	590	400	730	670	1300	720	780	640	740	660	2100	640	770	2400
Dissolved Organic Carbon	mg/L				5			1	0.65	0.77	0.46	0.66	2.5	0.48	0.67	0.7	1.6	3.7	1.1	0.62	<0.40	4.6	0.92	5.5	2.4	1.1
Orthophosphate (P)	mg/L							<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
pH	pH	6.5-8.5				6.5-8.5		7.76	8.14	7.78	8.01	8.22	8.36	8.15	7.97	8.01	7.95	7.96	7.96	8	7.85	7.88	8	8.23	7.9	7.77
Dissolved Sulphate (SO4)	mg/L				500			28	33	28	110	58	29	8.2	54	52	23	12	190	76	220	15	1100	56	79	1300
Alkalinity (Total as CaCO3)	mg/L	not decreased by >25% of natural concentration				30-500		190	240	220	210	210	250	190	250	230	260	200	250	260	200	310	200	300	270	180
Dissolved Chloride (Cl-)	mg/L				250		790	<1.0	15	120	2.1	8.5	32	2.9	47	39	210	86	7.1	18	4.5	35	15	3.1	31	3.9
Nitrite (N)	mg/L		1.0					<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Nitrate (N)	mg/L		10.0					<0.10	7.35	7.81	<0.10	<0.10	<0.10	<0.10	0.74	0.75	3.04	1.62	<0.10	<0.10	<0.10	0.13	<0.10	<0.10	<0.10	<0.10
Nitrate + Nitrite (N)	mg/L							<0.10	7.35	7.81	<0.10	<0.10	<0.10	<0.10	0.74	0.75	3.04	1.62	<0.10	<0.10	<0.10	0.13	<0.10	<0.10	<0.10	<0.10
Metals		[1]																								
Dissolved Aluminum (Al)	ug/L	75				100		12	5.8	<4.9	<4.9	5.8	6.6	**250**	44	<4.9	15	<4.9	46	6.5	<4.9	**80**	7.4	**500**	**79**	<4.9
Dissolved Antimony (Sb)	ug/L	20		6			6	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dissolved Arsenic (As)	ug/L	100		10			25	5.8	<1.0	<1.0	2	8.2	5.8	6.7	3.8	2.7	<1.0	<1.0	1.3	4.3	5.5	<1.0	14	9.3	<1.0	9.6
Dissolved Barium (Ba)	ug/L		1000				1000	64	38	53	19	42	73	140	55	52	87	37	22	35	14	33	17	130	56	10
Dissolved Beryllium (Be)	ug/L	1100					4	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40
Dissolved Boron (B)	ug/L	200		5000			5000	60	<10	<10	60	53	53	24	26	29	14	<10	35	12	13	16	110	47	31	89
Dissolved Cadmium (Cd)	ug/L	0.2	5				3	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090
Dissolved Calcium (Ca)	ug/L							42000	72000	81000	81000	53000	32000	48000	92000	90000	120000	77000	83000	77000	110000	95000	390000	91000	79000	490000
Dissolved Chromium (Cr)	ug/L	1 CrVI or 8.9 CrIII	50				50	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Dissolved Cobalt (Co)	ug/L	1					4	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dissolved Copper (Cu)	ug/L	5			1000		87	<0.90	1.5	1.6	<0.90	<0.90	<0.90	1.4	<0.90	<0.90	**7.4**	2.7	<0.90	<0.90	<0.90	2	<0.90	3.1	**5.4**	<0.90
Dissolved Iron (Fe)	ug/L	300			300			140	<100	<100	<100	110	<100	**370**	<100	<100	<100	<100	**310**	**380**	180	110	**810**	**1100**	**640**	**460**
Dissolved Lead (Pb)	ug/L	5	10				10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	3	1.4	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	2.1	0.72	<0.50
Dissolved Magnesium (Mg)	ug/L							24000	30000	30000	27000	23000	24000	25000	27000	25000	23000	16000	50000	29000	30000	26000	94000	30000	38000	77000
Dissolved Manganese (Mn)	ug/L				50			27	<2.0	<2.0	16	11	21	26	35	76	16	2.7	7	48	6.7	6	21	41	27	36
Dissolved Molybdenum (Mo)	ug/L	40					70	2.4	0.55	<0.50	2.2	4.6	35	5.7	1.2	0.78	1.4	<0.50	1.6	3.4	2.1	<0.50	4	5.1	20	8.7
Dissolved Nickel (Ni)	ug/L	25					100	<1.0	<1.0	<1.0	<1.0	<1.0	4.1	1.1	1.9	1.6	3.3	<1.0	<1.0	2.2	<1.0	<1.0	<1.0	5.2	1.7	<1.0
Dissolved Phosphorus (P)	ug/L	30						<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
Dissolved Potassium (K)	ug/L							1800	740	990	1600	2100	1600	1600	1400	1400	1800	1300	1700	730	820	1100	3200	1100	1700	2700
Dissolved Selenium (Se)	ug/L	100	50				10	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Dissolved Silicon (Si)	ug/L							6900	3200	2900	6800	5800	5200	7400	5300	5600	3200	2400	3900	2900	7300	4700	6600	10000	5200	5400
Dissolved Silver (Ag)	ug/L	0.1					2	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090
Dissolved Sodium (Na)	ug/L				200000			9400	6500	70000	6500	11000	67000	17000	29000	27000	100000	36000	4400	8800	3300	11000	33000	25000	31000	18000
Dissolved Strontium (Sr)	ug/L							940	91	100	1700	1000	210	230	750	790	200	130	1500	610	2700	150	7100	1200	130	8100
Dissolved Thallium (Tl)	ug/L	0.3					2	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dissolved Titanium (Ti)	ug/L							<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	11	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	23	<5.0	<5.0
Dissolved Uranium (U)	ug/L	5	20				20	0.32	0.31	0.14	0.25	0.67	2.8	2.8	0.61	0.52	0.82	0.37	0.12	0.13	<0.10	0.8	0.2	1.8	0.2	<0.10
Dissolved Vanadium (V)	ug/L	6					6.2	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.72	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	1.2	<0.50	<0.50
Dissolved Zinc (Zn)	ug/L	20			5000		1100	<5.0	<5.0	7.6	<5.0	<5.0	<5.0	11	<5.0	<5.0	8	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	9.8	7.6	<5.0
BTEX & F1 Hydrocarbons																										
Benzene	ug/L	100.00	1				5	<0.20	<0.20	<0.20	<0.20		<0.20	<0.20	<0.20	<0.20	<0.20	<0.20		<0.20	<0.20			<0.20		
Toluene	ug/L	0.80	60		24		24	<0.20	0.23	<0.20	<0.20		0.21	<0.20	<0.20	<0.20	<0.20	<0.20		<0.20	<0.20			<0.20		
Ethylbenzene	ug/L	8	140		1.6		2.4	<0.20	<0.20	<0.20	<0.20		<0.20	<0.20	<0.20	<0.20	<0.20	<0.20		<0.20	<0.20			<0.20		
o-Xylene	ug/L	40						<0.20	<0.20	<0.20	<0.20		<0.20	<0.20	<0.20	<0.20	<0.20	<0.20		<0.20	<0.20			<0.20		
p+m-Xylene	ug/L	2-m and 30-p						<0.40	<0.40	<0.40	<0.40		<0.40	<0.40	<0.40	<0.40	<0.40	<0.40		<0.40	<0.40			<0.40		
Total Xylenes	ug/L		90		20		300	<0.40	<0.40	<0.40	<0.40		<0.40	<0.40	<0.40	<0.40	<0.40	<0.40		<0.40	<0.40			<0.40		
F1 (C6-C10)	ug/L						750	<25	<25	<25	<25		86	<25	<25	<25	<25	<25		<25	<25			<25		
F1 (C6-C10) - BTEX	ug/L							<25	<25	<25	<25		86	<25	<25	<25	<25	<25		<25	<25			<25		
F2-F4 Hydrocarbons																										
F2 (C10-C16 Hydrocarbons)	ug/L						150	<100	<100	<100	<100		<100	<100	<100	<100	<100	<100		<100	<100			<100		
F3 (C16-C34 Hydrocarbons)	ug/L						500	<200	<200	<200	<200		<200	<200	520	270	<200	<200		1100	330			<200		
F4 (C34-C50 Hydrocarbons)	ug/L						500	<200	<200	<200	<200		<200	<200	420	<200	<200	<200		810	<200			<200		

Notes:
1) PWQO metals standards apply to unfiltered surface water samples. Included here for comparison to filtered groundwater samples.
2) PWQO exceedances bolded.
3) ODWS exceedance highlighted yellow.
4) MECP Table 2 exceednaces cell borders bolded.

Table 2: Groundwater Quality Results by Formation
CBM Caledon Pit / Quarry

	Units	PWQO	Criteria, ODWS				MECP Table 2	MW20-26A	MW20-28A	MW20-28B	MW21-1-1	MW21-2-2	MW21-3-3	MW21-4-1	DUP 1	DUP1	DUP3	DUP4	MW20-22A	MW20-22B	MW20-23B	MW20-24B	MW20-25B	MW20-26B	MW20-27A	MW20-27B
			MAC	IMAC	AO	OG		24-Jun-21	24-Jun-21	24-Jun-21	16-Apr-24	22-Apr-24	23-Apr-24	15-Apr-24	15-Apr-24	22-Jun-21	24-Jun-21	24-Jun-21	23-Jun-21	23-Jun-21	22-Jun-21	25-Jun-21	25-Jun-21	24-Jun-21	24-Jun-21	24-Jun-21
								Gasport Fm	Gasport Fm	Gasport Fm	Gasport Fm	Gasport Fm	Gasport Fm	Gasport Fm	Gasport Fm MW21-4-1	Gasport Fm MW20-17B	Gasport Fm MW20-28B	Gasport Fm MW20-12B	Goat Island Fm	Goat Island Fm	Goat Island Fm	Goat Island Fm	Goat Island Fm	Goat Island Fm	Goat Island Fm	Goat Island Fm
Physical Tests (Water)																										
Anion Sum	me/L							22.9	4.78	4.78	6.09	5.02	7.84	6.77	6.86	7.46	4.74	6.65	27	18.7	20.9	11.5	15.5	11.2	22.8	8.56
Bicarb. Alkalinity (calc. as CaCO3)	mg/L							180	200	200	230	180	230	270	270	250	200	260	200	220	210	290	180	200	190	210
Calculated TDS	mg/L				500			1500	250	250	330	280	430	370	370	400	250	350	1700	1200	1300	620	1000	680	1500	490
Carb. Alkalinity (calc. as CaCO3)	mg/L							1.4	3.4	3.1	3.2	1.8	1.8	2.2	2.2	2.1	3.2	2.9	<1.0	1.9	1.1	1.9	1.1	2.2	1.8	2.6
Cation Sum	me/L							23	4.66	4.67	6.57	5.02	8.22	6.96	6.91	7.45	4.67	6.74	25.7	18.9	21	11.9	16.8	11.6	22.3	8.18
Hardness (CaCO3)	mg/L					80-100		1100	220	220	310	250	310	330	330	320	220	290	1300	870	990	500	810	540	1100	370
Ion Balance (% Difference)	%							0.16	1.31	1.2	3.75	0.05	2.4	1.4	0.41	0.05	0.82	0.66	2.53	0.68	0.2	1.67	3.97	1.84	1.09	2.27
Langelier Index (@ 20C)	N/A							1.1	0.853	0.824	0.923	0.711	0.745	0.842	0.845	0.847	0.833	0.954	0.961	1.15	0.979	0.916	0.909	1.04	1.24	0.956
Langelier Index (@ 4C)	N/A							0.85	0.604	0.575	0.674	0.462	0.497	0.594	0.596	0.598	0.583	0.705	0.717	0.902	0.734	0.669	0.663	0.788	0.991	0.708
Saturation pH (@ 20C)	N/A							6.84	7.39	7.39	7.24	7.32	7.17	7.09	7.09	7.11	7.39	7.13	6.73	6.81	6.76	6.93	6.91	7.03	6.77	7.17
Saturation pH (@ 4C)	N/A							7.08	7.64	7.64	7.49	7.57	7.42	7.34	7.34	7.36	7.64	7.38	6.98	7.05	7	7.17	7.15	7.28	7.02	7.42
Inorganics																										
Total Ammonia-N	mg/L							0.09	<0.050	0.051	0.053	<0.050	<0.050	<0.050	<0.050	<0.050	0.053	<0.050	0.07	0.15	0.2	<0.050	0.064	<0.050	0.081	0.1
Unionized Ammonia	mg/L	0.02						0.0021	<0.02	0.0022	0.0020	<0.02	<0.02	<0.02	<0.02	<0.02	0.0023	<0.02	0.0009	0.0036	0.0030	<0.02	0.0011	<0.02	0.0022	0.0036
Conductivity	umho/cm							1900	450	430	570	480	790	620	620	730	430	590	2000	1500	1700	1200	1400	1000	1800	750
Dissolved Organic Carbon	mg/L				5			1.7	<0.40	<0.40	0.56	0.91	0.58	0.64	0.58	0.68	<0.40	0.63	1.2	0.85	0.69	0.63	0.67	1.4	0.68	0.66
Orthophosphate (P)	mg/L							<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
pH	pH	6.5-8.5				6.5-8.5		7.93	8.25	8.21	8.16	8.03	7.92	7.94	7.93	7.96	8.22	8.08	7.69	7.95	7.74	7.84	7.82	8.07	8.01	8.13
Dissolved Sulphate (SO4)	mg/L				500			920	29	29	51	15	29	13	14	53	29	13	1100	650	770	36	570	340	910	200
Alkalinity (Total as CaCO3)	mg/L	not decreased by >25% of natural concentration				30-500		180	210	210	240	180	230	270	270	250	210	260	200	230	210	290	180	200	190	210
Dissolved Chloride (Cl-)	mg/L				250		790	8	1	1	11	10	77	13	13	47	<1.0	36	7.2	24	23	170	2	5	2.1	6.2
Nitrite (N)	mg/L		1.0					<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.01	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Nitrate (N)	mg/L		10.0					<0.10	<0.10	<0.10	<0.10	12.00	6.52	10.60	10.20	0.74	<0.10	2.42	<0.10	0.25	<0.10	0.98	<0.10	<0.10	<0.10	<0.10
Nitrate + Nitrite (N)	mg/L							<0.10	<0.10	<0.10	<0.10	12	6.52	10.6	10.2	0.74	<0.10	2.42	<0.10	0.26	<0.10	0.98	<0.10	<0.10	<0.10	<0.10
Metals		[1]																								
Dissolved Aluminum (Al)	ug/L	75				100		14	20	5.8	<4.9	<4.9	<4.9	<4.9	<4.9	32	7.8	<4.9	9.4	9.7	64	<4.9	<4.9	7.6	<4.9	<4.9
Dissolved Antimony (Sb)	ug/L	20		6			6	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	1.8	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dissolved Arsenic (As)	ug/L	100		10			25	8.7	<1.0	<1.0	3.1	<1.0	<1.0	<1.0	<1.0	3.8	<1.0	<1.0	2.8	11	10	<1.0	<1.0	2.9	5.4	1.9
Dissolved Barium (Ba)	ug/L		1000				1000	12	12	11	99	14	46	23	24	52	10	29	7.7	13	14	120	6.6	20	18	26
Dissolved Beryllium (Be)	ug/L	1100					4	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40
Dissolved Boron (B)	ug/L	200		5000			5000	53	23	22	13	<10	<10	<10	<10	25	21	<10	71	54	48	24	58	30	42	24
Dissolved Cadmium (Cd)	ug/L	0.2	5				3	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	**0.29**	<0.090	<0.090	<0.090	<0.090
Dissolved Calcium (Ca)	ug/L							330000	49000	50000	65000	70000	83000	82000	82000	87000	50000	78000	400000	260000	320000	130000	240000	150000	360000	93000
Dissolved Chromium (Cr)	ug/L	1 CrVI or 8.9 CrIII	50				50	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Dissolved Cobalt (Co)	ug/L	1					4	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.84	0.84	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dissolved Copper (Cu)	ug/L	5		1000			87	<0.90	<0.90	1.6	<0.90	<0.90	<0.90	<0.90	<0.90	<0.90	<0.90	<0.90	<0.90	1	2.6	2.1	<0.90	<0.90	<0.90	<0.90
Dissolved Iron (Fe)	ug/L	300		300				**590**	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	**350**	<100	**1000**	**460**	**330**	150	**690**	**430**
Dissolved Lead (Pb)	ug/L	5	10				10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	1	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dissolved Magnesium (Mg)	ug/L							70000	23000	23000	37000	18000	25000	31000	31000	24000	23000	24000	62000	57000	46000	45000	53000	42000	49000	33000
Dissolved Manganese (Mn)	ug/L				50			43	93	98	13	<2.0	<2.0	<2.0	<2.0	32	100	7.2	39	34	47	20	20	26	34	25
Dissolved Molybdenum (Mo)	ug/L	40					70	8.6	2.4	1.9	0.91	<0.50	<0.50	0.57	0.54	1.2	1.9	<0.50	2.9	24	7.1	1.7	9	8.1	3	11
Dissolved Nickel (Ni)	ug/L	25					100	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.9	<1.0	<1.0	3.9	5.9	4	2.1	<1.0	<1.0	<1.0	<1.0
Dissolved Phosphorus (P)	ug/L	30						<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
Dissolved Potassium (K)	ug/L							2300	1300	1200	1400	380	1100	550	550	1300	1200	1700	2200	2000	820	1300	1800	1600	1700	820
Dissolved Selenium (Se)	ug/L	100	50				10	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Dissolved Silicon (Si)	ug/L							5100	6300	6600	7600	2600	2800	6100	6200	4900	6700	3900	5600	4700	5700	6600	5400	5600	5500	5500
Dissolved Silver (Ag)	ug/L	0.1					2	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090
Dissolved Sodium (Na)	ug/L				200000			18000	5700	6000	5500	1400	46000	6500	6700	25000	6000	19000	14000	32000	23000	41000	11000	17000	10000	18000
Dissolved Strontium (Sr)	ug/L							5700	460	420	150	77	160	100	100	740	420	110	7200	4700	5300	170	4400	2400	9800	3000
Dissolved Thallium (Tl)	ug/L	0.3					2	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dissolved Titanium (Ti)	ug/L							<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	8.8	<5.0	<5.0	<5.0	<5.0	<5.0
Dissolved Uranium (U)	ug/L	5	20				20	0.27	0.38	0.44	1.2	0.12	0.28	1	1	0.58	0.43	0.23	0.22	1.4	0.93	0.7	<0.10	0.86	0.47	1.6
Dissolved Vanadium (V)	ug/L	6					6.2	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	1.2	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dissolved Zinc (Zn)	ug/L	20		5000			1100	14	5.4	11	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	8.1	<5.0	<5.0	<5.0	<5.0	**180**	<5.0	<5.0	<5.0	<5.0
BTEX & F1 Hydrocarbons																										
Benzene	ug/L	100.00	1				5			<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20		<0.20	<0.20	<0.20	<0.20	<0.20		<0.20
Toluene	ug/L	0.80	60		24		24			<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20		0.27	<0.20	<0.20	<0.20	<0.20		<0.20
Ethylbenzene	ug/L	8	140		1.6		2.4			<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20		<0.20	<0.20	<0.20	<0.20	<0.20		<0.20
o-Xylene	ug/L	40								<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20		<0.20	<0.20	<0.20	<0.20	<0.20		<0.20
p+m-Xylene	ug/L	2-m and 30-p								<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40		<0.40	<0.40	<0.40	<0.40	<0.40		<0.40
Total Xylenes	ug/L		90		20		300			<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40		<0.40	<0.40	<0.40	<0.40	<0.40		<0.40
F1 (C6-C10)	ug/L						750			<25	<25	<25	<25	<25	<25	<25	<25	<25		<25	<25	<25	<25	<25		<25
F1 (C6-C10) - BTEX	ug/L									<25	<25	<25	<25	<25	<25	<25	<25	<25		<25	<25	<25	<25	<25		<25
F2-F4 Hydrocarbons																										
F2 (C10-C16 Hydrocarbons)	ug/L						150			<100	<100	<100	<100	<100	<100	<100	<100	<100		<100	<100	<100	<100	<100		<100
F3 (C16-C34 Hydrocarbons)	ug/L						500			<200	<200	<200	<200	<200	<200	410	<200	<200		<200	<200	<200	<200	<200		<200
F4 (C34-C50 Hydrocarbons)	ug/L						500			<200	<200	<200	<200	<200	<200	300	<200	<200		<200	<200	<200	<200	<200		<200

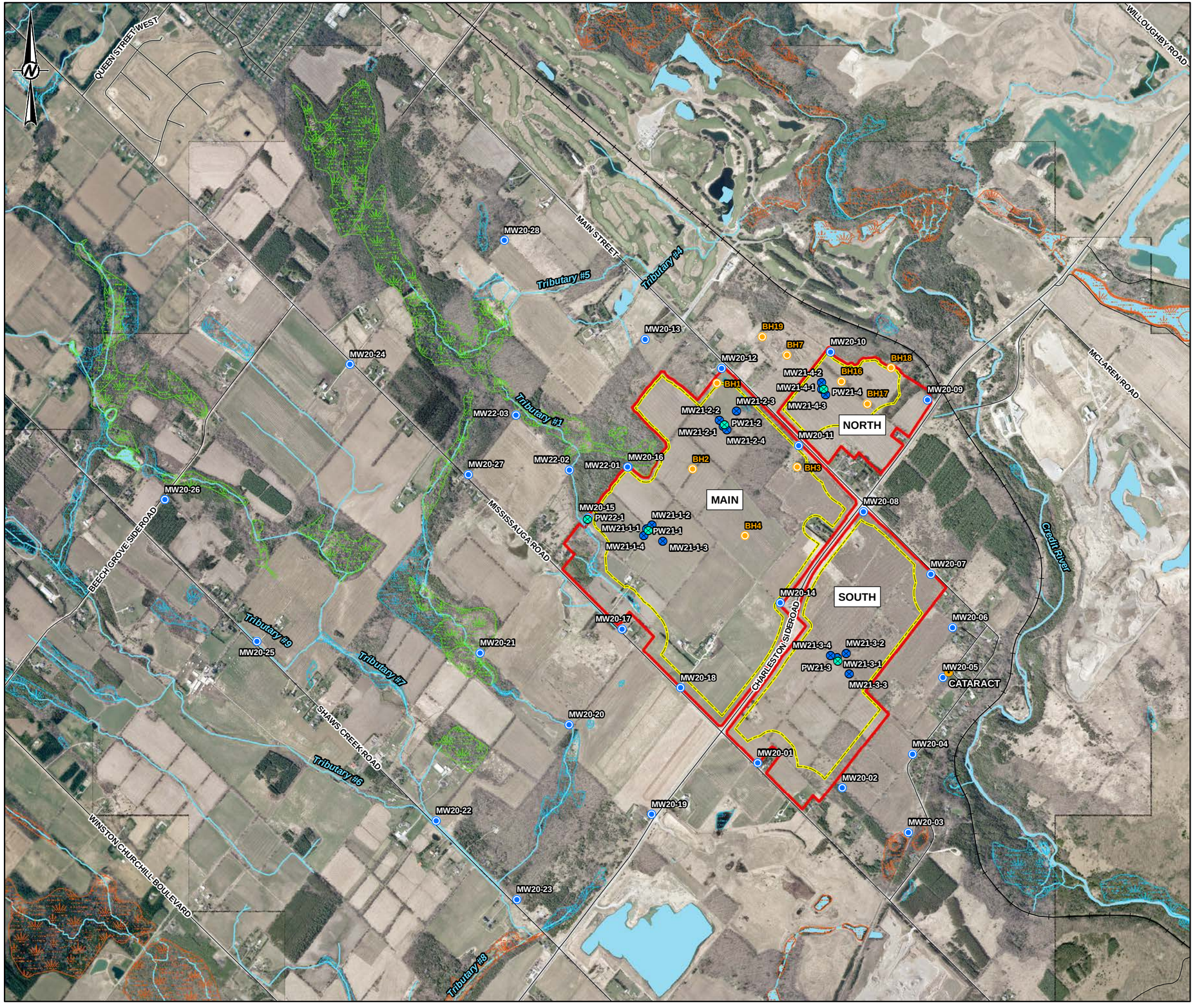
Notes:
1) PWQO metals standards apply to unfiltered surface water samples. Included here for comparison to filtered groundwater samples.
2) PWQO exceedances bolded.
3) ODWS exceedance highlighted yellow.
4) MECP Table 2 exceednaces cell borders bolded.

Table 2: Groundwater Quality Results by Formation
CBM Caledon Pit / Quarry

	Units	PWQO	Criteria, ODWS				MECP Table 2	DUP5	DUP6	MW20-03	MW20-03	MW20-13C	MW20-15C	MW20-23C	MW20-26C	MW22-01	MW22-02C	MW22-03A	DUP 2
								24-Jun-21	25-Jun-21	22-Jun-21	22-Apr-24	24-Jul-21	25-Jun-21	22-Jun-21	24-Jun-21	16-Apr-24	17-Apr-24	17-Apr-24	22-Apr-24
			MAC	IMAC	AO	OG		Goat Island Fm MW20-26B	Goat Island Fm MW20-25B	Overburden	Overburden	Overburden	Overburden	Overburden	Overburden	Overburden	Overburden	Overburden	Overburden MW20-03
Physical Tests (Water)																			
Anion Sum	me/L							11.2	15.8	7.21	6.88	6.69	6.46	6.46	18.7	6.41	4.29	3.5	6.86
Bicarb. Alkalinity (calc. as CaCO3)	mg/L							200	180	270	260	280	290	240	230	230	170	160	250
Calculated TDS	mg/L				500			680	1000	380	370	340	360	340	1000	370	240	180	370
Carb. Alkalinity (calc. as CaCO3)	mg/L							2.1	1	2.3	1.9	5	2.7	2.5	1.3	1.4	3	3.1	1.9
Cation Sum	me/L							11.4	16.9	7.18	7.27	6.72	8.4	6.53	18.7	7.54	4.78	3.57	7.23
Hardness (CaCO3)	mg/L					80-100		530	820	300	310	320	400	280	840	370	180	140	310
Ion Balance (% Difference)	%							1.24	3.44	0.19	2.71	0.16	13	0.48	0.11	8.09	5.43	0.92	2.61
Langelier Index (@ 20C)	N/A							1.02	0.871	0.888	0.828	1.12	0.985	0.921	0.936	0.721	0.572	0.461	0.819
Langelier Index (@ 4C)	N/A							0.772	0.625	0.64	0.58	0.874	0.736	0.672	0.69	0.473	0.323	0.211	0.571
Saturation pH (@ 20C)	N/A							7.04	6.91	7.06	7.06	7.15	7.01	7.14	6.86	7.09	7.72	7.86	7.07
Saturation pH (@ 4C)	N/A							7.28	7.16	7.3	7.31	7.4	7.26	7.39	7.11	7.34	7.97	8.11	7.32
Inorganics																			
Total Ammonia-N	mg/L							0.071	0.078	<0.050	<0.050	0.11	<0.050	<0.050	<0.050	0.069	0.32	0.19	<0.050
Unionized Ammonia	mg/L	0.02						0.0021	0.0013	<0.02	<0.02	0.0054	<0.02	<0.02	<0.02	0.0012	0.0163	0.0103	<0.02
Conductivity	umho/cm							1000	1400	680	660	580	600	630	2000	670	420	330	660
Dissolved Organic Carbon	mg/L				5			1.4	0.66	3	0.7	1.3	0.52	1.6	<0.40	0.78	0.83	1.2	0.82
Orthophosphate (P)	mg/L							<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
pH	pH	6.5-8.5				6.5-8.5		8.05	7.78	7.94	7.89	8.27	7.99	8.06	7.8	7.81	8.29	8.32	7.89
Dissolved Sulphate (SO4)	mg/L				500			340	580	22	17	33	25	23	24	19	34	9.7	17
Alkalinity (Total as CaCO3)	mg/L	not decreased by >25% of natural concentration				30-500		200	180	280	260	290	290	240	230	240	170	160	250
Dissolved Chloride (Cl-)	mg/L				250		790	4.2	1.5	40	41	3	3.4	39	490	26	7.6	1.8	42
Nitrite (N)	mg/L		1.0					<0.010	<0.010	0.016	<0.010	0.133	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Nitrate (N)	mg/L		10.0					<0.10	<0.10	1.85	2.94	1.76	<0.10	1.39	0.12	7.92	<0.10	<0.10	2.99
Nitrate + Nitrite (N)	mg/L							<0.10	<0.10	1.86	2.94	1.89	<0.10	1.39	0.12	7.92	<0.10	<0.10	2.99
Metals		[1]																	
Dissolved Aluminum (Al)	ug/L	75				100		<4.9	<4.9	40	<4.9	7.7	**600**	<4.9	6.9	<4.9	<4.9	25	<4.9
Dissolved Antimony (Sb)	ug/L	20		6			6	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dissolved Arsenic (As)	ug/L	100		10			25	2.9	<1.0	<1.0	<1.0	<1.0	7.3	<1.0	<1.0	<1.0	14	3.8	<1.0
Dissolved Barium (Ba)	ug/L		1000				1000	21	6.9	75	67	37	170	40	110	44	69	64	68
Dissolved Beryllium (Be)	ug/L	1100					4	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40
Dissolved Boron (B)	ug/L	200		5000			5000	32	47	14	12	27	31	10	<10	<10	66	44	11
Dissolved Cadmium (Cd)	ug/L	0.2	5				3	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090
Dissolved Calcium (Ca)	ug/L							150000	240000	88000	93000	66000	92000	82000	210000	94000	29000	20000	92000
Dissolved Chromium (Cr)	ug/L	1 CrVI or 8.9 CrIII	50				50	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Dissolved Cobalt (Co)	ug/L	1					4	<0.50	<0.50	<0.50	<0.50	0.89	**1.4**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dissolved Copper (Cu)	ug/L	5			1000		87	<0.90	<0.90	<0.90	<0.90	<0.90	4.7	3.2	1	<0.90	<0.90	<0.90	<0.90
Dissolved Iron (Fe)	ug/L	300			300			150	**330**	<100	<100	<100	**1200**	<100	<100	<100	<100	<100	<100
Dissolved Lead (Pb)	ug/L	5	10				10	<0.50	<0.50	<0.50	<0.50	<0.50	3.2	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dissolved Magnesium (Mg)	ug/L							40000	53000	19000	18000	38000	42000	19000	74000	33000	26000	22000	19000
Dissolved Manganese (Mn)	ug/L				50			26	21	120	<2.0	220	130	<2.0	13	<2.0	53	23	<2.0
Dissolved Molybdenum (Mo)	ug/L	40					70	8.1	8.8	7.3	1.7	15	1.4	0.61	0.55	<0.50	**52**	10	1.6
Dissolved Nickel (Ni)	ug/L	25					100	<1.0	<1.0	1.5	<1.0	1.6	2.1	<1.0	<1.0	<1.0	1.2	<1.0	<1.0
Dissolved Phosphorus (P)	ug/L	30						<100	<100	<100	<100	<100	**130**	<100	<100	<100	<100	<100	<100
Dissolved Potassium (K)	ug/L							1500	1800	2100	1700	1200	1700	2600	1100	800	3400	1100	1700
Dissolved Selenium (Se)	ug/L	100	50				10	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Dissolved Silicon (Si)	ug/L							5500	5400	4100	3900	3300	8500	2900	6900	6700	7200	6100	3900
Dissolved Silver (Ag)	ug/L	0.1					2	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090
Dissolved Sodium (Na)	ug/L				200000			17000	11000	26000	25000	6100	5100	19000	45000	2600	25000	16000	25000
Dissolved Strontium (Sr)	ug/L							2300	4600	190	170	250	430	150	320	150	340	460	170
Dissolved Thallium (Tl)	ug/L	0.3					2	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dissolved Titanium (Ti)	ug/L							<5.0	<5.0	7.3	<5.0	<5.0	18	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Dissolved Uranium (U)	ug/L	5	20				20	0.87	<0.10	0.77	0.57	1.2	1.2	0.71	0.52	0.36	0.31	0.11	0.55
Dissolved Vanadium (V)	ug/L	6					6.2	<0.50	<0.50	<0.50	<0.50	0.55	1.7	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dissolved Zinc (Zn)	ug/L	20			5000		1100	<5.0	<5.0	<5.0	<5.0	<5.0	13	8.9	<5.0	<5.0	<5.0	<5.0	<5.0
BTEX & F1 Hydrocarbons																			
Benzene	ug/L	100.00	1				5	<0.20	<0.20	<0.20	<0.20					<0.20	<0.20	<0.20	<0.20
Toluene	ug/L	0.80	60		24		24	<0.20	<0.20	<0.20	<0.20					0.33	0.23	<0.20	<0.20
Ethylbenzene	ug/L	8	140		1.6		2.4	<0.20	<0.20	<0.20	<0.20					<0.20	<0.20	<0.20	<0.20
o-Xylene	ug/L	40						<0.20	<0.20	<0.20	<0.20					<0.20	<0.20	<0.20	<0.20
p+m-Xylene	ug/L	2-m and 30-p						<0.40	<0.40	<0.40	<0.40					<0.40	<0.40	<0.40	<0.40
Total Xylenes	ug/L		90		20		300	<0.40	<0.40	<0.40	<0.40					<0.40	<0.40	<0.40	<0.40
F1 (C6-C10)	ug/L						750	<25	<25	<25	<25					<25	<25	<25	<25
F1 (C6-C10) - BTEX	ug/L							<25	<25	<25	<25					<25	<25	<25	<25
F2-F4 Hydrocarbons																			
F2 (C10-C16 Hydrocarbons)	ug/L						150	<100	<100	<100	<100					<100	<100	<100	<100
F3 (C16-C34 Hydrocarbons)	ug/L						500	<200	<200	<200	<200					<200	<200	<200	<200
F4 (C34-C50 Hydrocarbons)	ug/L						500	<200	<200	<200	<200					<200	<200	<200	<200

Notes:
1) PWQO metals standards apply to unfiltered surface water samples. Included here for comparison to filtered groundwater samples.
2) PWQO exceedances bolded.
3) ODWS exceedance highlighted yellow.
4) MECP Table 2 exceednaces cell borders bolded.

FIGURES



LEGEND

- TOWN/VILLAGE
- MONITORING WELL
- MONITORING WELL (PUMPING TEST)
- TEST WELL
- HISTORICAL MONITORING WELL
- ROAD
- RAILWAY
- WATERCOURSE
- WATERBODY
- UNEVALUATED WETLAND
- OTHER EVALUATED WETLAND
- PROVINCIALLY SIGNIFICANT WETLAND
- LICENCE BOUNDARY
- LIMIT OF EXTRACTION

0 500 1,000

1:20,000 METRES

REFERENCE(S)

1. BASE DATA MNRF LIO OBTAINED 2020
2. WATERCOURSES OBTAINED FROM CREDIT VALLEY CONSERVATION AUTHORITY OPEN DATA PORTAL, NOVEMBER 2022 IN COMBINATION WITH SITE WATERCOURSE SURVEY PROVIDED BY FIRST BASE SOLUTIONS NOVEMBER 2021..
3. IMAGERY FIRSTBASE SOLUTIONS SPRING 2019 (15CM RESOLUTION) AND SOURCES: ESRI, HERE, GARMIN, INTERMAP, INCREMENT P CORP., GEBCO, USGS, FAO, NPS, NRCAN, GEOBASE, IGN, KADASTER NL, ORDNANCE SURVEY, ESRI JAPAN, METI, ESRI CHINA (HONG KONG), (C) OPENSTREETMAP CONTRIBUTORS, AND THE GIS USER COMMUNITY
SOURCE: ESRI, MAXAR, EARTHSTAR GEOGRAPHICS, AND THE GIS USER COMMUNITY
4. LICENSE AND EXTRACTION LIMIT PROVIDED BY MHBC IN JUNE 2023.
5. PROJECTION: TRANSVERSE MERCATOR DATUM: NAD 83 COORDINATE SYSTEM: UTM ZONE 17N

CLIENT
CBM AGGREGATES, A DIVISION OF ST. MARYS CEMENT INC. (CANADA).

PROJECT
CALEDON PIT / QUARRY

TITLE
WELL LOCATIONS - GROUNDWATER MONITORING AND AQUIFER TESTING PROGRAM

CONSULTANT

wsp

YYYY-MM-DD	2024-10-11
DESIGNED	CGE
PREPARED	SO
REVIEWED	GWS
APPROVED	HM

PROJECT NO.	CONTROL	REV.	FIGURE
19129150	0036	0.0	1

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

0 25mm

PATH: S:\Clients\Votorantim_Cimentos\Long_Par_5_Caledon\99_PRO\3191291509\40_PROD\0067_SW_GW_TM\19129150-0036-CH-0001.mxd PRINTED ON: 2024-10-11 AT: 11:27:36 AM

APPENDIX A

Chain of Custody / Certificates of Analysis

Your Project #: CA-GLD-19129150
Site Location: 1451 CHARTERTON SIDE ROAD, CALEDON, ON
Your C.O.C. #: C#984504-03-01

Attention: Paul Menkveld

WSP Canada Inc.
210 Sheldon Drive
Cambridge, ON
CANADA N1T 1A8

Report Date: 2024/04/19
Report #: R8114898
Version: 2 - Revision

CERTIFICATE OF ANALYSIS – REVISED REPORT

BUREAU VERITAS JOB #: C4B2000
Received: 2024/04/16, 08:00

Sample Matrix: Water
Samples Received: 4

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Alkalinity	4	N/A	2024/04/17	CAM SOP-00448	SM 24 2320 B m
Carbonate, Bicarbonate and Hydroxide	4	N/A	2024/04/18	CAM SOP-00102	APHA 4500-CO2 D
Chloride by Automated Colourimetry	4	N/A	2024/04/18	CAM SOP-00463	SM 24 4500-Cl E m
Conductivity	4	N/A	2024/04/17	CAM SOP-00414	SM 24 2510 m
Dissolved Organic Carbon (DOC) (1)	4	N/A	2024/04/17	CAM SOP-00446	SM 24 5310 B m
Petroleum Hydro. CCME F1 & BTEX in Water	4	N/A	2024/04/17	CAM SOP-00315	CCME PHC-CWS m
Petroleum Hydrocarbons F2-F4 in Water (2)	4	2024/04/17	2024/04/17	CAM SOP-00316	CCME PHC-CWS m
Hardness (calculated as CaCO3)	4	N/A	2024/04/17	CAM SOP 00102/00408/00447	SM 2340 B
Dissolved Metals by ICPMS	4	N/A	2024/04/17	CAM SOP-00447	EPA 6020B m
Ion Balance (% Difference)	4	N/A	2024/04/18		
Anion and Cation Sum	4	N/A	2024/04/18		
Total Ammonia-N	4	N/A	2024/04/17	CAM SOP-00441	USGS I-2522-90 m
Nitrate & Nitrite as Nitrogen in Water (3)	4	N/A	2024/04/17	CAM SOP-00440	SM 24 4500-NO3I/NO2B
pH (4)	4	2024/04/17	2024/04/17	CAM SOP-00413	SM 24th - 4500H+ B
Orthophosphate	4	N/A	2024/04/18	CAM SOP-00461	SM 24 4500-P E
Sat. pH and Langelier Index (@ 20C)	4	N/A	2024/04/18		Auto Calc
Sat. pH and Langelier Index (@ 4C)	4	N/A	2024/04/18		Auto Calc
Sulphate by Automated Turbidimetry	4	N/A	2024/04/18	CAM SOP-00464	SM 24 4500-SO42- E m
Total Dissolved Solids (TDS calc)	4	N/A	2024/04/18		Auto Calc

Remarks:

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, EPA, APHA or the Quebec Ministry of Environment.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or

Your Project #: CA-GLD-19129150
Site Location: 1451 CHARTERTON SIDE ROAD, CALEDON, ON
Your C.O.C. #: C#984504-03-01

Attention: Paul Menkveld

WSP Canada Inc.
210 Sheldon Drive
Cambridge, ON
CANADA N1T 1A8

Report Date: 2024/04/19
Report #: R8114898
Version: 2 - Revision

CERTIFICATE OF ANALYSIS – REVISED REPORT

BUREAU VERITAS JOB #: C4B2000
Received: 2024/04/16, 08:00

implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.
This Certificate shall not be reproduced except in full, without the written approval of the laboratory.
Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.
(1) Dissolved Organic Carbon (DOC) present in the sample should be considered as non-purgeable DOC.
(2) All CCME PHC results met required criteria unless otherwise stated in the report. The CWS PHC methods employed by Bureau Veritas conform to all prescribed elements of the reference method and performance based elements have been validated. All modifications have been validated and proven equivalent following "Alberta Environment's Interpretation of the Reference Method for the Canada-Wide Standard for Petroleum Hydrocarbons in Soil Validation of Performance-Based Alternative Methods September 2003". Documentation is available upon request. Modifications from Reference Method for the Canada-wide Standard for Petroleum Hydrocarbons in Soil-Tier 1 Method: F2/F3/F4 data reported using validated cold solvent extraction instead of Soxhlet extraction.
(3) Values for calculated parameters may not appear to add up due to rounding of raw data and significant figures.
(4) "The CCME method and Analytical Protocol (O. Reg 153/04, O. Reg. 406/19) requires pH to be analyzed within 15 minutes of sampling and therefore field analysis is required for compliance. All Laboratory pH analyses in this report are reported past the CCME and Analytical Protocol (O. Reg 153/04, O. Reg. 406/19) holding time. Bureau Veritas endeavors to analyze samples as soon as possible after receipt."

Encryption Key

Please direct all questions regarding this Certificate of Analysis to:
Ankita Bhalla, Project Manager
Email: Ankita.Bhalla@bureauveritas.com
Phone# (905) 817-5700
==========
Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation, please refer to the Validation Signatures page if included, otherwise available by request. For Department specific Analyst/Supervisor validation names, please refer to the Test Summary section if included, otherwise available by request. This report is authorized by Rodney Major, General Manager responsible for Ontario Environmental laboratory operations.

Bureau Veritas Job #: C4B2000
Report Date: 2024/04/19

WSP Canada Inc.
Client Project #: CA-GLD-19129150
Site Location: 1451 CHARTERTON SIDE ROAD, CALEDON, ON
Sampler Initials: RN

RCAP - COMPREHENSIVE (WATER)

Bureau Veritas ID		YXG478	YXG479	YXG480	YXG481		
Sampling Date		2024/04/15 15:30	2024/04/15 15:30	2024/04/15	2024/04/15 17:30		
COC Number		C#984504-03-01	C#984504-03-01	C#984504-03-01	C#984504-03-01		
	UNITS	MW20-09	MW21-4-1	DUP 1	MW20-10A	RDL	QC Batch
Calculated Parameters							
Anion Sum	me/L	6.05	6.77	6.86	7.85	N/A	9336475
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	230	270	270	280	1.0	9336471
Calculated TDS	mg/L	330	370	370	450	1.0	9335422
Carb. Alkalinity (calc. as CaCO3)	mg/L	1.5	2.2	2.2	1.9	1.0	9336471
Cation Sum	me/L	6.30	6.96	6.91	8.78	N/A	9336475
Hardness (CaCO3)	mg/L	310	330	330	380	1.0	9335517
Ion Balance (% Difference)	%	2.02	1.40	0.410	5.54	N/A	9336474
Langelier Index (@ 20C)	N/A	0.684	0.842	0.845	0.862		9336472
Langelier Index (@ 4C)	N/A	0.435	0.594	0.596	0.613		9336473
Saturation pH (@ 20C)	N/A	7.14	7.09	7.09	7.01		9336472
Saturation pH (@ 4C)	N/A	7.39	7.34	7.34	7.26		9336473
Inorganics							
Total Ammonia-N	mg/L	<0.050	<0.050	<0.050	<0.050	0.050	9338622
Conductivity	umho/cm	560	620	620	740	1.0	9338032
Dissolved Organic Carbon	mg/L	0.88	0.64	0.58	0.80	0.40	9338294
Orthophosphate (P)	mg/L	<0.010	<0.010	<0.010	<0.010	0.010	9339201
pH	pH	7.82	7.94	7.93	7.87		9338034
Dissolved Sulphate (SO4)	mg/L	15	13	14	19	1.0	9339203
Alkalinity (Total as CaCO3)	mg/L	240	270	270	280	1.0	9338028
Dissolved Chloride (Cl-)	mg/L	15	13	13	40	1.0	9339202
Nitrite (N)	mg/L	<0.010	<0.010	<0.010	<0.010	0.010	9337993
Nitrate (N)	mg/L	8.29	10.6	10.2	10.3	0.10	9337993
Nitrate + Nitrite (N)	mg/L	8.29	10.6	10.2	10.3	0.10	9337993
Metals							
Dissolved Aluminum (Al)	ug/L	<4.9	<4.9	<4.9	1100	4.9	9337144
Dissolved Antimony (Sb)	ug/L	<0.50	<0.50	<0.50	<0.50	0.50	9337144
Dissolved Arsenic (As)	ug/L	<1.0	<1.0	<1.0	3.5	1.0	9337144
Dissolved Barium (Ba)	ug/L	15	23	24	64	2.0	9337144
Dissolved Beryllium (Be)	ug/L	<0.40	<0.40	<0.40	<0.40	0.40	9337144
Dissolved Boron (B)	ug/L	<10	<10	<10	13	10	9337144

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
N/A = Not Applicable

Bureau Veritas 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvna.com

Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

Bureau Veritas Job #: C4B2000
Report Date: 2024/04/19

WSP Canada Inc.
Client Project #: CA-GLD-19129150
Site Location: 1451 CHARTERTON SIDE ROAD, CALEDON, ON
Sampler Initials: RN

RCAP - COMPREHENSIVE (WATER)

Bureau Veritas ID		YXG478	YXG479	YXG480	YXG481		
Sampling Date		2024/04/15 15:30	2024/04/15 15:30	2024/04/15	2024/04/15 17:30		
COC Number		C#984504-03-01	C#984504-03-01	C#984504-03-01	C#984504-03-01		
	UNITS	MW20-09	MW21-4-1	DUP 1	MW20-10A	RDL	QC Batch
Dissolved Cadmium (Cd)	ug/L	<0.090	<0.090	<0.090	<0.090	0.090	9337144
Dissolved Calcium (Ca)	ug/L	83000	82000	82000	100000	200	9337144
Dissolved Chromium (Cr)	ug/L	<5.0	<5.0	<5.0	<5.0	5.0	9337144
Dissolved Cobalt (Co)	ug/L	<0.50	0.84	0.84	1.6	0.50	9337144
Dissolved Copper (Cu)	ug/L	<0.90	<0.90	<0.90	4.0	0.90	9337144
Dissolved Iron (Fe)	ug/L	<100	<100	<100	1500	100	9337144
Dissolved Lead (Pb)	ug/L	<0.50	<0.50	<0.50	6.7	0.50	9337144
Dissolved Magnesium (Mg)	ug/L	24000	31000	31000	30000	50	9337144
Dissolved Manganese (Mn)	ug/L	<2.0	<2.0	<2.0	67	2.0	9337144
Dissolved Molybdenum (Mo)	ug/L	<0.50	0.57	0.54	<0.50	0.50	9337144
Dissolved Nickel (Ni)	ug/L	<1.0	<1.0	<1.0	1.7	1.0	9337144
Dissolved Phosphorus (P)	ug/L	<100	<100	<100	100	100	9337144
Dissolved Potassium (K)	ug/L	820	550	550	1800	200	9337144
Dissolved Selenium (Se)	ug/L	<2.0	<2.0	<2.0	<2.0	2.0	9337144
Dissolved Silicon (Si)	ug/L	3700	6100	6200	11000	50	9337144
Dissolved Silver (Ag)	ug/L	<0.090	<0.090	<0.090	<0.090	0.090	9337144
Dissolved Sodium (Na)	ug/L	3800	6500	6700	24000	100	9337144
Dissolved Strontium (Sr)	ug/L	130	100	100	2200	1.0	9337144
Dissolved Thallium (Tl)	ug/L	<0.050	<0.050	<0.050	<0.050	0.050	9337144
Dissolved Titanium (Ti)	ug/L	<5.0	<5.0	<5.0	19	5.0	9337144
Dissolved Uranium (U)	ug/L	0.13	1.0	1.0	1.5	0.10	9337144
Dissolved Vanadium (V)	ug/L	<0.50	<0.50	<0.50	1.6	0.50	9337144
Dissolved Zinc (Zn)	ug/L	<5.0	<5.0	<5.0	14	5.0	9337144

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Bureau Veritas Job #: C4B2000
Report Date: 2024/04/19

WSP Canada Inc.
Client Project #: CA-GLD-19129150
Site Location: 1451 CHARTERTON SIDE ROAD, CALEDON, ON
Sampler Initials: RN

O.REG 153 PHCS, BTEX/F1-F4 (WATER)

Bureau Veritas ID		YXG478	YXG479	YXG480	YXG481		
Sampling Date		2024/04/15 15:30	2024/04/15 15:30	2024/04/15	2024/04/15 17:30		
COC Number		C#984504-03-01	C#984504-03-01	C#984504-03-01	C#984504-03-01		
	UNITS	MW20-09	MW21-4-1	DUP 1	MW20-10A	RDL	QC Batch
BTEX & F1 Hydrocarbons							
Benzene	ug/L	<0.20	<0.20	<0.20	<0.20	0.20	9337877
Toluene	ug/L	<0.20	<0.20	<0.20	<0.20	0.20	9337877
Ethylbenzene	ug/L	<0.20	<0.20	<0.20	<0.20	0.20	9337877
o-Xylene	ug/L	<0.20	<0.20	<0.20	<0.20	0.20	9337877
p+m-Xylene	ug/L	<0.40	<0.40	<0.40	<0.40	0.40	9337877
Total Xylenes	ug/L	<0.40	<0.40	<0.40	<0.40	0.40	9337877
F1 (C6-C10)	ug/L	<25	<25	<25	<25	25	9337877
F1 (C6-C10) - BTEX	ug/L	<25	<25	<25	<25	25	9337877
F2-F4 Hydrocarbons							
F2 (C10-C16 Hydrocarbons)	ug/L	<100	<100	<100	<100	100	9337932
F3 (C16-C34 Hydrocarbons)	ug/L	<200	<200	<200	<200	200	9337932
F4 (C34-C50 Hydrocarbons)	ug/L	<200	<200	<200	<200	200	9337932
Reached Baseline at C50	ug/L	Yes	Yes	Yes	Yes		9337932
Surrogate Recovery (%)							
1,4-Difluorobenzene	%	101	99	101	99		9337877
4-Bromofluorobenzene	%	96	94	94	95		9337877
D10-o-Xylene	%	94	97	97	94		9337877
D4-1,2-Dichloroethane	%	108	99	99	102		9337877
o-Terphenyl	%	102	106	104	103		9337932

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

Bureau Veritas Job #: C4B2000
Report Date: 2024/04/19

WSP Canada Inc.
Client Project #: CA-GLD-19129150
Site Location: 1451 CHARTERTON SIDE ROAD, CALEDON, ON
Sampler Initials: RN

TEST SUMMARY

Bureau Veritas ID: YXG478
Sample ID: MW20-09
Matrix: Water

Collected: 2024/04/15
Shipped:
Received: 2024/04/16

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	9338028	N/A	2024/04/17	Nachiketa Gohil
Carbonate, Bicarbonate and Hydroxide	CALC	9336471	N/A	2024/04/18	Automated Statchk
Chloride by Automated Colourimetry	SKAL	9339202	N/A	2024/04/18	Massarat Jan
Conductivity	AT	9338032	N/A	2024/04/17	Kien Tran
Dissolved Organic Carbon (DOC)	TOCV/NDIR	9338294	N/A	2024/04/17	Gyulshen Idriz
Petroleum Hydro. CCME F1 & BTEX in Water	HSGC/MSFD	9337877	N/A	2024/04/17	Lincoln Ramdahin
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	9337932	2024/04/17	2024/04/17	Ksenia Trofimova
Hardness (calculated as CaCO3)		9335517	N/A	2024/04/17	Automated Statchk
Dissolved Metals by ICPMS	ICP/MS	9337144	N/A	2024/04/17	Arefa Dabhad
Ion Balance (% Difference)	CALC	9336474	N/A	2024/04/18	Automated Statchk
Anion and Cation Sum	CALC	9336475	N/A	2024/04/18	Automated Statchk
Total Ammonia-N	LACH/NH4	9338622	N/A	2024/04/17	Shivani Shivani
Nitrate & Nitrite as Nitrogen in Water	LACH	9337993	N/A	2024/04/17	Jinal Chavda
pH	AT	9338034	2024/04/17	2024/04/17	Nachiketa Gohil
Orthophosphate	KONE	9339201	N/A	2024/04/18	Massarat Jan
Sat. pH and Langelier Index (@ 20C)	CALC	9336472	N/A	2024/04/18	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	9336473	N/A	2024/04/18	Automated Statchk
Sulphate by Automated Turbidimetry	SKAL	9339203	N/A	2024/04/18	Massarat Jan
Total Dissolved Solids (TDS calc)	CALC	9335422	N/A	2024/04/18	Automated Statchk

Bureau Veritas ID: YXG479
Sample ID: MW21-4-1
Matrix: Water

Collected: 2024/04/15
Shipped:
Received: 2024/04/16

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	9338028	N/A	2024/04/17	Nachiketa Gohil
Carbonate, Bicarbonate and Hydroxide	CALC	9336471	N/A	2024/04/18	Automated Statchk
Chloride by Automated Colourimetry	SKAL	9339202	N/A	2024/04/18	Massarat Jan
Conductivity	AT	9338032	N/A	2024/04/17	Kien Tran
Dissolved Organic Carbon (DOC)	TOCV/NDIR	9338294	N/A	2024/04/17	Gyulshen Idriz
Petroleum Hydro. CCME F1 & BTEX in Water	HSGC/MSFD	9337877	N/A	2024/04/17	Lincoln Ramdahin
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	9337932	2024/04/17	2024/04/17	Ksenia Trofimova
Hardness (calculated as CaCO3)		9335517	N/A	2024/04/17	Automated Statchk
Dissolved Metals by ICPMS	ICP/MS	9337144	N/A	2024/04/17	Arefa Dabhad
Ion Balance (% Difference)	CALC	9336474	N/A	2024/04/18	Automated Statchk
Anion and Cation Sum	CALC	9336475	N/A	2024/04/18	Automated Statchk
Total Ammonia-N	LACH/NH4	9338622	N/A	2024/04/17	Shivani Shivani
Nitrate & Nitrite as Nitrogen in Water	LACH	9337993	N/A	2024/04/17	Jinal Chavda
pH	AT	9338034	2024/04/17	2024/04/17	Nachiketa Gohil
Orthophosphate	KONE	9339201	N/A	2024/04/18	Massarat Jan
Sat. pH and Langelier Index (@ 20C)	CALC	9336472	N/A	2024/04/18	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	9336473	N/A	2024/04/18	Automated Statchk
Sulphate by Automated Turbidimetry	SKAL	9339203	N/A	2024/04/18	Massarat Jan
Total Dissolved Solids (TDS calc)	CALC	9335422	N/A	2024/04/18	Automated Statchk

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

Bureau Veritas Job #: C4B2000
Report Date: 2024/04/19

WSP Canada Inc.
Client Project #: CA-GLD-19129150
Site Location: 1451 CHARTERTON SIDE ROAD, CALEDON, ON
Sampler Initials: RN

TEST SUMMARY

Bureau Veritas ID: YXG480
Sample ID: DUP 1
Matrix: Water

Collected: 2024/04/15
Shipped:
Received: 2024/04/16

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	9338028	N/A	2024/04/17	Nachiketa Gohil
Carbonate, Bicarbonate and Hydroxide	CALC	9336471	N/A	2024/04/18	Automated Statchk
Chloride by Automated Colourimetry	SKAL	9339202	N/A	2024/04/18	Massarat Jan
Conductivity	AT	9338032	N/A	2024/04/17	Kien Tran
Dissolved Organic Carbon (DOC)	TOCV/NDIR	9338294	N/A	2024/04/17	Gyulshen Idriz
Petroleum Hydro. CCME F1 & BTEX in Water	HSGC/MSFD	9337877	N/A	2024/04/17	Lincoln Ramdahin
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	9337932	2024/04/17	2024/04/17	Ksenia Trofimova
Hardness (calculated as CaCO3)		9335517	N/A	2024/04/17	Automated Statchk
Dissolved Metals by ICPMS	ICP/MS	9337144	N/A	2024/04/17	Arefa Dabhad
Ion Balance (% Difference)	CALC	9336474	N/A	2024/04/18	Automated Statchk
Anion and Cation Sum	CALC	9336475	N/A	2024/04/18	Automated Statchk
Total Ammonia-N	LACH/NH4	9338622	N/A	2024/04/17	Shivani Shivani
Nitrate & Nitrite as Nitrogen in Water	LACH	9337993	N/A	2024/04/17	Jinal Chavda
pH	AT	9338034	2024/04/17	2024/04/17	Nachiketa Gohil
Orthophosphate	KONE	9339201	N/A	2024/04/18	Massarat Jan
Sat. pH and Langelier Index (@ 20C)	CALC	9336472	N/A	2024/04/18	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	9336473	N/A	2024/04/18	Automated Statchk
Sulphate by Automated Turbidimetry	SKAL	9339203	N/A	2024/04/18	Massarat Jan
Total Dissolved Solids (TDS calc)	CALC	9335422	N/A	2024/04/18	Automated Statchk

Bureau Veritas ID: YXG481
Sample ID: MW20-10A
Matrix: Water

Collected: 2024/04/15
Shipped:
Received: 2024/04/16

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	9338028	N/A	2024/04/17	Nachiketa Gohil
Carbonate, Bicarbonate and Hydroxide	CALC	9336471	N/A	2024/04/18	Automated Statchk
Chloride by Automated Colourimetry	SKAL	9339202	N/A	2024/04/18	Massarat Jan
Conductivity	AT	9338032	N/A	2024/04/17	Kien Tran
Dissolved Organic Carbon (DOC)	TOCV/NDIR	9338294	N/A	2024/04/17	Gyulshen Idriz
Petroleum Hydro. CCME F1 & BTEX in Water	HSGC/MSFD	9337877	N/A	2024/04/17	Lincoln Ramdahin
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	9337932	2024/04/17	2024/04/17	Ksenia Trofimova
Hardness (calculated as CaCO3)		9335517	N/A	2024/04/17	Automated Statchk
Dissolved Metals by ICPMS	ICP/MS	9337144	N/A	2024/04/17	Arefa Dabhad
Ion Balance (% Difference)	CALC	9336474	N/A	2024/04/18	Automated Statchk
Anion and Cation Sum	CALC	9336475	N/A	2024/04/18	Automated Statchk
Total Ammonia-N	LACH/NH4	9338622	N/A	2024/04/17	Shivani Shivani
Nitrate & Nitrite as Nitrogen in Water	LACH	9337993	N/A	2024/04/17	Jinal Chavda
pH	AT	9338034	2024/04/17	2024/04/17	Nachiketa Gohil
Orthophosphate	KONE	9339201	N/A	2024/04/18	Massarat Jan
Sat. pH and Langelier Index (@ 20C)	CALC	9336472	N/A	2024/04/18	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	9336473	N/A	2024/04/18	Automated Statchk
Sulphate by Automated Turbidimetry	SKAL	9339203	N/A	2024/04/18	Massarat Jan
Total Dissolved Solids (TDS calc)	CALC	9335422	N/A	2024/04/18	Automated Statchk

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	2.7°C

Revised Report [2024/04/19]: Sample ID amended.

Results relate only to the items tested.

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

QUALITY ASSURANCE REPORT

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
9337877	1,4-Difluorobenzene	2024/04/17	98	70 - 130	104	70 - 130	99	%		
9337877	4-Bromofluorobenzene	2024/04/17	99	70 - 130	100	70 - 130	91	%		
9337877	D10-o-Xylene	2024/04/17	102	70 - 130	93	70 - 130	90	%		
9337877	D4-1,2-Dichloroethane	2024/04/17	102	70 - 130	105	70 - 130	105	%		
9337932	o-Terphenyl	2024/04/17	109	60 - 130	107	60 - 130	105	%		
9337144	Dissolved Aluminum (Al)	2024/04/17	105	80 - 120	101	80 - 120	<4.9	ug/L		
9337144	Dissolved Antimony (Sb)	2024/04/17	111	80 - 120	104	80 - 120	<0.50	ug/L		
9337144	Dissolved Arsenic (As)	2024/04/17	101	80 - 120	99	80 - 120	<1.0	ug/L		
9337144	Dissolved Barium (Ba)	2024/04/17	103	80 - 120	103	80 - 120	<2.0	ug/L		
9337144	Dissolved Beryllium (Be)	2024/04/17	100	80 - 120	101	80 - 120	<0.40	ug/L		
9337144	Dissolved Boron (B)	2024/04/17	97	80 - 120	97	80 - 120	<10	ug/L		
9337144	Dissolved Cadmium (Cd)	2024/04/17	105	80 - 120	101	80 - 120	<0.090	ug/L		
9337144	Dissolved Calcium (Ca)	2024/04/17	NC	80 - 120	103	80 - 120	<200	ug/L		
9337144	Dissolved Chromium (Cr)	2024/04/17	97	80 - 120	95	80 - 120	<5.0	ug/L		
9337144	Dissolved Cobalt (Co)	2024/04/17	101	80 - 120	97	80 - 120	<0.50	ug/L	3.3	20
9337144	Dissolved Copper (Cu)	2024/04/17	101	80 - 120	98	80 - 120	<0.90	ug/L		
9337144	Dissolved Iron (Fe)	2024/04/17	103	80 - 120	101	80 - 120	<100	ug/L		
9337144	Dissolved Lead (Pb)	2024/04/17	100	80 - 120	97	80 - 120	<0.50	ug/L		
9337144	Dissolved Magnesium (Mg)	2024/04/17	NC	80 - 120	100	80 - 120	<50	ug/L		
9337144	Dissolved Manganese (Mn)	2024/04/17	99	80 - 120	98	80 - 120	<2.0	ug/L		
9337144	Dissolved Molybdenum (Mo)	2024/04/17	104	80 - 120	97	80 - 120	<0.50	ug/L		
9337144	Dissolved Nickel (Ni)	2024/04/17	98	80 - 120	96	80 - 120	<1.0	ug/L		
9337144	Dissolved Phosphorus (P)	2024/04/17	109	80 - 120	101	80 - 120	<100	ug/L		
9337144	Dissolved Potassium (K)	2024/04/17	104	80 - 120	102	80 - 120	<200	ug/L		
9337144	Dissolved Selenium (Se)	2024/04/17	105	80 - 120	101	80 - 120	<2.0	ug/L		
9337144	Dissolved Silicon (Si)	2024/04/17	106	80 - 120	101	80 - 120	<50	ug/L		
9337144	Dissolved Silver (Ag)	2024/04/17	90	80 - 120	99	80 - 120	<0.090	ug/L		
9337144	Dissolved Sodium (Na)	2024/04/17	NC	80 - 120	100	80 - 120	<100	ug/L		
9337144	Dissolved Strontium (Sr)	2024/04/17	NC	80 - 120	97	80 - 120	<1.0	ug/L		
9337144	Dissolved Thallium (Tl)	2024/04/17	105	80 - 120	102	80 - 120	<0.050	ug/L		
9337144	Dissolved Titanium (Ti)	2024/04/17	105	80 - 120	100	80 - 120	<5.0	ug/L		

Bureau Veritas 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvna.com

Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
9337144	Dissolved Uranium (U)	2024/04/17	104	80 - 120	103	80 - 120	<0.10	ug/L		
9337144	Dissolved Vanadium (V)	2024/04/17	99	80 - 120	94	80 - 120	<0.50	ug/L		
9337144	Dissolved Zinc (Zn)	2024/04/17	99	80 - 120	99	80 - 120	<5.0	ug/L		
9337877	Benzene	2024/04/17	96	50 - 140	101	50 - 140	<0.20	ug/L	NC	30
9337877	Ethylbenzene	2024/04/17	98	50 - 140	92	50 - 140	<0.20	ug/L	NC	30
9337877	F1 (C6-C10) - BTEX	2024/04/17					<25	ug/L	NC	30
9337877	F1 (C6-C10)	2024/04/17	104	60 - 140	98	60 - 140	<25	ug/L	NC	30
9337877	o-Xylene	2024/04/17	96	50 - 140	91	50 - 140	<0.20	ug/L	NC	30
9337877	p+m-Xylene	2024/04/17	94	50 - 140	88	50 - 140	<0.40	ug/L	NC	30
9337877	Toluene	2024/04/17	90	50 - 140	85	50 - 140	<0.20	ug/L	NC	30
9337877	Total Xylenes	2024/04/17					<0.40	ug/L	NC	30
9337932	F2 (C10-C16 Hydrocarbons)	2024/04/17	105	60 - 130	102	60 - 130	<100	ug/L	NC	30
9337932	F3 (C16-C34 Hydrocarbons)	2024/04/17	109	60 - 130	108	60 - 130	<200	ug/L	NC	30
9337932	F4 (C34-C50 Hydrocarbons)	2024/04/17	100	60 - 130	100	60 - 130	<200	ug/L	NC	30
9337993	Nitrate (N)	2024/04/17	102	80 - 120	103	80 - 120	<0.10	mg/L	3.3	20
9337993	Nitrite (N)	2024/04/17	103	80 - 120	103	80 - 120	<0.010	mg/L	NC	20
9338028	Alkalinity (Total as CaCO3)	2024/04/17			106	85 - 115	<1.0	mg/L	1.1	20
9338032	Conductivity	2024/04/17			101	85 - 115	<1.0	umho/cm	0.19	10
9338034	pH	2024/04/17			102	98 - 103			1.6	N/A
9338294	Dissolved Organic Carbon	2024/04/17	95	80 - 120	98	80 - 120	<0.40	mg/L	1.8	20
9338622	Total Ammonia-N	2024/04/17	101	75 - 125	100	80 - 120	<0.050	mg/L	NC	20
9339201	Orthophosphate (P)	2024/04/18	96	75 - 125	95	80 - 120	<0.010	mg/L	NC	20
9339202	Dissolved Chloride (Cl-)	2024/04/18	95	80 - 120	98	80 - 120	<1.0	mg/L	0.61	20

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QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
9339203	Dissolved Sulphate (SO4)	2024/04/18	94	75 - 125	95	80 - 120	<1.0	mg/L	NC	20

N/A = Not Applicable

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

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VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:

Cristina Carriere

Cristina Carriere, Senior Scientific Specialist

Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation, please refer to the Validation Signatures page if included, otherwise available by request. For Department specific Analyst/Supervisor validation names, please refer to the Test Summary section if included, otherwise available by request. This report is authorized by Rodney Major, General Manager responsible for Ontario Environmental laboratory operations.

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6740 Campobello Road, Mississauga, Ontario Canada L5N 2L8 Tel:(905) 817-5700 Toll-free:800-583-6266 Fax:(905) 817-5777 www.bvna.com

NONT-2024-04-1376

INVOICE TO:		REPORT TO:		PROJECT INFORMATION:	
Company Name:	#21375 WSP Canada Inc.	Company Name:		Quotation #:	C41059
Attention:	George Schneider	Attention:	Paul Menkveld	P.O. #:	
Address:	210 Sheldon Drive Cambridge ON N1T 1A8	Address:		Project:	CA-GLD-19129150
Tel:	(519) 620-8182 Fax:	Tel:	226-750-8848 Fax:	Project Name:	
Email:	George_Schneider@golder.com	Email:	paul.menkveld@wsp.com	Site #:	1451 Charterton Sideroad, Caledon, ON
				Sampled By:	Ramin N.Knam

Bottle Order #: 984504

COC #: C#984504-03-01 | Project Manager: Ankita Bhalla

MOE REGULATED DRINKING WATER OR WATER INTENDED FOR HUMAN CONSUMPTION MUST BE SUBMITTED ON THE BUREAU VERITAS DRINKING WATER CHAIN OF CUSTODY

Regulation 153 (2011): ☐ Table 1 ☐ Res/Park ☐ Medium/Fine ☐ Table 2 ☐ Ind/Comm ☐ Coarse ☐ Table 3 ☐ Agri/Other ☐ For RSC ☐ Table ___

Other Regulations: ☐ CCME ☐ Sanitary Sewer Bylaw ☐ Reg 558 ☐ Storm Sewer Bylaw ☐ MISA Municipality ☐ PWQO ☐ Reg 406 Table ☐ Other

Special Instructions

Include Criteria on Certificate of Analysis (Y/N)? Y

Turnaround Time (TAT) Required:
Please provide advance notice for rush projects
Regular (Standard) TAT: ☑
(will be applied if Rush TAT is not specified)
Standard TAT = 5-7 Working days for most tests.
Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.
Job Specific Rush TAT (if applies to entire submission)
Date Required: ___ Time Required: ___ ☐
Rush Confirmation Number: ___ *(call lab for #)*

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Field Filtered (please circle): Metals / Hg / Cr VI	ANALYSIS REQUESTED (PLEASE BE SPECIFIC): RCAp - Comprehensive	O.Reg 153 PHCs, BTEXF1-F4	# of Bottles	Comments
1		~~MW20-09~~ MW20-09	2024/4/15	15:30	GW	✓	✓	✓	8	
2		MW21-4-1	2024/4/15	15:30	GW	✓	✓	✓	8	
3		~~MW20-10~~ MW20-10A	2024/4/15	17:30	GW	✓	✓	✓	8	* couldn't dispense headspace of one Bottles (Lab problem)
4		~~MW22-02~~								
5		~~MW20-03~~								
6		Dup 1	2024/4/15		GW	✓	✓	✓	8	
7		~~Dup 2~~								* All Dissolved metals (Red) Field Filtered
8										
9										
10										

* RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	# jars used and not submitted
Ramin N.Knam	24/4/15	8:20		24/04/16	08:00	

Laboratory Use Only: Time Sensitive | Temperature (°C) on Recei: 2/2/4 | Custody Seal Present ✓ / Intact ✓ | Yes | No

* UNLESS OTHERWISE AGREED TO IN WRITING, WORK SUBMITTED ON THIS CHAIN OF CUSTODY IS SUBJECT TO BUREAU VERITAS'S STANDARD TERMS AND CONDITIONS. SIGNING OF THIS CHAIN OF CUSTODY DOCUMENT IS ACKNOWLEDGMENT AND ACCEPTANCE OF OUR TERMS WHICH ARE AVAILABLE FOR VIEWING AT WWW.BVNA.COM/ENVIRONMENTAL-LABORATORIES/RESOURCES/COC-TERMS-AND-CONDITIONS.

* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

** SAMPLE CONTAINER, PRESERVATION, HOLD TIME AND PACKAGE INFORMATION CAN BE VIEWED AT WWW.BVNA.COM/ENVIRONMENTAL-LABORATORIES/RESOURCES/CHAIN-CUSTODY-FORMS-COCS.

SAMPLES MUST BE KEPT COOL (< 10° C) FROM TIME OF SAMPLING UNTIL DELIVERY TO BUREAU VERITAS

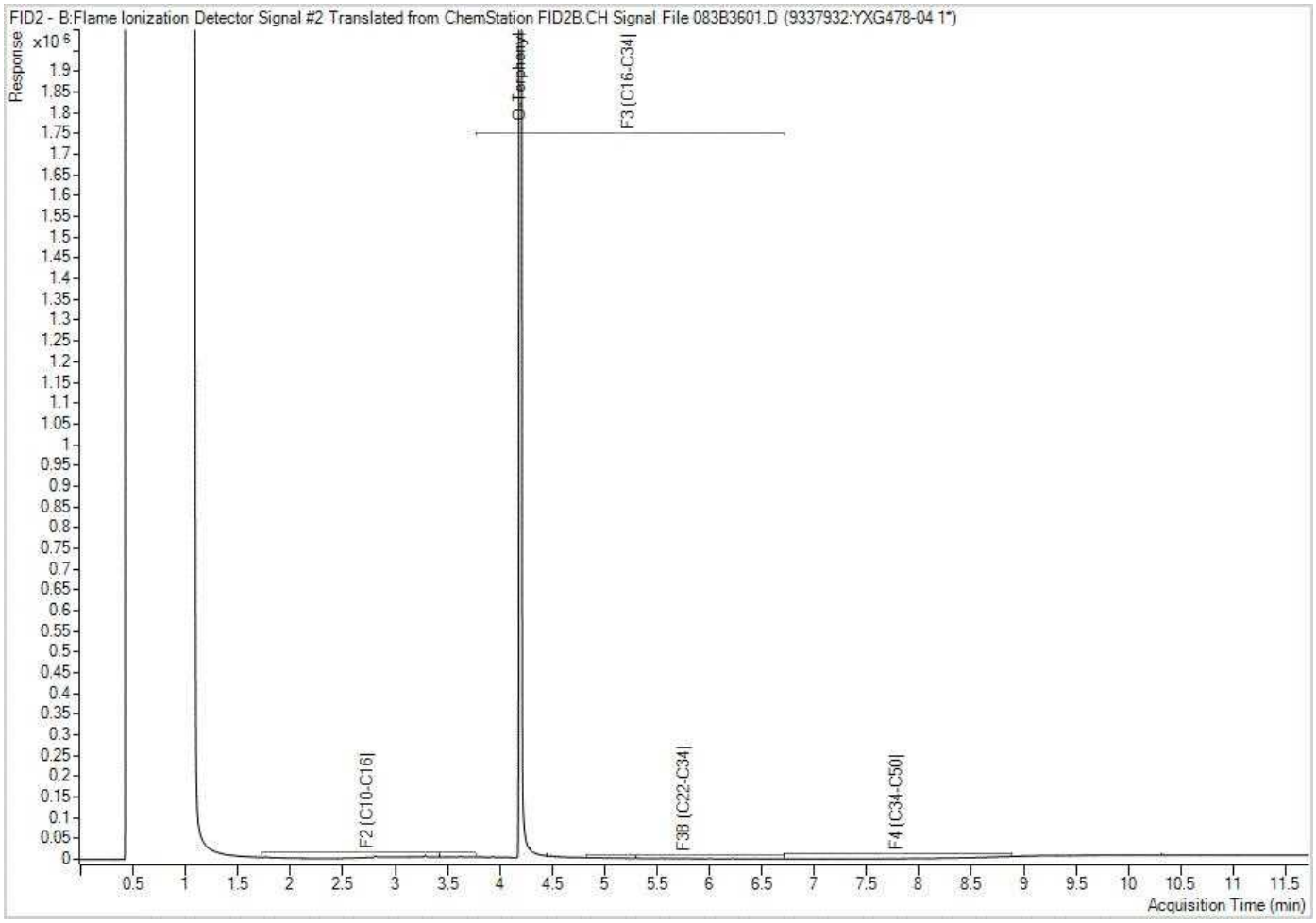
White: Bureau Veritas Yellow: Client

Bureau Veritas Canada (2019) Inc.

Bureau Veritas Job #: C4B2000
Report Date: 2024/04/19
Bureau Veritas Sample: YXG478

WSP Canada Inc.
Client Project #: CA-GLD-19129150
Project name: 1451 CHARTERTON SIDE ROAD, CALEDON, ON
Client ID: MW20-09

Petroleum Hydrocarbons F2-F4 in Water Chromatogram

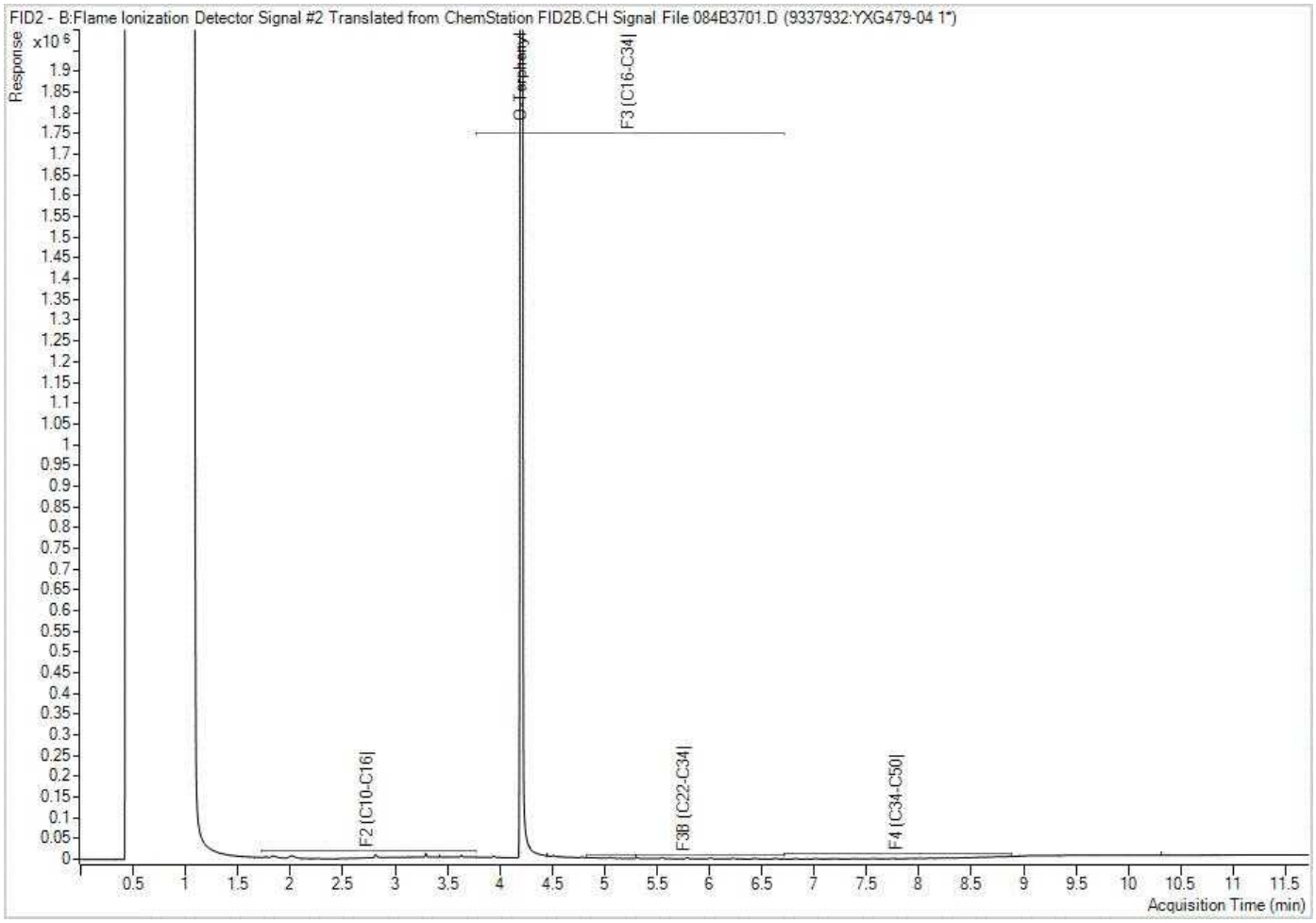


Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Bureau Veritas Job #: C4B2000
Report Date: 2024/04/19
Bureau Veritas Sample: YXG479

WSP Canada Inc.
Client Project #: CA-GLD-19129150
Project name: 1451 CHARTERTON SIDE ROAD, CALEDON, ON
Client ID: MW21-4-1

Petroleum Hydrocarbons F2-F4 in Water Chromatogram

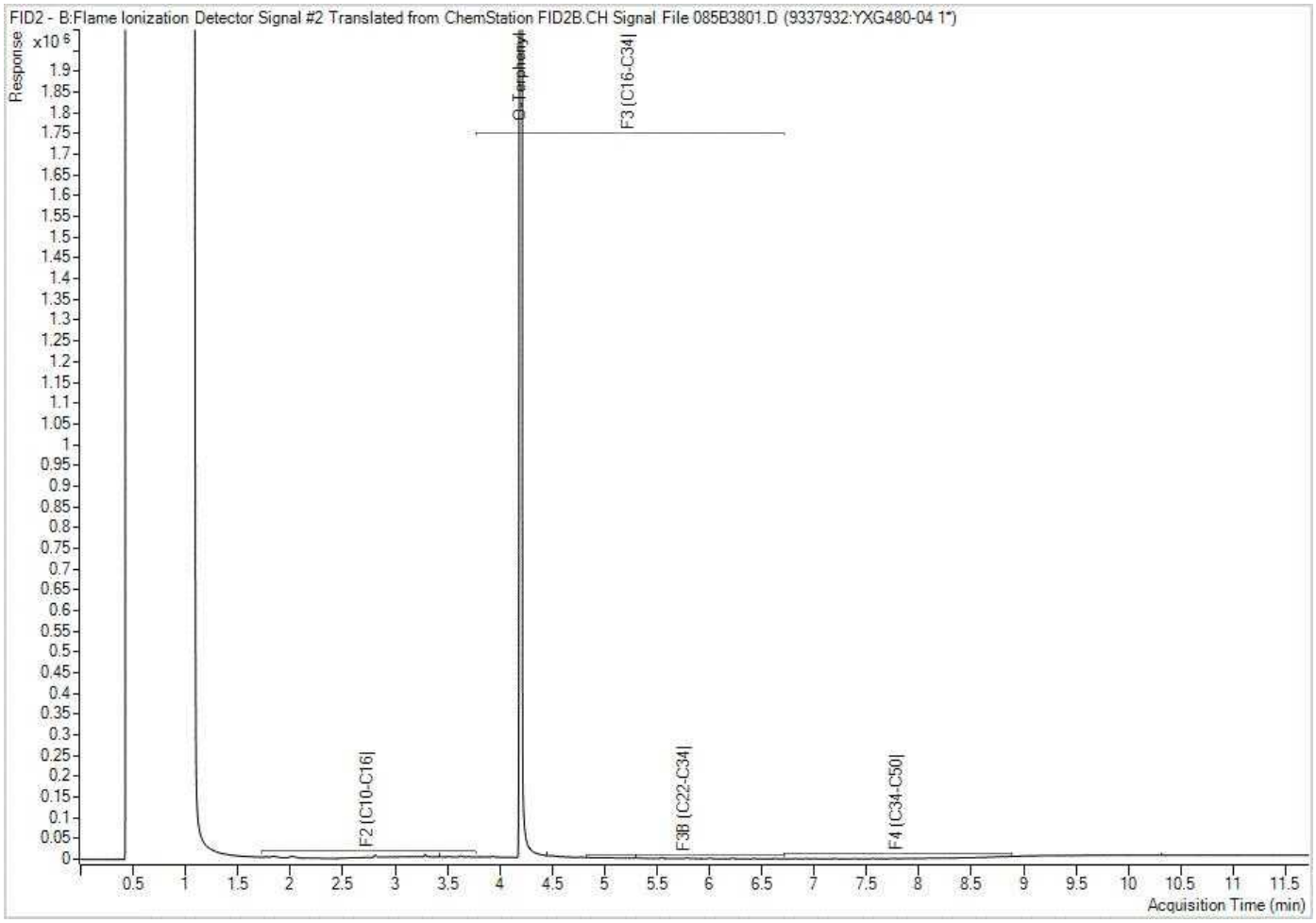


Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Bureau Veritas Job #: C4B2000
Report Date: 2024/04/19
Bureau Veritas Sample: YXG480

WSP Canada Inc.
Client Project #: CA-GLD-19129150
Project name: 1451 CHARTERTON SIDE ROAD, CALEDON, ON
Client ID: DUP 1

Petroleum Hydrocarbons F2-F4 in Water Chromatogram

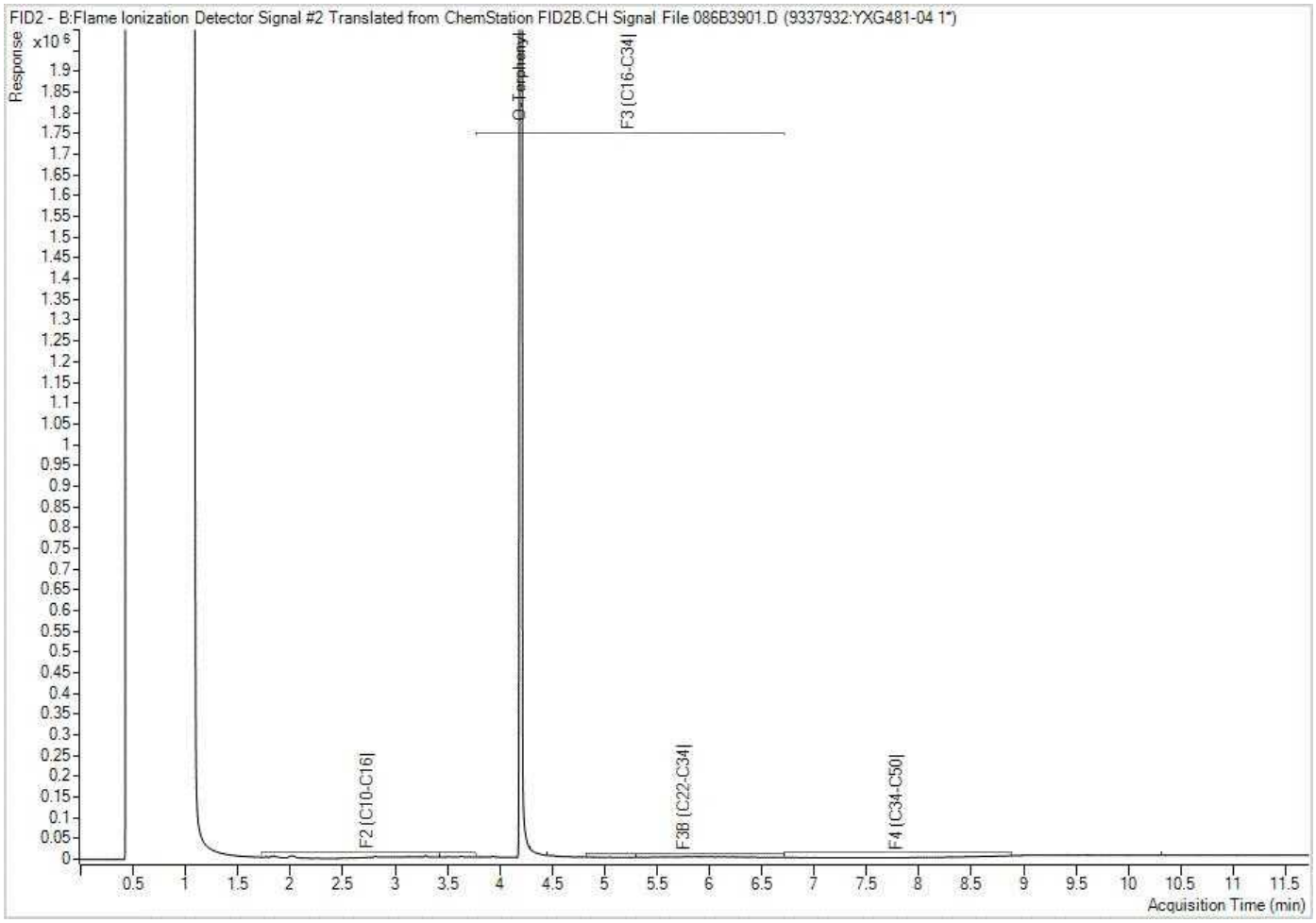


Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Bureau Veritas Job #: C4B2000
Report Date: 2024/04/19
Bureau Veritas Sample: YXG481

WSP Canada Inc.
Client Project #: CA-GLD-19129150
Project name: 1451 CHARTERTON SIDE ROAD, CALEDON, ON
Client ID: MW20-10A

Petroleum Hydrocarbons F2-F4 in Water Chromatogram



Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Your Project #: CA-GLD-19129150
Site Location: 1451 CHARLOSTON SIDE ROAD, CALEDON
Your C.O.C. #: C#984504-02-01

Attention: Paul Menkveld

WSP Canada Inc.
210 Sheldon Drive
Cambridge, ON
CANADA N1T 1A8

Report Date: 2024/04/23
Report #: R8120022
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C4B3769
Received: 2024/04/17, 08:00

Sample Matrix: Water
Samples Received: 5

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Alkalinity	3	N/A	2024/04/19	CAM SOP-00448	SM 24 2320 B m
Alkalinity	1	N/A	2024/04/20	CAM SOP-00448	SM 24 2320 B m
Carbonate, Bicarbonate and Hydroxide	3	N/A	2024/04/19	CAM SOP-00102	APHA 4500-CO2 D
Carbonate, Bicarbonate and Hydroxide	1	N/A	2024/04/20	CAM SOP-00102	APHA 4500-CO2 D
Chloride by Automated Colourimetry	4	N/A	2024/04/23	CAM SOP-00463	SM 24 4500-Cl E m
Conductivity	3	N/A	2024/04/19	CAM SOP-00414	SM 24 2510 m
Conductivity	1	N/A	2024/04/20	CAM SOP-00414	SM 24 2510 m
Dissolved Organic Carbon (DOC) (1)	4	N/A	2024/04/19	CAM SOP-00446	SM 24 5310 B m
Petroleum Hydro. CCME F1 & BTEX in Water	1	N/A	2024/04/18	CAM SOP-00315	CCME PHC-CWS m
Petroleum Hydro. CCME F1 & BTEX in Water	4	N/A	2024/04/19	CAM SOP-00315	CCME PHC-CWS m
Petroleum Hydrocarbons F2-F4 in Water (2)	3	2024/04/19	2024/04/20	CAM SOP-00316	CCME PHC-CWS m
Petroleum Hydrocarbons F2-F4 in Water (2)	1	2024/04/20	2024/04/21	CAM SOP-00316	CCME PHC-CWS m
Hardness (calculated as CaCO3)	4	N/A	2024/04/22	CAM SOP 00102/00408/00447	SM 2340 B
Dissolved Metals by ICPMS	3	N/A	2024/04/19	CAM SOP-00447	EPA 6020B m
Dissolved Metals by ICPMS	1	N/A	2024/04/22	CAM SOP-00447	EPA 6020B m
Ion Balance (% Difference)	4	N/A	2024/04/23		
Anion and Cation Sum	4	N/A	2024/04/22		
Total Ammonia-N	4	N/A	2024/04/19	CAM SOP-00441	USGS I-2522-90 m
Nitrate & Nitrite as Nitrogen in Water (3)	4	N/A	2024/04/19	CAM SOP-00440	SM 24 4500-NO3I/NO2B
pH (4)	3	2024/04/18	2024/04/19	CAM SOP-00413	SM 24th - 4500H+ B
pH (4)	1	2024/04/18	2024/04/20	CAM SOP-00413	SM 24th - 4500H+ B
Orthophosphate	3	N/A	2024/04/22	CAM SOP-00461	SM 24 4500-P E
Orthophosphate	1	N/A	2024/04/23	CAM SOP-00461	SM 24 4500-P E
Sat. pH and Langelier Index (@ 20C)	4	N/A	2024/04/23		Auto Calc
Sat. pH and Langelier Index (@ 4C)	4	N/A	2024/04/23		Auto Calc
Sulphate by Automated Turbidimetry	4	N/A	2024/04/23	CAM SOP-00464	SM 24 4500-SO42- E m
Total Dissolved Solids (TDS calc)	4	N/A	2024/04/23		Auto Calc

Remarks:

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau

Your Project #: CA-GLD-19129150
Site Location: 1451 CHARLOSTON SIDE ROAD, CALEDON
Your C.O.C. #: C#984504-02-01

Attention: Paul Menkveld

WSP Canada Inc.
210 Sheldon Drive
Cambridge, ON
CANADA N1T 1A8

Report Date: 2024/04/23
Report #: R8120022
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C4B3769
Received: 2024/04/17, 08:00

Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, EPA, APHA or the Quebec Ministry of Environment.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.
This Certificate shall not be reproduced except in full, without the written approval of the laboratory.
Reference Method suffix “m” indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.
(1) Dissolved Organic Carbon (DOC) present in the sample should be considered as non-purgeable DOC.
(2) All CCME PHC results met required criteria unless otherwise stated in the report. The CWS PHC methods employed by Bureau Veritas conform to all prescribed elements of the reference method and performance based elements have been validated. All modifications have been validated and proven equivalent following “Alberta Environment’s Interpretation of the Reference Method for the Canada-Wide Standard for Petroleum Hydrocarbons in Soil Validation of Performance-Based Alternative Methods September 2003”. Documentation is available upon request. Modifications from Reference Method for the Canada-wide Standard for Petroleum Hydrocarbons in Soil-Tier 1 Method: F2/F3/F4 data reported using validated cold solvent extraction instead of Soxhlet extraction.
(3) Values for calculated parameters may not appear to add up due to rounding of raw data and significant figures.
(4) "The CCME method and Analytical Protocol (O. Reg 153/04, O. Reg. 406/19) requires pH to be analyzed within 15 minutes of sampling and therefore field analysis is required for compliance. All Laboratory pH analyses in this report are reported past the CCME and Analytical Protocol (O. Reg 153/04, O. Reg. 406/19) holding time. Bureau Veritas endeavors to analyze samples as soon as possible after receipt."

Your Project #: CA-GLD-19129150
Site Location: 1451 CHARLOSTON SIDE ROAD, CALEDON
Your C.O.C. #: C#984504-02-01

Attention: Paul Menkveld

WSP Canada Inc.
210 Sheldon Drive
Cambridge, ON
CANADA N1T 1A8

Report Date: 2024/04/23
Report #: R8120022
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C4B3769
Received: 2024/04/17, 08:00

Encryption Key

Please direct all questions regarding this Certificate of Analysis to:
Ankita Bhalla, Project Manager
Email: Ankita.Bhalla@bureauveritas.com
Phone# (905) 817-5700

==========

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Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation, please refer to the Validation Signatures page if included, otherwise available by request. For Department specific Analyst/Supervisor validation names, please refer to the Test Summary section if included, otherwise available by request. This report is authorized by Rodney Major, General Manager responsible for Ontario Environmental laboratory operations.

Bureau Veritas Job #: C4B3769
Report Date: 2024/04/23

WSP Canada Inc.
Client Project #: CA-GLD-19129150
Site Location: 1451 CHARLOSTON SIDE ROAD, CALEDON
Sampler Initials: RN

RCAP - COMPREHENSIVE (WATER)

Bureau Veritas ID		YXP615			YXP616	YXP617		
Sampling Date		2024/04/16 11:45			2024/04/16 14:00	2024/04/16 15:00		
COC Number		C#984504-02-01			C#984504-02-01	C#984504-02-01		
	UNITS	MW20-15A	RDL	QC Batch	MW20-16B	MW22-01	RDL	QC Batch
Calculated Parameters								
Anion Sum	me/L	31.6	N/A	9339426	4.11	6.41	N/A	9339426
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	170	1.0	9338395	190	230	1.0	9338395
Calculated TDS	mg/L	2200	1.0	9338494	240	370	1.0	9338494
Carb. Alkalinity (calc. as CaCO3)	mg/L	1.4	1.0	9338395	2.5	1.4	1.0	9338395
Cation Sum	me/L	34.9	N/A	9339426	5.31	7.54	N/A	9339426
Hardness (CaCO3)	mg/L	1200	1.0	9338394	220	370	1.0	9338394
Ion Balance (% Difference)	%	4.98	N/A	9339425	12.7	8.09	N/A	9339425
Langelier Index (@ 20C)	N/A	1.12		9339427	0.720	0.721		9339427
Langelier Index (@ 4C)	N/A	0.878		9339428	0.471	0.473		9339428
Saturation pH (@ 20C)	N/A	6.82		9339427	7.43	7.09		9339427
Saturation pH (@ 4C)	N/A	7.06		9339428	7.68	7.34		9339428
Inorganics								
Total Ammonia-N	mg/L	2.1	0.050	9341450	0.33	0.069	0.050	9341450
Conductivity	umho/cm	2600	1.0	9342140	400	670	1.0	9342140
Dissolved Organic Carbon	mg/L	0.89	0.40	9342009	0.48	0.78	0.40	9342009
Orthophosphate (P)	mg/L	<0.010	0.010	9343958	<0.010	<0.010	0.010	9343958
pH	pH	7.94		9342159	8.15	7.81		9342159
Dissolved Sulphate (SO4)	mg/L	1300	5.0	9343957	8.2	19	1.0	9343957
Alkalinity (Total as CaCO3)	mg/L	170	1.0	9342122	190	240	1.0	9342122
Dissolved Chloride (Cl-)	mg/L	3.6	1.0	9343950	2.9	26	1.0	9343950
Nitrite (N)	mg/L	<0.010	0.010	9342049	<0.010	<0.010	0.010	9342456
Nitrate (N)	mg/L	<0.10	0.10	9342049	<0.10	7.92	0.10	9342456
Nitrate + Nitrite (N)	mg/L	<0.10	0.10	9342049	<0.10	7.92	0.10	9342456
Metals								
Dissolved Aluminum (Al)	ug/L	<4.9	4.9	9343915	250	<4.9	4.9	9343915
Dissolved Antimony (Sb)	ug/L	<0.50	0.50	9343915	<0.50	<0.50	0.50	9343915
Dissolved Arsenic (As)	ug/L	12	1.0	9343915	6.7	<1.0	1.0	9343915
Dissolved Barium (Ba)	ug/L	16	2.0	9343915	140	44	2.0	9343915
Dissolved Beryllium (Be)	ug/L	<0.40	0.40	9343915	<0.40	<0.40	0.40	9343915
Dissolved Boron (B)	ug/L	1100	10	9343915	24	<10	10	9343915

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
N/A = Not Applicable

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

Bureau Veritas Job #: C4B3769
Report Date: 2024/04/23

WSP Canada Inc.
Client Project #: CA-GLD-19129150
Site Location: 1451 CHARLOSTON SIDE ROAD, CALEDON
Sampler Initials: RN

RCAP - COMPREHENSIVE (WATER)

Bureau Veritas ID		YXP615			YXP616	YXP617		
Sampling Date		2024/04/16 11:45			2024/04/16 14:00	2024/04/16 15:00		
COC Number		C#984504-02-01			C#984504-02-01	C#984504-02-01		
	UNITS	MW20-15A	RDL	QC Batch	MW20-16B	MW22-01	RDL	QC Batch
Dissolved Cadmium (Cd)	ug/L	<0.090	0.090	9343915	<0.090	<0.090	0.090	9343915
Dissolved Calcium (Ca)	ug/L	400000	400	9343915	48000	94000	200	9343915
Dissolved Chromium (Cr)	ug/L	<5.0	5.0	9343915	<5.0	<5.0	5.0	9343915
Dissolved Cobalt (Co)	ug/L	1.1	0.50	9343915	<0.50	<0.50	0.50	9343915
Dissolved Copper (Cu)	ug/L	<0.90	0.90	9343915	1.4	<0.90	0.90	9343915
Dissolved Iron (Fe)	ug/L	770	100	9343915	370	<100	100	9343915
Dissolved Lead (Pb)	ug/L	<0.50	0.50	9343915	3.0	<0.50	0.50	9343915
Dissolved Magnesium (Mg)	ug/L	51000	50	9343915	25000	33000	50	9343915
Dissolved Manganese (Mn)	ug/L	120	2.0	9343915	26	<2.0	2.0	9343915
Dissolved Molybdenum (Mo)	ug/L	49	0.50	9343915	5.7	<0.50	0.50	9343915
Dissolved Nickel (Ni)	ug/L	22	1.0	9343915	1.1	<1.0	1.0	9343915
Dissolved Phosphorus (P)	ug/L	<100	100	9343915	<100	<100	100	9343915
Dissolved Potassium (K)	ug/L	14000	200	9343915	1600	800	200	9343915
Dissolved Selenium (Se)	ug/L	<2.0	2.0	9343915	<2.0	<2.0	2.0	9343915
Dissolved Silicon (Si)	ug/L	5600	50	9343915	7400	6700	50	9343915
Dissolved Silver (Ag)	ug/L	<0.090	0.090	9343915	<0.090	<0.090	0.090	9343915
Dissolved Sodium (Na)	ug/L	240000	100	9343915	17000	2600	100	9343915
Dissolved Strontium (Sr)	ug/L	6100	1.0	9343915	230	150	1.0	9343915
Dissolved Thallium (Tl)	ug/L	<0.050	0.050	9343915	<0.050	<0.050	0.050	9343915
Dissolved Titanium (Ti)	ug/L	<5.0	5.0	9343915	11	<5.0	5.0	9343915
Dissolved Uranium (U)	ug/L	9.3	0.10	9343915	2.8	0.36	0.10	9343915
Dissolved Vanadium (V)	ug/L	<0.50	0.50	9343915	0.72	<0.50	0.50	9343915
Dissolved Zinc (Zn)	ug/L	5.1	5.0	9343915	11	<5.0	5.0	9343915

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

RCAP - COMPREHENSIVE (WATER)

Bureau Veritas ID		YXP618			YXP618		
Sampling Date		2024/04/16 17:45			2024/04/16 17:45		
COC Number		C#984504-02-01			C#984504-02-01		
	UNITS	MW21-1-1	RDL	QC Batch	MW21-1-1 Lab-Dup	RDL	QC Batch
Calculated Parameters							
Anion Sum	me/L	6.09	N/A	9339426			
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	230	1.0	9338395			
Calculated TDS	mg/L	330	1.0	9338494			
Carb. Alkalinity (calc. as CaCO3)	mg/L	3.2	1.0	9338395			
Cation Sum	me/L	6.57	N/A	9339426			
Hardness (CaCO3)	mg/L	310	1.0	9338394			
Ion Balance (% Difference)	%	3.75	N/A	9339425			
Langelier Index (@ 20C)	N/A	0.923		9339427			
Langelier Index (@ 4C)	N/A	0.674		9339428			
Saturation pH (@ 20C)	N/A	7.24		9339427			
Saturation pH (@ 4C)	N/A	7.49		9339428			
Inorganics							
Total Ammonia-N	mg/L	0.053	0.050	9341450			
Conductivity	umho/cm	570	1.0	9341805			
Dissolved Organic Carbon	mg/L	0.56	0.40	9342009			
Orthophosphate (P)	mg/L	<0.010	0.010	9347487			
pH	pH	8.16		9341795			
Dissolved Sulphate (SO4)	mg/L	51	1.0	9347491			
Alkalinity (Total as CaCO3)	mg/L	240	1.0	9341802			
Dissolved Chloride (Cl-)	mg/L	11	1.0	9347493			
Nitrite (N)	mg/L	<0.010	0.010	9342042			
Nitrate (N)	mg/L	<0.10	0.10	9342042			
Nitrate + Nitrite (N)	mg/L	<0.10	0.10	9342042			
Metals							
Dissolved Aluminum (Al)	ug/L	<4.9	4.9	9343915	<4.9	4.9	9343915
Dissolved Antimony (Sb)	ug/L	<0.50	0.50	9343915	<0.50	0.50	9343915
Dissolved Arsenic (As)	ug/L	3.1	1.0	9343915	3.1	1.0	9343915
Dissolved Barium (Ba)	ug/L	99	2.0	9343915	99	2.0	9343915
Dissolved Beryllium (Be)	ug/L	<0.40	0.40	9343915	<0.40	0.40	9343915

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate
N/A = Not Applicable

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

RCAP - COMPREHENSIVE (WATER)

Bureau Veritas ID		YXP618			YXP618		
Sampling Date		2024/04/16 17:45			2024/04/16 17:45		
COC Number		C#984504-02-01			C#984504-02-01		
	UNITS	MW21-1-1	RDL	QC Batch	MW21-1-1 Lab-Dup	RDL	QC Batch
Dissolved Boron (B)	ug/L	13	10	9343915	13	10	9343915
Dissolved Cadmium (Cd)	ug/L	<0.090	0.090	9343915	<0.090	0.090	9343915
Dissolved Calcium (Ca)	ug/L	65000	200	9343915	67000	200	9343915
Dissolved Chromium (Cr)	ug/L	<5.0	5.0	9343915	<5.0	5.0	9343915
Dissolved Cobalt (Co)	ug/L	<0.50	0.50	9343915	<0.50	0.50	9343915
Dissolved Copper (Cu)	ug/L	<0.90	0.90	9343915	<0.90	0.90	9343915
Dissolved Iron (Fe)	ug/L	<100	100	9343915	<100	100	9343915
Dissolved Lead (Pb)	ug/L	<0.50	0.50	9343915	<0.50	0.50	9343915
Dissolved Magnesium (Mg)	ug/L	37000	50	9343915	36000	50	9343915
Dissolved Manganese (Mn)	ug/L	13	2.0	9343915	13	2.0	9343915
Dissolved Molybdenum (Mo)	ug/L	0.91	0.50	9343915	0.88	0.50	9343915
Dissolved Nickel (Ni)	ug/L	<1.0	1.0	9343915	<1.0	1.0	9343915
Dissolved Phosphorus (P)	ug/L	<100	100	9343915	<100	100	9343915
Dissolved Potassium (K)	ug/L	1400	200	9343915	1400	200	9343915
Dissolved Selenium (Se)	ug/L	<2.0	2.0	9343915	<2.0	2.0	9343915
Dissolved Silicon (Si)	ug/L	7600	50	9343915	7600	50	9343915
Dissolved Silver (Ag)	ug/L	<0.090	0.090	9343915	<0.090	0.090	9343915
Dissolved Sodium (Na)	ug/L	5500	100	9343915	5400	100	9343915
Dissolved Strontium (Sr)	ug/L	150	1.0	9343915	140	1.0	9343915
Dissolved Thallium (Tl)	ug/L	<0.050	0.050	9343915	<0.050	0.050	9343915
Dissolved Titanium (Ti)	ug/L	<5.0	5.0	9343915	<5.0	5.0	9343915
Dissolved Uranium (U)	ug/L	1.2	0.10	9343915	1.2	0.10	9343915
Dissolved Vanadium (V)	ug/L	<0.50	0.50	9343915	<0.50	0.50	9343915
Dissolved Zinc (Zn)	ug/L	<5.0	5.0	9343915	<5.0	5.0	9343915

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

PETROLEUM HYDROCARBONS (CCME)

Bureau Veritas ID		YXP619		
Sampling Date		2024/04/16		
COC Number		C#984504-02-01		
	UNITS	TRIP BLANK	RDL	QC Batch
BTEX & F1 Hydrocarbons				
Benzene	ug/L	<0.20	0.20	9343057
Toluene	ug/L	<0.20	0.20	9343057
Ethylbenzene	ug/L	<0.20	0.20	9343057
o-Xylene	ug/L	<0.20	0.20	9343057
p+m-Xylene	ug/L	<0.40	0.40	9343057
Total Xylenes	ug/L	<0.40	0.40	9343057
F1 (C6-C10)	ug/L	<25	25	9343057
F1 (C6-C10) - BTEX	ug/L	<25	25	9343057
Surrogate Recovery (%)				
1,4-Difluorobenzene	%	103		9343057
4-Bromofluorobenzene	%	94		9343057
D10-o-Xylene	%	96		9343057
D4-1,2-Dichloroethane	%	99		9343057

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

O.REG 153 PHCS, BTEX/F1-F4 (WATER)

Bureau Veritas ID		YXP615		YXP616	YXP617	YXP618		
Sampling Date		2024/04/16 11:45		2024/04/16 14:00	2024/04/16 15:00	2024/04/16 17:45		
COC Number		C#984504-02-01		C#984504-02-01	C#984504-02-01	C#984504-02-01		
	UNITS	MW20-15A	QC Batch	MW20-16B	MW22-01	MW21-1-1	RDL	QC Batch
BTEX & F1 Hydrocarbons								
Benzene	ug/L	<0.20	9343057	<0.20	<0.20	<0.20	0.20	9343057
Toluene	ug/L	<0.20	9343057	<0.20	0.33	<0.20	0.20	9343057
Ethylbenzene	ug/L	<0.20	9343057	<0.20	<0.20	<0.20	0.20	9343057
o-Xylene	ug/L	<0.20	9343057	<0.20	<0.20	<0.20	0.20	9343057
p+m-Xylene	ug/L	<0.40	9343057	<0.40	<0.40	<0.40	0.40	9343057
Total Xylenes	ug/L	<0.40	9343057	<0.40	<0.40	<0.40	0.40	9343057
F1 (C6-C10)	ug/L	<25	9343057	<25	<25	<25	25	9343057
F1 (C6-C10) - BTEX	ug/L	<25	9343057	<25	<25	<25	25	9343057
F2-F4 Hydrocarbons								
F2 (C10-C16 Hydrocarbons)	ug/L	<100	9346330	<100	<100	<100	100	9344424
F3 (C16-C34 Hydrocarbons)	ug/L	<200	9346330	<200	<200	<200	200	9344424
F4 (C34-C50 Hydrocarbons)	ug/L	<200	9346330	<200	<200	<200	200	9344424
Reached Baseline at C50	ug/L	Yes	9346330	Yes	Yes	Yes		9344424
Surrogate Recovery (%)								
1,4-Difluorobenzene	%	104	9343057	98	103	104		9343057
4-Bromofluorobenzene	%	95	9343057	94	94	93		9343057
D10-o-Xylene	%	93	9343057	102	99	100		9343057
D4-1,2-Dichloroethane	%	101	9343057	99	102	102		9343057
o-Terphenyl	%	98	9346330	103	100	102		9344424

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Bureau Veritas Job #: C4B3769
Report Date: 2024/04/23

WSP Canada Inc.
Client Project #: CA-GLD-19129150
Site Location: 1451 CHARLOSTON SIDE ROAD, CALEDON
Sampler Initials: RN

TEST SUMMARY

Bureau Veritas ID: YXP615
Sample ID: MW20-15A
Matrix: Water

Collected: 2024/04/16
Shipped:
Received: 2024/04/17

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	9342122	N/A	2024/04/19	Surinder Rai
Carbonate, Bicarbonate and Hydroxide	CALC	9338395	N/A	2024/04/19	Automated Statchk
Chloride by Automated Colourimetry	SKAL	9343950	N/A	2024/04/23	Alina Dobreanu
Conductivity	AT	9342140	N/A	2024/04/19	Nachiketa Gohil
Dissolved Organic Carbon (DOC)	TOCV/NDIR	9342009	N/A	2024/04/19	Gyulshen Idriz
Petroleum Hydro. CCME F1 & BTEX in Water	HSGC/MSFD	9343057	N/A	2024/04/19	Georgeta Rusu
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	9346330	2024/04/20	2024/04/21	Mohammed Abdul Nafay Shoeb
Hardness (calculated as CaCO3)		9338394	N/A	2024/04/22	Automated Statchk
Dissolved Metals by ICPMS	ICP/MS	9343915	N/A	2024/04/19	Arefa Dabhad
Ion Balance (% Difference)	CALC	9339425	N/A	2024/04/23	Automated Statchk
Anion and Cation Sum	CALC	9339426	N/A	2024/04/22	Automated Statchk
Total Ammonia-N	LACH/NH4	9341450	N/A	2024/04/19	Yogesh Patel
Nitrate & Nitrite as Nitrogen in Water	LACH	9342049	N/A	2024/04/19	Jinal Chavda
pH	AT	9342159	2024/04/18	2024/04/19	Nachiketa Gohil
Orthophosphate	KONE	9343958	N/A	2024/04/22	Geetee Noorzaad
Sat. pH and Langelier Index (@ 20C)	CALC	9339427	N/A	2024/04/23	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	9339428	N/A	2024/04/23	Automated Statchk
Sulphate by Automated Turbidimetry	SKAL	9343957	N/A	2024/04/23	Alina Dobreanu
Total Dissolved Solids (TDS calc)	CALC	9338494	N/A	2024/04/23	Automated Statchk

Bureau Veritas ID: YXP616
Sample ID: MW20-16B
Matrix: Water

Collected: 2024/04/16
Shipped:
Received: 2024/04/17

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	9342122	N/A	2024/04/19	Surinder Rai
Carbonate, Bicarbonate and Hydroxide	CALC	9338395	N/A	2024/04/19	Automated Statchk
Chloride by Automated Colourimetry	SKAL	9343950	N/A	2024/04/23	Alina Dobreanu
Conductivity	AT	9342140	N/A	2024/04/19	Nachiketa Gohil
Dissolved Organic Carbon (DOC)	TOCV/NDIR	9342009	N/A	2024/04/19	Gyulshen Idriz
Petroleum Hydro. CCME F1 & BTEX in Water	HSGC/MSFD	9343057	N/A	2024/04/19	Georgeta Rusu
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	9344424	2024/04/19	2024/04/20	Dennis Ngondu
Hardness (calculated as CaCO3)		9338394	N/A	2024/04/22	Automated Statchk
Dissolved Metals by ICPMS	ICP/MS	9343915	N/A	2024/04/19	Arefa Dabhad
Ion Balance (% Difference)	CALC	9339425	N/A	2024/04/23	Automated Statchk
Anion and Cation Sum	CALC	9339426	N/A	2024/04/22	Automated Statchk
Total Ammonia-N	LACH/NH4	9341450	N/A	2024/04/19	Yogesh Patel
Nitrate & Nitrite as Nitrogen in Water	LACH	9342456	N/A	2024/04/19	Jinal Chavda
pH	AT	9342159	2024/04/18	2024/04/19	Nachiketa Gohil
Orthophosphate	KONE	9343958	N/A	2024/04/22	Geetee Noorzaad
Sat. pH and Langelier Index (@ 20C)	CALC	9339427	N/A	2024/04/23	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	9339428	N/A	2024/04/23	Automated Statchk
Sulphate by Automated Turbidimetry	SKAL	9343957	N/A	2024/04/23	Alina Dobreanu
Total Dissolved Solids (TDS calc)	CALC	9338494	N/A	2024/04/23	Automated Statchk

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

Bureau Veritas Job #: C4B3769
Report Date: 2024/04/23

WSP Canada Inc.
Client Project #: CA-GLD-19129150
Site Location: 1451 CHARLOSTON SIDE ROAD, CALEDON
Sampler Initials: RN

TEST SUMMARY

Bureau Veritas ID: YXP617
Sample ID: MW22-01
Matrix: Water

Collected: 2024/04/16
Shipped:
Received: 2024/04/17

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	9342122	N/A	2024/04/19	Surinder Rai
Carbonate, Bicarbonate and Hydroxide	CALC	9338395	N/A	2024/04/19	Automated Statchk
Chloride by Automated Colourimetry	SKAL	9343950	N/A	2024/04/23	Alina Dobreanu
Conductivity	AT	9342140	N/A	2024/04/19	Nachiketa Gohil
Dissolved Organic Carbon (DOC)	TOCV/NDIR	9342009	N/A	2024/04/19	Gyulshen Idriz
Petroleum Hydro. CCME F1 & BTEX in Water	HSGC/MSFD	9343057	N/A	2024/04/19	Georgeta Rusu
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	9344424	2024/04/19	2024/04/20	Dennis Ngondu
Hardness (calculated as CaCO3)		9338394	N/A	2024/04/22	Automated Statchk
Dissolved Metals by ICPMS	ICP/MS	9343915	N/A	2024/04/22	Arefa Dabhad
Ion Balance (% Difference)	CALC	9339425	N/A	2024/04/23	Automated Statchk
Anion and Cation Sum	CALC	9339426	N/A	2024/04/22	Automated Statchk
Total Ammonia-N	LACH/NH4	9341450	N/A	2024/04/19	Yogesh Patel
Nitrate & Nitrite as Nitrogen in Water	LACH	9342456	N/A	2024/04/19	Jinal Chavda
pH	AT	9342159	2024/04/18	2024/04/19	Nachiketa Gohil
Orthophosphate	KONE	9343958	N/A	2024/04/22	Geetee Noorzaad
Sat. pH and Langelier Index (@ 20C)	CALC	9339427	N/A	2024/04/23	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	9339428	N/A	2024/04/23	Automated Statchk
Sulphate by Automated Turbidimetry	SKAL	9343957	N/A	2024/04/23	Alina Dobreanu
Total Dissolved Solids (TDS calc)	CALC	9338494	N/A	2024/04/23	Automated Statchk

Bureau Veritas ID: YXP618
Sample ID: MW21-1-1
Matrix: Water

Collected: 2024/04/16
Shipped:
Received: 2024/04/17

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	9341802	N/A	2024/04/20	Nachiketa Gohil
Carbonate, Bicarbonate and Hydroxide	CALC	9338395	N/A	2024/04/20	Automated Statchk
Chloride by Automated Colourimetry	SKAL	9347493	N/A	2024/04/23	Geetee Noorzaad
Conductivity	AT	9341805	N/A	2024/04/20	Nachiketa Gohil
Dissolved Organic Carbon (DOC)	TOCV/NDIR	9342009	N/A	2024/04/19	Gyulshen Idriz
Petroleum Hydro. CCME F1 & BTEX in Water	HSGC/MSFD	9343057	N/A	2024/04/19	Georgeta Rusu
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	9344424	2024/04/19	2024/04/20	Dennis Ngondu
Hardness (calculated as CaCO3)		9338394	N/A	2024/04/22	Automated Statchk
Dissolved Metals by ICPMS	ICP/MS	9343915	N/A	2024/04/19	Arefa Dabhad
Ion Balance (% Difference)	CALC	9339425	N/A	2024/04/23	Automated Statchk
Anion and Cation Sum	CALC	9339426	N/A	2024/04/22	Automated Statchk
Total Ammonia-N	LACH/NH4	9341450	N/A	2024/04/19	Yogesh Patel
Nitrate & Nitrite as Nitrogen in Water	LACH	9342042	N/A	2024/04/19	Jinal Chavda
pH	AT	9341795	2024/04/18	2024/04/20	Nachiketa Gohil
Orthophosphate	KONE	9347487	N/A	2024/04/23	Geetee Noorzaad
Sat. pH and Langelier Index (@ 20C)	CALC	9339427	N/A	2024/04/23	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	9339428	N/A	2024/04/23	Automated Statchk
Sulphate by Automated Turbidimetry	SKAL	9347491	N/A	2024/04/23	Geetee Noorzaad
Total Dissolved Solids (TDS calc)	CALC	9338494	N/A	2024/04/23	Automated Statchk

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

Bureau Veritas Job #: C4B3769
Report Date: 2024/04/23

WSP Canada Inc.
Client Project #: CA-GLD-19129150
Site Location: 1451 CHARLOSTON SIDE ROAD, CALEDON
Sampler Initials: RN

TEST SUMMARY

Bureau Veritas ID: YXP618 Dup
Sample ID: MW21-1-1
Matrix: Water

Collected: 2024/04/16
Shipped:
Received: 2024/04/17

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Dissolved Metals by ICPMS	ICP/MS	9343915	N/A	2024/04/19	Arefa Dabhad

Bureau Veritas ID: YXP619
Sample ID: TRIP BLANK
Matrix: Water

Collected: 2024/04/16
Shipped:
Received: 2024/04/17

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Petroleum Hydro. CCME F1 & BTEX in Water	HSGC/MSFD	9343057	N/A	2024/04/18	Georgeta Rusu

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	3.7°C

Results relate only to the items tested.

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

Bureau Veritas Job #: C4B3769
Report Date: 2024/04/23

QUALITY ASSURANCE REPORT

WSP Canada Inc.
Client Project #: CA-GLD-19129150
Site Location: 1451 CHARLOSTON SIDE ROAD, CALEDON
Sampler Initials: RN

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
9343057	1,4-Difluorobenzene	2024/04/18	95	70 - 130	97	70 - 130	103	%		
9343057	4-Bromofluorobenzene	2024/04/18	98	70 - 130	97	70 - 130	93	%		
9343057	D10-o-Xylene	2024/04/18	92	70 - 130	99	70 - 130	90	%		
9343057	D4-1,2-Dichloroethane	2024/04/18	94	70 - 130	90	70 - 130	102	%		
9344424	o-Terphenyl	2024/04/19	104	60 - 130	102	60 - 130	104	%		
9346330	o-Terphenyl	2024/04/21	102	60 - 130	102	60 - 130	97	%		
9341450	Total Ammonia-N	2024/04/19	96	75 - 125	101	80 - 120	<0.050	mg/L	NC	20
9341795	pH	2024/04/20			102	98 - 103			0.50	N/A
9341802	Alkalinity (Total as CaCO3)	2024/04/20			99	85 - 115	<1.0	mg/L	0.19	20
9341805	Conductivity	2024/04/20			103	85 - 115	<1.0	umho/cm	0.34	10
9342009	Dissolved Organic Carbon	2024/04/19	93	80 - 120	97	80 - 120	<0.40	mg/L	7.7	20
9342042	Nitrate (N)	2024/04/19	102	80 - 120	102	80 - 120	<0.10	mg/L	NC	20
9342042	Nitrite (N)	2024/04/19	103	80 - 120	102	80 - 120	<0.010	mg/L	NC	20
9342049	Nitrate (N)	2024/04/19	95	80 - 120	99	80 - 120	<0.10	mg/L	NC	20
9342049	Nitrite (N)	2024/04/19	101	80 - 120	101	80 - 120	<0.010	mg/L	NC	20
9342122	Alkalinity (Total as CaCO3)	2024/04/19			96	85 - 115	<1.0	mg/L	1.7	20
9342140	Conductivity	2024/04/19			101	85 - 115	<1.0	umho/cm	0.18	10
9342159	pH	2024/04/19			102	98 - 103			0.55	N/A
9342456	Nitrate (N)	2024/04/19	97	80 - 120	100	80 - 120	<0.10	mg/L	NC	20
9342456	Nitrite (N)	2024/04/19	102	80 - 120	102	80 - 120	<0.010	mg/L	NC	20
9343057	Benzene	2024/04/18	87	50 - 140	89	50 - 140	<0.20	ug/L	NC	30
9343057	Ethylbenzene	2024/04/18	92	50 - 140	95	50 - 140	<0.20	ug/L	NC	30
9343057	F1 (C6-C10) - BTEX	2024/04/18					<25	ug/L	NC	30
9343057	F1 (C6-C10)	2024/04/18	101	60 - 140	106	60 - 140	<25	ug/L	NC	30
9343057	o-Xylene	2024/04/18	90	50 - 140	93	50 - 140	<0.20	ug/L	NC	30
9343057	p+m-Xylene	2024/04/18	86	50 - 140	89	50 - 140	<0.40	ug/L	NC	30
9343057	Toluene	2024/04/18	84	50 - 140	86	50 - 140	<0.20	ug/L	NC	30
9343057	Total Xylenes	2024/04/18					<0.40	ug/L	NC	30
9343915	Dissolved Aluminum (Al)	2024/04/19	106	80 - 120	102	80 - 120	<4.9	ug/L	NC	20
9343915	Dissolved Antimony (Sb)	2024/04/19	113	80 - 120	106	80 - 120	<0.50	ug/L	NC	20
9343915	Dissolved Arsenic (As)	2024/04/19	103	80 - 120	99	80 - 120	<1.0	ug/L	0.94	20

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
9343915	Dissolved Barium (Ba)	2024/04/19	109	80 - 120	104	80 - 120	<2.0	ug/L	0.36	20
9343915	Dissolved Beryllium (Be)	2024/04/19	102	80 - 120	97	80 - 120	<0.40	ug/L	NC	20
9343915	Dissolved Boron (B)	2024/04/19	103	80 - 120	96	80 - 120	<10	ug/L	0.0077	20
9343915	Dissolved Cadmium (Cd)	2024/04/19	107	80 - 120	103	80 - 120	<0.090	ug/L	NC	20
9343915	Dissolved Calcium (Ca)	2024/04/19	NC	80 - 120	109	80 - 120	<200	ug/L	2.6	20
9343915	Dissolved Chromium (Cr)	2024/04/19	104	80 - 120	96	80 - 120	<5.0	ug/L	NC	20
9343915	Dissolved Cobalt (Co)	2024/04/19	97	80 - 120	95	80 - 120	<0.50	ug/L	NC	20
9343915	Dissolved Copper (Cu)	2024/04/19	107	80 - 120	104	80 - 120	<0.90	ug/L	NC	20
9343915	Dissolved Iron (Fe)	2024/04/19	103	80 - 120	100	80 - 120	<100	ug/L	NC	20
9343915	Dissolved Lead (Pb)	2024/04/19	103	80 - 120	100	80 - 120	<0.50	ug/L	NC	20
9343915	Dissolved Magnesium (Mg)	2024/04/19	NC	80 - 120	105	80 - 120	<50	ug/L	3.8	20
9343915	Dissolved Manganese (Mn)	2024/04/19	101	80 - 120	99	80 - 120	<2.0	ug/L	1.6	20
9343915	Dissolved Molybdenum (Mo)	2024/04/19	110	80 - 120	106	80 - 120	<0.50	ug/L	3.9	20
9343915	Dissolved Nickel (Ni)	2024/04/19	97	80 - 120	95	80 - 120	<1.0	ug/L	NC	20
9343915	Dissolved Phosphorus (P)	2024/04/19	113	80 - 120	112	80 - 120	<100	ug/L	NC	20
9343915	Dissolved Potassium (K)	2024/04/19	112	80 - 120	107	80 - 120	<200	ug/L	2.0	20
9343915	Dissolved Selenium (Se)	2024/04/19	102	80 - 120	98	80 - 120	<2.0	ug/L	NC	20
9343915	Dissolved Silicon (Si)	2024/04/19	119	80 - 120	110	80 - 120	<50	ug/L	0.86	20
9343915	Dissolved Silver (Ag)	2024/04/19	93	80 - 120	99	80 - 120	<0.090	ug/L	NC	20
9343915	Dissolved Sodium (Na)	2024/04/19	104	80 - 120	102	80 - 120	<100	ug/L	1.1	20
9343915	Dissolved Strontium (Sr)	2024/04/19	100	80 - 120	97	80 - 120	<1.0	ug/L	2.1	20
9343915	Dissolved Thallium (Tl)	2024/04/19	105	80 - 120	101	80 - 120	<0.050	ug/L	NC	20
9343915	Dissolved Titanium (Ti)	2024/04/19	110	80 - 120	106	80 - 120	<5.0	ug/L	NC	20
9343915	Dissolved Uranium (U)	2024/04/19	103	80 - 120	97	80 - 120	<0.10	ug/L	1.3	20
9343915	Dissolved Vanadium (V)	2024/04/19	101	80 - 120	97	80 - 120	<0.50	ug/L	NC	20
9343915	Dissolved Zinc (Zn)	2024/04/19	103	80 - 120	99	80 - 120	<5.0	ug/L	NC	20
9343950	Dissolved Chloride (Cl-)	2024/04/23	NC	80 - 120	96	80 - 120	<1.0	mg/L	0.19	20
9343957	Dissolved Sulphate (SO4)	2024/04/23	96	75 - 125	97	80 - 120	<1.0	mg/L	0.36	20
9343958	Orthophosphate (P)	2024/04/22	93	75 - 125	92	80 - 120	<0.010	mg/L	12	20
9344424	F2 (C10-C16 Hydrocarbons)	2024/04/22	102	60 - 130	101	60 - 130	<100	ug/L	NC	30
9344424	F3 (C16-C34 Hydrocarbons)	2024/04/22	115	60 - 130	115	60 - 130	<200	ug/L	NC	30

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
9344424	F4 (C34-C50 Hydrocarbons)	2024/04/22	111	60 - 130	111	60 - 130	<200	ug/L	NC	30
9346330	F2 (C10-C16 Hydrocarbons)	2024/04/21	115	60 - 130	111	60 - 130	<100	ug/L	NC	30
9346330	F3 (C16-C34 Hydrocarbons)	2024/04/21	119	60 - 130	115	60 - 130	<200	ug/L	57 (1)	30
9346330	F4 (C34-C50 Hydrocarbons)	2024/04/21	112	60 - 130	109	60 - 130	<200	ug/L	NC	30
9347487	Orthophosphate (P)	2024/04/23	90	75 - 125	95	80 - 120	<0.010	mg/L	NC	20
9347491	Dissolved Sulphate (SO4)	2024/04/23	NC	75 - 125	100	80 - 120	<1.0	mg/L	0.87	20
9347493	Dissolved Chloride (Cl-)	2024/04/23	73 (2)	80 - 120	101	80 - 120	<1.0	mg/L	0.69	20

N/A = Not Applicable

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

(1) Duplicate results exceeded RPD acceptance criteria for flagged analytes. Sample extract was reanalyzed with the same results. This is likely due to sample heterogeneity.

(2) Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:

Cristina Carriere

Cristina Carriere, Senior Scientific Specialist

Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation, please refer to the Validation Signatures page if included, otherwise available by request. For Department specific Analyst/Supervisor validation names, please refer to the Test Summary section if included, otherwise available by request. This report is authorized by Rodney Major, General Manager responsible for Ontario Environmental laboratory operations.

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NONT-2024-04-1527

INVOICE TO:		REPORT TO:		PROJECT INFORMATION:	
Company Name:	#21375 WSP Canada Inc.	Company Name:		Quotation #:	C41059
Attention:	George Schneider	Attention:	Paul Menkveld	P.O. #:	
Address:	210 Sheldon Drive Cambridge ON N1T 1A8	Address:		Project:	CA-GLD-19129150
Tel:	(519) 620-8182 Fax:	Tel:	226-750-8848 Fax:	Project Name:	
Email:	George_Schneider@golder.com	Email:	paul.menkveld@wsp.com	Site #:	1451 Charleston Sideroad, Caledon, ON
				Sampled By:	Ramin Niknam

Bottle Order #: 984504

COC #: C#984504-02-01

Project Manager: Ankita Bhalla

MOE REGULATED DRINKING WATER OR WATER INTENDED FOR HUMAN CONSUMPTION MUST BE SUBMITTED ON THE BUREAU VERITAS DRINKING WATER CHAIN OF CUSTODY

Regulation 153 (2011): ☐ Table 1 ☐ Res/Park ☐ Medium/Fine ☐ Table 2 ☐ Ind/Comm ☐ Coarse ☐ Table 3 ☐ Agri/Other ☐ For RSC ☐ Table ___

Other Regulations: ☐ CCME ☐ Sanitary Sewer Bylaw ☐ Reg 558. ☐ Storm Sewer Bylaw ☐ MISA Municipality ☐ PWQO ☐ Reg 406 Table ☐ Other

Special Instructions

Include Criteria on Certificate of Analysis (Y/N)? Y

Field Filtered (please circle): (Metals / Hg / Cr VI)

ANALYSIS REQUESTED (PLEASE BE SPECIFIC)

Turnaround Time (TAT) Required:
Please provide advance notice for rush projects

Regular (Standard) TAT: ☑
(will be applied if Rush TAT is not specified):
Standard TAT = 5-7 Working days for most tests..
Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.

Job Specific Rush TAT (if applies to entire submission)
Date Required: ___ Time Required: ___ ☐
Rush Confirmation Number: ___ *(call lab for #)*

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Field Filtered (Metals / Hg / Cr VI)	RCAp - Comprehensive	O.Reg 153 PHCs, BTEX/F1-F4	F1/BTEX Trip Blank	# of Bottles	Comments
1		~~MW21-1~~									
2		~~MW20-12~~									*All Dissolved metals (red)
3		~~MW20-13~~									Field Filtered*
4		~~MW20-14~~									
5		MW20-15 A	2024/4/16	11:45	GW	✓	✓	✓		8	
6		MW20-16 B	2024/4/16	14:00	GW	✓	✓	✓		8	
7		~~MW22-01~~ MW 22-01	2024/4/16	15:00	GW	✓	✓	✓		8	
8		~~MW20-18~~									
9		MW21-1-1	2024/4/16	17:45	GW	✓	✓	✓		8	
10		~~MW21-01~~ Trip Blank							✓	2	

* RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	# jars used and not submitted	Laboratory Use Only: Time Sensitive	Temperature (°C) on Recei	Custody Seal Present	Yes	No
Ramin Niknam	24/4/16	8:15pm		24/04/17	08:00			3/3/5	Intact		✓

* UNLESS OTHERWISE AGREED TO IN WRITING, WORK SUBMITTED ON THIS CHAIN OF CUSTODY IS SUBJECT TO BUREAU VERITAS'S STANDARD TERMS AND CONDITIONS. SIGNING OF THIS CHAIN OF CUSTODY DOCUMENT IS ACKNOWLEDGMENT AND ACCEPTANCE OF OUR TERMS WHICH ARE AVAILABLE FOR VIEWING AT WWW.BVNA.COM/ENVIRONMENTAL-LABORATORIES/RESOURCES/COC-TERMS-AND-CONDITIONS.

* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

** SAMPLE CONTAINER, PRESERVATION, HOLD TIME AND PACKAGE INFORMATION CAN BE VIEWED AT WWW.BVNA.COM/ENVIRONMENTAL-LABORATORIES/RESOURCES/CHAIN-CUSTODY-FORMS-COCS.

SAMPLES MUST BE KEPT COOL (< 10° C) FROM TIME OF SAMPLING UNTIL DELIVERY TO BUREAU VERITAS

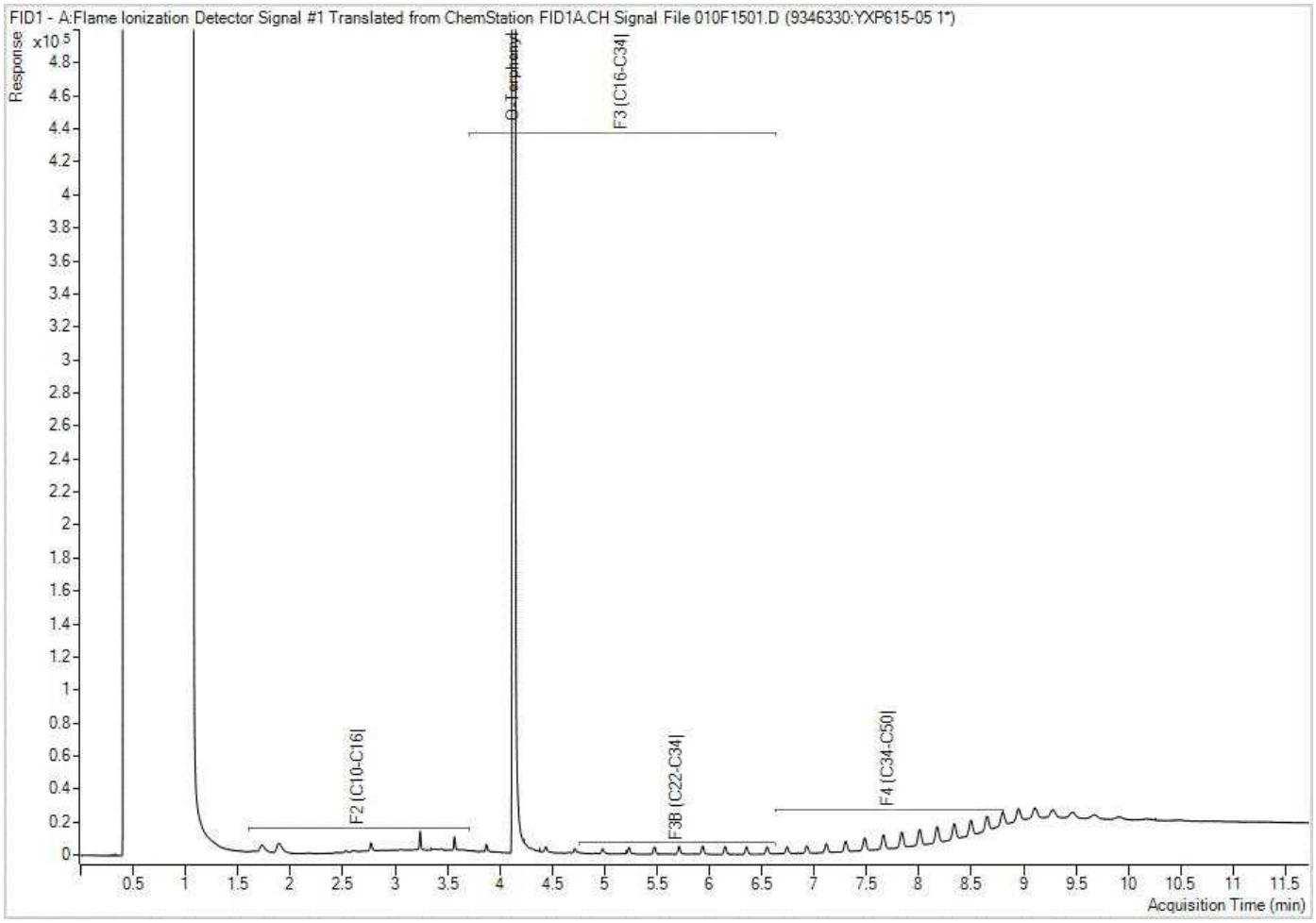
White: Bureau Veritas Yellow: Client

Bureau Veritas Canada (2019) Inc.

Bureau Veritas Job #: C4B3769
Report Date: 2024/04/23
Bureau Veritas Sample: YXP615

WSP Canada Inc.
Client Project #: CA-GLD-19129150
Project name: 1451 CHARLOSTON SIDE ROAD, CALEDON
Client ID: MW20-15A

Petroleum Hydrocarbons F2-F4 in Water Chromatogram

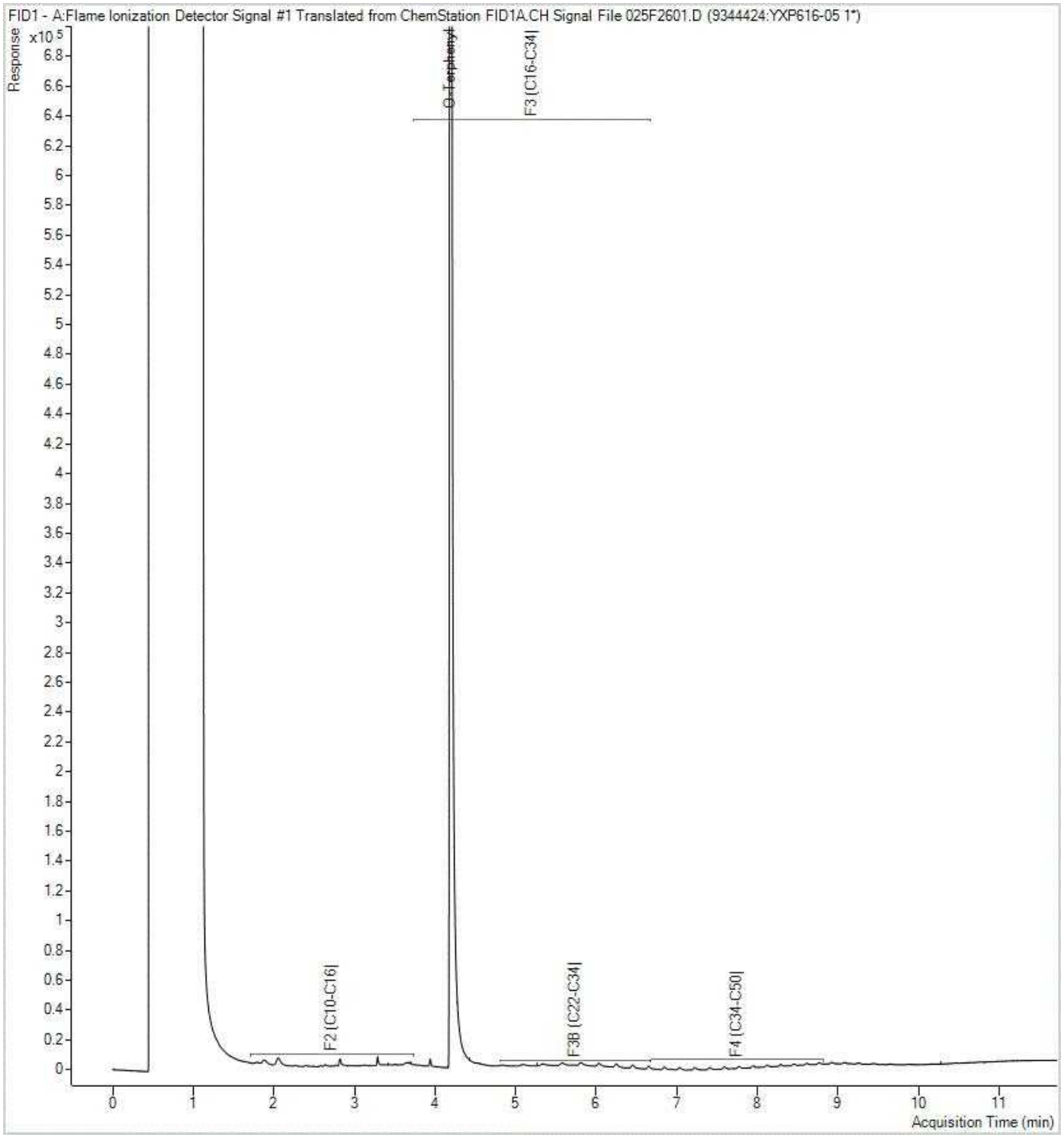


Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Bureau Veritas Job #: C4B3769
Report Date: 2024/04/23
Bureau Veritas Sample: YXP616

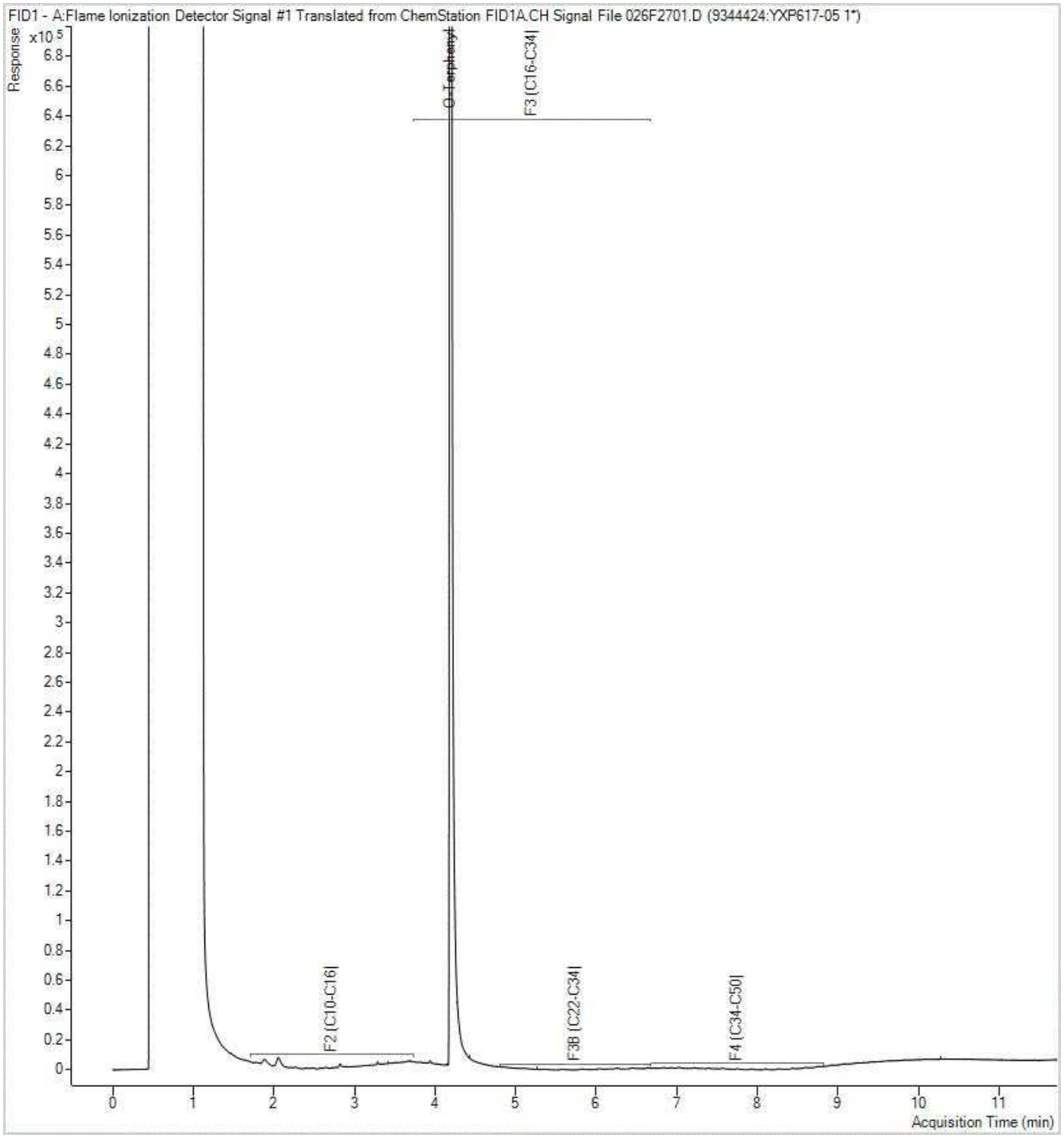
WSP Canada Inc.
Client Project #: CA-GLD-19129150
Project name: 1451 CHARLOSTON SIDE ROAD, CALEDON
Client ID: MW20-16B

Petroleum Hydrocarbons F2-F4 in Water Chromatogram



Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Petroleum Hydrocarbons F2-F4 in Water Chromatogram

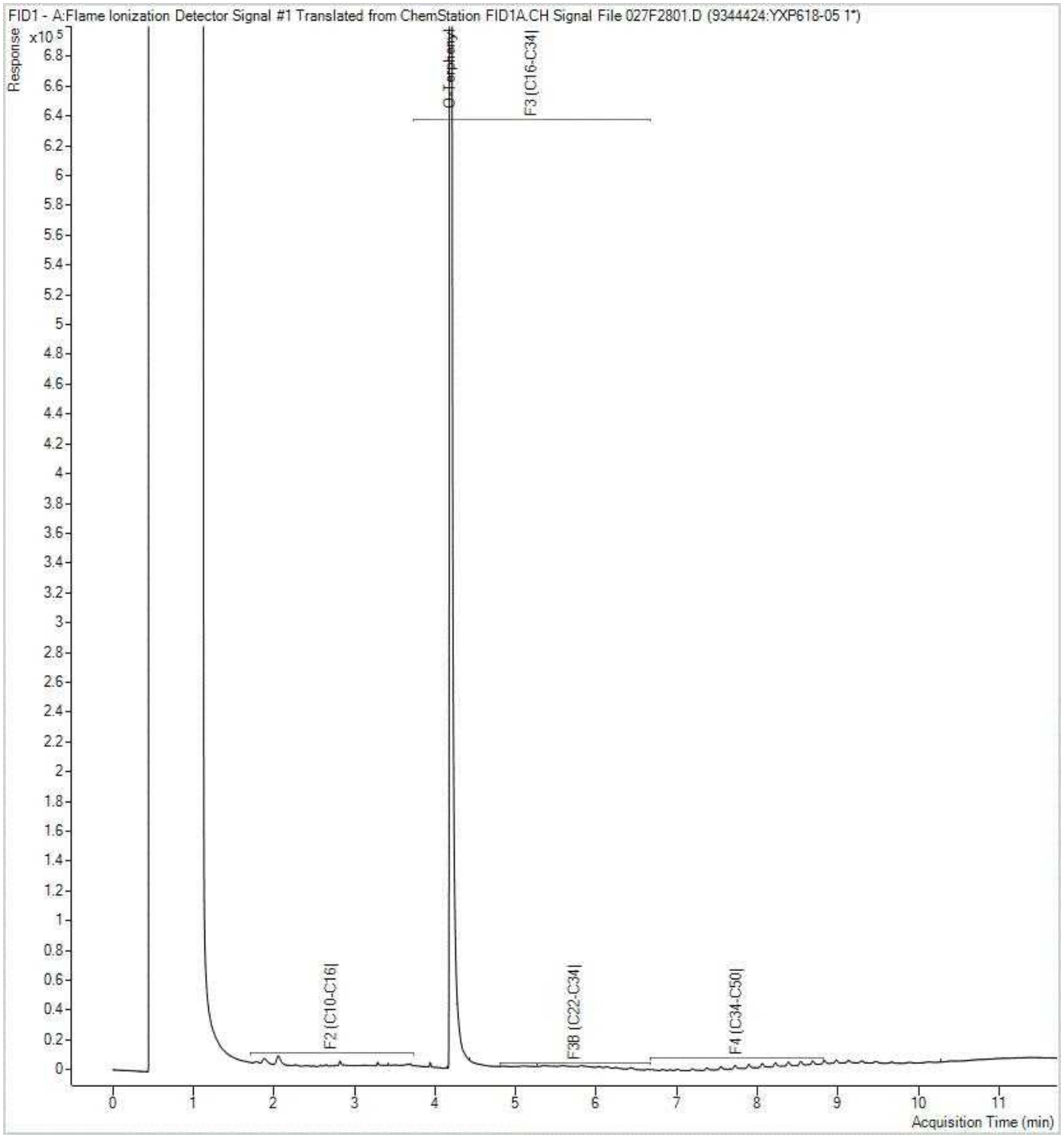


Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Bureau Veritas Job #: C4B3769
Report Date: 2024/04/23
Bureau Veritas Sample: YXP618

WSP Canada Inc.
Client Project #: CA-GLD-19129150
Project name: 1451 CHARLOSTON SIDE ROAD, CALEDON
Client ID: MW21-1-1

Petroleum Hydrocarbons F2-F4 in Water Chromatogram



Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Your Project #: CA-GLD-19129150
Site Location: 1451 CHARLESTON SIDEROAD, CALEDON
Your C.O.C. #: 984504-01-01

Attention: Paul Menkveld

WSP Canada Inc.
210 Sheldon Drive
Cambridge, ON
CANADA N1T 1A8

Report Date: 2024/04/23
Report #: R8119971
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C4B4592
Received: 2024/04/17, 16:22

Sample Matrix: Water
Samples Received: 3

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Alkalinity	3	N/A	2024/04/20	CAM SOP-00448	SM 24 2320 B m
Carbonate, Bicarbonate and Hydroxide	3	N/A	2024/04/20	CAM SOP-00102	APHA 4500-CO2 D
Chloride by Automated Colourimetry	3	N/A	2024/04/23	CAM SOP-00463	SM 24 4500-Cl E m
Conductivity	3	N/A	2024/04/20	CAM SOP-00414	SM 24 2510 m
Dissolved Organic Carbon (DOC) (1)	3	N/A	2024/04/19	CAM SOP-00446	SM 24 5310 B m
Petroleum Hydro. CCME F1 & BTEX in Water	3	N/A	2024/04/19	CAM SOP-00315	CCME PHC-CWS m
Petroleum Hydrocarbons F2-F4 in Water (2)	3	2024/04/19	2024/04/22	CAM SOP-00316	CCME PHC-CWS m
Hardness (calculated as CaCO3)	3	N/A	2024/04/22	CAM SOP 00102/00408/00447	SM 2340 B
Dissolved Metals by ICPMS	2	N/A	2024/04/19	CAM SOP-00447	EPA 6020B m
Dissolved Metals by ICPMS	1	N/A	2024/04/22	CAM SOP-00447	EPA 6020B m
Ion Balance (% Difference)	3	N/A	2024/04/23		
Anion and Cation Sum	3	N/A	2024/04/22		
Total Ammonia-N	3	N/A	2024/04/19	CAM SOP-00441	USGS I-2522-90 m
Nitrate & Nitrite as Nitrogen in Water (3)	2	N/A	2024/04/18	CAM SOP-00440	SM 24 4500-NO3I/NO2B
Nitrate & Nitrite as Nitrogen in Water (3)	1	N/A	2024/04/19	CAM SOP-00440	SM 24 4500-NO3I/NO2B
pH (4)	3	2024/04/18	2024/04/20	CAM SOP-00413	SM 24th - 4500H+ B
Orthophosphate	3	N/A	2024/04/22	CAM SOP-00461	SM 24 4500-P E
Sat. pH and Langelier Index (@ 20C)	3	N/A	2024/04/23		Auto Calc
Sat. pH and Langelier Index (@ 4C)	3	N/A	2024/04/23		Auto Calc
Sulphate by Automated Turbidimetry	3	N/A	2024/04/23	CAM SOP-00464	SM 24 4500-SO42- E m
Total Dissolved Solids (TDS calc)	3	N/A	2024/04/23		Auto Calc

Remarks:

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, EPA, APHA or the Quebec Ministry of Environment.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Your Project #: CA-GLD-19129150
Site Location: 1451 CHARLESTON SIDEROAD, CALEDON
Your C.O.C. #: 984504-01-01

Attention: Paul Menkveld

WSP Canada Inc.
210 Sheldon Drive
Cambridge, ON
CANADA N1T 1A8

Report Date: 2024/04/23
Report #: R8119971
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C4B4592
Received: 2024/04/17, 16:22

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.
This Certificate shall not be reproduced except in full, without the written approval of the laboratory.
Reference Method suffix “m” indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.
(1) Dissolved Organic Carbon (DOC) present in the sample should be considered as non-purgeable DOC.
(2) All CCME PHC results met required criteria unless otherwise stated in the report. The CWS PHC methods employed by Bureau Veritas conform to all prescribed elements of the reference method and performance based elements have been validated. All modifications have been validated and proven equivalent following “Alberta Environment’s Interpretation of the Reference Method for the Canada-Wide Standard for Petroleum Hydrocarbons in Soil Validation of Performance-Based Alternative Methods September 2003”. Documentation is available upon request. Modifications from Reference Method for the Canada-wide Standard for Petroleum Hydrocarbons in Soil-Tier 1 Method: F2/F3/F4 data reported using validated cold solvent extraction instead of Soxhlet extraction.
(3) Values for calculated parameters may not appear to add up due to rounding of raw data and significant figures.
(4) "The CCME method and Analytical Protocol (O. Reg 153/04, O. Reg. 406/19) requires pH to be analyzed within 15 minutes of sampling and therefore field analysis is required for compliance. All Laboratory pH analyses in this report are reported past the CCME and Analytical Protocol (O. Reg 153/04, O. Reg. 406/19) holding time. Bureau Veritas endeavors to analyze samples as soon as possible after receipt."

Encryption Key

Please direct all questions regarding this Certificate of Analysis to:
Ankita Bhalla, Project Manager
Email: Ankita.Bhalla@bureauveritas.com
Phone# (905) 817-5700

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Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation, please refer to the Validation Signatures page if included, otherwise available by request. For Department specific Analyst/Supervisor validation names, please refer to the Test Summary section if included, otherwise available by request. This report is authorized by Rodney Major, General Manager responsible for Ontario Environmental laboratory operations.

RCAP - COMPREHENSIVE (WATER)

Bureau Veritas ID		YXT607		YXT608		YXT609		
Sampling Date		2024/04/17 10:45		2024/04/17 12:45		2024/04/17 14:15		
COC Number		984504-01-01		984504-01-01		984504-01-01		
	UNITS	MW20-17B	QC Batch	MW22-02C	QC Batch	MW22-03A	RDL	QC Batch
Calculated Parameters								
Anion Sum	me/L	6.81	9339426	4.29	9339426	3.50	N/A	9339426
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	230	9338395	170	9338395	160	1.0	9338395
Calculated TDS	mg/L	390	9338494	240	9338494	180	1.0	9338494
Carb. Alkalinity (calc. as CaCO3)	mg/L	2.2	9338395	3.0	9338395	3.1	1.0	9338395
Cation Sum	me/L	7.78	9339426	4.78	9339426	3.57	N/A	9339426
Hardness (CaCO3)	mg/L	330	9340057	180	9340057	140	1.0	9340057
Ion Balance (% Difference)	%	6.60	9339425	5.43	9339425	0.920	N/A	9339425
Langelier Index (@ 20C)	N/A	0.882	9339427	0.572	9339427	0.461		9339427
Langelier Index (@ 4C)	N/A	0.634	9339428	0.323	9339428	0.211		9339428
Saturation pH (@ 20C)	N/A	7.13	9339427	7.72	9339427	7.86		9339427
Saturation pH (@ 4C)	N/A	7.38	9339428	7.97	9339428	8.11		9339428
Inorganics								
Total Ammonia-N	mg/L	0.20	9341450	0.32	9341450	0.19	0.050	9341450
Conductivity	umho/cm	670	9341805	420	9341805	330	1.0	9341805
Dissolved Organic Carbon	mg/L	0.70	9342009	0.83	9342009	1.2	0.40	9342009
Orthophosphate (P)	mg/L	<0.010	9343958	<0.010	9343958	<0.010	0.010	9343958
pH	pH	8.01	9341795	8.29	9341795	8.32		9341795
Dissolved Sulphate (SO4)	mg/L	52	9343957	34	9343957	9.7	1.0	9343957
Alkalinity (Total as CaCO3)	mg/L	230	9341802	170	9341802	160	1.0	9341802
Dissolved Chloride (Cl-)	mg/L	39	9343950	7.6	9343950	1.8	1.0	9343950
Nitrite (N)	mg/L	<0.010	9341771	<0.010	9342042	<0.010	0.010	9341771
Nitrate (N)	mg/L	0.75	9341771	<0.10	9342042	<0.10	0.10	9341771
Nitrate + Nitrite (N)	mg/L	0.75	9341771	<0.10	9342042	<0.10	0.10	9341771
Metals								
Dissolved Aluminum (Al)	ug/L	<4.9	9343915	<4.9	9343915	25	4.9	9343915
Dissolved Antimony (Sb)	ug/L	<0.50	9343915	<0.50	9343915	<0.50	0.50	9343915
Dissolved Arsenic (As)	ug/L	2.7	9343915	14	9343915	3.8	1.0	9343915
Dissolved Barium (Ba)	ug/L	52	9343915	69	9343915	64	2.0	9343915
Dissolved Beryllium (Be)	ug/L	<0.40	9343915	<0.40	9343915	<0.40	0.40	9343915
Dissolved Boron (B)	ug/L	29	9343915	66	9343915	44	10	9343915

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
N/A = Not Applicable

Bureau Veritas 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvna.com

Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

Bureau Veritas Job #: C4B4592
Report Date: 2024/04/23

WSP Canada Inc.
Client Project #: CA-GLD-19129150
Site Location: 1451 CHARLESTON SIDEROAD, CALEDON
Sampler Initials: RN

RCAP - COMPREHENSIVE (WATER)

Bureau Veritas ID		YXT607		YXT608		YXT609		
Sampling Date		2024/04/17 10:45		2024/04/17 12:45		2024/04/17 14:15		
COC Number		984504-01-01		984504-01-01		984504-01-01		
	UNITS	MW20-17B	QC Batch	MW22-02C	QC Batch	MW22-03A	RDL	QC Batch
Dissolved Cadmium (Cd)	ug/L	<0.090	9343915	<0.090	9343915	<0.090	0.090	9343915
Dissolved Calcium (Ca)	ug/L	90000	9343915	29000	9343915	20000	200	9343915
Dissolved Chromium (Cr)	ug/L	<5.0	9343915	<5.0	9343915	<5.0	5.0	9343915
Dissolved Cobalt (Co)	ug/L	0.50	9343915	<0.50	9343915	<0.50	0.50	9343915
Dissolved Copper (Cu)	ug/L	<0.90	9343915	<0.90	9343915	<0.90	0.90	9343915
Dissolved Iron (Fe)	ug/L	<100	9343915	<100	9343915	<100	100	9343915
Dissolved Lead (Pb)	ug/L	<0.50	9343915	<0.50	9343915	<0.50	0.50	9343915
Dissolved Magnesium (Mg)	ug/L	25000	9343915	26000	9343915	22000	50	9343915
Dissolved Manganese (Mn)	ug/L	76	9343915	53	9343915	23	2.0	9343915
Dissolved Molybdenum (Mo)	ug/L	0.78	9343915	52	9343915	10	0.50	9343915
Dissolved Nickel (Ni)	ug/L	1.6	9343915	1.2	9343915	<1.0	1.0	9343915
Dissolved Phosphorus (P)	ug/L	<100	9343915	<100	9343915	<100	100	9343915
Dissolved Potassium (K)	ug/L	1400	9343915	3400	9343915	1100	200	9343915
Dissolved Selenium (Se)	ug/L	<2.0	9343915	<2.0	9343915	<2.0	2.0	9343915
Dissolved Silicon (Si)	ug/L	5600	9343915	7200	9343915	6100	50	9343915
Dissolved Silver (Ag)	ug/L	<0.090	9343915	<0.090	9343915	<0.090	0.090	9343915
Dissolved Sodium (Na)	ug/L	27000	9343915	25000	9343915	16000	100	9343915
Dissolved Strontium (Sr)	ug/L	790	9343915	340	9343915	460	1.0	9343915
Dissolved Thallium (Tl)	ug/L	<0.050	9343915	<0.050	9343915	<0.050	0.050	9343915
Dissolved Titanium (Ti)	ug/L	<5.0	9343915	<5.0	9343915	<5.0	5.0	9343915
Dissolved Uranium (U)	ug/L	0.52	9343915	0.31	9343915	0.11	0.10	9343915
Dissolved Vanadium (V)	ug/L	<0.50	9343915	<0.50	9343915	<0.50	0.50	9343915
Dissolved Zinc (Zn)	ug/L	<5.0	9343915	<5.0	9343915	<5.0	5.0	9343915

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Bureau Veritas 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvna.com

Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

Bureau Veritas Job #: C4B4592
Report Date: 2024/04/23

WSP Canada Inc.
Client Project #: CA-GLD-19129150
Site Location: 1451 CHARLESTON SIDEROAD, CALEDON
Sampler Initials: RN

O.REG 153 PHCS, BTEX/F1-F4 (WATER)

Bureau Veritas ID		YXT607			YXT607			YXT608	YXT609		
Sampling Date		2024/04/17 10:45			2024/04/17 10:45			2024/04/17 12:45	2024/04/17 14:15		
COC Number		984504-01-01			984504-01-01			984504-01-01	984504-01-01		
	UNITS	MW20-17B	RDL	QC Batch	MW20-17B Lab-Dup	RDL	QC Batch	MW22-02C	MW22-03A	RDL	QC Batch
BTEX & F1 Hydrocarbons											
Benzene	ug/L	<0.20	0.20	9343057				<0.20	<0.20	0.20	9343057
Toluene	ug/L	<0.20	0.20	9343057				0.23	<0.20	0.20	9343057
Ethylbenzene	ug/L	<0.20	0.20	9343057				<0.20	<0.20	0.20	9343057
o-Xylene	ug/L	<0.20	0.20	9343057				<0.20	<0.20	0.20	9343057
p+m-Xylene	ug/L	<0.40	0.40	9343057				<0.40	<0.40	0.40	9343057
Total Xylenes	ug/L	<0.40	0.40	9343057				<0.40	<0.40	0.40	9343057
F1 (C6-C10)	ug/L	<25	25	9343057				<25	<25	25	9343057
F1 (C6-C10) - BTEX	ug/L	<25	25	9343057				<25	<25	25	9343057
F2-F4 Hydrocarbons											
F2 (C10-C16 Hydrocarbons)	ug/L	<100	100	9345601	<100	100	9345601	<100	<100	100	9345601
F3 (C16-C34 Hydrocarbons)	ug/L	270	200	9345601	280	200	9345601	<200	<200	200	9345601
F4 (C34-C50 Hydrocarbons)	ug/L	<200	200	9345601	<200	200	9345601	<200	<200	200	9345601
Reached Baseline at C50	ug/L	Yes		9345601	Yes		9345601	Yes	Yes		9345601
Surrogate Recovery (%)											
1,4-Difluorobenzene	%	103		9343057				105	103		9343057
4-Bromofluorobenzene	%	93		9343057				94	93		9343057
D10-o-Xylene	%	102		9343057				99	96		9343057
D4-1,2-Dichloroethane	%	105		9343057				99	101		9343057
o-Terphenyl	%	97		9345601	97		9345601	96	96		9345601

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

Bureau Veritas Job #: C4B4592
Report Date: 2024/04/23

WSP Canada Inc.
Client Project #: CA-GLD-19129150
Site Location: 1451 CHARLESTON SIDEROAD, CALEDON
Sampler Initials: RN

TEST SUMMARY

Bureau Veritas ID: YXT607
Sample ID: MW20-17B
Matrix: Water

Collected: 2024/04/17
Shipped:
Received: 2024/04/17

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	9341802	N/A	2024/04/20	Nachiketa Gohil
Carbonate, Bicarbonate and Hydroxide	CALC	9338395	N/A	2024/04/20	Automated Statchk
Chloride by Automated Colourimetry	SKAL	9343950	N/A	2024/04/23	Alina Dobreanu
Conductivity	AT	9341805	N/A	2024/04/20	Nachiketa Gohil
Dissolved Organic Carbon (DOC)	TOCV/NDIR	9342009	N/A	2024/04/19	Gyulshen Idriz
Petroleum Hydro. CCME F1 & BTEX in Water	HSGC/MSFD	9343057	N/A	2024/04/19	Georgeta Rusu
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	9345601	2024/04/19	2024/04/22	Mohammed Abdul Nafay Shoeb
Hardness (calculated as CaCO3)		9340057	N/A	2024/04/22	Automated Statchk
Dissolved Metals by ICPMS	ICP/MS	9343915	N/A	2024/04/19	Arefa Dabhad
Ion Balance (% Difference)	CALC	9339425	N/A	2024/04/23	Automated Statchk
Anion and Cation Sum	CALC	9339426	N/A	2024/04/22	Automated Statchk
Total Ammonia-N	LACH/NH4	9341450	N/A	2024/04/19	Yogesh Patel
Nitrate & Nitrite as Nitrogen in Water	LACH	9341771	N/A	2024/04/18	Chandra Nandlal
pH	AT	9341795	2024/04/18	2024/04/20	Nachiketa Gohil
Orthophosphate	KONE	9343958	N/A	2024/04/22	Geetee Noorzaad
Sat. pH and Langelier Index (@ 20C)	CALC	9339427	N/A	2024/04/23	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	9339428	N/A	2024/04/23	Automated Statchk
Sulphate by Automated Turbidimetry	SKAL	9343957	N/A	2024/04/23	Alina Dobreanu
Total Dissolved Solids (TDS calc)	CALC	9338494	N/A	2024/04/23	Automated Statchk

Bureau Veritas ID: YXT607 Dup
Sample ID: MW20-17B
Matrix: Water

Collected: 2024/04/17
Shipped:
Received: 2024/04/17

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	9345601	2024/04/19	2024/04/22	Mohammed Abdul Nafay Shoeb

Bureau Veritas ID: YXT608
Sample ID: MW22-02C
Matrix: Water

Collected: 2024/04/17
Shipped:
Received: 2024/04/17

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	9341802	N/A	2024/04/20	Nachiketa Gohil
Carbonate, Bicarbonate and Hydroxide	CALC	9338395	N/A	2024/04/20	Automated Statchk
Chloride by Automated Colourimetry	SKAL	9343950	N/A	2024/04/23	Alina Dobreanu
Conductivity	AT	9341805	N/A	2024/04/20	Nachiketa Gohil
Dissolved Organic Carbon (DOC)	TOCV/NDIR	9342009	N/A	2024/04/19	Gyulshen Idriz
Petroleum Hydro. CCME F1 & BTEX in Water	HSGC/MSFD	9343057	N/A	2024/04/19	Georgeta Rusu
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	9345601	2024/04/19	2024/04/22	Mohammed Abdul Nafay Shoeb
Hardness (calculated as CaCO3)		9340057	N/A	2024/04/22	Automated Statchk
Dissolved Metals by ICPMS	ICP/MS	9343915	N/A	2024/04/19	Arefa Dabhad
Ion Balance (% Difference)	CALC	9339425	N/A	2024/04/23	Automated Statchk
Anion and Cation Sum	CALC	9339426	N/A	2024/04/22	Automated Statchk
Total Ammonia-N	LACH/NH4	9341450	N/A	2024/04/19	Yogesh Patel

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

Bureau Veritas Job #: C4B4592
Report Date: 2024/04/23

WSP Canada Inc.
Client Project #: CA-GLD-19129150
Site Location: 1451 CHARLESTON SIDEROAD, CALEDON
Sampler Initials: RN

TEST SUMMARY

Bureau Veritas ID: YXT608
Sample ID: MW22-02C
Matrix: Water

Collected: 2024/04/17
Shipped:
Received: 2024/04/17

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Nitrate & Nitrite as Nitrogen in Water	LACH	9342042	N/A	2024/04/19	Jinal Chavda
pH	AT	9341795	2024/04/18	2024/04/20	Nachiketa Gohil
Orthophosphate	KONE	9343958	N/A	2024/04/22	Geetee Noorzaad
Sat. pH and Langelier Index (@ 20C)	CALC	9339427	N/A	2024/04/23	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	9339428	N/A	2024/04/23	Automated Statchk
Sulphate by Automated Turbidimetry	SKAL	9343957	N/A	2024/04/23	Alina Dobreanu
Total Dissolved Solids (TDS calc)	CALC	9338494	N/A	2024/04/23	Automated Statchk

Bureau Veritas ID: YXT609
Sample ID: MW22-03A
Matrix: Water

Collected: 2024/04/17
Shipped:
Received: 2024/04/17

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	9341802	N/A	2024/04/20	Nachiketa Gohil
Carbonate, Bicarbonate and Hydroxide	CALC	9338395	N/A	2024/04/20	Automated Statchk
Chloride by Automated Colourimetry	SKAL	9343950	N/A	2024/04/23	Alina Dobreanu
Conductivity	AT	9341805	N/A	2024/04/20	Nachiketa Gohil
Dissolved Organic Carbon (DOC)	TOCV/NDIR	9342009	N/A	2024/04/19	Gyulshen Idriz
Petroleum Hydro. CCME F1 & BTEX in Water	HSGC/MSFD	9343057	N/A	2024/04/19	Georgeta Rusu
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	9345601	2024/04/19	2024/04/22	Mohammed Abdul Nafay Shoeb
Hardness (calculated as CaCO3)		9340057	N/A	2024/04/22	Automated Statchk
Dissolved Metals by ICPMS	ICP/MS	9343915	N/A	2024/04/22	Arefa Dabhad
Ion Balance (% Difference)	CALC	9339425	N/A	2024/04/23	Automated Statchk
Anion and Cation Sum	CALC	9339426	N/A	2024/04/22	Automated Statchk
Total Ammonia-N	LACH/NH4	9341450	N/A	2024/04/19	Yogesh Patel
Nitrate & Nitrite as Nitrogen in Water	LACH	9341771	N/A	2024/04/18	Chandra Nandlal
pH	AT	9341795	2024/04/18	2024/04/20	Nachiketa Gohil
Orthophosphate	KONE	9343958	N/A	2024/04/22	Geetee Noorzaad
Sat. pH and Langelier Index (@ 20C)	CALC	9339427	N/A	2024/04/23	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	9339428	N/A	2024/04/23	Automated Statchk
Sulphate by Automated Turbidimetry	SKAL	9343957	N/A	2024/04/23	Alina Dobreanu
Total Dissolved Solids (TDS calc)	CALC	9338494	N/A	2024/04/23	Automated Statchk

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	3.0°C

Results relate only to the items tested.

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

QUALITY ASSURANCE REPORT

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
9343057	1,4-Difluorobenzene	2024/04/18	95	70 - 130	97	70 - 130	103	%		
9343057	4-Bromofluorobenzene	2024/04/18	98	70 - 130	97	70 - 130	93	%		
9343057	D10-o-Xylene	2024/04/18	92	70 - 130	99	70 - 130	90	%		
9343057	D4-1,2-Dichloroethane	2024/04/18	94	70 - 130	90	70 - 130	102	%		
9345601	o-Terphenyl	2024/04/22	100	60 - 130	100	60 - 130	96	%		
9341450	Total Ammonia-N	2024/04/19	96	75 - 125	101	80 - 120	<0.050	mg/L	NC	20
9341771	Nitrate (N)	2024/04/18	37 (1)	80 - 120	96	80 - 120	<0.10	mg/L	2.7	20
9341771	Nitrite (N)	2024/04/18	49 (1)	80 - 120	102	80 - 120	<0.010	mg/L	3.0	20
9341795	pH	2024/04/20			102	98 - 103			0.50	N/A
9341802	Alkalinity (Total as CaCO3)	2024/04/20			99	85 - 115	<1.0	mg/L	0.19	20
9341805	Conductivity	2024/04/20			103	85 - 115	<1.0	umho/cm	0.34	10
9342009	Dissolved Organic Carbon	2024/04/19	93	80 - 120	97	80 - 120	<0.40	mg/L	7.7	20
9342042	Nitrate (N)	2024/04/19	102	80 - 120	102	80 - 120	<0.10	mg/L	NC	20
9342042	Nitrite (N)	2024/04/19	103	80 - 120	102	80 - 120	<0.010	mg/L	NC	20
9343057	Benzene	2024/04/18	87	50 - 140	89	50 - 140	<0.20	ug/L	NC	30
9343057	Ethylbenzene	2024/04/18	92	50 - 140	95	50 - 140	<0.20	ug/L	NC	30
9343057	F1 (C6-C10) - BTEX	2024/04/18					<25	ug/L	NC	30
9343057	F1 (C6-C10)	2024/04/18	101	60 - 140	106	60 - 140	<25	ug/L	NC	30
9343057	o-Xylene	2024/04/18	90	50 - 140	93	50 - 140	<0.20	ug/L	NC	30
9343057	p+m-Xylene	2024/04/18	86	50 - 140	89	50 - 140	<0.40	ug/L	NC	30
9343057	Toluene	2024/04/18	84	50 - 140	86	50 - 140	<0.20	ug/L	NC	30
9343057	Total Xylenes	2024/04/18					<0.40	ug/L	NC	30
9343915	Dissolved Aluminum (Al)	2024/04/19	106	80 - 120	102	80 - 120	<4.9	ug/L	NC	20
9343915	Dissolved Antimony (Sb)	2024/04/19	113	80 - 120	106	80 - 120	<0.50	ug/L	NC	20
9343915	Dissolved Arsenic (As)	2024/04/19	103	80 - 120	99	80 - 120	<1.0	ug/L	0.94	20
9343915	Dissolved Barium (Ba)	2024/04/19	109	80 - 120	104	80 - 120	<2.0	ug/L	0.36	20
9343915	Dissolved Beryllium (Be)	2024/04/19	102	80 - 120	97	80 - 120	<0.40	ug/L	NC	20
9343915	Dissolved Boron (B)	2024/04/19	103	80 - 120	96	80 - 120	<10	ug/L	0.0077	20
9343915	Dissolved Cadmium (Cd)	2024/04/19	107	80 - 120	103	80 - 120	<0.090	ug/L	NC	20
9343915	Dissolved Calcium (Ca)	2024/04/19	NC	80 - 120	109	80 - 120	<200	ug/L	2.6	20
9343915	Dissolved Chromium (Cr)	2024/04/19	104	80 - 120	96	80 - 120	<5.0	ug/L	NC	20

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
9343915	Dissolved Cobalt (Co)	2024/04/19	97	80 - 120	95	80 - 120	<0.50	ug/L	NC	20
9343915	Dissolved Copper (Cu)	2024/04/19	107	80 - 120	104	80 - 120	<0.90	ug/L	NC	20
9343915	Dissolved Iron (Fe)	2024/04/19	103	80 - 120	100	80 - 120	<100	ug/L	NC	20
9343915	Dissolved Lead (Pb)	2024/04/19	103	80 - 120	100	80 - 120	<0.50	ug/L	NC	20
9343915	Dissolved Magnesium (Mg)	2024/04/19	NC	80 - 120	105	80 - 120	<50	ug/L	3.8	20
9343915	Dissolved Manganese (Mn)	2024/04/19	101	80 - 120	99	80 - 120	<2.0	ug/L	1.6	20
9343915	Dissolved Molybdenum (Mo)	2024/04/19	110	80 - 120	106	80 - 120	<0.50	ug/L	3.9	20
9343915	Dissolved Nickel (Ni)	2024/04/19	97	80 - 120	95	80 - 120	<1.0	ug/L	NC	20
9343915	Dissolved Phosphorus (P)	2024/04/19	113	80 - 120	112	80 - 120	<100	ug/L	NC	20
9343915	Dissolved Potassium (K)	2024/04/19	112	80 - 120	107	80 - 120	<200	ug/L	2.0	20
9343915	Dissolved Selenium (Se)	2024/04/19	102	80 - 120	98	80 - 120	<2.0	ug/L	NC	20
9343915	Dissolved Silicon (Si)	2024/04/19	119	80 - 120	110	80 - 120	<50	ug/L	0.86	20
9343915	Dissolved Silver (Ag)	2024/04/19	93	80 - 120	99	80 - 120	<0.090	ug/L	NC	20
9343915	Dissolved Sodium (Na)	2024/04/19	104	80 - 120	102	80 - 120	<100	ug/L	1.1	20
9343915	Dissolved Strontium (Sr)	2024/04/19	100	80 - 120	97	80 - 120	<1.0	ug/L	2.1	20
9343915	Dissolved Thallium (Tl)	2024/04/19	105	80 - 120	101	80 - 120	<0.050	ug/L	NC	20
9343915	Dissolved Titanium (Ti)	2024/04/19	110	80 - 120	106	80 - 120	<5.0	ug/L	NC	20
9343915	Dissolved Uranium (U)	2024/04/19	103	80 - 120	97	80 - 120	<0.10	ug/L	1.3	20
9343915	Dissolved Vanadium (V)	2024/04/19	101	80 - 120	97	80 - 120	<0.50	ug/L	NC	20
9343915	Dissolved Zinc (Zn)	2024/04/19	103	80 - 120	99	80 - 120	<5.0	ug/L	NC	20
9343950	Dissolved Chloride (Cl-)	2024/04/23	NC	80 - 120	96	80 - 120	<1.0	mg/L	0.19	20
9343957	Dissolved Sulphate (SO4)	2024/04/23	96	75 - 125	97	80 - 120	<1.0	mg/L	0.36	20
9343958	Orthophosphate (P)	2024/04/22	93	75 - 125	92	80 - 120	<0.010	mg/L	12	20
9345601	F2 (C10-C16 Hydrocarbons)	2024/04/22	99	60 - 130	109	60 - 130	<100	ug/L	NC	30
9345601	F3 (C16-C34 Hydrocarbons)	2024/04/22	105	60 - 130	117	60 - 130	<200	ug/L	0.73	30

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
9345601	F4 (C34-C50 Hydrocarbons)	2024/04/22	96	60 - 130	107	60 - 130	<200	ug/L	NC	30

N/A = Not Applicable

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

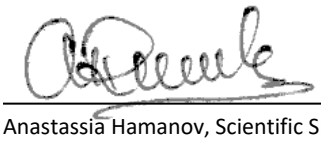
(1) Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:



Anastassia Hamanov, Scientific Specialist

Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation, please refer to the Validation Signatures page if included, otherwise available by request. For Department specific Analyst/Supervisor validation names, please refer to the Test Summary section if included, otherwise available by request. This report is authorized by Rodney Major, General Manager responsible for Ontario Environmental laboratory operations.

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NONT-2024-04-1616

Bottle Order #: 984504

COC #: C#984504-01-01

Project Manager: Ankita Bhalla

INVOICE TO:		REPORT TO:		PROJECT INFORMATION:	
Company Name:	#21375 WSP Canada Inc.	Company Name:		Quotation #:	C41059
Attention:	George Schneider	Attention:	Paul Menkveld	P.O. #:	
Address:	210 Sheldon Drive Cambridge ON N1T 1A8	Address:		Project:	CA-GLD-19129150
Tel:	(519) 620-8182 Fax:	Tel:	226-750-8848 Fax:	Project Name:	
Email:	George_Schneider@golder.com	Email:	paul.menkveld@wsp.com	Site #:	148 Charlotte Street, Caledon, ON
				Sampled By:	Ramin Niknam

MOE REGULATED DRINKING WATER OR WATER INTENDED FOR HUMAN CONSUMPTION MUST BE SUBMITTED ON THE BUREAU VERITAS DRINKING WATER CHAIN OF CUSTODY

Regulation 153 (2011): ☐ Table 1 ☐ Res/Park ☐ Medium/Fine ☐ Table 2 ☐ Ind/Comm ☐ Coarse ☐ Table 3 ☐ Agri/Other ☐ For RSC ☐ Table ___

Other Regulations: ☐ CCME ☐ Sanitary Sewer Bylaw ☐ Reg 558. ☐ Storm Sewer Bylaw ☐ MISA Municipality ☐ PWQO ☐ Reg 406 Table ☐ Other

Special Instructions

Include Criteria on Certificate of Analysis (Y/N)? Y

ANALYSIS REQUESTED (PLEASE BE SPECIFIC)

Turnaround Time (TAT) Required:
Please provide advance notice for rush projects

Regular (Standard) TAT: ✓
(will be applied if Rush TAT is not specified):
Standard TAT = 5-7 Working days for most tests.
Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.

Job Specific Rush TAT (if applies to entire submission)
Date Required: Time Required:
Rush Confirmation Number: *(call lab for #)*

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Field Filtered (please circle): Metals / Hg / Cr VI	RCAp - Comprehensive	O.Reg 153 PHCs, BTEX/F1-F4	# of Bottles	Comments
1		~~MW20-01~~ MW20-17B	24/4/17	10:45	GW	✓	✓	✓	8	
2		~~MW20-02~~ MW22-02C	24/4/17	12:45	GW	✓	✓	✓	8	
3		~~MW20-03~~ MW22-03A	24/4/17	14:15	GW	✓	✓	✓	8	
4		~~MW20-04~~								
5		~~MW20-05~~								
6		~~MW20-06~~								
7		~~MW20-07~~								
8		~~MW20-08~~								
9		~~MW20-09~~								
10		~~MW20-10~~								

* RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	# jars used and not submitted
Ramin Niknam	24/4/17	16:20		24/04/17	16:20	

Laboratory Use Only

Time Sensitive	Temperature (°C) on Recei	Custody Seal	Yes	No
	27.3 | 7.3	Present		
		Intact		

* UNLESS OTHERWISE AGREED TO IN WRITING, WORK SUBMITTED ON THIS CHAIN OF CUSTODY IS SUBJECT TO BUREAU VERITAS'S STANDARD TERMS AND CONDITIONS. SIGNING OF THIS CHAIN OF CUSTODY DOCUMENT IS ACKNOWLEDGMENT AND ACCEPTANCE OF OUR TERMS WHICH ARE AVAILABLE FOR VIEWING AT WWW.BVNA.COM/ENVIRONMENTAL-LABORATORIES/RESOURCES/COC-TERMS-AND-CONDITIONS.

* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

** SAMPLE CONTAINER, PRESERVATION, HOLD TIME AND PACKAGE INFORMATION CAN BE VIEWED AT WWW.BVNA.COM/ENVIRONMENTAL-LABORATORIES/RESOURCES/CHAIN-CUSTODY-FORMS-COCS.

SAMPLES MUST BE KEPT COOL (< 10° C) FROM TIME OF SAMPLING UNTIL DELIVERY TO BUREAU VERITAS

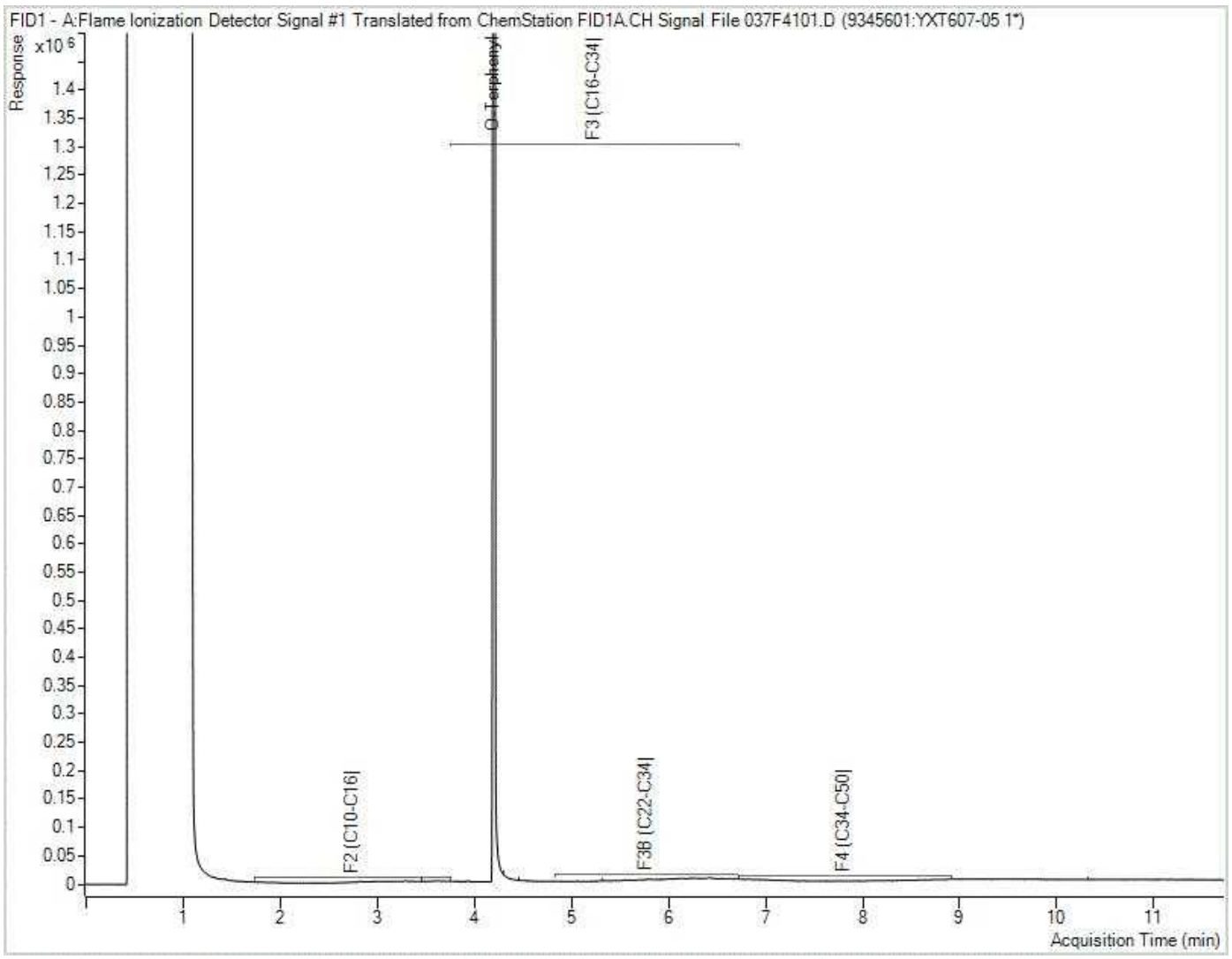
White: Bureau Veritas Yellow: Client

Bureau Veritas Canada (2019) Inc.

Bureau Veritas Job #: C4B4592
Report Date: 2024/04/23
Bureau Veritas Sample: YXT607

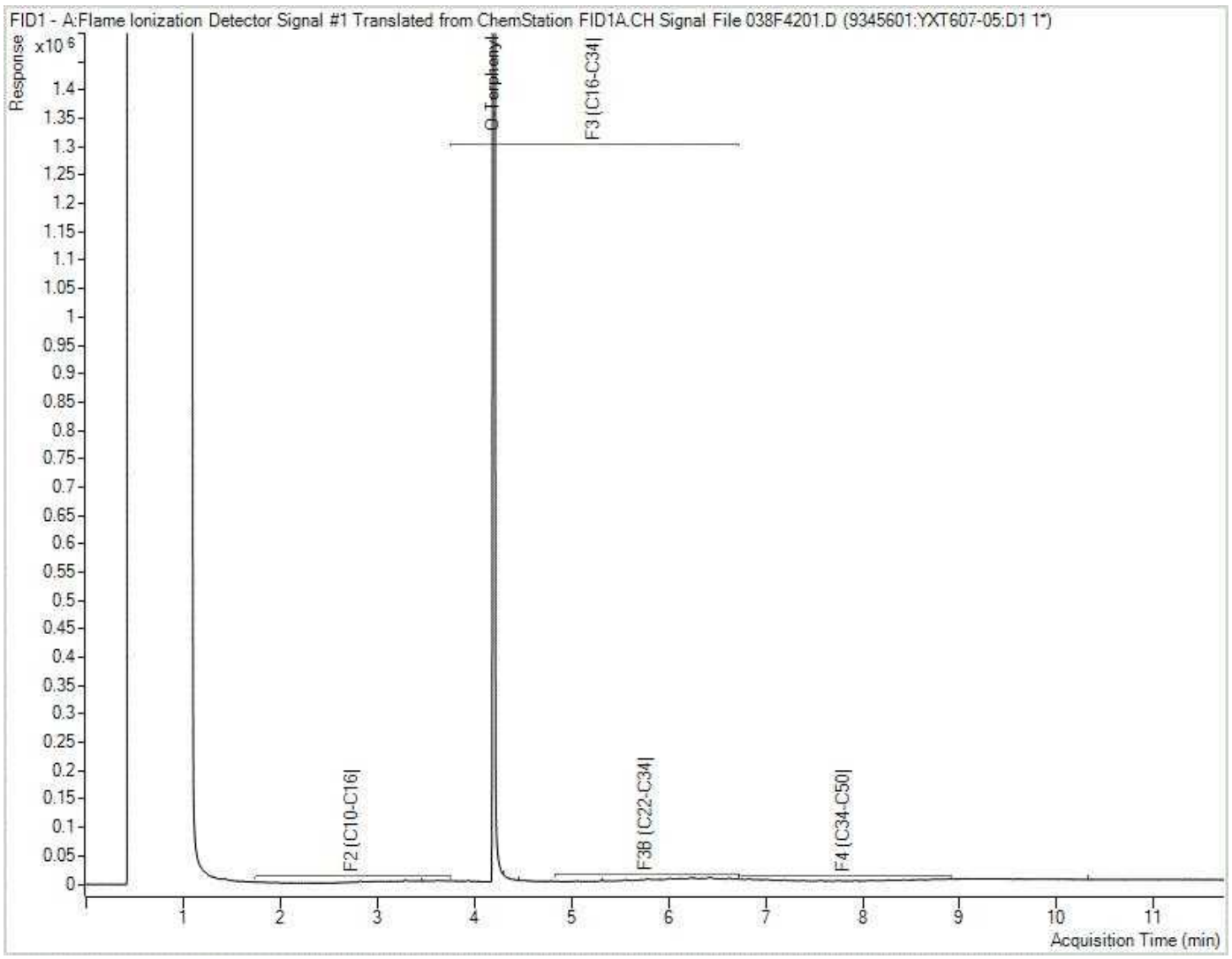
WSP Canada Inc.
Client Project #: CA-GLD-19129150
Project name: 1451 CHARLESTON SIDEROAD, CALEDON
Client ID: MW20-17B

Petroleum Hydrocarbons F2-F4 in Water Chromatogram



Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Petroleum Hydrocarbons F2-F4 in Water Chromatogram

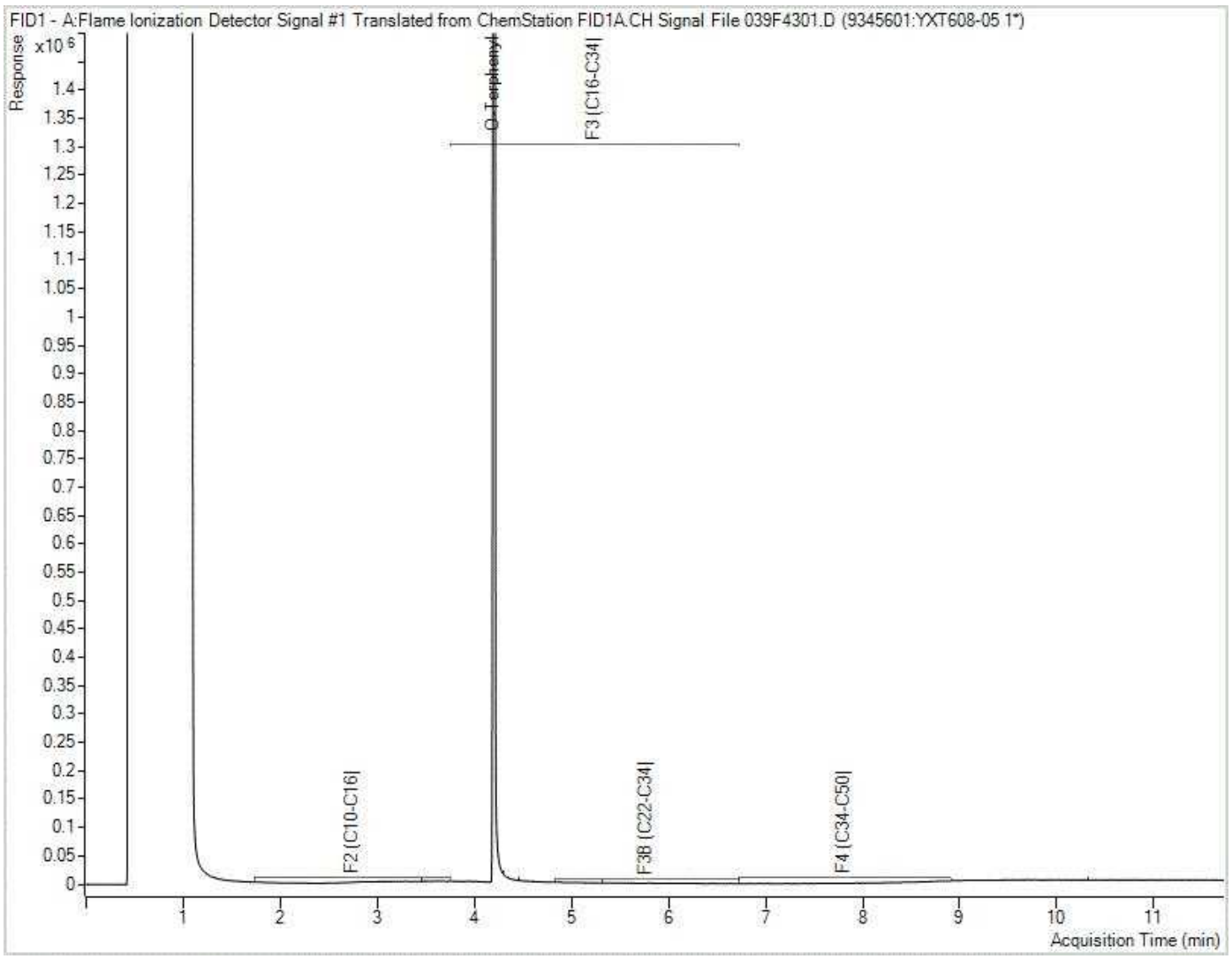


Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Bureau Veritas Job #: C4B4592
Report Date: 2024/04/23
Bureau Veritas Sample: YXT608

WSP Canada Inc.
Client Project #: CA-GLD-19129150
Project name: 1451 CHARLESTON SIDEROAD, CALEDON
Client ID: MW22-02C

Petroleum Hydrocarbons F2-F4 in Water Chromatogram

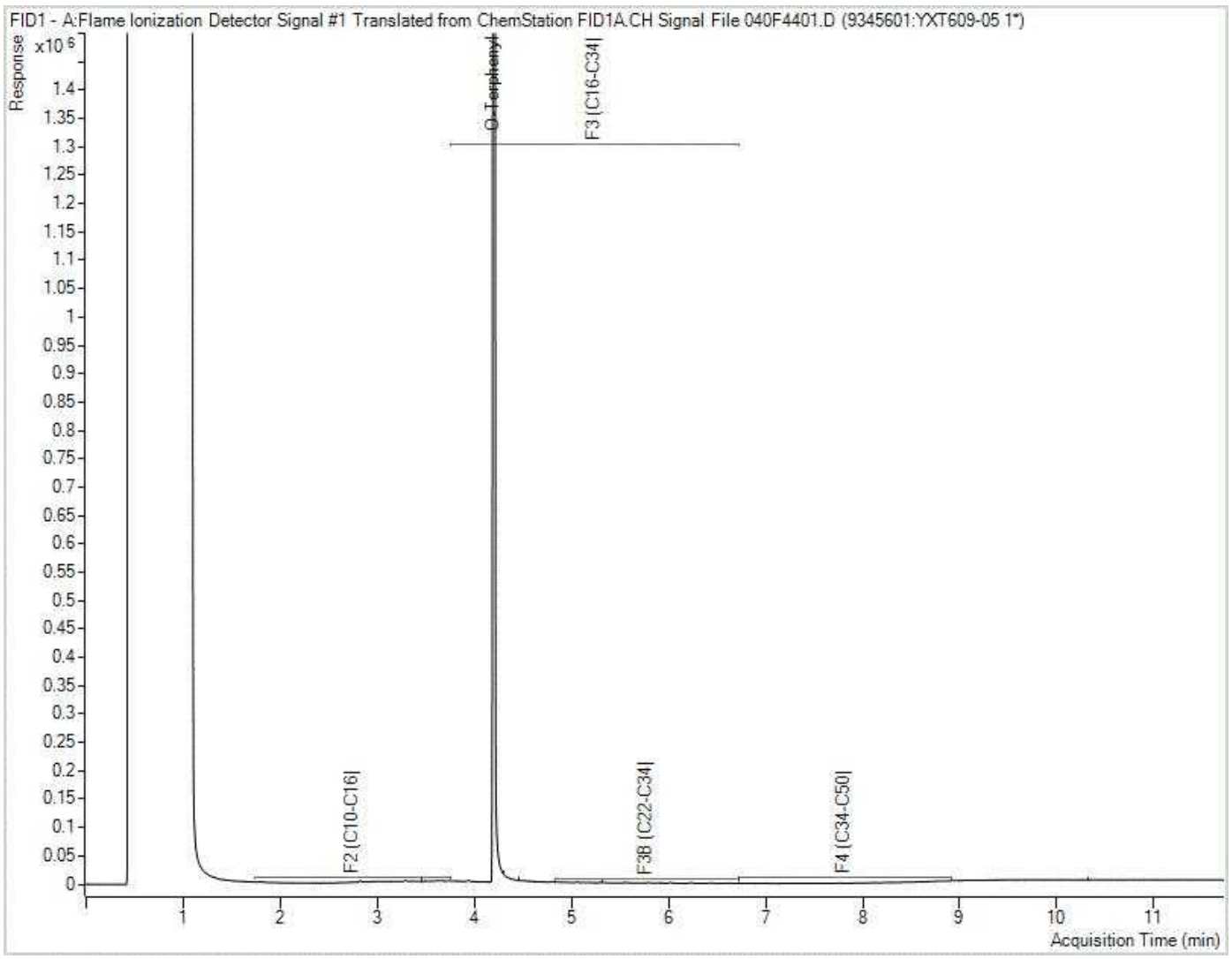


Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Bureau Veritas Job #: C4B4592
Report Date: 2024/04/23
Bureau Veritas Sample: YXT609

WSP Canada Inc.
Client Project #: CA-GLD-19129150
Project name: 1451 CHARLESTON SIDEROAD, CALEDON
Client ID: MW22-03A

Petroleum Hydrocarbons F2-F4 in Water Chromatogram



Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Your Project #: CA-GLD-19129150
Site Location: 1451 CHARLESTON SIDEROAD, CALEDON , ON
Your C.O.C. #: C#984504-01-01

Attention: Paul Menkveld

WSP Canada Inc.
210 Sheldon Drive
Cambridge, ON
CANADA N1T 1A8

Report Date: 2024/04/24
Report #: R8121492
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C4B6988
Received: 2024/04/18, 17:22

Sample Matrix: Water
Samples Received: 4

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Alkalinity	4	N/A	2024/04/22	CAM SOP-00448	SM 24 2320 B m
Carbonate, Bicarbonate and Hydroxide	4	N/A	2024/04/23	CAM SOP-00102	APHA 4500-CO2 D
Chloride by Automated Colourimetry	4	N/A	2024/04/24	CAM SOP-00463	SM 24 4500-Cl E m
Conductivity	4	N/A	2024/04/22	CAM SOP-00414	SM 24 2510 m
Dissolved Organic Carbon (DOC) (1)	4	N/A	2024/04/22	CAM SOP-00446	SM 24 5310 B m
Petroleum Hydro. CCME F1 & BTEX in Water	3	N/A	2024/04/19	CAM SOP-00315	CCME PHC-CWS m
Petroleum Hydro. CCME F1 & BTEX in Water	1	N/A	2024/04/22	CAM SOP-00315	CCME PHC-CWS m
Petroleum Hydrocarbons F2-F4 in Water (2)	3	2024/04/20	2024/04/21	CAM SOP-00316	CCME PHC-CWS m
Petroleum Hydrocarbons F2-F4 in Water (2)	1	2024/04/22	2024/04/23	CAM SOP-00316	CCME PHC-CWS m
Hardness (calculated as CaCO3)	4	N/A	2024/04/22	CAM SOP 00102/00408/00447	SM 2340 B
Dissolved Metals by ICPMS	4	N/A	2024/04/22	CAM SOP-00447	EPA 6020B m
Ion Balance (% Difference)	4	N/A	2024/04/24		
Anion and Cation Sum	4	N/A	2024/04/23		
Total Ammonia-N	4	N/A	2024/04/23	CAM SOP-00441	USGS I-2522-90 m
Nitrate & Nitrite as Nitrogen in Water (3)	4	N/A	2024/04/20	CAM SOP-00440	SM 24 4500-NO3I/NO2B
pH (4)	4	2024/04/20	2024/04/22	CAM SOP-00413	SM 24th - 4500H+ B
Orthophosphate	4	N/A	2024/04/24	CAM SOP-00461	SM 24 4500-P E
Sat. pH and Langelier Index (@ 20C)	4	N/A	2024/04/24		Auto Calc
Sat. pH and Langelier Index (@ 4C)	4	N/A	2024/04/24		Auto Calc
Sulphate by Automated Turbidimetry	4	N/A	2024/04/24	CAM SOP-00464	SM 24 4500-SO42- E m
Total Dissolved Solids (TDS calc)	4	N/A	2024/04/24		Auto Calc

Remarks:

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, EPA, APHA or the Quebec Ministry of Environment.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Your Project #: CA-GLD-19129150
Site Location: 1451 CHARLESTON SIDEROAD, CALEDON , ON
Your C.O.C. #: C#984504-01-01

Attention: Paul Menkveld

WSP Canada Inc.
210 Sheldon Drive
Cambridge, ON
CANADA N1T 1A8

Report Date: 2024/04/24
Report #: R8121492
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C4B6988
Received: 2024/04/18, 17:22

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.
This Certificate shall not be reproduced except in full, without the written approval of the laboratory.
Reference Method suffix “m” indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.
(1) Dissolved Organic Carbon (DOC) present in the sample should be considered as non-purgeable DOC.
(2) All CCME PHC results met required criteria unless otherwise stated in the report. The CWS PHC methods employed by Bureau Veritas conform to all prescribed elements of the reference method and performance based elements have been validated. All modifications have been validated and proven equivalent following “Alberta Environment’s Interpretation of the Reference Method for the Canada-Wide Standard for Petroleum Hydrocarbons in Soil Validation of Performance-Based Alternative Methods September 2003”. Documentation is available upon request. Modifications from Reference Method for the Canada-wide Standard for Petroleum Hydrocarbons in Soil-Tier 1 Method: F2/F3/F4 data reported using validated cold solvent extraction instead of Soxhlet extraction.
(3) Values for calculated parameters may not appear to add up due to rounding of raw data and significant figures.
(4) "The CCME method and Analytical Protocol (O. Reg 153/04, O. Reg. 406/19) requires pH to be analyzed within 15 minutes of sampling and therefore field analysis is required for compliance. All Laboratory pH analyses in this report are reported past the CCME and Analytical Protocol (O. Reg 153/04, O. Reg. 406/19) holding time. Bureau Veritas endeavors to analyze samples as soon as possible after receipt."

Encryption Key

Please direct all questions regarding this Certificate of Analysis to:
Ankita Bhalla, Project Manager
Email: Ankita.Bhalla@bureauveritas.com
Phone# (905) 817-5700
==========
This report has been generated and distributed using a secure automated process.
Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation, please refer to the Validation Signatures page if included, otherwise available by request. For Department specific Analyst/Supervisor validation names, please refer to the Test Summary section if included, otherwise available by request. This report is authorized by Rodney Major, General Manager responsible for Ontario Environmental laboratory operations.

Bureau Veritas Job #: C4B6988
Report Date: 2024/04/24

WSP Canada Inc.
Client Project #: CA-GLD-19129150
Site Location: 1451 CHARLESTON SIDEROAD, CALEDON , ON
Sampler Initials: RN

RCAP - COMPREHENSIVE (WATER)

Bureau Veritas ID		YYG091			YYG091			YYG092		
Sampling Date		2024/04/18 11:00			2024/04/18 11:00			2024/04/18 13:15		
COC Number		C#984504-01-01			C#984504-01-01			C#984504-01-01		
	UNITS	MW20-13B	RDL	QC Batch	MW20-13B Lab-Dup	RDL	QC Batch	MW20-12A	RDL	QC Batch
Calculated Parameters										
Anion Sum	me/L	4.37	N/A	9344890				6.47	N/A	9344890
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	190	1.0	9344234				260	1.0	9344234
Calculated TDS	mg/L	230	1.0	9344124				360	1.0	9344124
Carb. Alkalinity (calc. as CaCO3)	mg/L	1.0	1.0	9344234				1.6	1.0	9344234
Cation Sum	me/L	4.56	N/A	9344890				7.10	N/A	9344890
Hardness (CaCO3)	mg/L	200	1.0	9344231				320	1.0	9344231
Ion Balance (% Difference)	%	2.05	N/A	9344889				4.67	N/A	9344889
Langelier Index (@ 20C)	N/A	0.270		9344891				0.703		9344891
Langelier Index (@ 4C)	N/A	0.0210		9344892				0.454		9344892
Saturation pH (@ 20C)	N/A	7.49		9344891				7.11		9344891
Saturation pH (@ 4C)	N/A	7.74		9344892				7.36		9344892
Inorganics										
Total Ammonia-N	mg/L	0.12	0.050	9347651				0.056	0.050	9347651
Conductivity	umho/cm	410	1.0	9346114	410	1.0	9346114	610	1.0	9346114
Dissolved Organic Carbon	mg/L	0.65	0.40	9346324				0.63	0.40	9346324
Orthophosphate (P)	mg/L	<0.010	0.010	9346470				<0.010	0.010	9346470
pH	pH	7.76		9346116	7.87		9346116	7.81		9346116
Dissolved Sulphate (SO4)	mg/L	28	1.0	9346469				27	1.0	9346469
Alkalinity (Total as CaCO3)	mg/L	190	1.0	9346109	190	1.0	9346109	270	1.0	9346109
Dissolved Chloride (Cl-)	mg/L	<1.0	1.0	9346466				7.2	1.0	9346466
Nitrite (N)	mg/L	<0.010	0.010	9346103				0.031	0.010	9346103
Nitrate (N)	mg/L	<0.10	0.10	9346103				5.45	0.10	9346103
Nitrate + Nitrite (N)	mg/L	<0.10	0.10	9346103				5.48	0.10	9346103
Metals										
Dissolved Aluminum (Al)	ug/L	12	4.9	9347239				130	4.9	9347239
Dissolved Antimony (Sb)	ug/L	<0.50	0.50	9347239				<0.50	0.50	9347239
Dissolved Arsenic (As)	ug/L	5.8	1.0	9347239				1.2	1.0	9347239
Dissolved Barium (Ba)	ug/L	64	2.0	9347239				69	2.0	9347239
Dissolved Beryllium (Be)	ug/L	<0.40	0.40	9347239				<0.40	0.40	9347239

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate
N/A = Not Applicable

Bureau Veritas 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvna.com

Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

Bureau Veritas Job #: C4B6988
Report Date: 2024/04/24

WSP Canada Inc.
Client Project #: CA-GLD-19129150
Site Location: 1451 CHARLESTON SIDEROAD, CALEDON , ON
Sampler Initials: RN

RCAP - COMPREHENSIVE (WATER)

Bureau Veritas ID		YYG091			YYG091			YYG092		
Sampling Date		2024/04/18 11:00			2024/04/18 11:00			2024/04/18 13:15		
COC Number		C#984504-01-01			C#984504-01-01			C#984504-01-01		
	UNITS	MW20-13B	RDL	QC Batch	MW20-13B Lab-Dup	RDL	QC Batch	MW20-12A	RDL	QC Batch
Dissolved Boron (B)	ug/L	60	10	9347239				14	10	9347239
Dissolved Cadmium (Cd)	ug/L	<0.090	0.090	9347239				<0.090	0.090	9347239
Dissolved Calcium (Ca)	ug/L	42000	200	9347239				79000	200	9347239
Dissolved Chromium (Cr)	ug/L	<5.0	5.0	9347239				<5.0	5.0	9347239
Dissolved Cobalt (Co)	ug/L	<0.50	0.50	9347239				<0.50	0.50	9347239
Dissolved Copper (Cu)	ug/L	<0.90	0.90	9347239				1.2	0.90	9347239
Dissolved Iron (Fe)	ug/L	140	100	9347239				680	100	9347239
Dissolved Lead (Pb)	ug/L	<0.50	0.50	9347239				2.0	0.50	9347239
Dissolved Magnesium (Mg)	ug/L	24000	50	9347239				29000	50	9347239
Dissolved Manganese (Mn)	ug/L	27	2.0	9347239				110	2.0	9347239
Dissolved Molybdenum (Mo)	ug/L	2.4	0.50	9347239				2.9	0.50	9347239
Dissolved Nickel (Ni)	ug/L	<1.0	1.0	9347239				2.5	1.0	9347239
Dissolved Phosphorus (P)	ug/L	<100	100	9347239				<100	100	9347239
Dissolved Potassium (K)	ug/L	1800	200	9347239				3700	200	9347239
Dissolved Selenium (Se)	ug/L	<2.0	2.0	9347239				<2.0	2.0	9347239
Dissolved Silicon (Si)	ug/L	6900	50	9347239				5300	50	9347239
Dissolved Silver (Ag)	ug/L	<0.090	0.090	9347239				<0.090	0.090	9347239
Dissolved Sodium (Na)	ug/L	9400	100	9347239				14000	100	9347239
Dissolved Strontium (Sr)	ug/L	940	1.0	9347239				340	1.0	9347239
Dissolved Thallium (Tl)	ug/L	<0.050	0.050	9347239				<0.050	0.050	9347239
Dissolved Titanium (Ti)	ug/L	<5.0	5.0	9347239				<5.0	5.0	9347239
Dissolved Uranium (U)	ug/L	0.32	0.10	9347239				0.83	0.10	9347239
Dissolved Vanadium (V)	ug/L	<0.50	0.50	9347239				<0.50	0.50	9347239
Dissolved Zinc (Zn)	ug/L	<5.0	5.0	9347239				9.0	5.0	9347239

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Bureau Veritas Job #: C4B6988
Report Date: 2024/04/24

WSP Canada Inc.
Client Project #: CA-GLD-19129150
Site Location: 1451 CHARLESTON SIDEROAD, CALEDON , ON
Sampler Initials: RN

RCAP - COMPREHENSIVE (WATER)

Bureau Veritas ID		YYG093			YYG093			YYG094		
Sampling Date		2024/04/18 15:00			2024/04/18 15:00			2024/04/18 15:45		
COC Number		C#984504-01-01			C#984504-01-01			C#984504-01-01		
	UNITS	MW20-14B	RDL	QC Batch	MW20-14B Lab-Dup	RDL	QC Batch	MW20-11B	RDL	QC Batch
Calculated Parameters										
Anion Sum	me/L	8.85	N/A	9344890				13.9	N/A	9344890
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	220	1.0	9344234				320	1.0	9344234
Calculated TDS	mg/L	500	1.0	9344124				780	1.0	9344124
Carb. Alkalinity (calc. as CaCO3)	mg/L	1.3	1.0	9344234				1.6	1.0	9344234
Cation Sum	me/L	9.62	N/A	9344890				15.1	N/A	9344890
Hardness (CaCO3)	mg/L	330	1.0	9344231				370	1.0	9344231
Ion Balance (% Difference)	%	4.18	N/A	9344889				4.11	N/A	9344889
Langelier Index (@ 20C)	N/A	0.569		9344891				0.721		9344891
Langelier Index (@ 4C)	N/A	0.321		9344892				0.474		9344892
Saturation pH (@ 20C)	N/A	7.21		9344891				7.00		9344891
Saturation pH (@ 4C)	N/A	7.46		9344892				7.24		9344892
Inorganics										
Total Ammonia-N	mg/L	<0.050	0.050	9347651				0.079	0.050	9347651
Conductivity	umho/cm	940	1.0	9346114				1400	1.0	9346114
Dissolved Organic Carbon	mg/L	0.77	0.40	9346324				1.4	0.40	9346325
Orthophosphate (P)	mg/L	<0.010	0.010	9346470	<0.010	0.010	9346470	<0.010	0.010	9346470
pH	pH	7.78		9346116				7.72		9346116
Dissolved Sulphate (SO4)	mg/L	28	1.0	9346469	28	1.0	9346469	19	1.0	9346469
Alkalinity (Total as CaCO3)	mg/L	220	1.0	9346109				320	1.0	9346109
Dissolved Chloride (Cl-)	mg/L	120	1.0	9346466	120	1.0	9346466	240	2.0	9346466
Nitrite (N)	mg/L	<0.010	0.010	9346103				<0.010	0.010	9346103
Nitrate (N)	mg/L	7.81	0.10	9346103				3.63	0.10	9346103
Nitrate + Nitrite (N)	mg/L	7.81	0.10	9346103				3.63	0.10	9346103
Metals										
Dissolved Aluminum (Al)	ug/L	<4.9	4.9	9347239				<4.9	4.9	9347239
Dissolved Antimony (Sb)	ug/L	<0.50	0.50	9347239				<0.50	0.50	9347239
Dissolved Arsenic (As)	ug/L	<1.0	1.0	9347239				<1.0	1.0	9347239
Dissolved Barium (Ba)	ug/L	53	2.0	9347239				31	2.0	9347239
Dissolved Beryllium (Be)	ug/L	<0.40	0.40	9347239				<0.40	0.40	9347239

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Lab-Dup = Laboratory Initiated Duplicate
N/A = Not Applicable

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

Bureau Veritas Job #: C4B6988
Report Date: 2024/04/24

WSP Canada Inc.
Client Project #: CA-GLD-19129150
Site Location: 1451 CHARLESTON SIDEROAD, CALEDON , ON
Sampler Initials: RN

RCAP - COMPREHENSIVE (WATER)

Bureau Veritas ID		YYG093			YYG093			YYG094		
Sampling Date		2024/04/18 15:00			2024/04/18 15:00			2024/04/18 15:45		
COC Number		C#984504-01-01			C#984504-01-01			C#984504-01-01		
	UNITS	MW20-14B	RDL	QC Batch	MW20-14B Lab-Dup	RDL	QC Batch	MW20-11B	RDL	QC Batch
Dissolved Boron (B)	ug/L	<10	10	9347239				<10	10	9347239
Dissolved Cadmium (Cd)	ug/L	<0.090	0.090	9347239				<0.090	0.090	9347239
Dissolved Calcium (Ca)	ug/L	81000	200	9347239				100000	200	9347239
Dissolved Chromium (Cr)	ug/L	<5.0	5.0	9347239				<5.0	5.0	9347239
Dissolved Cobalt (Co)	ug/L	<0.50	0.50	9347239				<0.50	0.50	9347239
Dissolved Copper (Cu)	ug/L	1.6	0.90	9347239				1.0	0.90	9347239
Dissolved Iron (Fe)	ug/L	<100	100	9347239				<100	100	9347239
Dissolved Lead (Pb)	ug/L	<0.50	0.50	9347239				<0.50	0.50	9347239
Dissolved Magnesium (Mg)	ug/L	30000	50	9347239				27000	50	9347239
Dissolved Manganese (Mn)	ug/L	<2.0	2.0	9347239				<2.0	2.0	9347239
Dissolved Molybdenum (Mo)	ug/L	<0.50	0.50	9347239				<0.50	0.50	9347239
Dissolved Nickel (Ni)	ug/L	<1.0	1.0	9347239				<1.0	1.0	9347239
Dissolved Phosphorus (P)	ug/L	<100	100	9347239				<100	100	9347239
Dissolved Potassium (K)	ug/L	990	200	9347239				830	200	9347239
Dissolved Selenium (Se)	ug/L	<2.0	2.0	9347239				<2.0	2.0	9347239
Dissolved Silicon (Si)	ug/L	2900	50	9347239				3100	50	9347239
Dissolved Silver (Ag)	ug/L	<0.090	0.090	9347239				<0.090	0.090	9347239
Dissolved Sodium (Na)	ug/L	70000	100	9347239				170000	100	9347239
Dissolved Strontium (Sr)	ug/L	100	1.0	9347239				160	1.0	9347239
Dissolved Thallium (Tl)	ug/L	<0.050	0.050	9347239				<0.050	0.050	9347239
Dissolved Titanium (Ti)	ug/L	<5.0	5.0	9347239				<5.0	5.0	9347239
Dissolved Uranium (U)	ug/L	0.14	0.10	9347239				0.30	0.10	9347239
Dissolved Vanadium (V)	ug/L	<0.50	0.50	9347239				<0.50	0.50	9347239
Dissolved Zinc (Zn)	ug/L	7.6	5.0	9347239				<5.0	5.0	9347239

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QC Batch = Quality Control Batch
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O.REG 153 PHCS, BTEX/F1-F4 (WATER)

Bureau Veritas ID		YYG091		YYG092	YYG093	YYG094		
Sampling Date		2024/04/18 11:00		2024/04/18 13:15	2024/04/18 15:00	2024/04/18 15:45		
COC Number		C#984504-01-01		C#984504-01-01	C#984504-01-01	C#984504-01-01		
	UNITS	MW20-13B	QC Batch	MW20-12A	MW20-14B	MW20-11B	RDL	QC Batch
BTEX & F1 Hydrocarbons								
Benzene	ug/L	<0.20	9345715	<0.20	<0.20	<0.20	0.20	9345715
Toluene	ug/L	<0.20	9345715	<0.20	<0.20	<0.20	0.20	9345715
Ethylbenzene	ug/L	<0.20	9345715	<0.20	<0.20	<0.20	0.20	9345715
o-Xylene	ug/L	<0.20	9345715	<0.20	<0.20	<0.20	0.20	9345715
p+m-Xylene	ug/L	<0.40	9345715	<0.40	<0.40	<0.40	0.40	9345715
Total Xylenes	ug/L	<0.40	9345715	<0.40	<0.40	<0.40	0.40	9345715
F1 (C6-C10)	ug/L	<25	9345715	<25	<25	<25	25	9345715
F1 (C6-C10) - BTEX	ug/L	<25	9345715	<25	<25	<25	25	9345715
F2-F4 Hydrocarbons								
F2 (C10-C16 Hydrocarbons)	ug/L	<100	9349172	<100	<100	<100	100	9346330
F3 (C16-C34 Hydrocarbons)	ug/L	<200	9349172	<200	<200	<200	200	9346330
F4 (C34-C50 Hydrocarbons)	ug/L	<200	9349172	<200	<200	<200	200	9346330
Reached Baseline at C50	ug/L	Yes	9349172	Yes	Yes	Yes		9346330
Surrogate Recovery (%)								
1,4-Difluorobenzene	%	93	9345715	97	94	97		9345715
4-Bromofluorobenzene	%	98	9345715	101	94	96		9345715
D10-o-Xylene	%	101	9345715	107	101	97		9345715
D4-1,2-Dichloroethane	%	104	9345715	106	101	107		9345715
o-Terphenyl	%	96	9349172	95	96	96		9346330

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

Bureau Veritas Job #: C4B6988
Report Date: 2024/04/24

WSP Canada Inc.
Client Project #: CA-GLD-19129150
Site Location: 1451 CHARLESTON SIDEROAD, CALEDON , ON
Sampler Initials: RN

TEST SUMMARY

Bureau Veritas ID: YYG091
Sample ID: MW20-13B
Matrix: Water

Collected: 2024/04/18
Shipped:
Received: 2024/04/18

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	9346109	N/A	2024/04/22	Surinder Rai
Carbonate, Bicarbonate and Hydroxide	CALC	9344234	N/A	2024/04/23	Automated Statchk
Chloride by Automated Colourimetry	SKAL	9346466	N/A	2024/04/24	Alina Dobreanu
Conductivity	AT	9346114	N/A	2024/04/22	Surinder Rai
Dissolved Organic Carbon (DOC)	TOCV/NDIR	9346324	N/A	2024/04/22	Gyulshen Idriz
Petroleum Hydro. CCME F1 & BTEX in Water	HSGC/MSFD	9345715	N/A	2024/04/22	Georgeta Rusu
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	9349172	2024/04/22	2024/04/23	Mohammed Abdul Nafay Shoeb
Hardness (calculated as CaCO3)		9344231	N/A	2024/04/22	Automated Statchk
Dissolved Metals by ICPMS	ICP/MS	9347239	N/A	2024/04/22	Nan Raykha
Ion Balance (% Difference)	CALC	9344889	N/A	2024/04/24	Automated Statchk
Anion and Cation Sum	CALC	9344890	N/A	2024/04/23	Automated Statchk
Total Ammonia-N	LACH/NH4	9347651	N/A	2024/04/23	Yogesh Patel
Nitrate & Nitrite as Nitrogen in Water	LACH	9346103	N/A	2024/04/20	Jinal Chavda
pH	AT	9346116	2024/04/20	2024/04/22	Surinder Rai
Orthophosphate	KONE	9346470	N/A	2024/04/24	Alina Dobreanu
Sat. pH and Langelier Index (@ 20C)	CALC	9344891	N/A	2024/04/24	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	9344892	N/A	2024/04/24	Automated Statchk
Sulphate by Automated Turbidimetry	SKAL	9346469	N/A	2024/04/24	Alina Dobreanu
Total Dissolved Solids (TDS calc)	CALC	9344124	N/A	2024/04/24	Automated Statchk

Bureau Veritas ID: YYG091 Dup
Sample ID: MW20-13B
Matrix: Water

Collected: 2024/04/18
Shipped:
Received: 2024/04/18

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	9346109	N/A	2024/04/22	Surinder Rai
Conductivity	AT	9346114	N/A	2024/04/22	Surinder Rai
pH	AT	9346116	2024/04/20	2024/04/22	Surinder Rai

Bureau Veritas ID: YYG092
Sample ID: MW20-12A
Matrix: Water

Collected: 2024/04/18
Shipped:
Received: 2024/04/18

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	9346109	N/A	2024/04/22	Surinder Rai
Carbonate, Bicarbonate and Hydroxide	CALC	9344234	N/A	2024/04/23	Automated Statchk
Chloride by Automated Colourimetry	SKAL	9346466	N/A	2024/04/24	Alina Dobreanu
Conductivity	AT	9346114	N/A	2024/04/22	Surinder Rai
Dissolved Organic Carbon (DOC)	TOCV/NDIR	9346324	N/A	2024/04/22	Gyulshen Idriz
Petroleum Hydro. CCME F1 & BTEX in Water	HSGC/MSFD	9345715	N/A	2024/04/19	Georgeta Rusu
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	9346330	2024/04/20	2024/04/21	Mohammed Abdul Nafay Shoeb
Hardness (calculated as CaCO3)		9344231	N/A	2024/04/22	Automated Statchk
Dissolved Metals by ICPMS	ICP/MS	9347239	N/A	2024/04/22	Nan Raykha
Ion Balance (% Difference)	CALC	9344889	N/A	2024/04/24	Automated Statchk

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

Bureau Veritas Job #: C4B6988
Report Date: 2024/04/24

WSP Canada Inc.
Client Project #: CA-GLD-19129150
Site Location: 1451 CHARLESTON SIDEROAD, CALEDON , ON
Sampler Initials: RN

TEST SUMMARY

Bureau Veritas ID: YYG092
Sample ID: MW20-12A
Matrix: Water

Collected: 2024/04/18
Shipped:
Received: 2024/04/18

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Anion and Cation Sum	CALC	9344890	N/A	2024/04/23	Automated Statchk
Total Ammonia-N	LACH/NH4	9347651	N/A	2024/04/23	Yogesh Patel
Nitrate & Nitrite as Nitrogen in Water	LACH	9346103	N/A	2024/04/20	Jinal Chavda
pH	AT	9346116	2024/04/20	2024/04/22	Surinder Rai
Orthophosphate	KONE	9346470	N/A	2024/04/24	Alina Dobreanu
Sat. pH and Langelier Index (@ 20C)	CALC	9344891	N/A	2024/04/24	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	9344892	N/A	2024/04/24	Automated Statchk
Sulphate by Automated Turbidimetry	SKAL	9346469	N/A	2024/04/24	Alina Dobreanu
Total Dissolved Solids (TDS calc)	CALC	9344124	N/A	2024/04/24	Automated Statchk

Bureau Veritas ID: YYG093
Sample ID: MW20-14B
Matrix: Water

Collected: 2024/04/18
Shipped:
Received: 2024/04/18

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	9346109	N/A	2024/04/22	Surinder Rai
Carbonate, Bicarbonate and Hydroxide	CALC	9344234	N/A	2024/04/23	Automated Statchk
Chloride by Automated Colourimetry	SKAL	9346466	N/A	2024/04/24	Alina Dobreanu
Conductivity	AT	9346114	N/A	2024/04/22	Surinder Rai
Dissolved Organic Carbon (DOC)	TOCV/NDIR	9346324	N/A	2024/04/22	Gyulshen Idriz
Petroleum Hydro. CCME F1 & BTEX in Water	HSGC/MSFD	9345715	N/A	2024/04/19	Georgeta Rusu
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	9346330	2024/04/20	2024/04/21	Mohammed Abdul Nafay Shoeb
Hardness (calculated as CaCO3)		9344231	N/A	2024/04/22	Automated Statchk
Dissolved Metals by ICPMS	ICP/MS	9347239	N/A	2024/04/22	Nan Raykha
Ion Balance (% Difference)	CALC	9344889	N/A	2024/04/24	Automated Statchk
Anion and Cation Sum	CALC	9344890	N/A	2024/04/23	Automated Statchk
Total Ammonia-N	LACH/NH4	9347651	N/A	2024/04/23	Yogesh Patel
Nitrate & Nitrite as Nitrogen in Water	LACH	9346103	N/A	2024/04/20	Jinal Chavda
pH	AT	9346116	2024/04/20	2024/04/22	Surinder Rai
Orthophosphate	KONE	9346470	N/A	2024/04/24	Alina Dobreanu
Sat. pH and Langelier Index (@ 20C)	CALC	9344891	N/A	2024/04/24	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	9344892	N/A	2024/04/24	Automated Statchk
Sulphate by Automated Turbidimetry	SKAL	9346469	N/A	2024/04/24	Alina Dobreanu
Total Dissolved Solids (TDS calc)	CALC	9344124	N/A	2024/04/24	Automated Statchk

Bureau Veritas ID: YYG093 Dup
Sample ID: MW20-14B
Matrix: Water

Collected: 2024/04/18
Shipped:
Received: 2024/04/18

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Chloride by Automated Colourimetry	SKAL	9346466	N/A	2024/04/24	Alina Dobreanu
Orthophosphate	KONE	9346470	N/A	2024/04/24	Alina Dobreanu
Sulphate by Automated Turbidimetry	SKAL	9346469	N/A	2024/04/24	Alina Dobreanu

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

Bureau Veritas Job #: C4B6988
Report Date: 2024/04/24

WSP Canada Inc.
Client Project #: CA-GLD-19129150
Site Location: 1451 CHARLESTON SIDEROAD, CALEDON , ON
Sampler Initials: RN

TEST SUMMARY

Bureau Veritas ID: YYG094
Sample ID: MW20-11B
Matrix: Water

Collected: 2024/04/18
Shipped:
Received: 2024/04/18

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	9346109	N/A	2024/04/22	Surinder Rai
Carbonate, Bicarbonate and Hydroxide	CALC	9344234	N/A	2024/04/23	Automated Statchk
Chloride by Automated Colourimetry	SKAL	9346466	N/A	2024/04/24	Alina Dobreanu
Conductivity	AT	9346114	N/A	2024/04/22	Surinder Rai
Dissolved Organic Carbon (DOC)	TOCV/NDIR	9346325	N/A	2024/04/22	Gyulshen Idriz
Petroleum Hydro. CCME F1 & BTEX in Water	HSGC/MSFD	9345715	N/A	2024/04/19	Georgeta Rusu
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	9346330	2024/04/20	2024/04/21	Mohammed Abdul Nafay Shoeb
Hardness (calculated as CaCO3)		9344231	N/A	2024/04/22	Automated Statchk
Dissolved Metals by ICPMS	ICP/MS	9347239	N/A	2024/04/22	Nan Raykha
Ion Balance (% Difference)	CALC	9344889	N/A	2024/04/24	Automated Statchk
Anion and Cation Sum	CALC	9344890	N/A	2024/04/23	Automated Statchk
Total Ammonia-N	LACH/NH4	9347651	N/A	2024/04/23	Yogesh Patel
Nitrate & Nitrite as Nitrogen in Water	LACH	9346103	N/A	2024/04/20	Jinal Chavda
pH	AT	9346116	2024/04/20	2024/04/22	Surinder Rai
Orthophosphate	KONE	9346470	N/A	2024/04/24	Alina Dobreanu
Sat. pH and Langelier Index (@ 20C)	CALC	9344891	N/A	2024/04/24	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	9344892	N/A	2024/04/24	Automated Statchk
Sulphate by Automated Turbidimetry	SKAL	9346469	N/A	2024/04/24	Alina Dobreanu
Total Dissolved Solids (TDS calc)	CALC	9344124	N/A	2024/04/24	Automated Statchk

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	8.0°C

Results relate only to the items tested.

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

QUALITY ASSURANCE REPORT

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
9345715	1,4-Difluorobenzene	2024/04/19	95	70 - 130	98	70 - 130	89	%		
9345715	4-Bromofluorobenzene	2024/04/19	108	70 - 130	102	70 - 130	100	%		
9345715	D10-o-Xylene	2024/04/19	103	70 - 130	96	70 - 130	92	%		
9345715	D4-1,2-Dichloroethane	2024/04/19	108	70 - 130	108	70 - 130	101	%		
9346330	o-Terphenyl	2024/04/21	102	60 - 130	102	60 - 130	97	%		
9349172	o-Terphenyl	2024/04/22			101	60 - 130	98	%		
9345715	Benzene	2024/04/19	97	50 - 140	96	50 - 140	<0.20	ug/L		
9345715	Ethylbenzene	2024/04/19	106	50 - 140	95	50 - 140	<0.20	ug/L		
9345715	F1 (C6-C10) - BTEX	2024/04/19					<25	ug/L	NC	30
9345715	F1 (C6-C10)	2024/04/19	103	60 - 140	100	60 - 140	<25	ug/L	NC	30
9345715	o-Xylene	2024/04/19	103	50 - 140	93	50 - 140	<0.20	ug/L		
9345715	p+m-Xylene	2024/04/19	100	50 - 140	90	50 - 140	<0.40	ug/L		
9345715	Toluene	2024/04/19	91	50 - 140	88	50 - 140	<0.20	ug/L		
9345715	Total Xylenes	2024/04/19					<0.40	ug/L		
9346103	Nitrate (N)	2024/04/20	96	80 - 120	95	80 - 120	<0.10	mg/L	NC	20
9346103	Nitrite (N)	2024/04/20	102	80 - 120	100	80 - 120	<0.010	mg/L	NC	20
9346109	Alkalinity (Total as CaCO3)	2024/04/22			100	85 - 115	<1.0	mg/L	0.85	20
9346114	Conductivity	2024/04/22			100	85 - 115	<1.0	umho/cm	0.50	10
9346116	pH	2024/04/22			101	98 - 103			1.4	N/A
9346324	Dissolved Organic Carbon	2024/04/22	95	80 - 120	99	80 - 120	<0.40	mg/L	5.2	20
9346325	Dissolved Organic Carbon	2024/04/22	90	80 - 120	93	80 - 120	<0.40	mg/L	NC	20
9346330	F2 (C10-C16 Hydrocarbons)	2024/04/21	115	60 - 130	111	60 - 130	<100	ug/L	NC	30
9346330	F3 (C16-C34 Hydrocarbons)	2024/04/21	119	60 - 130	115	60 - 130	<200	ug/L	57 (1)	30
9346330	F4 (C34-C50 Hydrocarbons)	2024/04/21	112	60 - 130	109	60 - 130	<200	ug/L	NC	30
9346466	Dissolved Chloride (Cl-)	2024/04/24	NC	80 - 120	94	80 - 120	<1.0	mg/L	0.23	20
9346469	Dissolved Sulphate (SO4)	2024/04/24	NC	75 - 125	95	80 - 120	<1.0	mg/L	1.7	20
9346470	Orthophosphate (P)	2024/04/24	95	75 - 125	97	80 - 120	<0.010	mg/L	NC	20
9347239	Dissolved Aluminum (Al)	2024/04/22	103	80 - 120	100	80 - 120	<4.9	ug/L	NC	20
9347239	Dissolved Antimony (Sb)	2024/04/22	106	80 - 120	101	80 - 120	<0.50	ug/L	NC	20
9347239	Dissolved Arsenic (As)	2024/04/22	105	80 - 120	103	80 - 120	<1.0	ug/L	2.1	20
9347239	Dissolved Barium (Ba)	2024/04/22	102	80 - 120	100	80 - 120	<2.0	ug/L	0.54	20

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
9347239	Dissolved Beryllium (Be)	2024/04/22	107	80 - 120	101	80 - 120	<0.40	ug/L		
9347239	Dissolved Boron (B)	2024/04/22	105	80 - 120	101	80 - 120	<10	ug/L	0.36	20
9347239	Dissolved Cadmium (Cd)	2024/04/22	103	80 - 120	99	80 - 120	<0.090	ug/L		
9347239	Dissolved Calcium (Ca)	2024/04/22	NC	80 - 120	102	80 - 120	<200	ug/L	3.4	20
9347239	Dissolved Chromium (Cr)	2024/04/22	103	80 - 120	101	80 - 120	<5.0	ug/L	NC	20
9347239	Dissolved Cobalt (Co)	2024/04/22	101	80 - 120	99	80 - 120	<0.50	ug/L	3.0	20
9347239	Dissolved Copper (Cu)	2024/04/22	104	80 - 120	102	80 - 120	<0.90	ug/L		
9347239	Dissolved Iron (Fe)	2024/04/22	105	80 - 120	103	80 - 120	<100	ug/L	1.9	20
9347239	Dissolved Lead (Pb)	2024/04/22	102	80 - 120	100	80 - 120	<0.50	ug/L	NC	20
9347239	Dissolved Magnesium (Mg)	2024/04/22	NC	80 - 120	103	80 - 120	<50	ug/L	3.4	20
9347239	Dissolved Manganese (Mn)	2024/04/22	100	80 - 120	99	80 - 120	<2.0	ug/L	1.4	20
9347239	Dissolved Molybdenum (Mo)	2024/04/22	106	80 - 120	101	80 - 120	<0.50	ug/L		
9347239	Dissolved Nickel (Ni)	2024/04/22	98	80 - 120	99	80 - 120	<1.0	ug/L		
9347239	Dissolved Phosphorus (P)	2024/04/22	108	80 - 120	106	80 - 120	<100	ug/L	NC	20
9347239	Dissolved Potassium (K)	2024/04/22	107	80 - 120	104	80 - 120	<200	ug/L	4.1	20
9347239	Dissolved Selenium (Se)	2024/04/22	104	80 - 120	101	80 - 120	<2.0	ug/L		
9347239	Dissolved Silicon (Si)	2024/04/22	99	80 - 120	104	80 - 120	<50	ug/L		
9347239	Dissolved Silver (Ag)	2024/04/22	101	80 - 120	98	80 - 120	<0.090	ug/L		
9347239	Dissolved Sodium (Na)	2024/04/22	97	80 - 120	102	80 - 120	<100	ug/L	3.9	20
9347239	Dissolved Strontium (Sr)	2024/04/22	96	80 - 120	98	80 - 120	<1.0	ug/L		
9347239	Dissolved Thallium (Tl)	2024/04/22	103	80 - 120	102	80 - 120	<0.050	ug/L		
9347239	Dissolved Titanium (Ti)	2024/04/22	102	80 - 120	100	80 - 120	<5.0	ug/L		
9347239	Dissolved Uranium (U)	2024/04/22	104	80 - 120	101	80 - 120	<0.10	ug/L		
9347239	Dissolved Vanadium (V)	2024/04/22	101	80 - 120	99	80 - 120	<0.50	ug/L	NC	20
9347239	Dissolved Zinc (Zn)	2024/04/22	100	80 - 120	98	80 - 120	<5.0	ug/L		
9347651	Total Ammonia-N	2024/04/23	98	75 - 125	101	80 - 120	<0.050	mg/L	0.79	20
9349172	F2 (C10-C16 Hydrocarbons)	2024/04/22			99	60 - 130	<100	ug/L	6.9	30
9349172	F3 (C16-C34 Hydrocarbons)	2024/04/22			110	60 - 130	<200	ug/L	4.9	30

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
9349172	F4 (C34-C50 Hydrocarbons)	2024/04/22			104	60 - 130	<200	ug/L	5.7	30

N/A = Not Applicable

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

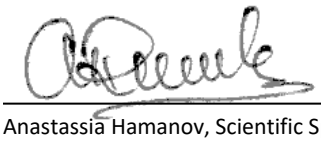
(1) Duplicate results exceeded RPD acceptance criteria for flagged analytes. Sample extract was reanalyzed with the same results. This is likely due to sample heterogeneity.

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:



Anastassia Hamanov, Scientific Specialist

Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation, please refer to the Validation Signatures page if included, otherwise available by request. For Department specific Analyst/Supervisor validation names, please refer to the Test Summary section if included, otherwise available by request. This report is authorized by Rodney Major, General Manager responsible for Ontario Environmental laboratory operations.

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Bureau Veritas
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NONT-2024-04-1776

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INVOICE TO:		REPORT TO:		PROJECT INFORMATION:	
Company Name:	#21375 WSP Canada Inc.	Company Name:		Quotation #:	C41059
Attention:	George Schneider	Attention:	Paul Menkveld	P.O. #:	
Address:	210 Sheldon Drive Cambridge ON N1T 1A8	Address:		Project:	CA-GLD-19129150
Tel:	(519) 620-8182 Fax:	Tel:	226-750-8848 Fax:	Project Name:	
Email:	George_Schneider@golder.com	Email:	paul.menkveld@wsp.com	Site #:	1451 Charleston Sideroad, Caledon
				Sampled By:	Ramin Niknam

e Only:

Bottle Order #: 984504

COC #: C#984504-01-01

Project Manager: Ankita Bhalla

MOE REGULATED DRINKING WATER OR WATER INTENDED FOR HUMAN CONSUMPTION MUST BE SUBMITTED ON THE BUREAU VERITAS DRINKING WATER CHAIN OF CUSTODY

Regulation 153 (2011)	Other Regulations	Special Instructions
☐ Table 1 ☐ Res/Park ☐ Medium/Fine	☐ CCME ☐ Sanitary Sewer Bylaw	
☐ Table 2 ☐ Ind/Comm ☐ Coarse	☐ Reg 558 ☐ Storm Sewer Bylaw	
☐ Table 3 ☐ Agri/Other ☐ For RSC	☐ MISA Municipality	
☐ Table ___	☐ PWQO ☐ Reg 406 Table	
	☐ Other	

Include Criteria on Certificate of Analysis (Y/N)? Y

ANALYSIS REQUESTED (PLEASE BE SPECIFIC)

Turnaround Time (TAT) Required:
Please provide advance notice for rush projects

Regular (Standard) TAT: ☑
(will be applied if Rush TAT is not specified):
Standard TAT = 5-7 Working days for most tests..
Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.

Job Specific Rush TAT (if applies to entire submission)
Date Required: Time Required: ☐
Rush Confirmation Number: *(call lab for #)*

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Field Filtered (please circle): (Metals / Hg / Cr VI)	ROAp - Comprehensive	O.Reg 153 PHCs, BTEX/F1-F4								# of Bottles	Comments
1		MW20-13B	24/4/18	11:00	GW	✓	✓	✓								8	* All Dissolved metals (Red) Field filtered *
2		MW20-12A	24/4/18	13:15	GW	✓	✓	✓								8	
3		MW20-14B	24/4/18	15:00	GW	✓	✓	✓								8	
4		MW20-11B	24/4/18	15:45	GW	✓	✓	✓								8	
5																	
6																	
7																	
8																	
9																	
10																	

* RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	# jars used and not submitted
Ramin Niknam	24/4/18	5:22 PM	[illegible]	2024/04/18	17:22	

Laboratory Use Only					
Time Sensitive	Temperature (°C) on Recei	Custody Seal Present	Yes	No
	8/8/8	Intact		✓

* UNLESS OTHERWISE AGREED TO IN WRITING, WORK SUBMITTED ON THIS CHAIN OF CUSTODY IS SUBJECT TO BUREAU VERITAS'S STANDARD TERMS AND CONDITIONS. SIGNING OF THIS CHAIN OF CUSTODY DOCUMENT IS ACKNOWLEDGMENT AND ACCEPTANCE OF OUR TERMS WHICH ARE AVAILABLE FOR VIEWING AT WWW.BVNA.COM/ENVIRONMENTAL-LABORATORIES/RESOURCES/COC-TERMS-AND-CONDITIONS.

* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

** SAMPLE CONTAINER, PRESERVATION, HOLD TIME AND PACKAGE INFORMATION CAN BE VIEWED AT WWW.BVNA.COM/ENVIRONMENTAL-LABORATORIES/RESOURCES/CHAIN-CUSTODY-FORMS-COCS.

SAMPLES MUST BE KEPT COOL (< 10° C) FROM TIME OF SAMPLING UNTIL DELIVERY TO BUREAU VERITAS

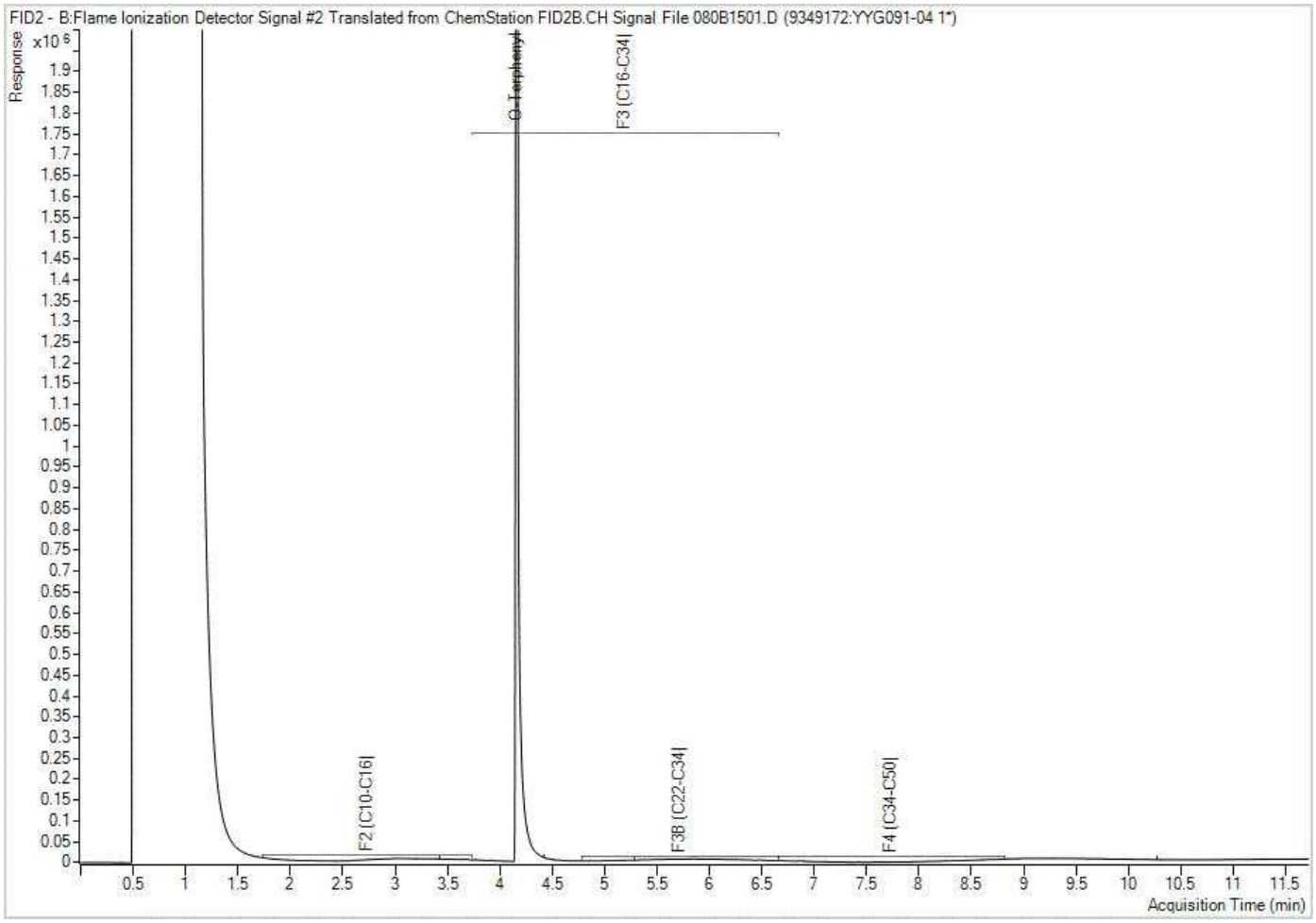
White: Bureau Veritas Yellow: Client

Bureau Veritas Canada (2019) Inc.

Bureau Veritas Job #: C4B6988
Report Date: 2024/04/24
Bureau Veritas Sample: YYG091

WSP Canada Inc.
Client Project #: CA-GLD-19129150
Project name: 1451 CHARLESTON SIDEROAD, CALEDON , ON
Client ID: MW20-13B

Petroleum Hydrocarbons F2-F4 in Water Chromatogram

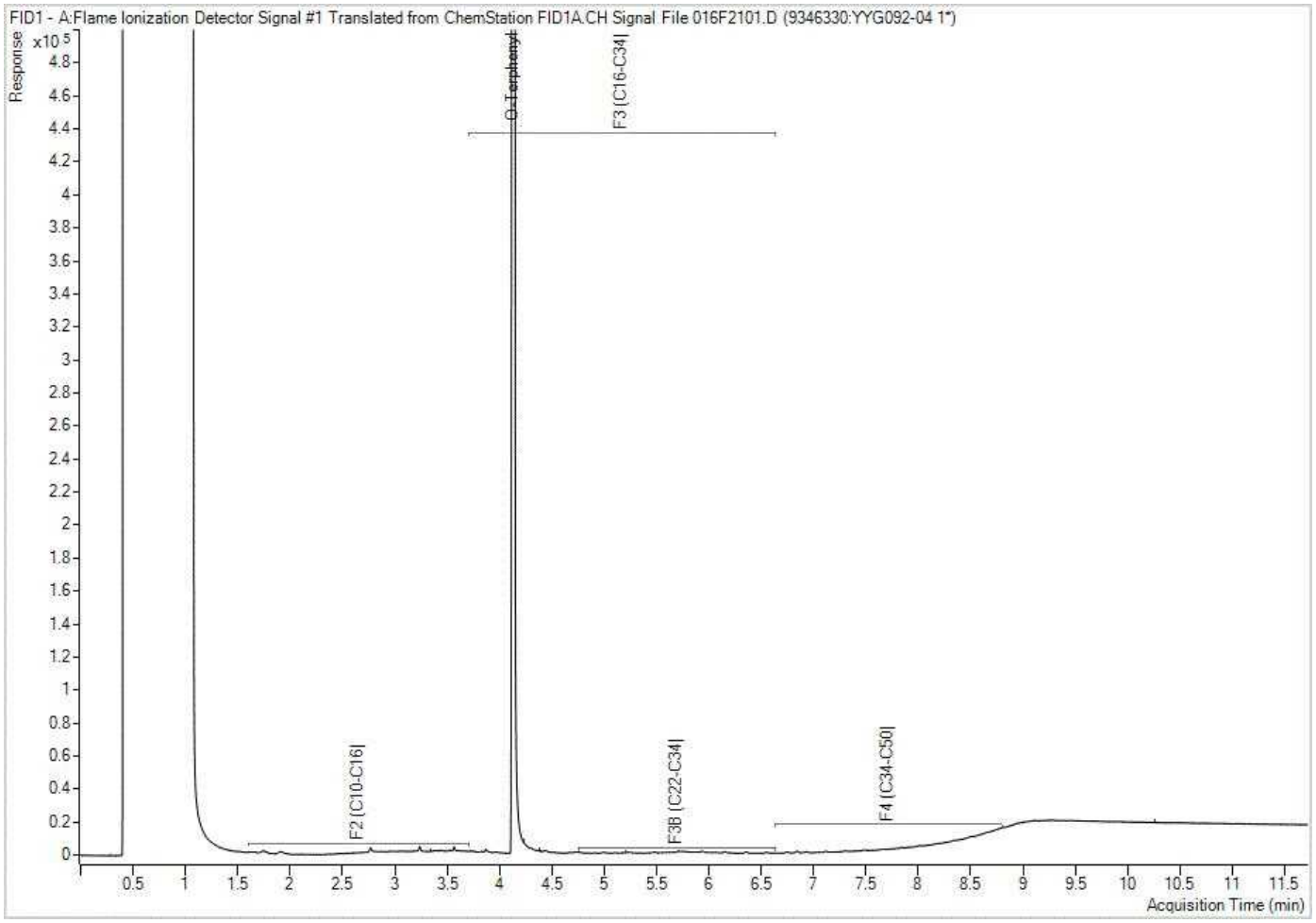


Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Bureau Veritas Job #: C4B6988
Report Date: 2024/04/24
Bureau Veritas Sample: YYG092

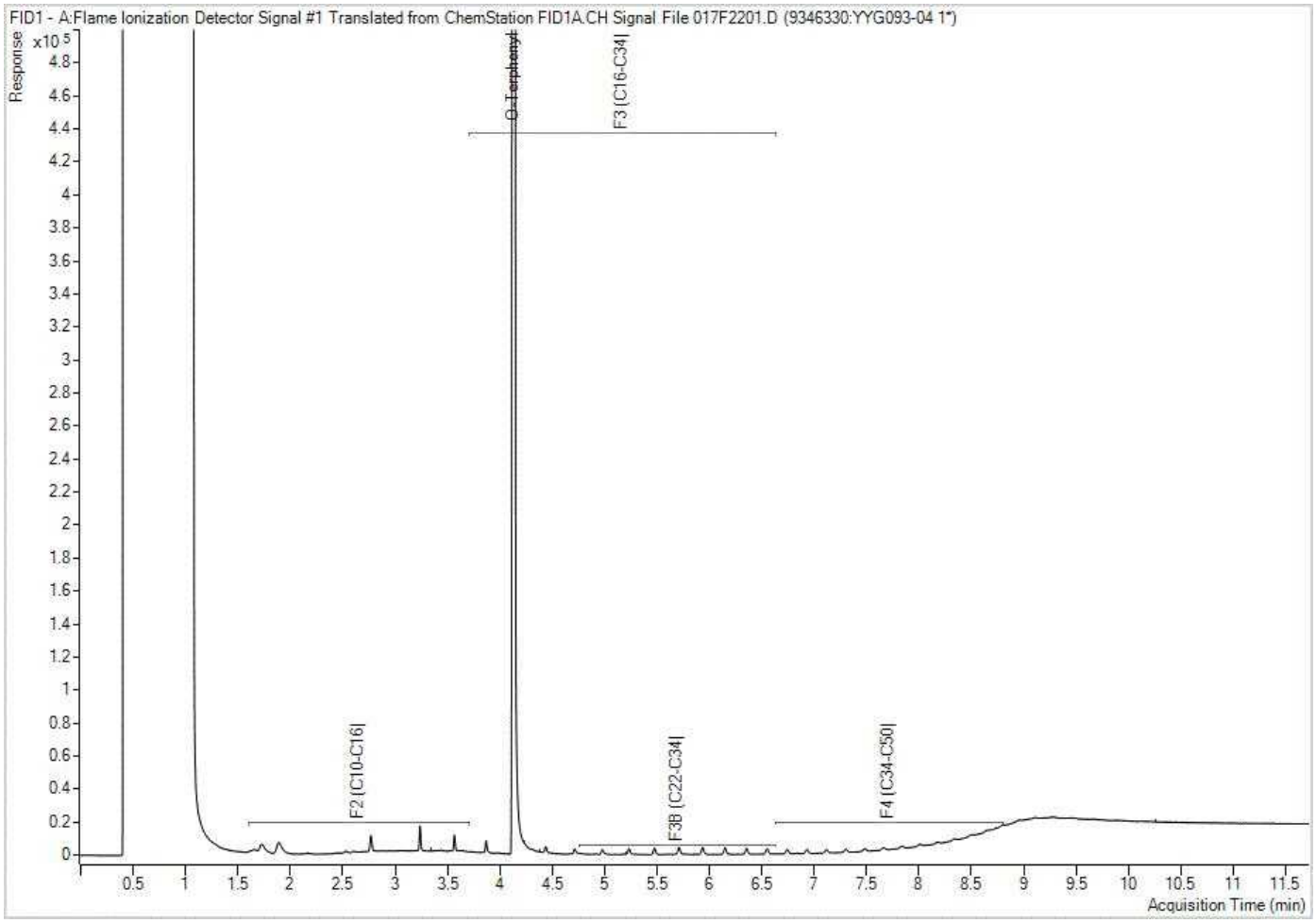
WSP Canada Inc.
Client Project #: CA-GLD-19129150
Project name: 1451 CHARLESTON SIDEROAD, CALEDON , ON
Client ID: MW20-12A

Petroleum Hydrocarbons F2-F4 in Water Chromatogram



Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Petroleum Hydrocarbons F2-F4 in Water Chromatogram

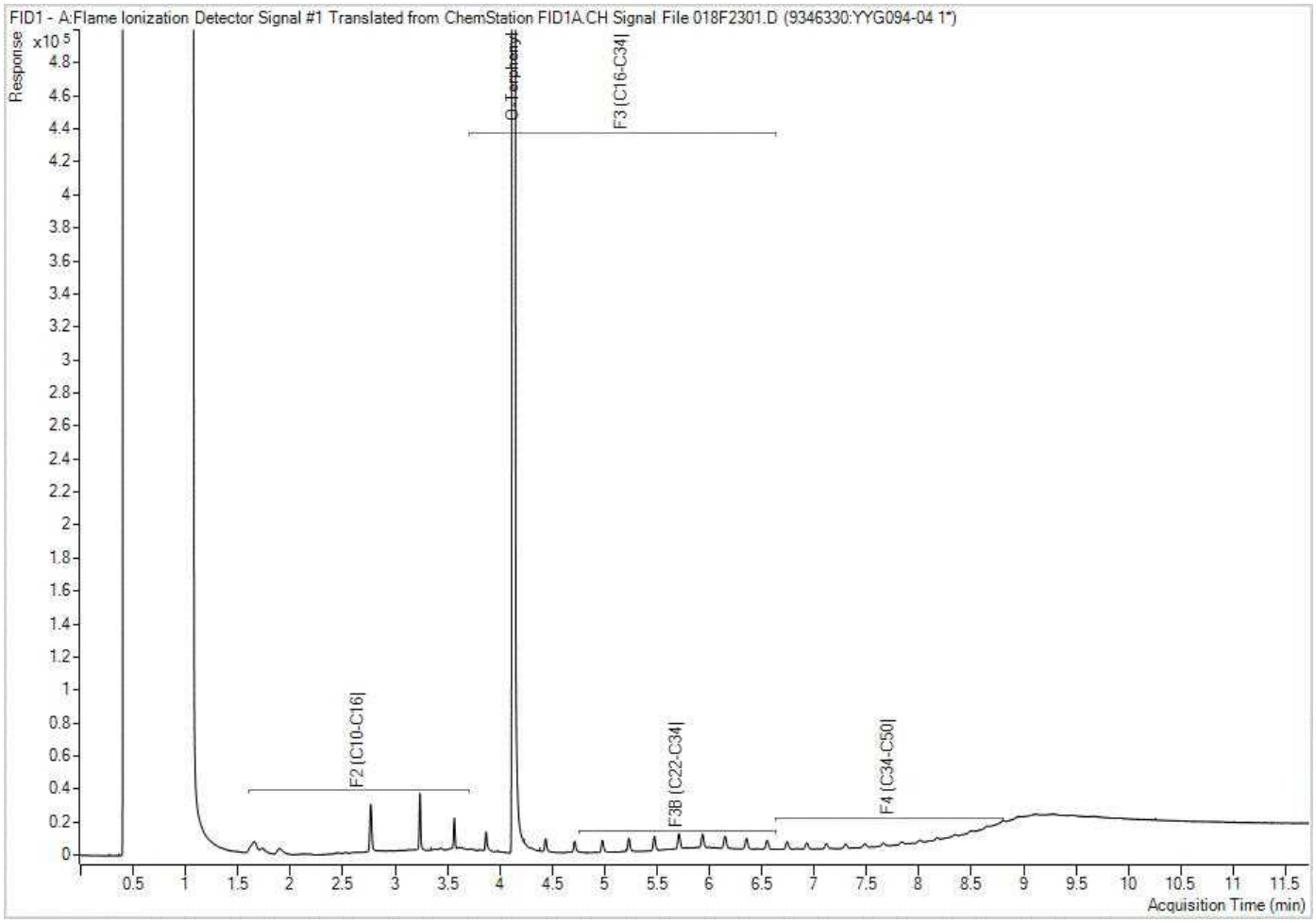


Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Bureau Veritas Job #: C4B6988
Report Date: 2024/04/24
Bureau Veritas Sample: YYG094

WSP Canada Inc.
Client Project #: CA-GLD-19129150
Project name: 1451 CHARLESTON SIDEROAD, CALEDON , ON
Client ID: MW20-11B

Petroleum Hydrocarbons F2-F4 in Water Chromatogram



Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Your Project #: CA-GLD-19129150
Site Location: 1451 CHARLESTON SIDEROAD,CALEDON
Your C.O.C. #: C#984504-01-01

Attention: Paul Menkveld

WSP Canada Inc.
210 Sheldon Drive
Cambridge, ON
CANADA N1T 1A8

Report Date: 2024/04/29
Report #: R8127594
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C4C0072
Received: 2024/04/22, 19:02

Sample Matrix: Water
Samples Received: 8

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Alkalinity	7	N/A	2024/04/27	CAM SOP-00448	SM 24 2320 B m
Carbonate, Bicarbonate and Hydroxide	7	N/A	2024/04/27	CAM SOP-00102	APHA 4500-CO2 D
Chloride by Automated Colourimetry	7	N/A	2024/04/25	CAM SOP-00463	SM 24 4500-Cl E m
Conductivity	7	N/A	2024/04/27	CAM SOP-00414	SM 24 2510 m
Dissolved Organic Carbon (DOC) (1)	7	N/A	2024/04/24	CAM SOP-00446	SM 24 5310 B m
Petroleum Hydro. CCME F1 & BTEX in Water	8	N/A	2024/04/24	CAM SOP-00315	CCME PHC-CWS m
Petroleum Hydrocarbons F2-F4 in Water (2)	7	2024/04/24	2024/04/24	CAM SOP-00316	CCME PHC-CWS m
Hardness (calculated as CaCO3)	7	N/A	2024/04/25	CAM SOP 00102/00408/00447	SM 2340 B
Dissolved Metals by ICPMS	7	N/A	2024/04/24	CAM SOP-00447	EPA 6020B m
Ion Balance (% Difference)	5	N/A	2024/04/27		
Ion Balance (% Difference)	2	N/A	2024/04/29		
Anion and Cation Sum	7	N/A	2024/04/27		
Total Ammonia-N	7	N/A	2024/04/25	CAM SOP-00441	USGS I-2522-90 m
Nitrate & Nitrite as Nitrogen in Water (3)	7	N/A	2024/04/25	CAM SOP-00440	SM 24 4500-NO3I/NO2B
pH (4)	7	2024/04/24	2024/04/27	CAM SOP-00413	SM 24th - 4500H+ B
Orthophosphate	7	N/A	2024/04/25	CAM SOP-00461	SM 24 4500-P E
Sat. pH and Langelier Index (@ 20C)	5	N/A	2024/04/27		Auto Calc
Sat. pH and Langelier Index (@ 20C)	2	N/A	2024/04/29		Auto Calc
Sat. pH and Langelier Index (@ 4C)	5	N/A	2024/04/27		Auto Calc
Sat. pH and Langelier Index (@ 4C)	2	N/A	2024/04/29		Auto Calc
Sulphate by Automated Turbidimetry	7	N/A	2024/04/25	CAM SOP-00464	SM 24 4500-SO42- E m
Total Dissolved Solids (TDS calc)	5	N/A	2024/04/27		Auto Calc
Total Dissolved Solids (TDS calc)	2	N/A	2024/04/29		Auto Calc

Remarks:

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, EPA, APHA or the Quebec Ministry of Environment.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are

Your Project #: CA-GLD-19129150
Site Location: 1451 CHARLESTON SIDEROAD,CALEDON
Your C.O.C. #: C#984504-01-01

Attention: Paul Menkveld

WSP Canada Inc.
210 Sheldon Drive
Cambridge, ON
CANADA N1T 1A8

Report Date: 2024/04/29
Report #: R8127594
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C4C0072
Received: 2024/04/22, 19:02

reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.
This Certificate shall not be reproduced except in full, without the written approval of the laboratory.

Reference Method suffix “m” indicates test methods incorporate validated modifications from specific reference methods to improve performance.

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) Dissolved Organic Carbon (DOC) present in the sample should be considered as non-purgeable DOC.

(2) All CCME PHC results met required criteria unless otherwise stated in the report. The CWS PHC methods employed by Bureau Veritas conform to all prescribed elements of the reference method and performance based elements have been validated. All modifications have been validated and proven equivalent following “Alberta Environment’s Interpretation of the Reference Method for the Canada-Wide Standard for Petroleum Hydrocarbons in Soil Validation of Performance-Based Alternative Methods September 2003”. Documentation is available upon request. Modifications from Reference Method for the Canada-wide Standard for Petroleum Hydrocarbons in Soil-Tier 1 Method: F2/F3/F4 data reported using validated cold solvent extraction instead of Soxhlet extraction.

(3) Values for calculated parameters may not appear to add up due to rounding of raw data and significant figures.

(4) "The CCME method and Analytical Protocol (O. Reg 153/04, O. Reg. 406/19) requires pH to be analyzed within 15 minutes of sampling and therefore field analysis is required for compliance. All Laboratory pH analyses in this report are reported past the CCME and Analytical Protocol (O. Reg 153/04, O. Reg. 406/19) holding time. Bureau Veritas endeavors to analyze samples as soon as possible after receipt."

Encryption Key

Please direct all questions regarding this Certificate of Analysis to:
Ankita Bhalla, Project Manager
Email: Ankita.Bhalla@bureauveritas.com
Phone# (905) 817-5700

==========

This report has been generated and distributed using a secure automated process.
Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation, please refer to the Validation Signatures page if included, otherwise available by request. For Department specific Analyst/Supervisor validation names, please refer to the Test Summary section if included, otherwise available by request. This report is authorized by Rodney Major, General Manager responsible for Ontario Environmental laboratory operations.

Bureau Veritas Job #: C4C0072
Report Date: 2024/04/29

WSP Canada Inc.
Client Project #: CA-GLD-19129150
Site Location: 1451 CHARLESTON SIDEROAD,CALEDON
Sampler Initials: RN

RCAP - COMPREHENSIVE (WATER)

Bureau Veritas ID		YYX092		YYX093			YYX094		
Sampling Date		2024/04/22 11:15		2024/04/22 12:45			2024/04/22 14:00		
COC Number		C#984504-01-01		C#984504-01-01			C#984504-01-01		
	UNITS	MW20_18	RDL	MW20_01A	RDL	QC Batch	MW20_08A	RDL	QC Batch
Calculated Parameters									
Anion Sum	me/L	6.88	N/A	10.4	N/A	9350768	8.68	N/A	9350768
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	200	1.0	190	1.0	9350765	260	1.0	9350765
Calculated TDS	mg/L	360	1.0	640	1.0	9350763	470	1.0	9350763
Carb. Alkalinity (calc. as CaCO3)	mg/L	1.7	1.0	1.3	1.0	9350765	2.2	1.0	9350765
Cation Sum	me/L	6.80	N/A	10.8	N/A	9350768	9.10	N/A	9350768
Hardness (CaCO3)	mg/L	260	1.0	440	1.0	9350245	320	1.0	9350245
Ion Balance (% Difference)	%	0.530	N/A	2.09	N/A	9350766	2.36	N/A	9350766
Langelier Index (@ 20C)	N/A	0.725		0.813		9350770	0.836		9350770
Langelier Index (@ 4C)	N/A	0.476		0.566		9350772	0.588		9350772
Saturation pH (@ 20C)	N/A	7.24		7.06		9350770	7.13		9350770
Saturation pH (@ 4C)	N/A	7.49		7.30		9350772	7.37		9350772
Inorganics									
Total Ammonia-N	mg/L	<0.050	0.050	1.0	0.050	9353095	0.056	0.050	9353095
Conductivity	umho/cm	720	1.0	980	1.0	9352959	890	1.0	9352959
Dissolved Organic Carbon	mg/L	3.7	0.40	0.56	0.40	9352992	0.89	0.40	9350574
Orthophosphate (P)	mg/L	<0.010	0.010	<0.010	0.010	9352942	<0.010	0.010	9352942
pH	pH	7.96		7.87		9352961	7.96		9352961
Dissolved Sulphate (SO4)	mg/L	12	1.0	280	1.0	9352941	18	1.0	9352941
Alkalinity (Total as CaCO3)	mg/L	200	1.0	190	1.0	9352953	260	1.0	9352953
Dissolved Chloride (Cl-)	mg/L	86	1.0	21	1.0	9352917	99	1.0	9352917
Nitrite (N)	mg/L	<0.010	0.010	<0.010	0.010	9352171	<0.010	0.010	9352171
Nitrate (N)	mg/L	1.62	0.10	<0.10	0.10	9352171	3.84	0.10	9352171
Nitrate + Nitrite (N)	mg/L	1.62	0.10	<0.10	0.10	9352171	3.84	0.10	9352171
Metals									
Dissolved Aluminum (Al)	ug/L	<4.9	4.9	<4.9	4.9	9353172	<4.9	4.9	9353172
Dissolved Antimony (Sb)	ug/L	<0.50	0.50	<0.50	0.50	9353172	<0.50	0.50	9353172
Dissolved Arsenic (As)	ug/L	<1.0	1.0	5.9	1.0	9353172	<1.0	1.0	9353172
Dissolved Barium (Ba)	ug/L	37	2.0	14	2.0	9353172	28	2.0	9353172
Dissolved Beryllium (Be)	ug/L	<0.40	0.40	<0.40	0.40	9353172	<0.40	0.40	9353172
Dissolved Boron (B)	ug/L	<10	10	600	10	9353172	<10	10	9353172

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
N/A = Not Applicable

Bureau Veritas 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvna.com

Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

Bureau Veritas Job #: C4C0072
Report Date: 2024/04/29

WSP Canada Inc.
Client Project #: CA-GLD-19129150
Site Location: 1451 CHARLESTON SIDEROAD,CALEDON
Sampler Initials: RN

RCAP - COMPREHENSIVE (WATER)

Bureau Veritas ID		YYX092		YYX093			YYX094		
Sampling Date		2024/04/22 11:15		2024/04/22 12:45			2024/04/22 14:00		
COC Number		C#984504-01-01		C#984504-01-01			C#984504-01-01		
	UNITS	MW20_18	RDL	MW20_01A	RDL	QC Batch	MW20_08A	RDL	QC Batch
Dissolved Cadmium (Cd)	ug/L	<0.090	0.090	<0.090	0.090	9353172	<0.090	0.090	9353172
Dissolved Calcium (Ca)	ug/L	77000	200	140000	400	9353172	83000	200	9353172
Dissolved Chromium (Cr)	ug/L	<5.0	5.0	<5.0	5.0	9353172	<5.0	5.0	9353172
Dissolved Cobalt (Co)	ug/L	<0.50	0.50	<0.50	0.50	9353172	<0.50	0.50	9353172
Dissolved Copper (Cu)	ug/L	2.7	0.90	<0.90	0.90	9353172	<0.90	0.90	9353172
Dissolved Iron (Fe)	ug/L	<100	100	140	100	9353172	<100	100	9353172
Dissolved Lead (Pb)	ug/L	<0.50	0.50	<0.50	0.50	9353172	<0.50	0.50	9353172
Dissolved Magnesium (Mg)	ug/L	16000	50	21000	50	9353172	29000	50	9353172
Dissolved Manganese (Mn)	ug/L	2.7	2.0	19	2.0	9353172	<2.0	2.0	9353172
Dissolved Molybdenum (Mo)	ug/L	<0.50	0.50	1.5	0.50	9353172	<0.50	0.50	9353172
Dissolved Nickel (Ni)	ug/L	<1.0	1.0	<1.0	1.0	9353172	<1.0	1.0	9353172
Dissolved Phosphorus (P)	ug/L	<100	100	<100	100	9353172	<100	100	9353172
Dissolved Potassium (K)	ug/L	1300	200	11000	200	9353172	970	200	9353172
Dissolved Selenium (Se)	ug/L	<2.0	2.0	<2.0	2.0	9353172	<2.0	2.0	9353172
Dissolved Silicon (Si)	ug/L	2400	50	3500	50	9353172	3800	50	9353172
Dissolved Silver (Ag)	ug/L	<0.090	0.090	<0.090	0.090	9353172	<0.090	0.090	9353172
Dissolved Sodium (Na)	ug/L	36000	100	39000	100	9353172	60000	100	9353172
Dissolved Strontium (Sr)	ug/L	130	1.0	6900	1.0	9353172	210	1.0	9353172
Dissolved Thallium (Tl)	ug/L	<0.050	0.050	<0.050	0.050	9353172	<0.050	0.050	9353172
Dissolved Titanium (Ti)	ug/L	<5.0	5.0	<5.0	5.0	9353172	<5.0	5.0	9353172
Dissolved Uranium (U)	ug/L	0.37	0.10	0.18	0.10	9353172	0.33	0.10	9353172
Dissolved Vanadium (V)	ug/L	<0.50	0.50	<0.50	0.50	9353172	<0.50	0.50	9353172
Dissolved Zinc (Zn)	ug/L	<5.0	5.0	<5.0	5.0	9353172	<5.0	5.0	9353172

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Bureau Veritas 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvna.com

Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

Bureau Veritas Job #: C4C0072
Report Date: 2024/04/29

WSP Canada Inc.
Client Project #: CA-GLD-19129150
Site Location: 1451 CHARLESTON SIDEROAD,CALEDON
Sampler Initials: RN

RCAP - COMPREHENSIVE (WATER)

Bureau Veritas ID		YYX095	YYX096	YYX097			YYX097		
Sampling Date		2024/04/22 15:00	2024/04/22 16:00	2024/04/22 17:15			2024/04/22 17:15		
COC Number		C#984504-01-01	C#984504-01-01	C#984504-01-01			C#984504-01-01		
	UNITS	MW20_06A	MW20_03	MW21_2_2	RDL	QC Batch	MW21_2_2 Lab-Dup	RDL	QC Batch
Calculated Parameters									
Anion Sum	me/L	7.25	6.88	5.02	N/A	9350768			
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	240	260	180	1.0	9350765			
Calculated TDS	mg/L	400	370	280	1.0	9350763			
Carb. Alkalinity (calc. as CaCO3)	mg/L	1.9	1.9	1.8	1.0	9350765			
Cation Sum	me/L	7.66	7.27	5.02	N/A	9350768			
Hardness (CaCO3)	mg/L	320	310	250	1.0	9350245			
Ion Balance (% Difference)	%	2.70	2.71	0.0500	N/A	9350766			
Langelier Index (@ 20C)	N/A	0.807	0.828	0.711		9350770			
Langelier Index (@ 4C)	N/A	0.558	0.580	0.462		9350772			
Saturation pH (@ 20C)	N/A	7.12	7.06	7.32		9350770			
Saturation pH (@ 4C)	N/A	7.37	7.31	7.57		9350772			
Inorganics									
Total Ammonia-N	mg/L	0.052	<0.050	<0.050	0.050	9353095			
Conductivity	umho/cm	720	660	480	1.0	9352959			
Dissolved Organic Carbon	mg/L	0.65	0.70	0.91	0.40	9352992			
Orthophosphate (P)	mg/L	<0.010	<0.010	<0.010	0.010	9352942			
pH	pH	7.93	7.89	8.03		9352961			
Dissolved Sulphate (SO4)	mg/L	22	17	15	1.0	9352941			
Alkalinity (Total as CaCO3)	mg/L	240	260	180	1.0	9352953			
Dissolved Chloride (Cl-)	mg/L	53	41	10	1.0	9352917			
Nitrite (N)	mg/L	<0.010	<0.010	<0.010	0.010	9352171	<0.010	0.010	9352171
Nitrate (N)	mg/L	6.77	2.94	12.0	0.10	9352171	12.3	0.10	9352171
Nitrate + Nitrite (N)	mg/L	6.77	2.94	12.0	0.10	9352171	12.3	0.10	9352171
Metals									
Dissolved Aluminum (Al)	ug/L	22	<4.9	<4.9	4.9	9353172			
Dissolved Antimony (Sb)	ug/L	<0.50	<0.50	<0.50	0.50	9353172			
Dissolved Arsenic (As)	ug/L	<1.0	<1.0	<1.0	1.0	9353172			
Dissolved Barium (Ba)	ug/L	25	67	14	2.0	9353172			
Dissolved Beryllium (Be)	ug/L	<0.40	<0.40	<0.40	0.40	9353172			

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate
N/A = Not Applicable

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

Bureau Veritas Job #: C4C0072
Report Date: 2024/04/29

WSP Canada Inc.
Client Project #: CA-GLD-19129150
Site Location: 1451 CHARLESTON SIDEROAD,CALEDON
Sampler Initials: RN

RCAP - COMPREHENSIVE (WATER)

Bureau Veritas ID		YYX095	YYX096	YYX097			YYX097		
Sampling Date		2024/04/22 15:00	2024/04/22 16:00	2024/04/22 17:15			2024/04/22 17:15		
COC Number		C#984504-01-01	C#984504-01-01	C#984504-01-01			C#984504-01-01		
	UNITS	MW20_06A	MW20_03	MW21_2_2	RDL	QC Batch	MW21_2_2 Lab-Dup	RDL	QC Batch
Dissolved Boron (B)	ug/L	<10	12	<10	10	9353172			
Dissolved Cadmium (Cd)	ug/L	<0.090	<0.090	<0.090	0.090	9353172			
Dissolved Calcium (Ca)	ug/L	87000	93000	70000	200	9353172			
Dissolved Chromium (Cr)	ug/L	<5.0	<5.0	<5.0	5.0	9353172			
Dissolved Cobalt (Co)	ug/L	<0.50	<0.50	<0.50	0.50	9353172			
Dissolved Copper (Cu)	ug/L	<0.90	<0.90	<0.90	0.90	9353172			
Dissolved Iron (Fe)	ug/L	<100	<100	<100	100	9353172			
Dissolved Lead (Pb)	ug/L	<0.50	<0.50	<0.50	0.50	9353172			
Dissolved Magnesium (Mg)	ug/L	24000	18000	18000	50	9353172			
Dissolved Manganese (Mn)	ug/L	<2.0	<2.0	<2.0	2.0	9353172			
Dissolved Molybdenum (Mo)	ug/L	<0.50	1.7	<0.50	0.50	9353172			
Dissolved Nickel (Ni)	ug/L	1.1	<1.0	<1.0	1.0	9353172			
Dissolved Phosphorus (P)	ug/L	<100	<100	<100	100	9353172			
Dissolved Potassium (K)	ug/L	2100	1700	380	200	9353172			
Dissolved Selenium (Se)	ug/L	<2.0	<2.0	<2.0	2.0	9353172			
Dissolved Silicon (Si)	ug/L	3000	3900	2600	50	9353172			
Dissolved Silver (Ag)	ug/L	<0.090	<0.090	<0.090	0.090	9353172			
Dissolved Sodium (Na)	ug/L	29000	25000	1400	100	9353172			
Dissolved Strontium (Sr)	ug/L	310	170	77	1.0	9353172			
Dissolved Thallium (Tl)	ug/L	<0.050	<0.050	<0.050	0.050	9353172			
Dissolved Titanium (Ti)	ug/L	<5.0	<5.0	<5.0	5.0	9353172			
Dissolved Uranium (U)	ug/L	0.18	0.57	0.12	0.10	9353172			
Dissolved Vanadium (V)	ug/L	<0.50	<0.50	<0.50	0.50	9353172			
Dissolved Zinc (Zn)	ug/L	<5.0	<5.0	<5.0	5.0	9353172			

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

Bureau Veritas Job #: C4C0072
Report Date: 2024/04/29

WSP Canada Inc.
Client Project #: CA-GLD-19129150
Site Location: 1451 CHARLESTON SIDEROAD,CALEDON
Sampler Initials: RN

RCAP - COMPREHENSIVE (WATER)

Bureau Veritas ID		YYX098		
Sampling Date		2024/04/22		
COC Number		C#984504-01-01		
	UNITS	DUP 2	RDL	QC Batch
Calculated Parameters				
Anion Sum	me/L	6.86	N/A	9350768
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	250	1.0	9350765
Calculated TDS	mg/L	370	1.0	9350763
Carb. Alkalinity (calc. as CaCO3)	mg/L	1.9	1.0	9350765
Cation Sum	me/L	7.23	N/A	9350768
Hardness (CaCO3)	mg/L	310	1.0	9350245
Ion Balance (% Difference)	%	2.61	N/A	9350766
Langelier Index (@ 20C)	N/A	0.819		9350770
Langelier Index (@ 4C)	N/A	0.571		9350772
Saturation pH (@ 20C)	N/A	7.07		9350770
Saturation pH (@ 4C)	N/A	7.32		9350772
Inorganics				
Total Ammonia-N	mg/L	<0.050	0.050	9353095
Conductivity	umho/cm	660	1.0	9352959
Dissolved Organic Carbon	mg/L	0.82	0.40	9350574
Orthophosphate (P)	mg/L	<0.010	0.010	9352942
pH	pH	7.89		9352961
Dissolved Sulphate (SO4)	mg/L	17	1.0	9352941
Alkalinity (Total as CaCO3)	mg/L	250	1.0	9352953
Dissolved Chloride (Cl-)	mg/L	42	1.0	9352917
Nitrite (N)	mg/L	<0.010	0.010	9352171
Nitrate (N)	mg/L	2.99	0.10	9352171
Nitrate + Nitrite (N)	mg/L	2.99	0.10	9352171
Metals				
Dissolved Aluminum (Al)	ug/L	<4.9	4.9	9353172
Dissolved Antimony (Sb)	ug/L	<0.50	0.50	9353172
Dissolved Arsenic (As)	ug/L	<1.0	1.0	9353172
Dissolved Barium (Ba)	ug/L	68	2.0	9353172
Dissolved Beryllium (Be)	ug/L	<0.40	0.40	9353172
Dissolved Boron (B)	ug/L	11	10	9353172

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
N/A = Not Applicable

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

RCAP - COMPREHENSIVE (WATER)

Bureau Veritas ID		YYX098		
Sampling Date		2024/04/22		
COC Number		C#984504-01-01		
	UNITS	DUP 2	RDL	QC Batch
Dissolved Cadmium (Cd)	ug/L	<0.090	0.090	9353172
Dissolved Calcium (Ca)	ug/L	92000	200	9353172
Dissolved Chromium (Cr)	ug/L	<5.0	5.0	9353172
Dissolved Cobalt (Co)	ug/L	<0.50	0.50	9353172
Dissolved Copper (Cu)	ug/L	<0.90	0.90	9353172
Dissolved Iron (Fe)	ug/L	<100	100	9353172
Dissolved Lead (Pb)	ug/L	<0.50	0.50	9353172
Dissolved Magnesium (Mg)	ug/L	19000	50	9353172
Dissolved Manganese (Mn)	ug/L	<2.0	2.0	9353172
Dissolved Molybdenum (Mo)	ug/L	1.6	0.50	9353172
Dissolved Nickel (Ni)	ug/L	<1.0	1.0	9353172
Dissolved Phosphorus (P)	ug/L	<100	100	9353172
Dissolved Potassium (K)	ug/L	1700	200	9353172
Dissolved Selenium (Se)	ug/L	<2.0	2.0	9353172
Dissolved Silicon (Si)	ug/L	3900	50	9353172
Dissolved Silver (Ag)	ug/L	<0.090	0.090	9353172
Dissolved Sodium (Na)	ug/L	25000	100	9353172
Dissolved Strontium (Sr)	ug/L	170	1.0	9353172
Dissolved Thallium (Tl)	ug/L	<0.050	0.050	9353172
Dissolved Titanium (Ti)	ug/L	<5.0	5.0	9353172
Dissolved Uranium (U)	ug/L	0.55	0.10	9353172
Dissolved Vanadium (V)	ug/L	<0.50	0.50	9353172
Dissolved Zinc (Zn)	ug/L	<5.0	5.0	9353172

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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PETROLEUM HYDROCARBONS (CCME)

Bureau Veritas ID		YYX099		
Sampling Date		2024/04/22		
COC Number		C#984504-01-01		
	UNITS	TRIP BLANK	RDL	QC Batch
BTEX & F1 Hydrocarbons				
Benzene	ug/L	<0.20	0.20	9351890
Toluene	ug/L	<0.20	0.20	9351890
Ethylbenzene	ug/L	<0.20	0.20	9351890
o-Xylene	ug/L	<0.20	0.20	9351890
p+m-Xylene	ug/L	<0.40	0.40	9351890
Total Xylenes	ug/L	<0.40	0.40	9351890
F1 (C6-C10)	ug/L	<25	25	9351890
F1 (C6-C10) - BTEX	ug/L	<25	25	9351890
Surrogate Recovery (%)				
1,4-Difluorobenzene	%	102		9351890
4-Bromofluorobenzene	%	91		9351890
D10-o-Xylene	%	95		9351890
D4-1,2-Dichloroethane	%	103		9351890

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

O.REG 153 PHCS, BTEX/F1-F4 (WATER)

Bureau Veritas ID		YYX092	YYX093	YYX094	YYX095	YYX096		
Sampling Date		2024/04/22 11:15	2024/04/22 12:45	2024/04/22 14:00	2024/04/22 15:00	2024/04/22 16:00		
COC Number		C#984504-01-01	C#984504-01-01	C#984504-01-01	C#984504-01-01	C#984504-01-01		
	UNITS	MW20_18	MW20_01A	MW20_08A	MW20_06A	MW20_03	RDL	QC Batch
BTEX & F1 Hydrocarbons								
Benzene	ug/L	<0.20	<0.20	<0.20	<0.20	<0.20	0.20	9351890
Toluene	ug/L	<0.20	<0.20	<0.20	<0.20	<0.20	0.20	9351890
Ethylbenzene	ug/L	<0.20	<0.20	<0.20	<0.20	<0.20	0.20	9351890
o-Xylene	ug/L	<0.20	<0.20	<0.20	<0.20	<0.20	0.20	9351890
p+m-Xylene	ug/L	<0.40	<0.40	<0.40	<0.40	<0.40	0.40	9351890
Total Xylenes	ug/L	<0.40	<0.40	<0.40	<0.40	<0.40	0.40	9351890
F1 (C6-C10)	ug/L	<25	<25	<25	<25	<25	25	9351890
F1 (C6-C10) - BTEX	ug/L	<25	<25	<25	<25	<25	25	9351890
F2-F4 Hydrocarbons								
F2 (C10-C16 Hydrocarbons)	ug/L	<100	<100	<100	<100	<100	100	9351884
F3 (C16-C34 Hydrocarbons)	ug/L	<200	<200	<200	<200	<200	200	9351884
F4 (C34-C50 Hydrocarbons)	ug/L	<200	<200	<200	<200	<200	200	9351884
Reached Baseline at C50	ug/L	Yes	Yes	Yes	Yes	Yes		9351884
Surrogate Recovery (%)								
1,4-Difluorobenzene	%	106	107	108	109	106		9351890
4-Bromofluorobenzene	%	103	103	101	103	107		9351890
D10-o-Xylene	%	97	97	98	95	97		9351890
D4-1,2-Dichloroethane	%	106	104	100	111	108		9351890
o-Terphenyl	%	94	95	97	96	95		9351884

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

O.REG 153 PHCS, BTEX/F1-F4 (WATER)

Bureau Veritas ID		YYX097	YYX098		
Sampling Date		2024/04/22 17:15	2024/04/22		
COC Number		C#984504-01-01	C#984504-01-01		
	UNITS	MW21_2_2	DUP 2	RDL	QC Batch
BTEX & F1 Hydrocarbons					
Benzene	ug/L	<0.20	<0.20	0.20	9351890
Toluene	ug/L	<0.20	<0.20	0.20	9351890
Ethylbenzene	ug/L	<0.20	<0.20	0.20	9351890
o-Xylene	ug/L	<0.20	<0.20	0.20	9351890
p+m-Xylene	ug/L	<0.40	<0.40	0.40	9351890
Total Xylenes	ug/L	<0.40	<0.40	0.40	9351890
F1 (C6-C10)	ug/L	<25	<25	25	9351890
F1 (C6-C10) - BTEX	ug/L	<25	<25	25	9351890
F2-F4 Hydrocarbons					
F2 (C10-C16 Hydrocarbons)	ug/L	<100	<100	100	9351884
F3 (C16-C34 Hydrocarbons)	ug/L	<200	<200	200	9351884
F4 (C34-C50 Hydrocarbons)	ug/L	<200	<200	200	9351884
Reached Baseline at C50	ug/L	Yes	Yes		9351884
Surrogate Recovery (%)					
1,4-Difluorobenzene	%	103	105		9351890
4-Bromofluorobenzene	%	99	100		9351890
D10-o-Xylene	%	96	96		9351890
D4-1,2-Dichloroethane	%	106	105		9351890
o-Terphenyl	%	93	95		9351884

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

Bureau Veritas Job #: C4C0072
Report Date: 2024/04/29

WSP Canada Inc.
Client Project #: CA-GLD-19129150
Site Location: 1451 CHARLESTON SIDEROAD,CALEDON
Sampler Initials: RN

TEST SUMMARY

Bureau Veritas ID: YYX092
Sample ID: MW20_18
Matrix: Water

Collected: 2024/04/22
Shipped:
Received: 2024/04/22

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	9352953	N/A	2024/04/27	Nachiketa Gohil
Carbonate, Bicarbonate and Hydroxide	CALC	9350765	N/A	2024/04/27	Automated Statchk
Chloride by Automated Colourimetry	SKAL	9352917	N/A	2024/04/25	Massarat Jan
Conductivity	AT	9352959	N/A	2024/04/27	Nachiketa Gohil
Dissolved Organic Carbon (DOC)	TOCV/NDIR	9352992	N/A	2024/04/24	Gyulshen Idriz
Petroleum Hydro. CCME F1 & BTEX in Water	HSGC/MSFD	9351890	N/A	2024/04/24	Abdikarim Ali
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	9351884	2024/04/24	2024/04/24	Jeevaraj Jeevaratrnam
Hardness (calculated as CaCO3)		9350245	N/A	2024/04/25	Automated Statchk
Dissolved Metals by ICPMS	ICP/MS	9353172	N/A	2024/04/24	Nan Raykha
Ion Balance (% Difference)	CALC	9350766	N/A	2024/04/27	Automated Statchk
Anion and Cation Sum	CALC	9350768	N/A	2024/04/27	Automated Statchk
Total Ammonia-N	LACH/NH4	9353095	N/A	2024/04/25	Yogesh Patel
Nitrate & Nitrite as Nitrogen in Water	LACH	9352171	N/A	2024/04/25	Jinal Chavda
pH	AT	9352961	2024/04/24	2024/04/27	Nachiketa Gohil
Orthophosphate	KONE	9352942	N/A	2024/04/25	Massarat Jan
Sat. pH and Langelier Index (@ 20C)	CALC	9350770	N/A	2024/04/27	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	9350772	N/A	2024/04/27	Automated Statchk
Sulphate by Automated Turbidimetry	SKAL	9352941	N/A	2024/04/25	Massarat Jan
Total Dissolved Solids (TDS calc)	CALC	9350763	N/A	2024/04/27	Automated Statchk

Bureau Veritas ID: YYX093
Sample ID: MW20_01A
Matrix: Water

Collected: 2024/04/22
Shipped:
Received: 2024/04/22

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	9352953	N/A	2024/04/27	Nachiketa Gohil
Carbonate, Bicarbonate and Hydroxide	CALC	9350765	N/A	2024/04/27	Automated Statchk
Chloride by Automated Colourimetry	SKAL	9352917	N/A	2024/04/25	Massarat Jan
Conductivity	AT	9352959	N/A	2024/04/27	Nachiketa Gohil
Dissolved Organic Carbon (DOC)	TOCV/NDIR	9352992	N/A	2024/04/24	Gyulshen Idriz
Petroleum Hydro. CCME F1 & BTEX in Water	HSGC/MSFD	9351890	N/A	2024/04/24	Abdikarim Ali
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	9351884	2024/04/24	2024/04/24	Jeevaraj Jeevaratrnam
Hardness (calculated as CaCO3)		9350245	N/A	2024/04/25	Automated Statchk
Dissolved Metals by ICPMS	ICP/MS	9353172	N/A	2024/04/24	Nan Raykha
Ion Balance (% Difference)	CALC	9350766	N/A	2024/04/27	Automated Statchk
Anion and Cation Sum	CALC	9350768	N/A	2024/04/27	Automated Statchk
Total Ammonia-N	LACH/NH4	9353095	N/A	2024/04/25	Yogesh Patel
Nitrate & Nitrite as Nitrogen in Water	LACH	9352171	N/A	2024/04/25	Jinal Chavda
pH	AT	9352961	2024/04/24	2024/04/27	Nachiketa Gohil
Orthophosphate	KONE	9352942	N/A	2024/04/25	Massarat Jan
Sat. pH and Langelier Index (@ 20C)	CALC	9350770	N/A	2024/04/27	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	9350772	N/A	2024/04/27	Automated Statchk
Sulphate by Automated Turbidimetry	SKAL	9352941	N/A	2024/04/25	Massarat Jan
Total Dissolved Solids (TDS calc)	CALC	9350763	N/A	2024/04/27	Automated Statchk

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

Bureau Veritas Job #: C4C0072
Report Date: 2024/04/29

WSP Canada Inc.
Client Project #: CA-GLD-19129150
Site Location: 1451 CHARLESTON SIDEROAD,CALEDON
Sampler Initials: RN

TEST SUMMARY

Bureau Veritas ID: YYX094
Sample ID: MW20_08A
Matrix: Water

Collected: 2024/04/22
Shipped:
Received: 2024/04/22

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	9352953	N/A	2024/04/27	Nachiketa Gohil
Carbonate, Bicarbonate and Hydroxide	CALC	9350765	N/A	2024/04/27	Automated Statchk
Chloride by Automated Colourimetry	SKAL	9352917	N/A	2024/04/25	Massarat Jan
Conductivity	AT	9352959	N/A	2024/04/27	Nachiketa Gohil
Dissolved Organic Carbon (DOC)	TOCV/NDIR	9350574	N/A	2024/04/24	Gyulshen Idriz
Petroleum Hydro. CCME F1 & BTEX in Water	HSGC/MSFD	9351890	N/A	2024/04/24	Abdikarim Ali
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	9351884	2024/04/24	2024/04/24	Jeevaraj Jeevaratrnam
Hardness (calculated as CaCO3)		9350245	N/A	2024/04/25	Automated Statchk
Dissolved Metals by ICPMS	ICP/MS	9353172	N/A	2024/04/24	Nan Raykha
Ion Balance (% Difference)	CALC	9350766	N/A	2024/04/27	Automated Statchk
Anion and Cation Sum	CALC	9350768	N/A	2024/04/27	Automated Statchk
Total Ammonia-N	LACH/NH4	9353095	N/A	2024/04/25	Yogesh Patel
Nitrate & Nitrite as Nitrogen in Water	LACH	9352171	N/A	2024/04/25	Jinal Chavda
pH	AT	9352961	2024/04/24	2024/04/27	Nachiketa Gohil
Orthophosphate	KONE	9352942	N/A	2024/04/25	Massarat Jan
Sat. pH and Langelier Index (@ 20C)	CALC	9350770	N/A	2024/04/27	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	9350772	N/A	2024/04/27	Automated Statchk
Sulphate by Automated Turbidimetry	SKAL	9352941	N/A	2024/04/25	Massarat Jan
Total Dissolved Solids (TDS calc)	CALC	9350763	N/A	2024/04/27	Automated Statchk

Bureau Veritas ID: YYX095
Sample ID: MW20_06A
Matrix: Water

Collected: 2024/04/22
Shipped:
Received: 2024/04/22

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	9352953	N/A	2024/04/27	Nachiketa Gohil
Carbonate, Bicarbonate and Hydroxide	CALC	9350765	N/A	2024/04/27	Automated Statchk
Chloride by Automated Colourimetry	SKAL	9352917	N/A	2024/04/25	Massarat Jan
Conductivity	AT	9352959	N/A	2024/04/27	Nachiketa Gohil
Dissolved Organic Carbon (DOC)	TOCV/NDIR	9352992	N/A	2024/04/24	Gyulshen Idriz
Petroleum Hydro. CCME F1 & BTEX in Water	HSGC/MSFD	9351890	N/A	2024/04/24	Abdikarim Ali
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	9351884	2024/04/24	2024/04/24	Jeevaraj Jeevaratrnam
Hardness (calculated as CaCO3)		9350245	N/A	2024/04/25	Automated Statchk
Dissolved Metals by ICPMS	ICP/MS	9353172	N/A	2024/04/24	Nan Raykha
Ion Balance (% Difference)	CALC	9350766	N/A	2024/04/27	Automated Statchk
Anion and Cation Sum	CALC	9350768	N/A	2024/04/27	Automated Statchk
Total Ammonia-N	LACH/NH4	9353095	N/A	2024/04/25	Yogesh Patel
Nitrate & Nitrite as Nitrogen in Water	LACH	9352171	N/A	2024/04/25	Jinal Chavda
pH	AT	9352961	2024/04/24	2024/04/27	Nachiketa Gohil
Orthophosphate	KONE	9352942	N/A	2024/04/25	Massarat Jan
Sat. pH and Langelier Index (@ 20C)	CALC	9350770	N/A	2024/04/27	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	9350772	N/A	2024/04/27	Automated Statchk
Sulphate by Automated Turbidimetry	SKAL	9352941	N/A	2024/04/25	Massarat Jan
Total Dissolved Solids (TDS calc)	CALC	9350763	N/A	2024/04/27	Automated Statchk

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

Bureau Veritas Job #: C4C0072
Report Date: 2024/04/29

WSP Canada Inc.
Client Project #: CA-GLD-19129150
Site Location: 1451 CHARLESTON SIDEROAD,CALEDON
Sampler Initials: RN

TEST SUMMARY

Bureau Veritas ID: YYX096
Sample ID: MW20_03
Matrix: Water

Collected: 2024/04/22
Shipped:
Received: 2024/04/22

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	9352953	N/A	2024/04/27	Nachiketa Gohil
Carbonate, Bicarbonate and Hydroxide	CALC	9350765	N/A	2024/04/27	Automated Statchk
Chloride by Automated Colourimetry	SKAL	9352917	N/A	2024/04/25	Massarat Jan
Conductivity	AT	9352959	N/A	2024/04/27	Nachiketa Gohil
Dissolved Organic Carbon (DOC)	TOCV/NDIR	9352992	N/A	2024/04/24	Gyulshen Idriz
Petroleum Hydro. CCME F1 & BTEX in Water	HSGC/MSFD	9351890	N/A	2024/04/24	Abdikarim Ali
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	9351884	2024/04/24	2024/04/24	Jeevaraj Jeevaratrnam
Hardness (calculated as CaCO3)		9350245	N/A	2024/04/25	Automated Statchk
Dissolved Metals by ICPMS	ICP/MS	9353172	N/A	2024/04/24	Nan Raykha
Ion Balance (% Difference)	CALC	9350766	N/A	2024/04/27	Automated Statchk
Anion and Cation Sum	CALC	9350768	N/A	2024/04/27	Automated Statchk
Total Ammonia-N	LACH/NH4	9353095	N/A	2024/04/25	Yogesh Patel
Nitrate & Nitrite as Nitrogen in Water	LACH	9352171	N/A	2024/04/25	Jinal Chavda
pH	AT	9352961	2024/04/24	2024/04/27	Nachiketa Gohil
Orthophosphate	KONE	9352942	N/A	2024/04/25	Massarat Jan
Sat. pH and Langelier Index (@ 20C)	CALC	9350770	N/A	2024/04/27	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	9350772	N/A	2024/04/27	Automated Statchk
Sulphate by Automated Turbidimetry	SKAL	9352941	N/A	2024/04/25	Massarat Jan
Total Dissolved Solids (TDS calc)	CALC	9350763	N/A	2024/04/27	Automated Statchk

Bureau Veritas ID: YYX097
Sample ID: MW21_2_2
Matrix: Water

Collected: 2024/04/22
Shipped:
Received: 2024/04/22

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	9352953	N/A	2024/04/27	Nachiketa Gohil
Carbonate, Bicarbonate and Hydroxide	CALC	9350765	N/A	2024/04/27	Automated Statchk
Chloride by Automated Colourimetry	SKAL	9352917	N/A	2024/04/25	Massarat Jan
Conductivity	AT	9352959	N/A	2024/04/27	Nachiketa Gohil
Dissolved Organic Carbon (DOC)	TOCV/NDIR	9352992	N/A	2024/04/24	Gyulshen Idriz
Petroleum Hydro. CCME F1 & BTEX in Water	HSGC/MSFD	9351890	N/A	2024/04/24	Abdikarim Ali
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	9351884	2024/04/24	2024/04/24	Jeevaraj Jeevaratrnam
Hardness (calculated as CaCO3)		9350245	N/A	2024/04/25	Automated Statchk
Dissolved Metals by ICPMS	ICP/MS	9353172	N/A	2024/04/24	Nan Raykha
Ion Balance (% Difference)	CALC	9350766	N/A	2024/04/29	Automated Statchk
Anion and Cation Sum	CALC	9350768	N/A	2024/04/27	Automated Statchk
Total Ammonia-N	LACH/NH4	9353095	N/A	2024/04/25	Yogesh Patel
Nitrate & Nitrite as Nitrogen in Water	LACH	9352171	N/A	2024/04/25	Jinal Chavda
pH	AT	9352961	2024/04/24	2024/04/27	Nachiketa Gohil
Orthophosphate	KONE	9352942	N/A	2024/04/25	Massarat Jan
Sat. pH and Langelier Index (@ 20C)	CALC	9350770	N/A	2024/04/29	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	9350772	N/A	2024/04/29	Automated Statchk
Sulphate by Automated Turbidimetry	SKAL	9352941	N/A	2024/04/25	Massarat Jan
Total Dissolved Solids (TDS calc)	CALC	9350763	N/A	2024/04/29	Automated Statchk

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

Bureau Veritas Job #: C4C0072
Report Date: 2024/04/29

WSP Canada Inc.
Client Project #: CA-GLD-19129150
Site Location: 1451 CHARLESTON SIDEROAD,CALEDON
Sampler Initials: RN

TEST SUMMARY

Bureau Veritas ID: YYX097 Dup
Sample ID: MW21_2_2
Matrix: Water

Collected: 2024/04/22
Shipped:
Received: 2024/04/22

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Nitrate & Nitrite as Nitrogen in Water	LACH	9352171	N/A	2024/04/25	Jinal Chavda

Bureau Veritas ID: YYX098
Sample ID: DUP 2
Matrix: Water

Collected: 2024/04/22
Shipped:
Received: 2024/04/22

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	9352953	N/A	2024/04/27	Nachiketa Gohil
Carbonate, Bicarbonate and Hydroxide	CALC	9350765	N/A	2024/04/27	Automated Statchk
Chloride by Automated Colourimetry	SKAL	9352917	N/A	2024/04/25	Massarat Jan
Conductivity	AT	9352959	N/A	2024/04/27	Nachiketa Gohil
Dissolved Organic Carbon (DOC)	TOCV/NDIR	9350574	N/A	2024/04/24	Gyulshen Idriz
Petroleum Hydro. CCME F1 & BTEX in Water	HSGC/MSFD	9351890	N/A	2024/04/24	Abdikarim Ali
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	9351884	2024/04/24	2024/04/24	Jeevaraj Jeevaratrnam
Hardness (calculated as CaCO3)		9350245	N/A	2024/04/25	Automated Statchk
Dissolved Metals by ICPMS	ICP/MS	9353172	N/A	2024/04/24	Nan Raykha
Ion Balance (% Difference)	CALC	9350766	N/A	2024/04/29	Automated Statchk
Anion and Cation Sum	CALC	9350768	N/A	2024/04/27	Automated Statchk
Total Ammonia-N	LACH/NH4	9353095	N/A	2024/04/25	Yogesh Patel
Nitrate & Nitrite as Nitrogen in Water	LACH	9352171	N/A	2024/04/25	Jinal Chavda
pH	AT	9352961	2024/04/24	2024/04/27	Nachiketa Gohil
Orthophosphate	KONE	9352942	N/A	2024/04/25	Massarat Jan
Sat. pH and Langelier Index (@ 20C)	CALC	9350770	N/A	2024/04/29	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	9350772	N/A	2024/04/29	Automated Statchk
Sulphate by Automated Turbidimetry	SKAL	9352941	N/A	2024/04/25	Massarat Jan
Total Dissolved Solids (TDS calc)	CALC	9350763	N/A	2024/04/29	Automated Statchk

Bureau Veritas ID: YYX099
Sample ID: TRIP BLANK
Matrix: Water

Collected: 2024/04/22
Shipped:
Received: 2024/04/22

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Petroleum Hydro. CCME F1 & BTEX in Water	HSGC/MSFD	9351890	N/A	2024/04/24	Abdikarim Ali

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	4.7°C

Results relate only to the items tested.

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

QUALITY ASSURANCE REPORT

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
9351884	o-Terphenyl	2024/04/24	95	60 - 130	98	60 - 130	96	%		
9351890	1,4-Difluorobenzene	2024/04/24	98	70 - 130	98	70 - 130	104	%		
9351890	4-Bromofluorobenzene	2024/04/24	100	70 - 130	99	70 - 130	101	%		
9351890	D10-o-Xylene	2024/04/24	101	70 - 130	100	70 - 130	91	%		
9351890	D4-1,2-Dichloroethane	2024/04/24	91	70 - 130	96	70 - 130	103	%		
9350574	Dissolved Organic Carbon	2024/04/24	94	80 - 120	98	80 - 120	<0.40	mg/L	1.0	20
9351884	F2 (C10-C16 Hydrocarbons)	2024/04/24	96	60 - 130	96	60 - 130	<100	ug/L	NC	30
9351884	F3 (C16-C34 Hydrocarbons)	2024/04/24	98	60 - 130	100	60 - 130	<200	ug/L	NC	30
9351884	F4 (C34-C50 Hydrocarbons)	2024/04/24	90	60 - 130	90	60 - 130	<200	ug/L	NC	30
9351890	Benzene	2024/04/24	94	50 - 140	96	50 - 140	<0.20	ug/L	NC	30
9351890	Ethylbenzene	2024/04/24	103	50 - 140	104	50 - 140	<0.20	ug/L	NC	30
9351890	F1 (C6-C10) - BTEX	2024/04/24					<25	ug/L	NC	30
9351890	F1 (C6-C10)	2024/04/24	99	60 - 140	100	60 - 140	<25	ug/L	NC	30
9351890	o-Xylene	2024/04/24	100	50 - 140	101	50 - 140	<0.20	ug/L	NC	30
9351890	p+m-Xylene	2024/04/24	97	50 - 140	98	50 - 140	<0.40	ug/L	NC	30
9351890	Toluene	2024/04/24	92	50 - 140	95	50 - 140	<0.20	ug/L	NC	30
9351890	Total Xylenes	2024/04/24					<0.40	ug/L	NC	30
9352171	Nitrate (N)	2024/04/25	NC	80 - 120	104	80 - 120	<0.10	mg/L	2.9	20
9352171	Nitrite (N)	2024/04/25	105	80 - 120	103	80 - 120	<0.010	mg/L	NC	20
9352917	Dissolved Chloride (Cl-)	2024/04/25	92	80 - 120	98	80 - 120	<1.0	mg/L	4.2	20
9352941	Dissolved Sulphate (SO4)	2024/04/25	NC	75 - 125	94	80 - 120	<1.0	mg/L	0.32	20
9352942	Orthophosphate (P)	2024/04/25	88	75 - 125	88	80 - 120	<0.010	mg/L	NC	20
9352953	Alkalinity (Total as CaCO3)	2024/04/27			103	85 - 115	<1.0	mg/L	2.0	20
9352959	Conductivity	2024/04/27			101	85 - 115	<1.0	umho/cm	0	10
9352961	pH	2024/04/27			101	98 - 103			1.2	N/A
9352992	Dissolved Organic Carbon	2024/04/24	90	80 - 120	93	80 - 120	<0.40	mg/L	0.18	20
9353095	Total Ammonia-N	2024/04/25	97	75 - 125	100	80 - 120	<0.050	mg/L	2.2	20
9353172	Dissolved Aluminum (Al)	2024/04/24	108	80 - 120	101	80 - 120	<4.9	ug/L		
9353172	Dissolved Antimony (Sb)	2024/04/24	109	80 - 120	103	80 - 120	<0.50	ug/L	NC	20
9353172	Dissolved Arsenic (As)	2024/04/24	102	80 - 120	99	80 - 120	<1.0	ug/L	2.6	20
9353172	Dissolved Barium (Ba)	2024/04/24	104	80 - 120	99	80 - 120	<2.0	ug/L	0.59	20

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
9353172	Dissolved Beryllium (Be)	2024/04/24	106	80 - 120	102	80 - 120	<0.40	ug/L	NC	20
9353172	Dissolved Boron (B)	2024/04/24	98	80 - 120	99	80 - 120	<10	ug/L	2.5	20
9353172	Dissolved Cadmium (Cd)	2024/04/24	104	80 - 120	99	80 - 120	<0.090	ug/L	NC	20
9353172	Dissolved Calcium (Ca)	2024/04/24	NC	80 - 120	103	80 - 120	<200	ug/L		
9353172	Dissolved Chromium (Cr)	2024/04/24	106	80 - 120	98	80 - 120	<5.0	ug/L	NC	20
9353172	Dissolved Cobalt (Co)	2024/04/24	100	80 - 120	95	80 - 120	<0.50	ug/L	5.2	20
9353172	Dissolved Copper (Cu)	2024/04/24	103	80 - 120	100	80 - 120	<0.90	ug/L	0.96	20
9353172	Dissolved Iron (Fe)	2024/04/24	105	80 - 120	101	80 - 120	<100	ug/L		
9353172	Dissolved Lead (Pb)	2024/04/24	100	80 - 120	98	80 - 120	<0.50	ug/L	NC	20
9353172	Dissolved Magnesium (Mg)	2024/04/24	NC	80 - 120	98	80 - 120	<50	ug/L		
9353172	Dissolved Manganese (Mn)	2024/04/24	101	80 - 120	98	80 - 120	<2.0	ug/L		
9353172	Dissolved Molybdenum (Mo)	2024/04/24	110	80 - 120	100	80 - 120	<0.50	ug/L	1.2	20
9353172	Dissolved Nickel (Ni)	2024/04/24	97	80 - 120	95	80 - 120	<1.0	ug/L	4.7	20
9353172	Dissolved Phosphorus (P)	2024/04/24	112	80 - 120	109	80 - 120	<100	ug/L		
9353172	Dissolved Potassium (K)	2024/04/24	105	80 - 120	102	80 - 120	<200	ug/L		
9353172	Dissolved Selenium (Se)	2024/04/24	105	80 - 120	100	80 - 120	<2.0	ug/L	NC	20
9353172	Dissolved Silicon (Si)	2024/04/24	104	80 - 120	102	80 - 120	<50	ug/L		
9353172	Dissolved Silver (Ag)	2024/04/24	103	80 - 120	98	80 - 120	<0.090	ug/L	NC	20
9353172	Dissolved Sodium (Na)	2024/04/24	102	80 - 120	101	80 - 120	<100	ug/L	1.3	20
9353172	Dissolved Strontium (Sr)	2024/04/24	101	80 - 120	98	80 - 120	<1.0	ug/L		
9353172	Dissolved Thallium (Tl)	2024/04/24	101	80 - 120	99	80 - 120	<0.050	ug/L	NC	20
9353172	Dissolved Titanium (Ti)	2024/04/24	103	80 - 120	100	80 - 120	<5.0	ug/L		
9353172	Dissolved Uranium (U)	2024/04/24	102	80 - 120	97	80 - 120	<0.10	ug/L	1.2	20
9353172	Dissolved Vanadium (V)	2024/04/24	104	80 - 120	101	80 - 120	<0.50	ug/L	NC	20

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
9353172	Dissolved Zinc (Zn)	2024/04/24	100	80 - 120	98	80 - 120	<5.0	ug/L	NC	20

N/A = Not Applicable

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

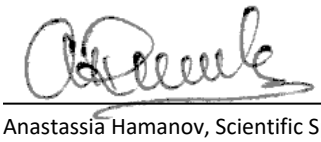
NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:



Anastassia Hamanov, Scientific Specialist

Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation, please refer to the Validation Signatures page if included, otherwise available by request. For Department specific Analyst/Supervisor validation names, please refer to the Test Summary section if included, otherwise available by request. This report is authorized by Rodney Major, General Manager responsible for Ontario Environmental laboratory operations.

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

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Page of

NONT-2024-04-2091

INVOICE TO:		REPORT TO:		PROJECT INFORMATION:	
Company Name:	#21375 WSP Canada Inc.	Company Name:		Quotation #:	C41059
Attention:	George Schneider	Attention:	Paul Menkveld	P.O. #:	
Address:	210 Sheldon Drive Cambridge ON N1T 1A8	Address:		Project:	CA-GLD-19129150
Tel:	(519) 620-8182 Fax:	Tel:	226-752-8848 Fax:	Project Name:	
Email:	George_Schneider@golder.com	Email:	paul.menkveld@wsp.com	Site #:	1451 Charleston sideroad, Caledon, ON
				Sampled By:	Ramin Niknam

Bottle Order #: 984504

COC #: C#984504-01-01

Project Manager: Ankita Bhalla

MOE REGULATED DRINKING WATER OR WATER INTENDED FOR HUMAN CONSUMPTION MUST BE SUBMITTED ON THE BUREAU VERITAS DRINKING WATER CHAIN OF CUSTODY

Regulation 153 (2011)
- ☐ Table 1 ☐ Res/Park ☐ Medium/Fine
- ☐ Table 2 ☐ Ind/Comm ☐ Coarse
- ☐ Table 3 ☐ Agri/Other ☐ For RSC
- ☐ Table ___

Other Regulations
- ☐ CCME ☐ Sanitary Sewer Bylaw
- ☐ Reg 558 ☐ Storm Sewer Bylaw
- ☐ MISA Municipality ___
- ☐ PWQO ☐ Reg 406 Table ___
- ☐ Other ___

Special Instructions

Include Criteria on Certificate of Analysis (Y/N)? Y

ANALYSIS REQUESTED (PLEASE BE SPECIFIC)

Turnaround Time (TAT) Required:
Please provide advance notice for rush projects

Regular (Standard) TAT: ✓
(will be applied if Rush TAT is not specified):
Standard TAT = 5-7 Working days for most tests.
Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.

Job Specific Rush TAT (if applies to entire submission)
Date Required: ___ Time Required: ___ ☐
Rush Confirmation Number: ___ *(call lab for #)*

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Field Filtered (please circle): (Metals) / Hg / Cr VI	RCAp - Comprehensive	O.Reg 153 PHCs, BTEX/F1-F4	F1/BTEX	# of Bottles	Comments
1		MW20-18	24/4/22	11:15	GW	✓	✓	✓		8	
2		MW20-01A	24/4/22	12:45	GW	✓	✓	✓		8	* All Dissolved metals Bottles (Red) Field Filtered *
3		MW20-08A	24/4/22	14:00	GW	✓	✓	✓		8	
4		MW20-06A	~~24/4/22~~	15:00	GW	✓	✓	✓		8	
5		MW20-03	24/4/22	16:00	GW	✓	✓	✓		8	
6		MW21-2-2	24/4/22	17:15	GW	✓	✓	✓		8	
7		DUP2	24/4/22	—	GW	✓	✓	✓		8	
8		Trip blank							✓	2	
9											
10											

* RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	# jars used and not submitted
Ramin Niknam	24/4/22	7:00 PM	SUGAR SALVAN	2024/04/22	19:02	

Laboratory Use Only
Time Sensitive
Temperature (°C) on Recei: 5 7 3 7 6
Custody Seal Present: Yes ☐ No ☐
Intact: Yes ☐ No ☐

* UNLESS OTHERWISE AGREED TO IN WRITING, WORK SUBMITTED ON THIS CHAIN OF CUSTODY IS SUBJECT TO BUREAU VERITAS'S STANDARD TERMS AND CONDITIONS. SIGNING OF THIS CHAIN OF CUSTODY DOCUMENT IS ACKNOWLEDGMENT AND ACCEPTANCE OF OUR TERMS WHICH ARE AVAILABLE FOR VIEWING AT WWW.BVNA.COM/ENVIRONMENTAL-LABORATORIES/RESOURCES/COC-TERMS-AND-CONDITIONS.

* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

** SAMPLE CONTAINER, PRESERVATION, HOLD TIME AND PACKAGE INFORMATION CAN BE VIEWED AT WWW.BVNA.COM/ENVIRONMENTAL-LABORATORIES/RESOURCES/CHAIN-CUSTODY-FORMS-COCS.

SAMPLES MUST BE KEPT COOL (< 10° C) FROM TIME OF SAMPLING UNTIL DELIVERY TO BUREAU VERITAS

White: Bureau Veritas Yellow: Client

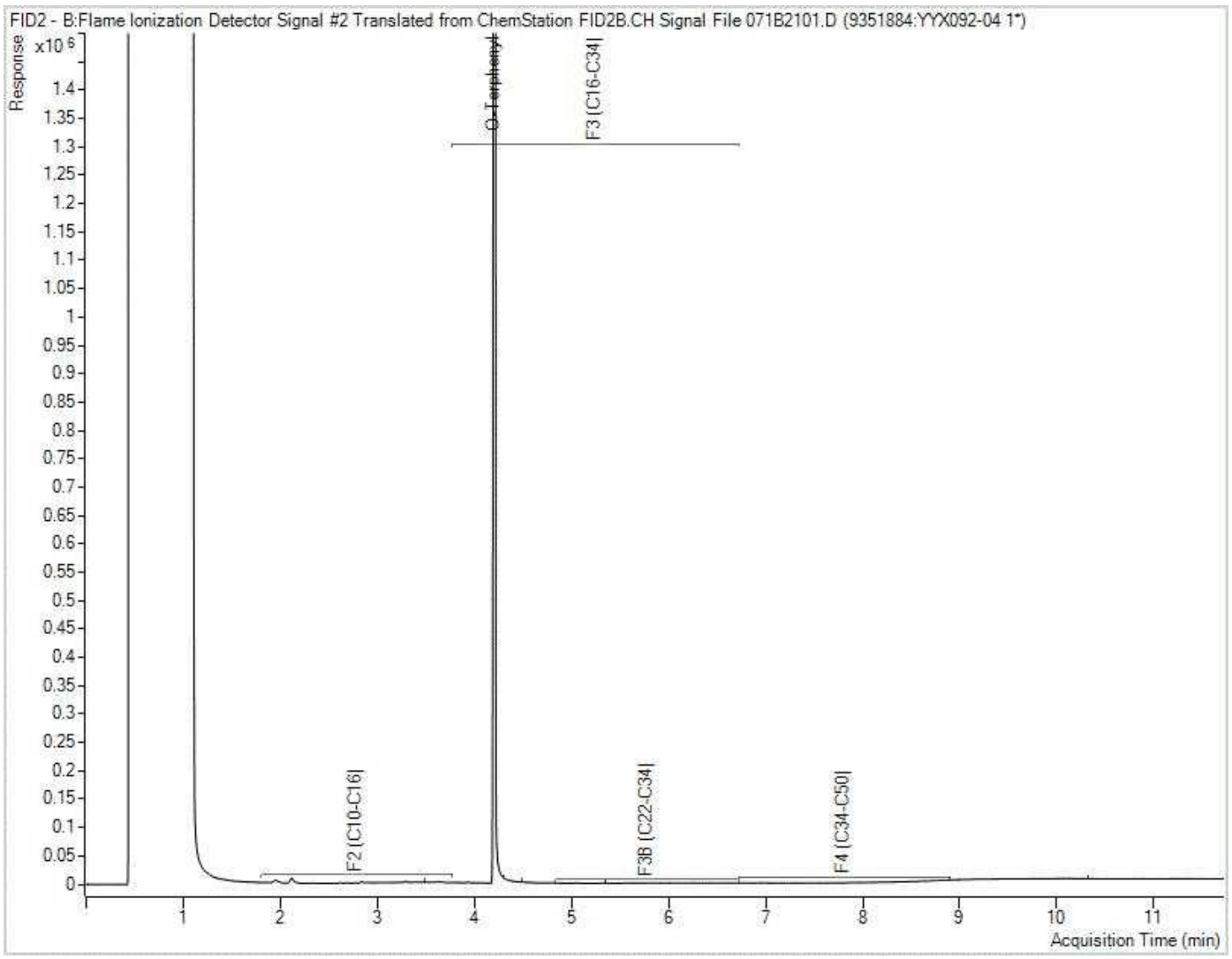
ON ICE

Bureau Veritas Canada (2019) Inc.

Bureau Veritas Job #: C4C0072
Report Date: 2024/04/29
Bureau Veritas Sample: YYX092

WSP Canada Inc.
Client Project #: CA-GLD-19129150
Project name: 1451 CHARLESTON SIDEROAD,CALEDON
Client ID: MW20_18

Petroleum Hydrocarbons F2-F4 in Water Chromatogram

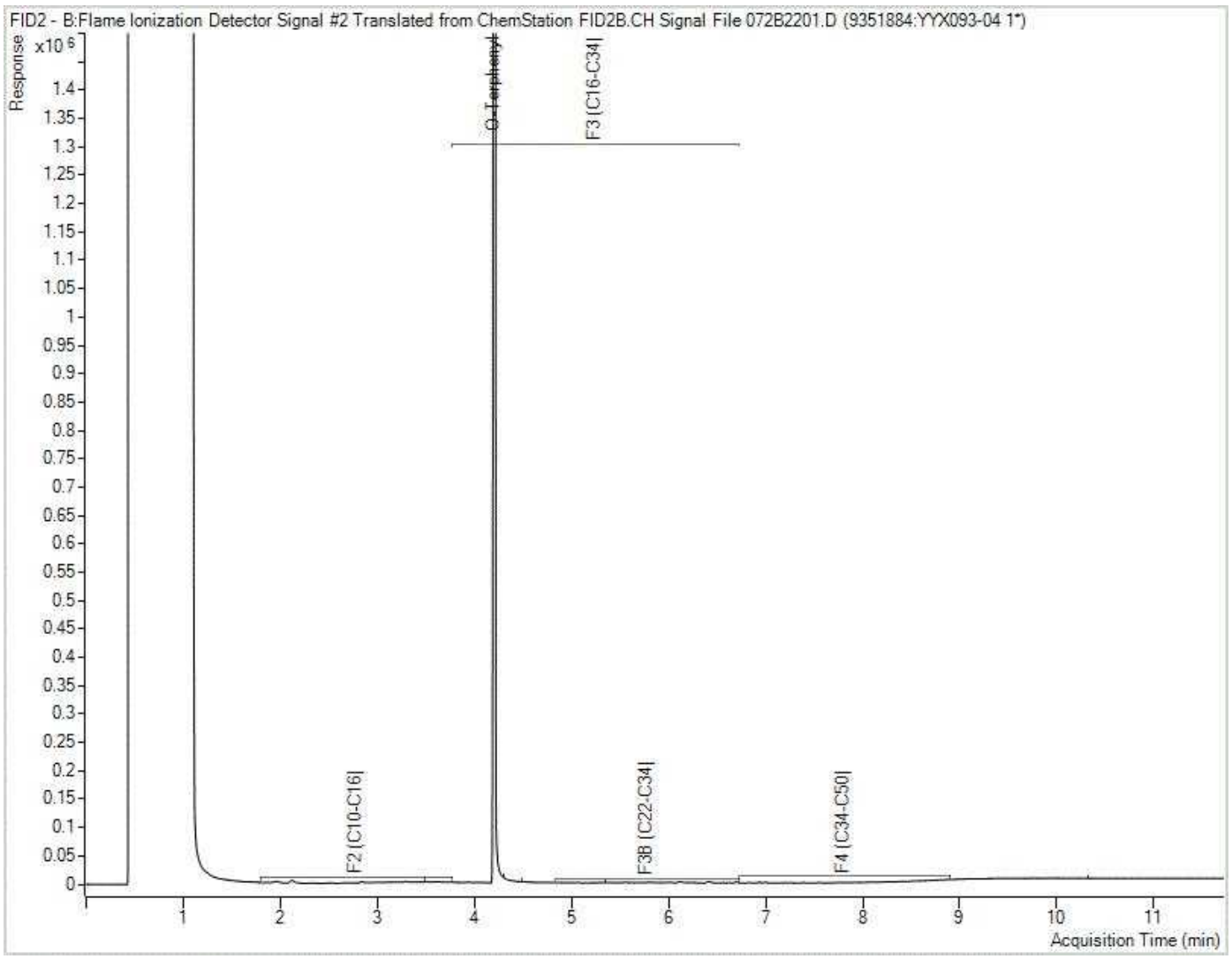


Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Bureau Veritas Job #: C4C0072
Report Date: 2024/04/29
Bureau Veritas Sample: YYX093

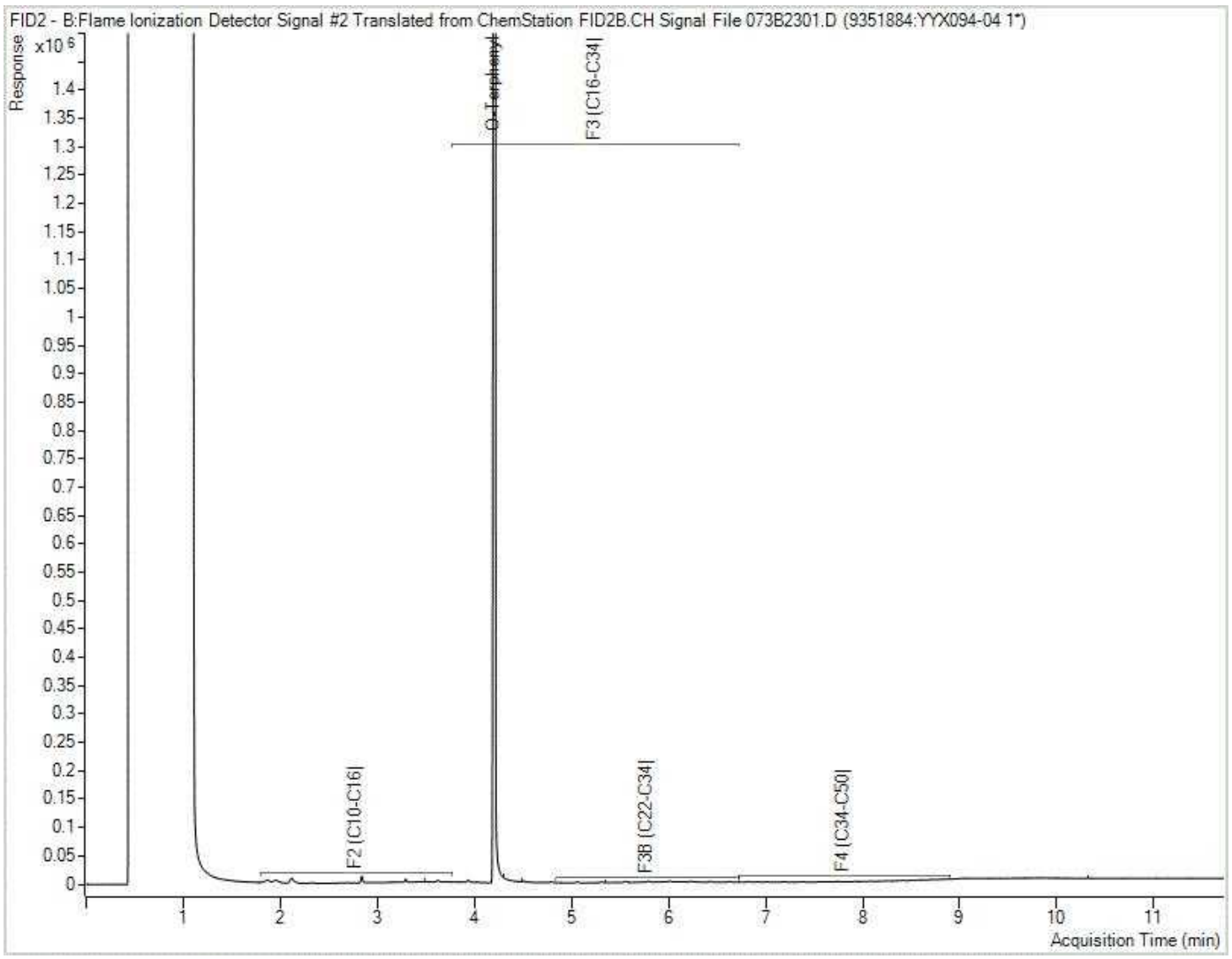
WSP Canada Inc.
Client Project #: CA-GLD-19129150
Project name: 1451 CHARLESTON SIDEROAD,CALEDON
Client ID: MW20_01A

Petroleum Hydrocarbons F2-F4 in Water Chromatogram



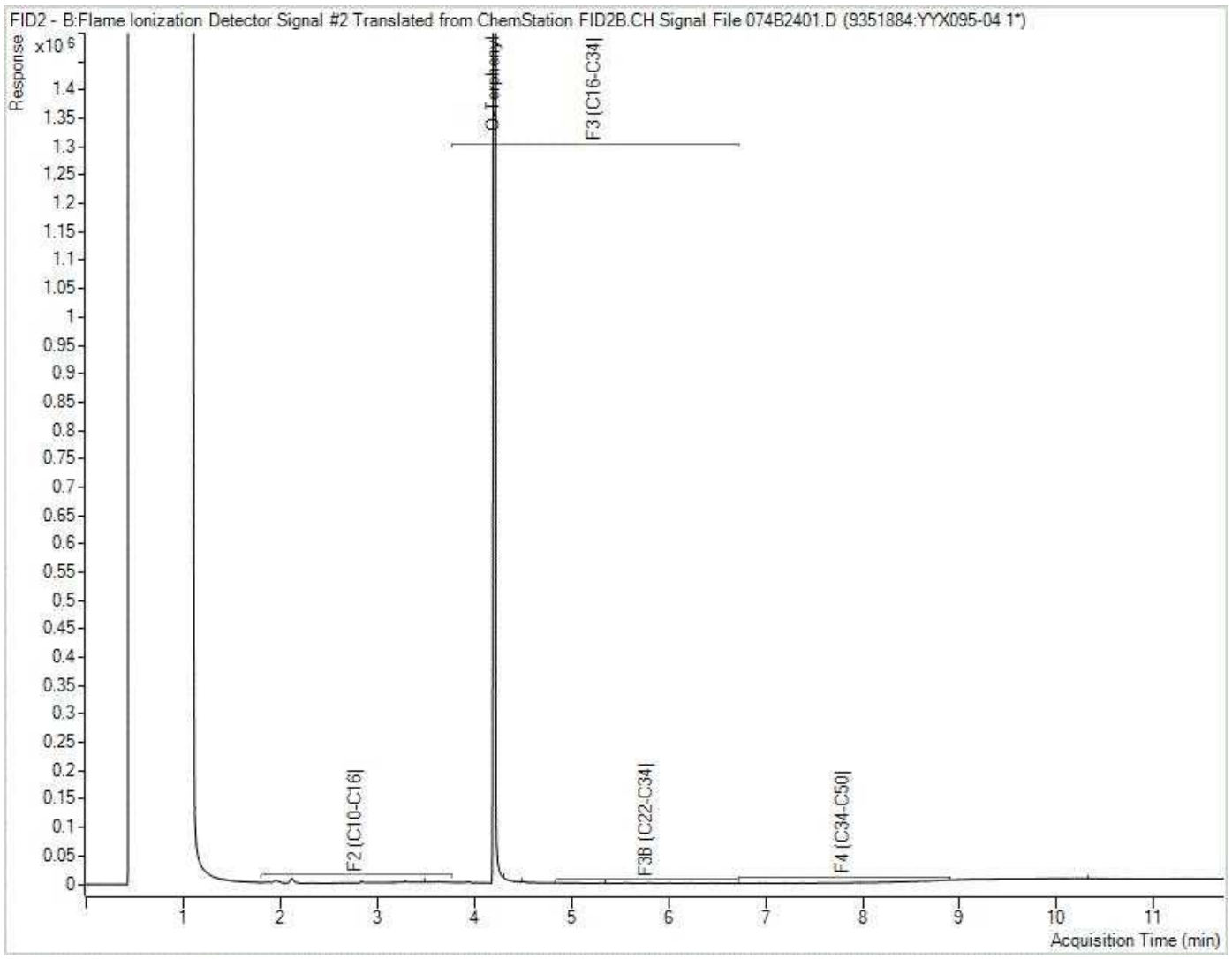
Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Petroleum Hydrocarbons F2-F4 in Water Chromatogram



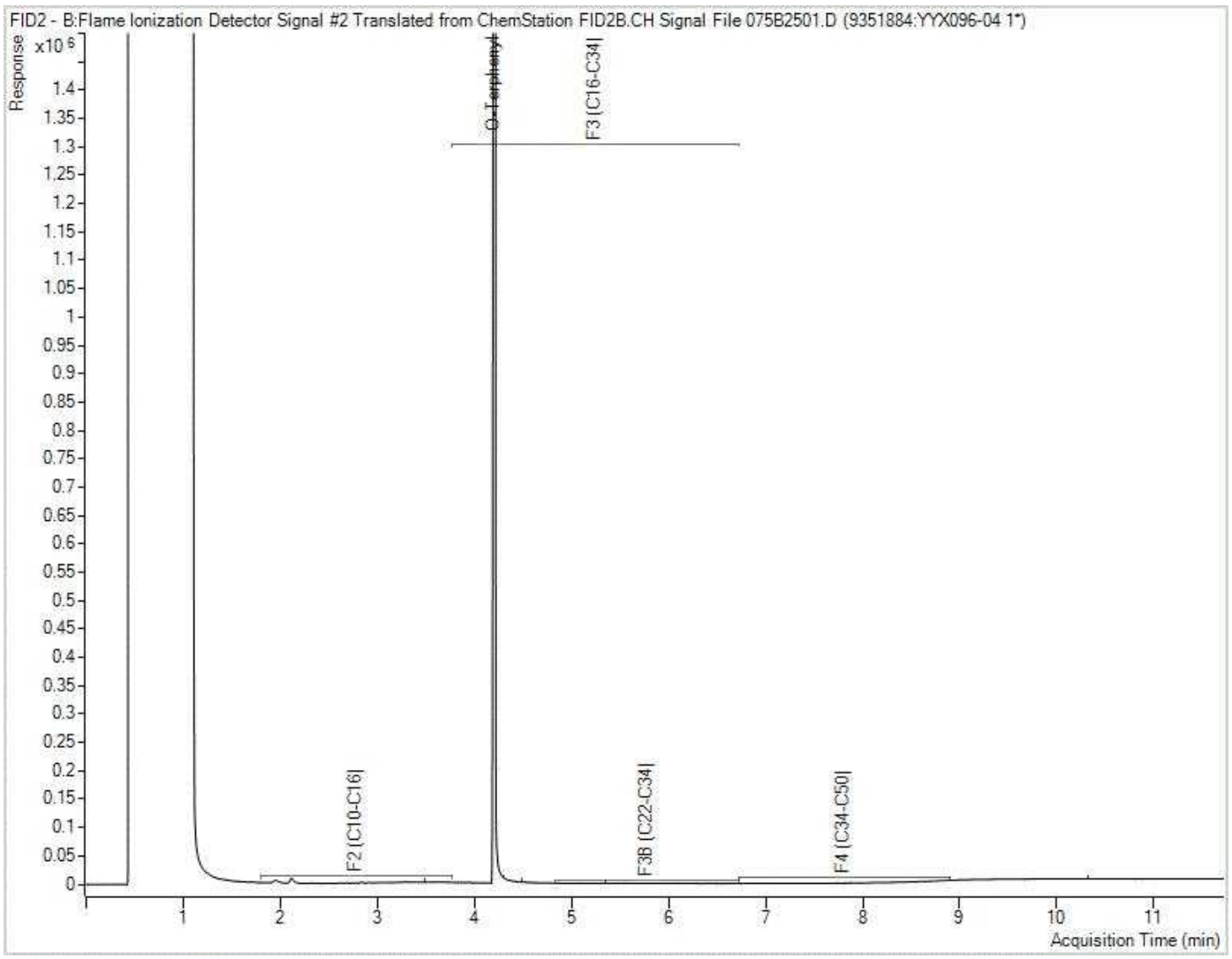
Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Petroleum Hydrocarbons F2-F4 in Water Chromatogram



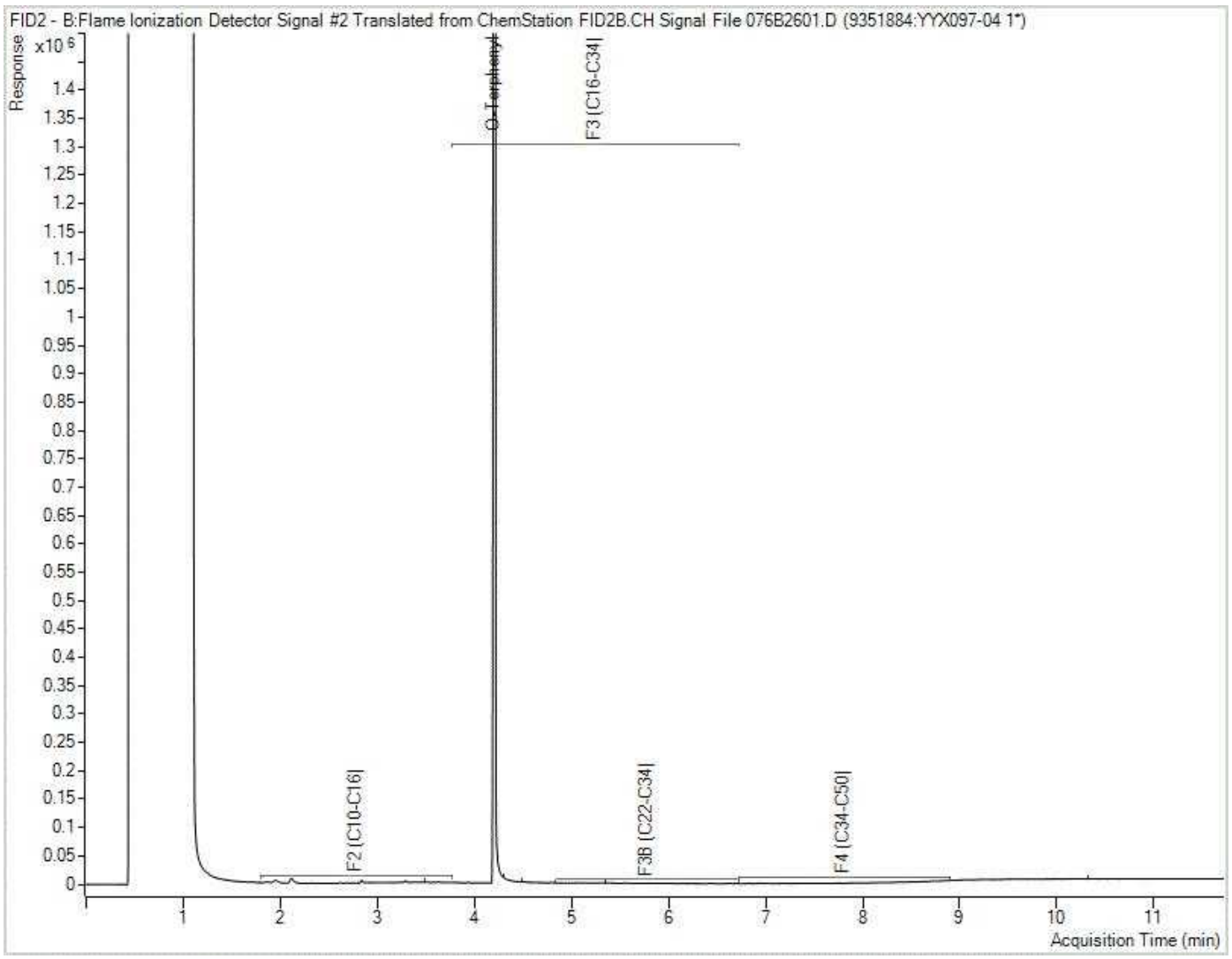
Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Petroleum Hydrocarbons F2-F4 in Water Chromatogram



Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Petroleum Hydrocarbons F2-F4 in Water Chromatogram

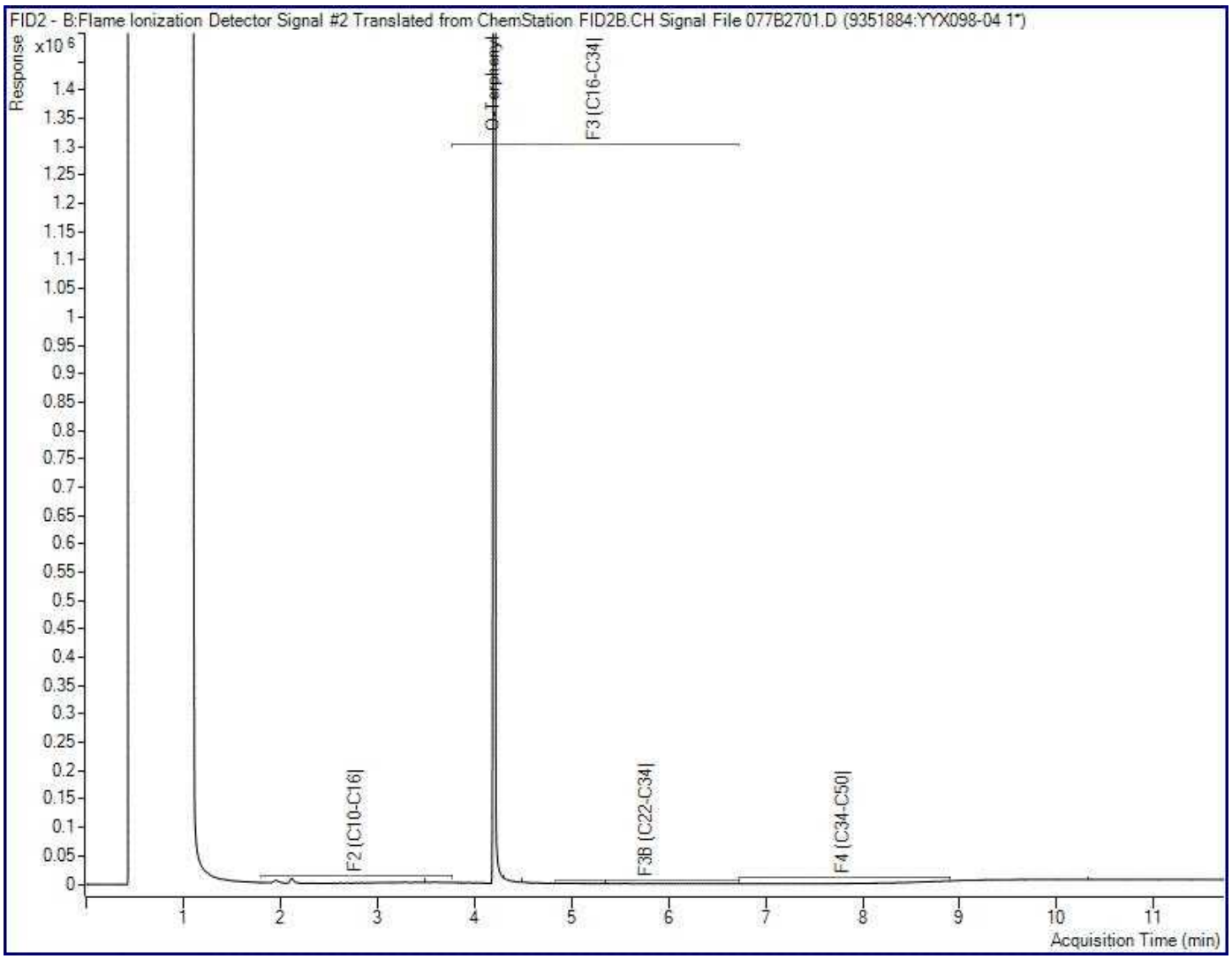


Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Bureau Veritas Job #: C4C0072
Report Date: 2024/04/29
Bureau Veritas Sample: YYX098

WSP Canada Inc.
Client Project #: CA-GLD-19129150
Project name: 1451 CHARLESTON SIDEROAD,CALEDON
Client ID: DUP 2

Petroleum Hydrocarbons F2-F4 in Water Chromatogram



Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Your Project #: CA-GLD-19129150
Site Location: 1451 CHARLESTON SIDEROAD, CALEDON, ON
Your C.O.C. #: 984504-01-01

Attention: Paul Menkveld

WSP Canada Inc.
210 Sheldon Drive
Cambridge, ON
CANADA N1T 1A8

Report Date: 2024/04/29
Report #: R8128160
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C4C0940
Received: 2024/04/23, 18:02

Sample Matrix: Water
Samples Received: 5

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Alkalinity	5	N/A	2024/04/27	CAM SOP-00448	SM 24 2320 B m
Carbonate, Bicarbonate and Hydroxide	5	N/A	2024/04/27	CAM SOP-00102	APHA 4500-CO2 D
Chloride by Automated Colourimetry	5	N/A	2024/04/26	CAM SOP-00463	SM 24 4500-Cl E m
Conductivity	5	N/A	2024/04/27	CAM SOP-00414	SM 24 2510 m
Dissolved Organic Carbon (DOC) (1)	5	N/A	2024/04/24	CAM SOP-00446	SM 24 5310 B m
Petroleum Hydro. CCME F1 & BTEX in Water	5	N/A	2024/04/25	CAM SOP-00315	CCME PHC-CWS m
Petroleum Hydrocarbons F2-F4 in Water (2)	5	2024/04/25	2024/04/25	CAM SOP-00316	CCME PHC-CWS m
Hardness (calculated as CaCO3)	5	N/A	2024/04/25	CAM SOP 00102/00408/00447	SM 2340 B
Dissolved Metals by ICPMS	5	N/A	2024/04/25	CAM SOP-00447	EPA 6020B m
Ion Balance (% Difference)	1	N/A	2024/04/27		
Ion Balance (% Difference)	4	N/A	2024/04/28		
Anion and Cation Sum	5	N/A	2024/04/27		
Total Ammonia-N	5	N/A	2024/04/28	CAM SOP-00441	USGS I-2522-90 m
Nitrate & Nitrite as Nitrogen in Water (3)	1	N/A	2024/04/26	CAM SOP-00440	SM 24 4500-NO3I/NO2B
Nitrate & Nitrite as Nitrogen in Water (3)	4	N/A	2024/04/27	CAM SOP-00440	SM 24 4500-NO3I/NO2B
pH (4)	5	2024/04/24	2024/04/27	CAM SOP-00413	SM 24th - 4500H+ B
Orthophosphate	5	N/A	2024/04/25	CAM SOP-00461	SM 24 4500-P E
Sat. pH and Langelier Index (@ 20C)	1	N/A	2024/04/27		Auto Calc
Sat. pH and Langelier Index (@ 20C)	4	N/A	2024/04/28		Auto Calc
Sat. pH and Langelier Index (@ 4C)	1	N/A	2024/04/27		Auto Calc
Sat. pH and Langelier Index (@ 4C)	4	N/A	2024/04/28		Auto Calc
Sulphate by Automated Turbidimetry	5	N/A	2024/04/26	CAM SOP-00464	SM 24 4500-SO42- E m
Total Dissolved Solids (TDS calc)	1	N/A	2024/04/27		Auto Calc
Total Dissolved Solids (TDS calc)	4	N/A	2024/04/28		Auto Calc

Remarks:

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, EPA, APHA or the Quebec Ministry of Environment.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in

Your Project #: CA-GLD-19129150
Site Location: 1451 CHARLESTON SIDEROAD, CALEDON, ON
Your C.O.C. #: 984504-01-01

Attention: Paul Menkveld

WSP Canada Inc.
210 Sheldon Drive
Cambridge, ON
CANADA N1T 1A8

Report Date: 2024/04/29
Report #: R8128160
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C4C0940
Received: 2024/04/23, 18:02

writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.
This Certificate shall not be reproduced except in full, without the written approval of the laboratory.

Reference Method suffix “m” indicates test methods incorporate validated modifications from specific reference methods to improve performance.

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) Dissolved Organic Carbon (DOC) present in the sample should be considered as non-purgeable DOC.
(2) All CCME PHC results met required criteria unless otherwise stated in the report. The CWS PHC methods employed by Bureau Veritas conform to all prescribed elements of the reference method and performance based elements have been validated. All modifications have been validated and proven equivalent following “Alberta Environment’s Interpretation of the Reference Method for the Canada-Wide Standard for Petroleum Hydrocarbons in Soil Validation of Performance-Based Alternative Methods September 2003”. Documentation is available upon request. Modifications from Reference Method for the Canada-wide Standard for Petroleum Hydrocarbons in Soil-Tier 1 Method: F2/F3/F4 data reported using validated cold solvent extraction instead of Soxhlet extraction.
(3) Values for calculated parameters may not appear to add up due to rounding of raw data and significant figures.
(4) "The CCME method and Analytical Protocol (O. Reg 153/04, O. Reg. 406/19) requires pH to be analyzed within 15 minutes of sampling and therefore field analysis is required for compliance. All Laboratory pH analyses in this report are reported past the CCME and Analytical Protocol (O. Reg 153/04, O. Reg. 406/19) holding time. Bureau Veritas endeavors to analyze samples as soon as possible after receipt."

Encryption Key

Please direct all questions regarding this Certificate of Analysis to:
Ankita Bhalla, Project Manager
Email: Ankita.Bhalla@bureauveritas.com
Phone# (905) 817-5700

==========

This report has been generated and distributed using a secure automated process.
Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation, please refer to the Validation Signatures page if included, otherwise available by request. For Department specific Analyst/Supervisor validation names, please refer to the Test Summary section if included, otherwise available by request. This report is authorized by Rodney Major, General Manager responsible for Ontario Environmental laboratory operations.

Bureau Veritas Job #: C4C0940
Report Date: 2024/04/29

WSP Canada Inc.
Client Project #: CA-GLD-19129150
Site Location: 1451 CHARLESTON SIDEROAD, CALEDON, ON
Sampler Initials: RN

RCAP - COMPREHENSIVE (WATER)

Bureau Veritas ID		YZB621	YZB622			YZB622		
Sampling Date		2024/04/23 11:00	2024/04/23 12:15			2024/04/23 12:15		
COC Number		984504-01-01	984504-01-01			984504-01-01		
	UNITS	MW21-3-3	MW20_07A	RDL	QC Batch	MW20_07A Lab-Dup	RDL	QC Batch
Calculated Parameters								
Anion Sum	me/L	7.84	7.61	N/A	9350768			
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	230	250	1.0	9350765			
Calculated TDS	mg/L	430	410	1.0	9350763			
Carb. Alkalinity (calc. as CaCO3)	mg/L	1.8	2.0	1.0	9350765			
Cation Sum	me/L	8.22	7.79	N/A	9350768			
Hardness (CaCO3)	mg/L	310	320	1.0	9351678			
Ion Balance (% Difference)	%	2.40	1.16	N/A	9350766			
Langelier Index (@ 20C)	N/A	0.745	0.790		9350770			
Langelier Index (@ 4C)	N/A	0.497	0.541		9350772			
Saturation pH (@ 20C)	N/A	7.17	7.14		9350770			
Saturation pH (@ 4C)	N/A	7.42	7.39		9350772			
Inorganics								
Total Ammonia-N	mg/L	<0.050	<0.050	0.050	9353946			
Conductivity	umho/cm	790	740	1.0	9352959			
Dissolved Organic Carbon	mg/L	0.58	0.45	0.40	9352992			
Orthophosphate (P)	mg/L	<0.010	<0.010	0.010	9347924			
pH	pH	7.92	7.93		9352961			
Dissolved Sulphate (SO4)	mg/L	29	41	1.0	9347930			
Alkalinity (Total as CaCO3)	mg/L	230	250	1.0	9352953			
Dissolved Chloride (Cl-)	mg/L	77	62	1.0	9347932			
Nitrite (N)	mg/L	<0.010	0.017	0.010	9352849			
Nitrate (N)	mg/L	6.52	0.69	0.10	9352849			
Nitrate + Nitrite (N)	mg/L	6.52	0.71	0.10	9352849			
Metals								
Dissolved Aluminum (Al)	ug/L	<4.9	9.4	4.9	9353221	10	4.9	9353221
Dissolved Antimony (Sb)	ug/L	<0.50	<0.50	0.50	9353221	<0.50	0.50	9353221
Dissolved Arsenic (As)	ug/L	<1.0	6.8	1.0	9353221	6.7	1.0	9353221
Dissolved Barium (Ba)	ug/L	46	56	2.0	9353221	57	2.0	9353221
Dissolved Beryllium (Be)	ug/L	<0.40	<0.40	0.40	9353221	<0.40	0.40	9353221

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate
N/A = Not Applicable

Bureau Veritas 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvna.com

Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

RCAP - COMPREHENSIVE (WATER)

Bureau Veritas ID		YZB621	YZB622			YZB622		
Sampling Date		2024/04/23 11:00	2024/04/23 12:15			2024/04/23 12:15		
COC Number		984504-01-01	984504-01-01			984504-01-01		
	UNITS	MW21-3-3	MW20_07A	RDL	QC Batch	MW20_07A Lab-Dup	RDL	QC Batch
Dissolved Boron (B)	ug/L	<10	21	10	9353221	20	10	9353221
Dissolved Cadmium (Cd)	ug/L	<0.090	<0.090	0.090	9353221	<0.090	0.090	9353221
Dissolved Calcium (Ca)	ug/L	83000	82000	200	9353221	80000	200	9353221
Dissolved Chromium (Cr)	ug/L	<5.0	<5.0	5.0	9353221	<5.0	5.0	9353221
Dissolved Cobalt (Co)	ug/L	<0.50	<0.50	0.50	9353221	<0.50	0.50	9353221
Dissolved Copper (Cu)	ug/L	<0.90	<0.90	0.90	9353221	<0.90	0.90	9353221
Dissolved Iron (Fe)	ug/L	<100	<100	100	9353221	<100	100	9353221
Dissolved Lead (Pb)	ug/L	<0.50	<0.50	0.50	9353221	<0.50	0.50	9353221
Dissolved Magnesium (Mg)	ug/L	25000	29000	50	9353221	29000	50	9353221
Dissolved Manganese (Mn)	ug/L	<2.0	16	2.0	9353221	16	2.0	9353221
Dissolved Molybdenum (Mo)	ug/L	<0.50	1.4	0.50	9353221	1.4	0.50	9353221
Dissolved Nickel (Ni)	ug/L	<1.0	1.1	1.0	9353221	1.2	1.0	9353221
Dissolved Phosphorus (P)	ug/L	<100	<100	100	9353221	<100	100	9353221
Dissolved Potassium (K)	ug/L	1100	2400	200	9353221	2400	200	9353221
Dissolved Selenium (Se)	ug/L	<2.0	<2.0	2.0	9353221	<2.0	2.0	9353221
Dissolved Silicon (Si)	ug/L	2800	3900	50	9353221	3800	50	9353221
Dissolved Silver (Ag)	ug/L	<0.090	<0.090	0.090	9353221	<0.090	0.090	9353221
Dissolved Sodium (Na)	ug/L	46000	28000	100	9353221	28000	100	9353221
Dissolved Strontium (Sr)	ug/L	160	2300	1.0	9353221	2200	1.0	9353221
Dissolved Thallium (Tl)	ug/L	<0.050	0.061	0.050	9353221	0.066	0.050	9353221
Dissolved Titanium (Ti)	ug/L	<5.0	<5.0	5.0	9353221	<5.0	5.0	9353221
Dissolved Uranium (U)	ug/L	0.28	0.52	0.10	9353221	0.51	0.10	9353221
Dissolved Vanadium (V)	ug/L	<0.50	<0.50	0.50	9353221	<0.50	0.50	9353221
Dissolved Zinc (Zn)	ug/L	<5.0	<5.0	5.0	9353221	<5.0	5.0	9353221

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate

Bureau Veritas 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvna.com

Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

RCAP - COMPREHENSIVE (WATER)

Bureau Veritas ID		YZB623		YZB624		YZB625		
Sampling Date		2024/04/23 13:30		2024/04/23 15:00		2024/04/23 16:15		
COC Number		984504-01-01		984504-01-01		984504-01-01		
	UNITS	MW20_05A	QC Batch	MW20-02	QC Batch	MW20-04	RDL	QC Batch
Calculated Parameters								
Anion Sum	me/L	7.07	9350768	6.94	9350768	6.85	N/A	9350768
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	220	9350765	220	9350765	210	1.0	9350765
Calculated TDS	mg/L	390	9350763	400	9350763	380	1.0	9350763
Carb. Alkalinity (calc. as CaCO3)	mg/L	1.7	9350765	1.9	9350765	1.8	1.0	9350765
Cation Sum	me/L	6.90	9350768	8.10	9350768	6.96	N/A	9350768
Hardness (CaCO3)	mg/L	300	9351678	330	9351678	280	1.0	9351779
Ion Balance (% Difference)	%	1.20	9350766	7.70	9350766	0.820	N/A	9350766
Langelier Index (@ 20C)	N/A	0.763	9350770	0.816	9350770	0.743		9350770
Langelier Index (@ 4C)	N/A	0.514	9350772	0.567	9350772	0.494		9350772
Saturation pH (@ 20C)	N/A	7.16	9350770	7.13	9350770	7.21		9350770
Saturation pH (@ 4C)	N/A	7.41	9350772	7.38	9350772	7.46		9350772
Inorganics								
Total Ammonia-N	mg/L	<0.050	9353946	<0.050	9353946	<0.050	0.050	9353946
Conductivity	umho/cm	670	9352959	690	9352959	680	1.0	9352959
Dissolved Organic Carbon	mg/L	0.83	9352992	1.1	9352992	1.0	0.40	9352992
Orthophosphate (P)	mg/L	<0.010	9347924	<0.010	9347924	<0.010	0.010	9347924
pH	pH	7.92	9352961	7.95	9352961	7.96		9352961
Dissolved Sulphate (SO4)	mg/L	45	9347930	33	9347930	17	1.0	9347930
Alkalinity (Total as CaCO3)	mg/L	220	9352953	220	9352953	210	1.0	9352953
Dissolved Chloride (Cl-)	mg/L	41	9347932	57	9347932	56	1.0	9347932
Nitrite (N)	mg/L	<0.010	9352849	<0.010	9354053	<0.010	0.010	9352849
Nitrate (N)	mg/L	7.31	9352849	2.68	9354053	9.97	0.10	9352849
Nitrate + Nitrite (N)	mg/L	7.31	9352849	2.68	9354053	9.97	0.10	9352849
Metals								
Dissolved Aluminum (Al)	ug/L	<4.9	9353221	340	9353221	<4.9	4.9	9353221
Dissolved Antimony (Sb)	ug/L	<0.50	9353221	<0.50	9353221	<0.50	0.50	9353221
Dissolved Arsenic (As)	ug/L	<1.0	9353221	3.2	9353221	<1.0	1.0	9353221
Dissolved Barium (Ba)	ug/L	52	9353221	75	9353221	34	2.0	9353221
Dissolved Beryllium (Be)	ug/L	<0.40	9353221	<0.40	9353221	<0.40	0.40	9353221
Dissolved Boron (B)	ug/L	11	9353221	11	9353221	<10	10	9353221

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
N/A = Not Applicable

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

RCAP - COMPREHENSIVE (WATER)

Bureau Veritas ID		YZB623		YZB624		YZB625		
Sampling Date		2024/04/23 13:30		2024/04/23 15:00		2024/04/23 16:15		
COC Number		984504-01-01		984504-01-01		984504-01-01		
	UNITS	MW20_05A	QC Batch	MW20-02	QC Batch	MW20-04	RDL	QC Batch
Dissolved Cadmium (Cd)	ug/L	<0.090	9353221	<0.090	9353221	<0.090	0.090	9353221
Dissolved Calcium (Ca)	ug/L	86000	9353221	92000	9353221	80000	200	9353221
Dissolved Chromium (Cr)	ug/L	<5.0	9353221	<5.0	9353221	<5.0	5.0	9353221
Dissolved Cobalt (Co)	ug/L	<0.50	9353221	7.1	9353221	<0.50	0.50	9353221
Dissolved Copper (Cu)	ug/L	0.94	9353221	9.3	9353221	0.95	0.90	9353221
Dissolved Iron (Fe)	ug/L	<100	9353221	1700	9353221	<100	100	9353221
Dissolved Lead (Pb)	ug/L	<0.50	9353221	6.9	9353221	<0.50	0.50	9353221
Dissolved Magnesium (Mg)	ug/L	21000	9353221	23000	9353221	18000	50	9353221
Dissolved Manganese (Mn)	ug/L	<2.0	9353221	140	9353221	<2.0	2.0	9353221
Dissolved Molybdenum (Mo)	ug/L	<0.50	9353221	<0.50	9353221	<0.50	0.50	9353221
Dissolved Nickel (Ni)	ug/L	<1.0	9353221	4.6	9353221	<1.0	1.0	9353221
Dissolved Phosphorus (P)	ug/L	<100	9353221	<100	9353221	<100	100	9353221
Dissolved Potassium (K)	ug/L	1600	9353221	1800	9353221	1300	200	9353221
Dissolved Selenium (Se)	ug/L	<2.0	9353221	<2.0	9353221	<2.0	2.0	9353221
Dissolved Silicon (Si)	ug/L	2600	9353221	3500	9353221	2500	50	9353221
Dissolved Silver (Ag)	ug/L	<0.090	9353221	<0.090	9353221	<0.090	0.090	9353221
Dissolved Sodium (Na)	ug/L	19000	9353221	33000	9353221	33000	100	9353221
Dissolved Strontium (Sr)	ug/L	1000	9353221	250	9353221	140	1.0	9353221
Dissolved Thallium (Tl)	ug/L	<0.050	9353221	0.056	9353221	<0.050	0.050	9353221
Dissolved Titanium (Ti)	ug/L	<5.0	9353221	<5.0	9353221	<5.0	5.0	9353221
Dissolved Uranium (U)	ug/L	0.24	9353221	0.92	9353221	0.18	0.10	9353221
Dissolved Vanadium (V)	ug/L	<0.50	9353221	1.2	9353221	<0.50	0.50	9353221
Dissolved Zinc (Zn)	ug/L	<5.0	9353221	6.1	9353221	<5.0	5.0	9353221

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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O.REG 153 PHCS, BTEX/F1-F4 (WATER)

Bureau Veritas ID		YZB621	YZB622	YZB623	YZB624	YZB625		
Sampling Date		2024/04/23 11:00	2024/04/23 12:15	2024/04/23 13:30	2024/04/23 15:00	2024/04/23 16:15		
COC Number		984504-01-01	984504-01-01	984504-01-01	984504-01-01	984504-01-01		
	UNITS	MW21-3-3	MW20_07A	MW20_05A	MW20-02	MW20-04	RDL	QC Batch
BTEX & F1 Hydrocarbons								
Benzene	ug/L	<0.20	<0.20	<0.20	<0.20	<0.20	0.20	9354439
Toluene	ug/L	<0.20	<0.20	<0.20	<0.20	<0.20	0.20	9354439
Ethylbenzene	ug/L	<0.20	<0.20	<0.20	<0.20	<0.20	0.20	9354439
o-Xylene	ug/L	<0.20	<0.20	<0.20	<0.20	<0.20	0.20	9354439
p+m-Xylene	ug/L	<0.40	<0.40	<0.40	<0.40	<0.40	0.40	9354439
Total Xylenes	ug/L	<0.40	<0.40	<0.40	<0.40	<0.40	0.40	9354439
F1 (C6-C10)	ug/L	<25	<25	<25	<25	<25	25	9354439
F1 (C6-C10) - BTEX	ug/L	<25	<25	<25	<25	<25	25	9354439
F2-F4 Hydrocarbons								
F2 (C10-C16 Hydrocarbons)	ug/L	<100	<100	<100	<100	<100	100	9354960
F3 (C16-C34 Hydrocarbons)	ug/L	<200	<200	<200	<200	<200	200	9354960
F4 (C34-C50 Hydrocarbons)	ug/L	<200	<200	<200	<200	<200	200	9354960
Reached Baseline at C50	ug/L	Yes	Yes	Yes	Yes	Yes		9354960
Surrogate Recovery (%)								
1,4-Difluorobenzene	%	108	108	110	112	105		9354439
4-Bromofluorobenzene	%	87	80	89	89	93		9354439
D10-o-Xylene	%	93	95	96	95	95		9354439
D4-1,2-Dichloroethane	%	101	100	106	106	105		9354439
o-Terphenyl	%	103	101	102	101	104		9354960

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

Bureau Veritas Job #: C4C0940
Report Date: 2024/04/29

WSP Canada Inc.
Client Project #: CA-GLD-19129150
Site Location: 1451 CHARLESTON SIDEROAD, CALEDON, ON
Sampler Initials: RN

TEST SUMMARY

Bureau Veritas ID: YZB621
Sample ID: MW21-3-3
Matrix: Water

Collected: 2024/04/23
Shipped:
Received: 2024/04/23

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	9352953	N/A	2024/04/27	Nachiketa Gohil
Carbonate, Bicarbonate and Hydroxide	CALC	9350765	N/A	2024/04/27	Automated Statchk
Chloride by Automated Colourimetry	SKAL	9347932	N/A	2024/04/26	Massarat Jan
Conductivity	AT	9352959	N/A	2024/04/27	Nachiketa Gohil
Dissolved Organic Carbon (DOC)	TOCV/NDIR	9352992	N/A	2024/04/24	Gyulshen Idriz
Petroleum Hydro. CCME F1 & BTEX in Water	HSGC/MSFD	9354439	N/A	2024/04/25	Domnica Andronescu
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	9354960	2024/04/25	2024/04/25	Agnieszka Brzuzy-Snopko
Hardness (calculated as CaCO3)		9351678	N/A	2024/04/25	Automated Statchk
Dissolved Metals by ICPMS	ICP/MS	9353221	N/A	2024/04/25	Nan Raykha
Ion Balance (% Difference)	CALC	9350766	N/A	2024/04/28	Automated Statchk
Anion and Cation Sum	CALC	9350768	N/A	2024/04/27	Automated Statchk
Total Ammonia-N	LACH/NH4	9353946	N/A	2024/04/28	Yogesh Patel
Nitrate & Nitrite as Nitrogen in Water	LACH	9352849	N/A	2024/04/27	Jinal Chavda
pH	AT	9352961	2024/04/24	2024/04/27	Nachiketa Gohil
Orthophosphate	KONE	9347924	N/A	2024/04/25	Massarat Jan
Sat. pH and Langelier Index (@ 20C)	CALC	9350770	N/A	2024/04/28	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	9350772	N/A	2024/04/28	Automated Statchk
Sulphate by Automated Turbidimetry	SKAL	9347930	N/A	2024/04/26	Massarat Jan
Total Dissolved Solids (TDS calc)	CALC	9350763	N/A	2024/04/28	Automated Statchk

Bureau Veritas ID: YZB622
Sample ID: MW20_07A
Matrix: Water

Collected: 2024/04/23
Shipped:
Received: 2024/04/23

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	9352953	N/A	2024/04/27	Nachiketa Gohil
Carbonate, Bicarbonate and Hydroxide	CALC	9350765	N/A	2024/04/27	Automated Statchk
Chloride by Automated Colourimetry	SKAL	9347932	N/A	2024/04/26	Massarat Jan
Conductivity	AT	9352959	N/A	2024/04/27	Nachiketa Gohil
Dissolved Organic Carbon (DOC)	TOCV/NDIR	9352992	N/A	2024/04/24	Gyulshen Idriz
Petroleum Hydro. CCME F1 & BTEX in Water	HSGC/MSFD	9354439	N/A	2024/04/25	Domnica Andronescu
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	9354960	2024/04/25	2024/04/25	Agnieszka Brzuzy-Snopko
Hardness (calculated as CaCO3)		9351678	N/A	2024/04/25	Automated Statchk
Dissolved Metals by ICPMS	ICP/MS	9353221	N/A	2024/04/25	Nan Raykha
Ion Balance (% Difference)	CALC	9350766	N/A	2024/04/28	Automated Statchk
Anion and Cation Sum	CALC	9350768	N/A	2024/04/27	Automated Statchk
Total Ammonia-N	LACH/NH4	9353946	N/A	2024/04/28	Yogesh Patel
Nitrate & Nitrite as Nitrogen in Water	LACH	9352849	N/A	2024/04/27	Jinal Chavda
pH	AT	9352961	2024/04/24	2024/04/27	Nachiketa Gohil
Orthophosphate	KONE	9347924	N/A	2024/04/25	Massarat Jan
Sat. pH and Langelier Index (@ 20C)	CALC	9350770	N/A	2024/04/28	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	9350772	N/A	2024/04/28	Automated Statchk
Sulphate by Automated Turbidimetry	SKAL	9347930	N/A	2024/04/26	Massarat Jan
Total Dissolved Solids (TDS calc)	CALC	9350763	N/A	2024/04/28	Automated Statchk

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

Bureau Veritas Job #: C4C0940
Report Date: 2024/04/29

WSP Canada Inc.
Client Project #: CA-GLD-19129150
Site Location: 1451 CHARLESTON SIDEROAD, CALEDON, ON
Sampler Initials: RN

TEST SUMMARY

Bureau Veritas ID: YZB622 Dup
Sample ID: MW20_07A
Matrix: Water

Collected: 2024/04/23
Shipped:
Received: 2024/04/23

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Dissolved Metals by ICPMS	ICP/MS	9353221	N/A	2024/04/25	Nan Raykha

Bureau Veritas ID: YZB623
Sample ID: MW20_05A
Matrix: Water

Collected: 2024/04/23
Shipped:
Received: 2024/04/23

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	9352953	N/A	2024/04/27	Nachiketa Gohil
Carbonate, Bicarbonate and Hydroxide	CALC	9350765	N/A	2024/04/27	Automated Statchk
Chloride by Automated Colourimetry	SKAL	9347932	N/A	2024/04/26	Massarat Jan
Conductivity	AT	9352959	N/A	2024/04/27	Nachiketa Gohil
Dissolved Organic Carbon (DOC)	TOCV/NDIR	9352992	N/A	2024/04/24	Gyulshen Idriz
Petroleum Hydro. CCME F1 & BTEX in Water	HSGC/MSFD	9354439	N/A	2024/04/25	Domnica Andronescu
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	9354960	2024/04/25	2024/04/25	Agnieszka Brzuzy-Snopko
Hardness (calculated as CaCO3)		9351678	N/A	2024/04/25	Automated Statchk
Dissolved Metals by ICPMS	ICP/MS	9353221	N/A	2024/04/25	Nan Raykha
Ion Balance (% Difference)	CALC	9350766	N/A	2024/04/28	Automated Statchk
Anion and Cation Sum	CALC	9350768	N/A	2024/04/27	Automated Statchk
Total Ammonia-N	LACH/NH4	9353946	N/A	2024/04/28	Yogesh Patel
Nitrate & Nitrite as Nitrogen in Water	LACH	9352849	N/A	2024/04/27	Jinal Chavda
pH	AT	9352961	2024/04/24	2024/04/27	Nachiketa Gohil
Orthophosphate	KONE	9347924	N/A	2024/04/25	Massarat Jan
Sat. pH and Langelier Index (@ 20C)	CALC	9350770	N/A	2024/04/28	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	9350772	N/A	2024/04/28	Automated Statchk
Sulphate by Automated Turbidimetry	SKAL	9347930	N/A	2024/04/26	Massarat Jan
Total Dissolved Solids (TDS calc)	CALC	9350763	N/A	2024/04/28	Automated Statchk

Bureau Veritas ID: YZB624
Sample ID: MW20-02
Matrix: Water

Collected: 2024/04/23
Shipped:
Received: 2024/04/23

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	9352953	N/A	2024/04/27	Nachiketa Gohil
Carbonate, Bicarbonate and Hydroxide	CALC	9350765	N/A	2024/04/27	Automated Statchk
Chloride by Automated Colourimetry	SKAL	9347932	N/A	2024/04/26	Massarat Jan
Conductivity	AT	9352959	N/A	2024/04/27	Nachiketa Gohil
Dissolved Organic Carbon (DOC)	TOCV/NDIR	9352992	N/A	2024/04/24	Gyulshen Idriz
Petroleum Hydro. CCME F1 & BTEX in Water	HSGC/MSFD	9354439	N/A	2024/04/25	Domnica Andronescu
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	9354960	2024/04/25	2024/04/25	Agnieszka Brzuzy-Snopko
Hardness (calculated as CaCO3)		9351678	N/A	2024/04/25	Automated Statchk
Dissolved Metals by ICPMS	ICP/MS	9353221	N/A	2024/04/25	Nan Raykha
Ion Balance (% Difference)	CALC	9350766	N/A	2024/04/28	Automated Statchk
Anion and Cation Sum	CALC	9350768	N/A	2024/04/27	Automated Statchk
Total Ammonia-N	LACH/NH4	9353946	N/A	2024/04/28	Yogesh Patel

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

Bureau Veritas Job #: C4C0940
Report Date: 2024/04/29

WSP Canada Inc.
Client Project #: CA-GLD-19129150
Site Location: 1451 CHARLESTON SIDEROAD, CALEDON, ON
Sampler Initials: RN

TEST SUMMARY

Bureau Veritas ID: YZB624
Sample ID: MW20-02
Matrix: Water

Collected: 2024/04/23
Shipped:
Received: 2024/04/23

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Nitrate & Nitrite as Nitrogen in Water	LACH	9354053	N/A	2024/04/26	Jinal Chavda
pH	AT	9352961	2024/04/24	2024/04/27	Nachiketa Gohil
Orthophosphate	KONE	9347924	N/A	2024/04/25	Massarat Jan
Sat. pH and Langelier Index (@ 20C)	CALC	9350770	N/A	2024/04/28	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	9350772	N/A	2024/04/28	Automated Statchk
Sulphate by Automated Turbidimetry	SKAL	9347930	N/A	2024/04/26	Massarat Jan
Total Dissolved Solids (TDS calc)	CALC	9350763	N/A	2024/04/28	Automated Statchk

Bureau Veritas ID: YZB625
Sample ID: MW20-04
Matrix: Water

Collected: 2024/04/23
Shipped:
Received: 2024/04/23

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	9352953	N/A	2024/04/27	Nachiketa Gohil
Carbonate, Bicarbonate and Hydroxide	CALC	9350765	N/A	2024/04/27	Automated Statchk
Chloride by Automated Colourimetry	SKAL	9347932	N/A	2024/04/26	Massarat Jan
Conductivity	AT	9352959	N/A	2024/04/27	Nachiketa Gohil
Dissolved Organic Carbon (DOC)	TOCV/NDIR	9352992	N/A	2024/04/24	Gyulshen Idriz
Petroleum Hydro. CCME F1 & BTEX in Water	HSGC/MSFD	9354439	N/A	2024/04/25	Domnica Andronescu
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	9354960	2024/04/25	2024/04/25	Agnieszka Brzuzy-Snopko
Hardness (calculated as CaCO3)		9351779	N/A	2024/04/25	Automated Statchk
Dissolved Metals by ICPMS	ICP/MS	9353221	N/A	2024/04/25	Nan Raykha
Ion Balance (% Difference)	CALC	9350766	N/A	2024/04/27	Automated Statchk
Anion and Cation Sum	CALC	9350768	N/A	2024/04/27	Automated Statchk
Total Ammonia-N	LACH/NH4	9353946	N/A	2024/04/28	Yogesh Patel
Nitrate & Nitrite as Nitrogen in Water	LACH	9352849	N/A	2024/04/27	Jinal Chavda
pH	AT	9352961	2024/04/24	2024/04/27	Nachiketa Gohil
Orthophosphate	KONE	9347924	N/A	2024/04/25	Massarat Jan
Sat. pH and Langelier Index (@ 20C)	CALC	9350770	N/A	2024/04/27	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	9350772	N/A	2024/04/27	Automated Statchk
Sulphate by Automated Turbidimetry	SKAL	9347930	N/A	2024/04/26	Massarat Jan
Total Dissolved Solids (TDS calc)	CALC	9350763	N/A	2024/04/27	Automated Statchk

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	6.7°C

Results relate only to the items tested.

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QUALITY ASSURANCE REPORT

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
9354439	1,4-Difluorobenzene	2024/04/25	105	70 - 130	104	70 - 130	108	%		
9354439	4-Bromofluorobenzene	2024/04/25	103	70 - 130	103	70 - 130	94	%		
9354439	D10-o-Xylene	2024/04/25	100	70 - 130	101	70 - 130	97	%		
9354439	D4-1,2-Dichloroethane	2024/04/25	98	70 - 130	102	70 - 130	99	%		
9354960	o-Terphenyl	2024/04/25	108	60 - 130	109	60 - 130	105	%		
9347924	Orthophosphate (P)	2024/04/25	89	75 - 125	90	80 - 120	<0.010	mg/L	NC	20
9347930	Dissolved Sulphate (SO4)	2024/04/26	NC	75 - 125	102	80 - 120	<1.0	mg/L	0.23	20
9347932	Dissolved Chloride (Cl-)	2024/04/26	107	80 - 120	104	80 - 120	<1.0	mg/L	NC	20
9352849	Nitrate (N)	2024/04/27	NC	80 - 120	91	80 - 120	<0.10	mg/L	0.14	20
9352849	Nitrite (N)	2024/04/27	104	80 - 120	102	80 - 120	<0.010	mg/L	NC	20
9352953	Alkalinity (Total as CaCO3)	2024/04/27			103	85 - 115	<1.0	mg/L	2.0	20
9352959	Conductivity	2024/04/27			101	85 - 115	<1.0	umho/cm	0	10
9352961	pH	2024/04/27			101	98 - 103			1.2	N/A
9352992	Dissolved Organic Carbon	2024/04/24	90	80 - 120	93	80 - 120	<0.40	mg/L	0.18	20
9353221	Dissolved Aluminum (Al)	2024/04/25	101	80 - 120	102	80 - 120	<4.9	ug/L	6.9	20
9353221	Dissolved Antimony (Sb)	2024/04/25	110	80 - 120	102	80 - 120	<0.50	ug/L	NC	20
9353221	Dissolved Arsenic (As)	2024/04/25	106	80 - 120	99	80 - 120	<1.0	ug/L	2.7	20
9353221	Dissolved Barium (Ba)	2024/04/25	108	80 - 120	100	80 - 120	<2.0	ug/L	2.2	20
9353221	Dissolved Beryllium (Be)	2024/04/25	102	80 - 120	96	80 - 120	<0.40	ug/L	NC	20
9353221	Dissolved Boron (B)	2024/04/25	95	80 - 120	93	80 - 120	<10	ug/L	3.8	20
9353221	Dissolved Cadmium (Cd)	2024/04/25	105	80 - 120	99	80 - 120	<0.090	ug/L	NC	20
9353221	Dissolved Calcium (Ca)	2024/04/25	NC	80 - 120	101	80 - 120	<200	ug/L	1.8	20
9353221	Dissolved Chromium (Cr)	2024/04/25	104	80 - 120	98	80 - 120	<5.0	ug/L	NC	20
9353221	Dissolved Cobalt (Co)	2024/04/25	102	80 - 120	100	80 - 120	<0.50	ug/L	NC	20
9353221	Dissolved Copper (Cu)	2024/04/25	105	80 - 120	100	80 - 120	<0.90	ug/L	NC	20
9353221	Dissolved Iron (Fe)	2024/04/25	105	80 - 120	103	80 - 120	<100	ug/L	NC	20
9353221	Dissolved Lead (Pb)	2024/04/25	103	80 - 120	99	80 - 120	<0.50	ug/L	NC	20
9353221	Dissolved Magnesium (Mg)	2024/04/25	NC	80 - 120	102	80 - 120	<50	ug/L	0.62	20
9353221	Dissolved Manganese (Mn)	2024/04/25	101	80 - 120	99	80 - 120	<2.0	ug/L	3.2	20
9353221	Dissolved Molybdenum (Mo)	2024/04/25	112	80 - 120	104	80 - 120	<0.50	ug/L	2.3	20
9353221	Dissolved Nickel (Ni)	2024/04/25	100	80 - 120	96	80 - 120	<1.0	ug/L	7.4	20

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
9353221	Dissolved Phosphorus (P)	2024/04/25	109	80 - 120	106	80 - 120	<100	ug/L	NC	20
9353221	Dissolved Potassium (K)	2024/04/25	109	80 - 120	102	80 - 120	<200	ug/L	0.44	20
9353221	Dissolved Selenium (Se)	2024/04/25	100	80 - 120	96	80 - 120	<2.0	ug/L	NC	20
9353221	Dissolved Silicon (Si)	2024/04/25	102	80 - 120	100	80 - 120	<50	ug/L	2.5	20
9353221	Dissolved Silver (Ag)	2024/04/25	106	80 - 120	100	80 - 120	<0.090	ug/L	NC	20
9353221	Dissolved Sodium (Na)	2024/04/25	NC	80 - 120	101	80 - 120	<100	ug/L	2.4	20
9353221	Dissolved Strontium (Sr)	2024/04/25	NC	80 - 120	98	80 - 120	<1.0	ug/L	1.3	20
9353221	Dissolved Thallium (Tl)	2024/04/25	105	80 - 120	101	80 - 120	<0.050	ug/L	7.9	20
9353221	Dissolved Titanium (Ti)	2024/04/25	100	80 - 120	96	80 - 120	<5.0	ug/L	NC	20
9353221	Dissolved Uranium (U)	2024/04/25	103	80 - 120	99	80 - 120	<0.10	ug/L	1.7	20
9353221	Dissolved Vanadium (V)	2024/04/25	103	80 - 120	97	80 - 120	<0.50	ug/L	NC	20
9353221	Dissolved Zinc (Zn)	2024/04/25	105	80 - 120	99	80 - 120	<5.0	ug/L	NC	20
9353946	Total Ammonia-N	2024/04/28	99	75 - 125	102	80 - 120	<0.050	mg/L	20	20
9354053	Nitrate (N)	2024/04/26	98	80 - 120	99	80 - 120	<0.10	mg/L	NC	20
9354053	Nitrite (N)	2024/04/26	104	80 - 120	106	80 - 120	<0.010	mg/L	NC	20
9354439	Benzene	2024/04/25	96	50 - 140	99	50 - 140	<0.20	ug/L	NC	30
9354439	Ethylbenzene	2024/04/25	104	50 - 140	104	50 - 140	<0.20	ug/L	NC	30
9354439	F1 (C6-C10) - BTEX	2024/04/25					<25	ug/L	NC	30
9354439	F1 (C6-C10)	2024/04/25	94	60 - 140	96	60 - 140	<25	ug/L	NC	30
9354439	o-Xylene	2024/04/25	100	50 - 140	100	50 - 140	<0.20	ug/L	NC	30
9354439	p+m-Xylene	2024/04/25	99	50 - 140	99	50 - 140	<0.40	ug/L	NC	30
9354439	Toluene	2024/04/25	89	50 - 140	91	50 - 140	<0.20	ug/L	NC	30
9354439	Total Xylenes	2024/04/25					<0.40	ug/L	NC	30
9354960	F2 (C10-C16 Hydrocarbons)	2024/04/25	108	60 - 130	106	60 - 130	<100	ug/L	NC	30
9354960	F3 (C16-C34 Hydrocarbons)	2024/04/25	107	60 - 130	111	60 - 130	<200	ug/L	NC	30

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
9354960	F4 (C34-C50 Hydrocarbons)	2024/04/25	97	60 - 130	101	60 - 130	<200	ug/L	NC	30

N/A = Not Applicable

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:

Cristina Carriere

Cristina Carriere, Senior Scientific Specialist

Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation, please refer to the Validation Signatures page if included, otherwise available by request. For Department specific Analyst/Supervisor validation names, please refer to the Test Summary section if included, otherwise available by request. This report is authorized by Rodney Major, General Manager responsible for Ontario Environmental laboratory operations.

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Bureau Veritas
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Page of

23-Apr-24 18:02
Ankita Bhalla
C4C0940

Only:

INVOICE TO:		REPORT TO:		PROJECT INFORMATION:	
Company Name:	#21375 WSP Canada Inc.	Company Name:		Quotation #:	C41059
Attention:	George Schneider	Attention:	Paul Menkveld	P.O. #:	
Address:	210 Sheldon Drive Cambridge ON N1T 1A8	Address:		Project:	CA-GLD-19129150
Tel:	(519) 620-8182 Fax:	Tel:	226-750-8848 Fax:	Project Name:	
Email:	George_Schneider@golder.com	Email:	paul.menkveld@wsp.com	Site #:	1451 charleston sideroad, caledon, on
				Sampled By:	Ramin Niknam

Bottle Order #: 984504
COC #: C#984504-01-01
Project Manager: Ankita Bhalla

MOE REGULATED DRINKING WATER OR WATER INTENDED FOR HUMAN CONSUMPTION MUST BE SUBMITTED ON THE BUREAU VERITAS DRINKING WATER CHAIN OF CUSTODY

Regulation 153 (2011)
- [ ] Table 1 [ ] Res/Park [ ] Medium/Fine
- [ ] Table 2 [ ] Ind/Comm [ ] Coarse
- [ ] Table 3 [ ] Agri/Other [ ] For RSC
- [ ] Table ___

Other Regulations
- [ ] CCME [ ] Sanitary Sewer Bylaw
- [ ] Reg 558. [ ] Storm Sewer Bylaw
- [ ] MISA Municipality ___
- [ ] PWQO [ ] Reg 406 Table ___
- [ ] Other ___

Special Instructions

Include Criteria on Certificate of Analysis (Y/N)? Y

Turnaround Time (TAT) Required:
Please provide advance notice for rush projects

Regular (Standard) TAT: ✓
(will be applied if Rush TAT is not specified):
Standard TAT = 5-7 Working days for most tests.
Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.

Job Specific Rush TAT (if applies to entire submission)
Date Required: ___ Time Required: ___
Rush Confirmation Number: ___ *(call lab for #)*

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Field Filtered (please circle): Metals, Hg / Cr VI	ANALYSIS REQUESTED (PLEASE BE SPECIFIC): RCAp - Comprehensive	O.Reg 153 PHCs, BTEX/F1-F4	# of Bottles	Comments
1		MW21-3-3	24/4/23	11:00	GW	✓	✓	✓	8	* All Dissolved metals Bottles
2		MW20-07A	24/4/23	12:15	GW	✓	✓	✓	8	Field Filtered *
3		MW20-05A	24/4/23	13:30	GW	✓	✓	✓	8	
4		MW20-02	24/4/23	15:00	GW	✓	✓	✓	8	
5		MW20-04	24/4/23	16:15	GW	✓	✓	✓	8	
6										
7										
8										
9										
10										

* RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	# jars used and not submitted
Ramin Niknam	24/4/23	6:00 P.M	Ashutosh Sukumaran ASHUTOSH SUKUMARAN	2024/04/23	18:02	

Laboratory Use Only

Time Sensitive	Temperature (°C) on Recei	Custody Seal	Yes	No
	6/6/8	Present		✓
		Intact		✓

* UNLESS OTHERWISE AGREED TO IN WRITING, WORK SUBMITTED ON THIS CHAIN OF CUSTODY IS SUBJECT TO BUREAU VERITAS'S STANDARD TERMS AND CONDITIONS. SIGNING OF THIS CHAIN OF CUSTODY DOCUMENT IS ACKNOWLEDGMENT AND ACCEPTANCE OF OUR TERMS WHICH ARE AVAILABLE FOR VIEWING AT WWW.BVNA.COM/ENVIRONMENTAL-LABORATORIES/RESOURCES/COC-TERMS-AND-CONDITIONS.

* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

** SAMPLE CONTAINER, PRESERVATION, HOLD TIME AND PACKAGE INFORMATION CAN BE VIEWED AT WWW.BVNA.COM/ENVIRONMENTAL-LABORATORIES/RESOURCES/CHAIN-CUSTODY-FORMS-COCS.

SAMPLES MUST BE KEPT COOL (< 10° C) FROM TIME OF SAMPLING UNTIL DELIVERY TO BUREAU VERITAS

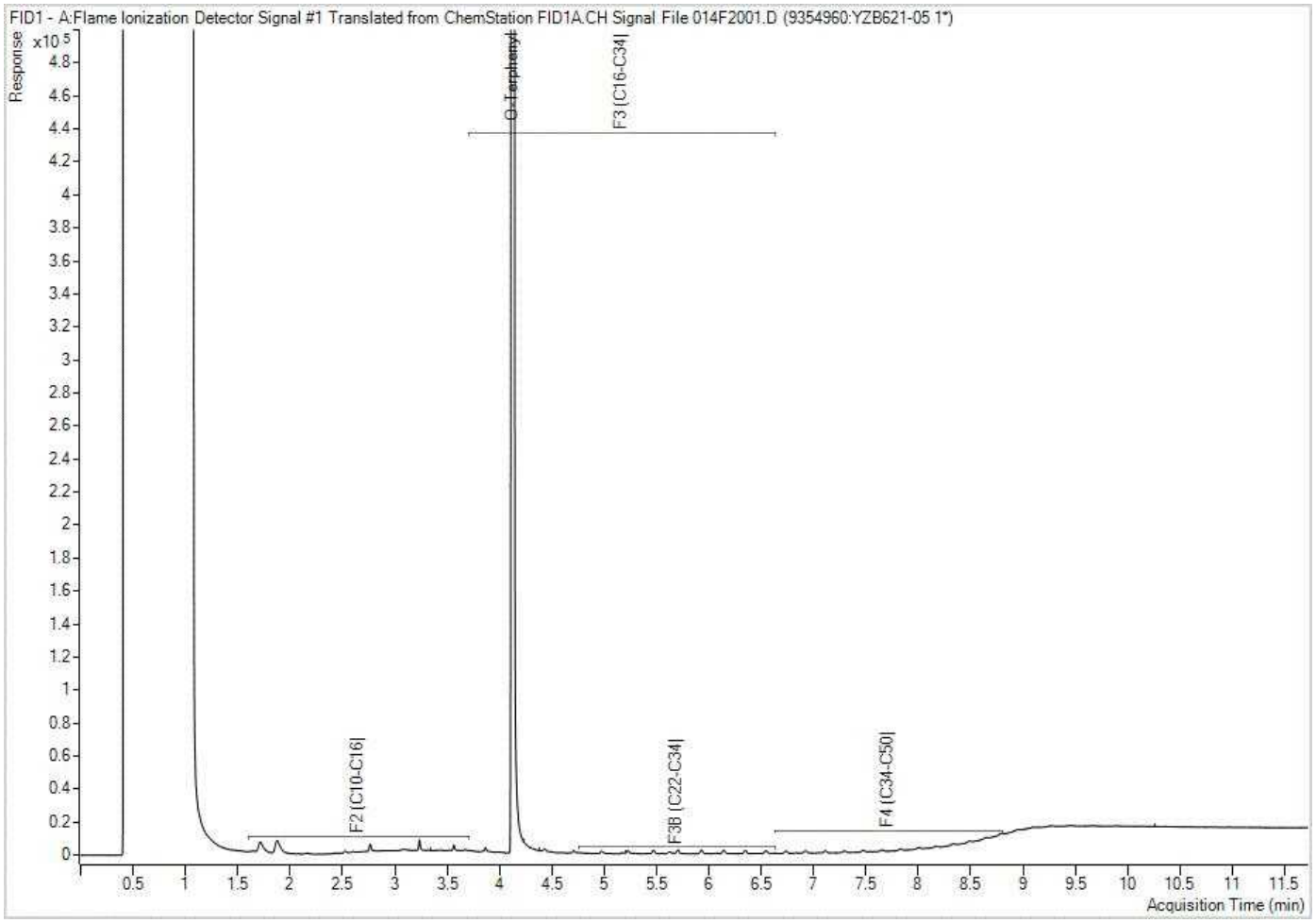
White: Bureau Veritas Yellow: Client

Bureau Veritas Canada (2019) Inc.

Bureau Veritas Job #: C4C0940
Report Date: 2024/04/29
Bureau Veritas Sample: YZB621

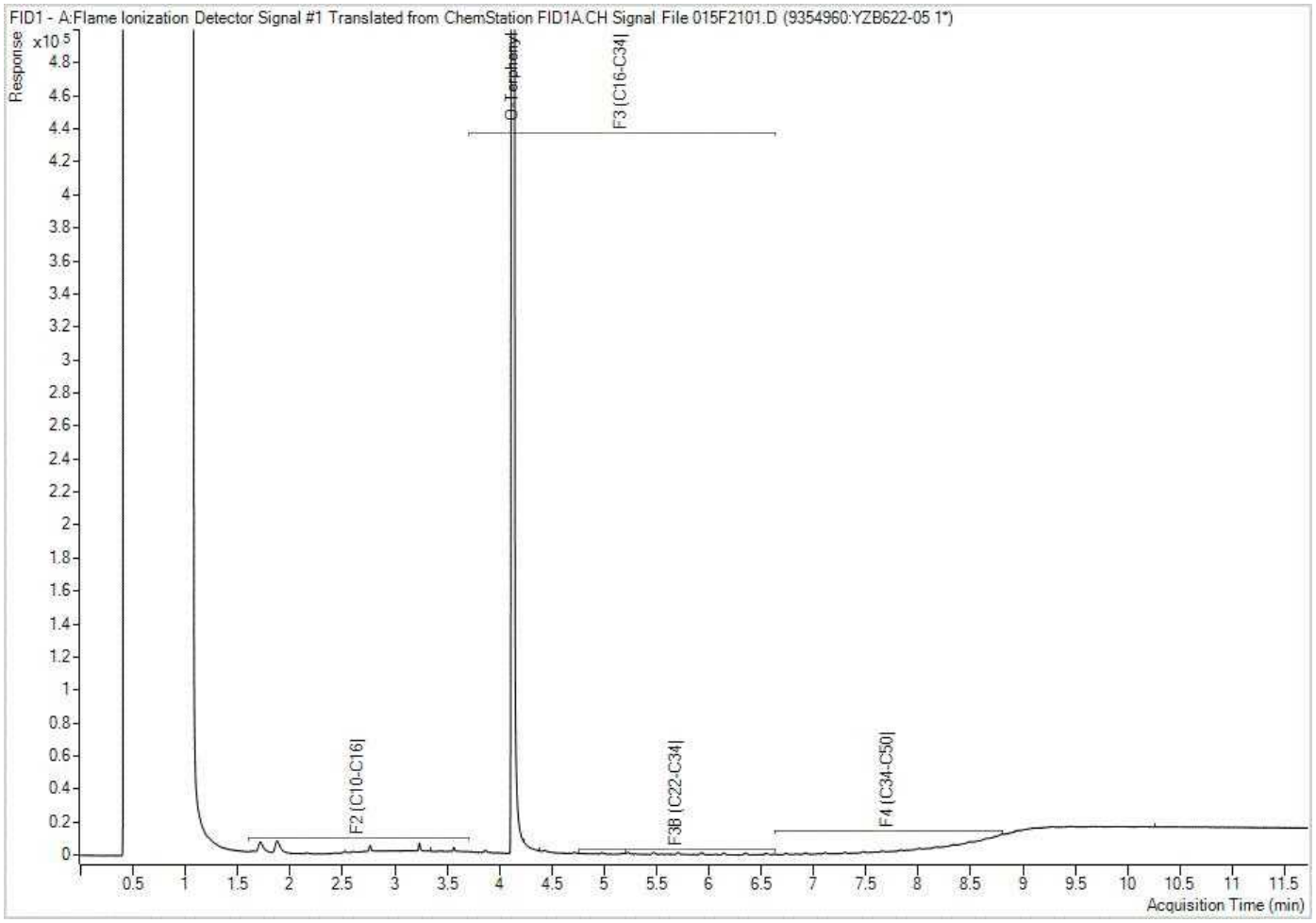
WSP Canada Inc.
Client Project #: CA-GLD-19129150
Project name: 1451 CHARLESTON SIDEROAD, CALEDON, ON
Client ID: MW21-3-3

Petroleum Hydrocarbons F2-F4 in Water Chromatogram



Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Petroleum Hydrocarbons F2-F4 in Water Chromatogram

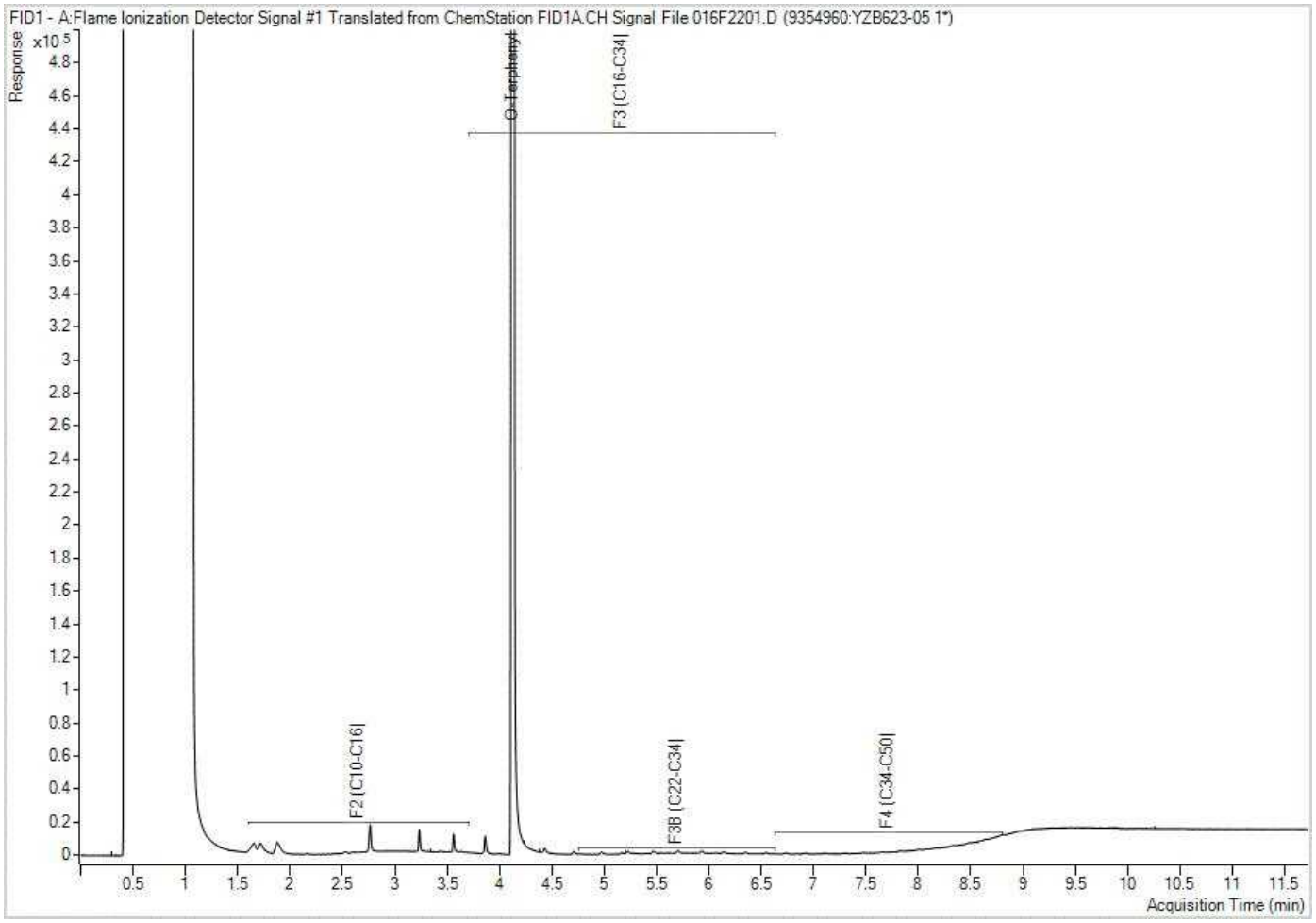


Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Bureau Veritas Job #: C4C0940
Report Date: 2024/04/29
Bureau Veritas Sample: YZB623

WSP Canada Inc.
Client Project #: CA-GLD-19129150
Project name: 1451 CHARLESTON SIDEROAD, CALEDON, ON
Client ID: MW20_05A

Petroleum Hydrocarbons F2-F4 in Water Chromatogram

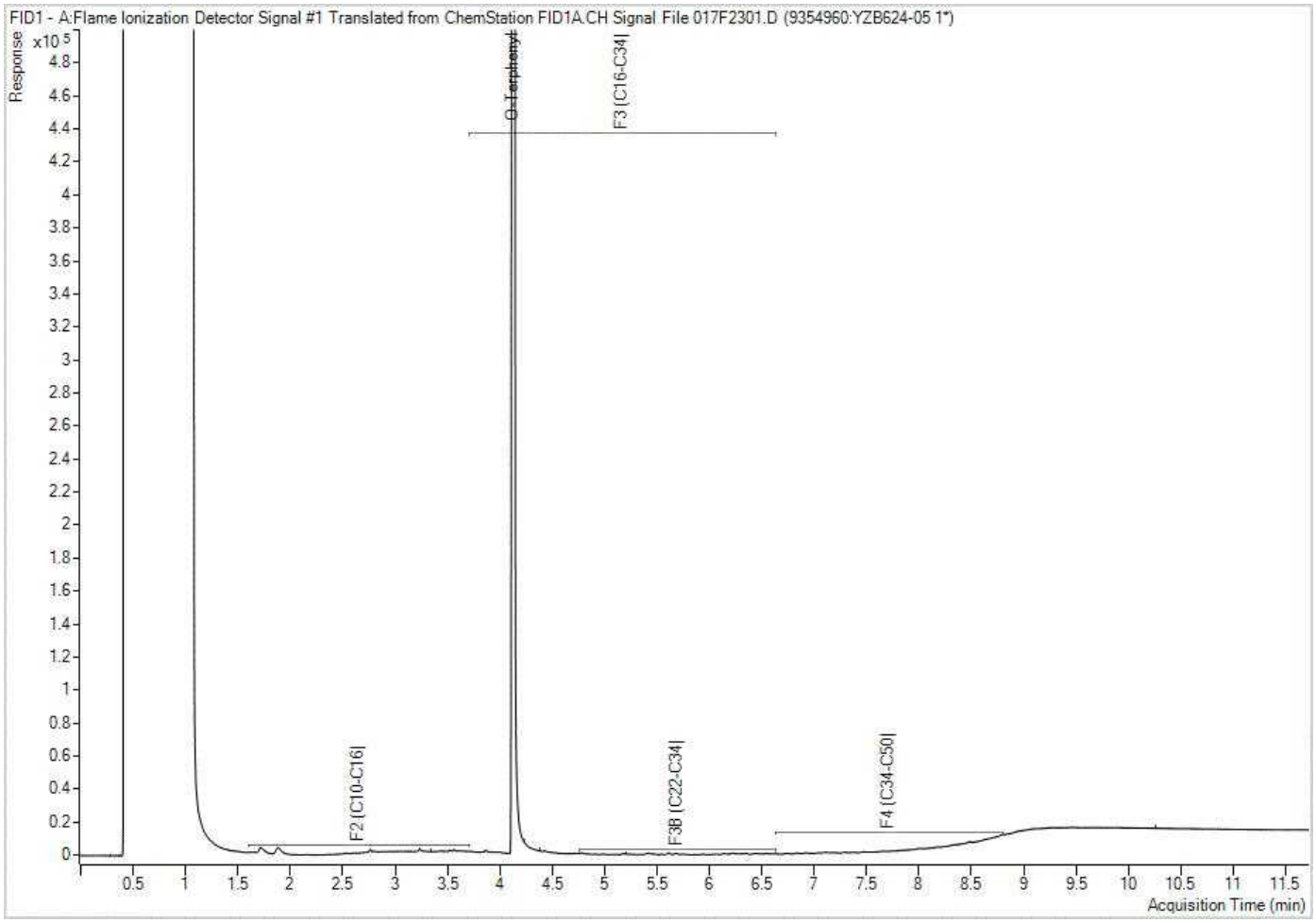


Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Bureau Veritas Job #: C4C0940
Report Date: 2024/04/29
Bureau Veritas Sample: YZB624

WSP Canada Inc.
Client Project #: CA-GLD-19129150
Project name: 1451 CHARLESTON SIDEROAD, CALEDON, ON
Client ID: MW20-02

Petroleum Hydrocarbons F2-F4 in Water Chromatogram

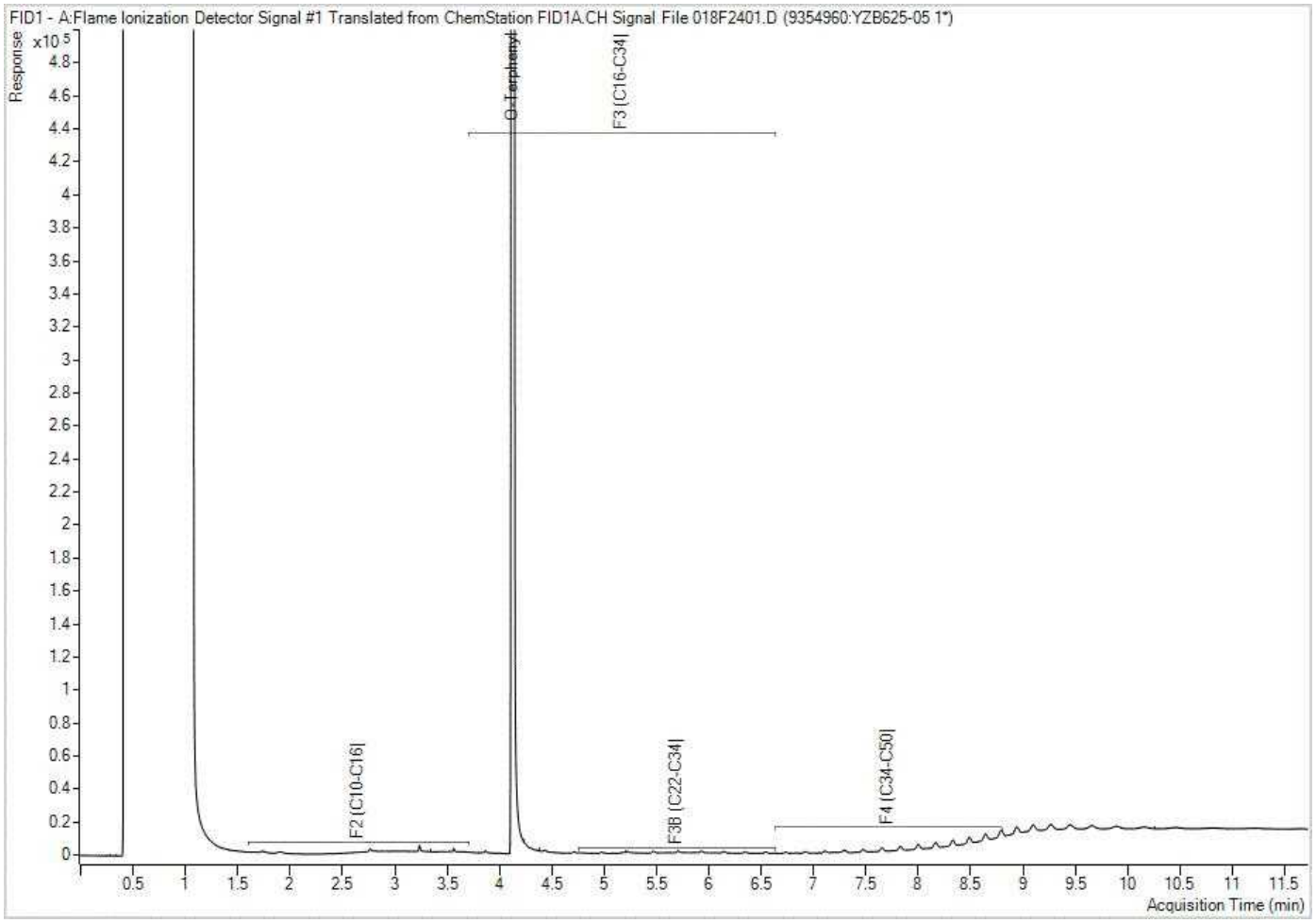


Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Bureau Veritas Job #: C4C0940
Report Date: 2024/04/29
Bureau Veritas Sample: YZB625

WSP Canada Inc.
Client Project #: CA-GLD-19129150
Project name: 1451 CHARLESTON SIDEROAD, CALEDON, ON
Client ID: MW20-04

Petroleum Hydrocarbons F2-F4 in Water Chromatogram



Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Your Project #: 19129150
Your C.O.C. #: 813833-01-01

Attention: Gregory Padusenko

Golder Associates Ltd
210 Sheldon Drive
Cambridge, ON
CANADA N1T 1A8

Report Date: 2021/02/24
Report #: R6531316
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: C145866
Received: 2021/02/19, 07:34

Sample Matrix: Water
Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Alkalinity	2	N/A	2021/02/22	CAM SOP-00448	SM 23 2320 B m
Carbonate, Bicarbonate and Hydroxide	2	N/A	2021/02/23	CAM SOP-00102	APHA 4500-CO2 D
Chloride by Automated Colourimetry	1	N/A	2021/02/22	CAM SOP-00463	SM 23 4500-Cl E m
Chloride by Automated Colourimetry	1	N/A	2021/02/24	CAM SOP-00463	SM 23 4500-Cl E m
Conductivity	2	N/A	2021/02/22	CAM SOP-00414	SM 23 2510 m
Dissolved Organic Carbon (DOC) (1)	2	N/A	2021/02/22	CAM SOP-00446	SM 23 5310 B m
Petroleum Hydro. CCME F1 & BTEX in Water	2	N/A	2021/02/22	CAM SOP-00315	CCME PHC-CWS m
Petroleum Hydrocarbons F2-F4 in Water (2)	2	2021/02/22	2021/02/23	CAM SOP-00316	CCME PHC-CWS m
Hardness (calculated as CaCO3)	2	N/A	2021/02/23	CAM SOP 00102/00408/00447	SM 2340 B
Dissolved Metals by ICPMS	1	N/A	2021/02/22	CAM SOP-00447	EPA 6020B m
Dissolved Metals by ICPMS	1	N/A	2021/02/23	CAM SOP-00447	EPA 6020B m
Ion Balance (% Difference)	1	N/A	2021/02/23		
Ion Balance (% Difference)	1	N/A	2021/02/24		
Anion and Cation Sum	2	N/A	2021/02/23		
Total Ammonia-N	2	N/A	2021/02/22	CAM SOP-00441	USGS I-2522-90 m
Nitrate (NO3) and Nitrite (NO2) in Water (3)	2	N/A	2021/02/22	CAM SOP-00440	SM 23 4500-NO3I/NO2B
pH	2	2021/02/20	2021/02/22	CAM SOP-00413	SM 4500H+ B m
Orthophosphate	1	N/A	2021/02/22	CAM SOP-00461	EPA 365.1 m
Orthophosphate	1	N/A	2021/02/23	CAM SOP-00461	EPA 365.1 m
Sat. pH and Langelier Index (@ 20C)	1	N/A	2021/02/23		Auto Calc
Sat. pH and Langelier Index (@ 20C)	1	N/A	2021/02/24		Auto Calc
Sat. pH and Langelier Index (@ 4C)	1	N/A	2021/02/23		Auto Calc
Sat. pH and Langelier Index (@ 4C)	1	N/A	2021/02/24		Auto Calc
Sulphate by Automated Colourimetry	1	N/A	2021/02/22	CAM SOP-00464	EPA 375.4 m
Sulphate by Automated Colourimetry	1	N/A	2021/02/24	CAM SOP-00464	EPA 375.4 m
Total Dissolved Solids (TDS calc)	1	N/A	2021/02/23		Auto Calc
Total Dissolved Solids (TDS calc)	1	N/A	2021/02/24		Auto Calc

Remarks:

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau

Your Project #: 19129150
Your C.O.C. #: 813833-01-01

Attention: Gregory Padusenko

Golder Associates Ltd
210 Sheldon Drive
Cambridge, ON
CANADA N1T 1A8

Report Date: 2021/02/24
Report #: R6531316
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: C145866
Received: 2021/02/19, 07:34

Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.
This Certificate shall not be reproduced except in full, without the written approval of the laboratory.
Reference Method suffix “m” indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.
(1) Dissolved Organic Carbon (DOC) present in the sample should be considered as non-purgeable DOC.
(2) All CCME PHC results met required criteria unless otherwise stated in the report. The CWS PHC methods employed by Bureau Veritas Laboratories conform to all prescribed elements of the reference method and performance based elements have been validated. All modifications have been validated and proven equivalent following “Alberta Environment’s Interpretation of the Reference Method for the Canada-Wide Standard for Petroleum Hydrocarbons in Soil Validation of Performance-Based Alternative Methods September 2003”. Documentation is available upon request. Modifications from Reference Method for the Canada-wide Standard for Petroleum Hydrocarbons in Soil-Tier 1 Method: F2/F3/F4 data reported using validated cold solvent extraction instead of Soxhlet extraction.
(3) Values for calculated parameters may not appear to add up due to rounding of raw data and significant figures.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Ema Gitej, Senior Project Manager
Email: emese.gitej@bureauveritas.com
Phone# (905)817-5829

==========

BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

BV Labs Job #: C145866
Report Date: 2021/02/24

Golder Associates Ltd
Client Project #: 19129150
Sampler Initials: AL

RCAP - COMPREHENSIVE (WATER)

BV Labs ID		OWT911			OWT912			OWT912		
Sampling Date		2021/02/17 11:00			2021/02/17 10:15			2021/02/17 10:15		
COC Number		813833-01-01			813833-01-01			813833-01-01		
	UNITS	MW20-14A	RDL	QC Batch	MW20-14B	RDL	QC Batch	MW20-14B Lab-Dup	RDL	QC Batch
Calculated Parameters										
Anion Sum	me/L	15.6	N/A	7209514	6.52	N/A	7209514			
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	200	1.0	7208473	240	1.0	7208473			
Calculated TDS	mg/L	980	1.0	7209509	340	1.0	7209509			
Carb. Alkalinity (calc. as CaCO3)	mg/L	2.3	1.0	7208473	3.2	1.0	7208473			
Cation Sum	me/L	15.3	N/A	7209514	6.35	N/A	7209514			
Hardness (CaCO3)	mg/L	630	1.0	7208484	300	1.0	7208484			
Ion Balance (% Difference)	%	1.11	N/A	7209339	1.28	N/A	7209339			
Langelier Index (@ 20C)	N/A	1.11		7209510	0.957		7209510			
Langelier Index (@ 4C)	N/A	0.864		7209511	0.708		7209511			
Saturation pH (@ 20C)	N/A	6.96		7209510	7.19		7209510			
Saturation pH (@ 4C)	N/A	7.20		7209511	7.44		7209511			
Inorganics										
Total Ammonia-N	mg/L	1.2	0.050	7210859	<0.050	0.050	7210859			
Conductivity	umho/cm	1300	1.0	7210025	600	1.0	7210025			
Dissolved Organic Carbon	mg/L	0.52	0.40	7211055	0.65	0.40	7211055	0.65	0.40	7211055
Orthophosphate (P)	mg/L	<0.010	0.010	7210038	<0.010	0.010	7211780	<0.010	0.010	7211780
pH	pH	8.07		7210026	8.14		7210026			
Dissolved Sulphate (SO4)	mg/L	540	5.0	7210034	33	1.0	7211777	33	1.0	7211777
Alkalinity (Total as CaCO3)	mg/L	210	1.0	7210029	240	1.0	7210029			
Dissolved Chloride (Cl-)	mg/L	6.4	1.0	7210032	15	1.0	7211766	15	1.0	7211766
Nitrite (N)	mg/L	0.027	0.010	7210069	<0.010	0.010	7210049			
Nitrate (N)	mg/L	0.21	0.10	7210069	7.35	0.10	7210049			
Nitrate + Nitrite (N)	mg/L	0.23	0.10	7210069	7.35	0.10	7210049			
Metals										
Dissolved Aluminum (Al)	ug/L	18	4.9	7210321	5.8	4.9	7210328			
Dissolved Antimony (Sb)	ug/L	<0.50	0.50	7210321	<0.50	0.50	7210328			
Dissolved Arsenic (As)	ug/L	3.0	1.0	7210321	<1.0	1.0	7210328			
Dissolved Barium (Ba)	ug/L	30	2.0	7210321	38	2.0	7210328			
Dissolved Beryllium (Be)	ug/L	<0.40	0.40	7210321	<0.40	0.40	7210328			
Dissolved Boron (B)	ug/L	640	10	7210321	<10	10	7210328			

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate
N/A = Not Applicable

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

RCAP - COMPREHENSIVE (WATER)

BV Labs ID		OWT911			OWT912			OWT912		
Sampling Date		2021/02/17 11:00			2021/02/17 10:15			2021/02/17 10:15		
COC Number		813833-01-01			813833-01-01			813833-01-01		
	UNITS	MW20-14A	RDL	QC Batch	MW20-14B	RDL	QC Batch	MW20-14B Lab-Dup	RDL	QC Batch
Dissolved Cadmium (Cd)	ug/L	<0.090	0.090	7210321	<0.090	0.090	7210328			
Dissolved Calcium (Ca)	ug/L	190000	200	7210321	72000	200	7210328			
Dissolved Chromium (Cr)	ug/L	<5.0	5.0	7210321	<5.0	5.0	7210328			
Dissolved Cobalt (Co)	ug/L	<0.50	0.50	7210321	<0.50	0.50	7210328			
Dissolved Copper (Cu)	ug/L	6.9	0.90	7210321	1.5	0.90	7210328			
Dissolved Iron (Fe)	ug/L	380	100	7210321	<100	100	7210328			
Dissolved Lead (Pb)	ug/L	<0.50	0.50	7210321	<0.50	0.50	7210328			
Dissolved Magnesium (Mg)	ug/L	39000	50	7210321	30000	50	7210328			
Dissolved Manganese (Mn)	ug/L	120	2.0	7210321	<2.0	2.0	7210328			
Dissolved Molybdenum (Mo)	ug/L	3.0	0.50	7210321	0.55	0.50	7210328			
Dissolved Nickel (Ni)	ug/L	2.9	1.0	7210321	<1.0	1.0	7210328			
Dissolved Phosphorus (P)	ug/L	<100	100	7210321	<100	100	7210328			
Dissolved Potassium (K)	ug/L	11000	200	7210321	740	200	7210328			
Dissolved Selenium (Se)	ug/L	<2.0	2.0	7210321	<2.0	2.0	7210328			
Dissolved Silicon (Si)	ug/L	4200	50	7210321	3200	50	7210328			
Dissolved Silver (Ag)	ug/L	<0.090	0.090	7210321	<0.090	0.090	7210328			
Dissolved Sodium (Na)	ug/L	54000	100	7210321	6500	100	7210328			
Dissolved Strontium (Sr)	ug/L	5000	1.0	7210321	91	1.0	7210328			
Dissolved Thallium (Tl)	ug/L	<0.050	0.050	7210321	<0.050	0.050	7210328			
Dissolved Titanium (Ti)	ug/L	<5.0	5.0	7210321	<5.0	5.0	7210328			
Dissolved Uranium (U)	ug/L	0.45	0.10	7210321	0.31	0.10	7210328			
Dissolved Vanadium (V)	ug/L	<0.50	0.50	7210321	<0.50	0.50	7210328			
Dissolved Zinc (Zn)	ug/L	5.9	5.0	7210321	<5.0	5.0	7210328			

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

O.REG 153 PHCS, BTEX/F1-F4 (WATER)

BV Labs ID		OWT911	OWT912		
Sampling Date		2021/02/17 11:00	2021/02/17 10:15		
COC Number		813833-01-01	813833-01-01		
	UNITS	MW20-14A	MW20-14B	RDL	QC Batch
BTEX & F1 Hydrocarbons					
Benzene	ug/L	<0.20	<0.20	0.20	7210596
Toluene	ug/L	<0.20	0.23	0.20	7210596
Ethylbenzene	ug/L	<0.20	<0.20	0.20	7210596
o-Xylene	ug/L	<0.20	<0.20	0.20	7210596
p+m-Xylene	ug/L	<0.40	<0.40	0.40	7210596
Total Xylenes	ug/L	<0.40	<0.40	0.40	7210596
F1 (C6-C10)	ug/L	<25	<25	25	7210596
F1 (C6-C10) - BTEX	ug/L	<25	<25	25	7210596
F2-F4 Hydrocarbons					
F2 (C10-C16 Hydrocarbons)	ug/L	<100	<100	100	7212293
F3 (C16-C34 Hydrocarbons)	ug/L	<200	<200	200	7212293
F4 (C34-C50 Hydrocarbons)	ug/L	<200	<200	200	7212293
Reached Baseline at C50	ug/L	Yes	Yes		7212293
Surrogate Recovery (%)					
1,4-Difluorobenzene	%	105	105		7210596
4-Bromofluorobenzene	%	90	93		7210596
D10-o-Xylene	%	98	103		7210596
D4-1,2-Dichloroethane	%	118	115		7210596
o-Terphenyl	%	97	99		7212293

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

BV Labs Job #: C145866
Report Date: 2021/02/24

Golder Associates Ltd
Client Project #: 19129150
Sampler Initials: AL

TEST SUMMARY

BV Labs ID: OWT911
Sample ID: MW20-14A
Matrix: Water

Collected: 2021/02/17
Shipped:
Received: 2021/02/19

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	7210029	N/A	2021/02/22	Yogesh Patel
Carbonate, Bicarbonate and Hydroxide	CALC	7208473	N/A	2021/02/23	Automated Statchk
Chloride by Automated Colourimetry	KONE	7210032	N/A	2021/02/22	Deonarine Ramnarine
Conductivity	AT	7210025	N/A	2021/02/22	Yogesh Patel
Dissolved Organic Carbon (DOC)	TOCV/NDIR	7211055	N/A	2021/02/22	Nimarta Singh
Petroleum Hydro. CCME F1 & BTEX in Water	HSGC/MSFD	7210596	N/A	2021/02/22	Joe Paino
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	7212293	2021/02/22	2021/02/23	Prabhjot Gulati
Hardness (calculated as CaCO3)		7208484	N/A	2021/02/23	Automated Statchk
Dissolved Metals by ICPMS	ICP/MS	7210321	N/A	2021/02/22	Arefa Dabhad
Ion Balance (% Difference)	CALC	7209339	N/A	2021/02/23	Automated Statchk
Anion and Cation Sum	CALC	7209514	N/A	2021/02/23	Automated Statchk
Total Ammonia-N	LACH/NH4	7210859	N/A	2021/02/22	Alina Dobreanu
Nitrate (NO3) and Nitrite (NO2) in Water	LACH	7210069	N/A	2021/02/22	Chandra Nandlal
pH	AT	7210026	2021/02/20	2021/02/22	Yogesh Patel
Orthophosphate	KONE	7210038	N/A	2021/02/22	Avneet Kour Sudan
Sat. pH and Langelier Index (@ 20C)	CALC	7209510	N/A	2021/02/23	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	7209511	N/A	2021/02/23	Automated Statchk
Sulphate by Automated Colourimetry	KONE	7210034	N/A	2021/02/22	Avneet Kour Sudan
Total Dissolved Solids (TDS calc)	CALC	7209509	N/A	2021/02/23	Automated Statchk

BV Labs ID: OWT912
Sample ID: MW20-14B
Matrix: Water

Collected: 2021/02/17
Shipped:
Received: 2021/02/19

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	7210029	N/A	2021/02/22	Yogesh Patel
Carbonate, Bicarbonate and Hydroxide	CALC	7208473	N/A	2021/02/23	Automated Statchk
Chloride by Automated Colourimetry	KONE	7211766	N/A	2021/02/24	Deonarine Ramnarine
Conductivity	AT	7210025	N/A	2021/02/22	Yogesh Patel
Dissolved Organic Carbon (DOC)	TOCV/NDIR	7211055	N/A	2021/02/22	Nimarta Singh
Petroleum Hydro. CCME F1 & BTEX in Water	HSGC/MSFD	7210596	N/A	2021/02/22	Joe Paino
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	7212293	2021/02/22	2021/02/23	Prabhjot Gulati
Hardness (calculated as CaCO3)		7208484	N/A	2021/02/23	Automated Statchk
Dissolved Metals by ICPMS	ICP/MS	7210328	N/A	2021/02/23	Arefa Dabhad
Ion Balance (% Difference)	CALC	7209339	N/A	2021/02/24	Automated Statchk
Anion and Cation Sum	CALC	7209514	N/A	2021/02/23	Automated Statchk
Total Ammonia-N	LACH/NH4	7210859	N/A	2021/02/22	Alina Dobreanu
Nitrate (NO3) and Nitrite (NO2) in Water	LACH	7210049	N/A	2021/02/22	Chandra Nandlal
pH	AT	7210026	2021/02/20	2021/02/22	Yogesh Patel
Orthophosphate	KONE	7211780	N/A	2021/02/23	Avneet Kour Sudan
Sat. pH and Langelier Index (@ 20C)	CALC	7209510	N/A	2021/02/24	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	7209511	N/A	2021/02/24	Automated Statchk
Sulphate by Automated Colourimetry	KONE	7211777	N/A	2021/02/24	Deonarine Ramnarine
Total Dissolved Solids (TDS calc)	CALC	7209509	N/A	2021/02/24	Automated Statchk

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

BV Labs Job #: C145866
Report Date: 2021/02/24

Golder Associates Ltd
Client Project #: 19129150
Sampler Initials: AL

TEST SUMMARY

BV Labs ID: OWT912 Dup
Sample ID: MW20-14B
Matrix: Water

Collected: 2021/02/17
Shipped:
Received: 2021/02/19

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Chloride by Automated Colourimetry	KONE	7211766	N/A	2021/02/24	Deonarine Ramnarine
Dissolved Organic Carbon (DOC)	TOCV/NDIR	7211055	N/A	2021/02/22	Nimarta Singh
Orthophosphate	KONE	7211780	N/A	2021/02/23	Avneet Kour Sudan
Sulphate by Automated Colourimetry	KONE	7211777	N/A	2021/02/24	Deonarine Ramnarine

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	1.0°C

Results relate only to the items tested.

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

QUALITY ASSURANCE REPORT

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
7210596	1,4-Difluorobenzene	2021/02/22	98	70 - 130	101	70 - 130	104	%		
7210596	4-Bromofluorobenzene	2021/02/22	101	70 - 130	102	70 - 130	94	%		
7210596	D10-o-Xylene	2021/02/22	96	70 - 130	122	70 - 130	102	%		
7210596	D4-1,2-Dichloroethane	2021/02/22	108	70 - 130	97	70 - 130	110	%		
7212293	o-Terphenyl	2021/02/22	100	60 - 130	100	60 - 130	99	%		
7210025	Conductivity	2021/02/22			101	85 - 115	<1.0	umho/cm	0.25	25
7210026	pH	2021/02/22			102	98 - 103			0.47	N/A
7210029	Alkalinity (Total as CaCO3)	2021/02/22			96	85 - 115	<1.0	mg/L	0.15	20
7210032	Dissolved Chloride (Cl-)	2021/02/22	103	80 - 120	102	80 - 120	<1.0	mg/L	NC	20
7210034	Dissolved Sulphate (SO4)	2021/02/22	121 (1)	75 - 125	107	80 - 120	<1.0	mg/L	0.84	20
7210038	Orthophosphate (P)	2021/02/22	110	75 - 125	100	80 - 120	<0.010	mg/L	NC	25
7210049	Nitrate (N)	2021/02/22	NC	80 - 120	99	80 - 120	<0.10	mg/L	2.8	20
7210049	Nitrite (N)	2021/02/22	NC	80 - 120	108	80 - 120	<0.010	mg/L		
7210069	Nitrate (N)	2021/02/22	99	80 - 120	100	80 - 120	<0.10	mg/L	5.4	20
7210069	Nitrite (N)	2021/02/22	100	80 - 120	107	80 - 120	<0.010	mg/L		
7210321	Dissolved Aluminum (Al)	2021/02/22	111	80 - 120	104	80 - 120	<4.9	ug/L		
7210321	Dissolved Antimony (Sb)	2021/02/22	113	80 - 120	101	80 - 120	<0.50	ug/L	NC	20
7210321	Dissolved Arsenic (As)	2021/02/22	107	80 - 120	100	80 - 120	<1.0	ug/L	NC	20
7210321	Dissolved Barium (Ba)	2021/02/22	107	80 - 120	103	80 - 120	<2.0	ug/L	0.44	20
7210321	Dissolved Beryllium (Be)	2021/02/22	102	80 - 120	97	80 - 120	<0.40	ug/L	NC	20
7210321	Dissolved Boron (B)	2021/02/22	100	80 - 120	97	80 - 120	<10	ug/L	1.9	20
7210321	Dissolved Cadmium (Cd)	2021/02/22	107	80 - 120	100	80 - 120	<0.090	ug/L	NC	20
7210321	Dissolved Calcium (Ca)	2021/02/22	NC	80 - 120	100	80 - 120	<200	ug/L		
7210321	Dissolved Chromium (Cr)	2021/02/22	100	80 - 120	95	80 - 120	<5.0	ug/L	NC	20
7210321	Dissolved Cobalt (Co)	2021/02/22	102	80 - 120	98	80 - 120	<0.50	ug/L	4.5	20
7210321	Dissolved Copper (Cu)	2021/02/22	102	80 - 120	96	80 - 120	<0.90	ug/L	3.0	20
7210321	Dissolved Iron (Fe)	2021/02/22	104	80 - 120	99	80 - 120	<100	ug/L		
7210321	Dissolved Lead (Pb)	2021/02/22	102	80 - 120	96	80 - 120	<0.50	ug/L	NC	20
7210321	Dissolved Magnesium (Mg)	2021/02/22	NC	80 - 120	101	80 - 120	<50	ug/L		
7210321	Dissolved Manganese (Mn)	2021/02/22	104	80 - 120	98	80 - 120	<2.0	ug/L		
7210321	Dissolved Molybdenum (Mo)	2021/02/22	109	80 - 120	98	80 - 120	<0.50	ug/L	5.1	20

QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
7210321	Dissolved Nickel (Ni)	2021/02/22	99	80 - 120	95	80 - 120	<1.0	ug/L	1.8	20
7210321	Dissolved Phosphorus (P)	2021/02/22	109	80 - 120	110	80 - 120	<100	ug/L		
7210321	Dissolved Potassium (K)	2021/02/22	109	80 - 120	102	80 - 120	<200	ug/L		
7210321	Dissolved Selenium (Se)	2021/02/22	107	80 - 120	103	80 - 120	<2.0	ug/L	NC	20
7210321	Dissolved Silicon (Si)	2021/02/22	106	80 - 120	100	80 - 120	<50	ug/L		
7210321	Dissolved Silver (Ag)	2021/02/22	102	80 - 120	94	80 - 120	<0.090	ug/L	NC	20
7210321	Dissolved Sodium (Na)	2021/02/22	NC	80 - 120	99	80 - 120	<100	ug/L	1.6	20
7210321	Dissolved Strontium (Sr)	2021/02/22	NC	80 - 120	98	80 - 120	<1.0	ug/L		
7210321	Dissolved Thallium (Tl)	2021/02/22	99	80 - 120	94	80 - 120	<0.050	ug/L	NC	20
7210321	Dissolved Titanium (Ti)	2021/02/22	107	80 - 120	98	80 - 120	<5.0	ug/L		
7210321	Dissolved Uranium (U)	2021/02/22	108	80 - 120	100	80 - 120	<0.10	ug/L	4.5	20
7210321	Dissolved Vanadium (V)	2021/02/22	105	80 - 120	97	80 - 120	<0.50	ug/L	NC	20
7210321	Dissolved Zinc (Zn)	2021/02/22	102	80 - 120	98	80 - 120	<5.0	ug/L	NC	20
7210328	Dissolved Aluminum (Al)	2021/02/23	108	80 - 120	101	80 - 120	<4.9	ug/L		
7210328	Dissolved Antimony (Sb)	2021/02/23	111	80 - 120	101	80 - 120	<0.50	ug/L	7.3	20
7210328	Dissolved Arsenic (As)	2021/02/23	106	80 - 120	98	80 - 120	<1.0	ug/L	NC	20
7210328	Dissolved Barium (Ba)	2021/02/23	107	80 - 120	102	80 - 120	<2.0	ug/L	0.50	20
7210328	Dissolved Beryllium (Be)	2021/02/23	106	80 - 120	98	80 - 120	<0.40	ug/L	NC	20
7210328	Dissolved Boron (B)	2021/02/23	102	80 - 120	95	80 - 120	<10	ug/L	0.35	20
7210328	Dissolved Cadmium (Cd)	2021/02/23	105	80 - 120	99	80 - 120	<0.090	ug/L	NC	20
7210328	Dissolved Calcium (Ca)	2021/02/23	NC	80 - 120	100	80 - 120	<200	ug/L		
7210328	Dissolved Chromium (Cr)	2021/02/23	101	80 - 120	95	80 - 120	<5.0	ug/L	NC	20
7210328	Dissolved Cobalt (Co)	2021/02/23	103	80 - 120	97	80 - 120	<0.50	ug/L	NC	20
7210328	Dissolved Copper (Cu)	2021/02/23	102	80 - 120	98	80 - 120	<0.90	ug/L	0.88	20
7210328	Dissolved Iron (Fe)	2021/02/23	104	80 - 120	97	80 - 120	<100	ug/L		
7210328	Dissolved Lead (Pb)	2021/02/23	104	80 - 120	96	80 - 120	<0.50	ug/L	NC	20
7210328	Dissolved Magnesium (Mg)	2021/02/23	NC	80 - 120	98	80 - 120	<50	ug/L		
7210328	Dissolved Manganese (Mn)	2021/02/23	103	80 - 120	96	80 - 120	<2.0	ug/L		
7210328	Dissolved Molybdenum (Mo)	2021/02/23	109	80 - 120	98	80 - 120	<0.50	ug/L	1.8	20
7210328	Dissolved Nickel (Ni)	2021/02/23	101	80 - 120	97	80 - 120	<1.0	ug/L	5.9	20
7210328	Dissolved Phosphorus (P)	2021/02/23	108	80 - 120	110	80 - 120	<100	ug/L		

QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
7210328	Dissolved Potassium (K)	2021/02/23	107	80 - 120	101	80 - 120	<200	ug/L		
7210328	Dissolved Selenium (Se)	2021/02/23	107	80 - 120	101	80 - 120	<2.0	ug/L	1.7	20
7210328	Dissolved Silicon (Si)	2021/02/23	108	80 - 120	101	80 - 120	<50	ug/L		
7210328	Dissolved Silver (Ag)	2021/02/23	84	80 - 120	97	80 - 120	<0.090	ug/L	NC	20
7210328	Dissolved Sodium (Na)	2021/02/23	NC	80 - 120	97	80 - 120	<100	ug/L		
7210328	Dissolved Strontium (Sr)	2021/02/23	NC	80 - 120	97	80 - 120	<1.0	ug/L		
7210328	Dissolved Thallium (Tl)	2021/02/23	100	80 - 120	97	80 - 120	<0.050	ug/L	NC	20
7210328	Dissolved Titanium (Ti)	2021/02/23	105	80 - 120	97	80 - 120	<5.0	ug/L		
7210328	Dissolved Uranium (U)	2021/02/23	110	80 - 120	101	80 - 120	<0.10	ug/L	2.0	20
7210328	Dissolved Vanadium (V)	2021/02/23	105	80 - 120	98	80 - 120	<0.50	ug/L	NC	20
7210328	Dissolved Zinc (Zn)	2021/02/23	100	80 - 120	97	80 - 120	<5.0	ug/L	0.33	20
7210596	Benzene	2021/02/22	101	50 - 140	105	50 - 140	<0.20	ug/L	NC	30
7210596	Ethylbenzene	2021/02/22	110	50 - 140	116	50 - 140	<0.20	ug/L	NC	30
7210596	F1 (C6-C10) - BTEX	2021/02/22					<25	ug/L	NC	30
7210596	F1 (C6-C10)	2021/02/22	91	60 - 140	102	60 - 140	<25	ug/L	NC	30
7210596	o-Xylene	2021/02/22	110	50 - 140	111	50 - 140	<0.20	ug/L	NC	30
7210596	p+m-Xylene	2021/02/22	110	50 - 140	116	50 - 140	<0.40	ug/L	NC	30
7210596	Toluene	2021/02/22	101	50 - 140	105	50 - 140	<0.20	ug/L	NC	30
7210596	Total Xylenes	2021/02/22					<0.40	ug/L	NC	30
7210859	Total Ammonia-N	2021/02/22	89	75 - 125	99	80 - 120	<0.050	mg/L	12	20
7211055	Dissolved Organic Carbon	2021/02/22	92	80 - 120	95	80 - 120	<0.40	mg/L	0.11	20
7211766	Dissolved Chloride (Cl-)	2021/02/24	106	80 - 120	102	80 - 120	<1.0	mg/L	0.084	20
7211777	Dissolved Sulphate (SO4)	2021/02/24	NC	75 - 125	100	80 - 120	<1.0	mg/L	0.45	20
7211780	Orthophosphate (P)	2021/02/23	103	75 - 125	102	80 - 120	<0.010	mg/L	NC	25
7212293	F2 (C10-C16 Hydrocarbons)	2021/02/23	103	60 - 130	105	60 - 130	<100	ug/L	NC	30
7212293	F3 (C16-C34 Hydrocarbons)	2021/02/23	107	60 - 130	110	60 - 130	<200	ug/L	NC	30

Bureau Veritas Laboratories 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvlabs.com

Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
7212293	F4 (C34-C50 Hydrocarbons)	2021/02/23	106	60 - 130	108	60 - 130	<200	ug/L	NC	30

N/A = Not Applicable

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

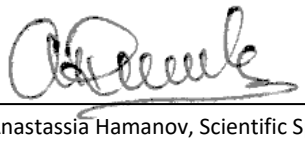
(1) Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.

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VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).



Anastassia Hamanov, Scientific Specialist

BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

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Bureau Veritas Laboratories
109 & 110, 4023 Meadowbrook Drive, London, Ontario Canada N6L 1E7 Tel:(519) 652-9444 Toll-free:800-563-6266 Fax:(519) 652-8189 www.bvlabs.com

CHAIN OF CUSTODY RECORD

INVOICE TO:		REPORT TO:		PROJECT INFORMATION:		Laboratory Use Only:	
Company Name:	#21375 Golder Associates Ltd	Company Name:		Quotation #:	B80683	BV Labs Job #:	Bottle Order #: 813833
Attention:	Accounts Payable	Attention:	Gregory Padusenko	P.O. #:			
Address:	210 Sheldon Drive Cambridge ON N1T 1A8	Address:		Project:	19129150		
Tel:	(519) 620-8182 Fax:	Tel:	(519) 620-8182 Ext: 6509 Fax: (519) 620-9878	Project Name:		COC #: C#813833-01-01	Project Manager: Ema Gitej
Email:	CanadaAccountsPayableInvoices@golder.com	Email:	Gregory_Padusenko@golder.com	Site #:			
				Sampled By:	AL		

MOE REGULATED DRINKING WATER OR WATER INTENDED FOR HUMAN CONSUMPTION MUST BE SUBMITTED ON THE BV LABS DRINKING WATER CHAIN OF CUSTODY

Regulation 153 (2011): ☐ Table 1 ☐ Res/Park ☐ Medium/Fine ☐ Table 2 ☐ Ind/Comm ☐ Coarse ☐ Table 3 ☐ Agri/Other ☐ For RSC ☐ Table ___

Other Regulations: ☐ CCME ☐ Sanitary Sewer Bylaw ☐ Reg 558 ☐ Storm Sewer Bylaw ☐ MISA Municipality ☐ PWQO ☐ Reg 406 Table ☐ Other

Special Instructions

Include Criteria on Certificate of Analysis (Y/N)? ___

Turnaround Time (TAT) Required:
Please provide advance notice for rush projects

Regular (Standard) TAT: ☒
(will be applied if Rush TAT is not specified):
Standard TAT = 5-7 Working days for most tests.
Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.

Job Specific Rush TAT (if applies to entire submission)
Date Required: ___ Time Required: ___ ☐
Rush Confirmation Number: ___ *(call lab for #)*

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Field Filtered (please circle): Metals / Hg / Cr VI	ANALYSIS REQUESTED (PLEASE BE SPECIFIC): RCAp - Comprehensive	O.Reg 153 PHCs, BTEX/F1-F4	# of Bottles	Comments
1		MW20-14A	21/2/17	11-	GW	X	X	X	8	
2		MW20-14B	21/2/17	10:15	GW	X	X	X	8	
3										
4										19-Feb-21 07:34
5										Ema Gitej
6										C145866
7										NP4 ENV-511
8										REC'D IN WATERLOO
9										
10										NO ICE

REC'D IN WATERLOO

* RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	# jars used and not submitted
Autumn Lindsay / A. Linklater	21/02/17	17:50		2021/02/19	07:24	
K. EASTON	21/02/18	18:15				

Laboratory Use Only: Time Sensitive | Temperature (°C) on Recei 1 / 1 / 1°C | Custody Seal Present ☐ Yes ☐ No | Intact ☐

* UNLESS OTHERWISE AGREED TO IN WRITING, WORK SUBMITTED ON THIS CHAIN OF CUSTODY IS SUBJECT TO BV LABS' STANDARD TERMS AND CONDITIONS. SIGNING OF THIS CHAIN OF CUSTODY DOCUMENT IS ACKNOWLEDGMENT AND ACCEPTANCE OF OUR TERMS WHICH ARE AVAILABLE FOR VIEWING AT WWW.BVLABS.COM/TERMS-AND-CONDITIONS.

* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

** SAMPLE CONTAINER, PRESERVATION, HOLD TIME AND PACKAGE INFORMATION CAN BE VIEWED AT WWW.BVLABS.COM/RESOURCES/CHAIN-OF-CUSTODY-FORMS.

010/0

SAMPLES MUST BE KEPT COOL (< 10° C) FROM TIME OF SAMPLING UNTIL DELIVERY TO BV LABS

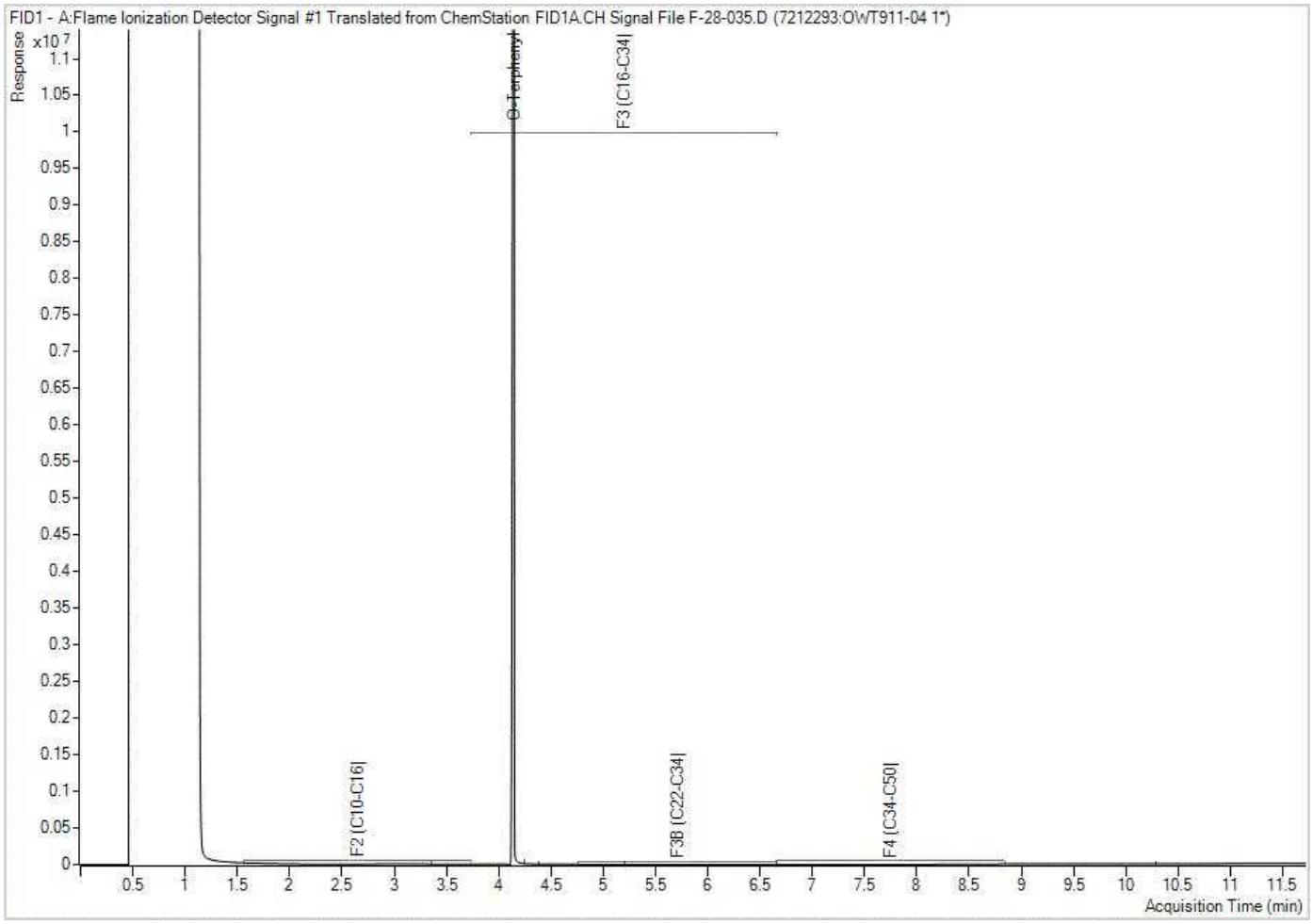
White: BV Labs Yellow: Client

Bureau Veritas Canada (2019) Inc.

BV Labs Job #: C145866
Report Date: 2021/02/24
BV Labs Sample: OWT911

Golder Associates Ltd
Client Project #: 19129150
Client ID: MW20-14A

Petroleum Hydrocarbons F2-F4 in Water Chromatogram

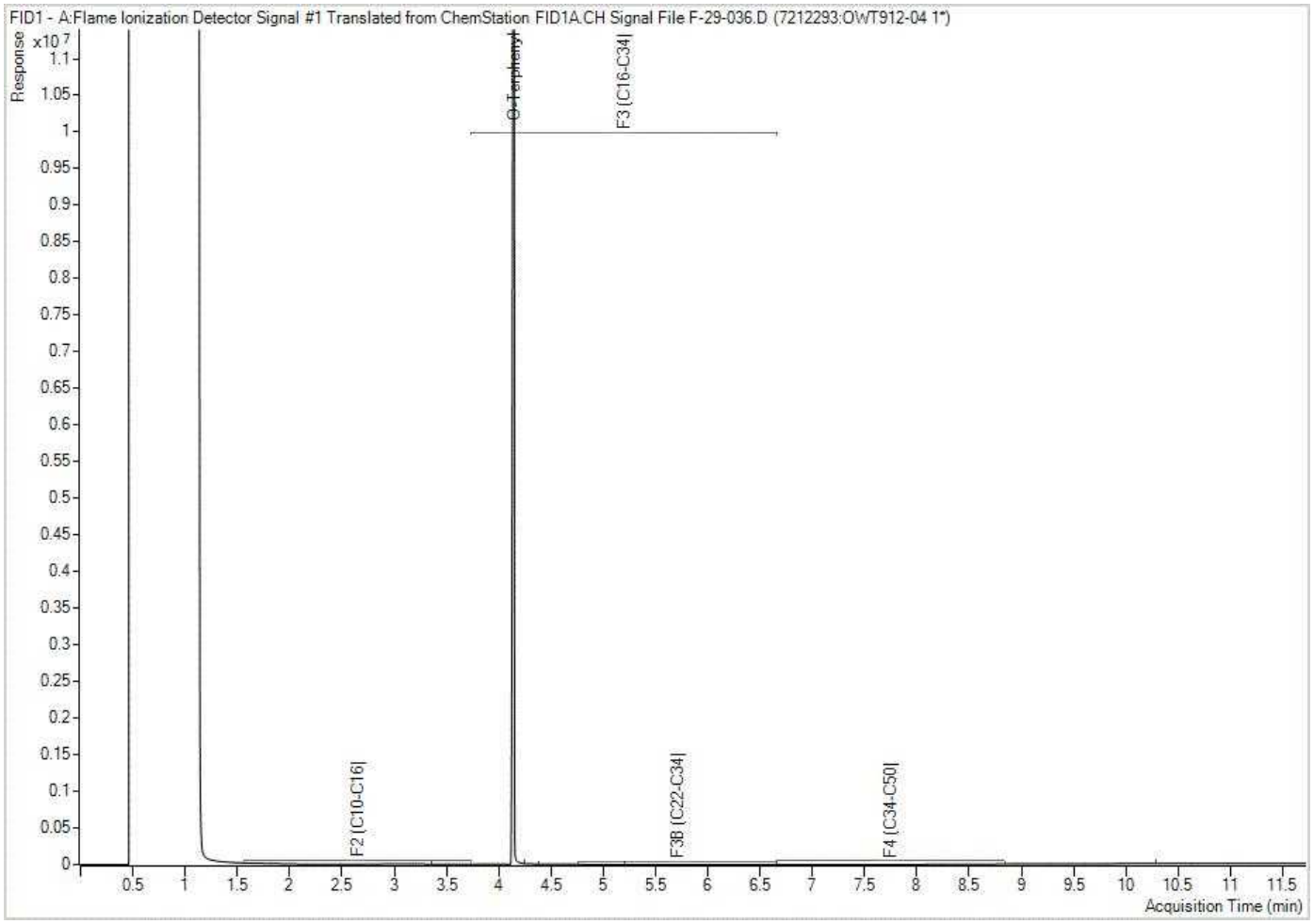


Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

BV Labs Job #: C145866
Report Date: 2021/02/24
BV Labs Sample: OWT912

Golder Associates Ltd
Client Project #: 19129150
Client ID: MW20-14B

Petroleum Hydrocarbons F2-F4 in Water Chromatogram



Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Your Project #: 19129150 (2300)
Your C.O.C. #: 831949-01-01

Attention: Gregory Padusenko

Golder Associates Ltd
210 Sheldon Drive
Cambridge, ON
CANADA N1T 1A8

Report Date: 2021/06/29
Report #: R6697111
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: C1H0819
Received: 2021/06/21, 18:30

Sample Matrix: Water
Samples Received: 4

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Alkalinity	3	N/A	2021/06/23	CAM SOP-00448	SM 23 2320 B m
Alkalinity	1	N/A	2021/06/24	CAM SOP-00448	SM 23 2320 B m
Carbonate, Bicarbonate and Hydroxide	4	N/A	2021/06/24	CAM SOP-00102	APHA 4500-CO2 D
Chloride by Automated Colourimetry	4	N/A	2021/06/23	CAM SOP-00463	SM 23 4500-Cl E m
Conductivity	3	N/A	2021/06/23	CAM SOP-00414	SM 23 2510 m
Conductivity	1	N/A	2021/06/24	CAM SOP-00414	SM 23 2510 m
Dissolved Organic Carbon (DOC) (1)	3	N/A	2021/06/24	CAM SOP-00446	SM 23 5310 B m
Dissolved Organic Carbon (DOC) (1)	1	N/A	2021/06/25	CAM SOP-00446	SM 23 5310 B m
Petroleum Hydro. CCME F1 & BTEX in Water	2	N/A	2021/06/25	CAM SOP-00315	CCME PHC-CWS m
Petroleum Hydrocarbons F2-F4 in Water (2)	2	2021/06/25	2021/06/27	CAM SOP-00316	CCME PHC-CWS m
Hardness (calculated as CaCO3)	4	N/A	2021/06/24	CAM SOP 00102/00408/00447	SM 2340 B
Dissolved Metals by ICPMS	4	N/A	2021/06/24	CAM SOP-00447	EPA 6020B m
Ion Balance (% Difference)	4	N/A	2021/06/24		
Anion and Cation Sum	4	N/A	2021/06/24		
Total Ammonia-N	4	N/A	2021/06/28	CAM SOP-00441	USGS I-2522-90 m
Nitrate (NO3) and Nitrite (NO2) in Water (3)	4	N/A	2021/06/24	CAM SOP-00440	SM 23 4500-NO3I/NO2B
pH	3	2021/06/22	2021/06/23	CAM SOP-00413	SM 4500H+ B m
pH	1	2021/06/22	2021/06/24	CAM SOP-00413	SM 4500H+ B m
Orthophosphate	4	N/A	2021/06/23	CAM SOP-00461	EPA 365.1 m
Sat. pH and Langelier Index (@ 20C)	4	N/A	2021/06/24		Auto Calc
Sat. pH and Langelier Index (@ 4C)	4	N/A	2021/06/24		Auto Calc
Sulphate by Automated Colourimetry	4	N/A	2021/06/24	CAM SOP-00464	EPA 375.4 m
Total Dissolved Solids (TDS calc)	4	N/A	2021/06/24		Auto Calc

Remarks:

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are

Your Project #: 19129150 (2300)
Your C.O.C. #: 831949-01-01

Attention: Gregory Padusenko

Golder Associates Ltd
210 Sheldon Drive
Cambridge, ON
CANADA N1T 1A8

Report Date: 2021/06/29
Report #: R6697111
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: C1H0819
Received: 2021/06/21, 18:30

reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.
This Certificate shall not be reproduced except in full, without the written approval of the laboratory.

Reference Method suffix “m” indicates test methods incorporate validated modifications from specific reference methods to improve performance.

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) Dissolved Organic Carbon (DOC) present in the sample should be considered as non-purgeable DOC.

(2) All CCME PHC results met required criteria unless otherwise stated in the report. The CWS PHC methods employed by Bureau Veritas Laboratories conform to all prescribed elements of the reference method and performance based elements have been validated. All modifications have been validated and proven equivalent following “Alberta Environment’s Interpretation of the Reference Method for the Canada-Wide Standard for Petroleum Hydrocarbons in Soil Validation of Performance-Based Alternative Methods September 2003”. Documentation is available upon request. Modifications from Reference Method for the Canada-wide Standard for Petroleum Hydrocarbons in Soil-Tier 1 Method: F2/F3/F4 data reported using validated cold solvent extraction instead of Soxhlet extraction.

(3) Values for calculated parameters may not appear to add up due to rounding of raw data and significant figures.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Ema Gitej, Senior Project Manager
Email: emese.gitej@bureauveritas.com
Phone# (905)817-5829

==========

BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

BV Labs Job #: C1H0819
Report Date: 2021/06/29

Golder Associates Ltd
Client Project #: 19129150 (2300)
Sampler Initials: VP

RCAP - COMPREHENSIVE (WATER)

BV Labs ID		PWX685			PWX685			PWX686		
Sampling Date		2021/06/21 15:30			2021/06/21 15:30			2021/06/21 15:30		
COC Number		831949-01-01			831949-01-01			831949-01-01		
	UNITS	MW20-08 A	RDL	QC Batch	MW20-08 A Lab-Dup	RDL	QC Batch	MW20-08 B	RDL	QC Batch
Calculated Parameters										
Anion Sum	me/L	9.16	N/A	7421638				13.1	N/A	7421638
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	270	1.0	7421635				280	1.0	7421635
Calculated TDS	mg/L	490	1.0	7421642				720	1.0	7421642
Carb. Alkalinity (calc. as CaCO3)	mg/L	2.9	1.0	7421635				2.8	1.0	7421635
Cation Sum	me/L	9.23	N/A	7421638				13.2	N/A	7421638
Hardness (CaCO3)	mg/L	330	1.0	7421636				320	1.0	7421636
Ion Balance (% Difference)	%	0.400	N/A	7421637				0.690	N/A	7421637
Langelier Index (@ 20C)	N/A	0.947		7421639				0.925		7421639
Langelier Index (@ 4C)	N/A	0.699		7421640				0.679		7421640
Saturation pH (@ 20C)	N/A	7.12		7421639				7.10		7421639
Saturation pH (@ 4C)	N/A	7.37		7421640				7.35		7421640
Inorganics										
Total Ammonia-N	mg/L	0.10	0.050	7430355				<0.050	0.050	7430355
Conductivity	umho/cm	900	1.0	7422524				1400	1.0	7422524
Dissolved Organic Carbon	mg/L	0.45	0.40	7427516				1.2	0.40	7428766
Orthophosphate (P)	mg/L	<0.010	0.010	7422545	<0.010	0.010	7422545	<0.010	0.010	7422545
pH	pH	8.07		7422527				8.03		7422527
Dissolved Sulphate (SO4)	mg/L	22	1.0	7422560	21	1.0	7422560	17	1.0	7422560
Alkalinity (Total as CaCO3)	mg/L	270	1.0	7422513				280	1.0	7422513
Dissolved Chloride (Cl-)	mg/L	110	1.0	7422556	110	1.0	7422556	240	3.0	7422556
Nitrite (N)	mg/L	<0.010	0.010	7423349				<0.010	0.010	7423349
Nitrate (N)	mg/L	3.65	0.10	7423349				4.31	0.10	7423349
Nitrate + Nitrite (N)	mg/L	3.65	0.10	7423349				4.31	0.10	7423349
Metals										
Dissolved Aluminum (Al)	ug/L	120	4.9	7423183				6.5	4.9	7423183
Dissolved Antimony (Sb)	ug/L	<0.50	0.50	7423183				<0.50	0.50	7423183
Dissolved Arsenic (As)	ug/L	<1.0	1.0	7423183				<1.0	1.0	7423183
Dissolved Barium (Ba)	ug/L	41	2.0	7423183				31	2.0	7423183
Dissolved Beryllium (Be)	ug/L	<0.40	0.40	7423183				<0.40	0.40	7423183

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate
N/A = Not Applicable

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

RCAP - COMPREHENSIVE (WATER)

BV Labs ID		PWX685			PWX685			PWX686		
Sampling Date		2021/06/21 15:30			2021/06/21 15:30			2021/06/21 15:30		
COC Number		831949-01-01			831949-01-01			831949-01-01		
	UNITS	MW20-08 A	RDL	QC Batch	MW20-08 A Lab-Dup	RDL	QC Batch	MW20-08 B	RDL	QC Batch
Dissolved Boron (B)	ug/L	<10	10	7423183				<10	10	7423183
Dissolved Cadmium (Cd)	ug/L	<0.090	0.090	7423183				<0.090	0.090	7423183
Dissolved Calcium (Ca)	ug/L	82000	200	7423183				92000	200	7423183
Dissolved Chromium (Cr)	ug/L	<5.0	5.0	7423183				<5.0	5.0	7423183
Dissolved Cobalt (Co)	ug/L	<0.50	0.50	7423183				<0.50	0.50	7423183
Dissolved Copper (Cu)	ug/L	5.7	0.90	7423183				1.6	0.90	7423183
Dissolved Iron (Fe)	ug/L	200	100	7423183				<100	100	7423183
Dissolved Lead (Pb)	ug/L	1.1	0.50	7423183				<0.50	0.50	7423183
Dissolved Magnesium (Mg)	ug/L	30000	50	7423183				22000	50	7423183
Dissolved Manganese (Mn)	ug/L	15	2.0	7423183				<2.0	2.0	7423183
Dissolved Molybdenum (Mo)	ug/L	0.56	0.50	7423183				<0.50	0.50	7423183
Dissolved Nickel (Ni)	ug/L	<1.0	1.0	7423183				<1.0	1.0	7423183
Dissolved Phosphorus (P)	ug/L	<100	100	7423183				<100	100	7423183
Dissolved Potassium (K)	ug/L	880	200	7423183				920	200	7423183
Dissolved Selenium (Se)	ug/L	<2.0	2.0	7423183				<2.0	2.0	7423183
Dissolved Silicon (Si)	ug/L	3900	50	7423183				2700	50	7423183
Dissolved Silver (Ag)	ug/L	<0.090	0.090	7423183				<0.090	0.090	7423183
Dissolved Sodium (Na)	ug/L	61000	100	7423183				160000	100	7423183
Dissolved Strontium (Sr)	ug/L	230	1.0	7423183				160	1.0	7423183
Dissolved Thallium (Tl)	ug/L	<0.050	0.050	7423183				<0.050	0.050	7423183
Dissolved Titanium (Ti)	ug/L	6.8	5.0	7423183				<5.0	5.0	7423183
Dissolved Uranium (U)	ug/L	0.88	0.10	7423183				0.21	0.10	7423183
Dissolved Vanadium (V)	ug/L	<0.50	0.50	7423183				<0.50	0.50	7423183
Dissolved Zinc (Zn)	ug/L	9.3	5.0	7423183				<5.0	5.0	7423183

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate

Bureau Veritas Laboratories 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvlabs.com

Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

RCAP - COMPREHENSIVE (WATER)

BV Labs ID		PWX686			PWX687	PWX688		
Sampling Date		2021/06/21 15:30			2021/06/21 16:45	2021/06/21 16:45		
COC Number		831949-01-01			831949-01-01	831949-01-01		
	UNITS	MW20-08 B Lab-Dup	RDL	QC Batch	MW20-07 A	MW20-07 B	RDL	QC Batch
Calculated Parameters								
Anion Sum	me/L				7.85	9.08	N/A	7421638
Bicarb. Alkalinity (calc. as CaCO3)	mg/L				250	260	1.0	7421635
Calculated TDS	mg/L				410	500	1.0	7421642
Carb. Alkalinity (calc. as CaCO3)	mg/L				2.7	3.1	1.0	7421635
Cation Sum	me/L				7.75	9.08	N/A	7421638
Hardness (CaCO3)	mg/L				330	270	1.0	7421636
Ion Balance (% Difference)	%				0.610	0.00	N/A	7421637
Langelier Index (@ 20C)	N/A				0.928	0.901		7421639
Langelier Index (@ 4C)	N/A				0.679	0.653		7421640
Saturation pH (@ 20C)	N/A				7.13	7.19		7421639
Saturation pH (@ 4C)	N/A				7.38	7.44		7421640
Inorganics								
Total Ammonia-N	mg/L				<0.050	0.28	0.050	7430355
Conductivity	umho/cm				740	870	1.0	7422524
Dissolved Organic Carbon	mg/L	1.2	0.40	7428766	0.55	0.88	0.40	7427516
Orthophosphate (P)	mg/L				<0.010	<0.010	0.010	7422545
pH	pH				8.06	8.09		7422527
Dissolved Sulphate (SO4)	mg/L				40	20	1.0	7422560
Alkalinity (Total as CaCO3)	mg/L				250	270	1.0	7422513
Dissolved Chloride (Cl-)	mg/L				68	100	1.0	7422556
Nitrite (N)	mg/L				<0.010	<0.010	0.010	7423349
Nitrate (N)	mg/L				0.73	5.20	0.10	7423349
Nitrate + Nitrite (N)	mg/L				0.73	5.20	0.10	7423349
Metals								
Dissolved Aluminum (Al)	ug/L				53	92	4.9	7423183
Dissolved Antimony (Sb)	ug/L				<0.50	<0.50	0.50	7423183
Dissolved Arsenic (As)	ug/L				7.9	<1.0	1.0	7423183
Dissolved Barium (Ba)	ug/L				56	34	2.0	7423183
Dissolved Beryllium (Be)	ug/L				<0.40	<0.40	0.40	7423183

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate
N/A = Not Applicable

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

RCAP - COMPREHENSIVE (WATER)

BV Labs ID		PWX686			PWX687	PWX688		
Sampling Date		2021/06/21 15:30			2021/06/21 16:45	2021/06/21 16:45		
COC Number		831949-01-01			831949-01-01	831949-01-01		
	UNITS	MW20-08 B Lab-Dup	RDL	QC Batch	MW20-07 A	MW20-07 B	RDL	QC Batch
Dissolved Boron (B)	ug/L				23	19	10	7423183
Dissolved Cadmium (Cd)	ug/L				<0.090	<0.090	0.090	7423183
Dissolved Calcium (Ca)	ug/L				81000	71000	200	7423183
Dissolved Chromium (Cr)	ug/L				<5.0	<5.0	5.0	7423183
Dissolved Cobalt (Co)	ug/L				<0.50	<0.50	0.50	7423183
Dissolved Copper (Cu)	ug/L				<0.90	2.8	0.90	7423183
Dissolved Iron (Fe)	ug/L				<100	<100	100	7423183
Dissolved Lead (Pb)	ug/L				<0.50	<0.50	0.50	7423183
Dissolved Magnesium (Mg)	ug/L				30000	22000	50	7423183
Dissolved Manganese (Mn)	ug/L				26	46	2.0	7423183
Dissolved Molybdenum (Mo)	ug/L				1.5	5.5	0.50	7423183
Dissolved Nickel (Ni)	ug/L				<1.0	2.8	1.0	7423183
Dissolved Phosphorus (P)	ug/L				<100	<100	100	7423183
Dissolved Potassium (K)	ug/L				2400	1500	200	7423183
Dissolved Selenium (Se)	ug/L				<2.0	<2.0	2.0	7423183
Dissolved Silicon (Si)	ug/L				3900	3700	50	7423183
Dissolved Silver (Ag)	ug/L				<0.090	<0.090	0.090	7423183
Dissolved Sodium (Na)	ug/L				26000	83000	100	7423183
Dissolved Strontium (Sr)	ug/L				2600	220	1.0	7423183
Dissolved Thallium (Tl)	ug/L				0.056	0.079	0.050	7423183
Dissolved Titanium (Ti)	ug/L				<5.0	<5.0	5.0	7423183
Dissolved Uranium (U)	ug/L				0.53	1.2	0.10	7423183
Dissolved Vanadium (V)	ug/L				<0.50	<0.50	0.50	7423183
Dissolved Zinc (Zn)	ug/L				<5.0	9.5	5.0	7423183

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate

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O.REG 153 PHCS, BTEX/F1-F4 (WATER)

BV Labs ID		PWX686	PWX688		
Sampling Date		2021/06/21 15:30	2021/06/21 16:45		
COC Number		831949-01-01	831949-01-01		
	UNITS	MW20-08 B	MW20-07 B	RDL	QC Batch
BTEX & F1 Hydrocarbons					
Benzene	ug/L	<0.20	<0.20	0.20	7430651
Toluene	ug/L	<0.20	<0.20	0.20	7430651
Ethylbenzene	ug/L	<0.20	<0.20	0.20	7430651
o-Xylene	ug/L	<0.20	<0.20	0.20	7430651
p+m-Xylene	ug/L	<0.40	<0.40	0.40	7430651
Total Xylenes	ug/L	<0.40	<0.40	0.40	7430651
F1 (C6-C10)	ug/L	<25	<25	25	7430651
F1 (C6-C10) - BTEX	ug/L	<25	<25	25	7430651
F2-F4 Hydrocarbons					
F2 (C10-C16 Hydrocarbons)	ug/L	<100	<100	100	7430615
F3 (C16-C34 Hydrocarbons)	ug/L	<200	360	200	7430615
F4 (C34-C50 Hydrocarbons)	ug/L	<200	<200	200	7430615
Reached Baseline at C50	ug/L	Yes	Yes		7430615
Surrogate Recovery (%)					
1,4-Difluorobenzene	%	99	100		7430651
4-Bromofluorobenzene	%	99	97		7430651
D10-o-Xylene	%	116	114		7430651
D4-1,2-Dichloroethane	%	112	111		7430651
o-Terphenyl	%	99	99		7430615

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

TEST SUMMARY

BV Labs ID: PWX685
Sample ID: MW20-08 A
Matrix: Water

Collected: 2021/06/21
Shipped:
Received: 2021/06/21

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	7422513	N/A	2021/06/23	Surinder Rai
Carbonate, Bicarbonate and Hydroxide	CALC	7421635	N/A	2021/06/24	Automated Statchk
Chloride by Automated Colourimetry	KONE	7422556	N/A	2021/06/23	Alina Dobreanu
Conductivity	AT	7422524	N/A	2021/06/23	Surinder Rai
Dissolved Organic Carbon (DOC)	TOCV/NDIR	7427516	N/A	2021/06/24	Nimarta Singh
Hardness (calculated as CaCO3)		7421636	N/A	2021/06/24	Automated Statchk
Dissolved Metals by ICPMS	ICP/MS	7423183	N/A	2021/06/24	Arefa Dabhad
Ion Balance (% Difference)	CALC	7421637	N/A	2021/06/24	Automated Statchk
Anion and Cation Sum	CALC	7421638	N/A	2021/06/24	Automated Statchk
Total Ammonia-N	LACH/NH4	7430355	N/A	2021/06/28	Amanpreet Sappal
Nitrate (NO3) and Nitrite (NO2) in Water	LACH	7423349	N/A	2021/06/24	Chandra Nandlal
pH	AT	7422527	2021/06/22	2021/06/23	Surinder Rai
Orthophosphate	KONE	7422545	N/A	2021/06/23	Avneet Kour Sudan
Sat. pH and Langelier Index (@ 20C)	CALC	7421639	N/A	2021/06/24	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	7421640	N/A	2021/06/24	Automated Statchk
Sulphate by Automated Colourimetry	KONE	7422560	N/A	2021/06/24	Avneet Kour Sudan
Total Dissolved Solids (TDS calc)	CALC	7421642	N/A	2021/06/24	Automated Statchk

BV Labs ID: PWX685 Dup
Sample ID: MW20-08 A
Matrix: Water

Collected: 2021/06/21
Shipped:
Received: 2021/06/21

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Chloride by Automated Colourimetry	KONE	7422556	N/A	2021/06/23	Alina Dobreanu
Orthophosphate	KONE	7422545	N/A	2021/06/23	Avneet Kour Sudan
Sulphate by Automated Colourimetry	KONE	7422560	N/A	2021/06/24	Avneet Kour Sudan

BV Labs ID: PWX686
Sample ID: MW20-08 B
Matrix: Water

Collected: 2021/06/21
Shipped:
Received: 2021/06/21

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	7422513	N/A	2021/06/24	Surinder Rai
Carbonate, Bicarbonate and Hydroxide	CALC	7421635	N/A	2021/06/24	Automated Statchk
Chloride by Automated Colourimetry	KONE	7422556	N/A	2021/06/23	Alina Dobreanu
Conductivity	AT	7422524	N/A	2021/06/24	Surinder Rai
Dissolved Organic Carbon (DOC)	TOCV/NDIR	7428766	N/A	2021/06/25	Nimarta Singh
Petroleum Hydro. CCME F1 & BTEX in Water	HSGC/MSFD	7430651	N/A	2021/06/25	Lincoln Ramdahin
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	7430615	2021/06/25	2021/06/27	Jeevaraj Jeevaratrnam
Hardness (calculated as CaCO3)		7421636	N/A	2021/06/24	Automated Statchk
Dissolved Metals by ICPMS	ICP/MS	7423183	N/A	2021/06/24	Arefa Dabhad
Ion Balance (% Difference)	CALC	7421637	N/A	2021/06/24	Automated Statchk
Anion and Cation Sum	CALC	7421638	N/A	2021/06/24	Automated Statchk
Total Ammonia-N	LACH/NH4	7430355	N/A	2021/06/28	Amanpreet Sappal
Nitrate (NO3) and Nitrite (NO2) in Water	LACH	7423349	N/A	2021/06/24	Chandra Nandlal

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

TEST SUMMARY

BV Labs ID: PWX686
Sample ID: MW20-08 B
Matrix: Water

Collected: 2021/06/21
Shipped:
Received: 2021/06/21

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
pH	AT	7422527	2021/06/22	2021/06/24	Surinder Rai
Orthophosphate	KONE	7422545	N/A	2021/06/23	Avneet Kour Sudan
Sat. pH and Langelier Index (@ 20C)	CALC	7421639	N/A	2021/06/24	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	7421640	N/A	2021/06/24	Automated Statchk
Sulphate by Automated Colourimetry	KONE	7422560	N/A	2021/06/24	Avneet Kour Sudan
Total Dissolved Solids (TDS calc)	CALC	7421642	N/A	2021/06/24	Automated Statchk

BV Labs ID: PWX686 Dup
Sample ID: MW20-08 B
Matrix: Water

Collected: 2021/06/21
Shipped:
Received: 2021/06/21

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Dissolved Organic Carbon (DOC)	TOCV/NDIR	7428766	N/A	2021/06/25	Nimarta Singh

BV Labs ID: PWX687
Sample ID: MW20-07 A
Matrix: Water

Collected: 2021/06/21
Shipped:
Received: 2021/06/21

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	7422513	N/A	2021/06/23	Surinder Rai
Carbonate, Bicarbonate and Hydroxide	CALC	7421635	N/A	2021/06/24	Automated Statchk
Chloride by Automated Colourimetry	KONE	7422556	N/A	2021/06/23	Alina Dobreanu
Conductivity	AT	7422524	N/A	2021/06/23	Surinder Rai
Dissolved Organic Carbon (DOC)	TOCV/NDIR	7427516	N/A	2021/06/24	Nimarta Singh
Hardness (calculated as CaCO3)		7421636	N/A	2021/06/24	Automated Statchk
Dissolved Metals by ICPMS	ICP/MS	7423183	N/A	2021/06/24	Arefa Dabhad
Ion Balance (% Difference)	CALC	7421637	N/A	2021/06/24	Automated Statchk
Anion and Cation Sum	CALC	7421638	N/A	2021/06/24	Automated Statchk
Total Ammonia-N	LACH/NH4	7430355	N/A	2021/06/28	Amanpreet Sappal
Nitrate (NO3) and Nitrite (NO2) in Water	LACH	7423349	N/A	2021/06/24	Chandra Nandlal
pH	AT	7422527	2021/06/22	2021/06/23	Surinder Rai
Orthophosphate	KONE	7422545	N/A	2021/06/23	Avneet Kour Sudan
Sat. pH and Langelier Index (@ 20C)	CALC	7421639	N/A	2021/06/24	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	7421640	N/A	2021/06/24	Automated Statchk
Sulphate by Automated Colourimetry	KONE	7422560	N/A	2021/06/24	Avneet Kour Sudan
Total Dissolved Solids (TDS calc)	CALC	7421642	N/A	2021/06/24	Automated Statchk

BV Labs ID: PWX688
Sample ID: MW20-07 B
Matrix: Water

Collected: 2021/06/21
Shipped:
Received: 2021/06/21

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	7422513	N/A	2021/06/23	Surinder Rai
Carbonate, Bicarbonate and Hydroxide	CALC	7421635	N/A	2021/06/24	Automated Statchk
Chloride by Automated Colourimetry	KONE	7422556	N/A	2021/06/23	Alina Dobreanu

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

BV Labs Job #: C1H0819
Report Date: 2021/06/29

Golder Associates Ltd
Client Project #: 19129150 (2300)
Sampler Initials: VP

TEST SUMMARY

BV Labs ID: PWX688
Sample ID: MW20-07 B
Matrix: Water

Collected: 2021/06/21
Shipped:
Received: 2021/06/21

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Conductivity	AT	7422524	N/A	2021/06/23	Surinder Rai
Dissolved Organic Carbon (DOC)	TOCV/NDIR	7427516	N/A	2021/06/24	Nimarta Singh
Petroleum Hydro. CCME F1 & BTEX in Water	HSGC/MSFD	7430651	N/A	2021/06/25	Lincoln Ramdahin
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	7430615	2021/06/25	2021/06/27	Jeevaraj Jeevaratrnam
Hardness (calculated as CaCO3)		7421636	N/A	2021/06/24	Automated Statchk
Dissolved Metals by ICPMS	ICP/MS	7423183	N/A	2021/06/24	Arefa Dabhad
Ion Balance (% Difference)	CALC	7421637	N/A	2021/06/24	Automated Statchk
Anion and Cation Sum	CALC	7421638	N/A	2021/06/24	Automated Statchk
Total Ammonia-N	LACH/NH4	7430355	N/A	2021/06/28	Amanpreet Sappal
Nitrate (NO3) and Nitrite (NO2) in Water	LACH	7423349	N/A	2021/06/24	Chandra Nandlal
pH	AT	7422527	2021/06/22	2021/06/23	Surinder Rai
Orthophosphate	KONE	7422545	N/A	2021/06/23	Avneet Kour Sudan
Sat. pH and Langelier Index (@ 20C)	CALC	7421639	N/A	2021/06/24	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	7421640	N/A	2021/06/24	Automated Statchk
Sulphate by Automated Colourimetry	KONE	7422560	N/A	2021/06/24	Avneet Kour Sudan
Total Dissolved Solids (TDS calc)	CALC	7421642	N/A	2021/06/24	Automated Statchk

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	8.3°C

Results relate only to the items tested.

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QUALITY ASSURANCE REPORT

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
7430615	o-Terphenyl	2021/06/27	98	60 - 130	101	60 - 130	99	%		
7430651	1,4-Difluorobenzene	2021/06/25	97	70 - 130	100	70 - 130	99	%		
7430651	4-Bromofluorobenzene	2021/06/25	103	70 - 130	102	70 - 130	99	%		
7430651	D10-o-Xylene	2021/06/25	94	70 - 130	106	70 - 130	114	%		
7430651	D4-1,2-Dichloroethane	2021/06/25	109	70 - 130	101	70 - 130	108	%		
7422513	Alkalinity (Total as CaCO3)	2021/06/23			99	85 - 115	<1.0	mg/L	0.56	20
7422524	Conductivity	2021/06/23			102	85 - 115	<1.0	umho/cm	0.24	25
7422527	pH	2021/06/23			102	98 - 103			1.2	N/A
7422545	Orthophosphate (P)	2021/06/23	106	75 - 125	99	80 - 120	<0.010	mg/L	NC	25
7422556	Dissolved Chloride (Cl-)	2021/06/23	NC	80 - 120	102	80 - 120	<1.0	mg/L	4.3	20
7422560	Dissolved Sulphate (SO4)	2021/06/24	NC	75 - 125	102	80 - 120	<1.0	mg/L	1.6	20
7423183	Dissolved Aluminum (Al)	2021/06/24	105	80 - 120	101	80 - 120	<4.9	ug/L	4.6	20
7423183	Dissolved Antimony (Sb)	2021/06/24	108	80 - 120	102	80 - 120	<0.50	ug/L	NC	20
7423183	Dissolved Arsenic (As)	2021/06/24	102	80 - 120	100	80 - 120	<1.0	ug/L	NC	20
7423183	Dissolved Barium (Ba)	2021/06/24	102	80 - 120	99	80 - 120	<2.0	ug/L	0.93	20
7423183	Dissolved Beryllium (Be)	2021/06/24	99	80 - 120	95	80 - 120	<0.40	ug/L	NC	20
7423183	Dissolved Boron (B)	2021/06/24	96	80 - 120	92	80 - 120	<10	ug/L	0.33	20
7423183	Dissolved Cadmium (Cd)	2021/06/24	106	80 - 120	101	80 - 120	<0.090	ug/L	NC	20
7423183	Dissolved Calcium (Ca)	2021/06/24	NC	80 - 120	98	80 - 120	<200	ug/L	1.1	20
7423183	Dissolved Chromium (Cr)	2021/06/24	98	80 - 120	98	80 - 120	<5.0	ug/L	NC	20
7423183	Dissolved Cobalt (Co)	2021/06/24	101	80 - 120	101	80 - 120	<0.50	ug/L	NC	20
7423183	Dissolved Copper (Cu)	2021/06/24	102	80 - 120	99	80 - 120	<0.90	ug/L	4.1	20
7423183	Dissolved Iron (Fe)	2021/06/24	99	80 - 120	103	80 - 120	<100	ug/L	NC	20
7423183	Dissolved Lead (Pb)	2021/06/24	101	80 - 120	100	80 - 120	<0.50	ug/L	NC	20
7423183	Dissolved Magnesium (Mg)	2021/06/24	96	80 - 120	99	80 - 120	<50	ug/L	2.6	20
7423183	Dissolved Manganese (Mn)	2021/06/24	100	80 - 120	100	80 - 120	<2.0	ug/L	2.9	20
7423183	Dissolved Molybdenum (Mo)	2021/06/24	105	80 - 120	97	80 - 120	<0.50	ug/L	NC	20
7423183	Dissolved Nickel (Ni)	2021/06/24	97	80 - 120	99	80 - 120	<1.0	ug/L	NC	20
7423183	Dissolved Phosphorus (P)	2021/06/24	104	80 - 120	104	80 - 120	<100	ug/L	NC	20
7423183	Dissolved Potassium (K)	2021/06/24	104	80 - 120	103	80 - 120	<200	ug/L	1.9	20
7423183	Dissolved Selenium (Se)	2021/06/24	104	80 - 120	103	80 - 120	<2.0	ug/L	NC	20

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
7423183	Dissolved Silicon (Si)	2021/06/24	105	80 - 120	96	80 - 120	<50	ug/L	1.6	20
7423183	Dissolved Silver (Ag)	2021/06/24	99	80 - 120	97	80 - 120	<0.090	ug/L	NC	20
7423183	Dissolved Sodium (Na)	2021/06/24	NC	80 - 120	101	80 - 120	<100	ug/L	2.3	20
7423183	Dissolved Strontium (Sr)	2021/06/24	100	80 - 120	99	80 - 120	<1.0	ug/L	0.89	20
7423183	Dissolved Thallium (Tl)	2021/06/24	102	80 - 120	107	80 - 120	<0.050	ug/L	NC	20
7423183	Dissolved Titanium (Ti)	2021/06/24	105	80 - 120	98	80 - 120	<5.0	ug/L	NC	20
7423183	Dissolved Uranium (U)	2021/06/24	102	80 - 120	99	80 - 120	<0.10	ug/L	4.3	20
7423183	Dissolved Vanadium (V)	2021/06/24	101	80 - 120	100	80 - 120	<0.50	ug/L	NC	20
7423183	Dissolved Zinc (Zn)	2021/06/24	100	80 - 120	98	80 - 120	<5.0	ug/L	NC	20
7423349	Nitrate (N)	2021/06/24	99	80 - 120	99	80 - 120	<0.10	mg/L	3.1	20
7423349	Nitrite (N)	2021/06/24	109	80 - 120	106	80 - 120	<0.010	mg/L	NC	20
7427516	Dissolved Organic Carbon	2021/06/24	95	80 - 120	96	80 - 120	<0.40	mg/L	0.29	20
7428766	Dissolved Organic Carbon	2021/06/25	98	80 - 120	102	80 - 120	<0.40	mg/L	0.57	20
7430355	Total Ammonia-N	2021/06/28	97	75 - 125	102	80 - 120	<0.050	mg/L	NC	20
7430615	F2 (C10-C16 Hydrocarbons)	2021/06/27	97	60 - 130	103	60 - 130	<100	ug/L	NC	30
7430615	F3 (C16-C34 Hydrocarbons)	2021/06/27	93	60 - 130	101	60 - 130	<200	ug/L	27	30
7430615	F4 (C34-C50 Hydrocarbons)	2021/06/27	92	60 - 130	99	60 - 130	<200	ug/L	NC	30
7430651	Benzene	2021/06/25	101	50 - 140	103	50 - 140	<0.20	ug/L	NC	30
7430651	Ethylbenzene	2021/06/25	104	50 - 140	112	50 - 140	<0.20	ug/L	NC	30
7430651	F1 (C6-C10) - BTEX	2021/06/25					<25	ug/L	NC	30
7430651	F1 (C6-C10)	2021/06/25	92	60 - 140	97	60 - 140	<25	ug/L	NC	30
7430651	o-Xylene	2021/06/25	103	50 - 140	107	50 - 140	<0.20	ug/L	NC	30
7430651	p+m-Xylene	2021/06/25	101	50 - 140	107	50 - 140	<0.40	ug/L	NC	30
7430651	Toluene	2021/06/25	97	50 - 140	101	50 - 140	<0.20	ug/L	NC	30

Bureau Veritas Laboratories 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvlabs.com

Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
7430651	Total Xylenes	2021/06/25					<0.40	ug/L	NC	30

N/A = Not Applicable

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

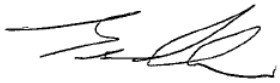
NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

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VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:



Brad Newman, B.Sc., C.Chem., Scientific Service Specialist

BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

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Page of

CHAIN OF CUSTODY RECORD

INVOICE TO:		REPORT TO:		PROJECT INFORMATION:		Laboratory Use Only:	
Company Name:	#21375 Golder Associates Ltd	Company Name:		Quotation #:	B80683	BV Labs Job #:	Bottle Order #: 831949
Attention:	Accounts Payable	Attention:	Gregory Padusenko	P.O. #:			
Address:	210 Sheldon Drive. Cambridge ON N1T 1A8	Address:		Project:	19129150 (2300)	COC #: C#831949-01-01	Project Manager: Ema Gitej
Tel:	(519) 620-8182 Fax:	Tel:	(519) 620-8182 Ext: 6509 Fax: (519) 620-9878	Project Name:			
Email:	CanadaAccountsPayableInvoices@golder.com	Email:	Gregory_Padusenko@golder.com	Site #:			
				Sampled By:	UP + CS		

MOE REGULATED DRINKING WATER OR WATER INTENDED FOR HUMAN CONSUMPTION MUST BE SUBMITTED ON THE BV LABS DRINKING WATER CHAIN OF CUSTODY

Regulation 153 (2011): ☐ Table 1 ☐ Res/Park ☐ Medium/Fine ☐ Table 2 ☐ Ind/Comm ☐ Coarse ☐ Table 3 ☐ Agri/Other ☐ For RSC ☐ Table ___

Other Regulations: ☐ CCME ☐ Sanitary Sewer Bylaw ☐ Reg 558 ☐ Storm Sewer Bylaw ☐ MISA Municipality ☐ PWQO ☐ Reg 406 Table ☐ Other

Special Instructions

Include Criteria on Certificate of Analysis (Y/N)? ___

ANALYSIS REQUESTED (PLEASE BE SPECIFIC)

Turnaround Time (TAT) Required:

Please provide advance notice for rush projects

Regular (Standard) TAT: ☑
(will be applied if Rush TAT is not specified)
Standard TAT = 5-7 Working days for most tests.
Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details

Job Specific Rush TAT (if applies to entire submission)
Date Required: ___ Time Required: ___ ☐
Rush Confirmation Number: ___ *(call lab for #)*

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Field Filtered (please circle): Metals / Hg / Cr VI	RCAp - Comprehensive	O.Reg 153 PHCs, BTEX/F1-F4								# of Bottles	Comments
1	MW20-08A →		21-Jun-21	15:30	GW	Y	✓									4	
2	MW20-08B →		21-Jun-21	15:30	GW	Y	✓	✓								8	
3	MW20-07A →		21-Jun-21	16:45	GW	Y	✓									4	
4	MW20-07B →		21-Jun-21	16:45	GW	Y	✓	✓								8	
5																	
6																	
7																	
8																	
9																	
10																	

21-Jun-21 18:30
Ema Gitej
C1H0819

* RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	*RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	# jars used and not submitted
Claire Steckle / C Steckle	21/06/21			21/06/21	18:30	

Laboratory Use Only					
Time Sensitive	Temperature (°C) on Recei	9/9/7	Custody Seal Present	Yes	No
			Intact		

* UNLESS OTHERWISE AGREED TO IN WRITING, WORK SUBMITTED ON THIS CHAIN OF CUSTODY IS SUBJECT TO BV LABS' STANDARD TERMS AND CONDITIONS. SIGNING OF THIS CHAIN OF CUSTODY DOCUMENT IS ACKNOWLEDGMENT AND ACCEPTANCE OF OUR TERMS WHICH ARE AVAILABLE FOR VIEWING AT WWW.BVLABS.COM/TERMS-AND-CONDITIONS.

* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

** SAMPLE CONTAINER, PRESERVATION, HOLD TIME AND PACKAGE INFORMATION CAN BE VIEWED AT WWW.BVLABS.COM/RESOURCES/CHAIN-OF-CUSTODY-FORMS.

SAMPLES MUST BE KEPT COOL (< 10° C) FROM TIME OF SAMPLING UNTIL DELIVERY TO BV LABS

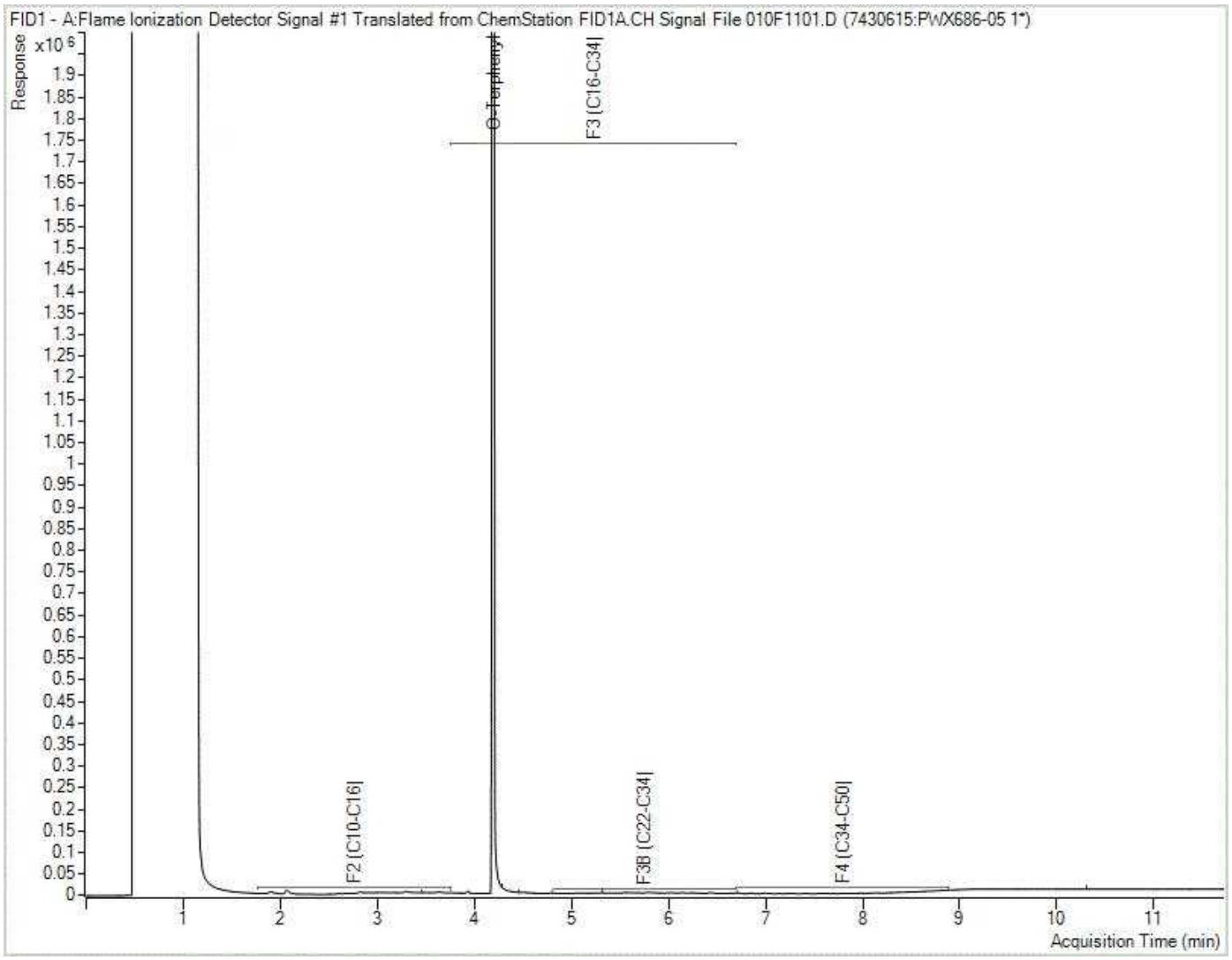
White: BV Labs Yellow: Client

Bureau Veritas Canada (2019) Inc.

BV Labs Job #: C1H0819
Report Date: 2021/06/29
BV Labs Sample: PWX686

Golder Associates Ltd
Client Project #: 19129150 (2300)
Client ID: MW20-08 B

Petroleum Hydrocarbons F2-F4 in Water Chromatogram

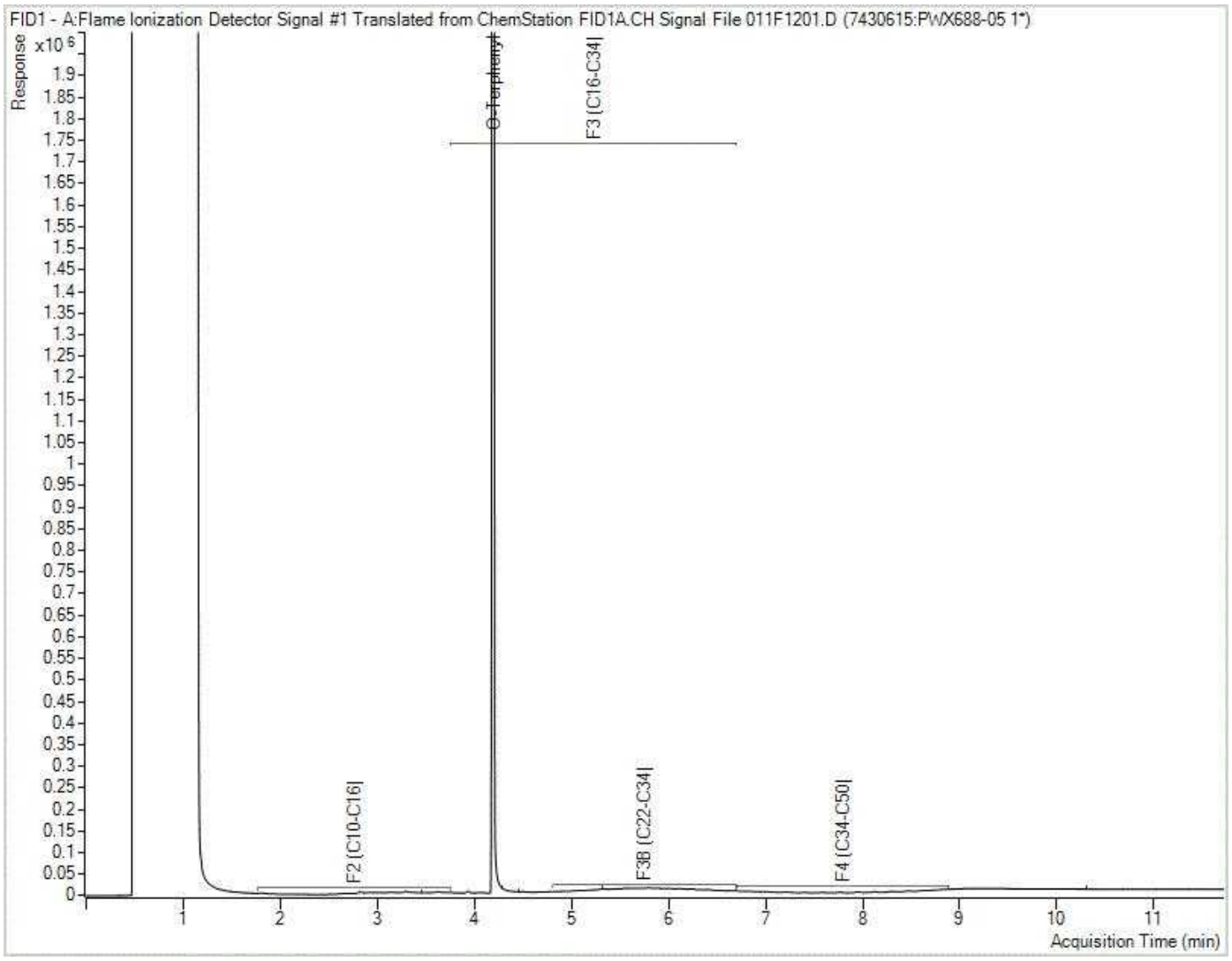


Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

BV Labs Job #: C1H0819
Report Date: 2021/06/29
BV Labs Sample: PWX688

Golder Associates Ltd
Client Project #: 19129150 (2300)
Client ID: MW20-07 B

Petroleum Hydrocarbons F2-F4 in Water Chromatogram



Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Your Project #: 19129150 (2300)
Your C.O.C. #: 831949-01-01

Attention: Gregory Padusenko

Golder Associates Ltd
210 Sheldon Drive
Cambridge, ON
CANADA N1T 1A8

Report Date: 2021/07/27
Report #: R6738963
Version: 2 - Revision

CERTIFICATE OF ANALYSIS – REVISED REPORT

BV LABS JOB #: C1H0819
Received: 2021/06/21, 18:30

Sample Matrix: Water
Samples Received: 4

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Alkalinity	3	N/A	2021/06/23	CAM SOP-00448	SM 23 2320 B m
Alkalinity	1	N/A	2021/06/24	CAM SOP-00448	SM 23 2320 B m
Carbonate, Bicarbonate and Hydroxide	4	N/A	2021/06/24	CAM SOP-00102	APHA 4500-CO2 D
Chloride by Automated Colourimetry	4	N/A	2021/06/23	CAM SOP-00463	SM 23 4500-Cl E m
Conductivity	3	N/A	2021/06/23	CAM SOP-00414	SM 23 2510 m
Conductivity	1	N/A	2021/06/24	CAM SOP-00414	SM 23 2510 m
Dissolved Organic Carbon (DOC) (1)	3	N/A	2021/06/24	CAM SOP-00446	SM 23 5310 B m
Dissolved Organic Carbon (DOC) (1)	1	N/A	2021/06/25	CAM SOP-00446	SM 23 5310 B m
Petroleum Hydro. CCME F1 & BTEX in Water	2	N/A	2021/06/25	CAM SOP-00315	CCME PHC-CWS m
Petroleum Hydrocarbons F2-F4 in Water (2)	2	2021/06/25	2021/06/27	CAM SOP-00316	CCME PHC-CWS m
Hardness (calculated as CaCO3)	4	N/A	2021/06/24	CAM SOP 00102/00408/00447	SM 2340 B
Dissolved Metals by ICPMS	4	N/A	2021/06/24	CAM SOP-00447	EPA 6020B m
Ion Balance (% Difference)	4	N/A	2021/06/24		
Anion and Cation Sum	4	N/A	2021/06/24		
Total Ammonia-N	4	N/A	2021/06/28	CAM SOP-00441	USGS I-2522-90 m
Nitrate (NO3) and Nitrite (NO2) in Water (3)	4	N/A	2021/06/24	CAM SOP-00440	SM 23 4500-NO3I/NO2B
pH	3	2021/06/22	2021/06/23	CAM SOP-00413	SM 4500H+ B m
pH	1	2021/06/22	2021/06/24	CAM SOP-00413	SM 4500H+ B m
Orthophosphate	4	N/A	2021/06/23	CAM SOP-00461	EPA 365.1 m
Sat. pH and Langelier Index (@ 20C)	4	N/A	2021/06/24		Auto Calc
Sat. pH and Langelier Index (@ 4C)	4	N/A	2021/06/24		Auto Calc
Sulphate by Automated Colourimetry	4	N/A	2021/06/24	CAM SOP-00464	EPA 375.4 m
Total Dissolved Solids (TDS calc)	4	N/A	2021/06/24		Auto Calc

Remarks:

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are

Your Project #: 19129150 (2300)
Your C.O.C. #: 831949-01-01

Attention: Gregory Padusenko

Golder Associates Ltd
210 Sheldon Drive
Cambridge, ON
CANADA N1T 1A8

Report Date: 2021/07/27
Report #: R6738963
Version: 2 - Revision

CERTIFICATE OF ANALYSIS – REVISED REPORT

BV LABS JOB #: C1H0819
Received: 2021/06/21, 18:30

reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.
This Certificate shall not be reproduced except in full, without the written approval of the laboratory.

Reference Method suffix “m” indicates test methods incorporate validated modifications from specific reference methods to improve performance.

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) Dissolved Organic Carbon (DOC) present in the sample should be considered as non-purgeable DOC.

(2) All CCME PHC results met required criteria unless otherwise stated in the report. The CWS PHC methods employed by Bureau Veritas Laboratories conform to all prescribed elements of the reference method and performance based elements have been validated. All modifications have been validated and proven equivalent following “Alberta Environment’s Interpretation of the Reference Method for the Canada-Wide Standard for Petroleum Hydrocarbons in Soil Validation of Performance-Based Alternative Methods September 2003”. Documentation is available upon request. Modifications from Reference Method for the Canada-wide Standard for Petroleum Hydrocarbons in Soil-Tier 1 Method: F2/F3/F4 data reported using validated cold solvent extraction instead of Soxhlet extraction.

(3) Values for calculated parameters may not appear to add up due to rounding of raw data and significant figures.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Ema Gitej, Senior Project Manager
Email: emese.gitej@bureauveritas.com
Phone# (905)817-5829

==========

BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

BV Labs Job #: C1H0819
Report Date: 2021/07/27

Golder Associates Ltd
Client Project #: 19129150 (2300)
Sampler Initials: VP

RCAP - COMPREHENSIVE (WATER)

BV Labs ID				PWX685			PWX685		
Sampling Date				2021/06/21 15:30			2021/06/21 15:30		
COC Number				831949-01-01			831949-01-01		
	UNITS	MAC	A/O	MW20-08 A	RDL	QC Batch	MW20-08 A Lab-Dup	RDL	QC Batch
Calculated Parameters									
Anion Sum	me/L	-	-	9.16	N/A	7421638			
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	-	-	270	1.0	7421635			
Calculated TDS	mg/L	-	500	490	1.0	7421642			
Carb. Alkalinity (calc. as CaCO3)	mg/L	-	-	2.9	1.0	7421635			
Cation Sum	me/L	-	-	9.23	N/A	7421638			
Hardness (CaCO3)	mg/L	-	80:100	**330**	1.0	7421636			
Ion Balance (% Difference)	%	-	-	0.400	N/A	7421637			
Langelier Index (@ 20C)	N/A	-	-	0.947		7421639			
Langelier Index (@ 4C)	N/A	-	-	0.699		7421640			
Saturation pH (@ 20C)	N/A	-	-	7.12		7421639			
Saturation pH (@ 4C)	N/A	-	-	7.37		7421640			
Inorganics									
Total Ammonia-N	mg/L	-	-	0.10	0.050	7430355			
Conductivity	umho/cm	-	-	900	1.0	7422524			
Dissolved Organic Carbon	mg/L	-	5	0.45	0.40	7427516			
Orthophosphate (P)	mg/L	-	-	<0.010	0.010	7422545	<0.010	0.010	7422545
pH	pH	-	6.5:8.5	8.07		7422527			
Dissolved Sulphate (SO4)	mg/L	-	500	22	1.0	7422560	21	1.0	7422560
Alkalinity (Total as CaCO3)	mg/L	-	30:500	270	1.0	7422513			
Dissolved Chloride (Cl-)	mg/L	-	250	110	1.0	7422556	110	1.0	7422556
Nitrite (N)	mg/L	1	-	<0.010	0.010	7423349			
Nitrate (N)	mg/L	10	-	3.65	0.10	7423349			
Nitrate + Nitrite (N)	mg/L	10	-	3.65	0.10	7423349			
Metals									
Dissolved Aluminum (Al)	ug/L	-	100	**120**	4.9	7423183			
Dissolved Antimony (Sb)	ug/L	6	-	<0.50	0.50	7423183			

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate
MAC,A/O: Ontario Drinking Water Standards - Maximum Acceptable Concentration [MAC] & Table 4-Chemical/Physical Objectives [A/O] - Not Health Related, respectively
(Made under the Ontario Safe Drinking Water Act, 2002)
N/A = Not Applicable

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

BV Labs Job #: C1H0819
Report Date: 2021/07/27

Golder Associates Ltd
Client Project #: 19129150 (2300)
Sampler Initials: VP

RCAP - COMPREHENSIVE (WATER)

BV Labs ID				PWX685			PWX685		
Sampling Date				2021/06/21 15:30			2021/06/21 15:30		
COC Number				831949-01-01			831949-01-01		
	UNITS	MAC	A/O	MW20-08 A	RDL	QC Batch	MW20-08 A Lab-Dup	RDL	QC Batch
Dissolved Arsenic (As)	ug/L	10	-	<1.0	1.0	7423183			
Dissolved Barium (Ba)	ug/L	1000	-	41	2.0	7423183			
Dissolved Beryllium (Be)	ug/L	-	-	<0.40	0.40	7423183			
Dissolved Boron (B)	ug/L	5000	-	<10	10	7423183			
Dissolved Cadmium (Cd)	ug/L	5	-	<0.090	0.090	7423183			
Dissolved Calcium (Ca)	ug/L	-	-	82000	200	7423183			
Dissolved Chromium (Cr)	ug/L	50	-	<5.0	5.0	7423183			
Dissolved Cobalt (Co)	ug/L	-	-	<0.50	0.50	7423183			
Dissolved Copper (Cu)	ug/L	-	1000	5.7	0.90	7423183			
Dissolved Iron (Fe)	ug/L	-	300	200	100	7423183			
Dissolved Lead (Pb)	ug/L	10	-	1.1	0.50	7423183			
Dissolved Magnesium (Mg)	ug/L	-	-	30000	50	7423183			
Dissolved Manganese (Mn)	ug/L	-	50	15	2.0	7423183			
Dissolved Molybdenum (Mo)	ug/L	-	-	0.56	0.50	7423183			
Dissolved Nickel (Ni)	ug/L	-	-	<1.0	1.0	7423183			
Dissolved Phosphorus (P)	ug/L	-	-	<100	100	7423183			
Dissolved Potassium (K)	ug/L	-	-	880	200	7423183			
Dissolved Selenium (Se)	ug/L	50	-	<2.0	2.0	7423183			
Dissolved Silicon (Si)	ug/L	-	-	3900	50	7423183			
Dissolved Silver (Ag)	ug/L	-	-	<0.090	0.090	7423183			
Dissolved Sodium (Na)	ug/L	-	200000	61000	100	7423183			
Dissolved Strontium (Sr)	ug/L	-	-	230	1.0	7423183			
Dissolved Thallium (Tl)	ug/L	-	-	<0.050	0.050	7423183			
Dissolved Titanium (Ti)	ug/L	-	-	6.8	5.0	7423183			
Dissolved Uranium (U)	ug/L	20	-	0.88	0.10	7423183			
Dissolved Vanadium (V)	ug/L	-	-	<0.50	0.50	7423183			
Dissolved Zinc (Zn)	ug/L	-	5000	9.3	5.0	7423183			

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate
MAC,A/O: Ontario Drinking Water Standards - Maximum Acceptable Concentration [MAC] & Table 4-Chemical/Physical Objectives [A/O] - Not Health Related, respectively
(Made under the Ontario Safe Drinking Water Act, 2002)

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

BV Labs Job #: C1H0819
Report Date: 2021/07/27

Golder Associates Ltd
Client Project #: 19129150 (2300)
Sampler Initials: VP

RCAP - COMPREHENSIVE (WATER)

BV Labs ID				PWX686			PWX686		
Sampling Date				2021/06/21 15:30			2021/06/21 15:30		
COC Number				831949-01-01			831949-01-01		
	UNITS	MAC	A/O	MW20-08 B	RDL	QC Batch	MW20-08 B Lab-Dup	RDL	QC Batch
Calculated Parameters									
Anion Sum	me/L	-	-	13.1	N/A	7421638			
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	-	-	280	1.0	7421635			
Calculated TDS	mg/L	-	500	**720**	1.0	7421642			
Carb. Alkalinity (calc. as CaCO3)	mg/L	-	-	2.8	1.0	7421635			
Cation Sum	me/L	-	-	13.2	N/A	7421638			
Hardness (CaCO3)	mg/L	-	80:100	**320**	1.0	7421636			
Ion Balance (% Difference)	%	-	-	0.690	N/A	7421637			
Langelier Index (@ 20C)	N/A	-	-	0.925		7421639			
Langelier Index (@ 4C)	N/A	-	-	0.679		7421640			
Saturation pH (@ 20C)	N/A	-	-	7.10		7421639			
Saturation pH (@ 4C)	N/A	-	-	7.35		7421640			
Inorganics									
Total Ammonia-N	mg/L	-	-	<0.050	0.050	7430355			
Conductivity	umho/cm	-	-	1400	1.0	7422524			
Dissolved Organic Carbon	mg/L	-	5	1.2	0.40	7428766	1.2	0.40	7428766
Orthophosphate (P)	mg/L	-	-	<0.010	0.010	7422545			
pH	pH	-	6.5:8.5	8.03		7422527			
Dissolved Sulphate (SO4)	mg/L	-	500	17	1.0	7422560			
Alkalinity (Total as CaCO3)	mg/L	-	30:500	280	1.0	7422513			
Dissolved Chloride (Cl-)	mg/L	-	250	240	3.0	7422556			
Nitrite (N)	mg/L	1	-	<0.010	0.010	7423349			
Nitrate (N)	mg/L	10	-	4.31	0.10	7423349			
Nitrate + Nitrite (N)	mg/L	10	-	4.31	0.10	7423349			
Metals									
Dissolved Aluminum (Al)	ug/L	-	100	6.5	4.9	7423183			
Dissolved Antimony (Sb)	ug/L	6	-	<0.50	0.50	7423183			

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate
MAC,A/O: Ontario Drinking Water Standards - Maximum Acceptable Concentration [MAC] & Table 4-Chemical/Physical Objectives [A/O] - Not Health Related, respectively
(Made under the Ontario Safe Drinking Water Act, 2002)
N/A = Not Applicable

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

RCAP - COMPREHENSIVE (WATER)

BV Labs ID				PWX686			PWX686		
Sampling Date				2021/06/21 15:30			2021/06/21 15:30		
COC Number				831949-01-01			831949-01-01		
	UNITS	MAC	A/O	MW20-08 B	RDL	QC Batch	MW20-08 B Lab-Dup	RDL	QC Batch
Dissolved Arsenic (As)	ug/L	10	-	<1.0	1.0	7423183			
Dissolved Barium (Ba)	ug/L	1000	-	31	2.0	7423183			
Dissolved Beryllium (Be)	ug/L	-	-	<0.40	0.40	7423183			
Dissolved Boron (B)	ug/L	5000	-	<10	10	7423183			
Dissolved Cadmium (Cd)	ug/L	5	-	<0.090	0.090	7423183			
Dissolved Calcium (Ca)	ug/L	-	-	92000	200	7423183			
Dissolved Chromium (Cr)	ug/L	50	-	<5.0	5.0	7423183			
Dissolved Cobalt (Co)	ug/L	-	-	<0.50	0.50	7423183			
Dissolved Copper (Cu)	ug/L	-	1000	1.6	0.90	7423183			
Dissolved Iron (Fe)	ug/L	-	300	<100	100	7423183			
Dissolved Lead (Pb)	ug/L	10	-	<0.50	0.50	7423183			
Dissolved Magnesium (Mg)	ug/L	-	-	22000	50	7423183			
Dissolved Manganese (Mn)	ug/L	-	50	<2.0	2.0	7423183			
Dissolved Molybdenum (Mo)	ug/L	-	-	<0.50	0.50	7423183			
Dissolved Nickel (Ni)	ug/L	-	-	<1.0	1.0	7423183			
Dissolved Phosphorus (P)	ug/L	-	-	<100	100	7423183			
Dissolved Potassium (K)	ug/L	-	-	920	200	7423183			
Dissolved Selenium (Se)	ug/L	50	-	<2.0	2.0	7423183			
Dissolved Silicon (Si)	ug/L	-	-	2700	50	7423183			
Dissolved Silver (Ag)	ug/L	-	-	<0.090	0.090	7423183			
Dissolved Sodium (Na)	ug/L	-	200000	160000	100	7423183			
Dissolved Strontium (Sr)	ug/L	-	-	160	1.0	7423183			
Dissolved Thallium (Tl)	ug/L	-	-	<0.050	0.050	7423183			
Dissolved Titanium (Ti)	ug/L	-	-	<5.0	5.0	7423183			
Dissolved Uranium (U)	ug/L	20	-	0.21	0.10	7423183			
Dissolved Vanadium (V)	ug/L	-	-	<0.50	0.50	7423183			
Dissolved Zinc (Zn)	ug/L	-	5000	<5.0	5.0	7423183			

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate
MAC,A/O: Ontario Drinking Water Standards - Maximum Acceptable Concentration [MAC] & Table 4-Chemical/Physical Objectives [A/O] - Not Health Related, respectively
(Made under the Ontario Safe Drinking Water Act, 2002)

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

RCAP - COMPREHENSIVE (WATER)

BV Labs ID				PWX687	PWX688		
Sampling Date				2021/06/21 16:45	2021/06/21 16:45		
COC Number				831949-01-01	831949-01-01		
	UNITS	MAC	A/O	MW20-07 A	MW20-07 B	RDL	QC Batch
Calculated Parameters							
Anion Sum	me/L	-	-	7.85	9.08	N/A	7421638
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	-	-	250	260	1.0	7421635
Calculated TDS	mg/L	-	500	410	500	1.0	7421642
Carb. Alkalinity (calc. as CaCO3)	mg/L	-	-	2.7	3.1	1.0	7421635
Cation Sum	me/L	-	-	7.75	9.08	N/A	7421638
Hardness (CaCO3)	mg/L	-	80:100	**330**	**270**	1.0	7421636
Ion Balance (% Difference)	%	-	-	0.610	0.00	N/A	7421637
Langelier Index (@ 20C)	N/A	-	-	0.928	0.901		7421639
Langelier Index (@ 4C)	N/A	-	-	0.679	0.653		7421640
Saturation pH (@ 20C)	N/A	-	-	7.13	7.19		7421639
Saturation pH (@ 4C)	N/A	-	-	7.38	7.44		7421640
Inorganics							
Total Ammonia-N	mg/L	-	-	<0.050	0.28	0.050	7430355
Conductivity	umho/cm	-	-	740	870	1.0	7422524
Dissolved Organic Carbon	mg/L	-	5	0.55	0.88	0.40	7427516
Orthophosphate (P)	mg/L	-	-	<0.010	<0.010	0.010	7422545
pH	pH	-	6.5:8.5	8.06	8.09		7422527
Dissolved Sulphate (SO4)	mg/L	-	500	40	20	1.0	7422560
Alkalinity (Total as CaCO3)	mg/L	-	30:500	250	270	1.0	7422513
Dissolved Chloride (Cl-)	mg/L	-	250	68	100	1.0	7422556
Nitrite (N)	mg/L	1	-	<0.010	<0.010	0.010	7423349
Nitrate (N)	mg/L	10	-	0.73	5.20	0.10	7423349
Nitrate + Nitrite (N)	mg/L	10	-	0.73	5.20	0.10	7423349
Metals							
Dissolved Aluminum (Al)	ug/L	-	100	53	92	4.9	7423183
Dissolved Antimony (Sb)	ug/L	6	-	<0.50	<0.50	0.50	7423183
Dissolved Arsenic (As)	ug/L	10	-	7.9	<1.0	1.0	7423183

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

MAC,A/O: Ontario Drinking Water Standards - Maximum Acceptable Concentration [MAC] & Table 4-Chemical/Physical Objectives [A/O] - Not Health Related, respectively
(Made under the Ontario Safe Drinking Water Act, 2002)

N/A = Not Applicable

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

RCAP - COMPREHENSIVE (WATER)

BV Labs ID				PWX687	PWX688		
Sampling Date				2021/06/21 16:45	2021/06/21 16:45		
COC Number				831949-01-01	831949-01-01		
	UNITS	MAC	A/O	MW20-07 A	MW20-07 B	RDL	QC Batch
Dissolved Barium (Ba)	ug/L	1000	-	56	34	2.0	7423183
Dissolved Beryllium (Be)	ug/L	-	-	<0.40	<0.40	0.40	7423183
Dissolved Boron (B)	ug/L	5000	-	23	19	10	7423183
Dissolved Cadmium (Cd)	ug/L	5	-	<0.090	<0.090	0.090	7423183
Dissolved Calcium (Ca)	ug/L	-	-	81000	71000	200	7423183
Dissolved Chromium (Cr)	ug/L	50	-	<5.0	<5.0	5.0	7423183
Dissolved Cobalt (Co)	ug/L	-	-	<0.50	<0.50	0.50	7423183
Dissolved Copper (Cu)	ug/L	-	1000	<0.90	2.8	0.90	7423183
Dissolved Iron (Fe)	ug/L	-	300	<100	<100	100	7423183
Dissolved Lead (Pb)	ug/L	10	-	<0.50	<0.50	0.50	7423183
Dissolved Magnesium (Mg)	ug/L	-	-	30000	22000	50	7423183
Dissolved Manganese (Mn)	ug/L	-	50	26	46	2.0	7423183
Dissolved Molybdenum (Mo)	ug/L	-	-	1.5	5.5	0.50	7423183
Dissolved Nickel (Ni)	ug/L	-	-	<1.0	2.8	1.0	7423183
Dissolved Phosphorus (P)	ug/L	-	-	<100	<100	100	7423183
Dissolved Potassium (K)	ug/L	-	-	2400	1500	200	7423183
Dissolved Selenium (Se)	ug/L	50	-	<2.0	<2.0	2.0	7423183
Dissolved Silicon (Si)	ug/L	-	-	3900	3700	50	7423183
Dissolved Silver (Ag)	ug/L	-	-	<0.090	<0.090	0.090	7423183
Dissolved Sodium (Na)	ug/L	-	200000	26000	83000	100	7423183
Dissolved Strontium (Sr)	ug/L	-	-	2600	220	1.0	7423183
Dissolved Thallium (Tl)	ug/L	-	-	0.056	0.079	0.050	7423183
Dissolved Titanium (Ti)	ug/L	-	-	<5.0	<5.0	5.0	7423183
Dissolved Uranium (U)	ug/L	20	-	0.53	1.2	0.10	7423183
Dissolved Vanadium (V)	ug/L	-	-	<0.50	<0.50	0.50	7423183
Dissolved Zinc (Zn)	ug/L	-	5000	<5.0	9.5	5.0	7423183

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

MAC,A/O: Ontario Drinking Water Standards - Maximum Acceptable Concentration [MAC] & Table 4-Chemical/Physical Objectives [A/O] - Not Health Related, respectively
(Made under the Ontario Safe Drinking Water Act, 2002)

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

O.REG 153 PHCS, BTEX/F1-F4 (WATER)

BV Labs ID				PWX686	PWX688		
Sampling Date				2021/06/21 15:30	2021/06/21 16:45		
COC Number				831949-01-01	831949-01-01		
	UNITS	MAC	A/O	MW20-08 B	MW20-07 B	RDL	QC Batch
BTEX & F1 Hydrocarbons							
Benzene	ug/L	1	-	<0.20	<0.20	0.20	7430651
Toluene	ug/L	60	24	<0.20	<0.20	0.20	7430651
Ethylbenzene	ug/L	140	1.6	<0.20	<0.20	0.20	7430651
o-Xylene	ug/L	-	-	<0.20	<0.20	0.20	7430651
p+m-Xylene	ug/L	-	-	<0.40	<0.40	0.40	7430651
Total Xylenes	ug/L	90	20	<0.40	<0.40	0.40	7430651
F1 (C6-C10)	ug/L	-	-	<25	<25	25	7430651
F1 (C6-C10) - BTEX	ug/L	-	-	<25	<25	25	7430651
F2-F4 Hydrocarbons							
F2 (C10-C16 Hydrocarbons)	ug/L	-	-	<100	<100	100	7430615
F3 (C16-C34 Hydrocarbons)	ug/L	-	-	<200	360	200	7430615
F4 (C34-C50 Hydrocarbons)	ug/L	-	-	<200	<200	200	7430615
Reached Baseline at C50	ug/L	-	-	Yes	Yes		7430615
Surrogate Recovery (%)							
1,4-Difluorobenzene	%	-	-	99	100		7430651
4-Bromofluorobenzene	%	-	-	99	97		7430651
D10-o-Xylene	%	-	-	116	114		7430651
D4-1,2-Dichloroethane	%	-	-	112	111		7430651
o-Terphenyl	%	-	-	99	99		7430615

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
MAC,A/O: Ontario Drinking Water Standards - Maximum Acceptable Concentration [MAC] & Table 4-Chemical/Physical Objectives [A/O] - Not Health Related, respectively
(Made under the Ontario Safe Drinking Water Act, 2002)

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

TEST SUMMARY

BV Labs ID: PWX685
Sample ID: MW20-08 A
Matrix: Water

Collected: 2021/06/21
Shipped:
Received: 2021/06/21

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	7422513	N/A	2021/06/23	Surinder Rai
Carbonate, Bicarbonate and Hydroxide	CALC	7421635	N/A	2021/06/24	Automated Statchk
Chloride by Automated Colourimetry	KONE	7422556	N/A	2021/06/23	Alina Dobreanu
Conductivity	AT	7422524	N/A	2021/06/23	Surinder Rai
Dissolved Organic Carbon (DOC)	TOCV/NDIR	7427516	N/A	2021/06/24	Nimarta Singh
Hardness (calculated as CaCO3)		7421636	N/A	2021/06/24	Automated Statchk
Dissolved Metals by ICPMS	ICP/MS	7423183	N/A	2021/06/24	Arefa Dabhad
Ion Balance (% Difference)	CALC	7421637	N/A	2021/06/24	Automated Statchk
Anion and Cation Sum	CALC	7421638	N/A	2021/06/24	Automated Statchk
Total Ammonia-N	LACH/NH4	7430355	N/A	2021/06/28	Amanpreet Sappal
Nitrate (NO3) and Nitrite (NO2) in Water	LACH	7423349	N/A	2021/06/24	Chandra Nandlal
pH	AT	7422527	2021/06/22	2021/06/23	Surinder Rai
Orthophosphate	KONE	7422545	N/A	2021/06/23	Avneet Kour Sudan
Sat. pH and Langelier Index (@ 20C)	CALC	7421639	N/A	2021/06/24	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	7421640	N/A	2021/06/24	Automated Statchk
Sulphate by Automated Colourimetry	KONE	7422560	N/A	2021/06/24	Avneet Kour Sudan
Total Dissolved Solids (TDS calc)	CALC	7421642	N/A	2021/06/24	Automated Statchk

BV Labs ID: PWX685 Dup
Sample ID: MW20-08 A
Matrix: Water

Collected: 2021/06/21
Shipped:
Received: 2021/06/21

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Chloride by Automated Colourimetry	KONE	7422556	N/A	2021/06/23	Alina Dobreanu
Orthophosphate	KONE	7422545	N/A	2021/06/23	Avneet Kour Sudan
Sulphate by Automated Colourimetry	KONE	7422560	N/A	2021/06/24	Avneet Kour Sudan

BV Labs ID: PWX686
Sample ID: MW20-08 B
Matrix: Water

Collected: 2021/06/21
Shipped:
Received: 2021/06/21

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	7422513	N/A	2021/06/24	Surinder Rai
Carbonate, Bicarbonate and Hydroxide	CALC	7421635	N/A	2021/06/24	Automated Statchk
Chloride by Automated Colourimetry	KONE	7422556	N/A	2021/06/23	Alina Dobreanu
Conductivity	AT	7422524	N/A	2021/06/24	Surinder Rai
Dissolved Organic Carbon (DOC)	TOCV/NDIR	7428766	N/A	2021/06/25	Nimarta Singh
Petroleum Hydro. CCME F1 & BTEX in Water	HSGC/MSFD	7430651	N/A	2021/06/25	Lincoln Ramdahin
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	7430615	2021/06/25	2021/06/27	Jeevaraj Jeevaratrnam
Hardness (calculated as CaCO3)		7421636	N/A	2021/06/24	Automated Statchk
Dissolved Metals by ICPMS	ICP/MS	7423183	N/A	2021/06/24	Arefa Dabhad
Ion Balance (% Difference)	CALC	7421637	N/A	2021/06/24	Automated Statchk
Anion and Cation Sum	CALC	7421638	N/A	2021/06/24	Automated Statchk
Total Ammonia-N	LACH/NH4	7430355	N/A	2021/06/28	Amanpreet Sappal
Nitrate (NO3) and Nitrite (NO2) in Water	LACH	7423349	N/A	2021/06/24	Chandra Nandlal

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

TEST SUMMARY

BV Labs ID: PWX686
Sample ID: MW20-08 B
Matrix: Water

Collected: 2021/06/21
Shipped:
Received: 2021/06/21

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
pH	AT	7422527	2021/06/22	2021/06/24	Surinder Rai
Orthophosphate	KONE	7422545	N/A	2021/06/23	Avneet Kour Sudan
Sat. pH and Langelier Index (@ 20C)	CALC	7421639	N/A	2021/06/24	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	7421640	N/A	2021/06/24	Automated Statchk
Sulphate by Automated Colourimetry	KONE	7422560	N/A	2021/06/24	Avneet Kour Sudan
Total Dissolved Solids (TDS calc)	CALC	7421642	N/A	2021/06/24	Automated Statchk

BV Labs ID: PWX686 Dup
Sample ID: MW20-08 B
Matrix: Water

Collected: 2021/06/21
Shipped:
Received: 2021/06/21

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Dissolved Organic Carbon (DOC)	TOCV/NDIR	7428766	N/A	2021/06/25	Nimarta Singh

BV Labs ID: PWX687
Sample ID: MW20-07 A
Matrix: Water

Collected: 2021/06/21
Shipped:
Received: 2021/06/21

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	7422513	N/A	2021/06/23	Surinder Rai
Carbonate, Bicarbonate and Hydroxide	CALC	7421635	N/A	2021/06/24	Automated Statchk
Chloride by Automated Colourimetry	KONE	7422556	N/A	2021/06/23	Alina Dobreanu
Conductivity	AT	7422524	N/A	2021/06/23	Surinder Rai
Dissolved Organic Carbon (DOC)	TOCV/NDIR	7427516	N/A	2021/06/24	Nimarta Singh
Hardness (calculated as CaCO3)		7421636	N/A	2021/06/24	Automated Statchk
Dissolved Metals by ICPMS	ICP/MS	7423183	N/A	2021/06/24	Arefa Dabhad
Ion Balance (% Difference)	CALC	7421637	N/A	2021/06/24	Automated Statchk
Anion and Cation Sum	CALC	7421638	N/A	2021/06/24	Automated Statchk
Total Ammonia-N	LACH/NH4	7430355	N/A	2021/06/28	Amanpreet Sappal
Nitrate (NO3) and Nitrite (NO2) in Water	LACH	7423349	N/A	2021/06/24	Chandra Nandlal
pH	AT	7422527	2021/06/22	2021/06/23	Surinder Rai
Orthophosphate	KONE	7422545	N/A	2021/06/23	Avneet Kour Sudan
Sat. pH and Langelier Index (@ 20C)	CALC	7421639	N/A	2021/06/24	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	7421640	N/A	2021/06/24	Automated Statchk
Sulphate by Automated Colourimetry	KONE	7422560	N/A	2021/06/24	Avneet Kour Sudan
Total Dissolved Solids (TDS calc)	CALC	7421642	N/A	2021/06/24	Automated Statchk

BV Labs ID: PWX688
Sample ID: MW20-07 B
Matrix: Water

Collected: 2021/06/21
Shipped:
Received: 2021/06/21

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	7422513	N/A	2021/06/23	Surinder Rai
Carbonate, Bicarbonate and Hydroxide	CALC	7421635	N/A	2021/06/24	Automated Statchk
Chloride by Automated Colourimetry	KONE	7422556	N/A	2021/06/23	Alina Dobreanu

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

BV Labs Job #: C1H0819
Report Date: 2021/07/27

Golder Associates Ltd
Client Project #: 19129150 (2300)
Sampler Initials: VP

TEST SUMMARY

BV Labs ID: PWX688
Sample ID: MW20-07 B
Matrix: Water

Collected: 2021/06/21
Shipped:
Received: 2021/06/21

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Conductivity	AT	7422524	N/A	2021/06/23	Surinder Rai
Dissolved Organic Carbon (DOC)	TOCV/NDIR	7427516	N/A	2021/06/24	Nimarta Singh
Petroleum Hydro. CCME F1 & BTEX in Water	HSGC/MSFD	7430651	N/A	2021/06/25	Lincoln Ramdahin
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	7430615	2021/06/25	2021/06/27	Jeevaraj Jeevaratrnam
Hardness (calculated as CaCO3)		7421636	N/A	2021/06/24	Automated Statchk
Dissolved Metals by ICPMS	ICP/MS	7423183	N/A	2021/06/24	Arefa Dabhad
Ion Balance (% Difference)	CALC	7421637	N/A	2021/06/24	Automated Statchk
Anion and Cation Sum	CALC	7421638	N/A	2021/06/24	Automated Statchk
Total Ammonia-N	LACH/NH4	7430355	N/A	2021/06/28	Amanpreet Sappal
Nitrate (NO3) and Nitrite (NO2) in Water	LACH	7423349	N/A	2021/06/24	Chandra Nandlal
pH	AT	7422527	2021/06/22	2021/06/23	Surinder Rai
Orthophosphate	KONE	7422545	N/A	2021/06/23	Avneet Kour Sudan
Sat. pH and Langelier Index (@ 20C)	CALC	7421639	N/A	2021/06/24	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	7421640	N/A	2021/06/24	Automated Statchk
Sulphate by Automated Colourimetry	KONE	7422560	N/A	2021/06/24	Avneet Kour Sudan
Total Dissolved Solids (TDS calc)	CALC	7421642	N/A	2021/06/24	Automated Statchk

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	8.3°C

Revised report (2021/07/27): Criteria is included as requested.

Results relate only to the items tested.

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QUALITY ASSURANCE REPORT

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
7430615	o-Terphenyl	2021/06/27	98	60 - 130	101	60 - 130	99	%		
7430651	1,4-Difluorobenzene	2021/06/25	97	70 - 130	100	70 - 130	99	%		
7430651	4-Bromofluorobenzene	2021/06/25	103	70 - 130	102	70 - 130	99	%		
7430651	D10-o-Xylene	2021/06/25	94	70 - 130	106	70 - 130	114	%		
7430651	D4-1,2-Dichloroethane	2021/06/25	109	70 - 130	101	70 - 130	108	%		
7422513	Alkalinity (Total as CaCO3)	2021/06/23			99	85 - 115	<1.0	mg/L	0.56	20
7422524	Conductivity	2021/06/23			102	85 - 115	<1.0	umho/cm	0.24	25
7422527	pH	2021/06/23			102	98 - 103			1.2	N/A
7422545	Orthophosphate (P)	2021/06/23	106	75 - 125	99	80 - 120	<0.010	mg/L	NC	25
7422556	Dissolved Chloride (Cl-)	2021/06/23	NC	80 - 120	102	80 - 120	<1.0	mg/L	4.3	20
7422560	Dissolved Sulphate (SO4)	2021/06/24	NC	75 - 125	102	80 - 120	<1.0	mg/L	1.6	20
7423183	Dissolved Aluminum (Al)	2021/06/24	105	80 - 120	101	80 - 120	<4.9	ug/L	4.6	20
7423183	Dissolved Antimony (Sb)	2021/06/24	108	80 - 120	102	80 - 120	<0.50	ug/L	NC	20
7423183	Dissolved Arsenic (As)	2021/06/24	102	80 - 120	100	80 - 120	<1.0	ug/L	NC	20
7423183	Dissolved Barium (Ba)	2021/06/24	102	80 - 120	99	80 - 120	<2.0	ug/L	0.93	20
7423183	Dissolved Beryllium (Be)	2021/06/24	99	80 - 120	95	80 - 120	<0.40	ug/L	NC	20
7423183	Dissolved Boron (B)	2021/06/24	96	80 - 120	92	80 - 120	<10	ug/L	0.33	20
7423183	Dissolved Cadmium (Cd)	2021/06/24	106	80 - 120	101	80 - 120	<0.090	ug/L	NC	20
7423183	Dissolved Calcium (Ca)	2021/06/24	NC	80 - 120	98	80 - 120	<200	ug/L	1.1	20
7423183	Dissolved Chromium (Cr)	2021/06/24	98	80 - 120	98	80 - 120	<5.0	ug/L	NC	20
7423183	Dissolved Cobalt (Co)	2021/06/24	101	80 - 120	101	80 - 120	<0.50	ug/L	NC	20
7423183	Dissolved Copper (Cu)	2021/06/24	102	80 - 120	99	80 - 120	<0.90	ug/L	4.1	20
7423183	Dissolved Iron (Fe)	2021/06/24	99	80 - 120	103	80 - 120	<100	ug/L	NC	20
7423183	Dissolved Lead (Pb)	2021/06/24	101	80 - 120	100	80 - 120	<0.50	ug/L	NC	20
7423183	Dissolved Magnesium (Mg)	2021/06/24	96	80 - 120	99	80 - 120	<50	ug/L	2.6	20
7423183	Dissolved Manganese (Mn)	2021/06/24	100	80 - 120	100	80 - 120	<2.0	ug/L	2.9	20
7423183	Dissolved Molybdenum (Mo)	2021/06/24	105	80 - 120	97	80 - 120	<0.50	ug/L	NC	20
7423183	Dissolved Nickel (Ni)	2021/06/24	97	80 - 120	99	80 - 120	<1.0	ug/L	NC	20
7423183	Dissolved Phosphorus (P)	2021/06/24	104	80 - 120	104	80 - 120	<100	ug/L	NC	20
7423183	Dissolved Potassium (K)	2021/06/24	104	80 - 120	103	80 - 120	<200	ug/L	1.9	20
7423183	Dissolved Selenium (Se)	2021/06/24	104	80 - 120	103	80 - 120	<2.0	ug/L	NC	20

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
7423183	Dissolved Silicon (Si)	2021/06/24	105	80 - 120	96	80 - 120	<50	ug/L	1.6	20
7423183	Dissolved Silver (Ag)	2021/06/24	99	80 - 120	97	80 - 120	<0.090	ug/L	NC	20
7423183	Dissolved Sodium (Na)	2021/06/24	NC	80 - 120	101	80 - 120	<100	ug/L	2.3	20
7423183	Dissolved Strontium (Sr)	2021/06/24	100	80 - 120	99	80 - 120	<1.0	ug/L	0.89	20
7423183	Dissolved Thallium (Tl)	2021/06/24	102	80 - 120	107	80 - 120	<0.050	ug/L	NC	20
7423183	Dissolved Titanium (Ti)	2021/06/24	105	80 - 120	98	80 - 120	<5.0	ug/L	NC	20
7423183	Dissolved Uranium (U)	2021/06/24	102	80 - 120	99	80 - 120	<0.10	ug/L	4.3	20
7423183	Dissolved Vanadium (V)	2021/06/24	101	80 - 120	100	80 - 120	<0.50	ug/L	NC	20
7423183	Dissolved Zinc (Zn)	2021/06/24	100	80 - 120	98	80 - 120	<5.0	ug/L	NC	20
7423349	Nitrate (N)	2021/06/24	99	80 - 120	99	80 - 120	<0.10	mg/L	3.1	20
7423349	Nitrite (N)	2021/06/24	109	80 - 120	106	80 - 120	<0.010	mg/L	NC	20
7427516	Dissolved Organic Carbon	2021/06/24	95	80 - 120	96	80 - 120	<0.40	mg/L	0.29	20
7428766	Dissolved Organic Carbon	2021/06/25	98	80 - 120	102	80 - 120	<0.40	mg/L	0.57	20
7430355	Total Ammonia-N	2021/06/28	97	75 - 125	102	80 - 120	<0.050	mg/L	NC	20
7430615	F2 (C10-C16 Hydrocarbons)	2021/06/27	97	60 - 130	103	60 - 130	<100	ug/L	NC	30
7430615	F3 (C16-C34 Hydrocarbons)	2021/06/27	93	60 - 130	101	60 - 130	<200	ug/L	27	30
7430615	F4 (C34-C50 Hydrocarbons)	2021/06/27	92	60 - 130	99	60 - 130	<200	ug/L	NC	30
7430651	Benzene	2021/06/25	101	50 - 140	103	50 - 140	<0.20	ug/L	NC	30
7430651	Ethylbenzene	2021/06/25	104	50 - 140	112	50 - 140	<0.20	ug/L	NC	30
7430651	F1 (C6-C10) - BTEX	2021/06/25					<25	ug/L	NC	30
7430651	F1 (C6-C10)	2021/06/25	92	60 - 140	97	60 - 140	<25	ug/L	NC	30
7430651	o-Xylene	2021/06/25	103	50 - 140	107	50 - 140	<0.20	ug/L	NC	30
7430651	p+m-Xylene	2021/06/25	101	50 - 140	107	50 - 140	<0.40	ug/L	NC	30
7430651	Toluene	2021/06/25	97	50 - 140	101	50 - 140	<0.20	ug/L	NC	30

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QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
7430651	Total Xylenes	2021/06/25					<0.40	ug/L	NC	30

N/A = Not Applicable

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

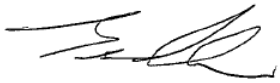
NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:



Brad Newman, B.Sc., C.Chem., Scientific Service Specialist

BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

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Page of

CHAIN OF CUSTODY RECORD

INVOICE TO:		REPORT TO:		PROJECT INFORMATION:		Laboratory Use Only:	
Company Name:	#21375 Golder Associates Ltd	Company Name:		Quotation #:	B80683	BV Labs Job #:	Bottle Order #: 831949
Attention:	Accounts Payable	Attention:	Gregory Padusenko	P.O. #:			
Address:	210 Sheldon Drive. Cambridge ON N1T 1A8	Address:		Project:	19129150 (2300)	COC #: C#831949-01-01	Project Manager: Ema Gitej
Tel:	(519) 620-8182 Fax:	Tel:	(519) 620-8182 Ext: 6509 Fax: (519) 620-9878	Project Name:			
Email:	CanadaAccountsPayableInvoices@golder.com	Email:	Gregory_Padusenko@golder.com	Site #:			
				Sampled By:	UP + CS		

MOE REGULATED DRINKING WATER OR WATER INTENDED FOR HUMAN CONSUMPTION MUST BE SUBMITTED ON THE BV LABS DRINKING WATER CHAIN OF CUSTODY

Regulation 153 (2011): ☐ Table 1 ☐ Res/Park ☐ Medium/Fine ☐ Table 2 ☐ Ind/Comm ☐ Coarse ☐ Table 3 ☐ Agri/Other ☐ For RSC ☐ Table ___

Other Regulations: ☐ CCME ☐ Sanitary Sewer Bylaw ☐ Reg 558 ☐ Storm Sewer Bylaw ☐ MISA Municipality ☐ PWQO ☐ Reg 406 Table ☐ Other

Special Instructions

Include Criteria on Certificate of Analysis (Y/N)? ___

ANALYSIS REQUESTED (PLEASE BE SPECIFIC)

Turnaround Time (TAT) Required:

Please provide advance notice for rush projects

Regular (Standard) TAT: ☑
(will be applied if Rush TAT is not specified)
Standard TAT = 5-7 Working days for most tests.
Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details

Job Specific Rush TAT (if applies to entire submission)
Date Required: ___ Time Required: ___ ☐
Rush Confirmation Number: ___ *(call lab for #)*

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Field Filtered (please circle): Metals / Hg / Cr VI	RCAp - Comprehensive	O.Reg 153 PHCs, BTEX/F1-F4								# of Bottles	Comments
1	MW20-08A		21-Jun-21	15:30	GW	Y	J									4	
2	MW20-08B		21-Jun-21	15:30	GW	Y	J	J								8	
3	MW20-07A		21-Jun-21	16:45	GW	Y	J									4	
4	MW20-07B		21-Jun-21	16:45	GW	Y	J	J								8	
5																	
6																	
7																	
8																	
9																	
10																	

21-Jun-21 18:30
Ema Gitej
C1H0819

* RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	*RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	# jars used and not submitted
Claire Steckle / C Steckle	21/06/21			20/06/21	18:30	

Laboratory Use Only

Time Sensitive	Temperature (°C) on Recei	Custody Seal	Yes	No
	9/9/7	Present		
		Intact		

* UNLESS OTHERWISE AGREED TO IN WRITING, WORK SUBMITTED ON THIS CHAIN OF CUSTODY IS SUBJECT TO BV LABS' STANDARD TERMS AND CONDITIONS. SIGNING OF THIS CHAIN OF CUSTODY DOCUMENT IS ACKNOWLEDGMENT AND ACCEPTANCE OF OUR TERMS WHICH ARE AVAILABLE FOR VIEWING AT WWW.BVLABS.COM/TERMS-AND-CONDITIONS.

* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

** SAMPLE CONTAINER, PRESERVATION, HOLD TIME AND PACKAGE INFORMATION CAN BE VIEWED AT WWW.BVLABS.COM/RESOURCES/CHAIN-OF-CUSTODY-FORMS.

SAMPLES MUST BE KEPT COOL (< 10° C) FROM TIME OF SAMPLING UNTIL DELIVERY TO BV LABS

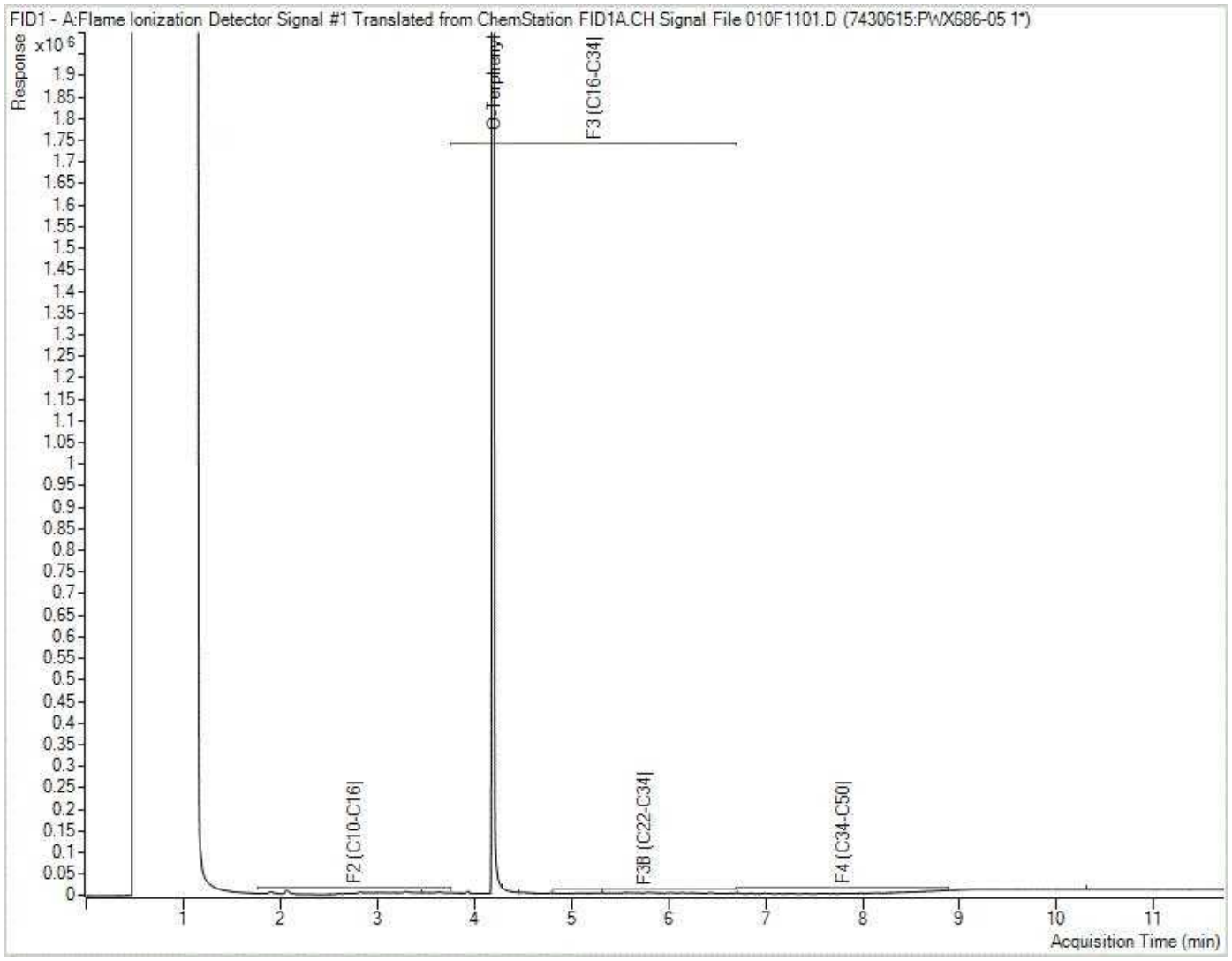
White: BV Labs Yellow: Client

Bureau Veritas Canada (2019) Inc.

BV Labs Job #: C1H0819
Report Date: 2021/07/27
BV Labs Sample: PWX686

Golder Associates Ltd
Client Project #: 19129150 (2300)
Client ID: MW20-08 B

Petroleum Hydrocarbons F2-F4 in Water Chromatogram

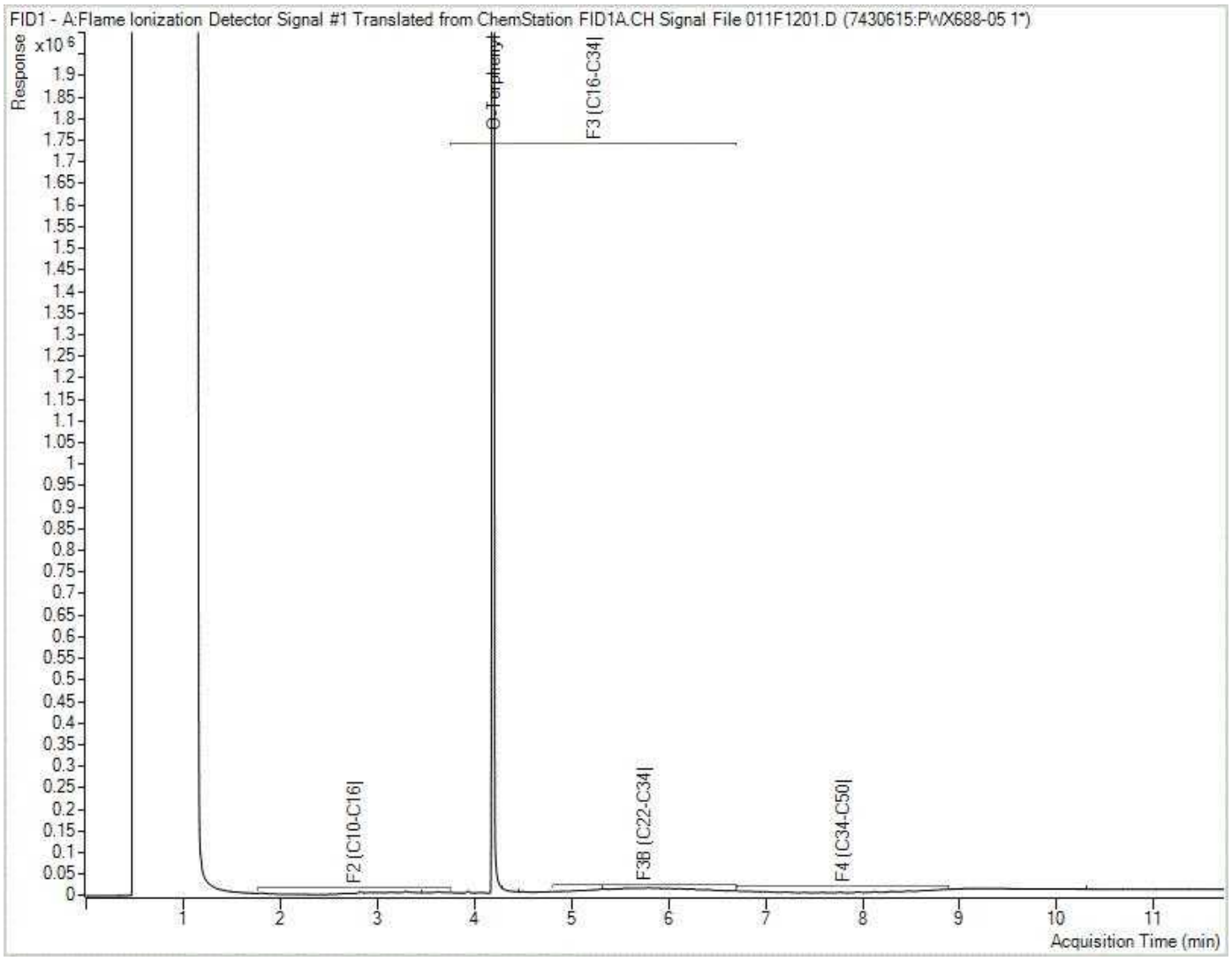


Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

BV Labs Job #: C1H0819
Report Date: 2021/07/27
BV Labs Sample: PWX688

Golder Associates Ltd
Client Project #: 19129150 (2300)
Client ID: MW20-07 B

Petroleum Hydrocarbons F2-F4 in Water Chromatogram



Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Exceedance Summary Table – ODWS (2002)

Result Exceedances

Sample ID	BV Labs ID	Parameter	Criteria	Result	DL	UNITS
No Exceedances						

The exceedance summary table is for information purposes only and should not be considered a comprehensive listing or statement of conformance to applicable regulatory guidelines.

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Your Project #: 19129150 (2300)
Your C.O.C. #: 831949-04-01, 831949-03-01

Attention: Gregory Padusenko

Golder Associates Ltd
210 Sheldon Drive
Cambridge, ON
CANADA N1T 1A8

Report Date: 2021/06/30
Report #: R6700304
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: C1H2396
Received: 2021/06/22, 18:07

Sample Matrix: Water
Samples Received: 15

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Alkalinity	15	N/A	2021/06/29	CAM SOP-00448	SM 23 2320 B m
Carbonate, Bicarbonate and Hydroxide	3	N/A	2021/06/29	CAM SOP-00102	APHA 4500-CO2 D
Carbonate, Bicarbonate and Hydroxide	12	N/A	2021/06/30	CAM SOP-00102	APHA 4500-CO2 D
Chloride by Automated Colourimetry	1	N/A	2021/06/28	CAM SOP-00463	SM 23 4500-Cl E m
Chloride by Automated Colourimetry	14	N/A	2021/06/29	CAM SOP-00463	SM 23 4500-Cl E m
Conductivity	15	N/A	2021/06/29	CAM SOP-00414	SM 23 2510 m
Dissolved Organic Carbon (DOC) (1)	8	N/A	2021/06/25	CAM SOP-00446	SM 23 5310 B m
Dissolved Organic Carbon (DOC) (1)	5	N/A	2021/06/26	CAM SOP-00446	SM 23 5310 B m
Dissolved Organic Carbon (DOC) (1)	1	N/A	2021/06/27	CAM SOP-00446	SM 23 5310 B m
Dissolved Organic Carbon (DOC) (1)	1	N/A	2021/06/28	CAM SOP-00446	SM 23 5310 B m
Petroleum Hydro. CCME F1 & BTEX in Water	3	N/A	2021/06/27	CAM SOP-00315	CCME PHC-CWS m
Petroleum Hydro. CCME F1 & BTEX in Water	6	N/A	2021/06/28	CAM SOP-00315	CCME PHC-CWS m
Petroleum Hydrocarbons F2-F4 in Water (2)	9	2021/06/28	2021/06/28	CAM SOP-00316	CCME PHC-CWS m
Hardness (calculated as CaCO3)	15	N/A	2021/06/29	CAM SOP 00102/00408/00447	SM 2340 B
Dissolved Metals by ICPMS	12	N/A	2021/06/28	CAM SOP-00447	EPA 6020B m
Dissolved Metals by ICPMS	3	N/A	2021/06/29	CAM SOP-00447	EPA 6020B m
Ion Balance (% Difference)	3	N/A	2021/06/29		
Ion Balance (% Difference)	12	N/A	2021/06/30		
Anion and Cation Sum	3	N/A	2021/06/29		
Anion and Cation Sum	12	N/A	2021/06/30		
Total Ammonia-N	15	N/A	2021/06/29	CAM SOP-00441	USGS I-2522-90 m
Nitrate (NO3) and Nitrite (NO2) in Water (3)	15	N/A	2021/06/29	CAM SOP-00440	SM 23 4500-NO3I/NO2B
pH	2	2021/06/25	2021/06/29	CAM SOP-00413	SM 4500H+ B m
pH	1	2021/06/26	2021/06/29	CAM SOP-00413	SM 4500H+ B m
pH	12	2021/06/28	2021/06/29	CAM SOP-00413	SM 4500H+ B m
Orthophosphate	2	N/A	2021/06/28	CAM SOP-00461	EPA 365.1 m
Orthophosphate	13	N/A	2021/06/30	CAM SOP-00461	EPA 365.1 m
Sat. pH and Langelier Index (@ 20C)	3	N/A	2021/06/29		Auto Calc
Sat. pH and Langelier Index (@ 20C)	12	N/A	2021/06/30		Auto Calc
Sat. pH and Langelier Index (@ 4C)	3	N/A	2021/06/29		Auto Calc

Your Project #: 19129150 (2300)
Your C.O.C. #: 831949-04-01, 831949-03-01

Attention: Gregory Padusenko

Golder Associates Ltd
210 Sheldon Drive
Cambridge, ON
CANADA N1T 1A8

Report Date: 2021/06/30
Report #: R6700304
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: C1H2396
Received: 2021/06/22, 18:07

Sample Matrix: Water
Samples Received: 15

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Sat. pH and Langelier Index (@ 4C)	12	N/A	2021/06/30		Auto Calc
Sulphate by Automated Colourimetry	3	N/A	2021/06/28	CAM SOP-00464	EPA 375.4 m
Sulphate by Automated Colourimetry	12	N/A	2021/06/29	CAM SOP-00464	EPA 375.4 m
Total Dissolved Solids (TDS calc)	3	N/A	2021/06/29		Auto Calc
Total Dissolved Solids (TDS calc)	12	N/A	2021/06/30		Auto Calc

Remarks:

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.
This Certificate shall not be reproduced except in full, without the written approval of the laboratory.
Reference Method suffix “m” indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.
(1) Dissolved Organic Carbon (DOC) present in the sample should be considered as non-purgeable DOC.
(2) All CCME PHC results met required criteria unless otherwise stated in the report. The CWS PHC methods employed by Bureau Veritas Laboratories conform to all prescribed elements of the reference method and performance based elements have been validated. All modifications have been validated and proven equivalent following “Alberta Environment’s Interpretation of the Reference Method for the Canada-Wide Standard for Petroleum Hydrocarbons in Soil Validation of Performance-Based Alternative Methods September 2003”. Documentation is available upon request. Modifications from Reference Method for the Canada-wide Standard for Petroleum Hydrocarbons in Soil-Tier 1 Method: F2/F3/F4 data reported using validated cold solvent extraction instead of Soxhlet extraction.
(3) Values for calculated parameters may not appear to add up due to rounding of raw data and significant figures.

Your Project #: 19129150 (2300)
Your C.O.C. #: 831949-04-01, 831949-03-01

Attention: Gregory Padusenko

Golder Associates Ltd
210 Sheldon Drive
Cambridge, ON
CANADA N1T 1A8

Report Date: 2021/06/30
Report #: R6700304
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: C1H2396
Received: 2021/06/22, 18:07

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Ema Gitej, Senior Project Manager
Email: emese.gitej@bureauveritas.com
Phone# (905)817-5829

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BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Bureau Veritas Laboratories 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvlabs.com

Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

RCAP - COMPREHENSIVE (WATER)

BV Labs ID		PXG071			PXG071			PXG072		
Sampling Date		2021/06/22 13:00			2021/06/22 13:00			2021/06/22 14:00		
COC Number		831949-04-01			831949-04-01			831949-04-01		
	UNITS	MW20-23A	RDL	QC Batch	MW20-23A Lab-Dup	RDL	QC Batch	MW20-23B	RDL	QC Batch
Calculated Parameters										
Anion Sum	me/L	28.0	N/A	7424165				20.9	N/A	7424165
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	190	1.0	7424184				210	1.0	7424184
Calculated TDS	mg/L	1900	1.0	7424183				1300	1.0	7424183
Carb. Alkalinity (calc. as CaCO3)	mg/L	1.4	1.0	7424184				1.1	1.0	7424184
Cation Sum	me/L	31.2	N/A	7424165				21.0	N/A	7424165
Hardness (CaCO3)	mg/L	1500	1.0	7424185				990	1.0	7424186
Ion Balance (% Difference)	%	5.49	N/A	7424164				0.200	N/A	7424164
Langelier Index (@ 20C)	N/A	1.22		7424177				0.979		7424177
Langelier Index (@ 4C)	N/A	0.971		7424178				0.734		7424178
Saturation pH (@ 20C)	N/A	6.67		7424177				6.76		7424177
Saturation pH (@ 4C)	N/A	6.91		7424178				7.00		7424178
Inorganics										
Total Ammonia-N	mg/L	0.23	0.050	7429602				0.20	0.050	7429602
Conductivity	umho/cm	2300	1.0	7431743	2300	1.0	7431743	1700	1.0	7433472
Dissolved Organic Carbon	mg/L	0.68	0.40	7431551				0.69	0.40	7430360
Orthophosphate (P)	mg/L	<0.010	0.010	7430971				<0.010	0.010	7434295
pH	pH	7.88		7431744	7.90		7431744	7.74		7433471
Dissolved Sulphate (SO4)	mg/L	1100	10	7430973				770	5.0	7434293
Alkalinity (Total as CaCO3)	mg/L	190	1.0	7431736	190	1.0	7431736	210	1.0	7433466
Dissolved Chloride (Cl-)	mg/L	13	1.0	7430955				23	1.0	7434287
Nitrite (N)	mg/L	<0.010	0.010	7431102				<0.010	0.010	7433476
Nitrate (N)	mg/L	<0.10	0.10	7431102				<0.10	0.10	7433476
Nitrate + Nitrite (N)	mg/L	<0.10	0.10	7431102				<0.10	0.10	7433476
Metals										
Dissolved Aluminum (Al)	ug/L	79	4.9	7429380				64	4.9	7429380
Dissolved Antimony (Sb)	ug/L	<0.50	0.50	7429380				<0.50	0.50	7429380
Dissolved Arsenic (As)	ug/L	5.5	1.0	7429380				10	1.0	7429380
Dissolved Barium (Ba)	ug/L	14	2.0	7429380				14	2.0	7429380
Dissolved Beryllium (Be)	ug/L	<0.40	0.40	7429380				<0.40	0.40	7429380
Dissolved Boron (B)	ug/L	130	10	7429380				48	10	7429380

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate
N/A = Not Applicable

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

RCAP - COMPREHENSIVE (WATER)

BV Labs ID		PXG071			PXG071			PXG072		
Sampling Date		2021/06/22 13:00			2021/06/22 13:00			2021/06/22 14:00		
COC Number		831949-04-01			831949-04-01			831949-04-01		
	UNITS	MW20-23A	RDL	QC Batch	MW20-23A Lab-Dup	RDL	QC Batch	MW20-23B	RDL	QC Batch
Dissolved Cadmium (Cd)	ug/L	0.20	0.090	7429380				<0.090	0.090	7429380
Dissolved Calcium (Ca)	ug/L	480000	400	7429380				320000	400	7429380
Dissolved Chromium (Cr)	ug/L	<5.0	5.0	7429380				<5.0	5.0	7429380
Dissolved Cobalt (Co)	ug/L	0.52	0.50	7429380				<0.50	0.50	7429380
Dissolved Copper (Cu)	ug/L	3.5	0.90	7429380				2.6	0.90	7429380
Dissolved Iron (Fe)	ug/L	340	100	7429380				1000	100	7429380
Dissolved Lead (Pb)	ug/L	0.85	0.50	7429380				<0.50	0.50	7429380
Dissolved Magnesium (Mg)	ug/L	71000	50	7429380				46000	50	7429380
Dissolved Manganese (Mn)	ug/L	62	2.0	7429380				47	2.0	7429380
Dissolved Molybdenum (Mo)	ug/L	5.4	0.50	7429380				7.1	0.50	7429380
Dissolved Nickel (Ni)	ug/L	5.7	1.0	7429380				4.0	1.0	7429380
Dissolved Phosphorus (P)	ug/L	<100	100	7429380				<100	100	7429380
Dissolved Potassium (K)	ug/L	3600	200	7429380				820	200	7429380
Dissolved Selenium (Se)	ug/L	<2.0	2.0	7429380				<2.0	2.0	7429380
Dissolved Silicon (Si)	ug/L	6100	50	7429380				5700	50	7429380
Dissolved Silver (Ag)	ug/L	0.11	0.090	7429380				<0.090	0.090	7429380
Dissolved Sodium (Na)	ug/L	29000	100	7429380				23000	100	7429380
Dissolved Strontium (Sr)	ug/L	7900	1.0	7429380				5300	1.0	7429380
Dissolved Thallium (Tl)	ug/L	<0.050	0.050	7429380				<0.050	0.050	7429380
Dissolved Titanium (Ti)	ug/L	<5.0	5.0	7429380				8.8	5.0	7429380
Dissolved Uranium (U)	ug/L	0.20	0.10	7429380				0.93	0.10	7429380
Dissolved Vanadium (V)	ug/L	<0.50	0.50	7429380				<0.50	0.50	7429380
Dissolved Zinc (Zn)	ug/L	<5.0	5.0	7429380				<5.0	5.0	7429380

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

BV Labs Job #: C1H2396
Report Date: 2021/06/30

Golder Associates Ltd
Client Project #: 19129150 (2300)
Sampler Initials: VP

RCAP - COMPREHENSIVE (WATER)

BV Labs ID		PXG072			PXG073		PXG074		
Sampling Date		2021/06/22 14:00			2021/06/22 14:30		2021/06/22 17:00		
COC Number		831949-04-01			831949-04-01		831949-04-01		
	UNITS	MW20-23B Lab-Dup	RDL	QC Batch	MW20-23C	QC Batch	MW20-17A	RDL	QC Batch
Calculated Parameters									
Anion Sum	me/L				6.46	7424165	9.25	N/A	7424165
Bicarb. Alkalinity (calc. as CaCO3)	mg/L				240	7424184	210	1.0	7424184
Calculated TDS	mg/L				340	7424183	560	1.0	7424183
Carb. Alkalinity (calc. as CaCO3)	mg/L				2.5	7424184	2.4	1.0	7424184
Cation Sum	me/L				6.53	7424165	9.80	N/A	7424165
Hardness (CaCO3)	mg/L				280	7424186	440	1.0	7424186
Ion Balance (% Difference)	%				0.480	7424164	2.89	N/A	7424164
Langelier Index (@ 20C)	N/A				0.921	7424177	1.05		7424177
Langelier Index (@ 4C)	N/A				0.672	7424178	0.797		7424178
Saturation pH (@ 20C)	N/A				7.14	7424177	7.05		7424177
Saturation pH (@ 4C)	N/A				7.39	7424178	7.30		7424178
Inorganics									
Total Ammonia-N	mg/L				<0.050	7429602	0.19	0.050	7429602
Conductivity	umho/cm	1700	1.0	7433472	630	7431056	850	1.0	7431056
Dissolved Organic Carbon	mg/L				1.6	7430572	1.9	0.40	7430360
Orthophosphate (P)	mg/L				<0.010	7431101	<0.010	0.010	7430971
pH	pH	7.71		7433471	8.06	7431065	8.09		7431065
Dissolved Sulphate (SO4)	mg/L				23	7431104	230	1.0	7430973
Alkalinity (Total as CaCO3)	mg/L	210	1.0	7433466	240	7431045	210	1.0	7431045
Dissolved Chloride (Cl-)	mg/L				39	7431020	9.5	1.0	7430955
Nitrite (N)	mg/L				<0.010	7431102	<0.010	0.010	7431102
Nitrate (N)	mg/L				1.39	7431102	<0.10	0.10	7431102
Nitrate + Nitrite (N)	mg/L				1.39	7431102	<0.10	0.10	7431102
Metals									
Dissolved Aluminum (Al)	ug/L				<4.9	7429380	80	4.9	7429380
Dissolved Antimony (Sb)	ug/L				<0.50	7429380	<0.50	0.50	7429380
Dissolved Arsenic (As)	ug/L				<1.0	7429380	33	1.0	7429380
Dissolved Barium (Ba)	ug/L				40	7429380	31	2.0	7429380
Dissolved Beryllium (Be)	ug/L				<0.40	7429380	<0.40	0.40	7429380
Dissolved Boron (B)	ug/L				10	7429380	160	10	7429380

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate
N/A = Not Applicable

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

RCAP - COMPREHENSIVE (WATER)

BV Labs ID		PXG072			PXG073		PXG074		
Sampling Date		2021/06/22 14:00			2021/06/22 14:30		2021/06/22 17:00		
COC Number		831949-04-01			831949-04-01		831949-04-01		
	UNITS	MW20-23B Lab-Dup	RDL	QC Batch	MW20-23C	QC Batch	MW20-17A	RDL	QC Batch
Dissolved Cadmium (Cd)	ug/L				<0.090	7429380	<0.090	0.090	7429380
Dissolved Calcium (Ca)	ug/L				82000	7429380	130000	200	7429380
Dissolved Chromium (Cr)	ug/L				<5.0	7429380	<5.0	5.0	7429380
Dissolved Cobalt (Co)	ug/L				<0.50	7429380	1.1	0.50	7429380
Dissolved Copper (Cu)	ug/L				3.2	7429380	3.4	0.90	7429380
Dissolved Iron (Fe)	ug/L				<100	7429380	900	100	7429380
Dissolved Lead (Pb)	ug/L				<0.50	7429380	<0.50	0.50	7429380
Dissolved Magnesium (Mg)	ug/L				19000	7429380	30000	50	7429380
Dissolved Manganese (Mn)	ug/L				<2.0	7429380	61	2.0	7429380
Dissolved Molybdenum (Mo)	ug/L				0.61	7429380	8.1	0.50	7429380
Dissolved Nickel (Ni)	ug/L				<1.0	7429380	23	1.0	7429380
Dissolved Phosphorus (P)	ug/L				<100	7429380	<100	100	7429380
Dissolved Potassium (K)	ug/L				2600	7429380	5300	200	7429380
Dissolved Selenium (Se)	ug/L				<2.0	7429380	<2.0	2.0	7429380
Dissolved Silicon (Si)	ug/L				2900	7429380	4900	50	7429380
Dissolved Silver (Ag)	ug/L				<0.090	7429380	<0.090	0.090	7429380
Dissolved Sodium (Na)	ug/L				19000	7429380	17000	100	7429380
Dissolved Strontium (Sr)	ug/L				150	7429380	3800	1.0	7429380
Dissolved Thallium (Tl)	ug/L				<0.050	7429380	<0.050	0.050	7429380
Dissolved Titanium (Ti)	ug/L				<5.0	7429380	<5.0	5.0	7429380
Dissolved Uranium (U)	ug/L				0.71	7429380	0.87	0.10	7429380
Dissolved Vanadium (V)	ug/L				<0.50	7429380	<0.50	0.50	7429380
Dissolved Zinc (Zn)	ug/L				8.9	7429380	8.6	5.0	7429380

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

BV Labs Job #: C1H2396
Report Date: 2021/06/30

Golder Associates Ltd
Client Project #: 19129150 (2300)
Sampler Initials: VP

RCAP - COMPREHENSIVE (WATER)

BV Labs ID		PXG075	PXG076		PXG101			PXG102		
Sampling Date		2021/06/22 16:30	2021/06/22		2021/06/22 14:30			2021/06/22 14:45		
COC Number		831949-04-01	831949-04-01		831949-03-01			831949-03-01		
	UNITS	MW20-17B	DUP-1	RDL	MW20-01 A	RDL	QC Batch	MW20-01 B	RDL	QC Batch
Calculated Parameters										
Anion Sum	me/L	7.43	7.46	N/A	11.0	N/A	7424165	8.68	N/A	7424165
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	240	250	1.0	200	1.0	7424184	250	1.0	7424184
Calculated TDS	mg/L	410	400	1.0	690	1.0	7424183	460	1.0	7424183
Carb. Alkalinity (calc. as CaCO3)	mg/L	2.1	2.1	1.0	1.3	1.0	7424184	1.7	1.0	7424184
Cation Sum	me/L	8.14	7.45	N/A	11.7	N/A	7424165	8.24	N/A	7424165
Hardness (CaCO3)	mg/L	340	320	1.0	470	1.0	7424186	300	1.0	7424186
Ion Balance (% Difference)	%	4.54	0.0500	N/A	2.81	N/A	7424164	2.62	N/A	7424164
Langelier Index (@ 20C)	N/A	0.874	0.847		0.825		7424177	0.753		7424177
Langelier Index (@ 4C)	N/A	0.626	0.598		0.578		7424178	0.505		7424178
Saturation pH (@ 20C)	N/A	7.09	7.11		7.02		7424177	7.11		7424177
Saturation pH (@ 4C)	N/A	7.34	7.36		7.27		7424178	7.36		7424178
Inorganics										
Total Ammonia-N	mg/L	<0.050	<0.050	0.050	0.90	0.050	7429602	<0.050	0.050	7429602
Conductivity	umho/cm	730	730	1.0	1000	1.0	7433472	840	1.0	7433472
Dissolved Organic Carbon	mg/L	0.67	0.68	0.40	1.2	0.40	7430572	1.2	0.40	7430360
Orthophosphate (P)	mg/L	<0.010	<0.010	0.010	<0.010	0.010	7434295	<0.010	0.010	7434295
pH	pH	7.97	7.96		7.85		7433471	7.87		7433471
Dissolved Sulphate (SO4)	mg/L	54	53	1.0	310	2.0	7434293	24	1.0	7434293
Alkalinity (Total as CaCO3)	mg/L	250	250	1.0	200	1.0	7433466	250	1.0	7433466
Dissolved Chloride (Cl-)	mg/L	47	47	1.0	23	1.0	7434287	100	1.0	7434287
Nitrite (N)	mg/L	<0.010	<0.010	0.010	<0.010	0.010	7433476	<0.010	0.010	7433476
Nitrate (N)	mg/L	0.74	0.74	0.10	<0.10	0.10	7433476	3.87	0.10	7433476
Nitrate + Nitrite (N)	mg/L	0.74	0.74	0.10	<0.10	0.10	7433476	3.87	0.10	7433476
Metals										
Dissolved Aluminum (Al)	ug/L	44	32	4.9	300	4.9	7429380	17	4.9	7429380
Dissolved Antimony (Sb)	ug/L	<0.50	<0.50	0.50	<0.50	0.50	7429380	<0.50	0.50	7429380
Dissolved Arsenic (As)	ug/L	3.8	3.8	1.0	9.7	1.0	7429380	<1.0	1.0	7429380
Dissolved Barium (Ba)	ug/L	55	52	2.0	15	2.0	7429380	42	2.0	7429380
Dissolved Beryllium (Be)	ug/L	<0.40	<0.40	0.40	<0.40	0.40	7429380	<0.40	0.40	7429380
Dissolved Boron (B)	ug/L	26	25	10	680	10	7429380	17	10	7429380
Dissolved Cadmium (Cd)	ug/L	<0.090	<0.090	0.090	<0.090	0.090	7429380	<0.090	0.090	7429380

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
N/A = Not Applicable

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

RCAP - COMPREHENSIVE (WATER)

BV Labs ID		PXG075	PXG076		PXG101			PXG102		
Sampling Date		2021/06/22 16:30	2021/06/22		2021/06/22 14:30			2021/06/22 14:45		
COC Number		831949-04-01	831949-04-01		831949-03-01			831949-03-01		
	UNITS	MW20-17B	DUP-1	RDL	MW20-01 A	RDL	QC Batch	MW20-01 B	RDL	QC Batch
Dissolved Calcium (Ca)	ug/L	92000	87000	200	150000	400	7429380	88000	200	7429380
Dissolved Chromium (Cr)	ug/L	<5.0	<5.0	5.0	<5.0	5.0	7429380	<5.0	5.0	7429380
Dissolved Cobalt (Co)	ug/L	<0.50	<0.50	0.50	0.56	0.50	7429380	<0.50	0.50	7429380
Dissolved Copper (Cu)	ug/L	<0.90	<0.90	0.90	<0.90	0.90	7429380	1.0	0.90	7429380
Dissolved Iron (Fe)	ug/L	<100	<100	100	940	100	7429380	<100	100	7429380
Dissolved Lead (Pb)	ug/L	1.4	1.0	0.50	0.92	0.50	7429380	<0.50	0.50	7429380
Dissolved Magnesium (Mg)	ug/L	27000	24000	50	22000	50	7429380	19000	50	7429380
Dissolved Manganese (Mn)	ug/L	35	32	2.0	62	2.0	7429380	2.2	2.0	7429380
Dissolved Molybdenum (Mo)	ug/L	1.2	1.2	0.50	1.6	0.50	7429380	<0.50	0.50	7429380
Dissolved Nickel (Ni)	ug/L	1.9	1.9	1.0	2.2	1.0	7429380	<1.0	1.0	7429380
Dissolved Phosphorus (P)	ug/L	<100	<100	100	<100	100	7429380	<100	100	7429380
Dissolved Potassium (K)	ug/L	1400	1300	200	11000	200	7429380	1300	200	7429380
Dissolved Selenium (Se)	ug/L	<2.0	<2.0	2.0	<2.0	2.0	7429380	<2.0	2.0	7429380
Dissolved Silicon (Si)	ug/L	5300	4900	50	4200	50	7429380	2700	50	7429380
Dissolved Silver (Ag)	ug/L	<0.090	<0.090	0.090	<0.090	0.090	7429380	<0.090	0.090	7429380
Dissolved Sodium (Na)	ug/L	29000	25000	100	42000	100	7429380	52000	100	7429380
Dissolved Strontium (Sr)	ug/L	750	740	1.0	5800	1.0	7429380	160	1.0	7429380
Dissolved Thallium (Tl)	ug/L	<0.050	<0.050	0.050	<0.050	0.050	7429380	<0.050	0.050	7429380
Dissolved Titanium (Ti)	ug/L	<5.0	<5.0	5.0	7.7	5.0	7429380	<5.0	5.0	7429380
Dissolved Uranium (U)	ug/L	0.61	0.58	0.10	0.23	0.10	7429380	0.33	0.10	7429380
Dissolved Vanadium (V)	ug/L	<0.50	<0.50	0.50	0.55	0.50	7429380	<0.50	0.50	7429380
Dissolved Zinc (Zn)	ug/L	<5.0	<5.0	5.0	<5.0	5.0	7429380	<5.0	5.0	7429380

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

BV Labs Job #: C1H2396
Report Date: 2021/06/30

Golder Associates Ltd
Client Project #: 19129150 (2300)
Sampler Initials: VP

RCAP - COMPREHENSIVE (WATER)

BV Labs ID		PXG103		PXG104		PXG105	PXG106		
Sampling Date		2021/06/22 13:30		2021/06/22 12:30		2021/06/22 12:15	2021/06/22 11:00		
COC Number		831949-03-01		831949-03-01		831949-03-01	831949-03-01		
	UNITS	MW20-02	QC Batch	MW20-03	QC Batch	MW20-04	MW20-05A	RDL	QC Batch
Calculated Parameters									
Anion Sum	me/L	7.55	7424165	7.21	7424165	8.34	7.09	N/A	7424165
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	240	7424184	270	7424184	230	230	1.0	7424184
Calculated TDS	mg/L	410	7424183	380	7424183	460	380	1.0	7424183
Carb. Alkalinity (calc. as CaCO3)	mg/L	1.7	7424184	2.3	7424184	2.0	2.0	1.0	7424184
Cation Sum	me/L	7.40	7424165	7.18	7424165	8.38	6.94	N/A	7424165
Hardness (CaCO3)	mg/L	300	7424186	300	7424186	310	310	1.0	7424186
Ion Balance (% Difference)	%	1.00	7424164	0.190	7424164	0.210	1.11	N/A	7424164
Langelier Index (@ 20C)	N/A	0.762	7424177	0.888	7424177	0.819	0.837		7424177
Langelier Index (@ 4C)	N/A	0.514	7424178	0.640	7424178	0.571	0.589		7424178
Saturation pH (@ 20C)	N/A	7.13	7424177	7.06	7424177	7.14	7.13		7424177
Saturation pH (@ 4C)	N/A	7.38	7424178	7.30	7424178	7.39	7.38		7424178
Inorganics									
Total Ammonia-N	mg/L	<0.050	7429602	<0.050	7429602	<0.050	<0.050	0.050	7429602
Conductivity	umho/cm	730	7433472	680	7433472	810	680	1.0	7433472
Dissolved Organic Carbon	mg/L	1.5	7430360	3.0	7430572	0.86	0.70	0.40	7430360
Orthophosphate (P)	mg/L	<0.010	7434295	<0.010	7434295	<0.010	<0.010	0.010	7434295
pH	pH	7.89	7433471	7.94	7433471	7.96	7.97		7433471
Dissolved Sulphate (SO4)	mg/L	33	7434293	22	7434293	20	39	1.0	7434293
Alkalinity (Total as CaCO3)	mg/L	240	7433466	280	7433466	240	240	1.0	7433466
Dissolved Chloride (Cl-)	mg/L	64	7434287	40	7434287	97	39	1.0	7434287
Nitrite (N)	mg/L	<0.010	7433476	0.016	7433476	<0.010	<0.010	0.010	7433476
Nitrate (N)	mg/L	3.85	7433476	1.85	7433476	6.24	6.28	0.10	7433476
Nitrate + Nitrite (N)	mg/L	3.85	7433476	1.86	7433476	6.24	6.28	0.10	7433476
Metals									
Dissolved Aluminum (Al)	ug/L	<4.9	7429380	40	7429380	30	27	4.9	7429380
Dissolved Antimony (Sb)	ug/L	<0.50	7429380	<0.50	7429380	<0.50	<0.50	0.50	7429380
Dissolved Arsenic (As)	ug/L	<1.0	7429380	<1.0	7429380	<1.0	<1.0	1.0	7429380
Dissolved Barium (Ba)	ug/L	55	7429380	75	7429380	41	110	2.0	7429380
Dissolved Beryllium (Be)	ug/L	<0.40	7429380	<0.40	7429380	<0.40	<0.40	0.40	7429380
Dissolved Boron (B)	ug/L	12	7429380	14	7429380	11	11	10	7429380
Dissolved Cadmium (Cd)	ug/L	<0.090	7429380	<0.090	7429380	<0.090	<0.090	0.090	7429380

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N/A = Not Applicable

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

RCAP - COMPREHENSIVE (WATER)

BV Labs ID		PXG103		PXG104		PXG105	PXG106		
Sampling Date		2021/06/22 13:30		2021/06/22 12:30		2021/06/22 12:15	2021/06/22 11:00		
COC Number		831949-03-01		831949-03-01		831949-03-01	831949-03-01		
	UNITS	MW20-02	QC Batch	MW20-03	QC Batch	MW20-04	MW20-05A	RDL	QC Batch
Dissolved Calcium (Ca)	ug/L	87000	7429380	88000	7429380	88000	86000	200	7429380
Dissolved Chromium (Cr)	ug/L	<5.0	7429380	<5.0	7429380	<5.0	<5.0	5.0	7429380
Dissolved Cobalt (Co)	ug/L	<0.50	7429380	<0.50	7429380	<0.50	<0.50	0.50	7429380
Dissolved Copper (Cu)	ug/L	<0.90	7429380	<0.90	7429380	1.6	2.1	0.90	7429380
Dissolved Iron (Fe)	ug/L	<100	7429380	<100	7429380	110	<100	100	7429380
Dissolved Lead (Pb)	ug/L	<0.50	7429380	<0.50	7429380	0.63	<0.50	0.50	7429380
Dissolved Magnesium (Mg)	ug/L	20000	7429380	19000	7429380	21000	22000	50	7429380
Dissolved Manganese (Mn)	ug/L	4.4	7429380	120	7429380	5.9	3.9	2.0	7429380
Dissolved Molybdenum (Mo)	ug/L	0.87	7429380	7.3	7429380	<0.50	<0.50	0.50	7429380
Dissolved Nickel (Ni)	ug/L	1.8	7429380	1.5	7429380	<1.0	<1.0	1.0	7429380
Dissolved Phosphorus (P)	ug/L	<100	7429380	<100	7429380	<100	<100	100	7429380
Dissolved Potassium (K)	ug/L	1700	7429380	2100	7429380	1600	1500	200	7429380
Dissolved Selenium (Se)	ug/L	<2.0	7429380	<2.0	7429380	<2.0	<2.0	2.0	7429380
Dissolved Silicon (Si)	ug/L	3100	7429380	4100	7429380	2900	2600	50	7429380
Dissolved Silver (Ag)	ug/L	<0.090	7429380	<0.090	7429380	<0.090	<0.090	0.090	7429380
Dissolved Sodium (Na)	ug/L	32000	7429380	26000	7429380	51000	17000	100	7429380
Dissolved Strontium (Sr)	ug/L	220	7429380	190	7429380	180	1400	1.0	7429380
Dissolved Thallium (Tl)	ug/L	<0.050	7429380	<0.050	7429380	<0.050	0.065	0.050	7429380
Dissolved Titanium (Ti)	ug/L	<5.0	7429380	7.3	7429380	<5.0	<5.0	5.0	7429380
Dissolved Uranium (U)	ug/L	0.57	7429380	0.77	7429380	0.22	0.23	0.10	7429380
Dissolved Vanadium (V)	ug/L	<0.50	7429380	<0.50	7429380	<0.50	<0.50	0.50	7429380
Dissolved Zinc (Zn)	ug/L	<5.0	7429380	<5.0	7429380	<5.0	5.5	5.0	7429380

RDL = Reportable Detection Limit
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RCAP - COMPREHENSIVE (WATER)

BV Labs ID		PXG106			PXG107			PXG107		
Sampling Date		2021/06/22 11:00			2021/06/22 10:45			2021/06/22 10:45		
COC Number		831949-03-01			831949-03-01			831949-03-01		
	UNITS	MW20-05A Lab-Dup	RDL	QC Batch	MW20-06A	RDL	QC Batch	MW20-06A Lab-Dup	RDL	QC Batch
Calculated Parameters										
Anion Sum	me/L				8.04	N/A	7424165			
Bicarb. Alkalinity (calc. as CaCO3)	mg/L				260	1.0	7424184			
Calculated TDS	mg/L				440	1.0	7424183			
Carb. Alkalinity (calc. as CaCO3)	mg/L				2.3	1.0	7424184			
Cation Sum	me/L				8.20	N/A	7424165			
Hardness (CaCO3)	mg/L				340	1.0	7424186			
Ion Balance (% Difference)	%				1.02	N/A	7424164			
Langelier Index (@ 20C)	N/A				0.903		7424177			
Langelier Index (@ 4C)	N/A				0.655		7424178			
Saturation pH (@ 20C)	N/A				7.07		7424177			
Saturation pH (@ 4C)	N/A				7.32		7424178			
Inorganics										
Total Ammonia-N	mg/L				<0.050	0.050	7429602			
Conductivity	umho/cm				760	1.0	7433472			
Dissolved Organic Carbon	mg/L				0.40	0.40	7430572			
Orthophosphate (P)	mg/L	<0.010	0.010	7434295	<0.010	0.010	7434295			
pH	pH				7.97		7433471			
Dissolved Sulphate (SO4)	mg/L	39	1.0	7434293	26	1.0	7434293			
Alkalinity (Total as CaCO3)	mg/L				260	1.0	7433466			
Dissolved Chloride (Cl-)	mg/L	40	1.0	7434287	66	1.0	7434287			
Nitrite (N)	mg/L				<0.010	0.010	7433476	<0.010	0.010	7433476
Nitrate (N)	mg/L				6.44	0.10	7433476	6.44	0.10	7433476
Nitrate + Nitrite (N)	mg/L				6.44	0.10	7433476	6.44	0.10	7433476
Metals										
Dissolved Aluminum (Al)	ug/L				230	4.9	7429380	240	4.9	7429380
Dissolved Antimony (Sb)	ug/L				<0.50	0.50	7429380	<0.50	0.50	7429380
Dissolved Arsenic (As)	ug/L				<1.0	1.0	7429380	<1.0	1.0	7429380
Dissolved Barium (Ba)	ug/L				30	2.0	7429380	31	2.0	7429380
Dissolved Beryllium (Be)	ug/L				<0.40	0.40	7429380	<0.40	0.40	7429380
Dissolved Boron (B)	ug/L				12	10	7429380	11	10	7429380

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate
N/A = Not Applicable

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

RCAP - COMPREHENSIVE (WATER)

BV Labs ID		PXG106			PXG107			PXG107		
Sampling Date		2021/06/22 11:00			2021/06/22 10:45			2021/06/22 10:45		
COC Number		831949-03-01			831949-03-01			831949-03-01		
	UNITS	MW20-05A Lab-Dup	RDL	QC Batch	MW20-06A	RDL	QC Batch	MW20-06A Lab-Dup	RDL	QC Batch
Dissolved Cadmium (Cd)	ug/L				<0.090	0.090	7429380	<0.090	0.090	7429380
Dissolved Calcium (Ca)	ug/L				94000	200	7429380	90000	200	7429380
Dissolved Chromium (Cr)	ug/L				<5.0	5.0	7429380	<5.0	5.0	7429380
Dissolved Cobalt (Co)	ug/L				<0.50	0.50	7429380	<0.50	0.50	7429380
Dissolved Copper (Cu)	ug/L				1.0	0.90	7429380	0.94	0.90	7429380
Dissolved Iron (Fe)	ug/L				400	100	7429380	420	100	7429380
Dissolved Lead (Pb)	ug/L				2.3	0.50	7429380	2.3	0.50	7429380
Dissolved Magnesium (Mg)	ug/L				27000	50	7429380	27000	50	7429380
Dissolved Manganese (Mn)	ug/L				36	2.0	7429380	35	2.0	7429380
Dissolved Molybdenum (Mo)	ug/L				<0.50	0.50	7429380	<0.50	0.50	7429380
Dissolved Nickel (Ni)	ug/L				<1.0	1.0	7429380	<1.0	1.0	7429380
Dissolved Phosphorus (P)	ug/L				<100	100	7429380	<100	100	7429380
Dissolved Potassium (K)	ug/L				2000	200	7429380	2000	200	7429380
Dissolved Selenium (Se)	ug/L				<2.0	2.0	7429380	<2.0	2.0	7429380
Dissolved Silicon (Si)	ug/L				3500	50	7429380	3300	50	7429380
Dissolved Silver (Ag)	ug/L				<0.090	0.090	7429380	<0.090	0.090	7429380
Dissolved Sodium (Na)	ug/L				29000	100	7429380	28000	100	7429380
Dissolved Strontium (Sr)	ug/L				320	1.0	7429380	320	1.0	7429380
Dissolved Thallium (Tl)	ug/L				<0.050	0.050	7429380	<0.050	0.050	7429380
Dissolved Titanium (Ti)	ug/L				11	5.0	7429380	7.1	5.0	7429380
Dissolved Uranium (U)	ug/L				0.25	0.10	7429380	0.23	0.10	7429380
Dissolved Vanadium (V)	ug/L				<0.50	0.50	7429380	0.51	0.50	7429380
Dissolved Zinc (Zn)	ug/L				10	5.0	7429380	10	5.0	7429380

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate

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RCAP - COMPREHENSIVE (WATER)

BV Labs ID		PXG108		PXG109		
Sampling Date		2021/06/22 11:30		2021/06/22 15:00		
COC Number		831949-03-01		831949-03-01		
	UNITS	MW20-06 B	RDL	MW20-18	RDL	QC Batch
Calculated Parameters						
Anion Sum	me/L	6.89	N/A	12.0	N/A	7424165
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	230	1.0	260	1.0	7424184
Calculated TDS	mg/L	370	1.0	660	1.0	7424183
Carb. Alkalinity (calc. as CaCO3)	mg/L	1.9	1.0	2.2	1.0	7424184
Cation Sum	me/L	6.82	N/A	12.1	N/A	7424165
Hardness (CaCO3)	mg/L	300	1.0	390	1.0	7424186
Ion Balance (% Difference)	%	0.520	N/A	0.780	N/A	7424164
Langelier Index (@ 20C)	N/A	0.820		0.938		7424177
Langelier Index (@ 4C)	N/A	0.572		0.691		7424178
Saturation pH (@ 20C)	N/A	7.12		7.01		7424177
Saturation pH (@ 4C)	N/A	7.37		7.26		7424178
Inorganics						
Total Ammonia-N	mg/L	<0.050	0.050	<0.050	0.050	7429602
Conductivity	umho/cm	670	1.0	1300	1.0	7433472
Dissolved Organic Carbon	mg/L	0.81	0.40	1.6	0.40	7430572
Orthophosphate (P)	mg/L	<0.010	0.010	<0.010	0.010	7434295
pH	pH	7.94		7.95		7433471
Dissolved Sulphate (SO4)	mg/L	16	1.0	23	1.0	7434293
Alkalinity (Total as CaCO3)	mg/L	240	1.0	260	1.0	7433466
Dissolved Chloride (Cl-)	mg/L	45	1.0	210	3.0	7434287
Nitrite (N)	mg/L	<0.010	0.010	<0.010	0.010	7433476
Nitrate (N)	mg/L	8.03	0.10	3.04	0.10	7433476
Nitrate + Nitrite (N)	mg/L	8.03	0.10	3.04	0.10	7433476
Metals						
Dissolved Aluminum (Al)	ug/L	63	4.9	15	4.9	7429380
Dissolved Antimony (Sb)	ug/L	<0.50	0.50	<0.50	0.50	7429380
Dissolved Arsenic (As)	ug/L	<1.0	1.0	<1.0	1.0	7429380
Dissolved Barium (Ba)	ug/L	19	2.0	87	2.0	7429380
Dissolved Beryllium (Be)	ug/L	<0.40	0.40	<0.40	0.40	7429380
Dissolved Boron (B)	ug/L	11	10	14	10	7429380
Dissolved Cadmium (Cd)	ug/L	<0.090	0.090	<0.090	0.090	7429380

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N/A = Not Applicable

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

RCAP - COMPREHENSIVE (WATER)

BV Labs ID		PXG108		PXG109		
Sampling Date		2021/06/22 11:30		2021/06/22 15:00		
COC Number		831949-03-01		831949-03-01		
	UNITS	MW20-06 B	RDL	MW20-18	RDL	QC Batch
Dissolved Calcium (Ca)	ug/L	88000	200	120000	200	7429380
Dissolved Chromium (Cr)	ug/L	<5.0	5.0	<5.0	5.0	7429380
Dissolved Cobalt (Co)	ug/L	<0.50	0.50	<0.50	0.50	7429380
Dissolved Copper (Cu)	ug/L	1.2	0.90	7.4	0.90	7429380
Dissolved Iron (Fe)	ug/L	<100	100	<100	100	7429380
Dissolved Lead (Pb)	ug/L	<0.50	0.50	<0.50	0.50	7429380
Dissolved Magnesium (Mg)	ug/L	19000	50	23000	50	7429380
Dissolved Manganese (Mn)	ug/L	3.9	2.0	16	2.0	7429380
Dissolved Molybdenum (Mo)	ug/L	<0.50	0.50	1.4	0.50	7429380
Dissolved Nickel (Ni)	ug/L	<1.0	1.0	3.3	1.0	7429380
Dissolved Phosphorus (P)	ug/L	<100	100	<100	100	7429380
Dissolved Potassium (K)	ug/L	1200	200	1800	200	7429380
Dissolved Selenium (Se)	ug/L	<2.0	2.0	<2.0	2.0	7429380
Dissolved Silicon (Si)	ug/L	2300	50	3200	50	7429380
Dissolved Silver (Ag)	ug/L	<0.090	0.090	<0.090	0.090	7429380
Dissolved Sodium (Na)	ug/L	20000	100	100000	100	7429380
Dissolved Strontium (Sr)	ug/L	100	1.0	200	1.0	7429380
Dissolved Thallium (Tl)	ug/L	<0.050	0.050	<0.050	0.050	7429380
Dissolved Titanium (Ti)	ug/L	<5.0	5.0	<5.0	5.0	7429380
Dissolved Uranium (U)	ug/L	0.13	0.10	0.82	0.10	7429380
Dissolved Vanadium (V)	ug/L	<0.50	0.50	<0.50	0.50	7429380
Dissolved Zinc (Zn)	ug/L	<5.0	5.0	8.0	5.0	7429380

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

O.REG 153 PHCS, BTEX/F1-F4 (WATER)

BV Labs ID		PXG072	PXG075	PXG076	PXG102	PXG103	PXG104		
Sampling Date		2021/06/22 14:00	2021/06/22 16:30	2021/06/22	2021/06/22 14:45	2021/06/22 13:30	2021/06/22 12:30		
COC Number		831949-04-01	831949-04-01	831949-04-01	831949-03-01	831949-03-01	831949-03-01		
	UNITS	**MW20-23B**	**MW20-17B**	**DUP-1**	**MW20-01 B**	**MW20-02**	**MW20-03**	**RDL**	**QC Batch**
BTEX & F1 Hydrocarbons									
Benzene	ug/L	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	0.20	7432295
Toluene	ug/L	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	0.20	7432295
Ethylbenzene	ug/L	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	0.20	7432295
o-Xylene	ug/L	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	0.20	7432295
p+m-Xylene	ug/L	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	0.40	7432295
Total Xylenes	ug/L	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	0.40	7432295
F1 (C6-C10)	ug/L	<25	<25	<25	<25	<25	<25	25	7432295
F1 (C6-C10) - BTEX	ug/L	<25	<25	<25	<25	<25	<25	25	7432295
F2-F4 Hydrocarbons									
F2 (C10-C16 Hydrocarbons)	ug/L	<100	<100	<100	<100	<100	<100	100	7432529
F3 (C16-C34 Hydrocarbons)	ug/L	<200	520	410	<200	<200	<200	200	7432529
F4 (C34-C50 Hydrocarbons)	ug/L	<200	420	300	<200	<200	<200	200	7432529
Reached Baseline at C50	ug/L	Yes	Yes	Yes	Yes	Yes	Yes		7432529
Surrogate Recovery (%)									
1,4-Difluorobenzene	%	102	103	103	103	103	101		7432295
4-Bromofluorobenzene	%	97	97	91	92	93	103		7432295
D10-o-Xylene	%	110	110	113	111	112	111		7432295
D4-1,2-Dichloroethane	%	108	111	112	109	112	110		7432295
o-Terphenyl	%	98	97	96	97	95	96		7432529

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

O.REG 153 PHCS, BTEX/F1-F4 (WATER)

BV Labs ID		PXG105	PXG108	PXG109		
Sampling Date		2021/06/22 12:15	2021/06/22 11:30	2021/06/22 15:00		
COC Number		831949-03-01	831949-03-01	831949-03-01		
	UNITS	MW20-04	MW20-06 B	MW20-18	RDL	QC Batch
BTEX & F1 Hydrocarbons						
Benzene	ug/L	<0.20	<0.20	<0.20	0.20	7432295
Toluene	ug/L	<0.20	<0.20	<0.20	0.20	7432295
Ethylbenzene	ug/L	<0.20	<0.20	<0.20	0.20	7432295
o-Xylene	ug/L	<0.20	<0.20	<0.20	0.20	7432295
p+m-Xylene	ug/L	<0.40	<0.40	<0.40	0.40	7432295
Total Xylenes	ug/L	<0.40	<0.40	<0.40	0.40	7432295
F1 (C6-C10)	ug/L	<25	<25	<25	25	7432295
F1 (C6-C10) - BTEX	ug/L	<25	<25	<25	25	7432295
F2-F4 Hydrocarbons						
F2 (C10-C16 Hydrocarbons)	ug/L	<100	<100	<100	100	7432529
F3 (C16-C34 Hydrocarbons)	ug/L	<200	<200	<200	200	7432529
F4 (C34-C50 Hydrocarbons)	ug/L	<200	<200	<200	200	7432529
Reached Baseline at C50	ug/L	Yes	Yes	Yes		7432529
Surrogate Recovery (%)						
1,4-Difluorobenzene	%	102	100	102		7432295
4-Bromofluorobenzene	%	102	88	99		7432295
D10-o-Xylene	%	111	112	113		7432295
D4-1,2-Dichloroethane	%	112	110	111		7432295
o-Terphenyl	%	97	95	97		7432529

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

TEST SUMMARY

BV Labs ID: PXG071
Sample ID: MW20-23A
Matrix: Water

Collected: 2021/06/22
Shipped:
Received: 2021/06/22

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	7431736	N/A	2021/06/29	Surinder Rai
Carbonate, Bicarbonate and Hydroxide	CALC	7424184	N/A	2021/06/29	Automated Statchk
Chloride by Automated Colourimetry	KONE	7430955	N/A	2021/06/29	Alina Dobreanu
Conductivity	AT	7431743	N/A	2021/06/29	Surinder Rai
Dissolved Organic Carbon (DOC)	TOCV/NDIR	7431551	N/A	2021/06/28	Nimarta Singh
Hardness (calculated as CaCO3)		7424185	N/A	2021/06/29	Automated Statchk
Dissolved Metals by ICPMS	ICP/MS	7429380	N/A	2021/06/29	Prempal Bhatti
Ion Balance (% Difference)	CALC	7424164	N/A	2021/06/29	Automated Statchk
Anion and Cation Sum	CALC	7424165	N/A	2021/06/29	Automated Statchk
Total Ammonia-N	LACH/NH4	7429602	N/A	2021/06/29	Amanpreet Sappal
Nitrate (NO3) and Nitrite (NO2) in Water	LACH	7431102	N/A	2021/06/29	Chandra Nandlal
pH	AT	7431744	2021/06/26	2021/06/29	Surinder Rai
Orthophosphate	KONE	7430971	N/A	2021/06/28	Avneet Kour Sudan
Sat. pH and Langelier Index (@ 20C)	CALC	7424177	N/A	2021/06/29	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	7424178	N/A	2021/06/29	Automated Statchk
Sulphate by Automated Colourimetry	KONE	7430973	N/A	2021/06/28	Avneet Kour Sudan
Total Dissolved Solids (TDS calc)	CALC	7424183	N/A	2021/06/29	Automated Statchk

BV Labs ID: PXG071 Dup
Sample ID: MW20-23A
Matrix: Water

Collected: 2021/06/22
Shipped:
Received: 2021/06/22

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	7431736	N/A	2021/06/29	Surinder Rai
Conductivity	AT	7431743	N/A	2021/06/29	Surinder Rai
pH	AT	7431744	2021/06/26	2021/06/29	Surinder Rai

BV Labs ID: PXG072
Sample ID: MW20-23B
Matrix: Water

Collected: 2021/06/22
Shipped:
Received: 2021/06/22

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	7433466	N/A	2021/06/29	Surinder Rai
Carbonate, Bicarbonate and Hydroxide	CALC	7424184	N/A	2021/06/30	Automated Statchk
Chloride by Automated Colourimetry	KONE	7434287	N/A	2021/06/29	Alina Dobreanu
Conductivity	AT	7433472	N/A	2021/06/29	Surinder Rai
Dissolved Organic Carbon (DOC)	TOCV/NDIR	7430360	N/A	2021/06/26	Nimarta Singh
Petroleum Hydro. CCME F1 & BTEX in Water	HSGC/MSFD	7432295	N/A	2021/06/27	Joe Paino
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	7432529	2021/06/28	2021/06/28	Jeevaraj Jeevaratrnam
Hardness (calculated as CaCO3)		7424186	N/A	2021/06/29	Automated Statchk
Dissolved Metals by ICPMS	ICP/MS	7429380	N/A	2021/06/28	Prempal Bhatti
Ion Balance (% Difference)	CALC	7424164	N/A	2021/06/30	Automated Statchk
Anion and Cation Sum	CALC	7424165	N/A	2021/06/30	Automated Statchk
Total Ammonia-N	LACH/NH4	7429602	N/A	2021/06/29	Amanpreet Sappal
Nitrate (NO3) and Nitrite (NO2) in Water	LACH	7433476	N/A	2021/06/29	Chandra Nandlal

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

TEST SUMMARY

BV Labs ID: PXG072
Sample ID: MW20-23B
Matrix: Water

Collected: 2021/06/22
Shipped:
Received: 2021/06/22

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
pH	AT	7433471	2021/06/28	2021/06/29	Surinder Rai
Orthophosphate	KONE	7434295	N/A	2021/06/30	Avneet Kour Sudan
Sat. pH and Langelier Index (@ 20C)	CALC	7424177	N/A	2021/06/30	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	7424178	N/A	2021/06/30	Automated Statchk
Sulphate by Automated Colourimetry	KONE	7434293	N/A	2021/06/29	Alina Dobreanu
Total Dissolved Solids (TDS calc)	CALC	7424183	N/A	2021/06/30	Automated Statchk

BV Labs ID: PXG072 Dup
Sample ID: MW20-23B
Matrix: Water

Collected: 2021/06/22
Shipped:
Received: 2021/06/22

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	7433466	N/A	2021/06/29	Surinder Rai
Conductivity	AT	7433472	N/A	2021/06/29	Surinder Rai
pH	AT	7433471	2021/06/28	2021/06/29	Surinder Rai

BV Labs ID: PXG073
Sample ID: MW20-23C
Matrix: Water

Collected: 2021/06/22
Shipped:
Received: 2021/06/22

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	7431045	N/A	2021/06/29	Surinder Rai
Carbonate, Bicarbonate and Hydroxide	CALC	7424184	N/A	2021/06/29	Automated Statchk
Chloride by Automated Colourimetry	KONE	7431020	N/A	2021/06/28	Alina Dobreanu
Conductivity	AT	7431056	N/A	2021/06/29	Surinder Rai
Dissolved Organic Carbon (DOC)	TOCV/NDIR	7430572	N/A	2021/06/25	Nimarta Singh
Hardness (calculated as CaCO3)		7424186	N/A	2021/06/29	Automated Statchk
Dissolved Metals by ICPMS	ICP/MS	7429380	N/A	2021/06/28	Prempal Bhatti
Ion Balance (% Difference)	CALC	7424164	N/A	2021/06/29	Automated Statchk
Anion and Cation Sum	CALC	7424165	N/A	2021/06/29	Automated Statchk
Total Ammonia-N	LACH/NH4	7429602	N/A	2021/06/29	Amanpreet Sappal
Nitrate (NO3) and Nitrite (NO2) in Water	LACH	7431102	N/A	2021/06/29	Chandra Nandlal
pH	AT	7431065	2021/06/25	2021/06/29	Surinder Rai
Orthophosphate	KONE	7431101	N/A	2021/06/30	Avneet Kour Sudan
Sat. pH and Langelier Index (@ 20C)	CALC	7424177	N/A	2021/06/29	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	7424178	N/A	2021/06/29	Automated Statchk
Sulphate by Automated Colourimetry	KONE	7431104	N/A	2021/06/28	Alina Dobreanu
Total Dissolved Solids (TDS calc)	CALC	7424183	N/A	2021/06/29	Automated Statchk

BV Labs ID: PXG074
Sample ID: MW20-17A
Matrix: Water

Collected: 2021/06/22
Shipped:
Received: 2021/06/22

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	7431045	N/A	2021/06/29	Surinder Rai

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

TEST SUMMARY

BV Labs ID: PXG074
Sample ID: MW20-17A
Matrix: Water

Collected: 2021/06/22
Shipped:
Received: 2021/06/22

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Carbonate, Bicarbonate and Hydroxide	CALC	7424184	N/A	2021/06/29	Automated Statchk
Chloride by Automated Colourimetry	KONE	7430955	N/A	2021/06/29	Alina Dobreanu
Conductivity	AT	7431056	N/A	2021/06/29	Surinder Rai
Dissolved Organic Carbon (DOC)	TOCV/NDIR	7430360	N/A	2021/06/26	Nimarta Singh
Hardness (calculated as CaCO3)		7424186	N/A	2021/06/29	Automated Statchk
Dissolved Metals by ICPMS	ICP/MS	7429380	N/A	2021/06/28	Prempal Bhatti
Ion Balance (% Difference)	CALC	7424164	N/A	2021/06/29	Automated Statchk
Anion and Cation Sum	CALC	7424165	N/A	2021/06/29	Automated Statchk
Total Ammonia-N	LACH/NH4	7429602	N/A	2021/06/29	Amanpreet Sappal
Nitrate (NO3) and Nitrite (NO2) in Water	LACH	7431102	N/A	2021/06/29	Chandra Nandlal
pH	AT	7431065	2021/06/25	2021/06/29	Surinder Rai
Orthophosphate	KONE	7430971	N/A	2021/06/28	Avneet Kour Sudan
Sat. pH and Langelier Index (@ 20C)	CALC	7424177	N/A	2021/06/29	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	7424178	N/A	2021/06/29	Automated Statchk
Sulphate by Automated Colourimetry	KONE	7430973	N/A	2021/06/28	Avneet Kour Sudan
Total Dissolved Solids (TDS calc)	CALC	7424183	N/A	2021/06/29	Automated Statchk

BV Labs ID: PXG075
Sample ID: MW20-17B
Matrix: Water

Collected: 2021/06/22
Shipped:
Received: 2021/06/22

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	7433466	N/A	2021/06/29	Surinder Rai
Carbonate, Bicarbonate and Hydroxide	CALC	7424184	N/A	2021/06/30	Automated Statchk
Chloride by Automated Colourimetry	KONE	7434287	N/A	2021/06/29	Alina Dobreanu
Conductivity	AT	7433472	N/A	2021/06/29	Surinder Rai
Dissolved Organic Carbon (DOC)	TOCV/NDIR	7430572	N/A	2021/06/25	Nimarta Singh
Petroleum Hydro. CCME F1 & BTEX in Water	HSGC/MSFD	7432295	N/A	2021/06/27	Joe Paino
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	7432529	2021/06/28	2021/06/28	Jeevaraj Jeevaratrnam
Hardness (calculated as CaCO3)		7424186	N/A	2021/06/29	Automated Statchk
Dissolved Metals by ICPMS	ICP/MS	7429380	N/A	2021/06/29	Prempal Bhatti
Ion Balance (% Difference)	CALC	7424164	N/A	2021/06/30	Automated Statchk
Anion and Cation Sum	CALC	7424165	N/A	2021/06/30	Automated Statchk
Total Ammonia-N	LACH/NH4	7429602	N/A	2021/06/29	Amanpreet Sappal
Nitrate (NO3) and Nitrite (NO2) in Water	LACH	7433476	N/A	2021/06/29	Chandra Nandlal
pH	AT	7433471	2021/06/28	2021/06/29	Surinder Rai
Orthophosphate	KONE	7434295	N/A	2021/06/30	Avneet Kour Sudan
Sat. pH and Langelier Index (@ 20C)	CALC	7424177	N/A	2021/06/30	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	7424178	N/A	2021/06/30	Automated Statchk
Sulphate by Automated Colourimetry	KONE	7434293	N/A	2021/06/29	Alina Dobreanu
Total Dissolved Solids (TDS calc)	CALC	7424183	N/A	2021/06/30	Automated Statchk

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

TEST SUMMARY

BV Labs ID: PXG076
Sample ID: DUP-1
Matrix: Water

Collected: 2021/06/22
Shipped:
Received: 2021/06/22

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	7433466	N/A	2021/06/29	Surinder Rai
Carbonate, Bicarbonate and Hydroxide	CALC	7424184	N/A	2021/06/30	Automated Statchk
Chloride by Automated Colourimetry	KONE	7434287	N/A	2021/06/29	Alina Dobreanu
Conductivity	AT	7433472	N/A	2021/06/29	Surinder Rai
Dissolved Organic Carbon (DOC)	TOCV/NDIR	7430572	N/A	2021/06/25	Nimarta Singh
Petroleum Hydro. CCME F1 & BTEX in Water	HSGC/MSFD	7432295	N/A	2021/06/27	Joe Paino
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	7432529	2021/06/28	2021/06/28	Jeevaraj Jeevaratrnam
Hardness (calculated as CaCO3)		7424186	N/A	2021/06/29	Automated Statchk
Dissolved Metals by ICPMS	ICP/MS	7429380	N/A	2021/06/28	Prempal Bhatti
Ion Balance (% Difference)	CALC	7424164	N/A	2021/06/30	Automated Statchk
Anion and Cation Sum	CALC	7424165	N/A	2021/06/30	Automated Statchk
Total Ammonia-N	LACH/NH4	7429602	N/A	2021/06/29	Amanpreet Sappal
Nitrate (NO3) and Nitrite (NO2) in Water	LACH	7433476	N/A	2021/06/29	Chandra Nandlal
pH	AT	7433471	2021/06/28	2021/06/29	Surinder Rai
Orthophosphate	KONE	7434295	N/A	2021/06/30	Avneet Kour Sudan
Sat. pH and Langelier Index (@ 20C)	CALC	7424177	N/A	2021/06/30	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	7424178	N/A	2021/06/30	Automated Statchk
Sulphate by Automated Colourimetry	KONE	7434293	N/A	2021/06/29	Alina Dobreanu
Total Dissolved Solids (TDS calc)	CALC	7424183	N/A	2021/06/30	Automated Statchk

BV Labs ID: PXG101
Sample ID: MW20-01 A
Matrix: Water

Collected: 2021/06/22
Shipped:
Received: 2021/06/22

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	7433466	N/A	2021/06/29	Surinder Rai
Carbonate, Bicarbonate and Hydroxide	CALC	7424184	N/A	2021/06/30	Automated Statchk
Chloride by Automated Colourimetry	KONE	7434287	N/A	2021/06/29	Alina Dobreanu
Conductivity	AT	7433472	N/A	2021/06/29	Surinder Rai
Dissolved Organic Carbon (DOC)	TOCV/NDIR	7430572	N/A	2021/06/25	Nimarta Singh
Hardness (calculated as CaCO3)		7424186	N/A	2021/06/29	Automated Statchk
Dissolved Metals by ICPMS	ICP/MS	7429380	N/A	2021/06/28	Prempal Bhatti
Ion Balance (% Difference)	CALC	7424164	N/A	2021/06/30	Automated Statchk
Anion and Cation Sum	CALC	7424165	N/A	2021/06/30	Automated Statchk
Total Ammonia-N	LACH/NH4	7429602	N/A	2021/06/29	Amanpreet Sappal
Nitrate (NO3) and Nitrite (NO2) in Water	LACH	7433476	N/A	2021/06/29	Chandra Nandlal
pH	AT	7433471	2021/06/28	2021/06/29	Surinder Rai
Orthophosphate	KONE	7434295	N/A	2021/06/30	Avneet Kour Sudan
Sat. pH and Langelier Index (@ 20C)	CALC	7424177	N/A	2021/06/30	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	7424178	N/A	2021/06/30	Automated Statchk
Sulphate by Automated Colourimetry	KONE	7434293	N/A	2021/06/29	Alina Dobreanu
Total Dissolved Solids (TDS calc)	CALC	7424183	N/A	2021/06/30	Automated Statchk

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

TEST SUMMARY

BV Labs ID: PXG102
Sample ID: MW20-01 B
Matrix: Water

Collected: 2021/06/22
Shipped:
Received: 2021/06/22

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	7433466	N/A	2021/06/29	Surinder Rai
Carbonate, Bicarbonate and Hydroxide	CALC	7424184	N/A	2021/06/30	Automated Statchk
Chloride by Automated Colourimetry	KONE	7434287	N/A	2021/06/29	Alina Dobreanu
Conductivity	AT	7433472	N/A	2021/06/29	Surinder Rai
Dissolved Organic Carbon (DOC)	TOCV/NDIR	7430360	N/A	2021/06/27	Nimarta Singh
Petroleum Hydro. CCME F1 & BTEX in Water	HSGC/MSFD	7432295	N/A	2021/06/28	Joe Paino
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	7432529	2021/06/28	2021/06/28	Jeevaraj Jeevaratrnam
Hardness (calculated as CaCO3)		7424186	N/A	2021/06/29	Automated Statchk
Dissolved Metals by ICPMS	ICP/MS	7429380	N/A	2021/06/28	Prempal Bhatti
Ion Balance (% Difference)	CALC	7424164	N/A	2021/06/30	Automated Statchk
Anion and Cation Sum	CALC	7424165	N/A	2021/06/30	Automated Statchk
Total Ammonia-N	LACH/NH4	7429602	N/A	2021/06/29	Amanpreet Sappal
Nitrate (NO3) and Nitrite (NO2) in Water	LACH	7433476	N/A	2021/06/29	Chandra Nandlal
pH	AT	7433471	2021/06/28	2021/06/29	Surinder Rai
Orthophosphate	KONE	7434295	N/A	2021/06/30	Avneet Kour Sudan
Sat. pH and Langelier Index (@ 20C)	CALC	7424177	N/A	2021/06/30	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	7424178	N/A	2021/06/30	Automated Statchk
Sulphate by Automated Colourimetry	KONE	7434293	N/A	2021/06/29	Alina Dobreanu
Total Dissolved Solids (TDS calc)	CALC	7424183	N/A	2021/06/30	Automated Statchk

BV Labs ID: PXG103
Sample ID: MW20-02
Matrix: Water

Collected: 2021/06/22
Shipped:
Received: 2021/06/22

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	7433466	N/A	2021/06/29	Surinder Rai
Carbonate, Bicarbonate and Hydroxide	CALC	7424184	N/A	2021/06/30	Automated Statchk
Chloride by Automated Colourimetry	KONE	7434287	N/A	2021/06/29	Alina Dobreanu
Conductivity	AT	7433472	N/A	2021/06/29	Surinder Rai
Dissolved Organic Carbon (DOC)	TOCV/NDIR	7430360	N/A	2021/06/26	Nimarta Singh
Petroleum Hydro. CCME F1 & BTEX in Water	HSGC/MSFD	7432295	N/A	2021/06/28	Joe Paino
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	7432529	2021/06/28	2021/06/28	Jeevaraj Jeevaratrnam
Hardness (calculated as CaCO3)		7424186	N/A	2021/06/29	Automated Statchk
Dissolved Metals by ICPMS	ICP/MS	7429380	N/A	2021/06/28	Prempal Bhatti
Ion Balance (% Difference)	CALC	7424164	N/A	2021/06/30	Automated Statchk
Anion and Cation Sum	CALC	7424165	N/A	2021/06/30	Automated Statchk
Total Ammonia-N	LACH/NH4	7429602	N/A	2021/06/29	Amanpreet Sappal
Nitrate (NO3) and Nitrite (NO2) in Water	LACH	7433476	N/A	2021/06/29	Chandra Nandlal
pH	AT	7433471	2021/06/28	2021/06/29	Surinder Rai
Orthophosphate	KONE	7434295	N/A	2021/06/30	Avneet Kour Sudan
Sat. pH and Langelier Index (@ 20C)	CALC	7424177	N/A	2021/06/30	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	7424178	N/A	2021/06/30	Automated Statchk
Sulphate by Automated Colourimetry	KONE	7434293	N/A	2021/06/29	Alina Dobreanu
Total Dissolved Solids (TDS calc)	CALC	7424183	N/A	2021/06/30	Automated Statchk

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

TEST SUMMARY

BV Labs ID: PXG104
Sample ID: MW20-03
Matrix: Water

Collected: 2021/06/22
Shipped:
Received: 2021/06/22

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	7433466	N/A	2021/06/29	Surinder Rai
Carbonate, Bicarbonate and Hydroxide	CALC	7424184	N/A	2021/06/30	Automated Statchk
Chloride by Automated Colourimetry	KONE	7434287	N/A	2021/06/29	Alina Dobreanu
Conductivity	AT	7433472	N/A	2021/06/29	Surinder Rai
Dissolved Organic Carbon (DOC)	TOCV/NDIR	7430572	N/A	2021/06/25	Nimarta Singh
Petroleum Hydro. CCME F1 & BTEX in Water	HSGC/MSFD	7432295	N/A	2021/06/28	Joe Paino
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	7432529	2021/06/28	2021/06/28	Jeevaraj Jeevaratrnam
Hardness (calculated as CaCO3)		7424186	N/A	2021/06/29	Automated Statchk
Dissolved Metals by ICPMS	ICP/MS	7429380	N/A	2021/06/28	Prempal Bhatti
Ion Balance (% Difference)	CALC	7424164	N/A	2021/06/30	Automated Statchk
Anion and Cation Sum	CALC	7424165	N/A	2021/06/30	Automated Statchk
Total Ammonia-N	LACH/NH4	7429602	N/A	2021/06/29	Amanpreet Sappal
Nitrate (NO3) and Nitrite (NO2) in Water	LACH	7433476	N/A	2021/06/29	Chandra Nandlal
pH	AT	7433471	2021/06/28	2021/06/29	Surinder Rai
Orthophosphate	KONE	7434295	N/A	2021/06/30	Avneet Kour Sudan
Sat. pH and Langelier Index (@ 20C)	CALC	7424177	N/A	2021/06/30	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	7424178	N/A	2021/06/30	Automated Statchk
Sulphate by Automated Colourimetry	KONE	7434293	N/A	2021/06/29	Alina Dobreanu
Total Dissolved Solids (TDS calc)	CALC	7424183	N/A	2021/06/30	Automated Statchk

BV Labs ID: PXG105
Sample ID: MW20-04
Matrix: Water

Collected: 2021/06/22
Shipped:
Received: 2021/06/22

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	7433466	N/A	2021/06/29	Surinder Rai
Carbonate, Bicarbonate and Hydroxide	CALC	7424184	N/A	2021/06/30	Automated Statchk
Chloride by Automated Colourimetry	KONE	7434287	N/A	2021/06/29	Alina Dobreanu
Conductivity	AT	7433472	N/A	2021/06/29	Surinder Rai
Dissolved Organic Carbon (DOC)	TOCV/NDIR	7430360	N/A	2021/06/26	Nimarta Singh
Petroleum Hydro. CCME F1 & BTEX in Water	HSGC/MSFD	7432295	N/A	2021/06/28	Joe Paino
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	7432529	2021/06/28	2021/06/28	Jeevaraj Jeevaratrnam
Hardness (calculated as CaCO3)		7424186	N/A	2021/06/29	Automated Statchk
Dissolved Metals by ICPMS	ICP/MS	7429380	N/A	2021/06/29	Prempal Bhatti
Ion Balance (% Difference)	CALC	7424164	N/A	2021/06/30	Automated Statchk
Anion and Cation Sum	CALC	7424165	N/A	2021/06/30	Automated Statchk
Total Ammonia-N	LACH/NH4	7429602	N/A	2021/06/29	Amanpreet Sappal
Nitrate (NO3) and Nitrite (NO2) in Water	LACH	7433476	N/A	2021/06/29	Chandra Nandlal
pH	AT	7433471	2021/06/28	2021/06/29	Surinder Rai
Orthophosphate	KONE	7434295	N/A	2021/06/30	Avneet Kour Sudan
Sat. pH and Langelier Index (@ 20C)	CALC	7424177	N/A	2021/06/30	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	7424178	N/A	2021/06/30	Automated Statchk
Sulphate by Automated Colourimetry	KONE	7434293	N/A	2021/06/29	Alina Dobreanu
Total Dissolved Solids (TDS calc)	CALC	7424183	N/A	2021/06/30	Automated Statchk

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

TEST SUMMARY

BV Labs ID: PXG106
Sample ID: MW20-05A
Matrix: Water

Collected: 2021/06/22
Shipped:
Received: 2021/06/22

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	7433466	N/A	2021/06/29	Surinder Rai
Carbonate, Bicarbonate and Hydroxide	CALC	7424184	N/A	2021/06/30	Automated Statchk
Chloride by Automated Colourimetry	KONE	7434287	N/A	2021/06/29	Alina Dobreanu
Conductivity	AT	7433472	N/A	2021/06/29	Surinder Rai
Dissolved Organic Carbon (DOC)	TOCV/NDIR	7430360	N/A	2021/06/26	Nimarta Singh
Hardness (calculated as CaCO3)		7424186	N/A	2021/06/29	Automated Statchk
Dissolved Metals by ICPMS	ICP/MS	7429380	N/A	2021/06/28	Prempal Bhatti
Ion Balance (% Difference)	CALC	7424164	N/A	2021/06/30	Automated Statchk
Anion and Cation Sum	CALC	7424165	N/A	2021/06/30	Automated Statchk
Total Ammonia-N	LACH/NH4	7429602	N/A	2021/06/29	Amanpreet Sappal
Nitrate (NO3) and Nitrite (NO2) in Water	LACH	7433476	N/A	2021/06/29	Chandra Nandlal
pH	AT	7433471	2021/06/28	2021/06/29	Surinder Rai
Orthophosphate	KONE	7434295	N/A	2021/06/30	Avneet Kour Sudan
Sat. pH and Langelier Index (@ 20C)	CALC	7424177	N/A	2021/06/30	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	7424178	N/A	2021/06/30	Automated Statchk
Sulphate by Automated Colourimetry	KONE	7434293	N/A	2021/06/29	Alina Dobreanu
Total Dissolved Solids (TDS calc)	CALC	7424183	N/A	2021/06/30	Automated Statchk

BV Labs ID: PXG106 Dup
Sample ID: MW20-05A
Matrix: Water

Collected: 2021/06/22
Shipped:
Received: 2021/06/22

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Chloride by Automated Colourimetry	KONE	7434287	N/A	2021/06/29	Alina Dobreanu
Orthophosphate	KONE	7434295	N/A	2021/06/30	Avneet Kour Sudan
Sulphate by Automated Colourimetry	KONE	7434293	N/A	2021/06/29	Alina Dobreanu

BV Labs ID: PXG107
Sample ID: MW20-06A
Matrix: Water

Collected: 2021/06/22
Shipped:
Received: 2021/06/22

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	7433466	N/A	2021/06/29	Surinder Rai
Carbonate, Bicarbonate and Hydroxide	CALC	7424184	N/A	2021/06/30	Automated Statchk
Chloride by Automated Colourimetry	KONE	7434287	N/A	2021/06/29	Alina Dobreanu
Conductivity	AT	7433472	N/A	2021/06/29	Surinder Rai
Dissolved Organic Carbon (DOC)	TOCV/NDIR	7430572	N/A	2021/06/25	Nimarta Singh
Hardness (calculated as CaCO3)		7424186	N/A	2021/06/29	Automated Statchk
Dissolved Metals by ICPMS	ICP/MS	7429380	N/A	2021/06/28	Prempal Bhatti
Ion Balance (% Difference)	CALC	7424164	N/A	2021/06/30	Automated Statchk
Anion and Cation Sum	CALC	7424165	N/A	2021/06/30	Automated Statchk
Total Ammonia-N	LACH/NH4	7429602	N/A	2021/06/29	Amanpreet Sappal
Nitrate (NO3) and Nitrite (NO2) in Water	LACH	7433476	N/A	2021/06/29	Chandra Nandlal
pH	AT	7433471	2021/06/28	2021/06/29	Surinder Rai
Orthophosphate	KONE	7434295	N/A	2021/06/30	Avneet Kour Sudan

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

TEST SUMMARY

BV Labs ID: PXG107
Sample ID: MW20-06A
Matrix: Water

Collected: 2021/06/22
Shipped:
Received: 2021/06/22

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Sat. pH and Langelier Index (@ 20C)	CALC	7424177	N/A	2021/06/30	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	7424178	N/A	2021/06/30	Automated Statchk
Sulphate by Automated Colourimetry	KONE	7434293	N/A	2021/06/29	Alina Dobreanu
Total Dissolved Solids (TDS calc)	CALC	7424183	N/A	2021/06/30	Automated Statchk

BV Labs ID: PXG107 Dup
Sample ID: MW20-06A
Matrix: Water

Collected: 2021/06/22
Shipped:
Received: 2021/06/22

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Dissolved Metals by ICPMS	ICP/MS	7429380	N/A	2021/06/28	Prempal Bhatti
Nitrate (NO3) and Nitrite (NO2) in Water	LACH	7433476	N/A	2021/06/29	Chandra Nandlal

BV Labs ID: PXG108
Sample ID: MW20-06 B
Matrix: Water

Collected: 2021/06/22
Shipped:
Received: 2021/06/22

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	7433466	N/A	2021/06/29	Surinder Rai
Carbonate, Bicarbonate and Hydroxide	CALC	7424184	N/A	2021/06/30	Automated Statchk
Chloride by Automated Colourimetry	KONE	7434287	N/A	2021/06/29	Alina Dobreanu
Conductivity	AT	7433472	N/A	2021/06/29	Surinder Rai
Dissolved Organic Carbon (DOC)	TOCV/NDIR	7430572	N/A	2021/06/25	Nimarta Singh
Petroleum Hydro. CCME F1 & BTEX in Water	HSGC/MSFD	7432295	N/A	2021/06/28	Joe Paino
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	7432529	2021/06/28	2021/06/28	Jeevaraj Jeevaratrnam
Hardness (calculated as CaCO3)		7424186	N/A	2021/06/29	Automated Statchk
Dissolved Metals by ICPMS	ICP/MS	7429380	N/A	2021/06/28	Prempal Bhatti
Ion Balance (% Difference)	CALC	7424164	N/A	2021/06/30	Automated Statchk
Anion and Cation Sum	CALC	7424165	N/A	2021/06/30	Automated Statchk
Total Ammonia-N	LACH/NH4	7429602	N/A	2021/06/29	Amanpreet Sappal
Nitrate (NO3) and Nitrite (NO2) in Water	LACH	7433476	N/A	2021/06/29	Chandra Nandlal
pH	AT	7433471	2021/06/28	2021/06/29	Surinder Rai
Orthophosphate	KONE	7434295	N/A	2021/06/30	Avneet Kour Sudan
Sat. pH and Langelier Index (@ 20C)	CALC	7424177	N/A	2021/06/30	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	7424178	N/A	2021/06/30	Automated Statchk
Sulphate by Automated Colourimetry	KONE	7434293	N/A	2021/06/29	Alina Dobreanu
Total Dissolved Solids (TDS calc)	CALC	7424183	N/A	2021/06/30	Automated Statchk

BV Labs ID: PXG109
Sample ID: MW20-18
Matrix: Water

Collected: 2021/06/22
Shipped:
Received: 2021/06/22

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	7433466	N/A	2021/06/29	Surinder Rai
Carbonate, Bicarbonate and Hydroxide	CALC	7424184	N/A	2021/06/30	Automated Statchk

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

BV Labs Job #: C1H2396
Report Date: 2021/06/30

Golder Associates Ltd
Client Project #: 19129150 (2300)
Sampler Initials: VP

TEST SUMMARY

BV Labs ID: PXG109
Sample ID: MW20-18
Matrix: Water

Collected: 2021/06/22
Shipped:
Received: 2021/06/22

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Chloride by Automated Colourimetry	KONE	7434287	N/A	2021/06/29	Alina Dobreanu
Conductivity	AT	7433472	N/A	2021/06/29	Surinder Rai
Dissolved Organic Carbon (DOC)	TOCV/NDIR	7430572	N/A	2021/06/25	Nimarta Singh
Petroleum Hydro. CCME F1 & BTEX in Water	HSGC/MSFD	7432295	N/A	2021/06/28	Joe Paino
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	7432529	2021/06/28	2021/06/28	Jeevaraj Jeevaratrnam
Hardness (calculated as CaCO3)		7424186	N/A	2021/06/29	Automated Statchk
Dissolved Metals by ICPMS	ICP/MS	7429380	N/A	2021/06/28	Prempal Bhatti
Ion Balance (% Difference)	CALC	7424164	N/A	2021/06/30	Automated Statchk
Anion and Cation Sum	CALC	7424165	N/A	2021/06/30	Automated Statchk
Total Ammonia-N	LACH/NH4	7429602	N/A	2021/06/29	Amanpreet Sappal
Nitrate (NO3) and Nitrite (NO2) in Water	LACH	7433476	N/A	2021/06/29	Chandra Nandlal
pH	AT	7433471	2021/06/28	2021/06/29	Surinder Rai
Orthophosphate	KONE	7434295	N/A	2021/06/30	Avneet Kour Sudan
Sat. pH and Langelier Index (@ 20C)	CALC	7424177	N/A	2021/06/30	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	7424178	N/A	2021/06/30	Automated Statchk
Sulphate by Automated Colourimetry	KONE	7434293	N/A	2021/06/29	Alina Dobreanu
Total Dissolved Solids (TDS calc)	CALC	7424183	N/A	2021/06/30	Automated Statchk

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	12.3°C
Package 2	15.3°C

Results relate only to the items tested.

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

QUALITY ASSURANCE REPORT

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
7432295	1,4-Difluorobenzene	2021/06/27	96	70 - 130	98	70 - 130	105	%		
7432295	4-Bromofluorobenzene	2021/06/27	109	70 - 130	111	70 - 130	92	%		
7432295	D10-o-Xylene	2021/06/27	99	70 - 130	96	70 - 130	112	%		
7432295	D4-1,2-Dichloroethane	2021/06/27	106	70 - 130	104	70 - 130	113	%		
7432529	o-Terphenyl	2021/06/28	97	60 - 130	98	60 - 130	96	%		
7429380	Dissolved Aluminum (Al)	2021/06/28	118	80 - 120	94	80 - 120	<4.9	ug/L	4.3	20
7429380	Dissolved Antimony (Sb)	2021/06/28	107	80 - 120	101	80 - 120	<0.50	ug/L	NC	20
7429380	Dissolved Arsenic (As)	2021/06/28	104	80 - 120	100	80 - 120	<1.0	ug/L	NC	20
7429380	Dissolved Barium (Ba)	2021/06/28	103	80 - 120	102	80 - 120	<2.0	ug/L	1.2	20
7429380	Dissolved Beryllium (Be)	2021/06/28	100	80 - 120	102	80 - 120	<0.40	ug/L	NC	20
7429380	Dissolved Boron (B)	2021/06/28	93	80 - 120	93	80 - 120	<10	ug/L	7.7	20
7429380	Dissolved Cadmium (Cd)	2021/06/28	103	80 - 120	99	80 - 120	<0.090	ug/L	NC	20
7429380	Dissolved Calcium (Ca)	2021/06/28	NC	80 - 120	98	80 - 120	<200	ug/L	3.8	20
7429380	Dissolved Chromium (Cr)	2021/06/28	97	80 - 120	95	80 - 120	<5.0	ug/L	NC	20
7429380	Dissolved Cobalt (Co)	2021/06/28	101	80 - 120	99	80 - 120	<0.50	ug/L	NC	20
7429380	Dissolved Copper (Cu)	2021/06/28	98	80 - 120	96	80 - 120	<0.90	ug/L	7.2	20
7429380	Dissolved Iron (Fe)	2021/06/28	102	80 - 120	99	80 - 120	<100	ug/L	4.2	20
7429380	Dissolved Lead (Pb)	2021/06/28	97	80 - 120	97	80 - 120	<0.50	ug/L	0.58	20
7429380	Dissolved Magnesium (Mg)	2021/06/28	NC	80 - 120	98	80 - 120	<50	ug/L	0.19	20
7429380	Dissolved Manganese (Mn)	2021/06/28	100	80 - 120	98	80 - 120	<2.0	ug/L	2.0	20
7429380	Dissolved Molybdenum (Mo)	2021/06/28	103	80 - 120	99	80 - 120	<0.50	ug/L	NC	20
7429380	Dissolved Nickel (Ni)	2021/06/28	97	80 - 120	96	80 - 120	<1.0	ug/L	NC	20
7429380	Dissolved Phosphorus (P)	2021/06/28	96	80 - 120	105	80 - 120	<100	ug/L	NC	20
7429380	Dissolved Potassium (K)	2021/06/28	104	80 - 120	100	80 - 120	<200	ug/L	0.13	20
7429380	Dissolved Selenium (Se)	2021/06/28	105	80 - 120	99	80 - 120	<2.0	ug/L	NC	20
7429380	Dissolved Silicon (Si)	2021/06/28	106	80 - 120	97	80 - 120	<50	ug/L	6.7	20
7429380	Dissolved Silver (Ag)	2021/06/28	100	80 - 120	97	80 - 120	<0.090	ug/L	NC	20
7429380	Dissolved Sodium (Na)	2021/06/28	NC	80 - 120	95	80 - 120	<100	ug/L	1.0	20
7429380	Dissolved Strontium (Sr)	2021/06/28	100	80 - 120	97	80 - 120	<1.0	ug/L	0.32	20
7429380	Dissolved Thallium (Tl)	2021/06/28	100	80 - 120	100	80 - 120	<0.050	ug/L	NC	20
7429380	Dissolved Titanium (Ti)	2021/06/28	103	80 - 120	96	80 - 120	<5.0	ug/L	NC	20

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
7429380	Dissolved Uranium (U)	2021/06/28	99	80 - 120	98	80 - 120	<0.10	ug/L	6.3	20
7429380	Dissolved Vanadium (V)	2021/06/28	98	80 - 120	94	80 - 120	<0.50	ug/L	2.0	20
7429380	Dissolved Zinc (Zn)	2021/06/28	98	80 - 120	96	80 - 120	<5.0	ug/L	3.4	20
7429602	Total Ammonia-N	2021/06/29	95	75 - 125	104	80 - 120	<0.050	mg/L	NC	20
7430360	Dissolved Organic Carbon	2021/06/26	95	80 - 120	98	80 - 120	<0.40	mg/L	5.2	20
7430572	Dissolved Organic Carbon	2021/06/25	95	80 - 120	95	80 - 120	<0.40	mg/L	0.014	20
7430955	Dissolved Chloride (Cl-)	2021/06/29	NC	80 - 120	103	80 - 120	<1.0	mg/L	1.1	20
7430971	Orthophosphate (P)	2021/06/28	115	75 - 125	102	80 - 120	<0.010	mg/L	NC	25
7430973	Dissolved Sulphate (SO4)	2021/06/28	NC	75 - 125	103	80 - 120	<1.0	mg/L	0.26	20
7431020	Dissolved Chloride (Cl-)	2021/06/28	NC	80 - 120	101	80 - 120	<1.0	mg/L	1.2	20
7431045	Alkalinity (Total as CaCO3)	2021/06/29			95	85 - 115	<1.0	mg/L	0.87	20
7431056	Conductivity	2021/06/29			102	85 - 115	<1.0	umho/cm	0.34	25
7431065	pH	2021/06/29			102	98 - 103			0.13	N/A
7431101	Orthophosphate (P)	2021/06/30	92	75 - 125	102	80 - 120	<0.010	mg/L	NC	25
7431102	Nitrate (N)	2021/06/29	106	80 - 120	105	80 - 120	<0.10	mg/L	7.7	20
7431102	Nitrite (N)	2021/06/29	105	80 - 120	104	80 - 120	<0.010	mg/L	NC	20
7431104	Dissolved Sulphate (SO4)	2021/06/28	NC	75 - 125	102	80 - 120	<1.0	mg/L	2.3	20
7431551	Dissolved Organic Carbon	2021/06/28	98	80 - 120	103	80 - 120	<0.40	mg/L	3.8	20
7431736	Alkalinity (Total as CaCO3)	2021/06/29			97	85 - 115	<1.0	mg/L	0.031	20
7431743	Conductivity	2021/06/29			101	85 - 115	<1.0	umho/cm	0.44	25
7431744	pH	2021/06/29			102	98 - 103			0.18	N/A
7432295	Benzene	2021/06/27	98	50 - 140	95	50 - 140	<0.20	ug/L	NC	30
7432295	Ethylbenzene	2021/06/27	101	50 - 140	98	50 - 140	<0.20	ug/L	NC	30
7432295	F1 (C6-C10) - BTEX	2021/06/27					<25	ug/L	NC	30
7432295	F1 (C6-C10)	2021/06/27	86	60 - 140	83	60 - 140	<25	ug/L	NC	30
7432295	o-Xylene	2021/06/27	100	50 - 140	98	50 - 140	<0.20	ug/L	NC	30
7432295	p+m-Xylene	2021/06/27	95	50 - 140	93	50 - 140	<0.40	ug/L	NC	30
7432295	Toluene	2021/06/27	91	50 - 140	87	50 - 140	<0.20	ug/L	NC	30
7432295	Total Xylenes	2021/06/27					<0.40	ug/L	NC	30
7432529	F2 (C10-C16 Hydrocarbons)	2021/06/28	101	60 - 130	100	60 - 130	<100	ug/L	NC	30
7432529	F3 (C16-C34 Hydrocarbons)	2021/06/28	100	60 - 130	100	60 - 130	<200	ug/L	NC	30

Bureau Veritas Laboratories 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvlabs.com

Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
7432529	F4 (C34-C50 Hydrocarbons)	2021/06/28	101	60 - 130	100	60 - 130	<200	ug/L	NC	30
7433466	Alkalinity (Total as CaCO3)	2021/06/29			98	85 - 115	<1.0	mg/L	1.4	20
7433471	pH	2021/06/29			102	98 - 103			0.39	N/A
7433472	Conductivity	2021/06/29			102	85 - 115	<1.0	umho/cm	0.17	25
7433476	Nitrate (N)	2021/06/29	104	80 - 120	104	80 - 120	<0.10	mg/L	0.050	20
7433476	Nitrite (N)	2021/06/29	105	80 - 120	104	80 - 120	<0.010	mg/L	NC	20
7434287	Dissolved Chloride (Cl-)	2021/06/29	NC	80 - 120	102	80 - 120	<1.0	mg/L	0.89	20
7434293	Dissolved Sulphate (SO4)	2021/06/29	NC	75 - 125	104	80 - 120	<1.0	mg/L	0.53	20
7434295	Orthophosphate (P)	2021/06/30	115	75 - 125	102	80 - 120	<0.010	mg/L	NC	25

N/A = Not Applicable

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

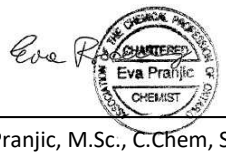
NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

Bureau Veritas Laboratories 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvlabs.com

Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:



Ewa Pranjic, M.Sc., C.Chem, Scientific Specialist

BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

Bureau Veritas Laboratories
6740 Campobello Road, Mississauga, Ontario Canada L5N 2L8 Tel (905) 817-5700 Toll-free 800-563-6266 Fax (905) 817-5777 www.bvlabs.com

22-Jun-21 18:07
Ema Gitej
C1H2396
Bottle Order #: 831949

INVOICE TO:		REPORT TO:		PROJECT INFORMATION:	
Company Name:	#21375 Golder Associates Ltd	Company Name:		Quotation #:	B80683
Attention:	Accounts Payable	Attention:	Gregory Padusenko	P.O. #:	
Address:	210 Sheldon Drive Cambridge ON N1T 1A8	Address:		Project:	19129150 (2300)
Tel:	(519) 620-8182 Fax:	Tel:	(519) 620-8182 Ext: 6509 Fax: (519) 620-9878	Project Name:	
Email:	CanadaAccountsPayableInvoices@golder.com	Email:	Gregory_Padusenko@golder.com	Site #:	
				Sampled By:	

COC #: C#831949-04-01
Project Manager: Ema Gitej

MOE REGULATED DRINKING WATER OR WATER INTENDED FOR HUMAN CONSUMPTION MUST BE SUBMITTED ON THE BV LABS DRINKING WATER CHAIN OF CUSTODY

Regulation 153 (2011)
- ☐ Table 1 ☐ Res/Park ☐ Medium/Fine
- ☐ Table 2 ☐ Ind/Comm ☐ Coarse
- ☐ Table 3 ☐ Agri/Other ☐ For RSC
- ☐ Table ___

Other Regulations
- ☐ CCME ☐ Sanitary Sewer Bylaw
- ☐ Reg 558 ☐ Storm Sewer Bylaw
- ☐ MISA Municipality ___
- ☐ PWQO ☐ Reg 406 Table ___
- ☐ Other ___

Special Instructions

Include Criteria on Certificate of Analysis (Y/N)? ___

ANALYSIS REQUESTED (PLEASE BE SPECIFIC):

Turnaround Time (TAT) Required:
Please provide advance notice for rush projects

Regular (Standard) TAT:
(will be applied if Rush TAT is not specified)
Standard TAT = 5-7 Working days for most tests.
Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.

Job Specific Rush TAT (if applies to entire submission)
Date Required: ___ Time Required: ___
Rush Confirmation Number: ___ *(call lab for #)*

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Field Filtered (please circle): Metals / Hg / Cr VI	RCAp - Comprehensive	O Reg 153 PHCs, BTEX/F1-F4	# of Bottles	Comments
1		MW20-23A	22-Jun-21	13:00	GW	✓	✓		4	
2		MW20-23B	22-Jun-21	14:00	GW	✓	✓	✓	8	
3		MW20-23C	22-Jun-21	14:30	GW	✓	✓		4	2 coolers
4		MW20-17A	22-Jun-21	17:00	GW	✓	✓		4	
5		MW20-17B	22-Jun-21	16:30	GW	✓	✓	✓	8	
6		DUP-1	22-Jun-21		GW	✓	✓	✓	8	
7										
8										
9										
10										

* RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	# jars used and not submitted
VTrapp	21/06/22	18:05	[illegible]	21/06/22	18:07	

Laboratory Use Only: ON ICE

Time Sensitive	Temperature (°C) on Recei	Custody Seal	Yes	No
	15/12/10	Present		
		Intact	✓	

* UNLESS OTHERWISE AGREED TO IN WRITING, WORK SUBMITTED ON THIS CHAIN OF CUSTODY IS SUBJECT TO BV LABS' STANDARD TERMS AND CONDITIONS. SIGNING OF THIS CHAIN OF CUSTODY DOCUMENT IS ACKNOWLEDGMENT AND ACCEPTANCE OF OUR TERMS WHICH ARE AVAILABLE FOR VIEWING AT WWW.BVLABS.COM/TERMS-AND-CONDITIONS.

* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

** SAMPLE CONTAINER, PRESERVATION, HOLD TIME AND PACKAGE INFORMATION CAN BE VIEWED AT WWW.BVLABS.COM/RESOURCES/CHAIN-OF-CUSTODY-FORMS.

SAMPLES MUST BE KEPT COOL (< 10° C) FROM TIME OF SAMPLING UNTIL DELIVERY TO BV LABS

White: BV Labs Yellow: Client

Bureau Veritas Canada (2019) Inc.

18/4/14

Bureau Veritas Laboratories
6740 Campobello Road, Mississauga, Ontario Canada L5N 2L8 Tel:(905) 817-5700 Toll-free 800-563-6266 Fax:(905) 817-5777 www.bvlabs.com

CHAIN OF CUSTODY RECORD

INVOICE TO:		REPORT TO:		PROJECT INFORMATION:		Laboratory Use Only:	
Company Name:	#21375 Golder Associates Ltd	Company Name:		Quotation #:	B80683	BV Labs Job #:	Bottle Order #:
Attention:	Accounts Payable	Attention:	Gregory Padusenko	P.O. #:			831949
Address:	210 Sheldon Drive Cambridge ON N1T 1A8	Address:		Project:	19129150 (2300)	COC #:	Project Manager:
Tel:	(519) 620-8182 Fax:	Tel:	(519) 620-8182 Ext: 6509 Fax: (519) 620-9878	Project Name:		C#831949-03-01	Ema Gitej
Email:	CanadaAccountsPayableInvoices@golder.com	Email:	Gregory_Padusenko@golder.com	Site #:			
				Sampled By:			

MOE REGULATED DRINKING WATER OR WATER INTENDED FOR HUMAN CONSUMPTION MUST BE SUBMITTED ON THE BV LABS DRINKING WATER CHAIN OF CUSTODY

Regulation 153 (2011)	Other Regulations	Special Instructions
☐ Table 1 ☐ Res/Park ☐ Medium/Fine ☐ Table 2 ☐ Ind/Comm ☐ Coarse ☐ Table 3 ☐ Agri/Other ☐ For RSC ☐ Table ___	☐ CCME ☐ Sanitary Sewer Bylaw ☐ Reg 558 ☐ Storm Sewer Bylaw ☐ MISA Municipality ___ ☐ PWQO ☐ Reg 406 Table ___ ☐ Other ___	

Include Criteria on Certificate of Analysis (Y/N)? ___

Turnaround Time (TAT) Required:
Please provide advance notice for rush projects

Regular (Standard) TAT:
(will be applied if Rush TAT is not specified)
Standard TAT = 5-7 Working days for most tests.
Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.

Job Specific Rush TAT (if applies to entire submission)
Date Required: ___ Time Required: ___ ☐
Rush Confirmation Number: ___ *(call lab for #)*

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Field Filtered (please circle): (Metals / Hg / Cr VI)	ANALYSIS REQUESTED (PLEASE BE SPECIFIC): RCAp - Comprehensive	O.Reg 153 PHCs BTEX/F1-F4	# of Bottles	Comments
1		MW20-01 A	22-Jun-21	14:30	GW	✓	✓		4	
2		MW 20-01 B	22-Jun-21	14:45	GW	✓	✓	✓	8	
3		MW20-02	22-Jun-21	13:30	GW	✓	✓	✓	8	
4		MW20-03	22-Jun-21	12:30	GW	✓	✓	✓	8	
5		MW20-04	22-Jun-21	12:15	GW	✓	✓	✓	8	
6		MW20-05A	22-Jun-21	11:00	GW	✓	✓		4	
7		MW20-06A	22-Jun-21	10:45	GW	✓	✓		4	
8		MW20-06B	22-Jun-21	11:30	GW	✓	✓	✓	8	
9		MW20-18	22-Jun-21	15:00	GW	✓	✓	✓	8	
10										

* RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	# jars used and not submitted
VPtorp	~~22-Jun-21~~ 06/22	~~15:05~~ 13:05	see page 1			

Laboratory Use Only				
Time Sensitive	Temperature (°C) on Recei	Custody Seal	Yes	No
		Present		
		Intact		

* UNLESS OTHERWISE AGREED TO IN WRITING, WORK SUBMITTED ON THIS CHAIN OF CUSTODY IS SUBJECT TO BV LABS' STANDARD TERMS AND CONDITIONS. SIGNING OF THIS CHAIN OF CUSTODY DOCUMENT IS ACKNOWLEDGMENT AND ACCEPTANCE OF OUR TERMS WHICH ARE AVAILABLE FOR VIEWING AT WWW.BVLABS.COM/TERMS-AND-CONDITIONS.

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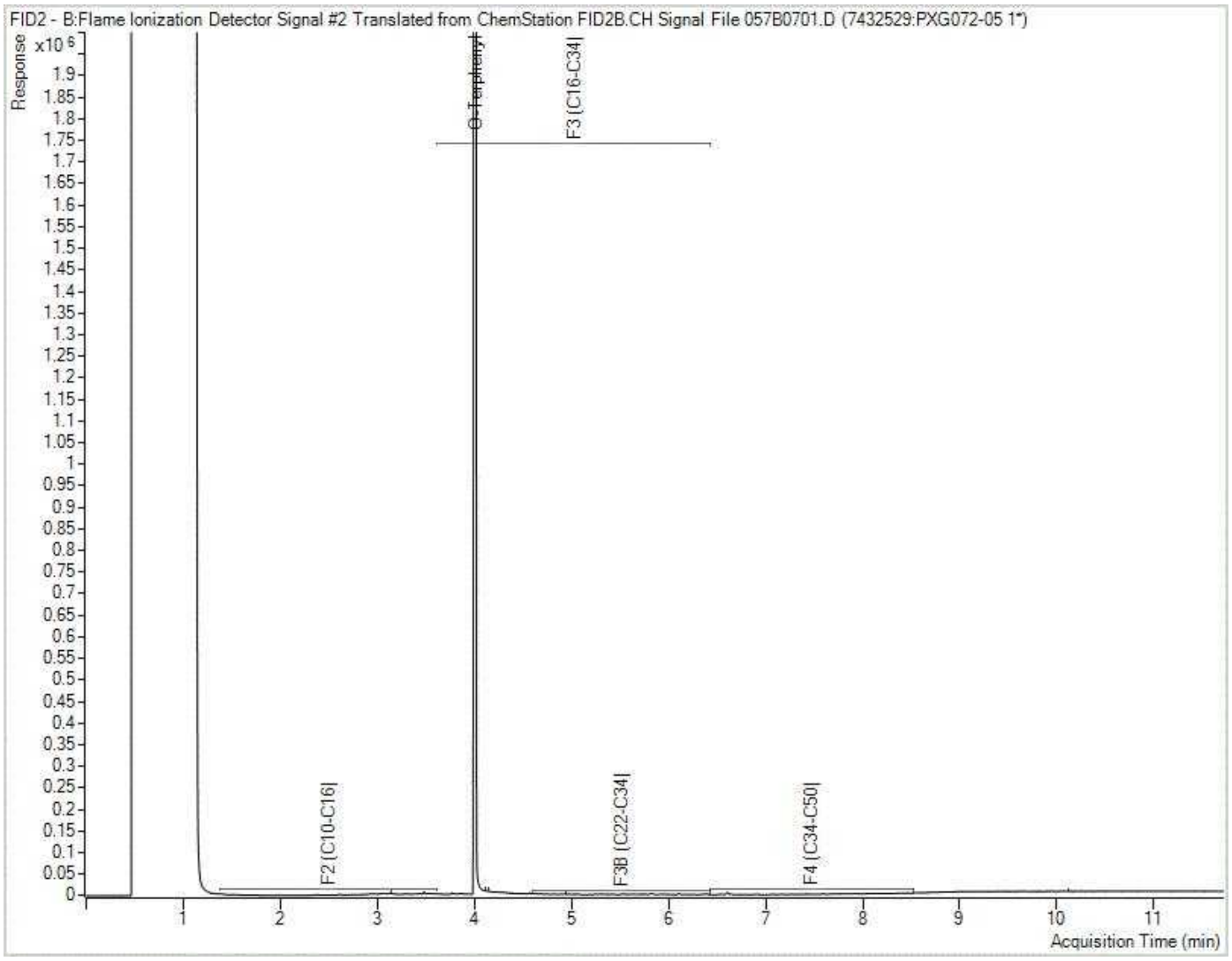
** SAMPLE CONTAINER, PRESERVATION, HOLD TIME AND PACKAGE INFORMATION CAN BE VIEWED AT WWW.BVLABS.COM/RESOURCES/CHAIN-OF-CUSTODY-FORMS.

SAMPLES MUST BE KEPT COOL (< 10° C) FROM TIME OF SAMPLING UNTIL DELIVERY TO BV LABS

White: BV Labs Yellow: Client

Bureau Veritas Canada (2019) Inc.

Petroleum Hydrocarbons F2-F4 in Water Chromatogram

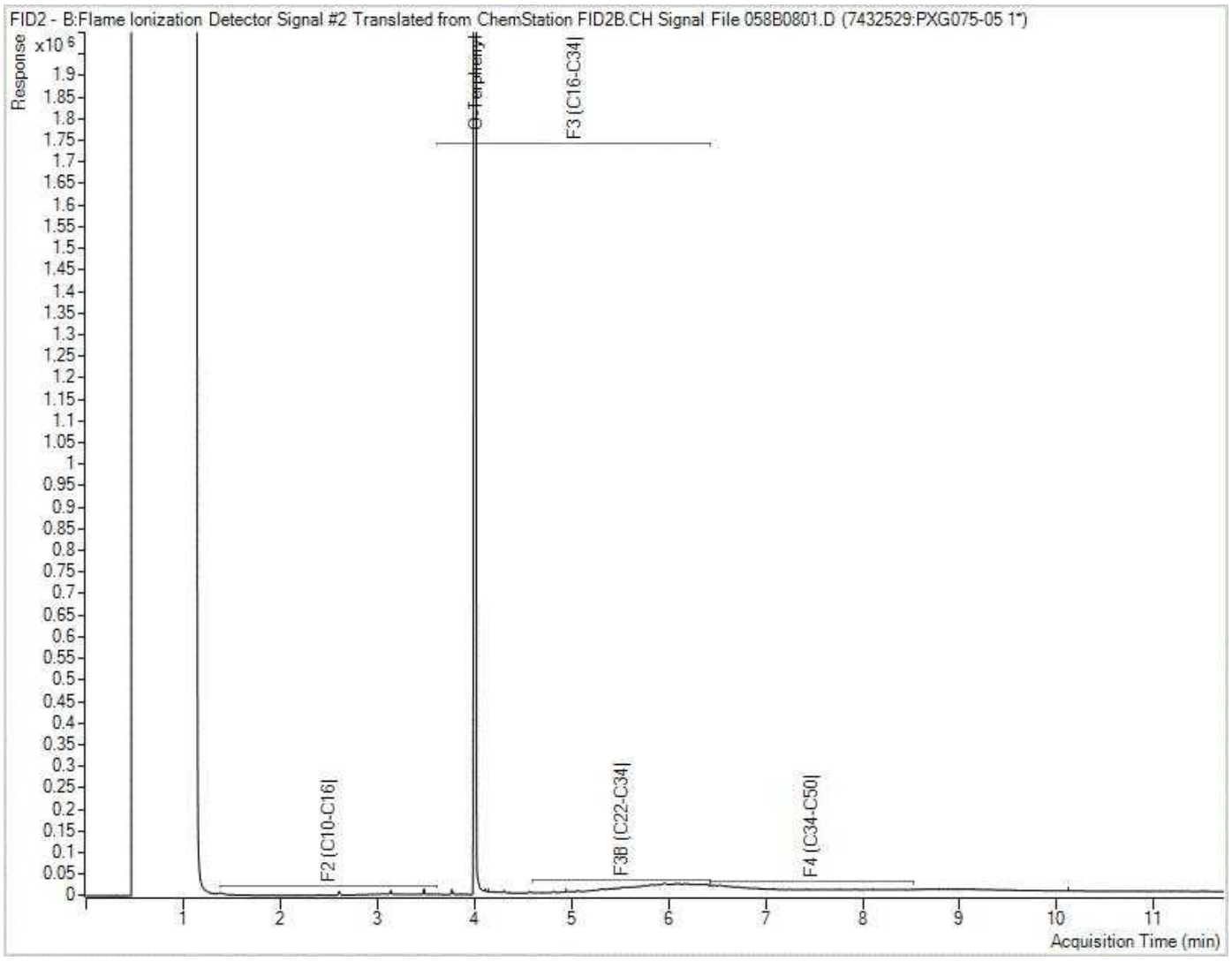


Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

BV Labs Job #: C1H2396
Report Date: 2021/06/30
BV Labs Sample: PXG075

Golder Associates Ltd
Client Project #: 19129150 (2300)
Client ID: MW20-17B

Petroleum Hydrocarbons F2-F4 in Water Chromatogram

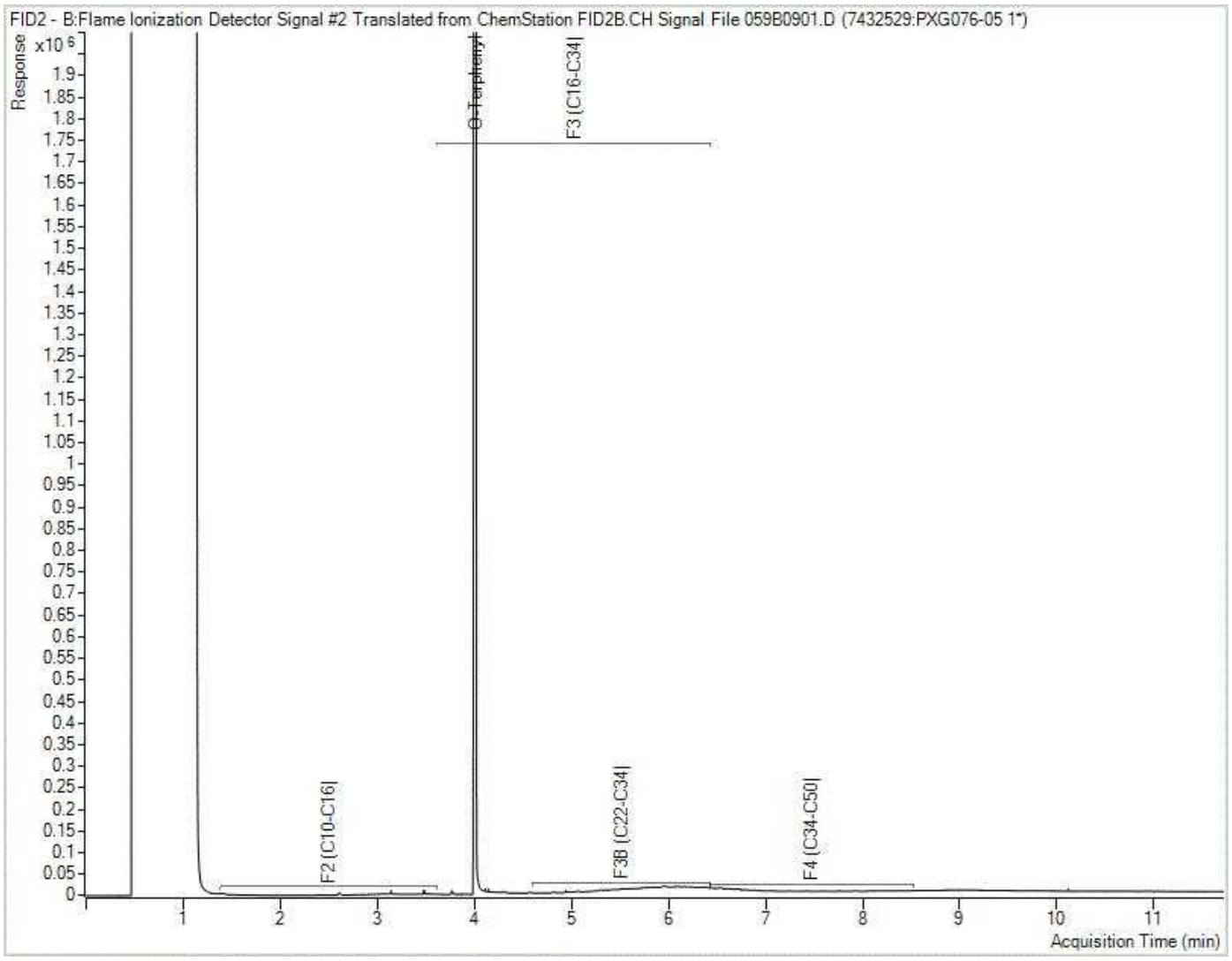


Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

BV Labs Job #: C1H2396
Report Date: 2021/06/30
BV Labs Sample: PXG076

Golder Associates Ltd
Client Project #: 19129150 (2300)
Client ID: DUP-1

Petroleum Hydrocarbons F2-F4 in Water Chromatogram

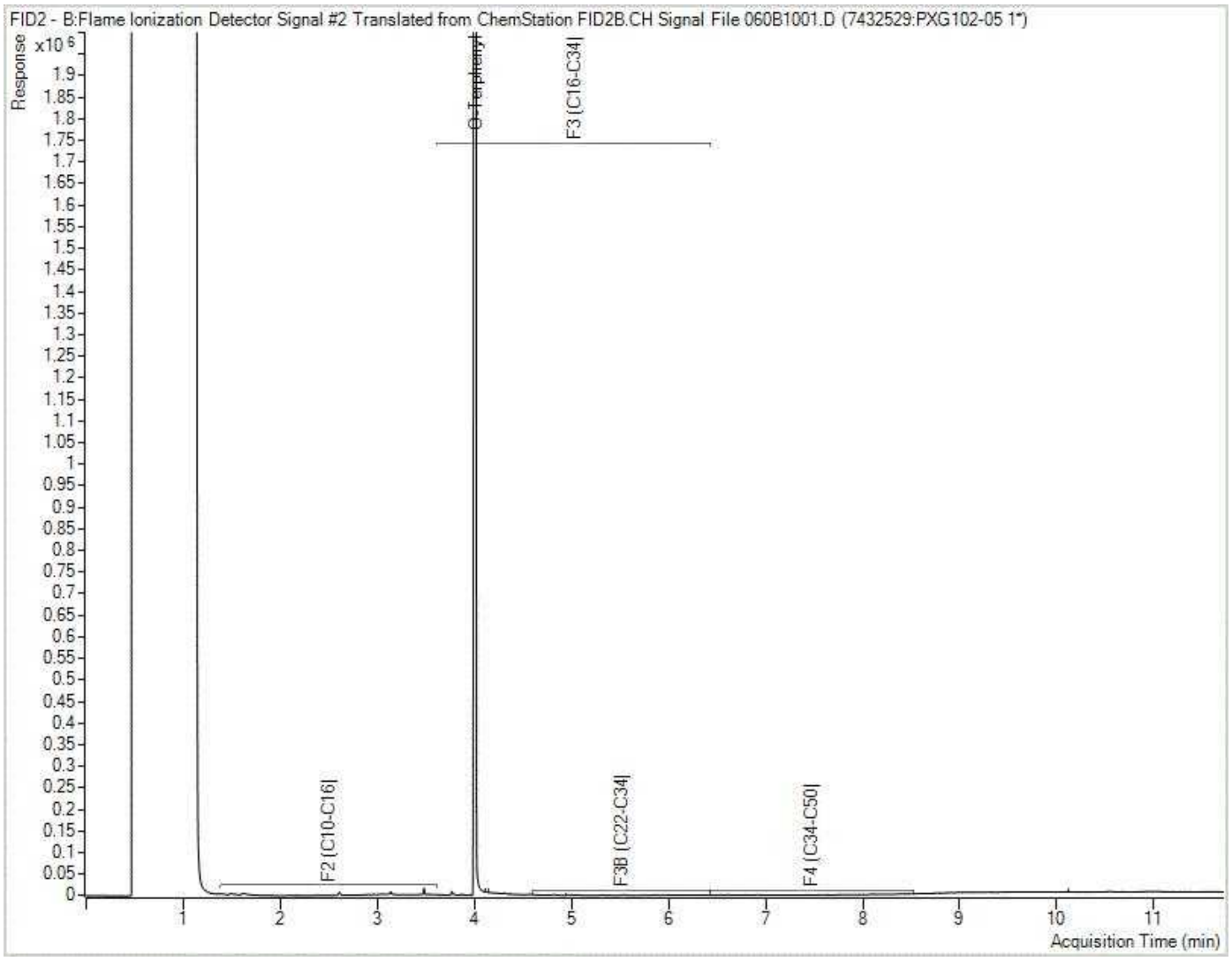


Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

BV Labs Job #: C1H2396
Report Date: 2021/06/30
BV Labs Sample: PXG102

Golder Associates Ltd
Client Project #: 19129150 (2300)
Client ID: MW20-01 B

Petroleum Hydrocarbons F2-F4 in Water Chromatogram

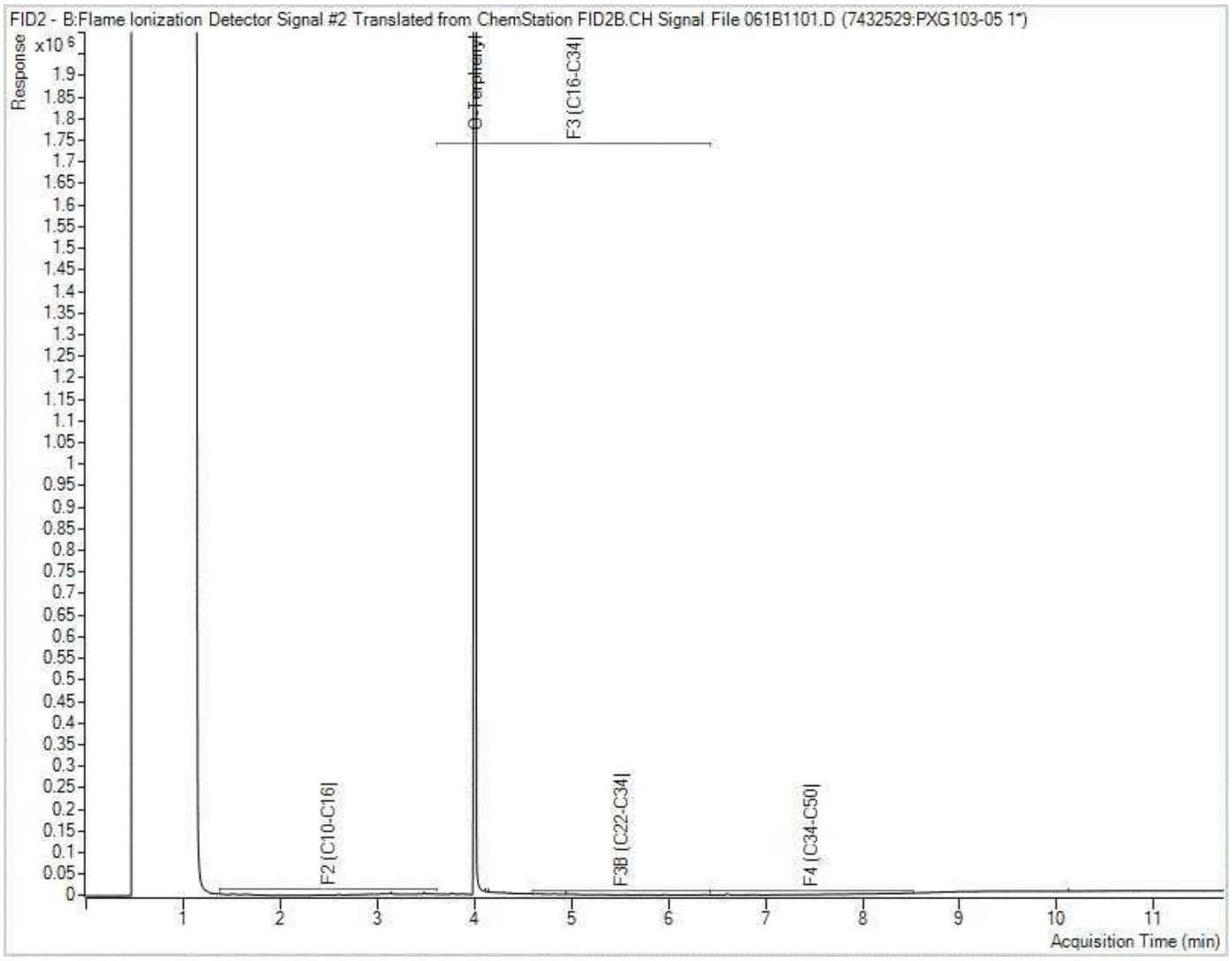


Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

BV Labs Job #: C1H2396
Report Date: 2021/06/30
BV Labs Sample: PXG103

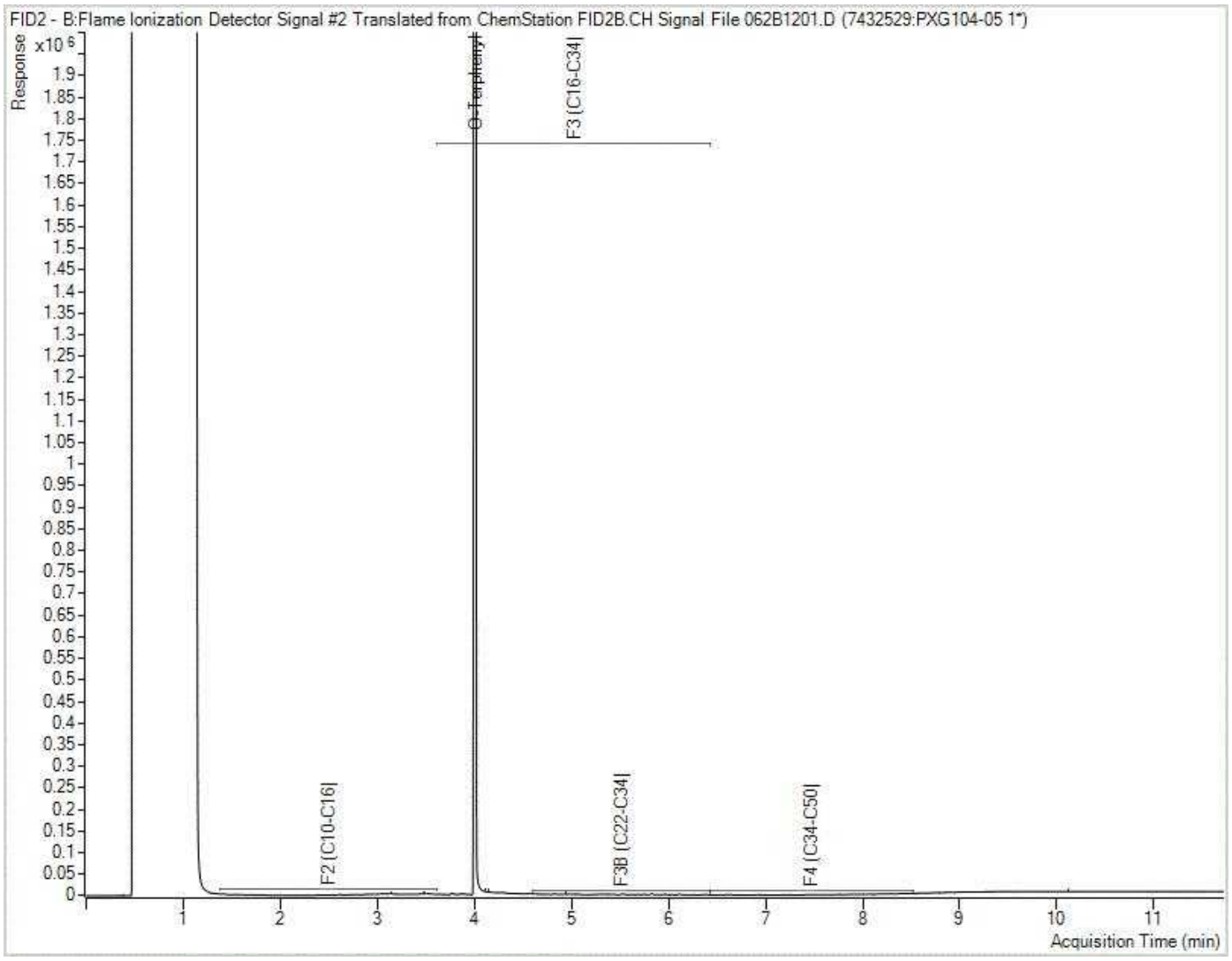
Golder Associates Ltd
Client Project #: 19129150 (2300)
Client ID: MW20-02

Petroleum Hydrocarbons F2-F4 in Water Chromatogram



Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Petroleum Hydrocarbons F2-F4 in Water Chromatogram

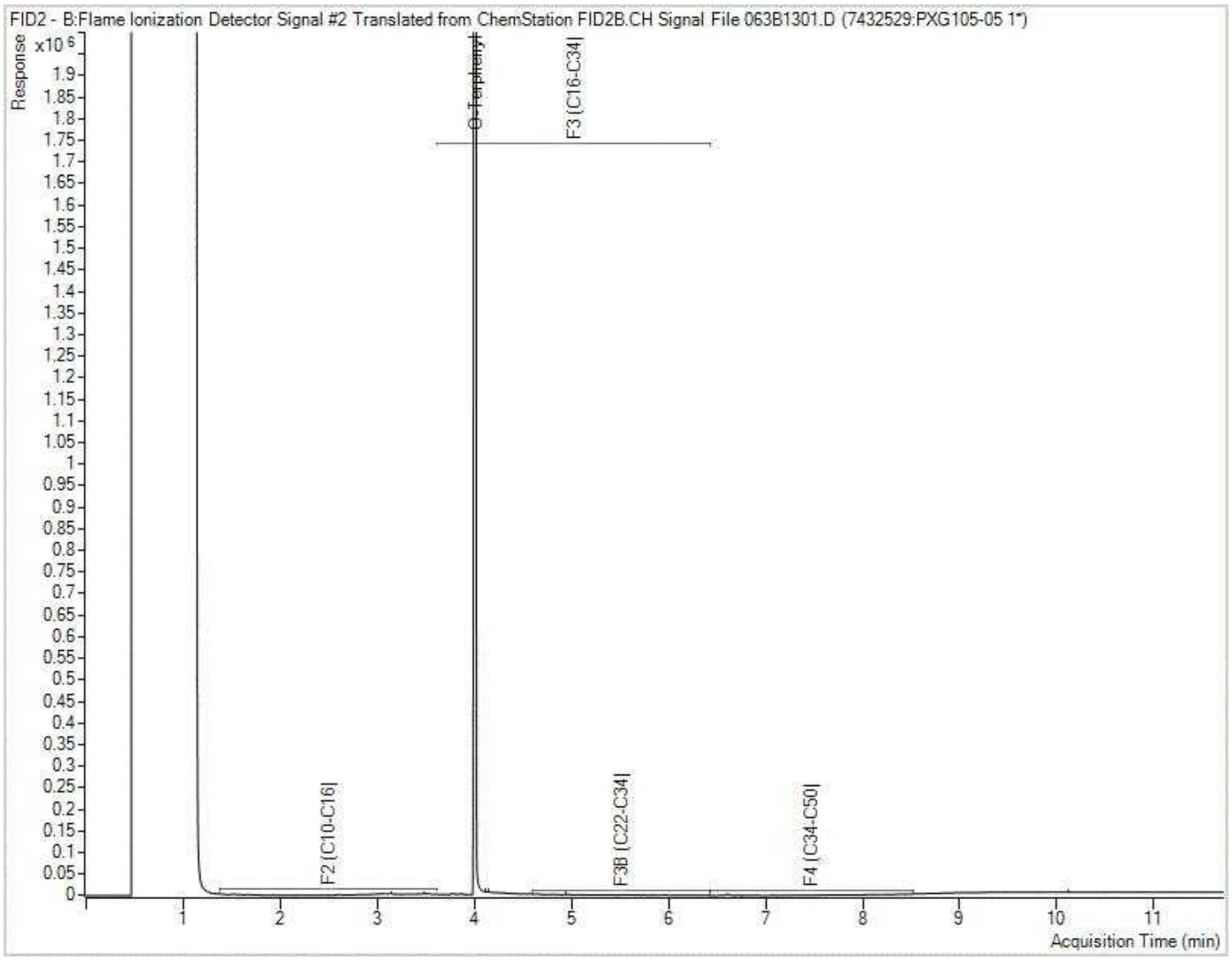


Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

BV Labs Job #: C1H2396
Report Date: 2021/06/30
BV Labs Sample: PXG105

Golder Associates Ltd
Client Project #: 19129150 (2300)
Client ID: MW20-04

Petroleum Hydrocarbons F2-F4 in Water Chromatogram

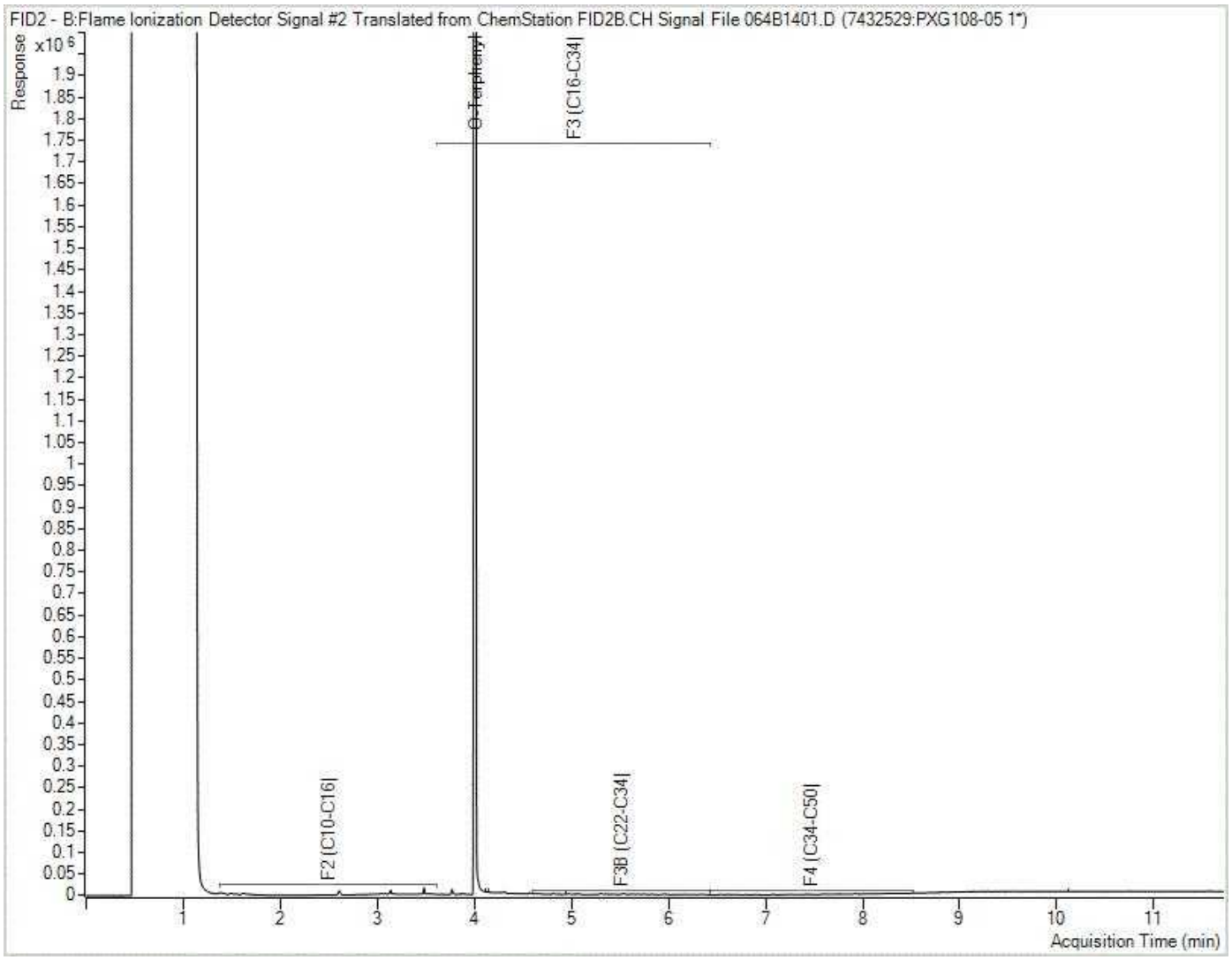


Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

BV Labs Job #: C1H2396
Report Date: 2021/06/30
BV Labs Sample: PXG108

Golder Associates Ltd
Client Project #: 19129150 (2300)
Client ID: MW20-06 B

Petroleum Hydrocarbons F2-F4 in Water Chromatogram

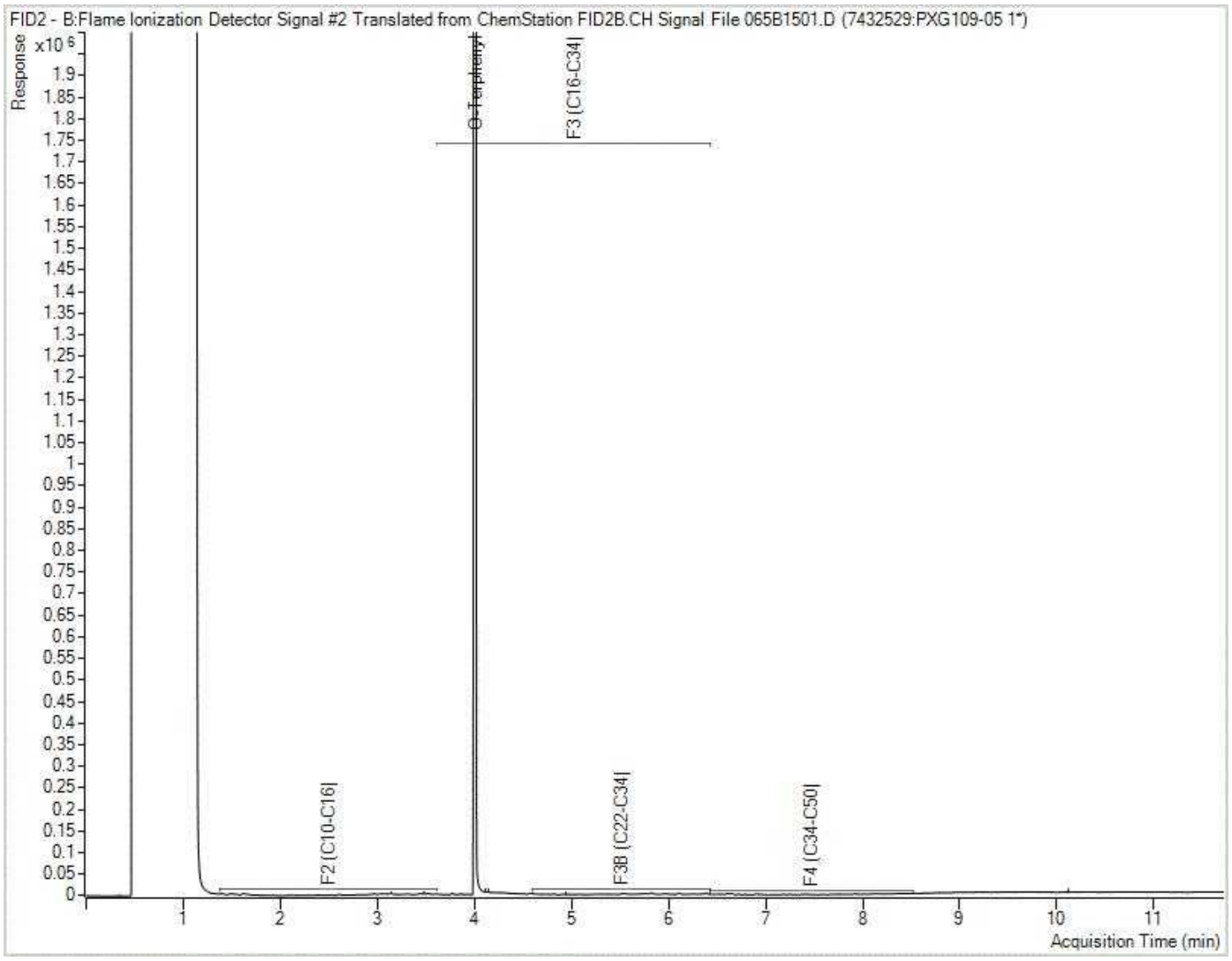


Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

BV Labs Job #: C1H2396
Report Date: 2021/06/30
BV Labs Sample: PXG109

Golder Associates Ltd
Client Project #: 19129150 (2300)
Client ID: MW20-18

Petroleum Hydrocarbons F2-F4 in Water Chromatogram



Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Your Project #: 19129150 (2300)
Your C.O.C. #: 831949-01-01, C#831949-02-01

Attention: Gregory Padusenko

Golder Associates Ltd
210 Sheldon Drive
Cambridge, ON
CANADA N1T 1A8

Report Date: 2021/07/02
Report #: R6702818
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: C1H4635
Received: 2021/06/24, 08:00

Sample Matrix: Water
Samples Received: 9

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Alkalinity	9	N/A	2021/06/30	CAM SOP-00448	SM 23 2320 B m
Carbonate, Bicarbonate and Hydroxide	9	N/A	2021/06/30	CAM SOP-00102	APHA 4500-CO2 D
Chloride by Automated Colourimetry	9	N/A	2021/06/30	CAM SOP-00463	SM 23 4500-Cl E m
Conductivity	9	N/A	2021/06/30	CAM SOP-00414	SM 23 2510 m
Dissolved Organic Carbon (DOC) (1)	9	N/A	2021/06/29	CAM SOP-00446	SM 23 5310 B m
Petroleum Hydro. CCME F1 & BTEX in Water	5	N/A	2021/06/29	CAM SOP-00315	CCME PHC-CWS m
Petroleum Hydrocarbons F2-F4 in Water (2)	4	2021/06/29	2021/06/30	CAM SOP-00316	CCME PHC-CWS m
Petroleum Hydrocarbons F2-F4 in Water (2)	1	2021/06/30	2021/06/30	CAM SOP-00316	CCME PHC-CWS m
Hardness (calculated as CaCO3)	9	N/A	2021/07/02	CAM SOP 00102/00408/00447	SM 2340 B
Dissolved Metals by ICPMS	6	N/A	2021/06/30	CAM SOP-00447	EPA 6020B m
Dissolved Metals by ICPMS	3	N/A	2021/07/02	CAM SOP-00447	EPA 6020B m
Ion Balance (% Difference)	9	N/A	2021/07/02		
Anion and Cation Sum	9	N/A	2021/07/02		
Total Ammonia-N	9	N/A	2021/06/30	CAM SOP-00441	USGS I-2522-90 m
Nitrate (NO3) and Nitrite (NO2) in Water (3)	9	N/A	2021/06/30	CAM SOP-00440	SM 23 4500-NO3I/NO2B
pH	1	2021/06/29	2021/06/30	CAM SOP-00413	SM 4500H+ B m
pH	8	2021/06/30	2021/06/30	CAM SOP-00413	SM 4500H+ B m
Orthophosphate	9	N/A	2021/06/30	CAM SOP-00461	EPA 365.1 m
Sat. pH and Langelier Index (@ 20C)	9	N/A	2021/07/02		Auto Calc
Sat. pH and Langelier Index (@ 4C)	9	N/A	2021/07/02		Auto Calc
Sulphate by Automated Colourimetry	9	N/A	2021/06/30	CAM SOP-00464	EPA 375.4 m
Total Dissolved Solids (TDS calc)	9	N/A	2021/07/02		Auto Calc

Remarks:

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement

Your Project #: 19129150 (2300)
Your C.O.C. #: 831949-01-01, C#831949-02-01

Attention: Gregory Padusenko

Golder Associates Ltd
210 Sheldon Drive
Cambridge, ON
CANADA N1T 1A8

Report Date: 2021/07/02
Report #: R6702818
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: C1H4635
Received: 2021/06/24, 08:00

Uncertainty has not been accounted for when stating conformity to the referenced standard.

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.
This Certificate shall not be reproduced except in full, without the written approval of the laboratory.
Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.
(1) Dissolved Organic Carbon (DOC) present in the sample should be considered as non-purgeable DOC.
(2) All CCME PHC results met required criteria unless otherwise stated in the report. The CWS PHC methods employed by Bureau Veritas Laboratories conform to all prescribed elements of the reference method and performance based elements have been validated. All modifications have been validated and proven equivalent following "Alberta Environment's Interpretation of the Reference Method for the Canada-Wide Standard for Petroleum Hydrocarbons in Soil Validation of Performance-Based Alternative Methods September 2003". Documentation is available upon request. Modifications from Reference Method for the Canada-wide Standard for Petroleum Hydrocarbons in Soil-Tier 1 Method: F2/F3/F4 data reported using validated cold solvent extraction instead of Soxhlet extraction.
(3) Values for calculated parameters may not appear to add up due to rounding of raw data and significant figures.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Ema Gitej, Senior Project Manager
Email: emese.gitej@bureauveritas.com
Phone# (905)817-5829

==========

BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

BV Labs Job #: C1H4635
Report Date: 2021/07/02

Golder Associates Ltd
Client Project #: 19129150 (2300)
Sampler Initials: CS

RCAP - COMPREHENSIVE (WATER)

BV Labs ID		PXS026			PXS026			PXS027		
Sampling Date		2021/06/23 15:30			2021/06/23 15:30			2021/06/23 15:45		
COC Number		C#831949-02-01			C#831949-02-01			C#831949-02-01		
	UNITS	MW20-19A	RDL	QC Batch	MW20-19A Lab-Dup	RDL	QC Batch	MW20-19B	RDL	QC Batch
Calculated Parameters										
Anion Sum	me/L	9.06	N/A	7427593				7.25	N/A	7427593
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	240	1.0	7427591				260	1.0	7427591
Calculated TDS	mg/L	490	1.0	7426927				370	1.0	7426927
Carb. Alkalinity (calc. as CaCO3)	mg/L	2.1	1.0	7427591				2.4	1.0	7427591
Cation Sum	me/L	8.56	N/A	7427593				6.66	N/A	7427593
Hardness (CaCO3)	mg/L	420	1.0	7429889				310	1.0	7429889
Ion Balance (% Difference)	%	2.85	N/A	7427592				4.22	N/A	7427592
Langelier Index (@ 20C)	N/A	0.806		7427594				0.859		7427594
Langelier Index (@ 4C)	N/A	0.558		7427596				0.611		7427596
Saturation pH (@ 20C)	N/A	7.16		7427594				7.14		7427594
Saturation pH (@ 4C)	N/A	7.40		7427596				7.39		7427596
Inorganics										
Total Ammonia-N	mg/L	<0.050	0.050	7436397				<0.050	0.050	7436397
Conductivity	umho/cm	780	1.0	7438035	770	1.0	7438035	640	1.0	7438035
Dissolved Organic Carbon	mg/L	1.1	0.40	7436754				0.62	0.40	7436754
Orthophosphate (P)	mg/L	<0.010	0.010	7437783	<0.010	0.010	7437783	<0.010	0.010	7437783
pH	pH	7.96		7438036	7.99		7438036	8.00		7438036
Dissolved Sulphate (SO4)	mg/L	190	1.0	7437782	190	1.0	7437782	76	1.0	7437782
Alkalinity (Total as CaCO3)	mg/L	250	1.0	7438032	240	1.0	7438032	260	1.0	7438032
Dissolved Chloride (Cl-)	mg/L	7.1	1.0	7437775	8.9	1.0	7437775	18	1.0	7437775
Nitrite (N)	mg/L	<0.010	0.010	7437964	<0.010	0.010	7437964	<0.010	0.010	7437964
Nitrate (N)	mg/L	<0.10	0.10	7437964	<0.10	0.10	7437964	<0.10	0.10	7437964
Nitrate + Nitrite (N)	mg/L	<0.10	0.10	7437964	<0.10	0.10	7437964	<0.10	0.10	7437964
Metals										
Dissolved Aluminum (Al)	ug/L	46	4.9	7435801				6.5	4.9	7435801
Dissolved Antimony (Sb)	ug/L	<0.50	0.50	7435801				<0.50	0.50	7435801
Dissolved Arsenic (As)	ug/L	1.3	1.0	7435801				4.3	1.0	7435801
Dissolved Barium (Ba)	ug/L	22	2.0	7435801				35	2.0	7435801
Dissolved Beryllium (Be)	ug/L	<0.40	0.40	7435801				<0.40	0.40	7435801
Dissolved Boron (B)	ug/L	35	10	7435801				12	10	7435801

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate
N/A = Not Applicable

Bureau Veritas Laboratories 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvlabs.com

Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

BV Labs Job #: C1H4635
Report Date: 2021/07/02

Golder Associates Ltd
Client Project #: 19129150 (2300)
Sampler Initials: CS

RCAP - COMPREHENSIVE (WATER)

BV Labs ID		PXS026			PXS026			PXS027		
Sampling Date		2021/06/23 15:30			2021/06/23 15:30			2021/06/23 15:45		
COC Number		C#831949-02-01			C#831949-02-01			C#831949-02-01		
	UNITS	MW20-19A	RDL	QC Batch	MW20-19A Lab-Dup	RDL	QC Batch	MW20-19B	RDL	QC Batch
Dissolved Cadmium (Cd)	ug/L	<0.090	0.090	7435801				<0.090	0.090	7435801
Dissolved Calcium (Ca)	ug/L	83000	200	7435801				77000	200	7435801
Dissolved Chromium (Cr)	ug/L	<5.0	5.0	7435801				<5.0	5.0	7435801
Dissolved Cobalt (Co)	ug/L	<0.50	0.50	7435801				<0.50	0.50	7435801
Dissolved Copper (Cu)	ug/L	<0.90	0.90	7435801				<0.90	0.90	7435801
Dissolved Iron (Fe)	ug/L	310	100	7435801				380	100	7435801
Dissolved Lead (Pb)	ug/L	<0.50	0.50	7435801				<0.50	0.50	7435801
Dissolved Magnesium (Mg)	ug/L	50000	50	7435801				29000	50	7435801
Dissolved Manganese (Mn)	ug/L	7.0	2.0	7435801				48	2.0	7435801
Dissolved Molybdenum (Mo)	ug/L	1.6	0.50	7435801				3.4	0.50	7435801
Dissolved Nickel (Ni)	ug/L	<1.0	1.0	7435801				2.2	1.0	7435801
Dissolved Phosphorus (P)	ug/L	<100	100	7435801				<100	100	7435801
Dissolved Potassium (K)	ug/L	1700	200	7435801				730	200	7435801
Dissolved Selenium (Se)	ug/L	<2.0	2.0	7435801				<2.0	2.0	7435801
Dissolved Silicon (Si)	ug/L	3900	50	7435801				2900	50	7435801
Dissolved Silver (Ag)	ug/L	<0.090	0.090	7435801				<0.090	0.090	7435801
Dissolved Sodium (Na)	ug/L	4400	100	7435801				8800	100	7435801
Dissolved Strontium (Sr)	ug/L	1500	1.0	7435801				610	1.0	7435801
Dissolved Thallium (Tl)	ug/L	<0.050	0.050	7435801				<0.050	0.050	7435801
Dissolved Titanium (Ti)	ug/L	<5.0	5.0	7435801				<5.0	5.0	7435801
Dissolved Uranium (U)	ug/L	0.12	0.10	7435801				0.13	0.10	7435801
Dissolved Vanadium (V)	ug/L	<0.50	0.50	7435801				<0.50	0.50	7435801
Dissolved Zinc (Zn)	ug/L	<5.0	5.0	7435801				<5.0	5.0	7435801

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

RCAP - COMPREHENSIVE (WATER)

BV Labs ID		PXS028		PXS029		PXS030		
Sampling Date		2021/06/23		2021/06/23 16:10		2021/06/23 16:40		
COC Number		C#831949-02-01		C#831949-02-01		C#831949-02-01		
	UNITS	DUP2	RDL	MW20-20A	RDL	MW20-20B	RDL	QC Batch
Calculated Parameters								
Anion Sum	me/L	6.82	N/A	26.3	N/A	8.64	N/A	7427593
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	270	1.0	180	1.0	200	1.0	7427591
Calculated TDS	mg/L	360	1.0	1700	1.0	500	1.0	7426927
Carb. Alkalinity (calc. as CaCO3)	mg/L	1.9	1.0	<1.0	1.0	1.3	1.0	7427591
Cation Sum	me/L	6.57	N/A	26.3	N/A	8.13	N/A	7427593
Hardness (CaCO3)	mg/L	310	1.0	1300	1.0	400	1.0	7429889
Ion Balance (% Difference)	%	1.87	N/A	0.00	N/A	3.03	N/A	7427592
Langelier Index (@ 20C)	N/A	0.807		0.952		0.715		7427594
Langelier Index (@ 4C)	N/A	0.558		0.708		0.467		7427596
Saturation pH (@ 20C)	N/A	7.07		6.74		7.13		7427594
Saturation pH (@ 4C)	N/A	7.32		6.98		7.38		7427596
Inorganics								
Total Ammonia-N	mg/L	<0.050	0.050	0.22	0.050	<0.050	0.050	7436397
Conductivity	umho/cm	610	1.0	2000	1.0	740	1.0	7438035
Dissolved Organic Carbon	mg/L	0.65	0.40	<0.40	0.40	<0.40	0.40	7436754
Orthophosphate (P)	mg/L	<0.010	0.010	<0.010	0.010	<0.010	0.010	7437783
pH	pH	7.88		7.69		7.85		7438036
Dissolved Sulphate (SO4)	mg/L	16	1.0	1100	5.0	220	1.0	7437782
Alkalinity (Total as CaCO3)	mg/L	270	1.0	180	1.0	200	1.0	7438032
Dissolved Chloride (Cl-)	mg/L	20	1.0	4.2	1.0	4.5	1.0	7437775
Nitrite (N)	mg/L	<0.010	0.010	<0.010	0.010	<0.010	0.010	7437964
Nitrate (N)	mg/L	7.76	0.10	<0.10	0.10	<0.10	0.10	7437964
Nitrate + Nitrite (N)	mg/L	7.76	0.10	<0.10	0.10	<0.10	0.10	7437964
Metals								
Dissolved Aluminum (Al)	ug/L	7.1	4.9	26	4.9	<4.9	4.9	7435801
Dissolved Antimony (Sb)	ug/L	<0.50	0.50	<0.50	0.50	<0.50	0.50	7435801
Dissolved Arsenic (As)	ug/L	<1.0	1.0	4.8	1.0	5.5	1.0	7435801
Dissolved Barium (Ba)	ug/L	19	2.0	8.1	2.0	14	2.0	7435801
Dissolved Beryllium (Be)	ug/L	<0.40	0.40	<0.40	0.40	<0.40	0.40	7435801
Dissolved Boron (B)	ug/L	<10	10	54	10	13	10	7435801
Dissolved Cadmium (Cd)	ug/L	<0.090	0.090	<0.090	0.090	<0.090	0.090	7435801

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
N/A = Not Applicable

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

RCAP - COMPREHENSIVE (WATER)

BV Labs ID		PXS028		PXS029		PXS030		
Sampling Date		2021/06/23		2021/06/23 16:10		2021/06/23 16:40		
COC Number		C#831949-02-01		C#831949-02-01		C#831949-02-01		
	UNITS	DUP2	RDL	MW20-20A	RDL	MW20-20B	RDL	QC Batch
Dissolved Calcium (Ca)	ug/L	86000	200	430000	400	110000	200	7435801
Dissolved Chromium (Cr)	ug/L	<5.0	5.0	<5.0	5.0	<5.0	5.0	7435801
Dissolved Cobalt (Co)	ug/L	<0.50	0.50	<0.50	0.50	<0.50	0.50	7435801
Dissolved Copper (Cu)	ug/L	<0.90	0.90	<0.90	0.90	<0.90	0.90	7435801
Dissolved Iron (Fe)	ug/L	<100	100	620	100	180	100	7435801
Dissolved Lead (Pb)	ug/L	<0.50	0.50	<0.50	0.50	<0.50	0.50	7435801
Dissolved Magnesium (Mg)	ug/L	24000	50	54000	50	30000	50	7435801
Dissolved Manganese (Mn)	ug/L	<2.0	2.0	41	2.0	6.7	2.0	7435801
Dissolved Molybdenum (Mo)	ug/L	<0.50	0.50	2.0	0.50	2.1	0.50	7435801
Dissolved Nickel (Ni)	ug/L	<1.0	1.0	<1.0	1.0	<1.0	1.0	7435801
Dissolved Phosphorus (P)	ug/L	<100	100	<100	100	<100	100	7435801
Dissolved Potassium (K)	ug/L	1100	200	1600	200	820	200	7435801
Dissolved Selenium (Se)	ug/L	<2.0	2.0	<2.0	2.0	<2.0	2.0	7435801
Dissolved Silicon (Si)	ug/L	4000	50	6700	50	7300	50	7435801
Dissolved Silver (Ag)	ug/L	<0.090	0.090	<0.090	0.090	<0.090	0.090	7435801
Dissolved Sodium (Na)	ug/L	6200	100	7100	100	3300	100	7435801
Dissolved Strontium (Sr)	ug/L	140	1.0	8600	1.0	2700	1.0	7435801
Dissolved Thallium (Tl)	ug/L	<0.050	0.050	<0.050	0.050	<0.050	0.050	7435801
Dissolved Titanium (Ti)	ug/L	<5.0	5.0	<5.0	5.0	<5.0	5.0	7435801
Dissolved Uranium (U)	ug/L	0.14	0.10	0.17	0.10	<0.10	0.10	7435801
Dissolved Vanadium (V)	ug/L	<0.50	0.50	<0.50	0.50	<0.50	0.50	7435801
Dissolved Zinc (Zn)	ug/L	<5.0	5.0	<5.0	5.0	<5.0	5.0	7435801

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

BV Labs Job #: C1H4635
Report Date: 2021/07/02

Golder Associates Ltd
Client Project #: 19129150 (2300)
Sampler Initials: CS

RCAP - COMPREHENSIVE (WATER)

BV Labs ID		PXS031		PXS032			PXS033		
Sampling Date		2021/06/23 17:10		2021/06/23 09:30			2021/06/23 16:30		
COC Number		C#831949-02-01		C#831949-02-01			C#831949-02-01		
	UNITS	MW20-20C	QC Batch	MW20-09	RDL	QC Batch	MW20-22A	RDL	QC Batch
Calculated Parameters									
Anion Sum	me/L	7.54	7427593	6.84	N/A	7427593	27.0	N/A	7427593
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	310	7434506	270	1.0	7434506	200	1.0	7434506
Calculated TDS	mg/L	380	7426927	360	1.0	7426927	1700	1.0	7426927
Carb. Alkalinity (calc. as CaCO3)	mg/L	2.2	7434506	2.0	1.0	7434506	<1.0	1.0	7434506
Cation Sum	me/L	7.34	7427593	6.73	N/A	7427593	25.7	N/A	7427593
Hardness (CaCO3)	mg/L	340	7429889	320	1.0	7429889	1300	1.0	7429889
Ion Balance (% Difference)	%	1.38	7427592	0.850	N/A	7427592	2.53	N/A	7427592
Langelier Index (@ 20C)	N/A	0.904	7427594	0.833		7427594	0.961		7427594
Langelier Index (@ 4C)	N/A	0.655	7427596	0.584		7427596	0.717		7427596
Saturation pH (@ 20C)	N/A	6.97	7427594	7.06		7427594	6.73		7427594
Saturation pH (@ 4C)	N/A	7.22	7427596	7.30		7427596	6.98		7427596
Inorganics									
Total Ammonia-N	mg/L	<0.050	7436397	<0.050	0.050	7436397	0.070	0.050	7436397
Conductivity	umho/cm	660	7438035	610	1.0	7438035	2000	1.0	7438035
Dissolved Organic Carbon	mg/L	4.6	7436754	0.70	0.40	7436754	1.2	0.40	7436754
Orthophosphate (P)	mg/L	<0.010	7437783	<0.010	0.010	7436693	<0.010	0.010	7437783
pH	pH	7.88	7438036	7.89		7438036	7.69		7438036
Dissolved Sulphate (SO4)	mg/L	15	7437782	16	1.0	7436692	1100	5.0	7437782
Alkalinity (Total as CaCO3)	mg/L	310	7438032	270	1.0	7438032	200	1.0	7438032
Dissolved Chloride (Cl-)	mg/L	35	7437775	18	1.0	7436686	7.2	1.0	7437775
Nitrite (N)	mg/L	<0.010	7437964	<0.010	0.010	7437964	<0.010	0.010	7437964
Nitrate (N)	mg/L	0.13	7437964	7.61	0.10	7437964	<0.10	0.10	7437964
Nitrate + Nitrite (N)	mg/L	0.13	7437964	7.61	0.10	7437964	<0.10	0.10	7437964
Metals									
Dissolved Aluminum (Al)	ug/L	80	7437678	8.2	4.9	7435801	9.4	4.9	7435801
Dissolved Antimony (Sb)	ug/L	<0.50	7437678	<0.50	0.50	7435801	<0.50	0.50	7435801
Dissolved Arsenic (As)	ug/L	<1.0	7437678	<1.0	1.0	7435801	2.8	1.0	7435801
Dissolved Barium (Ba)	ug/L	33	7437678	19	2.0	7435801	7.7	2.0	7435801
Dissolved Beryllium (Be)	ug/L	<0.40	7437678	<0.40	0.40	7435801	<0.40	0.40	7435801
Dissolved Boron (B)	ug/L	16	7437678	<10	10	7435801	71	10	7435801
Dissolved Cadmium (Cd)	ug/L	<0.090	7437678	<0.090	0.090	7435801	<0.090	0.090	7435801

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
N/A = Not Applicable

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

RCAP - COMPREHENSIVE (WATER)

BV Labs ID		PXS031		PXS032			PXS033		
Sampling Date		2021/06/23 17:10		2021/06/23 09:30			2021/06/23 16:30		
COC Number		C#831949-02-01		C#831949-02-01			C#831949-02-01		
	UNITS	MW20-20C	QC Batch	MW20-09	RDL	QC Batch	MW20-22A	RDL	QC Batch
Dissolved Calcium (Ca)	ug/L	95000	7437678	88000	200	7435801	400000	1000	7435801
Dissolved Chromium (Cr)	ug/L	<5.0	7437678	<5.0	5.0	7435801	<5.0	5.0	7435801
Dissolved Cobalt (Co)	ug/L	<0.50	7437678	<0.50	0.50	7435801	<0.50	0.50	7435801
Dissolved Copper (Cu)	ug/L	2.0	7437678	1.1	0.90	7435801	<0.90	0.90	7435801
Dissolved Iron (Fe)	ug/L	110	7437678	<100	100	7435801	350	100	7435801
Dissolved Lead (Pb)	ug/L	<0.50	7437678	<0.50	0.50	7435801	<0.50	0.50	7435801
Dissolved Magnesium (Mg)	ug/L	26000	7437678	25000	50	7435801	62000	50	7435801
Dissolved Manganese (Mn)	ug/L	6.0	7437678	<2.0	2.0	7435801	39	2.0	7435801
Dissolved Molybdenum (Mo)	ug/L	<0.50	7437678	<0.50	0.50	7435801	2.9	0.50	7435801
Dissolved Nickel (Ni)	ug/L	<1.0	7437678	<1.0	1.0	7435801	3.9	1.0	7435801
Dissolved Phosphorus (P)	ug/L	<100	7437678	<100	100	7435801	<100	100	7435801
Dissolved Potassium (K)	ug/L	1100	7437678	1100	200	7435801	2200	200	7435801
Dissolved Selenium (Se)	ug/L	<2.0	7437678	<2.0	2.0	7435801	<2.0	2.0	7435801
Dissolved Silicon (Si)	ug/L	4700	7437678	4300	50	7435801	5600	50	7435801
Dissolved Silver (Ag)	ug/L	<0.090	7437678	<0.090	0.090	7435801	<0.090	0.090	7435801
Dissolved Sodium (Na)	ug/L	11000	7437678	6400	100	7435801	14000	100	7435801
Dissolved Strontium (Sr)	ug/L	150	7437678	140	1.0	7435801	7200	1.0	7435801
Dissolved Thallium (Tl)	ug/L	<0.050	7437678	<0.050	0.050	7435801	<0.050	0.050	7435801
Dissolved Titanium (Ti)	ug/L	<5.0	7437678	<5.0	5.0	7435801	<5.0	5.0	7435801
Dissolved Uranium (U)	ug/L	0.80	7437678	0.14	0.10	7435801	0.22	0.10	7435801
Dissolved Vanadium (V)	ug/L	<0.50	7437678	<0.50	0.50	7435801	<0.50	0.50	7435801
Dissolved Zinc (Zn)	ug/L	<5.0	7437678	<5.0	5.0	7435801	<5.0	5.0	7435801

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

RCAP - COMPREHENSIVE (WATER)

BV Labs ID		PXS034		
Sampling Date		2021/06/23 18:30		
COC Number		C#831949-02-01		
	UNITS	MW20-22B	RDL	QC Batch
Calculated Parameters				
Anion Sum	me/L	18.7	N/A	7427593
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	220	1.0	7434506
Calculated TDS	mg/L	1200	1.0	7426927
Carb. Alkalinity (calc. as CaCO3)	mg/L	1.9	1.0	7434506
Cation Sum	me/L	18.9	N/A	7427593
Hardness (CaCO3)	mg/L	870	1.0	7429889
Ion Balance (% Difference)	%	0.680	N/A	7427592
Langelier Index (@ 20C)	N/A	1.15		7427594
Langelier Index (@ 4C)	N/A	0.902		7427596
Saturation pH (@ 20C)	N/A	6.81		7427594
Saturation pH (@ 4C)	N/A	7.05		7427596
Inorganics				
Total Ammonia-N	mg/L	0.15	0.050	7436397
Conductivity	umho/cm	1500	1.0	7438035
Dissolved Organic Carbon	mg/L	0.85	0.40	7436754
Orthophosphate (P)	mg/L	<0.010	0.010	7437783
pH	pH	7.95		7438036
Dissolved Sulphate (SO4)	mg/L	650	5.0	7437782
Alkalinity (Total as CaCO3)	mg/L	230	1.0	7438032
Dissolved Chloride (Cl-)	mg/L	24	1.0	7437775
Nitrite (N)	mg/L	0.010	0.010	7437964
Nitrate (N)	mg/L	0.25	0.10	7437964
Nitrate + Nitrite (N)	mg/L	0.26	0.10	7437964
Metals				
Dissolved Aluminum (Al)	ug/L	9.7	4.9	7435801
Dissolved Antimony (Sb)	ug/L	1.8	0.50	7435801
Dissolved Arsenic (As)	ug/L	11	1.0	7435801
Dissolved Barium (Ba)	ug/L	13	2.0	7435801
Dissolved Beryllium (Be)	ug/L	<0.40	0.40	7435801
Dissolved Boron (B)	ug/L	54	10	7435801
Dissolved Cadmium (Cd)	ug/L	<0.090	0.090	7435801

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N/A = Not Applicable

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RCAP - COMPREHENSIVE (WATER)

BV Labs ID		PXS034		
Sampling Date		2021/06/23 18:30		
COC Number		C#831949-02-01		
	UNITS	MW20-22B	RDL	QC Batch
Dissolved Calcium (Ca)	ug/L	260000	200	7435801
Dissolved Chromium (Cr)	ug/L	<5.0	5.0	7435801
Dissolved Cobalt (Co)	ug/L	<0.50	0.50	7435801
Dissolved Copper (Cu)	ug/L	1.0	0.90	7435801
Dissolved Iron (Fe)	ug/L	<100	100	7435801
Dissolved Lead (Pb)	ug/L	<0.50	0.50	7435801
Dissolved Magnesium (Mg)	ug/L	57000	50	7435801
Dissolved Manganese (Mn)	ug/L	34	2.0	7435801
Dissolved Molybdenum (Mo)	ug/L	24	0.50	7435801
Dissolved Nickel (Ni)	ug/L	5.9	1.0	7435801
Dissolved Phosphorus (P)	ug/L	<100	100	7435801
Dissolved Potassium (K)	ug/L	2000	200	7435801
Dissolved Selenium (Se)	ug/L	<2.0	2.0	7435801
Dissolved Silicon (Si)	ug/L	4700	50	7435801
Dissolved Silver (Ag)	ug/L	<0.090	0.090	7435801
Dissolved Sodium (Na)	ug/L	32000	100	7435801
Dissolved Strontium (Sr)	ug/L	4700	1.0	7435801
Dissolved Thallium (Tl)	ug/L	<0.050	0.050	7435801
Dissolved Titanium (Ti)	ug/L	<5.0	5.0	7435801
Dissolved Uranium (U)	ug/L	1.4	0.10	7435801
Dissolved Vanadium (V)	ug/L	1.2	0.50	7435801
Dissolved Zinc (Zn)	ug/L	<5.0	5.0	7435801

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

O.REG 153 PHCS, BTEX/F1-F4 (WATER)

BV Labs ID		PXS027	PXS028			PXS028		
Sampling Date		2021/06/23 15:45	2021/06/23			2021/06/23		
COC Number		C#831949-02-01	C#831949-02-01			C#831949-02-01		
	UNITS	MW20-19B	DUP2	RDL	QC Batch	DUP2 Lab-Dup	RDL	QC Batch
BTEX & F1 Hydrocarbons								
Benzene	ug/L	<0.20	<0.20	0.20	7435755			
Toluene	ug/L	<0.20	<0.20	0.20	7435755			
Ethylbenzene	ug/L	<0.20	<0.20	0.20	7435755			
o-Xylene	ug/L	<0.20	<0.20	0.20	7435755			
p+m-Xylene	ug/L	<0.40	<0.40	0.40	7435755			
Total Xylenes	ug/L	<0.40	<0.40	0.40	7435755			
F1 (C6-C10)	ug/L	<25	<25	25	7435755			
F1 (C6-C10) - BTEX	ug/L	<25	<25	25	7435755			
F2-F4 Hydrocarbons								
F2 (C10-C16 Hydrocarbons)	ug/L	<100	<100	100	7436245	<100	100	7436245
F3 (C16-C34 Hydrocarbons)	ug/L	1100	<200	200	7436245	<200	200	7436245
F4 (C34-C50 Hydrocarbons)	ug/L	810	<200	200	7436245	<200	200	7436245
Reached Baseline at C50	ug/L	Yes	Yes		7436245	Yes		7436245
Surrogate Recovery (%)								
1,4-Difluorobenzene	%	100	100		7435755			
4-Bromofluorobenzene	%	96	96		7435755			
D10-o-Xylene	%	98	97		7435755			
D4-1,2-Dichloroethane	%	107	107		7435755			
o-Terphenyl	%	93	97		7436245	97		7436245

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

O.REG 153 PHCS, BTEX/F1-F4 (WATER)

BV Labs ID		PXS030			PXS030			PXS032		
Sampling Date		2021/06/23 16:40			2021/06/23 16:40			2021/06/23 09:30		
COC Number		C#831949-02-01			C#831949-02-01			C#831949-02-01		
	UNITS	MW20-20B	RDL	QC Batch	MW20-20B Lab-Dup	RDL	QC Batch	MW20-09	RDL	QC Batch
BTEX & F1 Hydrocarbons										
Benzene	ug/L	<0.20	0.20	7435755	<0.20	0.20	7435755	<0.20	0.20	7435755
Toluene	ug/L	<0.20	0.20	7435755	<0.20	0.20	7435755	<0.20	0.20	7435755
Ethylbenzene	ug/L	<0.20	0.20	7435755	<0.20	0.20	7435755	<0.20	0.20	7435755
o-Xylene	ug/L	<0.20	0.20	7435755	<0.20	0.20	7435755	<0.20	0.20	7435755
p+m-Xylene	ug/L	<0.40	0.40	7435755	<0.40	0.40	7435755	<0.40	0.40	7435755
Total Xylenes	ug/L	<0.40	0.40	7435755	<0.40	0.40	7435755	<0.40	0.40	7435755
F1 (C6-C10)	ug/L	<25	25	7435755	<25	25	7435755	<25	25	7435755
F1 (C6-C10) - BTEX	ug/L	<25	25	7435755	<25	25	7435755	<25	25	7435755
F2-F4 Hydrocarbons										
F2 (C10-C16 Hydrocarbons)	ug/L	<100	100	7436245				<100	100	7436245
F3 (C16-C34 Hydrocarbons)	ug/L	330	200	7436245				<200	200	7436245
F4 (C34-C50 Hydrocarbons)	ug/L	<200	200	7436245				<200	200	7436245
Reached Baseline at C50	ug/L	Yes		7436245				Yes		7436245
Surrogate Recovery (%)										
1,4-Difluorobenzene	%	99		7435755	101		7435755	99		7435755
4-Bromofluorobenzene	%	99		7435755	92		7435755	99		7435755
D10-o-Xylene	%	98		7435755	99		7435755	97		7435755
D4-1,2-Dichloroethane	%	106		7435755	108		7435755	103		7435755
o-Terphenyl	%	98		7436245				96		7436245

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

O.REG 153 PHCS, BTEX/F1-F4 (WATER)

BV Labs ID		PXS034		
Sampling Date		2021/06/23 18:30		
COC Number		C#831949-02-01		
	UNITS	MW20-22B	RDL	QC Batch
BTEX & F1 Hydrocarbons				
Benzene	ug/L	<0.20	0.20	7435755
Toluene	ug/L	0.27	0.20	7435755
Ethylbenzene	ug/L	<0.20	0.20	7435755
o-Xylene	ug/L	<0.20	0.20	7435755
p+m-Xylene	ug/L	<0.40	0.40	7435755
Total Xylenes	ug/L	<0.40	0.40	7435755
F1 (C6-C10)	ug/L	<25	25	7435755
F1 (C6-C10) - BTEX	ug/L	<25	25	7435755
F2-F4 Hydrocarbons				
F2 (C10-C16 Hydrocarbons)	ug/L	<100	100	7437559
F3 (C16-C34 Hydrocarbons)	ug/L	<200	200	7437559
F4 (C34-C50 Hydrocarbons)	ug/L	<200	200	7437559
Reached Baseline at C50	ug/L	Yes		7437559
Surrogate Recovery (%)				
1,4-Difluorobenzene	%	100		7435755
4-Bromofluorobenzene	%	91		7435755
D10-o-Xylene	%	98		7435755
D4-1,2-Dichloroethane	%	104		7435755
o-Terphenyl	%	99		7437559

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

TEST SUMMARY

BV Labs ID: PXS026
Sample ID: MW20-19A
Matrix: Water

Collected: 2021/06/23
Shipped:
Received: 2021/06/24

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	7438032	N/A	2021/06/30	Surinder Rai
Carbonate, Bicarbonate and Hydroxide	CALC	7427591	N/A	2021/06/30	Automated Statchk
Chloride by Automated Colourimetry	KONE	7437775	N/A	2021/06/30	Alina Dobreanu
Conductivity	AT	7438035	N/A	2021/06/30	Surinder Rai
Dissolved Organic Carbon (DOC)	TOCV/NDIR	7436754	N/A	2021/06/29	Nimarta Singh
Hardness (calculated as CaCO3)		7429889	N/A	2021/07/02	Automated Statchk
Dissolved Metals by ICPMS	ICP/MS	7435801	N/A	2021/06/30	Arefa Dabhad
Ion Balance (% Difference)	CALC	7427592	N/A	2021/07/02	Automated Statchk
Anion and Cation Sum	CALC	7427593	N/A	2021/07/02	Automated Statchk
Total Ammonia-N	LACH/NH4	7436397	N/A	2021/06/30	Amanpreet Sappal
Nitrate (NO3) and Nitrite (NO2) in Water	LACH	7437964	N/A	2021/06/30	Chandra Nandlal
pH	AT	7438036	2021/06/30	2021/06/30	Surinder Rai
Orthophosphate	KONE	7437783	N/A	2021/06/30	Avneet Kour Sudan
Sat. pH and Langelier Index (@ 20C)	CALC	7427594	N/A	2021/07/02	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	7427596	N/A	2021/07/02	Automated Statchk
Sulphate by Automated Colourimetry	KONE	7437782	N/A	2021/06/30	Alina Dobreanu
Total Dissolved Solids (TDS calc)	CALC	7426927	N/A	2021/07/02	Automated Statchk

BV Labs ID: PXS026 Dup
Sample ID: MW20-19A
Matrix: Water

Collected: 2021/06/23
Shipped:
Received: 2021/06/24

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	7438032	N/A	2021/06/30	Surinder Rai
Chloride by Automated Colourimetry	KONE	7437775	N/A	2021/06/30	Alina Dobreanu
Conductivity	AT	7438035	N/A	2021/06/30	Surinder Rai
Nitrate (NO3) and Nitrite (NO2) in Water	LACH	7437964	N/A	2021/06/30	Chandra Nandlal
pH	AT	7438036	2021/06/30	2021/06/30	Surinder Rai
Orthophosphate	KONE	7437783	N/A	2021/06/30	Avneet Kour Sudan
Sulphate by Automated Colourimetry	KONE	7437782	N/A	2021/06/30	Alina Dobreanu

BV Labs ID: PXS027
Sample ID: MW20-19B
Matrix: Water

Collected: 2021/06/23
Shipped:
Received: 2021/06/24

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	7438032	N/A	2021/06/30	Surinder Rai
Carbonate, Bicarbonate and Hydroxide	CALC	7427591	N/A	2021/06/30	Automated Statchk
Chloride by Automated Colourimetry	KONE	7437775	N/A	2021/06/30	Alina Dobreanu
Conductivity	AT	7438035	N/A	2021/06/30	Surinder Rai
Dissolved Organic Carbon (DOC)	TOCV/NDIR	7436754	N/A	2021/06/29	Nimarta Singh
Petroleum Hydro. CCME F1 & BTEX in Water	HSGC/MSFD	7435755	N/A	2021/06/29	Anca Ganea
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	7436245	2021/06/29	2021/06/30	Ravinder Gaidhu
Hardness (calculated as CaCO3)		7429889	N/A	2021/07/02	Automated Statchk
Dissolved Metals by ICPMS	ICP/MS	7435801	N/A	2021/06/30	Arefa Dabhad

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

TEST SUMMARY

BV Labs ID: PXS027
Sample ID: MW20-19B
Matrix: Water

Collected: 2021/06/23
Shipped:
Received: 2021/06/24

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Ion Balance (% Difference)	CALC	7427592	N/A	2021/07/02	Automated Statchk
Anion and Cation Sum	CALC	7427593	N/A	2021/07/02	Automated Statchk
Total Ammonia-N	LACH/NH4	7436397	N/A	2021/06/30	Amanpreet Sappal
Nitrate (NO3) and Nitrite (NO2) in Water	LACH	7437964	N/A	2021/06/30	Chandra Nandlal
pH	AT	7438036	2021/06/30	2021/06/30	Surinder Rai
Orthophosphate	KONE	7437783	N/A	2021/06/30	Avneet Kour Sudan
Sat. pH and Langelier Index (@ 20C)	CALC	7427594	N/A	2021/07/02	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	7427596	N/A	2021/07/02	Automated Statchk
Sulphate by Automated Colourimetry	KONE	7437782	N/A	2021/06/30	Alina Dobreanu
Total Dissolved Solids (TDS calc)	CALC	7426927	N/A	2021/07/02	Automated Statchk

BV Labs ID: PXS028
Sample ID: DUP2
Matrix: Water

Collected: 2021/06/23
Shipped:
Received: 2021/06/24

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	7438032	N/A	2021/06/30	Surinder Rai
Carbonate, Bicarbonate and Hydroxide	CALC	7427591	N/A	2021/06/30	Automated Statchk
Chloride by Automated Colourimetry	KONE	7437775	N/A	2021/06/30	Alina Dobreanu
Conductivity	AT	7438035	N/A	2021/06/30	Surinder Rai
Dissolved Organic Carbon (DOC)	TOCV/NDIR	7436754	N/A	2021/06/29	Nimarta Singh
Petroleum Hydro. CCME F1 & BTEX in Water	HSGC/MSFD	7435755	N/A	2021/06/29	Anca Ganea
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	7436245	2021/06/29	2021/06/30	Ravinder Gaidhu
Hardness (calculated as CaCO3)		7429889	N/A	2021/07/02	Automated Statchk
Dissolved Metals by ICPMS	ICP/MS	7435801	N/A	2021/06/30	Arefa Dabhad
Ion Balance (% Difference)	CALC	7427592	N/A	2021/07/02	Automated Statchk
Anion and Cation Sum	CALC	7427593	N/A	2021/07/02	Automated Statchk
Total Ammonia-N	LACH/NH4	7436397	N/A	2021/06/30	Amanpreet Sappal
Nitrate (NO3) and Nitrite (NO2) in Water	LACH	7437964	N/A	2021/06/30	Chandra Nandlal
pH	AT	7438036	2021/06/30	2021/06/30	Surinder Rai
Orthophosphate	KONE	7437783	N/A	2021/06/30	Avneet Kour Sudan
Sat. pH and Langelier Index (@ 20C)	CALC	7427594	N/A	2021/07/02	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	7427596	N/A	2021/07/02	Automated Statchk
Sulphate by Automated Colourimetry	KONE	7437782	N/A	2021/06/30	Alina Dobreanu
Total Dissolved Solids (TDS calc)	CALC	7426927	N/A	2021/07/02	Automated Statchk

BV Labs ID: PXS028 Dup
Sample ID: DUP2
Matrix: Water

Collected: 2021/06/23
Shipped:
Received: 2021/06/24

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	7436245	2021/06/29	2021/06/30	Ravinder Gaidhu

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

TEST SUMMARY

BV Labs ID: PXS029
Sample ID: MW20-20A
Matrix: Water

Collected: 2021/06/23
Shipped:
Received: 2021/06/24

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	7438032	N/A	2021/06/30	Surinder Rai
Carbonate, Bicarbonate and Hydroxide	CALC	7427591	N/A	2021/06/30	Automated Statchk
Chloride by Automated Colourimetry	KONE	7437775	N/A	2021/06/30	Alina Dobreanu
Conductivity	AT	7438035	N/A	2021/06/30	Surinder Rai
Dissolved Organic Carbon (DOC)	TOCV/NDIR	7436754	N/A	2021/06/29	Nimarta Singh
Hardness (calculated as CaCO3)		7429889	N/A	2021/07/02	Automated Statchk
Dissolved Metals by ICPMS	ICP/MS	7435801	N/A	2021/07/02	Arefa Dabhad
Ion Balance (% Difference)	CALC	7427592	N/A	2021/07/02	Automated Statchk
Anion and Cation Sum	CALC	7427593	N/A	2021/07/02	Automated Statchk
Total Ammonia-N	LACH/NH4	7436397	N/A	2021/06/30	Amanpreet Sappal
Nitrate (NO3) and Nitrite (NO2) in Water	LACH	7437964	N/A	2021/06/30	Chandra Nandlal
pH	AT	7438036	2021/06/30	2021/06/30	Surinder Rai
Orthophosphate	KONE	7437783	N/A	2021/06/30	Avneet Kour Sudan
Sat. pH and Langelier Index (@ 20C)	CALC	7427594	N/A	2021/07/02	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	7427596	N/A	2021/07/02	Automated Statchk
Sulphate by Automated Colourimetry	KONE	7437782	N/A	2021/06/30	Alina Dobreanu
Total Dissolved Solids (TDS calc)	CALC	7426927	N/A	2021/07/02	Automated Statchk

BV Labs ID: PXS030
Sample ID: MW20-20B
Matrix: Water

Collected: 2021/06/23
Shipped:
Received: 2021/06/24

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	7438032	N/A	2021/06/30	Surinder Rai
Carbonate, Bicarbonate and Hydroxide	CALC	7427591	N/A	2021/06/30	Automated Statchk
Chloride by Automated Colourimetry	KONE	7437775	N/A	2021/06/30	Alina Dobreanu
Conductivity	AT	7438035	N/A	2021/06/30	Surinder Rai
Dissolved Organic Carbon (DOC)	TOCV/NDIR	7436754	N/A	2021/06/29	Nimarta Singh
Petroleum Hydro. CCME F1 & BTEX in Water	HSGC/MSFD	7435755	N/A	2021/06/29	Anca Ganea
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	7436245	2021/06/29	2021/06/30	Ravinder Gaidhu
Hardness (calculated as CaCO3)		7429889	N/A	2021/07/02	Automated Statchk
Dissolved Metals by ICPMS	ICP/MS	7435801	N/A	2021/06/30	Arefa Dabhad
Ion Balance (% Difference)	CALC	7427592	N/A	2021/07/02	Automated Statchk
Anion and Cation Sum	CALC	7427593	N/A	2021/07/02	Automated Statchk
Total Ammonia-N	LACH/NH4	7436397	N/A	2021/06/30	Amanpreet Sappal
Nitrate (NO3) and Nitrite (NO2) in Water	LACH	7437964	N/A	2021/06/30	Chandra Nandlal
pH	AT	7438036	2021/06/30	2021/06/30	Surinder Rai
Orthophosphate	KONE	7437783	N/A	2021/06/30	Avneet Kour Sudan
Sat. pH and Langelier Index (@ 20C)	CALC	7427594	N/A	2021/07/02	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	7427596	N/A	2021/07/02	Automated Statchk
Sulphate by Automated Colourimetry	KONE	7437782	N/A	2021/06/30	Alina Dobreanu
Total Dissolved Solids (TDS calc)	CALC	7426927	N/A	2021/07/02	Automated Statchk

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

TEST SUMMARY

BV Labs ID: PXS030 Dup
Sample ID: MW20-20B
Matrix: Water

Collected: 2021/06/23
Shipped:
Received: 2021/06/24

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Petroleum Hydro. CCME F1 & BTEX in Water	HSGC/MSFD	7435755	N/A	2021/06/29	Anca Ganea

BV Labs ID: PXS031
Sample ID: MW20-20C
Matrix: Water

Collected: 2021/06/23
Shipped:
Received: 2021/06/24

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	7438032	N/A	2021/06/30	Surinder Rai
Carbonate, Bicarbonate and Hydroxide	CALC	7434506	N/A	2021/06/30	Automated Statchk
Chloride by Automated Colourimetry	KONE	7437775	N/A	2021/06/30	Alina Dobreanu
Conductivity	AT	7438035	N/A	2021/06/30	Surinder Rai
Dissolved Organic Carbon (DOC)	TOCV/NDIR	7436754	N/A	2021/06/29	Nimarta Singh
Hardness (calculated as CaCO3)		7429889	N/A	2021/07/02	Automated Statchk
Dissolved Metals by ICPMS	ICP/MS	7437678	N/A	2021/07/02	Prempal Bhatti
Ion Balance (% Difference)	CALC	7427592	N/A	2021/07/02	Automated Statchk
Anion and Cation Sum	CALC	7427593	N/A	2021/07/02	Automated Statchk
Total Ammonia-N	LACH/NH4	7436397	N/A	2021/06/30	Amanpreet Sappal
Nitrate (NO3) and Nitrite (NO2) in Water	LACH	7437964	N/A	2021/06/30	Chandra Nandlal
pH	AT	7438036	2021/06/30	2021/06/30	Surinder Rai
Orthophosphate	KONE	7437783	N/A	2021/06/30	Avneet Kour Sudan
Sat. pH and Langelier Index (@ 20C)	CALC	7427594	N/A	2021/07/02	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	7427596	N/A	2021/07/02	Automated Statchk
Sulphate by Automated Colourimetry	KONE	7437782	N/A	2021/06/30	Alina Dobreanu
Total Dissolved Solids (TDS calc)	CALC	7426927	N/A	2021/07/02	Automated Statchk

BV Labs ID: PXS032
Sample ID: MW20-09
Matrix: Water

Collected: 2021/06/23
Shipped:
Received: 2021/06/24

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	7438032	N/A	2021/06/30	Surinder Rai
Carbonate, Bicarbonate and Hydroxide	CALC	7434506	N/A	2021/06/30	Automated Statchk
Chloride by Automated Colourimetry	KONE	7436686	N/A	2021/06/30	Alina Dobreanu
Conductivity	AT	7438035	N/A	2021/06/30	Surinder Rai
Dissolved Organic Carbon (DOC)	TOCV/NDIR	7436754	N/A	2021/06/29	Nimarta Singh
Petroleum Hydro. CCME F1 & BTEX in Water	HSGC/MSFD	7435755	N/A	2021/06/29	Anca Ganea
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	7436245	2021/06/29	2021/06/30	Ravinder Gaidhu
Hardness (calculated as CaCO3)		7429889	N/A	2021/07/02	Automated Statchk
Dissolved Metals by ICPMS	ICP/MS	7435801	N/A	2021/06/30	Arefa Dabhad
Ion Balance (% Difference)	CALC	7427592	N/A	2021/07/02	Automated Statchk
Anion and Cation Sum	CALC	7427593	N/A	2021/07/02	Automated Statchk
Total Ammonia-N	LACH/NH4	7436397	N/A	2021/06/30	Amanpreet Sappal
Nitrate (NO3) and Nitrite (NO2) in Water	LACH	7437964	N/A	2021/06/30	Chandra Nandlal
pH	AT	7438036	2021/06/29	2021/06/30	Surinder Rai
Orthophosphate	KONE	7436693	N/A	2021/06/30	Avneet Kour Sudan

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

TEST SUMMARY

BV Labs ID: PXS032
Sample ID: MW20-09
Matrix: Water

Collected: 2021/06/23
Shipped:
Received: 2021/06/24

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Sat. pH and Langelier Index (@ 20C)	CALC	7427594	N/A	2021/07/02	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	7427596	N/A	2021/07/02	Automated Statchk
Sulphate by Automated Colourimetry	KONE	7436692	N/A	2021/06/30	Alina Dobreanu
Total Dissolved Solids (TDS calc)	CALC	7426927	N/A	2021/07/02	Automated Statchk

BV Labs ID: PXS033
Sample ID: MW20-22A
Matrix: Water

Collected: 2021/06/23
Shipped:
Received: 2021/06/24

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	7438032	N/A	2021/06/30	Surinder Rai
Carbonate, Bicarbonate and Hydroxide	CALC	7434506	N/A	2021/06/30	Automated Statchk
Chloride by Automated Colourimetry	KONE	7437775	N/A	2021/06/30	Alina Dobreanu
Conductivity	AT	7438035	N/A	2021/06/30	Surinder Rai
Dissolved Organic Carbon (DOC)	TOCV/NDIR	7436754	N/A	2021/06/29	Nimarta Singh
Hardness (calculated as CaCO3)		7429889	N/A	2021/07/02	Automated Statchk
Dissolved Metals by ICPMS	ICP/MS	7435801	N/A	2021/07/02	Arefa Dabhad
Ion Balance (% Difference)	CALC	7427592	N/A	2021/07/02	Automated Statchk
Anion and Cation Sum	CALC	7427593	N/A	2021/07/02	Automated Statchk
Total Ammonia-N	LACH/NH4	7436397	N/A	2021/06/30	Amanpreet Sappal
Nitrate (NO3) and Nitrite (NO2) in Water	LACH	7437964	N/A	2021/06/30	Chandra Nandlal
pH	AT	7438036	2021/06/30	2021/06/30	Surinder Rai
Orthophosphate	KONE	7437783	N/A	2021/06/30	Avneet Kour Sudan
Sat. pH and Langelier Index (@ 20C)	CALC	7427594	N/A	2021/07/02	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	7427596	N/A	2021/07/02	Automated Statchk
Sulphate by Automated Colourimetry	KONE	7437782	N/A	2021/06/30	Alina Dobreanu
Total Dissolved Solids (TDS calc)	CALC	7426927	N/A	2021/07/02	Automated Statchk

BV Labs ID: PXS034
Sample ID: MW20-22B
Matrix: Water

Collected: 2021/06/23
Shipped:
Received: 2021/06/24

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	7438032	N/A	2021/06/30	Surinder Rai
Carbonate, Bicarbonate and Hydroxide	CALC	7434506	N/A	2021/06/30	Automated Statchk
Chloride by Automated Colourimetry	KONE	7437775	N/A	2021/06/30	Alina Dobreanu
Conductivity	AT	7438035	N/A	2021/06/30	Surinder Rai
Dissolved Organic Carbon (DOC)	TOCV/NDIR	7436754	N/A	2021/06/29	Nimarta Singh
Petroleum Hydro. CCME F1 & BTEX in Water	HSGC/MSFD	7435755	N/A	2021/06/29	Anca Ganea
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	7437559	2021/06/30	2021/06/30	(Kent) Maolin Li
Hardness (calculated as CaCO3)		7429889	N/A	2021/07/02	Automated Statchk
Dissolved Metals by ICPMS	ICP/MS	7435801	N/A	2021/06/30	Arefa Dabhad
Ion Balance (% Difference)	CALC	7427592	N/A	2021/07/02	Automated Statchk
Anion and Cation Sum	CALC	7427593	N/A	2021/07/02	Automated Statchk
Total Ammonia-N	LACH/NH4	7436397	N/A	2021/06/30	Amanpreet Sappal

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

BV Labs Job #: C1H4635
Report Date: 2021/07/02

Golder Associates Ltd
Client Project #: 19129150 (2300)
Sampler Initials: CS

TEST SUMMARY

BV Labs ID: PXS034
Sample ID: MW20-22B
Matrix: Water

Collected: 2021/06/23
Shipped:
Received: 2021/06/24

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Nitrate (NO3) and Nitrite (NO2) in Water	LACH	7437964	N/A	2021/06/30	Chandra Nandlal
pH	AT	7438036	2021/06/30	2021/06/30	Surinder Rai
Orthophosphate	KONE	7437783	N/A	2021/06/30	Avneet Kour Sudan
Sat. pH and Langelier Index (@ 20C)	CALC	7427594	N/A	2021/07/02	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	7427596	N/A	2021/07/02	Automated Statchk
Sulphate by Automated Colourimetry	KONE	7437782	N/A	2021/06/30	Alina Dobreanu
Total Dissolved Solids (TDS calc)	CALC	7426927	N/A	2021/07/02	Automated Statchk

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	1.0°C

Results relate only to the items tested.

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

BV Labs Job #: C1H4635
Report Date: 2021/07/02

QUALITY ASSURANCE REPORT

Golder Associates Ltd
Client Project #: 19129150 (2300)
Sampler Initials: CS

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
7435755	1,4-Difluorobenzene	2021/06/30	98	70 - 130	99	70 - 130	100	%		
7435755	4-Bromofluorobenzene	2021/06/30	102	70 - 130	100	70 - 130	95	%		
7435755	D10-o-Xylene	2021/06/30	83	70 - 130	97	70 - 130	96	%		
7435755	D4-1,2-Dichloroethane	2021/06/30	101	70 - 130	99	70 - 130	101	%		
7436245	o-Terphenyl	2021/06/29	98	60 - 130	98	60 - 130	98	%		
7437559	o-Terphenyl	2021/06/30	97	60 - 130	99	60 - 130	96	%		
7435755	Benzene	2021/06/29	92	50 - 140	106	50 - 140	<0.20	ug/L	NC	30
7435755	Ethylbenzene	2021/06/29	100	50 - 140	115	50 - 140	<0.20	ug/L	NC	30
7435755	F1 (C6-C10) - BTEX	2021/06/29					<25	ug/L	NC	30
7435755	F1 (C6-C10)	2021/06/29	82	60 - 140	95	60 - 140	<25	ug/L	NC	30
7435755	o-Xylene	2021/06/29	98	50 - 140	112	50 - 140	<0.20	ug/L	NC	30
7435755	p+m-Xylene	2021/06/29	97	50 - 140	110	50 - 140	<0.40	ug/L	NC	30
7435755	Toluene	2021/06/29	88	50 - 140	101	50 - 140	<0.20	ug/L	NC	30
7435755	Total Xylenes	2021/06/29					<0.40	ug/L	NC	30
7435801	Dissolved Aluminum (Al)	2021/06/30	104	80 - 120	99	80 - 120	<4.9	ug/L	1.8	20
7435801	Dissolved Antimony (Sb)	2021/06/30	104	80 - 120	98	80 - 120	<0.50	ug/L	NC	20
7435801	Dissolved Arsenic (As)	2021/06/30	100	80 - 120	98	80 - 120	<1.0	ug/L	13	20
7435801	Dissolved Barium (Ba)	2021/06/30	104	80 - 120	99	80 - 120	<2.0	ug/L	3.9	20
7435801	Dissolved Beryllium (Be)	2021/06/30	103	80 - 120	97	80 - 120	<0.40	ug/L	NC	20
7435801	Dissolved Boron (B)	2021/06/30	95	80 - 120	93	80 - 120	<10	ug/L	2.6	20
7435801	Dissolved Cadmium (Cd)	2021/06/30	99	80 - 120	97	80 - 120	<0.090	ug/L	NC	20
7435801	Dissolved Calcium (Ca)	2021/06/30	NC	80 - 120	100	80 - 120	<200	ug/L	1.0	20
7435801	Dissolved Chromium (Cr)	2021/06/30	95	80 - 120	96	80 - 120	<5.0	ug/L	NC	20
7435801	Dissolved Cobalt (Co)	2021/06/30	97	80 - 120	100	80 - 120	<0.50	ug/L	NC	20
7435801	Dissolved Copper (Cu)	2021/06/30	99	80 - 120	95	80 - 120	<0.90	ug/L	4.4	20
7435801	Dissolved Iron (Fe)	2021/06/30	94	80 - 120	95	80 - 120	<100	ug/L	2.5	20
7435801	Dissolved Lead (Pb)	2021/06/30	95	80 - 120	94	80 - 120	<0.50	ug/L	NC	20
7435801	Dissolved Magnesium (Mg)	2021/06/30	97	80 - 120	97	80 - 120	<50	ug/L	1.3	20
7435801	Dissolved Manganese (Mn)	2021/06/30	97	80 - 120	96	80 - 120	<2.0	ug/L	0.82	20
7435801	Dissolved Molybdenum (Mo)	2021/06/30	101	80 - 120	94	80 - 120	<0.50	ug/L	0.23	20
7435801	Dissolved Nickel (Ni)	2021/06/30	93	80 - 120	95	80 - 120	<1.0	ug/L	0.95	20

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
7435801	Dissolved Phosphorus (P)	2021/06/30	97	80 - 120	95	80 - 120	<100	ug/L	NC	20
7435801	Dissolved Potassium (K)	2021/06/30	104	80 - 120	98	80 - 120	<200	ug/L	1.3	20
7435801	Dissolved Selenium (Se)	2021/06/30	99	80 - 120	101	80 - 120	<2.0	ug/L	NC	20
7435801	Dissolved Silicon (Si)	2021/06/30	102	80 - 120	97	80 - 120	<50	ug/L	2.6	20
7435801	Dissolved Silver (Ag)	2021/06/30	94	80 - 120	94	80 - 120	<0.090	ug/L	NC	20
7435801	Dissolved Sodium (Na)	2021/06/30	NC	80 - 120	95	80 - 120	<100	ug/L	0.65	20
7435801	Dissolved Strontium (Sr)	2021/06/30	NC	80 - 120	94	80 - 120	<1.0	ug/L	0.72	20
7435801	Dissolved Thallium (Tl)	2021/06/30	98	80 - 120	98	80 - 120	<0.050	ug/L	NC	20
7435801	Dissolved Titanium (Ti)	2021/06/30	100	80 - 120	95	80 - 120	<5.0	ug/L	NC	20
7435801	Dissolved Uranium (U)	2021/06/30	98	80 - 120	95	80 - 120	<0.10	ug/L	4.0	20
7435801	Dissolved Vanadium (V)	2021/06/30	98	80 - 120	95	80 - 120	<0.50	ug/L	15	20
7435801	Dissolved Zinc (Zn)	2021/06/30	93	80 - 120	94	80 - 120	<5.0	ug/L	NC	20
7436245	F2 (C10-C16 Hydrocarbons)	2021/06/30	90	60 - 130	99	60 - 130	<100	ug/L	NC	30
7436245	F3 (C16-C34 Hydrocarbons)	2021/06/30	88	60 - 130	103	60 - 130	<200	ug/L	NC	30
7436245	F4 (C34-C50 Hydrocarbons)	2021/06/30	93	60 - 130	106	60 - 130	<200	ug/L	NC	30
7436397	Total Ammonia-N	2021/06/30	100	75 - 125	104	80 - 120	<0.050	mg/L	20	20
7436686	Dissolved Chloride (Cl-)	2021/06/30	116	80 - 120	104	80 - 120	<1.0	mg/L	18	20
7436692	Dissolved Sulphate (SO4)	2021/06/30	174 (1)	75 - 125	105	80 - 120	<1.0	mg/L	NC	20
7436693	Orthophosphate (P)	2021/06/30	97	75 - 125	99	80 - 120	<0.010	mg/L	NC	25
7436754	Dissolved Organic Carbon	2021/06/29	93	80 - 120	98	80 - 120	<0.40	mg/L	1.0	20
7437559	F2 (C10-C16 Hydrocarbons)	2021/06/30	104	60 - 130	111	60 - 130	<100	ug/L	NC	30
7437559	F3 (C16-C34 Hydrocarbons)	2021/06/30	114	60 - 130	115	60 - 130	<200	ug/L	NC	30
7437559	F4 (C34-C50 Hydrocarbons)	2021/06/30	112	60 - 130	118	60 - 130	<200	ug/L	NC	30
7437678	Dissolved Aluminum (Al)	2021/06/30	101	80 - 120	99	80 - 120	<4.9	ug/L	NC	20
7437678	Dissolved Antimony (Sb)	2021/06/30	105	80 - 120	100	80 - 120	<0.50	ug/L	NC	20
7437678	Dissolved Arsenic (As)	2021/06/30	103	80 - 120	100	80 - 120	<1.0	ug/L	0.65	20
7437678	Dissolved Barium (Ba)	2021/06/30	102	80 - 120	100	80 - 120	<2.0	ug/L	3.8	20
7437678	Dissolved Beryllium (Be)	2021/06/30	103	80 - 120	96	80 - 120	<0.40	ug/L	NC	20
7437678	Dissolved Boron (B)	2021/06/30	97	80 - 120	88	80 - 120	<10	ug/L	4.1	20
7437678	Dissolved Cadmium (Cd)	2021/06/30	102	80 - 120	99	80 - 120	<0.090	ug/L	NC	20
7437678	Dissolved Calcium (Ca)	2021/06/30	NC	80 - 120	98	80 - 120	<200	ug/L	1.6	20

QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
7437678	Dissolved Chromium (Cr)	2021/06/30	100	80 - 120	97	80 - 120	<5.0	ug/L	NC	20
7437678	Dissolved Cobalt (Co)	2021/06/30	105	80 - 120	103	80 - 120	<0.50	ug/L	NC	20
7437678	Dissolved Copper (Cu)	2021/06/30	101	80 - 120	105	80 - 120	<0.90	ug/L	NC	20
7437678	Dissolved Iron (Fe)	2021/06/30	102	80 - 120	99	80 - 120	<100	ug/L	0.31	20
7437678	Dissolved Lead (Pb)	2021/06/30	100	80 - 120	98	80 - 120	<0.50	ug/L	NC	20
7437678	Dissolved Magnesium (Mg)	2021/06/30	NC	80 - 120	102	80 - 120	<50	ug/L	1.2	20
7437678	Dissolved Manganese (Mn)	2021/06/30	100	80 - 120	98	80 - 120	<2.0	ug/L	1.4	20
7437678	Dissolved Molybdenum (Mo)	2021/06/30	105	80 - 120	98	80 - 120	<0.50	ug/L	1.5	20
7437678	Dissolved Nickel (Ni)	2021/06/30	100	80 - 120	100	80 - 120	<1.0	ug/L	NC	20
7437678	Dissolved Phosphorus (P)	2021/06/30	102	80 - 120	103	80 - 120	<100	ug/L	NC	20
7437678	Dissolved Potassium (K)	2021/06/30	104	80 - 120	103	80 - 120	<200	ug/L	0.33	20
7437678	Dissolved Selenium (Se)	2021/06/30	106	80 - 120	102	80 - 120	<2.0	ug/L	NC	20
7437678	Dissolved Silicon (Si)	2021/06/30	98	80 - 120	97	80 - 120	<50	ug/L	1.0	20
7437678	Dissolved Silver (Ag)	2021/06/30	101	80 - 120	98	80 - 120	<0.090	ug/L	NC	20
7437678	Dissolved Sodium (Na)	2021/06/30	102	80 - 120	101	80 - 120	<100	ug/L	1.5	20
7437678	Dissolved Strontium (Sr)	2021/06/30	NC	80 - 120	97	80 - 120	<1.0	ug/L	2.9	20
7437678	Dissolved Thallium (Tl)	2021/06/30	106	80 - 120	102	80 - 120	<0.050	ug/L	NC	20
7437678	Dissolved Titanium (Ti)	2021/06/30	100	80 - 120	96	80 - 120	<5.0	ug/L	NC	20
7437678	Dissolved Uranium (U)	2021/06/30	105	80 - 120	99	80 - 120	<0.10	ug/L	0.64	20
7437678	Dissolved Vanadium (V)	2021/06/30	100	80 - 120	97	80 - 120	<0.50	ug/L	NC	20
7437678	Dissolved Zinc (Zn)	2021/06/30	99	80 - 120	99	80 - 120	<5.0	ug/L	NC	20
7437775	Dissolved Chloride (Cl-)	2021/06/30	100	80 - 120	106	80 - 120	<1.0	mg/L	NC	20
7437782	Dissolved Sulphate (SO4)	2021/06/30	NC	75 - 125	104	80 - 120	<1.0	mg/L	0.82	20
7437783	Orthophosphate (P)	2021/06/30	97	75 - 125	102	80 - 120	<0.010	mg/L	NC	25
7437964	Nitrate (N)	2021/06/30	99	80 - 120	99	80 - 120	<0.10	mg/L	NC	20
7437964	Nitrite (N)	2021/06/30	106	80 - 120	105	80 - 120	<0.010	mg/L	NC	20
7438032	Alkalinity (Total as CaCO3)	2021/06/30			94	85 - 115	<1.0	mg/L	0.58	20
7438035	Conductivity	2021/06/30			102	85 - 115	<1.0	umho/cm	1.2	25

Bureau Veritas Laboratories 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvlabs.com

Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
7438036	pH	2021/06/30			102	98 - 103			0.38	N/A

N/A = Not Applicable

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

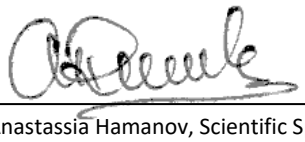
(1) Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.

Bureau Veritas Laboratories 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvlabs.com

Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:



Anastassia Hamanov, Scientific Specialist

BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Bureau Veritas Laboratories 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvlabs.com

Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

Bureau Veritas Laboratories
6740 Campobello Road, Mississauga, Ontario Canada L5N 2L8 Tel (905) 817-5700 Toll-free 800-563-6266 Fax (905) 817-5777 www.bvlabs.com

CHAIN OF CUSTODY RECORD

Page 1 of 2

INVOICE TO:		REPORT TO:		PROJECT INFORMATION:		Laboratory Use Only:	
Company Name:	#21375 Golder Associates Ltd	Company Name:		Quotation #:	B80683	BV Labs Job #:	Bottle Order #: 831949
Attention:	Accounts Payable	Attention:	Gregory Padusenko	P.O. #:			
Address:	210 Sheldon Drive Cambridge ON N1T 1A8	Address:		Project:	19129150 (2300)	COC #: C#831949-02-01	Project Manager: Ema Gitej
Tel:	(519) 620-8182 Fax:	Tel:	(519) 620-8182 Ext: 6509 Fax: (519) 620-9878	Project Name:			
Email:	CanadaAccountsPayableInvoices@golder.com	Email:	Gregory_Padusenko@golder.com	Site #:			
				Sampled By:			

MOE REGULATED DRINKING WATER OR WATER INTENDED FOR HUMAN CONSUMPTION MUST BE SUBMITTED ON THE BV LABS DRINKING WATER CHAIN OF CUSTODY

Regulation 153 (2011): ☐ Table 1 ☐ Res/Park ☐ Medium/Fine ☐ Table 2 ☐ Ind/Comm ☐ Coarse ☐ Table 3 ☐ Agri/Other ☐ For RSC ☐ Table ___

Other Regulations: ☐ CCME ☐ Sanitary Sewer Bylaw ☐ Reg 558 ☐ Storm Sewer Bylaw ☐ MISA Municipality ☐ PWQO ☐ Reg 406 Table ☐ Other

Special Instructions

Include Criteria on Certificate of Analysis (Y/N)? ___

ANALYSIS REQUESTED (PLEASE BE SPECIFIC)

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Field Filtered (please circle): (Metals) Hg / Cr VI	RCAp - Comprehensive	O.Reg 153 PHCs, BTEX/F1-F4	# of Bottles	Comments
1	MW20-19A		06/23/21	15:30	GW	X	X		4	
2	MW20-19B			15:45		X	X	X	8	
3	MW20-28A			12-		X	X		4	
4	MW20-28B			12:30		X	X	X	8	
5	DUP2			—		X	X	X	8	
6	MW20-20A		16/06/21			X	X		4	
7	MW20-20B		16/06/21			X	X	X	8	
8	MW20-20C		17/06/21			X	X		4	
9	MW20-09			9:30		X	X	X	8	
10	DUP3			—		X	X	X	8	

Turnaround Time (TAT) Required:

Please provide advance notice for rush projects

Regular (Standard) TAT: ☒
(will be applied if Rush TAT is not specified)
Standard TAT = 5-7 Working days for most tests.
Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.

Job Specific Rush TAT (if applies to entire submission)
Date Required: ___ Time Required: ___ ☐
Rush Confirmation Number: ___ *(call lab for #)*

24-Jun-21 08:00
Ema Gitej
C1H4635
SYK ENV-796

* RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	# jars used and not submitted
Diana Steckle / C Steckle	21/06/23			21/06/24	08:00	

Laboratory Use Only

Time Sensitive	Temperature (°C) on Recei	Custody Seal	Yes	No
	1 / 1 / 1 °C	Present	✓	
		Intact	✓	

* UNLESS OTHERWISE AGREED TO IN WRITING, WORK SUBMITTED ON THIS CHAIN OF CUSTODY IS SUBJECT TO BV LABS' STANDARD TERMS AND CONDITIONS. SIGNING OF THIS CHAIN OF CUSTODY DOCUMENT IS ACKNOWLEDGMENT AND ACCEPTANCE OF OUR TERMS WHICH ARE AVAILABLE FOR VIEWING AT WWW.BVLABS.COM/TERMS-AND-CONDITIONS.

* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

** SAMPLE CONTAINER, PRESERVATION, HOLD TIME AND PACKAGE INFORMATION CAN BE VIEWED AT WWW.BVLABS.COM/RESOURCES/CHAIN-OF-CUSTODY-FORMS.

SAMPLES MUST BE KEPT COOL (< 10° C) FROM TIME OF SAMPLING UNTIL DELIVERY TO BV LABS

White: BV Labs Yellow: Client

Page 2 of 2

Bureau Veritas Laboratories
6740 Campobello Road, Mississauga, Ontario Canada L5N 2L8 Tel (905) 817-5700 Toll-free 800-563-6266 Fax (905) 817-5777 www.bvlabs.com

CHAIN OF CUSTODY RECORD

INVOICE TO:		REPORT TO:		PROJECT INFORMATION:		Laboratory Use Only:	
Company Name:	#21375 Golder Associates Ltd	Company Name:		Quotation #:	B80683	BV Labs Job #:	Bottle Order #: 831949
Attention:	Accounts Payable	Attention:	Gregory Padusenko	P.O. #:			
Address:	210 Sheldon Drive Cambridge ON N1T 1A8	Address:		Project:	19129150 (2300)	COC #: C#831949-05-01	Project Manager: Ema Gitej
Tel:	(519) 620-8182 Fax:	Tel:	(519) 620-8182 Ext: 6509 Fax: (519) 620-9878	Project Name:			
Email:	CanadaAccountsPayableInvoices@golder.com	Email:	Gregory_Padusenko@golder.com	Site #:			
				Sampled By:			

MOE REGULATED DRINKING WATER OR WATER INTENDED FOR HUMAN CONSUMPTION MUST BE SUBMITTED ON THE BV LABS DRINKING WATER CHAIN OF CUSTODY

Regulation 153 (2011)
- ☐ Table 1 ☐ Res/Park ☐ Medium/Fine
- ☐ Table 2 ☐ Ind/Comm ☐ Coarse
- ☐ Table 3 ☐ Agri/Other ☐ For RSC
- ☐ Table ___

Other Regulations
- ☐ CCME ☐ Sanitary Sewer Bylaw
- ☐ Reg 558 ☐ Storm Sewer Bylaw
- ☐ MISA Municipality ___
- ☐ PWQO ☐ Reg 406 Table ___
- ☐ Other ___

Special Instructions

Include Criteria on Certificate of Analysis (Y/N)? ___

ANALYSIS REQUESTED (PLEASE BE SPECIFIC):

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Field Filtered (please circle): (Metals / Hg / Cr VI)	RCAp - Comprehensive	O.Reg 153: PHCs, BTEX/F1-F4	# of Bottles	Comments
1	MW20-22A		06/23/21	16:30	GW	X	X		4	
2	MW20-22B		06/23/21	18:30	GW	X	X	X	8	
3										
4										
5										
6										
7										
8										
9										
10										

Turnaround Time (TAT) Required:
Please provide advance notice for rush projects

Regular (Standard) TAT: ☒
(will be applied if Rush TAT is not specified)
Standard TAT = 5-7 Working days for most tests.
Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.

Job Specific Rush TAT (if applies to entire submission)
Date Required: ___ Time Required: ___ ☐
Rush Confirmation Number: ___ *(call lab for #)*

* RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	# jars used and not submitted	Laboratory Use Only: Time Sensitive	Temperature (°C) on Recei	Custody Seal Present	Yes	No
Marie-Christine Stecklé / C Stecklé	21/06/23		See page 1						Intact		

* UNLESS OTHERWISE AGREED TO IN WRITING, WORK SUBMITTED ON THIS CHAIN OF CUSTODY IS SUBJECT TO BV LABS' STANDARD TERMS AND CONDITIONS. SIGNING OF THIS CHAIN OF CUSTODY DOCUMENT IS ACKNOWLEDGMENT AND ACCEPTANCE OF OUR TERMS WHICH ARE AVAILABLE FOR VIEWING AT WWW.BVLABS.COM/TERMS-AND-CONDITIONS.

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** SAMPLE CONTAINER, PRESERVATION, HOLD TIME AND PACKAGE INFORMATION CAN BE VIEWED AT WWW.BVLABS.COM/RESOURCES/CHAIN-OF-CUSTODY-FORMS.

SAMPLES MUST BE KEPT COOL (< 10° C) FROM TIME OF SAMPLING UNTIL DELIVERY TO BV LABS

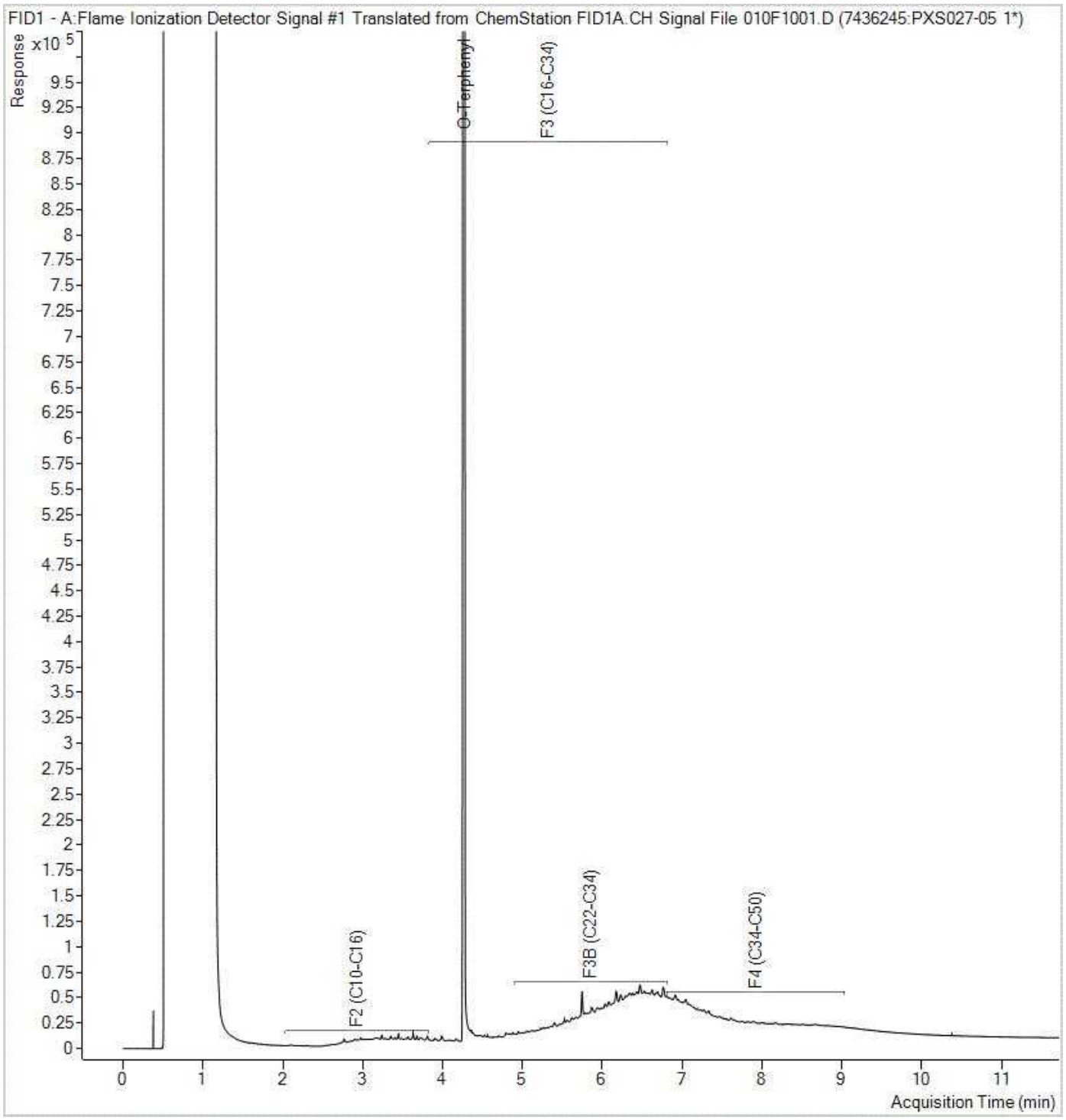
White: BV Labs Yellow: Client

Bureau Veritas Canada (2019) Inc.

BV Labs Job #: C1H4635
Report Date: 2021/07/02
BV Labs Sample: PXS027

Golder Associates Ltd
Client Project #: 19129150 (2300)
Client ID: MW20-19B

Petroleum Hydrocarbons F2-F4 in Water Chromatogram

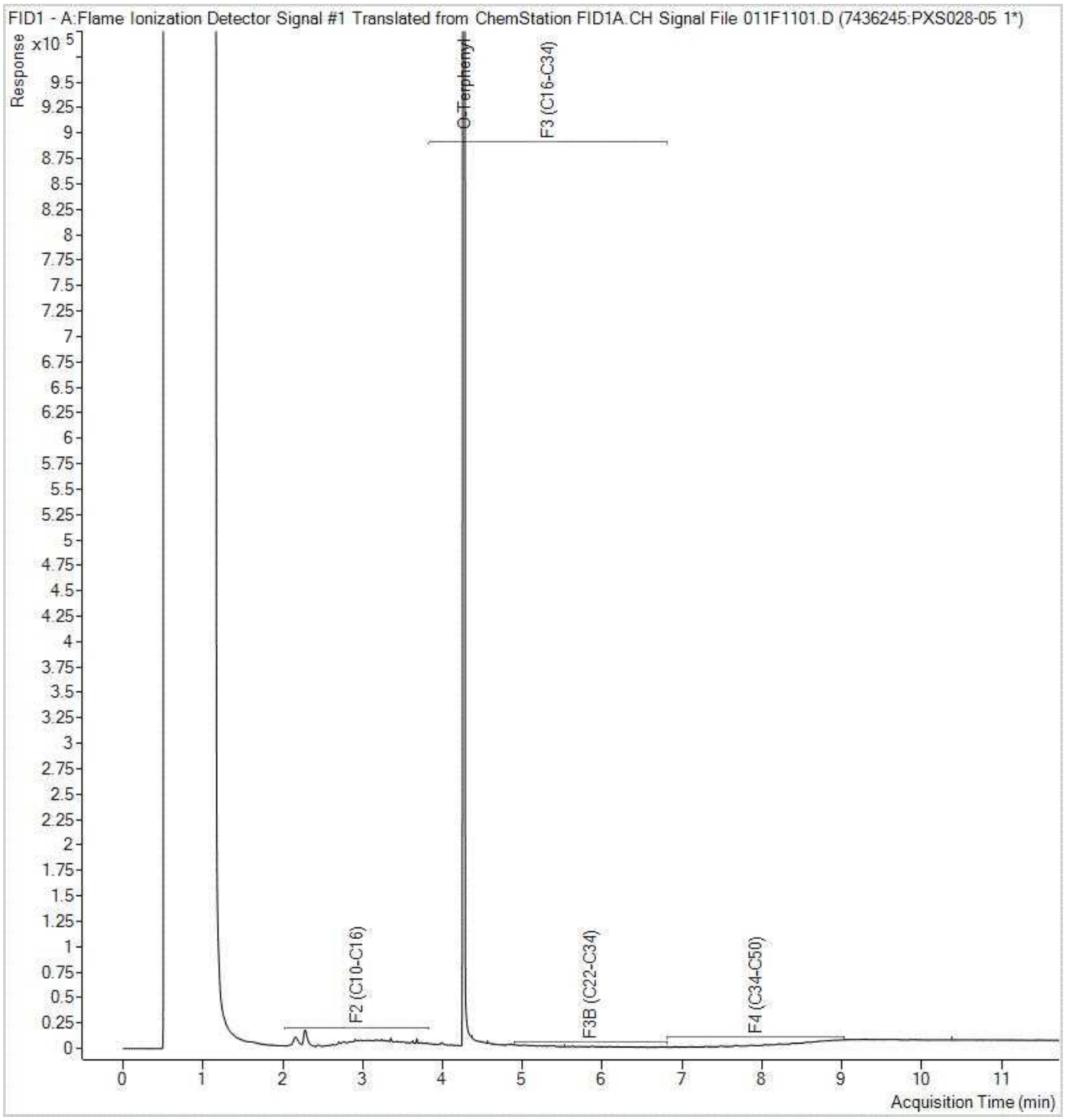


Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

BV Labs Job #: C1H4635
Report Date: 2021/07/02
BV Labs Sample: PXS028

Golder Associates Ltd
Client Project #: 19129150 (2300)
Client ID: DUP2

Petroleum Hydrocarbons F2-F4 in Water Chromatogram

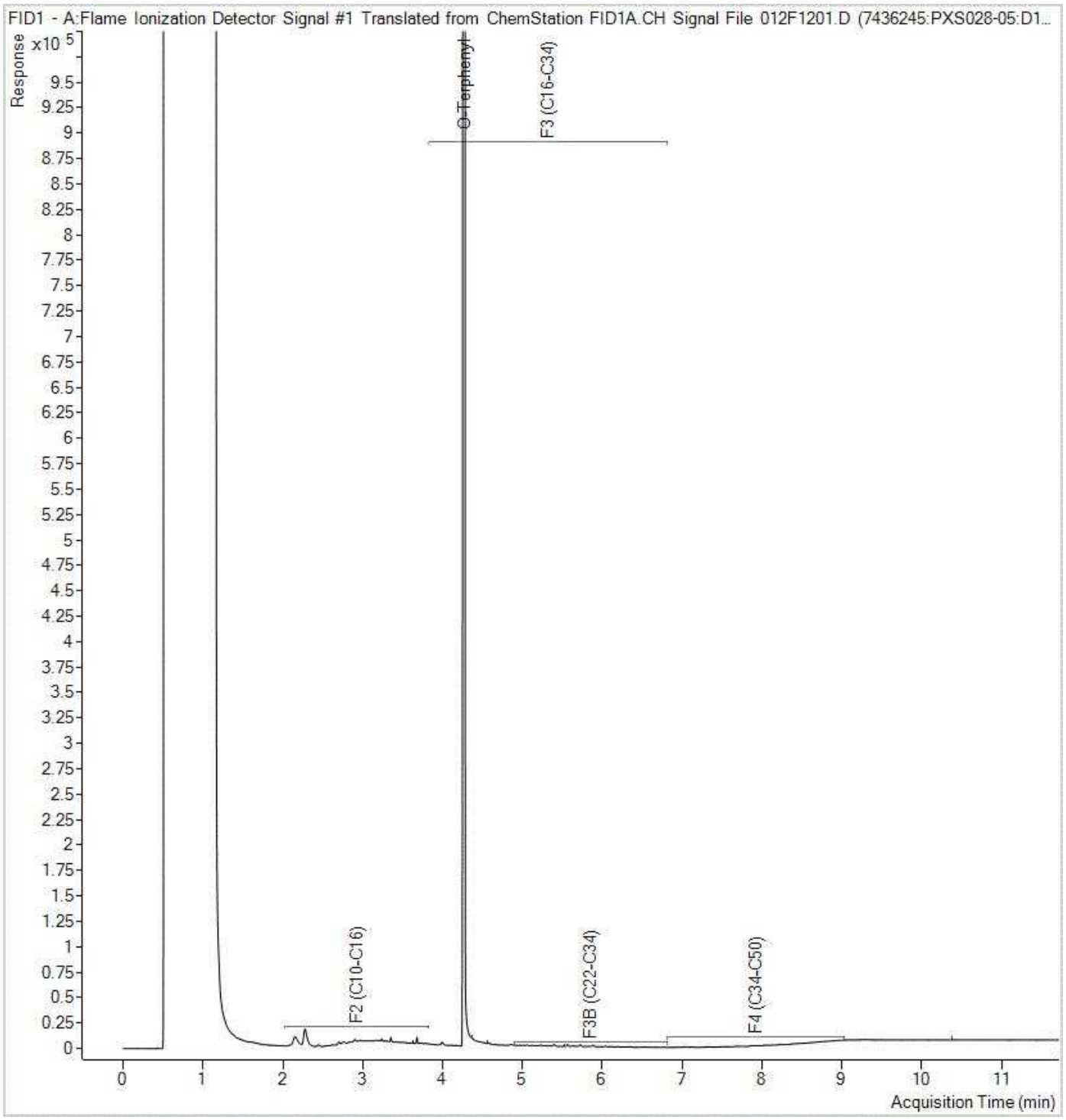


Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

BV Labs Job #: C1H4635
Report Date: 2021/07/02
BV Labs Sample: PXS028 Lab-Dup

Golder Associates Ltd
Client Project #: 19129150 (2300)
Client ID: DUP2

Petroleum Hydrocarbons F2-F4 in Water Chromatogram

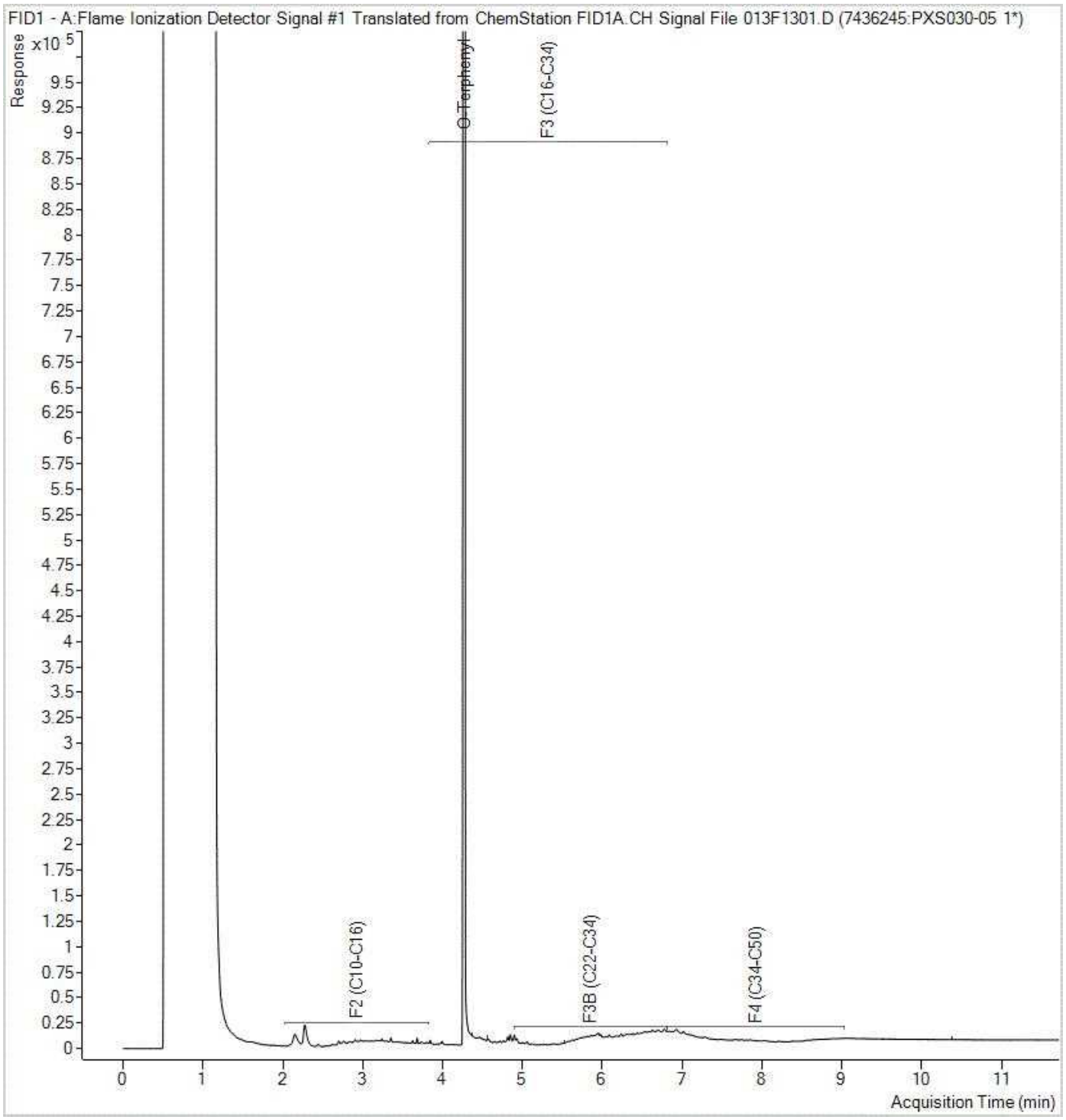


Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

BV Labs Job #: C1H4635
Report Date: 2021/07/02
BV Labs Sample: PXS030

Golder Associates Ltd
Client Project #: 19129150 (2300)
Client ID: MW20-20B

Petroleum Hydrocarbons F2-F4 in Water Chromatogram

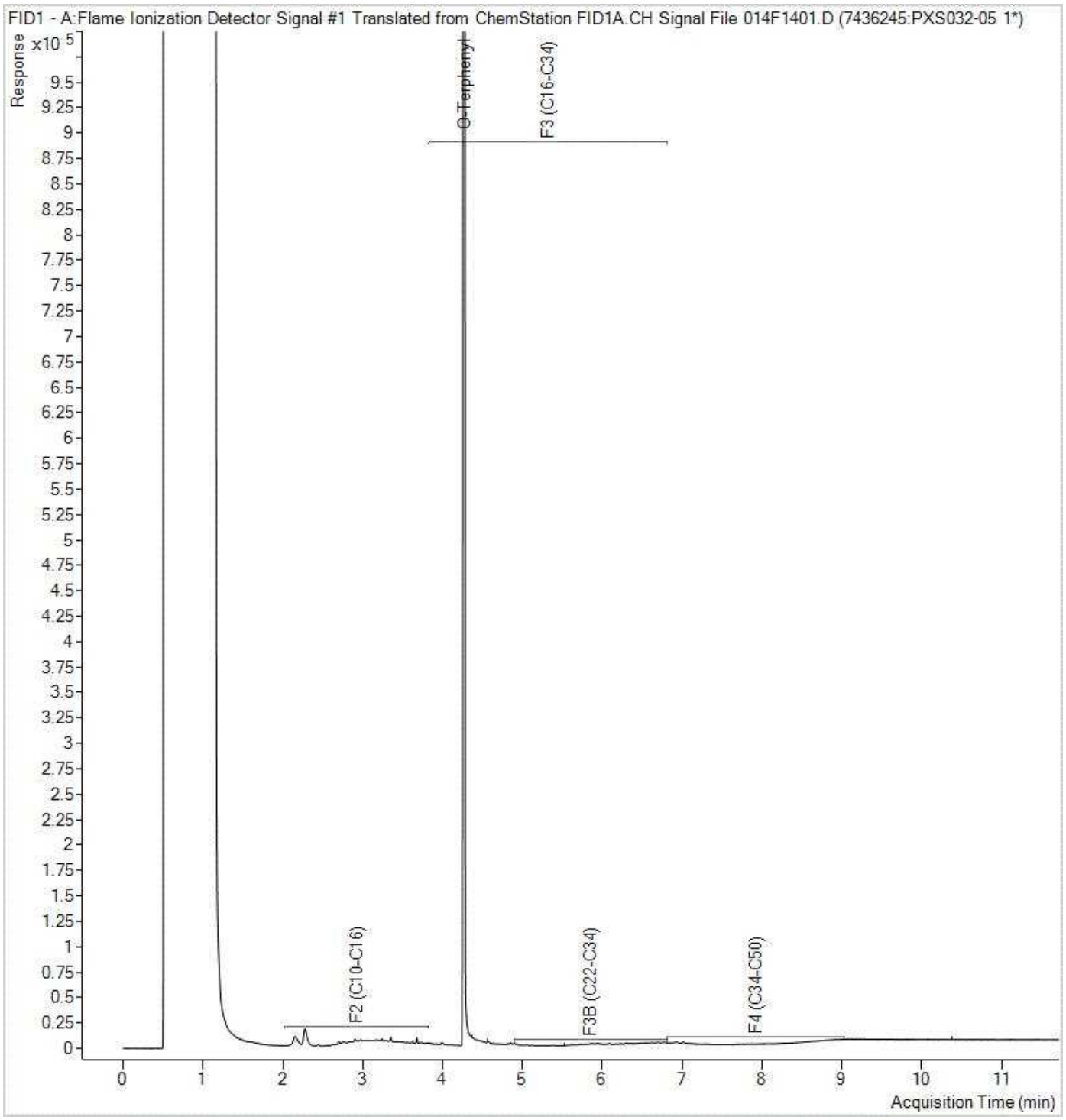


Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

BV Labs Job #: C1H4635
Report Date: 2021/07/02
BV Labs Sample: PXS032

Golder Associates Ltd
Client Project #: 19129150 (2300)
Client ID: MW20-09

Petroleum Hydrocarbons F2-F4 in Water Chromatogram

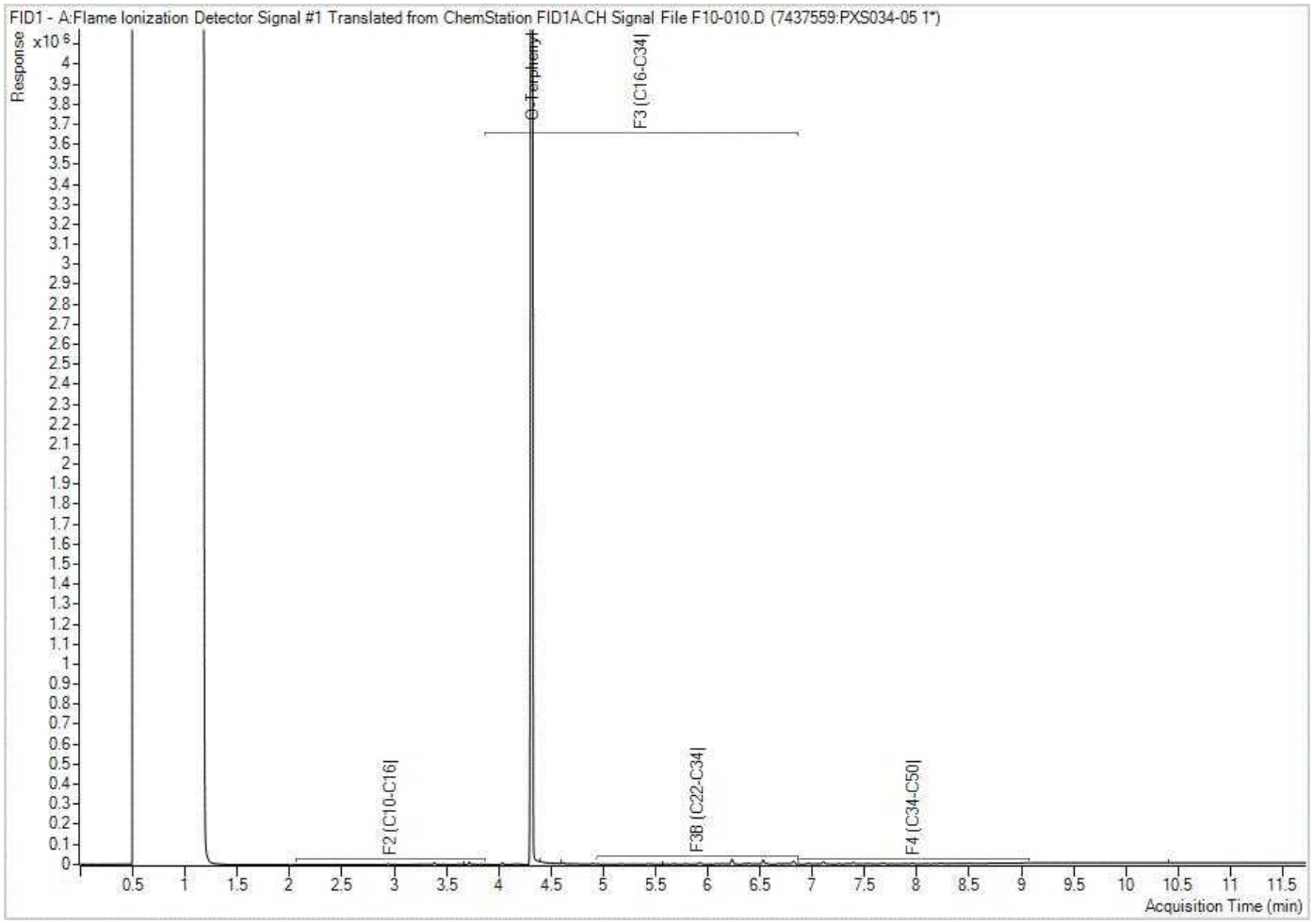


Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

BV Labs Job #: C1H4635
Report Date: 2021/07/02
BV Labs Sample: PXS034

Golder Associates Ltd
Client Project #: 19129150 (2300)
Client ID: MW20-22B

Petroleum Hydrocarbons F2-F4 in Water Chromatogram



Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Your Project #: 19129150 (2300)
Your C.O.C. #: 831949-06-01, 831949-07-01

Attention: Gregory Padusenko

Golder Associates Ltd
210 Sheldon Drive
Cambridge, ON
CANADA N1T 1A8

Report Date: 2021/07/12
Report #: R6715096
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: C1H5980
Received: 2021/06/25, 12:50

Sample Matrix: Water
Samples Received: 19

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Alkalinity	19	N/A	2021/07/01	CAM SOP-00448	SM 23 2320 B m
Carbonate, Bicarbonate and Hydroxide	19	N/A	2021/07/02	CAM SOP-00102	APHA 4500-CO2 D
Chloride by Automated Colourimetry	19	N/A	2021/07/02	CAM SOP-00463	SM 23 4500-Cl E m
Conductivity	19	N/A	2021/07/02	CAM SOP-00414	SM 23 2510 m
Dissolved Organic Carbon (DOC) (1)	10	N/A	2021/06/30	CAM SOP-00446	SM 23 5310 B m
Dissolved Organic Carbon (DOC) (1)	9	N/A	2021/07/01	CAM SOP-00446	SM 23 5310 B m
Petroleum Hydro. CCME F1 & BTEX in Water	10	N/A	2021/06/30	CAM SOP-00315	CCME PHC-CWS m
Petroleum Hydrocarbons F2-F4 in Water (2)	10	2021/06/29	2021/06/30	CAM SOP-00316	CCME PHC-CWS m
Hardness (calculated as CaCO3)	19	N/A	2021/07/02	CAM SOP 00102/00408/00447	SM 2340 B
Lab Filtered Metals by ICPMS	1	2021/07/09	2021/07/12	CAM SOP-00447	EPA 6020B m
Dissolved Metals by ICPMS	18	N/A	2021/06/30	CAM SOP-00447	EPA 6020B m
Ion Balance (% Difference)	19	N/A	2021/07/02		
Anion and Cation Sum	19	N/A	2021/07/02		
Total Ammonia-N	7	N/A	2021/06/30	CAM SOP-00441	USGS I-2522-90 m
Total Ammonia-N	12	N/A	2021/07/02	CAM SOP-00441	USGS I-2522-90 m
Nitrate (NO3) and Nitrite (NO2) in Water (3)	17	N/A	2021/06/30	CAM SOP-00440	SM 23 4500-NO3I/NO2B
Nitrate (NO3) and Nitrite (NO2) in Water (3)	2	N/A	2021/07/02	CAM SOP-00440	SM 23 4500-NO3I/NO2B
pH	19	2021/06/30	2021/07/01	CAM SOP-00413	SM 4500H+ B m
Orthophosphate	19	N/A	2021/07/05	CAM SOP-00461	EPA 365.1 m
Sat. pH and Langelier Index (@ 20C)	19	N/A	2021/07/02		Auto Calc
Sat. pH and Langelier Index (@ 4C)	19	N/A	2021/07/02		Auto Calc
Sulphate by Automated Colourimetry	19	N/A	2021/07/02	CAM SOP-00464	EPA 375.4 m
Total Dissolved Solids (TDS calc)	19	N/A	2021/07/02		Auto Calc

Remarks:

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are

Your Project #: 19129150 (2300)
Your C.O.C. #: 831949-06-01, 831949-07-01

Attention: Gregory Padusenko

Golder Associates Ltd
210 Sheldon Drive
Cambridge, ON
CANADA N1T 1A8

Report Date: 2021/07/12
Report #: R6715096
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: C1H5980
Received: 2021/06/25, 12:50

reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.
This Certificate shall not be reproduced except in full, without the written approval of the laboratory.

Reference Method suffix “m” indicates test methods incorporate validated modifications from specific reference methods to improve performance.

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) Dissolved Organic Carbon (DOC) present in the sample should be considered as non-purgeable DOC.

(2) All CCME PHC results met required criteria unless otherwise stated in the report. The CWS PHC methods employed by Bureau Veritas Laboratories conform to all prescribed elements of the reference method and performance based elements have been validated. All modifications have been validated and proven equivalent following “Alberta Environment’s Interpretation of the Reference Method for the Canada-Wide Standard for Petroleum Hydrocarbons in Soil Validation of Performance-Based Alternative Methods September 2003”. Documentation is available upon request. Modifications from Reference Method for the Canada-wide Standard for Petroleum Hydrocarbons in Soil-Tier 1 Method: F2/F3/F4 data reported using validated cold solvent extraction instead of Soxhlet extraction.

(3) Values for calculated parameters may not appear to add up due to rounding of raw data and significant figures.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Ema Gitej, Senior Project Manager
Email: emese.gitej@bureauveritas.com
Phone# (905)817-5829

==========

BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

RCAP - COMPREHENSIVE (WATER)

BV Labs ID		PXY679		PXY680			PXY680		
Sampling Date		2021/06/24 15:45		2021/06/24 16:30			2021/06/24 16:30		
COC Number		831949-06-01		831949-06-01			831949-06-01		
	UNITS	MW20-13A	QC Batch	MW20-13B	RDL	QC Batch	MW20-13B Lab-Dup	RDL	QC Batch
Calculated Parameters									
Anion Sum	me/L	4.60	7433941	4.56	N/A	7433941			
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	190	7433456	190	1.0	7433456			
Calculated TDS	mg/L	240	7433944	240	1.0	7433944			
Carb. Alkalinity (calc. as CaCO3)	mg/L	2.7	7433456	3.6	1.0	7433456			
Cation Sum	me/L	4.45	7433941	4.54	N/A	7433941			
Hardness (CaCO3)	mg/L	200	7433195	200	1.0	7433195			
Ion Balance (% Difference)	%	1.66	7433940	0.250	N/A	7433940			
Langelier Index (@ 20C)	N/A	0.693	7433942	0.806		7433942			
Langelier Index (@ 4C)	N/A	0.444	7433943	0.556		7433943			
Saturation pH (@ 20C)	N/A	7.49	7433942	7.50		7433942			
Saturation pH (@ 4C)	N/A	7.74	7433943	7.75		7433943			
Inorganics									
Total Ammonia-N	mg/L	0.21	7436363	<0.050	0.050	7436363			
Conductivity	umho/cm	410	7438013	410	1.0	7438013			
Dissolved Organic Carbon	mg/L	<0.40	7438054	<0.40	0.40	7437920			
Orthophosphate (P)	mg/L	<0.010	7437991	<0.010	0.010	7437991			
pH	pH	8.18	7438016	8.30		7438016			
Dissolved Sulphate (SO4)	mg/L	37	7437990	31	1.0	7437990			
Alkalinity (Total as CaCO3)	mg/L	190	7438011	190	1.0	7438011			
Dissolved Chloride (Cl-)	mg/L	1.4	7437986	1.1	1.0	7437986			
Nitrite (N)	mg/L	<0.010	7437970	<0.010	0.010	7437970	<0.010	0.010	7437970
Nitrate (N)	mg/L	<0.10	7437970	<0.10	0.10	7437970	<0.10	0.10	7437970
Nitrate + Nitrite (N)	mg/L	<0.10	7437970	<0.10	0.10	7437970	<0.10	0.10	7437970
Metals									
Dissolved Aluminum (Al)	ug/L	12	7437678	5.9	4.9	7437678			
Dissolved Antimony (Sb)	ug/L	<0.50	7437678	<0.50	0.50	7437678			
Dissolved Arsenic (As)	ug/L	2.7	7437678	2.6	1.0	7437678			
Dissolved Barium (Ba)	ug/L	43	7437678	57	2.0	7437678			
Dissolved Beryllium (Be)	ug/L	<0.40	7437678	<0.40	0.40	7437678			
Dissolved Boron (B)	ug/L	67	7437678	56	10	7437678			

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate
N/A = Not Applicable

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

RCAP - COMPREHENSIVE (WATER)

BV Labs ID		PXY679		PXY680			PXY680		
Sampling Date		2021/06/24 15:45		2021/06/24 16:30			2021/06/24 16:30		
COC Number		831949-06-01		831949-06-01			831949-06-01		
	UNITS	MW20-13A	QC Batch	MW20-13B	RDL	QC Batch	MW20-13B Lab-Dup	RDL	QC Batch
Dissolved Cadmium (Cd)	ug/L	<0.090	7437678	<0.090	0.090	7437678			
Dissolved Calcium (Ca)	ug/L	43000	7437678	41000	200	7437678			
Dissolved Chromium (Cr)	ug/L	<5.0	7437678	<5.0	5.0	7437678			
Dissolved Cobalt (Co)	ug/L	<0.50	7437678	<0.50	0.50	7437678			
Dissolved Copper (Cu)	ug/L	2.1	7437678	<0.90	0.90	7437678			
Dissolved Iron (Fe)	ug/L	<100	7437678	110	100	7437678			
Dissolved Lead (Pb)	ug/L	<0.50	7437678	<0.50	0.50	7437678			
Dissolved Magnesium (Mg)	ug/L	22000	7437678	25000	50	7437678			
Dissolved Manganese (Mn)	ug/L	31	7437678	21	2.0	7437678			
Dissolved Molybdenum (Mo)	ug/L	2.8	7437678	2.5	0.50	7437678			
Dissolved Nickel (Ni)	ug/L	<1.0	7437678	<1.0	1.0	7437678			
Dissolved Phosphorus (P)	ug/L	<100	7437678	<100	100	7437678			
Dissolved Potassium (K)	ug/L	2100	7437678	1700	200	7437678			
Dissolved Selenium (Se)	ug/L	<2.0	7437678	<2.0	2.0	7437678			
Dissolved Silicon (Si)	ug/L	6200	7437678	6400	50	7437678			
Dissolved Silver (Ag)	ug/L	<0.090	7437678	<0.090	0.090	7437678			
Dissolved Sodium (Na)	ug/L	10000	7437678	9700	100	7437678			
Dissolved Strontium (Sr)	ug/L	1700	7437678	960	1.0	7437678			
Dissolved Thallium (Tl)	ug/L	<0.050	7437678	<0.050	0.050	7437678			
Dissolved Titanium (Ti)	ug/L	<5.0	7437678	<5.0	5.0	7437678			
Dissolved Uranium (U)	ug/L	0.29	7437678	0.28	0.10	7437678			
Dissolved Vanadium (V)	ug/L	<0.50	7437678	<0.50	0.50	7437678			
Dissolved Zinc (Zn)	ug/L	<5.0	7437678	<5.0	5.0	7437678			

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

BV Labs Job #: C1H5980
Report Date: 2021/07/12

Golder Associates Ltd
Client Project #: 19129150 (2300)
Sampler Initials: VP

RCAP - COMPREHENSIVE (WATER)

BV Labs ID		PXY681			PXY682		PXY683		
Sampling Date		2021/06/24 16:00			2021/06/24		2021/06/24 10:00		
COC Number		831949-06-01			831949-06-01		831949-06-01		
	UNITS	MW20-13C	RDL	QC Batch	DUP-4	QC Batch	MW20-10A	RDL	QC Batch
Calculated Parameters									
Anion Sum	me/L	6.69	N/A	7433941	6.65	7433941	8.43	N/A	7433941
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	280	1.0	7433456	260	7433456	290	1.0	7433456
Calculated TDS	mg/L	340	1.0	7433944	350	7433944	460	1.0	7433944
Carb. Alkalinity (calc. as CaCO3)	mg/L	5.0	1.0	7433456	2.9	7433456	3.0	1.0	7433456
Cation Sum	me/L	6.72	N/A	7433941	6.74	7433941	8.45	N/A	7433941
Hardness (CaCO3)	mg/L	320	1.0	7433195	290	7433195	370	1.0	7433195
Ion Balance (% Difference)	%	0.160	N/A	7433940	0.660	7433940	0.0900	N/A	7433940
Langelier Index (@ 20C)	N/A	1.12		7433942	0.954	7433942	1.05		7433942
Langelier Index (@ 4C)	N/A	0.874		7433943	0.705	7433943	0.797		7433943
Saturation pH (@ 20C)	N/A	7.15		7433942	7.13	7433942	7.01		7433942
Saturation pH (@ 4C)	N/A	7.40		7433943	7.38	7433943	7.25		7433943
Inorganics									
Total Ammonia-N	mg/L	0.11	0.050	7436397	<0.050	7436397	0.081	0.050	7436397
Conductivity	umho/cm	580	1.0	7438013	590	7438013	720	1.0	7438013
Dissolved Organic Carbon	mg/L	1.3	0.40	7437920	0.63	7438054	0.80	0.40	7437920
Orthophosphate (P)	mg/L	<0.010	0.010	7437991	<0.010	7437991	<0.010	0.010	7437991
pH	pH	8.27		7438016	8.08	7438016	8.05		7438016
Dissolved Sulphate (SO4)	mg/L	33	1.0	7437990	13	7437990	22	1.0	7437990
Alkalinity (Total as CaCO3)	mg/L	290	1.0	7438011	260	7438011	290	1.0	7438011
Dissolved Chloride (Cl-)	mg/L	3.0	1.0	7437986	36	7437986	43	1.0	7437986
Nitrite (N)	mg/L	0.133	0.010	7437970	<0.010	7437970	0.013	0.010	7437970
Nitrate (N)	mg/L	1.76	0.10	7437970	2.42	7437970	13.0	0.10	7437970
Nitrate + Nitrite (N)	mg/L	1.89	0.10	7437970	2.42	7437970	13.0	0.10	7437970
Metals									
Dissolved Aluminum (Al)	ug/L				<4.9	7437678	150	4.9	7437678
Dissolved Antimony (Sb)	ug/L				<0.50	7437678	<0.50	0.50	7437678
Dissolved Arsenic (As)	ug/L				<1.0	7437678	1.4	1.0	7437678
Dissolved Barium (Ba)	ug/L				29	7437678	46	2.0	7437678
Dissolved Beryllium (Be)	ug/L				<0.40	7437678	<0.40	0.40	7437678
Dissolved Boron (B)	ug/L				<10	7437678	11	10	7437678
Dissolved Cadmium (Cd)	ug/L				<0.090	7437678	<0.090	0.090	7437678

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
N/A = Not Applicable

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

RCAP - COMPREHENSIVE (WATER)

BV Labs ID		PXY681			PXY682		PXY683		
Sampling Date		2021/06/24 16:00			2021/06/24		2021/06/24 10:00		
COC Number		831949-06-01			831949-06-01		831949-06-01		
	UNITS	MW20-13C	RDL	QC Batch	DUP-4	QC Batch	MW20-10A	RDL	QC Batch
Dissolved Calcium (Ca)	ug/L				78000	7437678	98000	200	7437678
Dissolved Chromium (Cr)	ug/L				<5.0	7437678	<5.0	5.0	7437678
Dissolved Cobalt (Co)	ug/L				<0.50	7437678	<0.50	0.50	7437678
Dissolved Copper (Cu)	ug/L				<0.90	7437678	1.2	0.90	7437678
Dissolved Iron (Fe)	ug/L				<100	7437678	240	100	7437678
Dissolved Lead (Pb)	ug/L				<0.50	7437678	1.2	0.50	7437678
Dissolved Magnesium (Mg)	ug/L				24000	7437678	30000	50	7437678
Dissolved Manganese (Mn)	ug/L				7.2	7437678	17	2.0	7437678
Dissolved Molybdenum (Mo)	ug/L				<0.50	7437678	0.64	0.50	7437678
Dissolved Nickel (Ni)	ug/L				<1.0	7437678	<1.0	1.0	7437678
Dissolved Phosphorus (P)	ug/L				<100	7437678	<100	100	7437678
Dissolved Potassium (K)	ug/L				1700	7437678	1200	200	7437678
Dissolved Selenium (Se)	ug/L				<2.0	7437678	<2.0	2.0	7437678
Dissolved Silicon (Si)	ug/L				3900	7437678	4800	50	7437678
Dissolved Silver (Ag)	ug/L				<0.090	7437678	<0.090	0.090	7437678
Dissolved Sodium (Na)	ug/L				19000	7437678	25000	100	7437678
Dissolved Strontium (Sr)	ug/L				110	7437678	960	1.0	7437678
Dissolved Thallium (Tl)	ug/L				<0.050	7437678	<0.050	0.050	7437678
Dissolved Titanium (Ti)	ug/L				<5.0	7437678	7.0	5.0	7437678
Dissolved Uranium (U)	ug/L				0.23	7437678	0.98	0.10	7437678
Dissolved Vanadium (V)	ug/L				<0.50	7437678	<0.50	0.50	7437678
Dissolved Zinc (Zn)	ug/L				<5.0	7437678	<5.0	5.0	7437678

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

RCAP - COMPREHENSIVE (WATER)

BV Labs ID		PXY684			PXY684			PXY685		
Sampling Date		2021/06/24 10:30			2021/06/24 10:30			2021/06/24 12:45		
COC Number		831949-06-01			831949-06-01			831949-06-01		
	UNITS	MW20-10B	RDL	QC Batch	MW20-10B Lab-Dup	RDL	QC Batch	MW20-11A	RDL	QC Batch
Calculated Parameters										
Anion Sum	me/L	8.14	N/A	7433941				6.95	N/A	7433941
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	280	1.0	7433456				250	1.0	7433456
Calculated TDS	mg/L	450	1.0	7433944				370	1.0	7433944
Carb. Alkalinity (calc. as CaCO3)	mg/L	2.7	1.0	7433456				4.7	1.0	7433456
Cation Sum	me/L	8.41	N/A	7433941				6.91	N/A	7433941
Hardness (CaCO3)	mg/L	370	1.0	7433195				230	1.0	7433195
Ion Balance (% Difference)	%	1.64	N/A	7433940				0.290	N/A	7433940
Langelier Index (@ 20C)	N/A	0.994		7433942				0.959		7433942
Langelier Index (@ 4C)	N/A	0.746		7433943				0.710		7433943
Saturation pH (@ 20C)	N/A	7.02		7433942				7.34		7433942
Saturation pH (@ 4C)	N/A	7.26		7433943				7.59		7433943
Inorganics										
Total Ammonia-N	mg/L	<0.050	0.050	7436363				0.081	0.050	7436363
Conductivity	umho/cm	670	1.0	7438013	670	1.0	7438013	670	1.0	7438013
Dissolved Organic Carbon	mg/L	0.69	0.40	7437920				0.61	0.40	7438054
Orthophosphate (P)	mg/L	<0.010	0.010	7437991				<0.010	0.010	7437991
pH	pH	8.01		7438016	8.04		7438016	8.30		7438016
Dissolved Sulphate (SO4)	mg/L	18	1.0	7437990				42	1.0	7437990
Alkalinity (Total as CaCO3)	mg/L	280	1.0	7438011	290	1.0	7438011	250	1.0	7438011
Dissolved Chloride (Cl-)	mg/L	44	1.0	7437986				35	1.0	7437986
Nitrite (N)	mg/L	<0.010	0.010	7437970				0.013	0.010	7437970
Nitrate (N)	mg/L	13.1	0.10	7437970				0.18	0.10	7437970
Nitrate + Nitrite (N)	mg/L	13.1	0.10	7437970				0.19	0.10	7437970
Metals										
Dissolved Aluminum (Al)	ug/L	7.8	4.9	7437678				28	4.9	7437678
Dissolved Antimony (Sb)	ug/L	<0.50	0.50	7437678				<0.50	0.50	7437678
Dissolved Arsenic (As)	ug/L	<1.0	1.0	7437678				5.9	1.0	7437678
Dissolved Barium (Ba)	ug/L	25	2.0	7437678				96	2.0	7437678
Dissolved Beryllium (Be)	ug/L	<0.40	0.40	7437678				<0.40	0.40	7437678
Dissolved Boron (B)	ug/L	10	10	7437678				46	10	7437678

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate
N/A = Not Applicable

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

RCAP - COMPREHENSIVE (WATER)

BV Labs ID		PXY684			PXY684			PXY685		
Sampling Date		2021/06/24 10:30			2021/06/24 10:30			2021/06/24 12:45		
COC Number		831949-06-01			831949-06-01			831949-06-01		
	UNITS	MW20-10B	RDL	QC Batch	MW20-10B Lab-Dup	RDL	QC Batch	MW20-11A	RDL	QC Batch
Dissolved Cadmium (Cd)	ug/L	<0.090	0.090	7437678				<0.090	0.090	7437678
Dissolved Calcium (Ca)	ug/L	99000	200	7437678				49000	200	7437678
Dissolved Chromium (Cr)	ug/L	<5.0	5.0	7437678				<5.0	5.0	7437678
Dissolved Cobalt (Co)	ug/L	<0.50	0.50	7437678				0.63	0.50	7437678
Dissolved Copper (Cu)	ug/L	<0.90	0.90	7437678				<0.90	0.90	7437678
Dissolved Iron (Fe)	ug/L	<100	100	7437678				<100	100	7437678
Dissolved Lead (Pb)	ug/L	<0.50	0.50	7437678				<0.50	0.50	7437678
Dissolved Magnesium (Mg)	ug/L	29000	50	7437678				26000	50	7437678
Dissolved Manganese (Mn)	ug/L	<2.0	2.0	7437678				180	2.0	7437678
Dissolved Molybdenum (Mo)	ug/L	<0.50	0.50	7437678				15	0.50	7437678
Dissolved Nickel (Ni)	ug/L	<1.0	1.0	7437678				4.3	1.0	7437678
Dissolved Phosphorus (P)	ug/L	<100	100	7437678				<100	100	7437678
Dissolved Potassium (K)	ug/L	1100	200	7437678				1600	200	7437678
Dissolved Selenium (Se)	ug/L	<2.0	2.0	7437678				<2.0	2.0	7437678
Dissolved Silicon (Si)	ug/L	4700	50	7437678				4300	50	7437678
Dissolved Silver (Ag)	ug/L	<0.090	0.090	7437678				<0.090	0.090	7437678
Dissolved Sodium (Na)	ug/L	24000	100	7437678				51000	100	7437678
Dissolved Strontium (Sr)	ug/L	150	1.0	7437678				1100	1.0	7437678
Dissolved Thallium (Tl)	ug/L	<0.050	0.050	7437678				<0.050	0.050	7437678
Dissolved Titanium (Ti)	ug/L	<5.0	5.0	7437678				<5.0	5.0	7437678
Dissolved Uranium (U)	ug/L	0.14	0.10	7437678				3.9	0.10	7437678
Dissolved Vanadium (V)	ug/L	<0.50	0.50	7437678				0.77	0.50	7437678
Dissolved Zinc (Zn)	ug/L	<5.0	5.0	7437678				<5.0	5.0	7437678

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

RCAP - COMPREHENSIVE (WATER)

BV Labs ID		PXY686			PXY687	PXY688	PXY888		
Sampling Date		2021/06/24 13:15			2021/06/24 15:45	2021/06/24 16:15	2021/06/23 12:00		
COC Number		831949-06-01			831949-06-01	831949-06-01	831949-07-01		
	UNITS	MW20-11B	RDL	QC Batch	MW20-12A	MW20-12B	MW20-28A	RDL	QC Batch
Calculated Parameters									
Anion Sum	me/L	18.3	N/A	7433941	6.36	6.65	4.78	N/A	7433941
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	380	1.0	7433456	260	260	200	1.0	7433456
Calculated TDS	mg/L	1000	1.0	7433944	340	350	250	1.0	7433944
Carb. Alkalinity (calc. as CaCO3)	mg/L	3.6	1.0	7433456	2.9	2.9	3.4	1.0	7433456
Cation Sum	me/L	19.2	N/A	7433941	6.36	6.78	4.66	N/A	7433941
Hardness (CaCO3)	mg/L	430	1.0	7433195	300	300	220	1.0	7433195
Ion Balance (% Difference)	%	2.27	N/A	7433940	0.0300	0.920	1.31	N/A	7433940
Langelier Index (@ 20C)	N/A	1.11		7433942	0.942	0.960	0.853		7433942
Langelier Index (@ 4C)	N/A	0.868		7433943	0.693	0.712	0.604		7433943
Saturation pH (@ 20C)	N/A	6.89		7433942	7.14	7.11	7.39		7433942
Saturation pH (@ 4C)	N/A	7.14		7433943	7.39	7.36	7.64		7433943
Inorganics									
Total Ammonia-N	mg/L	<0.050	0.050	7436397	<0.050	<0.050	<0.050	0.050	7436363
Conductivity	umho/cm	1800	1.0	7438013	550	600	450	1.0	7438013
Dissolved Organic Carbon	mg/L	1.0	0.40	7438054	<0.40	0.68	<0.40	0.40	7437920
Orthophosphate (P)	mg/L	<0.010	0.010	7437991	<0.010	<0.010	<0.010	0.010	7437991
pH	pH	8.01		7438016	8.08	8.07	8.25		7438016
Dissolved Sulphate (SO4)	mg/L	37	1.0	7437990	26	13	29	1.0	7437990
Alkalinity (Total as CaCO3)	mg/L	380	1.0	7438011	260	260	210	1.0	7438011
Dissolved Chloride (Cl-)	mg/L	350	5.0	7437986	7.4	35	1.0	1.0	7437986
Nitrite (N)	mg/L	<0.010	0.010	7437970	<0.010	<0.010	<0.010	0.010	7437970
Nitrate (N)	mg/L	2.73	0.10	7437970	4.91	2.45	<0.10	0.10	7437970
Nitrate + Nitrite (N)	mg/L	2.73	0.10	7437970	4.91	2.45	<0.10	0.10	7437970
Metals									
Dissolved Aluminum (Al)	ug/L	520	4.9	7437678	<4.9	6.1	20	4.9	7437678
Dissolved Antimony (Sb)	ug/L	<0.50	0.50	7437678	<0.50	<0.50	<0.50	0.50	7437678
Dissolved Arsenic (As)	ug/L	<1.0	1.0	7437678	<1.0	<1.0	<1.0	1.0	7437678
Dissolved Barium (Ba)	ug/L	61	2.0	7437678	52	30	12	2.0	7437678
Dissolved Beryllium (Be)	ug/L	<0.40	0.40	7437678	<0.40	<0.40	<0.40	0.40	7437678
Dissolved Boron (B)	ug/L	15	10	7437678	12	<10	23	10	7437678
Dissolved Cadmium (Cd)	ug/L	0.25	0.090	7437678	<0.090	<0.090	<0.090	0.090	7437678

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
N/A = Not Applicable

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

BV Labs Job #: C1H5980
Report Date: 2021/07/12

Golder Associates Ltd
Client Project #: 19129150 (2300)
Sampler Initials: VP

RCAP - COMPREHENSIVE (WATER)

BV Labs ID		PXY686			PXY687	PXY688	PXY888		
Sampling Date		2021/06/24 13:15			2021/06/24 15:45	2021/06/24 16:15	2021/06/23 12:00		
COC Number		831949-06-01			831949-06-01	831949-06-01	831949-07-01		
	UNITS	MW20-11B	RDL	QC Batch	MW20-12A	MW20-12B	MW20-28A	RDL	QC Batch
Dissolved Calcium (Ca)	ug/L	120000	200	7437678	74000	80000	49000	200	7437678
Dissolved Chromium (Cr)	ug/L	<5.0	5.0	7437678	<5.0	<5.0	<5.0	5.0	7437678
Dissolved Cobalt (Co)	ug/L	1.2	0.50	7437678	<0.50	<0.50	<0.50	0.50	7437678
Dissolved Copper (Cu)	ug/L	5.3	0.90	7437678	<0.90	<0.90	<0.90	0.90	7437678
Dissolved Iron (Fe)	ug/L	590	100	7437678	<100	<100	<100	100	7437678
Dissolved Lead (Pb)	ug/L	5.2	0.50	7437678	<0.50	<0.50	<0.50	0.50	7437678
Dissolved Magnesium (Mg)	ug/L	33000	50	7437678	28000	23000	23000	50	7437678
Dissolved Manganese (Mn)	ug/L	370	2.0	7437678	16	7.4	93	2.0	7437678
Dissolved Molybdenum (Mo)	ug/L	<0.50	0.50	7437678	0.77	<0.50	2.4	0.50	7437678
Dissolved Nickel (Ni)	ug/L	4.2	1.0	7437678	<1.0	<1.0	<1.0	1.0	7437678
Dissolved Phosphorus (P)	ug/L	<100	100	7437678	<100	<100	<100	100	7437678
Dissolved Potassium (K)	ug/L	1300	200	7437678	3400	1600	1300	200	7437678
Dissolved Selenium (Se)	ug/L	<2.0	2.0	7437678	<2.0	<2.0	<2.0	2.0	7437678
Dissolved Silicon (Si)	ug/L	5200	50	7437678	4800	4000	6300	50	7437678
Dissolved Silver (Ag)	ug/L	0.19	0.090	7437678	<0.090	<0.090	<0.090	0.090	7437678
Dissolved Sodium (Na)	ug/L	240000	100	7437678	6200	19000	5700	100	7437678
Dissolved Strontium (Sr)	ug/L	200	1.0	7437678	330	110	460	1.0	7437678
Dissolved Thallium (Tl)	ug/L	<0.050	0.050	7437678	<0.050	<0.050	<0.050	0.050	7437678
Dissolved Titanium (Ti)	ug/L	16	5.0	7437678	<5.0	<5.0	<5.0	5.0	7437678
Dissolved Uranium (U)	ug/L	1.1	0.10	7437678	0.47	0.24	0.38	0.10	7437678
Dissolved Vanadium (V)	ug/L	0.87	0.50	7437678	<0.50	<0.50	<0.50	0.50	7437678
Dissolved Zinc (Zn)	ug/L	29	5.0	7437678	<5.0	<5.0	5.4	5.0	7437678

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

BV Labs Job #: C1H5980
Report Date: 2021/07/12

Golder Associates Ltd
Client Project #: 19129150 (2300)
Sampler Initials: VP

RCAP - COMPREHENSIVE (WATER)

BV Labs ID		PXY888			PXY889			PXY890		
Sampling Date		2021/06/23 12:00			2021/06/23 12:30			2021/06/24 10:30		
COC Number		831949-07-01			831949-07-01			831949-07-01		
	UNITS	MW20-28A Lab-Dup	RDL	QC Batch	MW20-28B	RDL	QC Batch	MW20-27A	RDL	QC Batch
Calculated Parameters										
Anion Sum	me/L				4.78	N/A	7433941	22.8	N/A	7433941
Bicarb. Alkalinity (calc. as CaCO3)	mg/L				200	1.0	7433456	190	1.0	7433456
Calculated TDS	mg/L				250	1.0	7433944	1500	1.0	7433944
Carb. Alkalinity (calc. as CaCO3)	mg/L				3.1	1.0	7433456	1.8	1.0	7433456
Cation Sum	me/L				4.67	N/A	7433941	22.3	N/A	7433941
Hardness (CaCO3)	mg/L				220	1.0	7433195	1100	1.0	7433195
Ion Balance (% Difference)	%				1.20	N/A	7433940	1.09	N/A	7433940
Langelier Index (@ 20C)	N/A				0.824		7433942	1.24		7433942
Langelier Index (@ 4C)	N/A				0.575		7433943	0.991		7433943
Saturation pH (@ 20C)	N/A				7.39		7433942	6.77		7433942
Saturation pH (@ 4C)	N/A				7.64		7433943	7.02		7433943
Inorganics										
Total Ammonia-N	mg/L				0.051	0.050	7436363	0.081	0.050	7436397
Conductivity	umho/cm				430	1.0	7438013	1800	1.0	7438013
Dissolved Organic Carbon	mg/L	<0.40	0.40	7437920	<0.40	0.40	7438054	0.68	0.40	7438054
Orthophosphate (P)	mg/L				<0.010	0.010	7437991	<0.010	0.010	7437991
pH	pH				8.21		7438016	8.01		7438016
Dissolved Sulphate (SO4)	mg/L				29	1.0	7437990	910	5.0	7437990
Alkalinity (Total as CaCO3)	mg/L				210	1.0	7438011	190	1.0	7438011
Dissolved Chloride (Cl-)	mg/L				1.0	1.0	7437986	2.1	1.0	7437986
Nitrite (N)	mg/L				<0.010	0.010	7437970	<0.010	0.010	7437970
Nitrate (N)	mg/L				<0.10	0.10	7437970	<0.10	0.10	7437970
Nitrate + Nitrite (N)	mg/L				<0.10	0.10	7437970	<0.10	0.10	7437970
Metals										
Dissolved Aluminum (Al)	ug/L				5.8	4.9	7437678	<4.9	4.9	7437678
Dissolved Antimony (Sb)	ug/L				<0.50	0.50	7437678	<0.50	0.50	7437678
Dissolved Arsenic (As)	ug/L				<1.0	1.0	7437678	5.4	1.0	7437678
Dissolved Barium (Ba)	ug/L				11	2.0	7437678	18	2.0	7437678
Dissolved Beryllium (Be)	ug/L				<0.40	0.40	7437678	<0.40	0.40	7437678
Dissolved Boron (B)	ug/L				22	10	7437678	42	10	7437678

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate
N/A = Not Applicable

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

BV Labs Job #: C1H5980
Report Date: 2021/07/12

Golder Associates Ltd
Client Project #: 19129150 (2300)
Sampler Initials: VP

RCAP - COMPREHENSIVE (WATER)

BV Labs ID		PXY888			PXY889			PXY890		
Sampling Date		2021/06/23 12:00			2021/06/23 12:30			2021/06/24 10:30		
COC Number		831949-07-01			831949-07-01			831949-07-01		
	UNITS	MW20-28A Lab-Dup	RDL	QC Batch	MW20-28B	RDL	QC Batch	MW20-27A	RDL	QC Batch
Dissolved Cadmium (Cd)	ug/L				<0.090	0.090	7437678	<0.090	0.090	7437678
Dissolved Calcium (Ca)	ug/L				50000	200	7437678	360000	400	7437678
Dissolved Chromium (Cr)	ug/L				<5.0	5.0	7437678	<5.0	5.0	7437678
Dissolved Cobalt (Co)	ug/L				<0.50	0.50	7437678	<0.50	0.50	7437678
Dissolved Copper (Cu)	ug/L				1.6	0.90	7437678	<0.90	0.90	7437678
Dissolved Iron (Fe)	ug/L				<100	100	7437678	690	100	7437678
Dissolved Lead (Pb)	ug/L				<0.50	0.50	7437678	<0.50	0.50	7437678
Dissolved Magnesium (Mg)	ug/L				23000	50	7437678	49000	50	7437678
Dissolved Manganese (Mn)	ug/L				98	2.0	7437678	34	2.0	7437678
Dissolved Molybdenum (Mo)	ug/L				1.9	0.50	7437678	3.0	0.50	7437678
Dissolved Nickel (Ni)	ug/L				<1.0	1.0	7437678	<1.0	1.0	7437678
Dissolved Phosphorus (P)	ug/L				<100	100	7437678	<100	100	7437678
Dissolved Potassium (K)	ug/L				1200	200	7437678	1700	200	7437678
Dissolved Selenium (Se)	ug/L				<2.0	2.0	7437678	<2.0	2.0	7437678
Dissolved Silicon (Si)	ug/L				6600	50	7437678	5500	50	7437678
Dissolved Silver (Ag)	ug/L				<0.090	0.090	7437678	<0.090	0.090	7437678
Dissolved Sodium (Na)	ug/L				6000	100	7437678	10000	100	7437678
Dissolved Strontium (Sr)	ug/L				420	1.0	7437678	9800	1.0	7437678
Dissolved Thallium (Tl)	ug/L				<0.050	0.050	7437678	<0.050	0.050	7437678
Dissolved Titanium (Ti)	ug/L				<5.0	5.0	7437678	<5.0	5.0	7437678
Dissolved Uranium (U)	ug/L				0.44	0.10	7437678	0.47	0.10	7437678
Dissolved Vanadium (V)	ug/L				<0.50	0.50	7437678	<0.50	0.50	7437678
Dissolved Zinc (Zn)	ug/L				11	5.0	7437678	<5.0	5.0	7437678

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

RCAP - COMPREHENSIVE (WATER)

BV Labs ID		PXY890			PXY891			PXY892		
Sampling Date		2021/06/24 10:30			2021/06/24 14:30			2021/06/24 17:00		
COC Number		831949-07-01			831949-07-01			831949-07-01		
	UNITS	MW20-27A Lab-Dup	RDL	QC Batch	MW20-27B	RDL	QC Batch	MW20-26A	RDL	QC Batch
Calculated Parameters										
Anion Sum	me/L				8.56	N/A	7433941	22.9	N/A	7433941
Bicarb. Alkalinity (calc. as CaCO3)	mg/L				210	1.0	7433456	180	1.0	7433456
Calculated TDS	mg/L				490	1.0	7433944	1500	1.0	7433944
Carb. Alkalinity (calc. as CaCO3)	mg/L				2.6	1.0	7433456	1.4	1.0	7433456
Cation Sum	me/L				8.18	N/A	7433941	23.0	N/A	7433941
Hardness (CaCO3)	mg/L				370	1.0	7433195	1100	1.0	7433195
Ion Balance (% Difference)	%				2.27	N/A	7433940	0.160	N/A	7433940
Langelier Index (@ 20C)	N/A				0.956		7433942	1.10		7433942
Langelier Index (@ 4C)	N/A				0.708		7433943	0.850		7433943
Saturation pH (@ 20C)	N/A				7.17		7433942	6.84		7433942
Saturation pH (@ 4C)	N/A				7.42		7433943	7.08		7433943
Inorganics										
Total Ammonia-N	mg/L	0.066	0.050	7436397	0.10	0.050	7436363	0.090	0.050	7436363
Conductivity	umho/cm				750	1.0	7438013	1900	1.0	7438013
Dissolved Organic Carbon	mg/L				0.66	0.40	7437920	1.7	0.40	7438054
Orthophosphate (P)	mg/L	<0.010	0.010	7437991	<0.010	0.010	7437991	<0.010	0.010	7437991
pH	pH				8.13		7438016	7.93		7438016
Dissolved Sulphate (SO4)	mg/L	940	5.0	7437990	200	1.0	7437990	920	5.0	7437990
Alkalinity (Total as CaCO3)	mg/L				210	1.0	7438011	180	1.0	7438011
Dissolved Chloride (Cl-)	mg/L	1.9	1.0	7437986	6.2	1.0	7437986	8.0	1.0	7437986
Nitrite (N)	mg/L				<0.010	0.010	7437970	<0.010	0.010	7437970
Nitrate (N)	mg/L				<0.10	0.10	7437970	<0.10	0.10	7437970
Nitrate + Nitrite (N)	mg/L				<0.10	0.10	7437970	<0.10	0.10	7437970
Metals										
Dissolved Aluminum (Al)	ug/L	<4.9	4.9	7437678	<4.9	4.9	7437678	14	4.9	7437678
Dissolved Antimony (Sb)	ug/L	<0.50	0.50	7437678	<0.50	0.50	7437678	<0.50	0.50	7437678
Dissolved Arsenic (As)	ug/L	5.4	1.0	7437678	1.9	1.0	7437678	8.7	1.0	7437678
Dissolved Barium (Ba)	ug/L	18	2.0	7437678	26	2.0	7437678	12	2.0	7437678
Dissolved Beryllium (Be)	ug/L	<0.40	0.40	7437678	<0.40	0.40	7437678	<0.40	0.40	7437678
Dissolved Boron (B)	ug/L	44	10	7437678	24	10	7437678	53	10	7437678

RDL = Reportable Detection Limit
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Lab-Dup = Laboratory Initiated Duplicate
N/A = Not Applicable

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

RCAP - COMPREHENSIVE (WATER)

BV Labs ID		PXY890			PXY891			PXY892		
Sampling Date		2021/06/24 10:30			2021/06/24 14:30			2021/06/24 17:00		
COC Number		831949-07-01			831949-07-01			831949-07-01		
	UNITS	MW20-27A Lab-Dup	RDL	QC Batch	MW20-27B	RDL	QC Batch	MW20-26A	RDL	QC Batch
Dissolved Cadmium (Cd)	ug/L	<0.090	0.090	7437678	<0.090	0.090	7437678	<0.090	0.090	7437678
Dissolved Calcium (Ca)	ug/L	360000	1000	7437678	93000	200	7437678	330000	400	7437678
Dissolved Chromium (Cr)	ug/L	<5.0	5.0	7437678	<5.0	5.0	7437678	<5.0	5.0	7437678
Dissolved Cobalt (Co)	ug/L	<0.50	0.50	7437678	<0.50	0.50	7437678	<0.50	0.50	7437678
Dissolved Copper (Cu)	ug/L	<0.90	0.90	7437678	<0.90	0.90	7437678	<0.90	0.90	7437678
Dissolved Iron (Fe)	ug/L	690	100	7437678	430	100	7437678	590	100	7437678
Dissolved Lead (Pb)	ug/L	<0.50	0.50	7437678	<0.50	0.50	7437678	<0.50	0.50	7437678
Dissolved Magnesium (Mg)	ug/L	50000	50	7437678	33000	50	7437678	70000	50	7437678
Dissolved Manganese (Mn)	ug/L	34	2.0	7437678	25	2.0	7437678	43	2.0	7437678
Dissolved Molybdenum (Mo)	ug/L	3.0	0.50	7437678	11	0.50	7437678	8.6	0.50	7437678
Dissolved Nickel (Ni)	ug/L	<1.0	1.0	7437678	<1.0	1.0	7437678	<1.0	1.0	7437678
Dissolved Phosphorus (P)	ug/L	<100	100	7437678	<100	100	7437678	<100	100	7437678
Dissolved Potassium (K)	ug/L	1700	200	7437678	820	200	7437678	2300	200	7437678
Dissolved Selenium (Se)	ug/L	<2.0	2.0	7437678	<2.0	2.0	7437678	<2.0	2.0	7437678
Dissolved Silicon (Si)	ug/L	5500	50	7437678	5500	50	7437678	5100	50	7437678
Dissolved Silver (Ag)	ug/L	<0.090	0.090	7437678	<0.090	0.090	7437678	<0.090	0.090	7437678
Dissolved Sodium (Na)	ug/L	10000	100	7437678	18000	100	7437678	18000	100	7437678
Dissolved Strontium (Sr)	ug/L	10000	1.0	7437678	3000	1.0	7437678	5700	1.0	7437678
Dissolved Thallium (Tl)	ug/L	<0.050	0.050	7437678	<0.050	0.050	7437678	<0.050	0.050	7437678
Dissolved Titanium (Ti)	ug/L	<5.0	5.0	7437678	<5.0	5.0	7437678	<5.0	5.0	7437678
Dissolved Uranium (U)	ug/L	0.47	0.10	7437678	1.6	0.10	7437678	0.27	0.10	7437678
Dissolved Vanadium (V)	ug/L	<0.50	0.50	7437678	<0.50	0.50	7437678	<0.50	0.50	7437678
Dissolved Zinc (Zn)	ug/L	<5.0	5.0	7437678	<5.0	5.0	7437678	14	5.0	7437678

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

RCAP - COMPREHENSIVE (WATER)

BV Labs ID		PXY893			PXY894			PXY895		
Sampling Date		2021/06/24 18:30			2021/06/24 17:15			2021/06/23		
COC Number		831949-07-01			831949-07-01			831949-07-01		
	UNITS	MW20-26B	RDL	QC Batch	MW20-26C	RDL	QC Batch	DUP-3	RDL	QC Batch
Calculated Parameters										
Anion Sum	me/L	11.2	N/A	7433941	18.7	N/A	7433941	4.74	N/A	7433941
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	200	1.0	7433456	230	1.0	7433456	200	1.0	7433456
Calculated TDS	mg/L	680	1.0	7433944	1000	1.0	7433944	250	1.0	7433944
Carb. Alkalinity (calc. as CaCO3)	mg/L	2.2	1.0	7433456	1.3	1.0	7433456	3.2	1.0	7433456
Cation Sum	me/L	11.6	N/A	7433941	18.7	N/A	7433941	4.67	N/A	7433941
Hardness (CaCO3)	mg/L	540	1.0	7433195	840	1.0	7433195	220	1.0	7433195
Ion Balance (% Difference)	%	1.84	N/A	7433940	0.110	N/A	7433940	0.820	N/A	7433940
Langelier Index (@ 20C)	N/A	1.04		7433942	0.936		7433942	0.833		7433942
Langelier Index (@ 4C)	N/A	0.788		7433943	0.690		7433943	0.583		7433943
Saturation pH (@ 20C)	N/A	7.03		7433942	6.86		7433942	7.39		7433942
Saturation pH (@ 4C)	N/A	7.28		7433943	7.11		7433943	7.64		7433943
Inorganics										
Total Ammonia-N	mg/L	<0.050	0.050	7436363	<0.050	0.050	7436363	0.053	0.050	7436397
Conductivity	umho/cm	1000	1.0	7438013	2000	1.0	7438013	430	1.0	7438013
Dissolved Organic Carbon	mg/L	1.4	0.40	7437920	<0.40	0.40	7438054	<0.40	0.40	7437920
Orthophosphate (P)	mg/L	<0.010	0.010	7437991	<0.010	0.010	7437991	<0.010	0.010	7437991
pH	pH	8.07		7438016	7.80		7438016	8.22		7438016
Dissolved Sulphate (SO4)	mg/L	340	2.0	7437990	24	1.0	7437990	29	1.0	7437990
Alkalinity (Total as CaCO3)	mg/L	200	1.0	7438011	230	1.0	7438011	210	1.0	7438011
Dissolved Chloride (Cl-)	mg/L	5.0	1.0	7437986	490	6.0	7437986	<1.0	1.0	7437986
Nitrite (N)	mg/L	<0.010	0.010	7437970	<0.010	0.010	7437970	<0.010	0.010	7437970
Nitrate (N)	mg/L	<0.10	0.10	7437970	0.12	0.10	7437970	<0.10	0.10	7437970
Nitrate + Nitrite (N)	mg/L	<0.10	0.10	7437970	0.12	0.10	7437970	<0.10	0.10	7437970
Metals										
Dissolved Aluminum (Al)	ug/L	7.6	4.9	7437678	6.9	4.9	7437678	7.8	4.9	7437678
Dissolved Antimony (Sb)	ug/L	<0.50	0.50	7437678	<0.50	0.50	7437678	<0.50	0.50	7437678
Dissolved Arsenic (As)	ug/L	2.9	1.0	7437678	<1.0	1.0	7437678	<1.0	1.0	7437678
Dissolved Barium (Ba)	ug/L	20	2.0	7437678	110	2.0	7437678	10	2.0	7437678
Dissolved Beryllium (Be)	ug/L	<0.40	0.40	7437678	<0.40	0.40	7437678	<0.40	0.40	7437678
Dissolved Boron (B)	ug/L	30	10	7437678	<10	10	7437678	21	10	7437678
Dissolved Cadmium (Cd)	ug/L	<0.090	0.090	7437678	<0.090	0.090	7437678	<0.090	0.090	7437678

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
N/A = Not Applicable

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

RCAP - COMPREHENSIVE (WATER)

BV Labs ID		PXY893			PXY894			PXY895		
Sampling Date		2021/06/24 18:30			2021/06/24 17:15			2021/06/23		
COC Number		831949-07-01			831949-07-01			831949-07-01		
	UNITS	MW20-26B	RDL	QC Batch	MW20-26C	RDL	QC Batch	DUP-3	RDL	QC Batch
Dissolved Calcium (Ca)	ug/L	150000	200	7437678	210000	200	7437678	50000	200	7437678
Dissolved Chromium (Cr)	ug/L	<5.0	5.0	7437678	<5.0	5.0	7437678	<5.0	5.0	7437678
Dissolved Cobalt (Co)	ug/L	<0.50	0.50	7437678	<0.50	0.50	7437678	<0.50	0.50	7437678
Dissolved Copper (Cu)	ug/L	<0.90	0.90	7437678	1.0	0.90	7437678	<0.90	0.90	7437678
Dissolved Iron (Fe)	ug/L	150	100	7437678	<100	100	7437678	<100	100	7437678
Dissolved Lead (Pb)	ug/L	<0.50	0.50	7437678	<0.50	0.50	7437678	<0.50	0.50	7437678
Dissolved Magnesium (Mg)	ug/L	42000	50	7437678	74000	50	7437678	23000	50	7437678
Dissolved Manganese (Mn)	ug/L	26	2.0	7437678	13	2.0	7437678	100	2.0	7437678
Dissolved Molybdenum (Mo)	ug/L	8.1	0.50	7437678	0.55	0.50	7437678	1.9	0.50	7437678
Dissolved Nickel (Ni)	ug/L	<1.0	1.0	7437678	<1.0	1.0	7437678	<1.0	1.0	7437678
Dissolved Phosphorus (P)	ug/L	<100	100	7437678	<100	100	7437678	<100	100	7437678
Dissolved Potassium (K)	ug/L	1600	200	7437678	1100	200	7437678	1200	200	7437678
Dissolved Selenium (Se)	ug/L	<2.0	2.0	7437678	<2.0	2.0	7437678	<2.0	2.0	7437678
Dissolved Silicon (Si)	ug/L	5600	50	7437678	6900	50	7437678	6700	50	7437678
Dissolved Silver (Ag)	ug/L	<0.090	0.090	7437678	<0.090	0.090	7437678	<0.090	0.090	7437678
Dissolved Sodium (Na)	ug/L	17000	100	7437678	45000	100	7437678	6000	100	7437678
Dissolved Strontium (Sr)	ug/L	2400	1.0	7437678	320	1.0	7437678	420	1.0	7437678
Dissolved Thallium (Tl)	ug/L	<0.050	0.050	7437678	<0.050	0.050	7437678	<0.050	0.050	7437678
Dissolved Titanium (Ti)	ug/L	<5.0	5.0	7437678	<5.0	5.0	7437678	<5.0	5.0	7437678
Dissolved Uranium (U)	ug/L	0.86	0.10	7437678	0.52	0.10	7437678	0.43	0.10	7437678
Dissolved Vanadium (V)	ug/L	<0.50	0.50	7437678	<0.50	0.50	7437678	<0.50	0.50	7437678
Dissolved Zinc (Zn)	ug/L	<5.0	5.0	7437678	<5.0	5.0	7437678	8.1	5.0	7437678

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

RCAP - COMPREHENSIVE (WATER)

BV Labs ID		PXY896		
Sampling Date		2021/06/24		
COC Number		831949-07-01		
	UNITS	DUP-5	RDL	QC Batch
Calculated Parameters				
Anion Sum	me/L	11.2	N/A	7433941
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	200	1.0	7433456
Calculated TDS	mg/L	680	1.0	7433944
Carb. Alkalinity (calc. as CaCO3)	mg/L	2.1	1.0	7433456
Cation Sum	me/L	11.4	N/A	7433941
Hardness (CaCO3)	mg/L	530	1.0	7433195
Ion Balance (% Difference)	%	1.24	N/A	7433940
Langelier Index (@ 20C)	N/A	1.02		7433942
Langelier Index (@ 4C)	N/A	0.772		7433943
Saturation pH (@ 20C)	N/A	7.04		7433942
Saturation pH (@ 4C)	N/A	7.28		7433943
Inorganics				
Total Ammonia-N	mg/L	0.071	0.050	7436397
Conductivity	umho/cm	1000	1.0	7438013
Dissolved Organic Carbon	mg/L	1.4	0.40	7438054
Orthophosphate (P)	mg/L	<0.010	0.010	7437991
pH	pH	8.05		7438016
Dissolved Sulphate (SO4)	mg/L	340	2.0	7437990
Alkalinity (Total as CaCO3)	mg/L	200	1.0	7438011
Dissolved Chloride (Cl-)	mg/L	4.2	1.0	7437986
Nitrite (N)	mg/L	<0.010	0.010	7437970
Nitrate (N)	mg/L	<0.10	0.10	7437970
Nitrate + Nitrite (N)	mg/L	<0.10	0.10	7437970
Metals				
Dissolved Aluminum (Al)	ug/L	<4.9	4.9	7437678
Dissolved Antimony (Sb)	ug/L	<0.50	0.50	7437678
Dissolved Arsenic (As)	ug/L	2.9	1.0	7437678
Dissolved Barium (Ba)	ug/L	21	2.0	7437678
Dissolved Beryllium (Be)	ug/L	<0.40	0.40	7437678
Dissolved Boron (B)	ug/L	32	10	7437678
Dissolved Cadmium (Cd)	ug/L	<0.090	0.090	7437678

RDL = Reportable Detection Limit
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N/A = Not Applicable

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

RCAP - COMPREHENSIVE (WATER)

BV Labs ID		PXY896		
Sampling Date		2021/06/24		
COC Number		831949-07-01		
	UNITS	DUP-5	RDL	QC Batch
Dissolved Calcium (Ca)	ug/L	150000	200	7437678
Dissolved Chromium (Cr)	ug/L	<5.0	5.0	7437678
Dissolved Cobalt (Co)	ug/L	<0.50	0.50	7437678
Dissolved Copper (Cu)	ug/L	<0.90	0.90	7437678
Dissolved Iron (Fe)	ug/L	150	100	7437678
Dissolved Lead (Pb)	ug/L	<0.50	0.50	7437678
Dissolved Magnesium (Mg)	ug/L	40000	50	7437678
Dissolved Manganese (Mn)	ug/L	26	2.0	7437678
Dissolved Molybdenum (Mo)	ug/L	8.1	0.50	7437678
Dissolved Nickel (Ni)	ug/L	<1.0	1.0	7437678
Dissolved Phosphorus (P)	ug/L	<100	100	7437678
Dissolved Potassium (K)	ug/L	1500	200	7437678
Dissolved Selenium (Se)	ug/L	<2.0	2.0	7437678
Dissolved Silicon (Si)	ug/L	5500	50	7437678
Dissolved Silver (Ag)	ug/L	<0.090	0.090	7437678
Dissolved Sodium (Na)	ug/L	17000	100	7437678
Dissolved Strontium (Sr)	ug/L	2300	1.0	7437678
Dissolved Thallium (Tl)	ug/L	<0.050	0.050	7437678
Dissolved Titanium (Ti)	ug/L	<5.0	5.0	7437678
Dissolved Uranium (U)	ug/L	0.87	0.10	7437678
Dissolved Vanadium (V)	ug/L	<0.50	0.50	7437678
Dissolved Zinc (Zn)	ug/L	<5.0	5.0	7437678

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QC Batch = Quality Control Batch

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

BV Labs ID		PXY681		
Sampling Date		2021/06/24 16:00		
COC Number		831949-06-01		
	UNITS	MW20-13C	RDL	QC Batch
Metals				
Dissolved Aluminum (Al)	ug/L	7.7	4.9	7455024
Dissolved Antimony (Sb)	ug/L	<0.50	0.50	7455024
Dissolved Arsenic (As)	ug/L	<1.0	1.0	7455024
Dissolved Barium (Ba)	ug/L	37	2.0	7455024
Dissolved Beryllium (Be)	ug/L	<0.40	0.40	7455024
Dissolved Boron (B)	ug/L	27	10	7455024
Dissolved Cadmium (Cd)	ug/L	<0.090	0.090	7455024
Dissolved Calcium (Ca)	ug/L	66000	200	7455024
Dissolved Chromium (Cr)	ug/L	<5.0	5.0	7455024
Dissolved Cobalt (Co)	ug/L	0.89	0.50	7455024
Dissolved Copper (Cu)	ug/L	<0.90	0.90	7455024
Dissolved Iron (Fe)	ug/L	<100	100	7455024
Dissolved Lead (Pb)	ug/L	<0.50	0.50	7455024
Dissolved Magnesium (Mg)	ug/L	38000	50	7455024
Dissolved Manganese (Mn)	ug/L	220	2.0	7455024
Dissolved Molybdenum (Mo)	ug/L	15	0.50	7455024
Dissolved Nickel (Ni)	ug/L	1.6	1.0	7455024
Dissolved Phosphorus (P)	ug/L	<100	100	7455024
Dissolved Potassium (K)	ug/L	1200	200	7455024
Dissolved Selenium (Se)	ug/L	<2.0	2.0	7455024
Dissolved Silicon (Si)	ug/L	3300	50	7455024
Dissolved Silver (Ag)	ug/L	<0.090	0.090	7455024
Dissolved Sodium (Na)	ug/L	6100	100	7455024
Dissolved Strontium (Sr)	ug/L	250	1.0	7455024
Dissolved Thallium (Tl)	ug/L	<0.050	0.050	7455024
Dissolved Titanium (Ti)	ug/L	<5.0	5.0	7455024
Dissolved Uranium (U)	ug/L	1.2	0.10	7455024
Dissolved Vanadium (V)	ug/L	0.55	0.50	7455024
Dissolved Zinc (Zn)	ug/L	<5.0	5.0	7455024

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

O.REG 153 PHCS, BTEX/F1-F4 (WATER)

BV Labs ID		PXY680	PXY682	PXY684	PXY686	PXY688	PXY889		
Sampling Date		2021/06/24 16:30	2021/06/24	2021/06/24 10:30	2021/06/24 13:15	2021/06/24 16:15	2021/06/23 12:30		
COC Number		831949-06-01	831949-06-01	831949-06-01	831949-06-01	831949-06-01	831949-07-01		
	UNITS	MW20-13B	DUP-4	MW20-10B	MW20-11B	MW20-12B	MW20-28B	RDL	QC Batch
BTEX & F1 Hydrocarbons									
Benzene	ug/L	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	0.20	7437379
Toluene	ug/L	0.29	<0.20	<0.20	<0.20	<0.20	<0.20	0.20	7437379
Ethylbenzene	ug/L	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	0.20	7437379
o-Xylene	ug/L	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	0.20	7437379
p+m-Xylene	ug/L	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	0.40	7437379
Total Xylenes	ug/L	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	0.40	7437379
F1 (C6-C10)	ug/L	<25	<25	<25	<25	<25	<25	25	7437379
F1 (C6-C10) - BTEX	ug/L	<25	<25	<25	<25	<25	<25	25	7437379
F2-F4 Hydrocarbons									
F2 (C10-C16 Hydrocarbons)	ug/L	<100	<100	<100	<100	<100	<100	100	7436245
F3 (C16-C34 Hydrocarbons)	ug/L	<200	<200	<200	<200	<200	<200	200	7436245
F4 (C34-C50 Hydrocarbons)	ug/L	<200	<200	<200	<200	<200	<200	200	7436245
Reached Baseline at C50	ug/L	Yes	Yes	Yes	Yes	Yes	Yes		7436245
Surrogate Recovery (%)									
1,4-Difluorobenzene	%	101	101	99	101	103	100		7437379
4-Bromofluorobenzene	%	86	93	90	88	86	97		7437379
D10-o-Xylene	%	111	114	112	111	112	110		7437379
D4-1,2-Dichloroethane	%	106	109	110	108	108	110		7437379
o-Terphenyl	%	96	97	96	96	97	95		7436245

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

O.REG 153 PHCS, BTEX/F1-F4 (WATER)

BV Labs ID		PXY891	PXY893	PXY895	PXY896		
Sampling Date		2021/06/24 14:30	2021/06/24 18:30	2021/06/23	2021/06/24		
COC Number		831949-07-01	831949-07-01	831949-07-01	831949-07-01		
	UNITS	MW20-27B	MW20-26B	DUP-3	DUP-5	RDL	QC Batch
BTEX & F1 Hydrocarbons							
Benzene	ug/L	<0.20	<0.20	<0.20	<0.20	0.20	7437379
Toluene	ug/L	<0.20	<0.20	<0.20	<0.20	0.20	7437379
Ethylbenzene	ug/L	<0.20	<0.20	<0.20	<0.20	0.20	7437379
o-Xylene	ug/L	<0.20	<0.20	<0.20	<0.20	0.20	7437379
p+m-Xylene	ug/L	<0.40	<0.40	<0.40	<0.40	0.40	7437379
Total Xylenes	ug/L	<0.40	<0.40	<0.40	<0.40	0.40	7437379
F1 (C6-C10)	ug/L	<25	<25	<25	<25	25	7437379
F1 (C6-C10) - BTEX	ug/L	<25	<25	<25	<25	25	7437379
F2-F4 Hydrocarbons							
F2 (C10-C16 Hydrocarbons)	ug/L	<100	<100	<100	<100	100	7436245
F3 (C16-C34 Hydrocarbons)	ug/L	<200	<200	<200	<200	200	7436245
F4 (C34-C50 Hydrocarbons)	ug/L	<200	<200	<200	<200	200	7436245
Reached Baseline at C50	ug/L	Yes	Yes	Yes	Yes		7436245
Surrogate Recovery (%)							
1,4-Difluorobenzene	%	100	101	100	101		7437379
4-Bromofluorobenzene	%	86	86	94	90		7437379
D10-o-Xylene	%	106	115	107	111		7437379
D4-1,2-Dichloroethane	%	111	107	106	108		7437379
o-Terphenyl	%	96	95	96	95		7436245

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

TEST SUMMARY

BV Labs ID: PXY679
Sample ID: MW20-13A
Matrix: Water

Collected: 2021/06/24
Shipped:
Received: 2021/06/25

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	7438011	N/A	2021/07/01	Surinder Rai
Carbonate, Bicarbonate and Hydroxide	CALC	7433456	N/A	2021/07/02	Automated Statchk
Chloride by Automated Colourimetry	KONE	7437986	N/A	2021/07/02	Alina Dobreanu
Conductivity	AT	7438013	N/A	2021/07/02	Surinder Rai
Dissolved Organic Carbon (DOC)	TOCV/NDIR	7438054	N/A	2021/07/01	Nimarta Singh
Hardness (calculated as CaCO3)		7433195	N/A	2021/07/02	Automated Statchk
Dissolved Metals by ICPMS	ICP/MS	7437678	N/A	2021/06/30	Prempal Bhatti
Ion Balance (% Difference)	CALC	7433940	N/A	2021/07/02	Automated Statchk
Anion and Cation Sum	CALC	7433941	N/A	2021/07/02	Automated Statchk
Total Ammonia-N	LACH/NH4	7436363	N/A	2021/07/02	Viorica Rotaru
Nitrate (NO3) and Nitrite (NO2) in Water	LACH	7437970	N/A	2021/06/30	Chandra Nandlal
pH	AT	7438016	2021/06/30	2021/07/01	Surinder Rai
Orthophosphate	KONE	7437991	N/A	2021/07/05	Avneet Kour Sudan
Sat. pH and Langelier Index (@ 20C)	CALC	7433942	N/A	2021/07/02	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	7433943	N/A	2021/07/02	Automated Statchk
Sulphate by Automated Colourimetry	KONE	7437990	N/A	2021/07/02	Alina Dobreanu
Total Dissolved Solids (TDS calc)	CALC	7433944	N/A	2021/07/02	Automated Statchk

BV Labs ID: PXY680
Sample ID: MW20-13B
Matrix: Water

Collected: 2021/06/24
Shipped:
Received: 2021/06/25

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	7438011	N/A	2021/07/01	Surinder Rai
Carbonate, Bicarbonate and Hydroxide	CALC	7433456	N/A	2021/07/02	Automated Statchk
Chloride by Automated Colourimetry	KONE	7437986	N/A	2021/07/02	Alina Dobreanu
Conductivity	AT	7438013	N/A	2021/07/02	Surinder Rai
Dissolved Organic Carbon (DOC)	TOCV/NDIR	7437920	N/A	2021/06/30	Nimarta Singh
Petroleum Hydro. CCME F1 & BTEX in Water	HSGC/MSFD	7437379	N/A	2021/06/30	Haibin Wu
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	7436245	2021/06/29	2021/06/30	Ravinder Gaidhu
Hardness (calculated as CaCO3)		7433195	N/A	2021/07/02	Automated Statchk
Dissolved Metals by ICPMS	ICP/MS	7437678	N/A	2021/06/30	Prempal Bhatti
Ion Balance (% Difference)	CALC	7433940	N/A	2021/07/02	Automated Statchk
Anion and Cation Sum	CALC	7433941	N/A	2021/07/02	Automated Statchk
Total Ammonia-N	LACH/NH4	7436363	N/A	2021/07/02	Viorica Rotaru
Nitrate (NO3) and Nitrite (NO2) in Water	LACH	7437970	N/A	2021/06/30	Chandra Nandlal
pH	AT	7438016	2021/06/30	2021/07/01	Surinder Rai
Orthophosphate	KONE	7437991	N/A	2021/07/05	Avneet Kour Sudan
Sat. pH and Langelier Index (@ 20C)	CALC	7433942	N/A	2021/07/02	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	7433943	N/A	2021/07/02	Automated Statchk
Sulphate by Automated Colourimetry	KONE	7437990	N/A	2021/07/02	Alina Dobreanu
Total Dissolved Solids (TDS calc)	CALC	7433944	N/A	2021/07/02	Automated Statchk

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

TEST SUMMARY

BV Labs ID: PXY680 Dup
Sample ID: MW20-13B
Matrix: Water

Collected: 2021/06/24
Shipped:
Received: 2021/06/25

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Nitrate (NO3) and Nitrite (NO2) in Water	LACH	7437970	N/A	2021/06/30	Chandra Nandlal

BV Labs ID: PXY681
Sample ID: MW20-13C
Matrix: Water

Collected: 2021/06/24
Shipped:
Received: 2021/06/25

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	7438011	N/A	2021/07/01	Surinder Rai
Carbonate, Bicarbonate and Hydroxide	CALC	7433456	N/A	2021/07/02	Automated Statchk
Chloride by Automated Colourimetry	KONE	7437986	N/A	2021/07/02	Alina Dobreanu
Conductivity	AT	7438013	N/A	2021/07/02	Surinder Rai
Dissolved Organic Carbon (DOC)	TOCV/NDIR	7437920	N/A	2021/06/30	Nimarta Singh
Hardness (calculated as CaCO3)		7433195	N/A	2021/07/02	Automated Statchk
Lab Filtered Metals by ICPMS	ICP/MS	7455024	2021/07/09	2021/07/12	Nan Raykha
Ion Balance (% Difference)	CALC	7433940	N/A	2021/07/02	Automated Statchk
Anion and Cation Sum	CALC	7433941	N/A	2021/07/02	Automated Statchk
Total Ammonia-N	LACH/NH4	7436397	N/A	2021/06/30	Amanpreet Sappal
Nitrate (NO3) and Nitrite (NO2) in Water	LACH	7437970	N/A	2021/06/30	Chandra Nandlal
pH	AT	7438016	2021/06/30	2021/07/01	Surinder Rai
Orthophosphate	KONE	7437991	N/A	2021/07/05	Avneet Kour Sudan
Sat. pH and Langelier Index (@ 20C)	CALC	7433942	N/A	2021/07/02	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	7433943	N/A	2021/07/02	Automated Statchk
Sulphate by Automated Colourimetry	KONE	7437990	N/A	2021/07/02	Alina Dobreanu
Total Dissolved Solids (TDS calc)	CALC	7433944	N/A	2021/07/02	Automated Statchk

BV Labs ID: PXY682
Sample ID: DUP-4
Matrix: Water

Collected: 2021/06/24
Shipped:
Received: 2021/06/25

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	7438011	N/A	2021/07/01	Surinder Rai
Carbonate, Bicarbonate and Hydroxide	CALC	7433456	N/A	2021/07/02	Automated Statchk
Chloride by Automated Colourimetry	KONE	7437986	N/A	2021/07/02	Alina Dobreanu
Conductivity	AT	7438013	N/A	2021/07/02	Surinder Rai
Dissolved Organic Carbon (DOC)	TOCV/NDIR	7438054	N/A	2021/07/01	Nimarta Singh
Petroleum Hydro. CCME F1 & BTEX in Water	HSGC/MSFD	7437379	N/A	2021/06/30	Haibin Wu
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	7436245	2021/06/29	2021/06/30	Ravinder Gaidhu
Hardness (calculated as CaCO3)		7433195	N/A	2021/07/02	Automated Statchk
Dissolved Metals by ICPMS	ICP/MS	7437678	N/A	2021/06/30	Prempal Bhatti
Ion Balance (% Difference)	CALC	7433940	N/A	2021/07/02	Automated Statchk
Anion and Cation Sum	CALC	7433941	N/A	2021/07/02	Automated Statchk
Total Ammonia-N	LACH/NH4	7436397	N/A	2021/06/30	Amanpreet Sappal
Nitrate (NO3) and Nitrite (NO2) in Water	LACH	7437970	N/A	2021/06/30	Chandra Nandlal
pH	AT	7438016	2021/06/30	2021/07/01	Surinder Rai
Orthophosphate	KONE	7437991	N/A	2021/07/05	Avneet Kour Sudan

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

TEST SUMMARY

BV Labs ID: PXY682
Sample ID: DUP-4
Matrix: Water

Collected: 2021/06/24
Shipped:
Received: 2021/06/25

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Sat. pH and Langelier Index (@ 20C)	CALC	7433942	N/A	2021/07/02	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	7433943	N/A	2021/07/02	Automated Statchk
Sulphate by Automated Colourimetry	KONE	7437990	N/A	2021/07/02	Alina Dobreanu
Total Dissolved Solids (TDS calc)	CALC	7433944	N/A	2021/07/02	Automated Statchk

BV Labs ID: PXY683
Sample ID: MW20-10A
Matrix: Water

Collected: 2021/06/24
Shipped:
Received: 2021/06/25

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	7438011	N/A	2021/07/01	Surinder Rai
Carbonate, Bicarbonate and Hydroxide	CALC	7433456	N/A	2021/07/02	Automated Statchk
Chloride by Automated Colourimetry	KONE	7437986	N/A	2021/07/02	Alina Dobreanu
Conductivity	AT	7438013	N/A	2021/07/02	Surinder Rai
Dissolved Organic Carbon (DOC)	TOCV/NDIR	7437920	N/A	2021/06/30	Nimarta Singh
Hardness (calculated as CaCO3)		7433195	N/A	2021/07/02	Automated Statchk
Dissolved Metals by ICPMS	ICP/MS	7437678	N/A	2021/06/30	Prempal Bhatti
Ion Balance (% Difference)	CALC	7433940	N/A	2021/07/02	Automated Statchk
Anion and Cation Sum	CALC	7433941	N/A	2021/07/02	Automated Statchk
Total Ammonia-N	LACH/NH4	7436397	N/A	2021/06/30	Amanpreet Sappal
Nitrate (NO3) and Nitrite (NO2) in Water	LACH	7437970	N/A	2021/06/30	Chandra Nandlal
pH	AT	7438016	2021/06/30	2021/07/01	Surinder Rai
Orthophosphate	KONE	7437991	N/A	2021/07/05	Avneet Kour Sudan
Sat. pH and Langelier Index (@ 20C)	CALC	7433942	N/A	2021/07/02	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	7433943	N/A	2021/07/02	Automated Statchk
Sulphate by Automated Colourimetry	KONE	7437990	N/A	2021/07/02	Alina Dobreanu
Total Dissolved Solids (TDS calc)	CALC	7433944	N/A	2021/07/02	Automated Statchk

BV Labs ID: PXY684
Sample ID: MW20-10B
Matrix: Water

Collected: 2021/06/24
Shipped:
Received: 2021/06/25

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	7438011	N/A	2021/07/01	Surinder Rai
Carbonate, Bicarbonate and Hydroxide	CALC	7433456	N/A	2021/07/02	Automated Statchk
Chloride by Automated Colourimetry	KONE	7437986	N/A	2021/07/02	Alina Dobreanu
Conductivity	AT	7438013	N/A	2021/07/02	Surinder Rai
Dissolved Organic Carbon (DOC)	TOCV/NDIR	7437920	N/A	2021/06/30	Nimarta Singh
Petroleum Hydro. CCME F1 & BTEX in Water	HSGC/MSFD	7437379	N/A	2021/06/30	Haibin Wu
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	7436245	2021/06/29	2021/06/30	Ravinder Gaidhu
Hardness (calculated as CaCO3)		7433195	N/A	2021/07/02	Automated Statchk
Dissolved Metals by ICPMS	ICP/MS	7437678	N/A	2021/06/30	Prempal Bhatti
Ion Balance (% Difference)	CALC	7433940	N/A	2021/07/02	Automated Statchk
Anion and Cation Sum	CALC	7433941	N/A	2021/07/02	Automated Statchk
Total Ammonia-N	LACH/NH4	7436363	N/A	2021/07/02	Viorica Rotaru

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

TEST SUMMARY

BV Labs ID: PXY684
Sample ID: MW20-10B
Matrix: Water

Collected: 2021/06/24
Shipped:
Received: 2021/06/25

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Nitrate (NO3) and Nitrite (NO2) in Water	LACH	7437970	N/A	2021/06/30	Chandra Nandlal
pH	AT	7438016	2021/06/30	2021/07/01	Surinder Rai
Orthophosphate	KONE	7437991	N/A	2021/07/05	Avneet Kour Sudan
Sat. pH and Langelier Index (@ 20C)	CALC	7433942	N/A	2021/07/02	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	7433943	N/A	2021/07/02	Automated Statchk
Sulphate by Automated Colourimetry	KONE	7437990	N/A	2021/07/02	Alina Dobreanu
Total Dissolved Solids (TDS calc)	CALC	7433944	N/A	2021/07/02	Automated Statchk

BV Labs ID: PXY684 Dup
Sample ID: MW20-10B
Matrix: Water

Collected: 2021/06/24
Shipped:
Received: 2021/06/25

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	7438011	N/A	2021/07/01	Surinder Rai
Conductivity	AT	7438013	N/A	2021/07/02	Surinder Rai
pH	AT	7438016	2021/06/30	2021/07/01	Surinder Rai

BV Labs ID: PXY685
Sample ID: MW20-11A
Matrix: Water

Collected: 2021/06/24
Shipped:
Received: 2021/06/25

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	7438011	N/A	2021/07/01	Surinder Rai
Carbonate, Bicarbonate and Hydroxide	CALC	7433456	N/A	2021/07/02	Automated Statchk
Chloride by Automated Colourimetry	KONE	7437986	N/A	2021/07/02	Alina Dobreanu
Conductivity	AT	7438013	N/A	2021/07/02	Surinder Rai
Dissolved Organic Carbon (DOC)	TOCV/NDIR	7438054	N/A	2021/07/01	Nimarta Singh
Hardness (calculated as CaCO3)		7433195	N/A	2021/07/02	Automated Statchk
Dissolved Metals by ICPMS	ICP/MS	7437678	N/A	2021/06/30	Prempal Bhatti
Ion Balance (% Difference)	CALC	7433940	N/A	2021/07/02	Automated Statchk
Anion and Cation Sum	CALC	7433941	N/A	2021/07/02	Automated Statchk
Total Ammonia-N	LACH/NH4	7436363	N/A	2021/07/02	Viorica Rotaru
Nitrate (NO3) and Nitrite (NO2) in Water	LACH	7437970	N/A	2021/06/30	Chandra Nandlal
pH	AT	7438016	2021/06/30	2021/07/01	Surinder Rai
Orthophosphate	KONE	7437991	N/A	2021/07/05	Avneet Kour Sudan
Sat. pH and Langelier Index (@ 20C)	CALC	7433942	N/A	2021/07/02	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	7433943	N/A	2021/07/02	Automated Statchk
Sulphate by Automated Colourimetry	KONE	7437990	N/A	2021/07/02	Alina Dobreanu
Total Dissolved Solids (TDS calc)	CALC	7433944	N/A	2021/07/02	Automated Statchk

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

TEST SUMMARY

BV Labs ID: PXY686
Sample ID: MW20-11B
Matrix: Water

Collected: 2021/06/24
Shipped:
Received: 2021/06/25

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	7438011	N/A	2021/07/01	Surinder Rai
Carbonate, Bicarbonate and Hydroxide	CALC	7433456	N/A	2021/07/02	Automated Statchk
Chloride by Automated Colourimetry	KONE	7437986	N/A	2021/07/02	Alina Dobreanu
Conductivity	AT	7438013	N/A	2021/07/02	Surinder Rai
Dissolved Organic Carbon (DOC)	TOCV/NDIR	7438054	N/A	2021/07/01	Nimarta Singh
Petroleum Hydro. CCME F1 & BTEX in Water	HSGC/MSFD	7437379	N/A	2021/06/30	Haibin Wu
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	7436245	2021/06/29	2021/06/30	Ravinder Gaidhu
Hardness (calculated as CaCO3)		7433195	N/A	2021/07/02	Automated Statchk
Dissolved Metals by ICPMS	ICP/MS	7437678	N/A	2021/06/30	Prempal Bhatti
Ion Balance (% Difference)	CALC	7433940	N/A	2021/07/02	Automated Statchk
Anion and Cation Sum	CALC	7433941	N/A	2021/07/02	Automated Statchk
Total Ammonia-N	LACH/NH4	7436397	N/A	2021/06/30	Amanpreet Sappal
Nitrate (NO3) and Nitrite (NO2) in Water	LACH	7437970	N/A	2021/06/30	Chandra Nandlal
pH	AT	7438016	2021/06/30	2021/07/01	Surinder Rai
Orthophosphate	KONE	7437991	N/A	2021/07/05	Avneet Kour Sudan
Sat. pH and Langelier Index (@ 20C)	CALC	7433942	N/A	2021/07/02	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	7433943	N/A	2021/07/02	Automated Statchk
Sulphate by Automated Colourimetry	KONE	7437990	N/A	2021/07/02	Alina Dobreanu
Total Dissolved Solids (TDS calc)	CALC	7433944	N/A	2021/07/02	Automated Statchk

BV Labs ID: PXY687
Sample ID: MW20-12A
Matrix: Water

Collected: 2021/06/24
Shipped:
Received: 2021/06/25

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	7438011	N/A	2021/07/01	Surinder Rai
Carbonate, Bicarbonate and Hydroxide	CALC	7433456	N/A	2021/07/02	Automated Statchk
Chloride by Automated Colourimetry	KONE	7437986	N/A	2021/07/02	Alina Dobreanu
Conductivity	AT	7438013	N/A	2021/07/02	Surinder Rai
Dissolved Organic Carbon (DOC)	TOCV/NDIR	7437920	N/A	2021/06/30	Nimarta Singh
Hardness (calculated as CaCO3)		7433195	N/A	2021/07/02	Automated Statchk
Dissolved Metals by ICPMS	ICP/MS	7437678	N/A	2021/06/30	Prempal Bhatti
Ion Balance (% Difference)	CALC	7433940	N/A	2021/07/02	Automated Statchk
Anion and Cation Sum	CALC	7433941	N/A	2021/07/02	Automated Statchk
Total Ammonia-N	LACH/NH4	7436363	N/A	2021/07/02	Viorica Rotaru
Nitrate (NO3) and Nitrite (NO2) in Water	LACH	7437970	N/A	2021/06/30	Chandra Nandlal
pH	AT	7438016	2021/06/30	2021/07/01	Surinder Rai
Orthophosphate	KONE	7437991	N/A	2021/07/05	Avneet Kour Sudan
Sat. pH and Langelier Index (@ 20C)	CALC	7433942	N/A	2021/07/02	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	7433943	N/A	2021/07/02	Automated Statchk
Sulphate by Automated Colourimetry	KONE	7437990	N/A	2021/07/02	Alina Dobreanu
Total Dissolved Solids (TDS calc)	CALC	7433944	N/A	2021/07/02	Automated Statchk

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

TEST SUMMARY

BV Labs ID: PXY688
Sample ID: MW20-12B
Matrix: Water

Collected: 2021/06/24
Shipped:
Received: 2021/06/25

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	7438011	N/A	2021/07/01	Surinder Rai
Carbonate, Bicarbonate and Hydroxide	CALC	7433456	N/A	2021/07/02	Automated Statchk
Chloride by Automated Colourimetry	KONE	7437986	N/A	2021/07/02	Alina Dobreanu
Conductivity	AT	7438013	N/A	2021/07/02	Surinder Rai
Dissolved Organic Carbon (DOC)	TOCV/NDIR	7437920	N/A	2021/06/30	Nimarta Singh
Petroleum Hydro. CCME F1 & BTEX in Water	HSGC/MSFD	7437379	N/A	2021/06/30	Haibin Wu
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	7436245	2021/06/29	2021/06/30	Ravinder Gaidhu
Hardness (calculated as CaCO3)		7433195	N/A	2021/07/02	Automated Statchk
Dissolved Metals by ICPMS	ICP/MS	7437678	N/A	2021/06/30	Prempal Bhatti
Ion Balance (% Difference)	CALC	7433940	N/A	2021/07/02	Automated Statchk
Anion and Cation Sum	CALC	7433941	N/A	2021/07/02	Automated Statchk
Total Ammonia-N	LACH/NH4	7436363	N/A	2021/07/02	Viorica Rotaru
Nitrate (NO3) and Nitrite (NO2) in Water	LACH	7437970	N/A	2021/06/30	Chandra Nandlal
pH	AT	7438016	2021/06/30	2021/07/01	Surinder Rai
Orthophosphate	KONE	7437991	N/A	2021/07/05	Avneet Kour Sudan
Sat. pH and Langelier Index (@ 20C)	CALC	7433942	N/A	2021/07/02	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	7433943	N/A	2021/07/02	Automated Statchk
Sulphate by Automated Colourimetry	KONE	7437990	N/A	2021/07/02	Alina Dobreanu
Total Dissolved Solids (TDS calc)	CALC	7433944	N/A	2021/07/02	Automated Statchk

BV Labs ID: PXY888
Sample ID: MW20-28A
Matrix: Water

Collected: 2021/06/23
Shipped:
Received: 2021/06/25

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	7438011	N/A	2021/07/01	Surinder Rai
Carbonate, Bicarbonate and Hydroxide	CALC	7433456	N/A	2021/07/02	Automated Statchk
Chloride by Automated Colourimetry	KONE	7437986	N/A	2021/07/02	Alina Dobreanu
Conductivity	AT	7438013	N/A	2021/07/02	Surinder Rai
Dissolved Organic Carbon (DOC)	TOCV/NDIR	7437920	N/A	2021/06/30	Nimarta Singh
Hardness (calculated as CaCO3)		7433195	N/A	2021/07/02	Automated Statchk
Dissolved Metals by ICPMS	ICP/MS	7437678	N/A	2021/06/30	Prempal Bhatti
Ion Balance (% Difference)	CALC	7433940	N/A	2021/07/02	Automated Statchk
Anion and Cation Sum	CALC	7433941	N/A	2021/07/02	Automated Statchk
Total Ammonia-N	LACH/NH4	7436363	N/A	2021/07/02	Viorica Rotaru
Nitrate (NO3) and Nitrite (NO2) in Water	LACH	7437970	N/A	2021/06/30	Chandra Nandlal
pH	AT	7438016	2021/06/30	2021/07/01	Surinder Rai
Orthophosphate	KONE	7437991	N/A	2021/07/05	Avneet Kour Sudan
Sat. pH and Langelier Index (@ 20C)	CALC	7433942	N/A	2021/07/02	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	7433943	N/A	2021/07/02	Automated Statchk
Sulphate by Automated Colourimetry	KONE	7437990	N/A	2021/07/02	Alina Dobreanu
Total Dissolved Solids (TDS calc)	CALC	7433944	N/A	2021/07/02	Automated Statchk

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

TEST SUMMARY

BV Labs ID: PXY888 Dup
Sample ID: MW20-28A
Matrix: Water

Collected: 2021/06/23
Shipped:
Received: 2021/06/25

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Dissolved Organic Carbon (DOC)	TOCV/NDIR	7437920	N/A	2021/06/30	Nimarta Singh

BV Labs ID: PXY889
Sample ID: MW20-28B
Matrix: Water

Collected: 2021/06/23
Shipped:
Received: 2021/06/25

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	7438011	N/A	2021/07/01	Surinder Rai
Carbonate, Bicarbonate and Hydroxide	CALC	7433456	N/A	2021/07/02	Automated Statchk
Chloride by Automated Colourimetry	KONE	7437986	N/A	2021/07/02	Alina Dobreanu
Conductivity	AT	7438013	N/A	2021/07/02	Surinder Rai
Dissolved Organic Carbon (DOC)	TOCV/NDIR	7438054	N/A	2021/07/01	Nimarta Singh
Petroleum Hydro. CCME F1 & BTEX in Water	HSGC/MSFD	7437379	N/A	2021/06/30	Haibin Wu
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	7436245	2021/06/29	2021/06/30	Ravinder Gaidhu
Hardness (calculated as CaCO3)		7433195	N/A	2021/07/02	Automated Statchk
Dissolved Metals by ICPMS	ICP/MS	7437678	N/A	2021/06/30	Prempal Bhatti
Ion Balance (% Difference)	CALC	7433940	N/A	2021/07/02	Automated Statchk
Anion and Cation Sum	CALC	7433941	N/A	2021/07/02	Automated Statchk
Total Ammonia-N	LACH/NH4	7436363	N/A	2021/07/02	Viorica Rotaru
Nitrate (NO3) and Nitrite (NO2) in Water	LACH	7437970	N/A	2021/07/02	Chandra Nandlal
pH	AT	7438016	2021/06/30	2021/07/01	Surinder Rai
Orthophosphate	KONE	7437991	N/A	2021/07/05	Avneet Kour Sudan
Sat. pH and Langelier Index (@ 20C)	CALC	7433942	N/A	2021/07/02	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	7433943	N/A	2021/07/02	Automated Statchk
Sulphate by Automated Colourimetry	KONE	7437990	N/A	2021/07/02	Alina Dobreanu
Total Dissolved Solids (TDS calc)	CALC	7433944	N/A	2021/07/02	Automated Statchk

BV Labs ID: PXY890
Sample ID: MW20-27A
Matrix: Water

Collected: 2021/06/24
Shipped:
Received: 2021/06/25

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	7438011	N/A	2021/07/01	Surinder Rai
Carbonate, Bicarbonate and Hydroxide	CALC	7433456	N/A	2021/07/02	Automated Statchk
Chloride by Automated Colourimetry	KONE	7437986	N/A	2021/07/02	Alina Dobreanu
Conductivity	AT	7438013	N/A	2021/07/02	Surinder Rai
Dissolved Organic Carbon (DOC)	TOCV/NDIR	7438054	N/A	2021/07/01	Nimarta Singh
Hardness (calculated as CaCO3)		7433195	N/A	2021/07/02	Automated Statchk
Dissolved Metals by ICPMS	ICP/MS	7437678	N/A	2021/06/30	Prempal Bhatti
Ion Balance (% Difference)	CALC	7433940	N/A	2021/07/02	Automated Statchk
Anion and Cation Sum	CALC	7433941	N/A	2021/07/02	Automated Statchk
Total Ammonia-N	LACH/NH4	7436397	N/A	2021/06/30	Amanpreet Sappal
Nitrate (NO3) and Nitrite (NO2) in Water	LACH	7437970	N/A	2021/06/30	Chandra Nandlal
pH	AT	7438016	2021/06/30	2021/07/01	Surinder Rai
Orthophosphate	KONE	7437991	N/A	2021/07/05	Avneet Kour Sudan

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

TEST SUMMARY

BV Labs ID: PXY890
Sample ID: MW20-27A
Matrix: Water

Collected: 2021/06/24
Shipped:
Received: 2021/06/25

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Sat. pH and Langelier Index (@ 20C)	CALC	7433942	N/A	2021/07/02	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	7433943	N/A	2021/07/02	Automated Statchk
Sulphate by Automated Colourimetry	KONE	7437990	N/A	2021/07/02	Alina Dobreanu
Total Dissolved Solids (TDS calc)	CALC	7433944	N/A	2021/07/02	Automated Statchk

BV Labs ID: PXY890 Dup
Sample ID: MW20-27A
Matrix: Water

Collected: 2021/06/24
Shipped:
Received: 2021/06/25

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Chloride by Automated Colourimetry	KONE	7437986	N/A	2021/07/02	Alina Dobreanu
Dissolved Metals by ICPMS	ICP/MS	7437678	N/A	2021/06/30	Prempal Bhatti
Total Ammonia-N	LACH/NH4	7436397	N/A	2021/06/30	Amanpreet Sappal
Orthophosphate	KONE	7437991	N/A	2021/07/05	Avneet Kour Sudan
Sulphate by Automated Colourimetry	KONE	7437990	N/A	2021/07/02	Alina Dobreanu

BV Labs ID: PXY891
Sample ID: MW20-27B
Matrix: Water

Collected: 2021/06/24
Shipped:
Received: 2021/06/25

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	7438011	N/A	2021/07/01	Surinder Rai
Carbonate, Bicarbonate and Hydroxide	CALC	7433456	N/A	2021/07/02	Automated Statchk
Chloride by Automated Colourimetry	KONE	7437986	N/A	2021/07/02	Alina Dobreanu
Conductivity	AT	7438013	N/A	2021/07/02	Surinder Rai
Dissolved Organic Carbon (DOC)	TOCV/NDIR	7437920	N/A	2021/06/30	Nimarta Singh
Petroleum Hydro. CCME F1 & BTEX in Water	HSGC/MSFD	7437379	N/A	2021/06/30	Haibin Wu
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	7436245	2021/06/29	2021/06/30	Ravinder Gaidhu
Hardness (calculated as CaCO3)		7433195	N/A	2021/07/02	Automated Statchk
Dissolved Metals by ICPMS	ICP/MS	7437678	N/A	2021/06/30	Prempal Bhatti
Ion Balance (% Difference)	CALC	7433940	N/A	2021/07/02	Automated Statchk
Anion and Cation Sum	CALC	7433941	N/A	2021/07/02	Automated Statchk
Total Ammonia-N	LACH/NH4	7436363	N/A	2021/07/02	Viorica Rotaru
Nitrate (NO3) and Nitrite (NO2) in Water	LACH	7437970	N/A	2021/06/30	Chandra Nandlal
pH	AT	7438016	2021/06/30	2021/07/01	Surinder Rai
Orthophosphate	KONE	7437991	N/A	2021/07/05	Avneet Kour Sudan
Sat. pH and Langelier Index (@ 20C)	CALC	7433942	N/A	2021/07/02	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	7433943	N/A	2021/07/02	Automated Statchk
Sulphate by Automated Colourimetry	KONE	7437990	N/A	2021/07/02	Alina Dobreanu
Total Dissolved Solids (TDS calc)	CALC	7433944	N/A	2021/07/02	Automated Statchk

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

TEST SUMMARY

BV Labs ID: PXY892
Sample ID: MW20-26A
Matrix: Water

Collected: 2021/06/24
Shipped:
Received: 2021/06/25

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	7438011	N/A	2021/07/01	Surinder Rai
Carbonate, Bicarbonate and Hydroxide	CALC	7433456	N/A	2021/07/02	Automated Statchk
Chloride by Automated Colourimetry	KONE	7437986	N/A	2021/07/02	Alina Dobreanu
Conductivity	AT	7438013	N/A	2021/07/02	Surinder Rai
Dissolved Organic Carbon (DOC)	TOCV/NDIR	7438054	N/A	2021/07/01	Nimarta Singh
Hardness (calculated as CaCO3)		7433195	N/A	2021/07/02	Automated Statchk
Dissolved Metals by ICPMS	ICP/MS	7437678	N/A	2021/06/30	Prempal Bhatti
Ion Balance (% Difference)	CALC	7433940	N/A	2021/07/02	Automated Statchk
Anion and Cation Sum	CALC	7433941	N/A	2021/07/02	Automated Statchk
Total Ammonia-N	LACH/NH4	7436363	N/A	2021/07/02	Viorica Rotaru
Nitrate (NO3) and Nitrite (NO2) in Water	LACH	7437970	N/A	2021/06/30	Chandra Nandlal
pH	AT	7438016	2021/06/30	2021/07/01	Surinder Rai
Orthophosphate	KONE	7437991	N/A	2021/07/05	Avneet Kour Sudan
Sat. pH and Langelier Index (@ 20C)	CALC	7433942	N/A	2021/07/02	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	7433943	N/A	2021/07/02	Automated Statchk
Sulphate by Automated Colourimetry	KONE	7437990	N/A	2021/07/02	Alina Dobreanu
Total Dissolved Solids (TDS calc)	CALC	7433944	N/A	2021/07/02	Automated Statchk

BV Labs ID: PXY893
Sample ID: MW20-26B
Matrix: Water

Collected: 2021/06/24
Shipped:
Received: 2021/06/25

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	7438011	N/A	2021/07/01	Surinder Rai
Carbonate, Bicarbonate and Hydroxide	CALC	7433456	N/A	2021/07/02	Automated Statchk
Chloride by Automated Colourimetry	KONE	7437986	N/A	2021/07/02	Alina Dobreanu
Conductivity	AT	7438013	N/A	2021/07/02	Surinder Rai
Dissolved Organic Carbon (DOC)	TOCV/NDIR	7437920	N/A	2021/06/30	Nimarta Singh
Petroleum Hydro. CCME F1 & BTEX in Water	HSGC/MSFD	7437379	N/A	2021/06/30	Haibin Wu
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	7436245	2021/06/29	2021/06/30	Ravinder Gaidhu
Hardness (calculated as CaCO3)		7433195	N/A	2021/07/02	Automated Statchk
Dissolved Metals by ICPMS	ICP/MS	7437678	N/A	2021/06/30	Prempal Bhatti
Ion Balance (% Difference)	CALC	7433940	N/A	2021/07/02	Automated Statchk
Anion and Cation Sum	CALC	7433941	N/A	2021/07/02	Automated Statchk
Total Ammonia-N	LACH/NH4	7436363	N/A	2021/07/02	Viorica Rotaru
Nitrate (NO3) and Nitrite (NO2) in Water	LACH	7437970	N/A	2021/06/30	Chandra Nandlal
pH	AT	7438016	2021/06/30	2021/07/01	Surinder Rai
Orthophosphate	KONE	7437991	N/A	2021/07/05	Avneet Kour Sudan
Sat. pH and Langelier Index (@ 20C)	CALC	7433942	N/A	2021/07/02	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	7433943	N/A	2021/07/02	Automated Statchk
Sulphate by Automated Colourimetry	KONE	7437990	N/A	2021/07/02	Alina Dobreanu
Total Dissolved Solids (TDS calc)	CALC	7433944	N/A	2021/07/02	Automated Statchk

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

TEST SUMMARY

BV Labs ID: PXY894
Sample ID: MW20-26C
Matrix: Water

Collected: 2021/06/24
Shipped:
Received: 2021/06/25

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	7438011	N/A	2021/07/01	Surinder Rai
Carbonate, Bicarbonate and Hydroxide	CALC	7433456	N/A	2021/07/02	Automated Statchk
Chloride by Automated Colourimetry	KONE	7437986	N/A	2021/07/02	Alina Dobreanu
Conductivity	AT	7438013	N/A	2021/07/02	Surinder Rai
Dissolved Organic Carbon (DOC)	TOCV/NDIR	7438054	N/A	2021/07/01	Nimarta Singh
Hardness (calculated as CaCO3)		7433195	N/A	2021/07/02	Automated Statchk
Dissolved Metals by ICPMS	ICP/MS	7437678	N/A	2021/06/30	Prempal Bhatti
Ion Balance (% Difference)	CALC	7433940	N/A	2021/07/02	Automated Statchk
Anion and Cation Sum	CALC	7433941	N/A	2021/07/02	Automated Statchk
Total Ammonia-N	LACH/NH4	7436363	N/A	2021/07/02	Viorica Rotaru
Nitrate (NO3) and Nitrite (NO2) in Water	LACH	7437970	N/A	2021/06/30	Chandra Nandlal
pH	AT	7438016	2021/06/30	2021/07/01	Surinder Rai
Orthophosphate	KONE	7437991	N/A	2021/07/05	Avneet Kour Sudan
Sat. pH and Langelier Index (@ 20C)	CALC	7433942	N/A	2021/07/02	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	7433943	N/A	2021/07/02	Automated Statchk
Sulphate by Automated Colourimetry	KONE	7437990	N/A	2021/07/02	Alina Dobreanu
Total Dissolved Solids (TDS calc)	CALC	7433944	N/A	2021/07/02	Automated Statchk

BV Labs ID: PXY895
Sample ID: DUP-3
Matrix: Water

Collected: 2021/06/23
Shipped:
Received: 2021/06/25

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	7438011	N/A	2021/07/01	Surinder Rai
Carbonate, Bicarbonate and Hydroxide	CALC	7433456	N/A	2021/07/02	Automated Statchk
Chloride by Automated Colourimetry	KONE	7437986	N/A	2021/07/02	Alina Dobreanu
Conductivity	AT	7438013	N/A	2021/07/02	Surinder Rai
Dissolved Organic Carbon (DOC)	TOCV/NDIR	7437920	N/A	2021/06/30	Nimarta Singh
Petroleum Hydro. CCME F1 & BTEX in Water	HSGC/MSFD	7437379	N/A	2021/06/30	Haibin Wu
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	7436245	2021/06/29	2021/06/30	Ravinder Gaidhu
Hardness (calculated as CaCO3)		7433195	N/A	2021/07/02	Automated Statchk
Dissolved Metals by ICPMS	ICP/MS	7437678	N/A	2021/06/30	Prempal Bhatti
Ion Balance (% Difference)	CALC	7433940	N/A	2021/07/02	Automated Statchk
Anion and Cation Sum	CALC	7433941	N/A	2021/07/02	Automated Statchk
Total Ammonia-N	LACH/NH4	7436397	N/A	2021/06/30	Amanpreet Sappal
Nitrate (NO3) and Nitrite (NO2) in Water	LACH	7437970	N/A	2021/06/30	Chandra Nandlal
pH	AT	7438016	2021/06/30	2021/07/01	Surinder Rai
Orthophosphate	KONE	7437991	N/A	2021/07/05	Avneet Kour Sudan
Sat. pH and Langelier Index (@ 20C)	CALC	7433942	N/A	2021/07/02	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	7433943	N/A	2021/07/02	Automated Statchk
Sulphate by Automated Colourimetry	KONE	7437990	N/A	2021/07/02	Alina Dobreanu
Total Dissolved Solids (TDS calc)	CALC	7433944	N/A	2021/07/02	Automated Statchk

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

BV Labs Job #: C1H5980
Report Date: 2021/07/12

Golder Associates Ltd
Client Project #: 19129150 (2300)
Sampler Initials: VP

TEST SUMMARY

BV Labs ID: PXY896
Sample ID: DUP-5
Matrix: Water

Collected: 2021/06/24
Shipped:
Received: 2021/06/25

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	7438011	N/A	2021/07/01	Surinder Rai
Carbonate, Bicarbonate and Hydroxide	CALC	7433456	N/A	2021/07/02	Automated Statchk
Chloride by Automated Colourimetry	KONE	7437986	N/A	2021/07/02	Alina Dobreanu
Conductivity	AT	7438013	N/A	2021/07/02	Surinder Rai
Dissolved Organic Carbon (DOC)	TOCV/NDIR	7438054	N/A	2021/07/01	Nimarta Singh
Petroleum Hydro. CCME F1 & BTEX in Water	HSGC/MSFD	7437379	N/A	2021/06/30	Haibin Wu
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	7436245	2021/06/29	2021/06/30	Ravinder Gaidhu
Hardness (calculated as CaCO3)		7433195	N/A	2021/07/02	Automated Statchk
Dissolved Metals by ICPMS	ICP/MS	7437678	N/A	2021/06/30	Prempal Bhatti
Ion Balance (% Difference)	CALC	7433940	N/A	2021/07/02	Automated Statchk
Anion and Cation Sum	CALC	7433941	N/A	2021/07/02	Automated Statchk
Total Ammonia-N	LACH/NH4	7436397	N/A	2021/06/30	Amanpreet Sappal
Nitrate (NO3) and Nitrite (NO2) in Water	LACH	7437970	N/A	2021/07/02	Chandra Nandlal
pH	AT	7438016	2021/06/30	2021/07/01	Surinder Rai
Orthophosphate	KONE	7437991	N/A	2021/07/05	Avneet Kour Sudan
Sat. pH and Langelier Index (@ 20C)	CALC	7433942	N/A	2021/07/02	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	7433943	N/A	2021/07/02	Automated Statchk
Sulphate by Automated Colourimetry	KONE	7437990	N/A	2021/07/02	Alina Dobreanu
Total Dissolved Solids (TDS calc)	CALC	7433944	N/A	2021/07/02	Automated Statchk

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	11.0°C
Package 2	9.7°C

Results relate only to the items tested.

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

QUALITY ASSURANCE REPORT

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
7436245	o-Terphenyl	2021/06/29	98	60 - 130	98	60 - 130	98	%		
7437379	1,4-Difluorobenzene	2021/06/30	94	70 - 130	96	70 - 130	100	%		
7437379	4-Bromofluorobenzene	2021/06/30	112	70 - 130	113	70 - 130	102	%		
7437379	D10-o-Xylene	2021/06/30	101	70 - 130	96	70 - 130	112	%		
7437379	D4-1,2-Dichloroethane	2021/06/30	99	70 - 130	95	70 - 130	104	%		
7436245	F2 (C10-C16 Hydrocarbons)	2021/06/30	90	60 - 130	99	60 - 130	<100	ug/L	NC	30
7436245	F3 (C16-C34 Hydrocarbons)	2021/06/30	88	60 - 130	103	60 - 130	<200	ug/L	NC	30
7436245	F4 (C34-C50 Hydrocarbons)	2021/06/30	93	60 - 130	106	60 - 130	<200	ug/L	NC	30
7436363	Total Ammonia-N	2021/07/02	97	75 - 125	101	80 - 120	<0.050	mg/L	3.4	20
7436397	Total Ammonia-N	2021/06/30	100	75 - 125	104	80 - 120	<0.050	mg/L	20	20
7437379	Benzene	2021/06/30	95	50 - 140	92	50 - 140	<0.20	ug/L	NC	30
7437379	Ethylbenzene	2021/06/30	100	50 - 140	98	50 - 140	<0.20	ug/L	NC	30
7437379	F1 (C6-C10) - BTEX	2021/06/30					<25	ug/L	NC	30
7437379	F1 (C6-C10)	2021/06/30	87	60 - 140	85	60 - 140	<25	ug/L	NC	30
7437379	o-Xylene	2021/06/30	99	50 - 140	97	50 - 140	<0.20	ug/L	NC	30
7437379	p+m-Xylene	2021/06/30	94	50 - 140	93	50 - 140	<0.40	ug/L	NC	30
7437379	Toluene	2021/06/30	90	50 - 140	88	50 - 140	<0.20	ug/L	NC	30
7437379	Total Xylenes	2021/06/30					<0.40	ug/L	NC	30
7437678	Dissolved Aluminum (Al)	2021/06/30	101	80 - 120	99	80 - 120	<4.9	ug/L	NC	20
7437678	Dissolved Antimony (Sb)	2021/06/30	105	80 - 120	100	80 - 120	<0.50	ug/L	NC	20
7437678	Dissolved Arsenic (As)	2021/06/30	103	80 - 120	100	80 - 120	<1.0	ug/L	0.65	20
7437678	Dissolved Barium (Ba)	2021/06/30	102	80 - 120	100	80 - 120	<2.0	ug/L	3.8	20
7437678	Dissolved Beryllium (Be)	2021/06/30	103	80 - 120	96	80 - 120	<0.40	ug/L	NC	20
7437678	Dissolved Boron (B)	2021/06/30	97	80 - 120	88	80 - 120	<10	ug/L	4.1	20
7437678	Dissolved Cadmium (Cd)	2021/06/30	102	80 - 120	99	80 - 120	<0.090	ug/L	NC	20
7437678	Dissolved Calcium (Ca)	2021/06/30	NC	80 - 120	98	80 - 120	<200	ug/L	1.6	20
7437678	Dissolved Chromium (Cr)	2021/06/30	100	80 - 120	97	80 - 120	<5.0	ug/L	NC	20
7437678	Dissolved Cobalt (Co)	2021/06/30	105	80 - 120	103	80 - 120	<0.50	ug/L	NC	20
7437678	Dissolved Copper (Cu)	2021/06/30	101	80 - 120	105	80 - 120	<0.90	ug/L	NC	20
7437678	Dissolved Iron (Fe)	2021/06/30	102	80 - 120	99	80 - 120	<100	ug/L	0.31	20
7437678	Dissolved Lead (Pb)	2021/06/30	100	80 - 120	98	80 - 120	<0.50	ug/L	NC	20

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
7437678	Dissolved Magnesium (Mg)	2021/06/30	NC	80 - 120	102	80 - 120	<50	ug/L	1.2	20
7437678	Dissolved Manganese (Mn)	2021/06/30	100	80 - 120	98	80 - 120	<2.0	ug/L	1.4	20
7437678	Dissolved Molybdenum (Mo)	2021/06/30	105	80 - 120	98	80 - 120	<0.50	ug/L	1.5	20
7437678	Dissolved Nickel (Ni)	2021/06/30	100	80 - 120	100	80 - 120	<1.0	ug/L	NC	20
7437678	Dissolved Phosphorus (P)	2021/06/30	102	80 - 120	103	80 - 120	<100	ug/L	NC	20
7437678	Dissolved Potassium (K)	2021/06/30	104	80 - 120	103	80 - 120	<200	ug/L	0.33	20
7437678	Dissolved Selenium (Se)	2021/06/30	106	80 - 120	102	80 - 120	<2.0	ug/L	NC	20
7437678	Dissolved Silicon (Si)	2021/06/30	98	80 - 120	97	80 - 120	<50	ug/L	1.0	20
7437678	Dissolved Silver (Ag)	2021/06/30	101	80 - 120	98	80 - 120	<0.090	ug/L	NC	20
7437678	Dissolved Sodium (Na)	2021/06/30	102	80 - 120	101	80 - 120	<100	ug/L	1.5	20
7437678	Dissolved Strontium (Sr)	2021/06/30	NC	80 - 120	97	80 - 120	<1.0	ug/L	2.9	20
7437678	Dissolved Thallium (Tl)	2021/06/30	106	80 - 120	102	80 - 120	<0.050	ug/L	NC	20
7437678	Dissolved Titanium (Ti)	2021/06/30	100	80 - 120	96	80 - 120	<5.0	ug/L	NC	20
7437678	Dissolved Uranium (U)	2021/06/30	105	80 - 120	99	80 - 120	<0.10	ug/L	0.64	20
7437678	Dissolved Vanadium (V)	2021/06/30	100	80 - 120	97	80 - 120	<0.50	ug/L	NC	20
7437678	Dissolved Zinc (Zn)	2021/06/30	99	80 - 120	99	80 - 120	<5.0	ug/L	NC	20
7437920	Dissolved Organic Carbon	2021/06/30	93	80 - 120	94	80 - 120	<0.40	mg/L	NC	20
7437970	Nitrate (N)	2021/06/30	94	80 - 120	97	80 - 120	<0.10	mg/L	NC	20
7437970	Nitrite (N)	2021/06/30	104	80 - 120	105	80 - 120	<0.010	mg/L	NC	20
7437986	Dissolved Chloride (Cl-)	2021/07/02	113	80 - 120	102	80 - 120	<1.0	mg/L	7.0	20
7437990	Dissolved Sulphate (SO4)	2021/07/02	NC	75 - 125	103	80 - 120	<1.0	mg/L	2.5	20
7437991	Orthophosphate (P)	2021/07/05	119	75 - 125	99	80 - 120	<0.010	mg/L	NC	25
7438011	Alkalinity (Total as CaCO3)	2021/07/01			96	85 - 115	<1.0	mg/L	3.0	20
7438013	Conductivity	2021/07/02			99	85 - 115	<1.0	umho/cm	0	25
7438016	pH	2021/07/01			102	98 - 103			0.36	N/A
7438054	Dissolved Organic Carbon	2021/07/01	93	80 - 120	94	80 - 120	<0.40	mg/L	2.7	20
7455024	Dissolved Aluminum (Al)	2021/07/12	101	80 - 120	97	80 - 120	<4.9	ug/L	NC	20
7455024	Dissolved Antimony (Sb)	2021/07/12	109	80 - 120	100	80 - 120	<0.50	ug/L	NC	20
7455024	Dissolved Arsenic (As)	2021/07/12	106	80 - 120	98	80 - 120	<1.0	ug/L	NC	20
7455024	Dissolved Barium (Ba)	2021/07/12	105	80 - 120	98	80 - 120	<2.0	ug/L	2.0	20
7455024	Dissolved Beryllium (Be)	2021/07/12	112	80 - 120	100	80 - 120	<0.40	ug/L	NC	20

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
7455024	Dissolved Boron (B)	2021/07/12	105	80 - 120	93	80 - 120	<10	ug/L	2.8	20
7455024	Dissolved Cadmium (Cd)	2021/07/12	105	80 - 120	98	80 - 120	<0.090	ug/L	NC	20
7455024	Dissolved Calcium (Ca)	2021/07/12	NC	80 - 120	97	80 - 120	<200	ug/L	0.91	20
7455024	Dissolved Chromium (Cr)	2021/07/12	105	80 - 120	98	80 - 120	<5.0	ug/L	NC	20
7455024	Dissolved Cobalt (Co)	2021/07/12	104	80 - 120	99	80 - 120	<0.50	ug/L	NC	20
7455024	Dissolved Copper (Cu)	2021/07/12	105	80 - 120	101	80 - 120	1.2, RDL=0.90 (1)	ug/L	NC	20
7455024	Dissolved Iron (Fe)	2021/07/12	104	80 - 120	96	80 - 120	<100	ug/L	NC	20
7455024	Dissolved Lead (Pb)	2021/07/12	101	80 - 120	97	80 - 120	<0.50	ug/L	NC	20
7455024	Dissolved Magnesium (Mg)	2021/07/12	98	80 - 120	99	80 - 120	<50	ug/L	1.5	20
7455024	Dissolved Manganese (Mn)	2021/07/12	104	80 - 120	97	80 - 120	<2.0	ug/L	NC	20
7455024	Dissolved Molybdenum (Mo)	2021/07/12	112	80 - 120	103	80 - 120	<0.50	ug/L	NC	20
7455024	Dissolved Nickel (Ni)	2021/07/12	101	80 - 120	97	80 - 120	<1.0	ug/L	NC	20
7455024	Dissolved Phosphorus (P)	2021/07/12	110	80 - 120	106	80 - 120	<100	ug/L	NC	20
7455024	Dissolved Potassium (K)	2021/07/12	103	80 - 120	98	80 - 120	<200	ug/L	4.8	20
7455024	Dissolved Selenium (Se)	2021/07/12	104	80 - 120	99	80 - 120	<2.0	ug/L	NC	20
7455024	Dissolved Silicon (Si)	2021/07/12	101	80 - 120	97	80 - 120	<50	ug/L	0.68	20
7455024	Dissolved Silver (Ag)	2021/07/12	106	80 - 120	100	80 - 120	<0.090	ug/L	NC	20
7455024	Dissolved Sodium (Na)	2021/07/12	102	80 - 120	98	80 - 120	<100	ug/L	0.96	20
7455024	Dissolved Strontium (Sr)	2021/07/12	106	80 - 120	96	80 - 120	<1.0	ug/L	2.9	20
7455024	Dissolved Thallium (Tl)	2021/07/12	103	80 - 120	99	80 - 120	<0.050	ug/L	NC	20
7455024	Dissolved Titanium (Ti)	2021/07/12	96	80 - 120	94	80 - 120	<5.0	ug/L	NC	20
7455024	Dissolved Uranium (U)	2021/07/12	98	80 - 120	94	80 - 120	<0.10	ug/L	5.1	20
7455024	Dissolved Vanadium (V)	2021/07/12	105	80 - 120	98	80 - 120	<0.50	ug/L	NC	20

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
7455024	Dissolved Zinc (Zn)	2021/07/12	104	80 - 120	97	80 - 120	<5.0	ug/L	14	20

N/A = Not Applicable

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

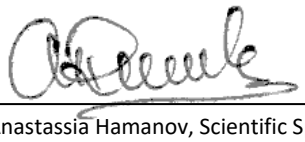
(1) Analyte was detected in the method blank at a level marginally above the detection limit. Sample results have not been blank corrected. Those results at or near the detection limit may be biased high..

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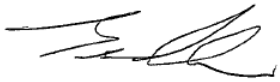
Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:



Anastassia Hamanov, Scientific Specialist



Brad Newman, B.Sc., C.Chem., Scientific Service Specialist

BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports.
For Service Group specific validation please refer to the Validation Signature Page.

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

Ema Gitej

C1H5980

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Mississauga, Ontario Canada L5N 2L8 Tel:(905) 817-5700 Toll-free:800-563-6266 Fax:(905) 817-5777 www.bvlabs.com

2 coolers

CHAIN OF CUSTODY RECORD

Page 1 of 2

KTN ENV-1109

Company Name:	#21375 Golder Associates Ltd
Attention:	Accounts Payable
Address:	210 Sheldon Drive Cambridge ON N1T 1A8
Tel:	(519) 620-8182 Fax:
Email:	CanadaAccountsPayableInvoices@golder.com

REPORT TO:

Company Name:	
Attention:	Gregory Padusenko
Address:	
Tel:	(519) 620-8182 Ext: 6509 Fax: (519) 620-9878
Email:	Gregory_Padusenko@golder.com

PROJECT INFORMATION:

Quotation #:	B80683
P.O. #:	
Project:	19129150 (2300)
Project Name:	
Site #:	
Sampled By:	

Laboratory Use Only:

BV Labs Job #:	Bottle Order #:
	831949
COC #:	**Project Manager:**
C#831949-06-01	Ema Gitej

MOE REGULATED DRINKING WATER OR WATER INTENDED FOR HUMAN CONSUMPTION MUST BE SUBMITTED ON THE BV LABS DRINKING WATER CHAIN OF CUSTODY

Regulation 153 (2011)
☐ Table 1 ☐ Res/Park ☐ Medium/Fine
☐ Table 2 ☐ Ind/Comm ☐ Coarse
☐ Table 3 ☐ Agri/Other ☐ For RSC
☐ Table ___

Other Regulations
☐ CCME ☐ Sanitary Sewer Bylaw
☐ Reg 558 ☐ Storm Sewer Bylaw
☐ MISA Municipality ___
☐ PWQO ☐ Reg 406 Table ___
☐ Other ___

Special Instructions

Include Criteria on Certificate of Analysis (Y/N)? ___

ANALYSIS REQUESTED (PLEASE BE SPECIFIC)

Turnaround Time (TAT) Required:
Please provide advance notice for rush projects

Regular (Standard) TAT:
(will be applied if Rush TAT is not specified):
Standard TAT = 5-7 Working days for most tests.
Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.

Job Specific Rush TAT (if applies to entire submission)
Date Required: ___ Time Required: ___
Rush Confirmation Number: ___ *(call lab for #)*

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Field Filtered (please circle): Metals / Hg / Cr VI	RCAp - Comprehensive	O.Reg 153 PHCs, BTEX/F1-F4								# of Bottles	Comments
1		MW20-13A	21/06/24	1545	GW	Y	X								8	4	
2		MW20-13B		1630			X	X								8	
3		MW20-13C		1600			X									4	
4		DUP-4		—	GW		X	X								8	
5		MW20-10A		1000			X									4	
6		MW20-10B		1030			X	X								8	
7		MW20-11A		1245			X									4	
8		MW20-11B		1315			X	X								8	
9		MW20-12A		1545			X									4	
10		MW20-12B		1615			X	X								8	

* RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	# jars used and not submitted
JBOPP	21/06/24	20:40	RM/METHOD/ Rajan	2021-06-25	08:00	

Laboratory Use Only

Time Sensitive	Temperature (°C) on Recei	Custody Seal	Yes	No
	10/11/12 9/12/8	Present		
		Intact		

* UNLESS OTHERWISE AGREED TO IN WRITING, WORK SUBMITTED ON THIS CHAIN OF CUSTODY IS SUBJECT TO BV LABS' STANDARD TERMS AND CONDITIONS. SIGNING OF THIS CHAIN OF CUSTODY DOCUMENT IS ACKNOWLEDGMENT AND ACCEPTANCE OF OUR TERMS WHICH ARE AVAILABLE FOR VIEWING AT WWW.BVLABS.COM/TERMS-AND-CONDITIONS.

* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

** SAMPLE CONTAINER, PRESERVATION, HOLD TIME AND PACKAGE INFORMATION CAN BE VIEWED AT WWW.BVLABS.COM/RESOURCES/CHAIN-OF-CUSTODY-FORMS.

SAMPLES MUST BE KEPT COOL (< 10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO BV LABS

White: BV Labs Yellow: Client

Bureau Veritas Canada (2019) Inc.

ON ICE

Bureau Veritas Laboratories
6740 Campobello Road, Mississauga, Ontario Canada L5N 2L8 Tel:(905) 817-5700 Toll-free:800-563-6266 Fax:(905) 817-5777 www.bvlabs.com

2 coolers

CHAIN OF CUSTODY RECORD

INVOICE TO:		REPORT TO:		PROJECT INFORMATION:		Laboratory Use Only:	
Company Name:	#21375 Golder Associates Ltd	Company Name:		Quotation #:	B80683	BV Labs Job #:	Bottle Order #: 831949
Attention:	Accounts Payable	Attention:	Gregory Padusenko	P.O. #:			
Address:	210 Sheldon Drive Cambridge ON N1T 1A8	Address:		Project:	19129150 (2300)	COC #: C#831949-07-01	Project Manager: Ema Gitej
Tel:	(519) 620-8182 Fax:	Tel:	(519) 620-8182 Ext: 6509 Fax: (519) 620-9878	Project Name:			
Email:	CanadaAccountsPayableInvoices@golder.com	Email:	Gregory_Padusenko@golder.com	Site #:			
				Sampled By:			

MOE REGULATED DRINKING WATER OR WATER INTENDED FOR HUMAN CONSUMPTION MUST BE SUBMITTED ON THE BV LABS DRINKING WATER CHAIN OF CUSTODY

Regulation 153 (2011)
☐ Table 1 ☐ Res/Park ☐ Medium/Fine
☐ Table 2 ☐ Ind/Comm ☐ Coarse
☐ Table 3 ☐ Agri/Other ☐ For RSC
☐ Table ___

Other Regulations
☐ CCME ☐ Sanitary Sewer Bylaw
☐ Reg 558 ☐ Storm Sewer Bylaw
☐ MISA Municipality ___
☐ PWQO ☐ Reg 406 Table ___
☐ Other ___

Special Instructions

Include Criteria on Certificate of Analysis (Y/N)? ___

Turnaround Time (TAT) Required:
Please provide advance notice for rush projects

Regular (Standard) TAT: ☑
(will be applied if Rush TAT is not specified):
Standard TAT = 5-7 Working days for most tests.
Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.

Job Specific Rush TAT (if applies to entire submission)
Date Required: ___ Time Required: ___ ☐
Rush Confirmation Number: ___ *(call lab for #)*

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Field Filtered (please circle): (Metals / Hg / Cr VI)	ANALYSIS REQUESTED (PLEASE BE SPECIFIC): RCAp - Comprehensive	O.Reg 153 PHCs, BTEX/F1-F4	# of Bottles	Comments
1		MW20-28A	21/06/23	1200	GW	Y	X		4	
2		MW20-28B	21/06/23	1230			X	X	8	
3		MW20-27A	21/06/24	1030			X		4	
4		MW20-27B	21/06/24	1430			X	X	8	
5		MW20-26A	21/06/24	1700			X		4	
6		MW20-26B	21/06/24	1830			X	X	8	
7		MW20-26C	21/06/24	1715			X		4	
8		DUP-3	21/06/23	–	GW		X	X	8	
9		DUP-5	21/06/24	–	GW	Y	X	X	8	
10										

* RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	# jars used and not submitted
V Prodd	21/06/24	20:40	Fed ex			

Laboratory Use Only

Time Sensitive	Temperature (°C) on Rece	Custody Seal	Yes	No
		Present		
		Intact		

* UNLESS OTHERWISE AGREED TO IN WRITING, WORK SUBMITTED ON THIS CHAIN OF CUSTODY IS SUBJECT TO BV LABS' STANDARD TERMS AND CONDITIONS. SIGNING OF THIS CHAIN OF CUSTODY DOCUMENT IS ACKNOWLEDGMENT AND ACCEPTANCE OF OUR TERMS WHICH ARE AVAILABLE FOR VIEWING AT WWW.BVLABS.COM/TERMS-AND-CONDITIONS.

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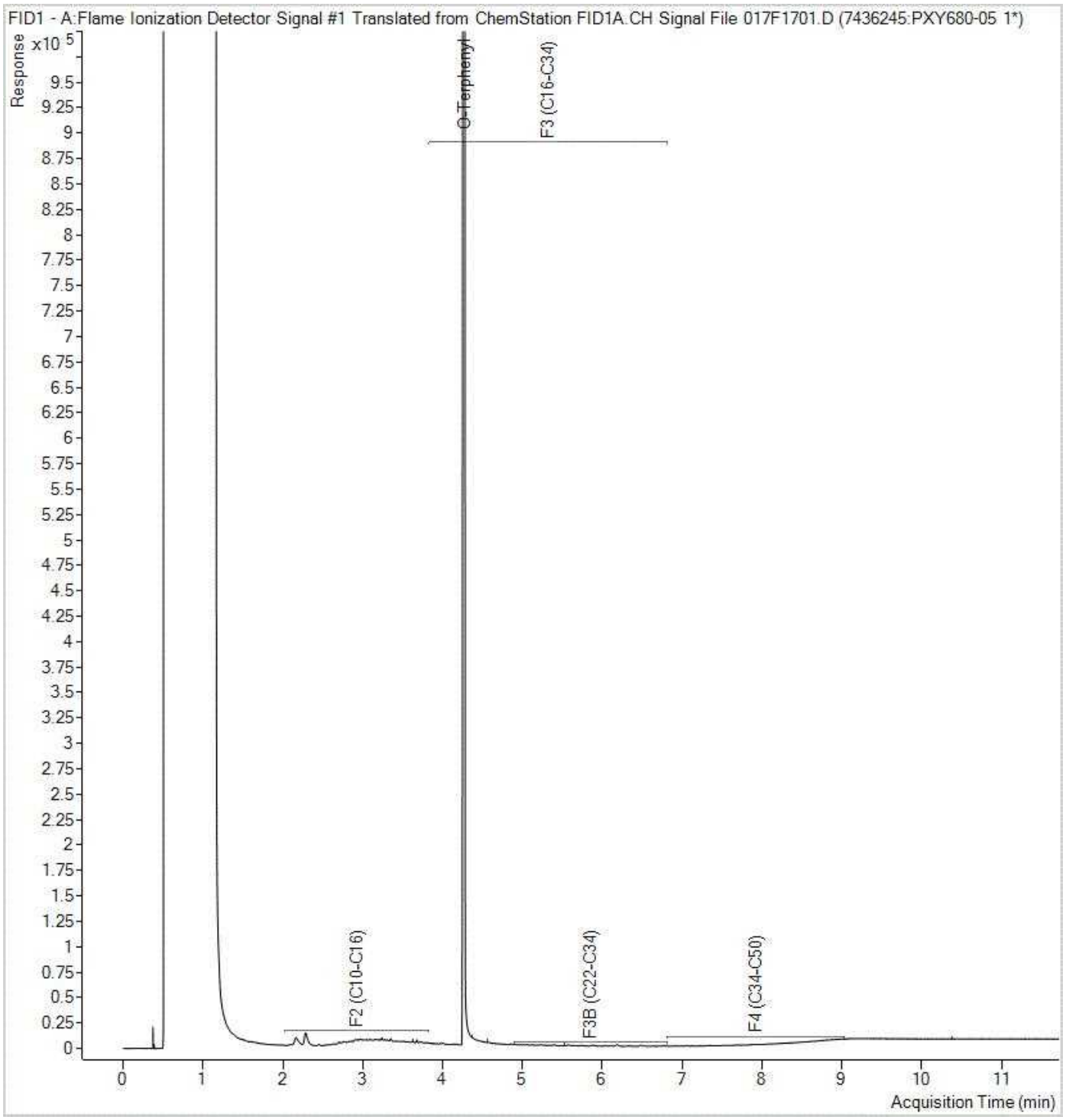
** SAMPLE CONTAINER, PRESERVATION, HOLD TIME AND PACKAGE INFORMATION CAN BE VIEWED AT WWW.BVLABS.COM/RESOURCES/CHAIN-OF-CUSTODY-FORMS.

SAMPLES MUST BE KEPT COOL (< 10° C) FROM TIME OF SAMPLING UNTIL DELIVERY TO BV LABS

White: BV Labs Yellow: Client

Bureau Veritas Canada (2019) Inc.

Petroleum Hydrocarbons F2-F4 in Water Chromatogram

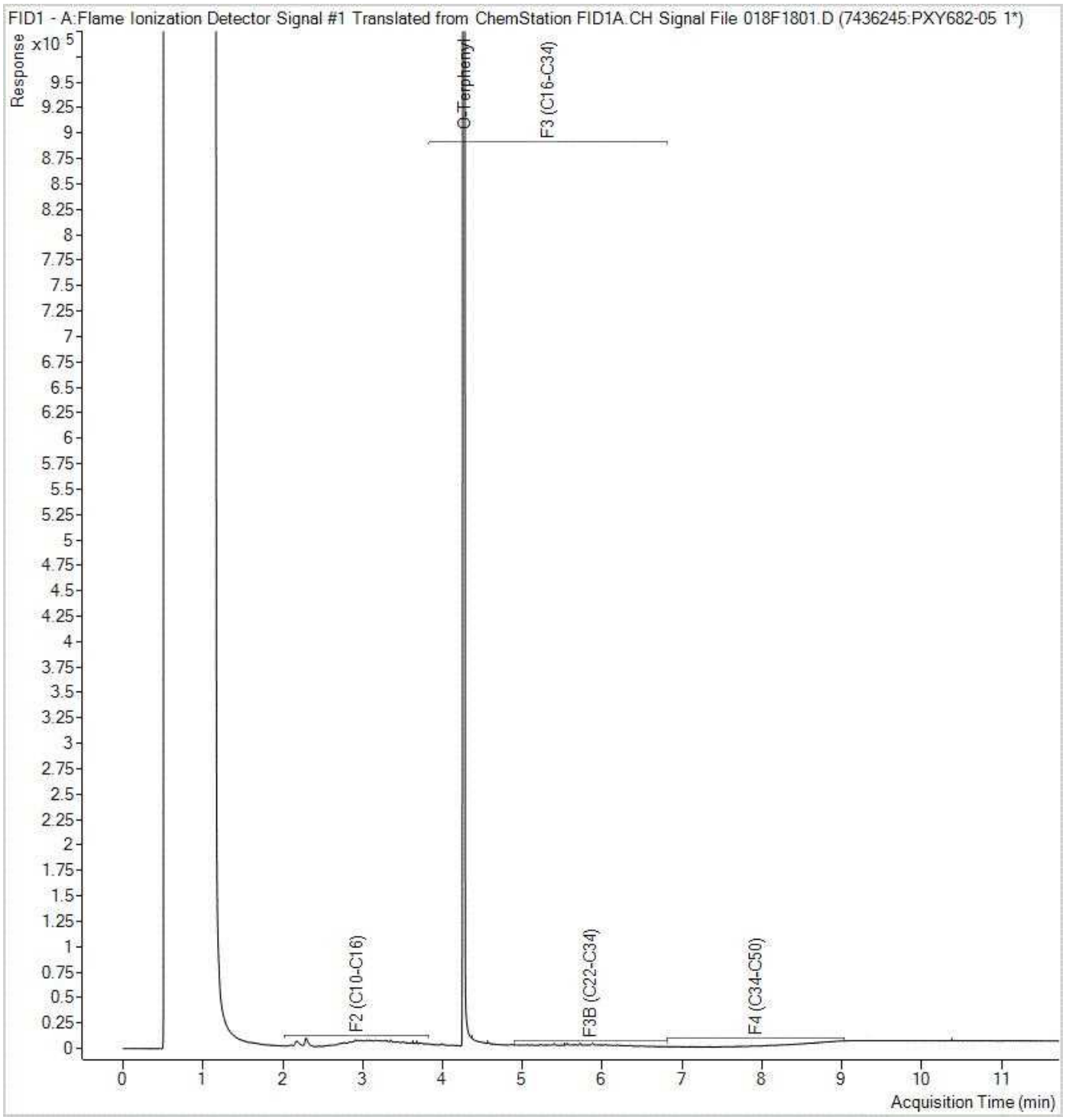


Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

BV Labs Job #: C1H5980
Report Date: 2021/07/12
BV Labs Sample: PXY682

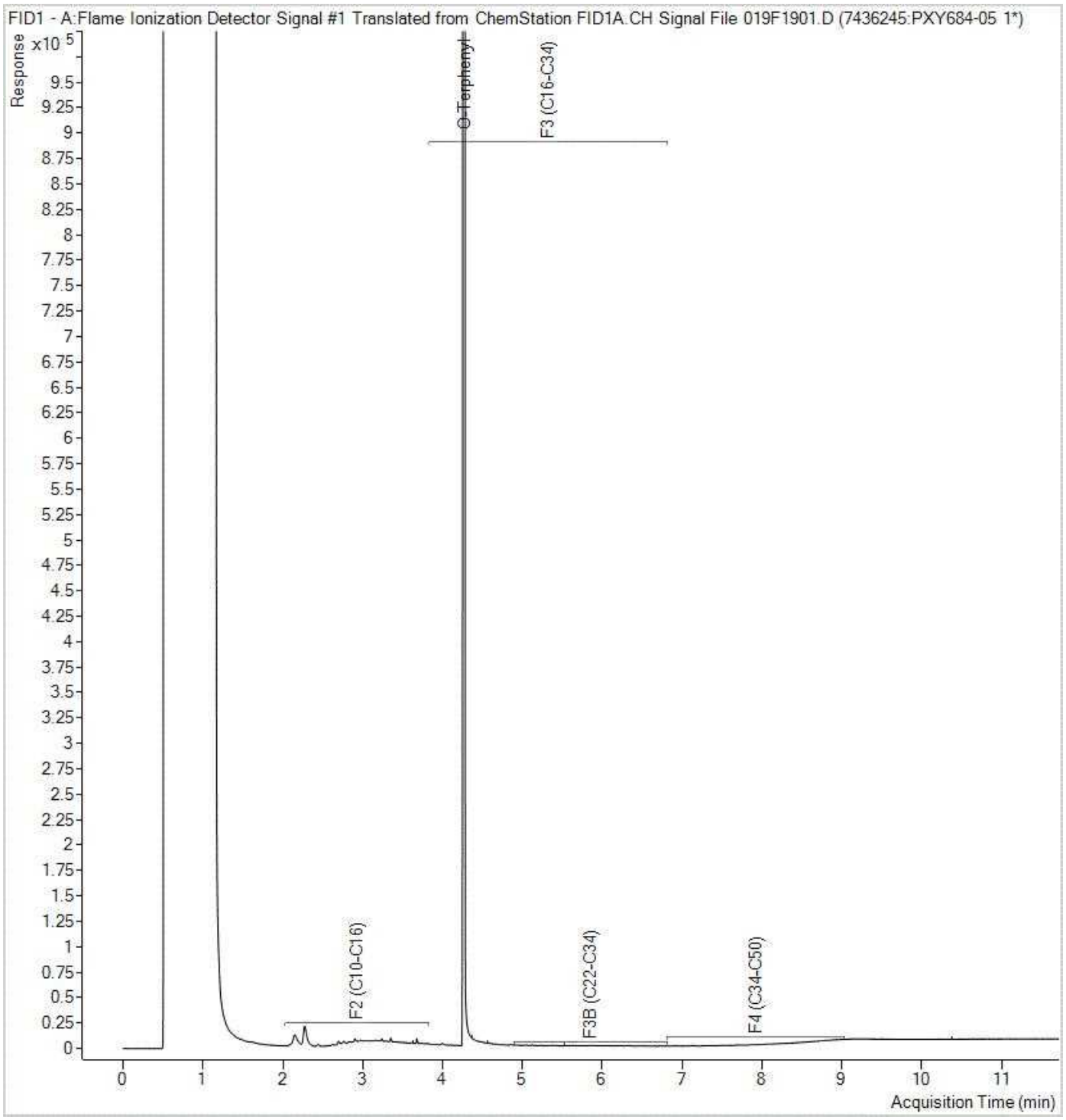
Golder Associates Ltd
Client Project #: 19129150 (2300)
Client ID: DUP-4

Petroleum Hydrocarbons F2-F4 in Water Chromatogram



Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Petroleum Hydrocarbons F2-F4 in Water Chromatogram

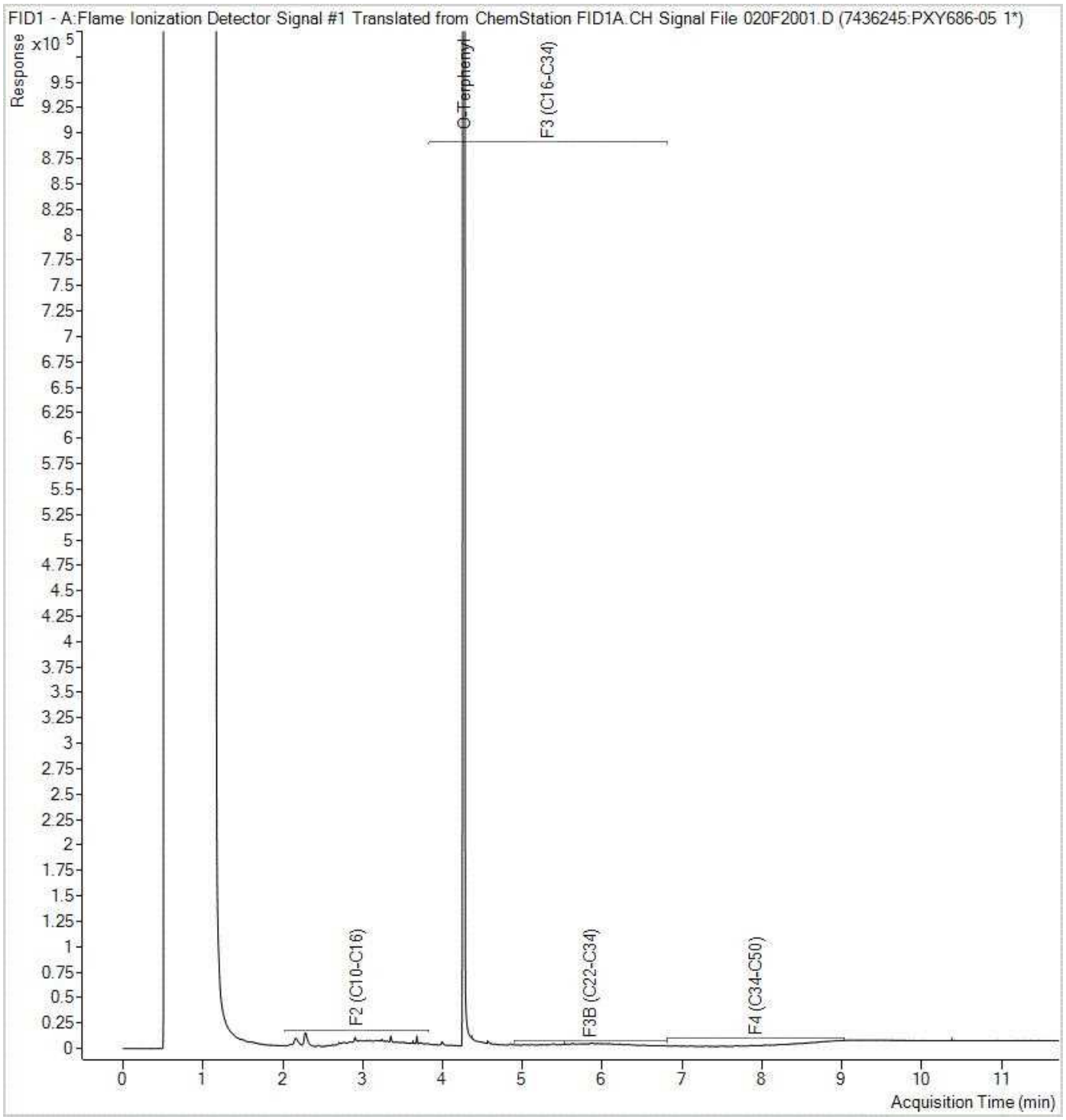


Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

BV Labs Job #: C1H5980
Report Date: 2021/07/12
BV Labs Sample: PXY686

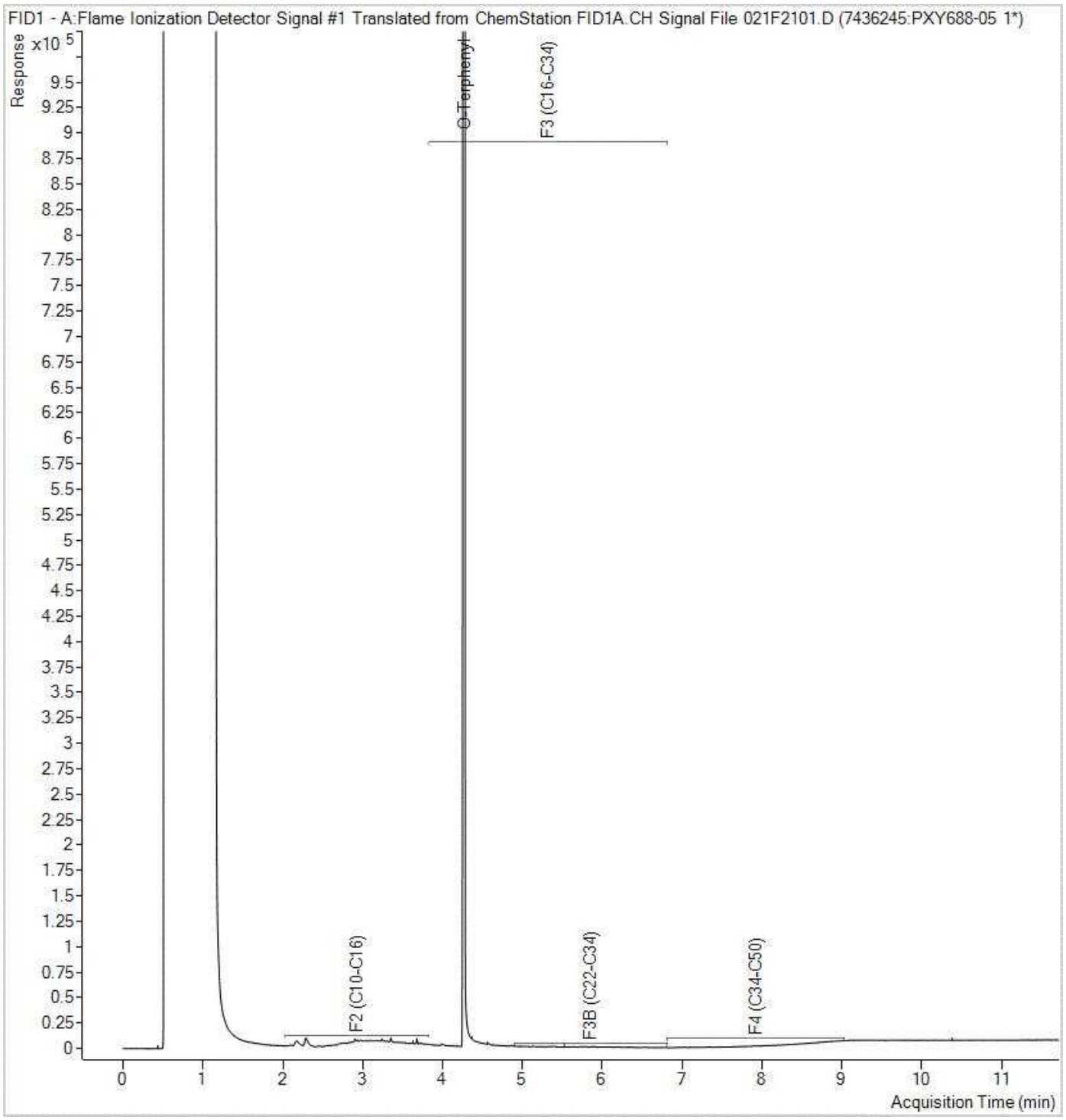
Golder Associates Ltd
Client Project #: 19129150 (2300)
Client ID: MW20-11B

Petroleum Hydrocarbons F2-F4 in Water Chromatogram



Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Petroleum Hydrocarbons F2-F4 in Water Chromatogram

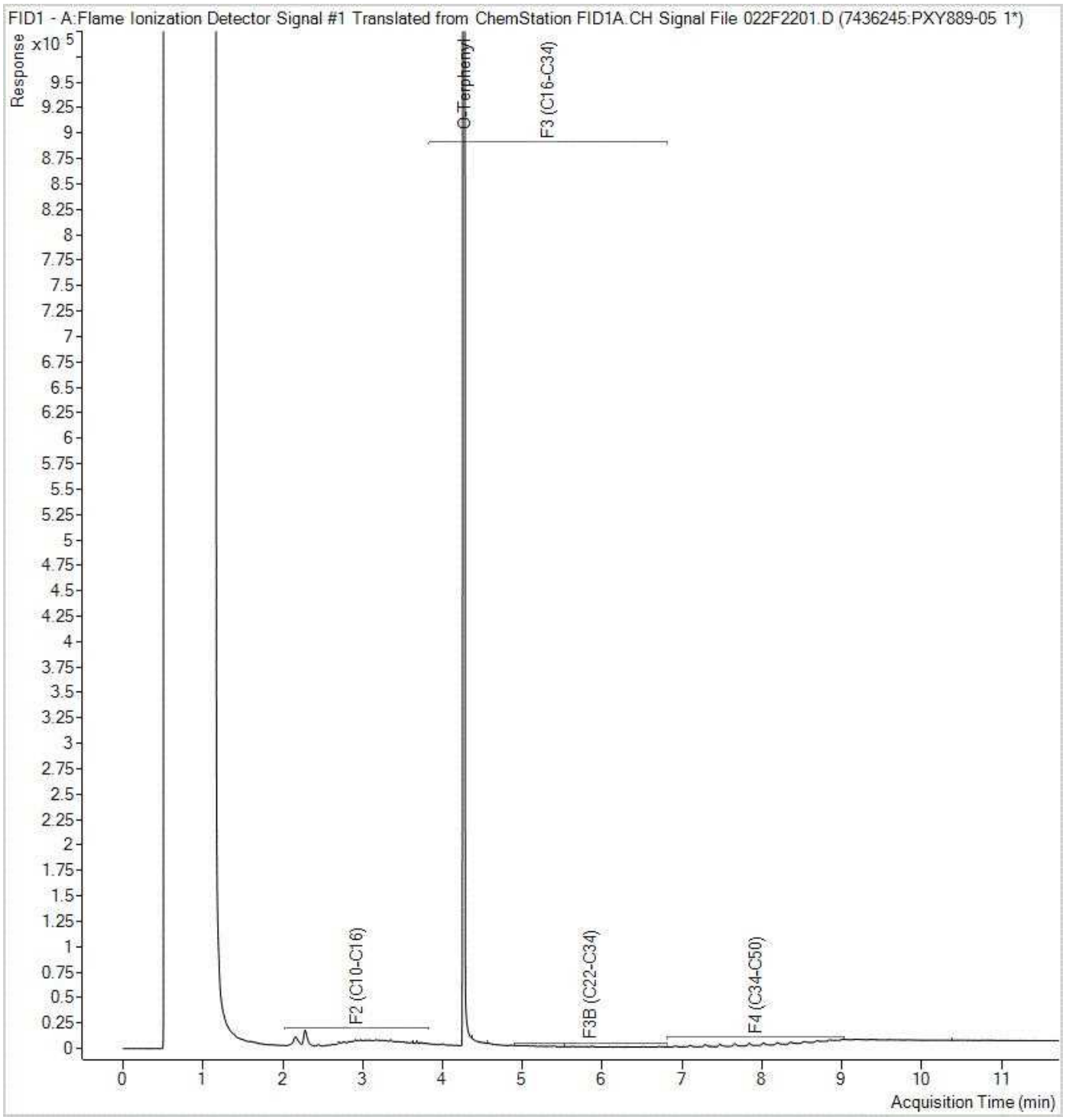


Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

BV Labs Job #: C1H5980
Report Date: 2021/07/12
BV Labs Sample: PXY889

Golder Associates Ltd
Client Project #: 19129150 (2300)
Client ID: MW20-28B

Petroleum Hydrocarbons F2-F4 in Water Chromatogram

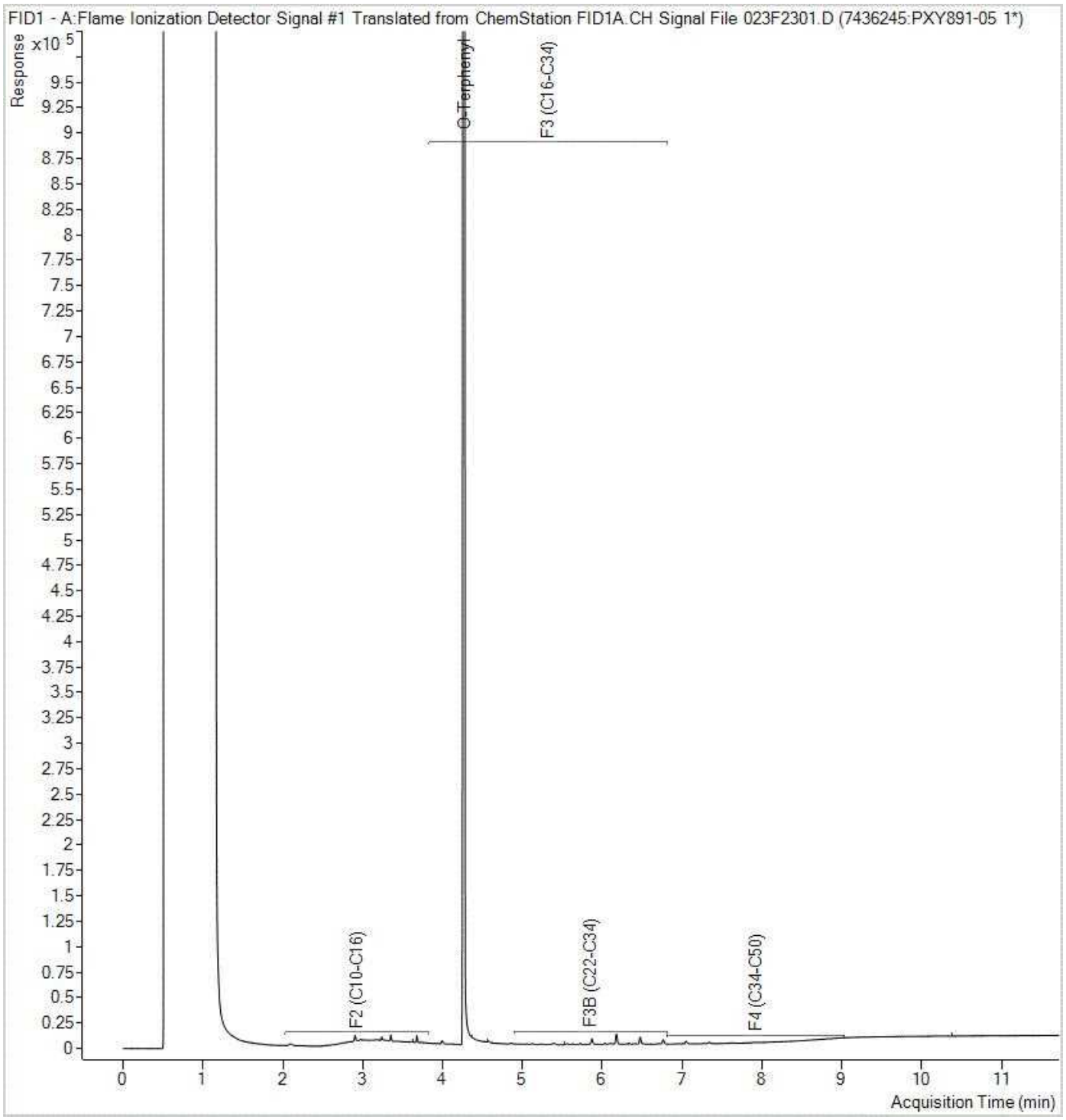


Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

BV Labs Job #: C1H5980
Report Date: 2021/07/12
BV Labs Sample: PXY891

Golder Associates Ltd
Client Project #: 19129150 (2300)
Client ID: MW20-27B

Petroleum Hydrocarbons F2-F4 in Water Chromatogram

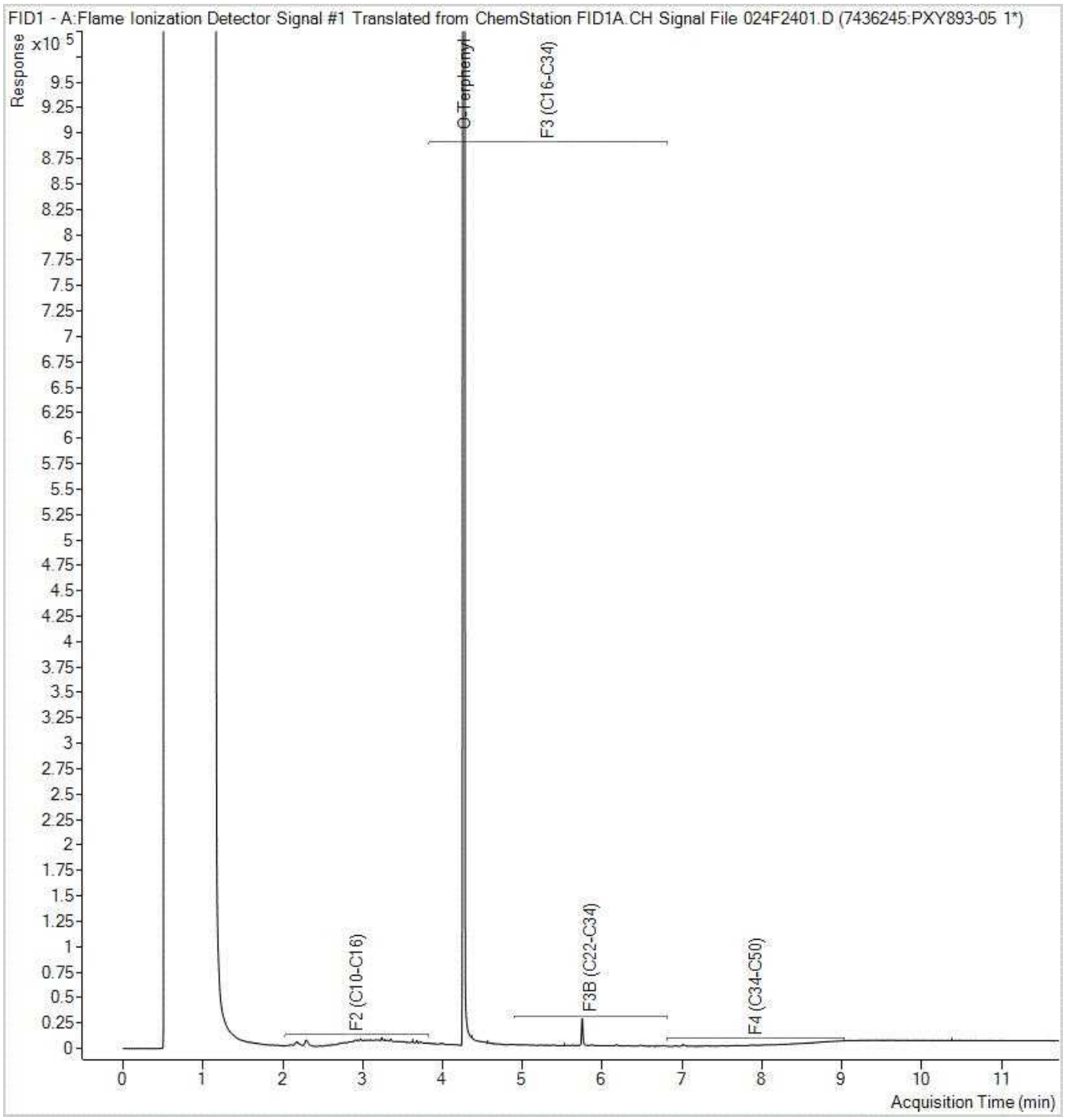


Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

BV Labs Job #: C1H5980
Report Date: 2021/07/12
BV Labs Sample: PXY893

Golder Associates Ltd
Client Project #: 19129150 (2300)
Client ID: MW20-26B

Petroleum Hydrocarbons F2-F4 in Water Chromatogram

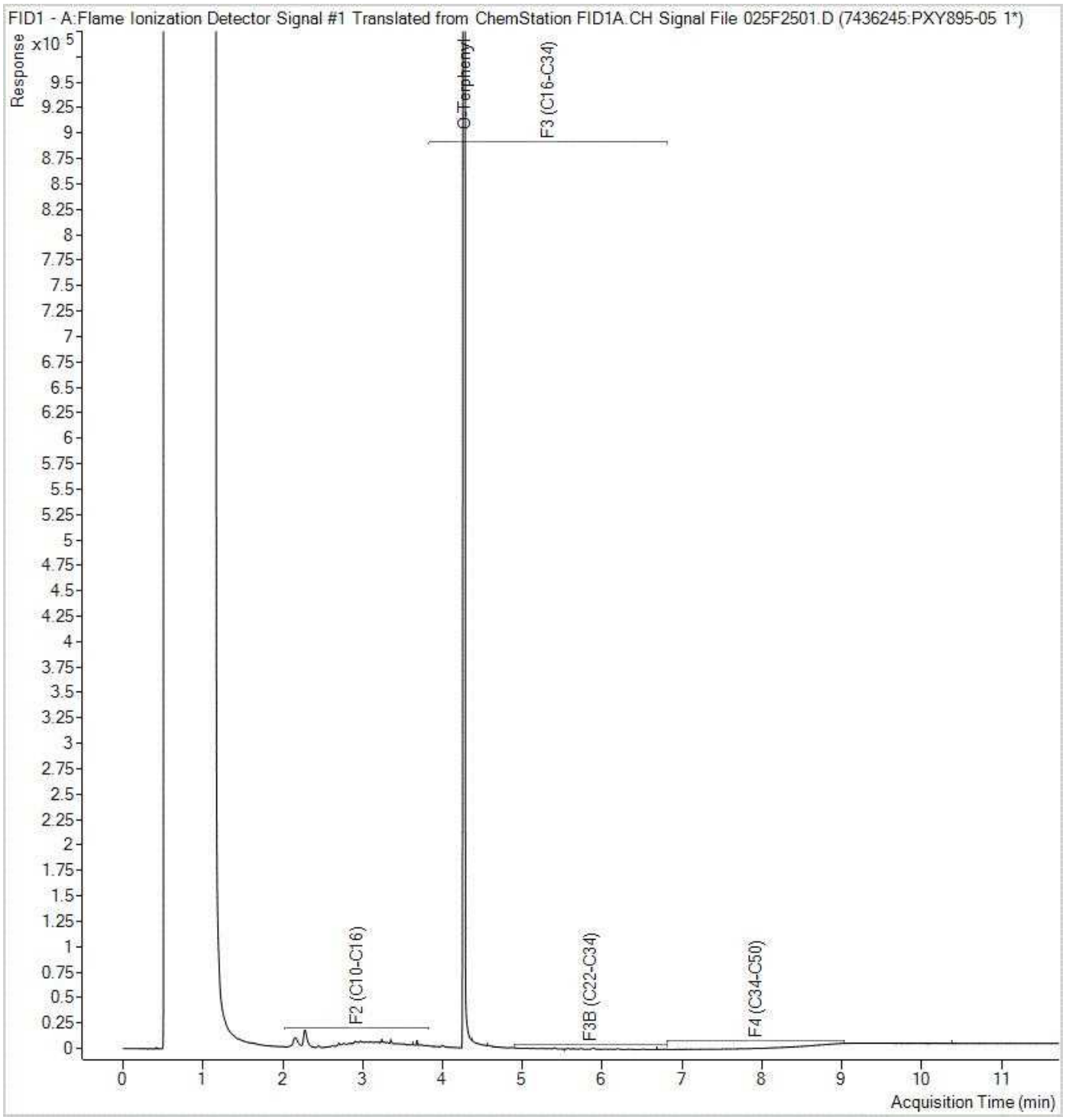


Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

BV Labs Job #: C1H5980
Report Date: 2021/07/12
BV Labs Sample: PXY895

Golder Associates Ltd
Client Project #: 19129150 (2300)
Client ID: DUP-3

Petroleum Hydrocarbons F2-F4 in Water Chromatogram

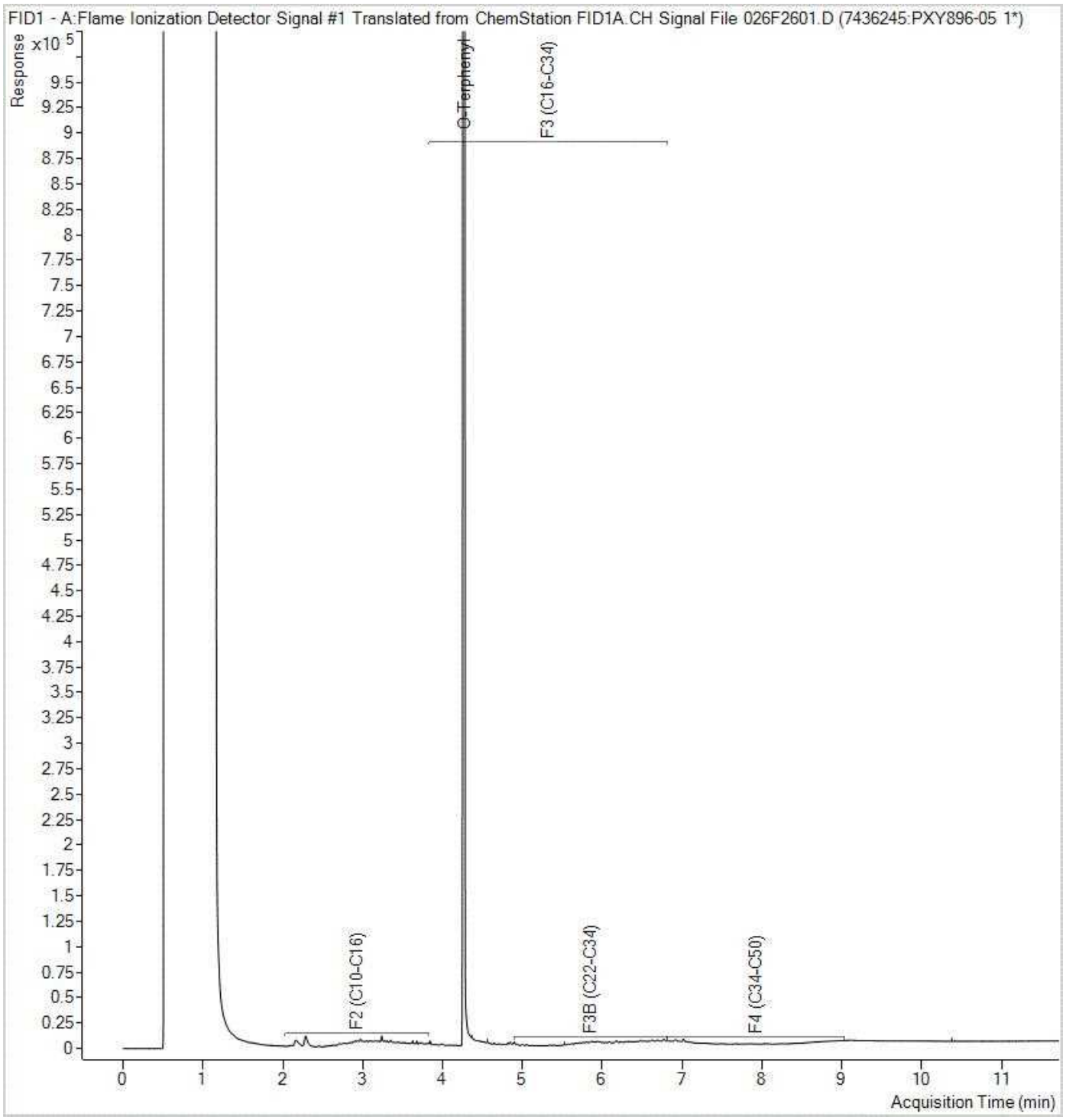


Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

BV Labs Job #: C1H5980
Report Date: 2021/07/12
BV Labs Sample: PXY896

Golder Associates Ltd
Client Project #: 19129150 (2300)
Client ID: DUP-5

Petroleum Hydrocarbons F2-F4 in Water Chromatogram



Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Your Project #: 19129150 (2300)
Your C.O.C. #: 831949-08-01

Attention: Gregory Padusenko

Golder Associates Ltd
210 Sheldon Drive
Cambridge, ON
CANADA N1T 1A8

Report Date: 2021/07/08
Report #: R6709360
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: C1H7092
Received: 2021/06/26, 10:13

Sample Matrix: Water
Samples Received: 8

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Alkalinity	8	N/A	2021/07/05	CAM SOP-00448	SM 23 2320 B m
Carbonate, Bicarbonate and Hydroxide	8	N/A	2021/07/06	CAM SOP-00102	APHA 4500-CO2 D
Chloride by Automated Colourimetry	8	N/A	2021/07/05	CAM SOP-00463	SM 23 4500-Cl E m
Conductivity	8	N/A	2021/07/05	CAM SOP-00414	SM 23 2510 m
Dissolved Organic Carbon (DOC) (1)	1	N/A	2021/06/30	CAM SOP-00446	SM 23 5310 B m
Dissolved Organic Carbon (DOC) (1)	7	N/A	2021/07/02	CAM SOP-00446	SM 23 5310 B m
Petroleum Hydro. CCME F1 & BTEX in Water	4	N/A	2021/07/05	CAM SOP-00315	CCME PHC-CWS m
Petroleum Hydrocarbons F2-F4 in Water (2)	4	2021/07/02	2021/07/03	CAM SOP-00316	CCME PHC-CWS m
Hardness (calculated as CaCO3)	8	N/A	2021/07/02	CAM SOP 00102/00408/00447	SM 2340 B
Dissolved Metals by ICPMS	8	N/A	2021/07/02	CAM SOP-00447	EPA 6020B m
Ion Balance (% Difference)	8	N/A	2021/07/06		
Anion and Cation Sum	8	N/A	2021/07/06		
Total Ammonia-N	8	N/A	2021/07/05	CAM SOP-00441	USGS I-2522-90 m
Nitrate (NO3) and Nitrite (NO2) in Water (3)	1	N/A	2021/07/02	CAM SOP-00440	SM 23 4500-NO3I/NO2B
Nitrate (NO3) and Nitrite (NO2) in Water (3)	7	N/A	2021/07/05	CAM SOP-00440	SM 23 4500-NO3I/NO2B
pH	8	2021/07/02	2021/07/05	CAM SOP-00413	SM 4500H+ B m
Orthophosphate	8	N/A	2021/07/05	CAM SOP-00461	EPA 365.1 m
Sat. pH and Langelier Index (@ 20C)	8	N/A	2021/07/06		Auto Calc
Sat. pH and Langelier Index (@ 4C)	8	N/A	2021/07/06		Auto Calc
Sulphate by Automated Colourimetry	8	N/A	2021/07/05	CAM SOP-00464	EPA 375.4 m
Total Dissolved Solids (TDS calc)	8	N/A	2021/07/06		Auto Calc

Remarks:

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Your Project #: 19129150 (2300)
Your C.O.C. #: 831949-08-01

Attention: Gregory Padusenko

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210 Sheldon Drive
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CANADA N1T 1A8

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CERTIFICATE OF ANALYSIS

BV LABS JOB #: C1H7092
Received: 2021/06/26, 10:13

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.
This Certificate shall not be reproduced except in full, without the written approval of the laboratory.
Reference Method suffix “m” indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.
(1) Dissolved Organic Carbon (DOC) present in the sample should be considered as non-purgeable DOC.
(2) All CCME PHC results met required criteria unless otherwise stated in the report. The CWS PHC methods employed by Bureau Veritas Laboratories conform to all prescribed elements of the reference method and performance based elements have been validated. All modifications have been validated and proven equivalent following “Alberta Environment’s Interpretation of the Reference Method for the Canada-Wide Standard for Petroleum Hydrocarbons in Soil Validation of Performance-Based Alternative Methods September 2003”. Documentation is available upon request. Modifications from Reference Method for the Canada-wide Standard for Petroleum Hydrocarbons in Soil-Tier 1 Method: F2/F3/F4 data reported using validated cold solvent extraction instead of Soxhlet extraction.
(3) Values for calculated parameters may not appear to add up due to rounding of raw data and significant figures.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Ema Gitej, Senior Project Manager
Email: emese.gitej@bureauveritas.com
Phone# (905)817-5829
==========
BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

BV Labs Job #: C1H7092
Report Date: 2021/07/08

Golder Associates Ltd
Client Project #: 19129150 (2300)
Sampler Initials: CS

RCAP - COMPREHENSIVE (WATER)

BV Labs ID		PYF176			PYF177		PYF178		
Sampling Date		2021/06/25 13:30			2021/06/25 12:15		2021/06/25 13:15		
COC Number		831949-08-01			831949-08-01		831949-08-01		
	UNITS	MW20-15A	RDL	QC Batch	MW20-15B	QC Batch	MW20-15C	RDL	QC Batch
Calculated Parameters									
Anion Sum	me/L	28.8	N/A	7437804	6.49	7437804	6.46	N/A	7437804
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	190	1.0	7437805	210	7437805	290	1.0	7437805
Calculated TDS	mg/L	1900	1.0	7437809	370	7437809	360	1.0	7437809
Carb. Alkalinity (calc. as CaCO3)	mg/L	1.2	1.0	7437805	2.0	7437805	2.7	1.0	7437805
Cation Sum	me/L	30.6	N/A	7437804	6.63	7437804	8.40	N/A	7437804
Hardness (CaCO3)	mg/L	1000	1.0	7437803	320	7437803	400	1.0	7437803
Ion Balance (% Difference)	%	3.06	N/A	7437802	1.11	7437802	13.0	N/A	7437802
Langelier Index (@ 20C)	N/A	0.996		7437806	0.803	7437806	0.985		7437806
Langelier Index (@ 4C)	N/A	0.753		7437807	0.555	7437807	0.736		7437807
Saturation pH (@ 20C)	N/A	6.86		7437806	7.21	7437806	7.01		7437806
Saturation pH (@ 4C)	N/A	7.10		7437807	7.45	7437807	7.26		7437807
Inorganics									
Total Ammonia-N	mg/L	1.5	0.050	7441345	0.052	7441336	<0.050	0.050	7441345
Conductivity	umho/cm	2500	1.0	7442510	630	7442510	600	1.0	7442510
Dissolved Organic Carbon	mg/L	1.7	0.40	7441338	0.46	7441338	0.52	0.40	7439424
Orthophosphate (P)	mg/L	<0.010	0.010	7442183	<0.010	7442183	<0.010	0.010	7442183
pH	pH	7.85		7442511	8.01	7442511	7.99		7442511
Dissolved Sulphate (SO4)	mg/L	1200	10	7442181	110	7442181	25	1.0	7442181
Alkalinity (Total as CaCO3)	mg/L	190	1.0	7442502	210	7442502	290	1.0	7442502
Dissolved Chloride (Cl-)	mg/L	11	1.0	7442173	2.1	7442173	3.4	1.0	7442173
Nitrite (N)	mg/L	0.039	0.010	7442687	<0.010	7442216	<0.010	0.010	7442218
Nitrate (N)	mg/L	0.31	0.10	7442687	<0.10	7442216	<0.10	0.10	7442218
Nitrate + Nitrite (N)	mg/L	0.35	0.10	7442687	<0.10	7442216	<0.10	0.10	7442218
Metals									
Dissolved Aluminum (Al)	ug/L	200	4.9	7439514	<4.9	7439514	600	4.9	7439514
Dissolved Antimony (Sb)	ug/L	2.2	0.50	7439514	<0.50	7439514	<0.50	0.50	7439514
Dissolved Arsenic (As)	ug/L	23	1.0	7439514	2.0	7439514	7.3	1.0	7439514
Dissolved Barium (Ba)	ug/L	24	2.0	7439514	19	7439514	170	2.0	7439514
Dissolved Beryllium (Be)	ug/L	<0.40	0.40	7439514	<0.40	7439514	<0.40	0.40	7439514
Dissolved Boron (B)	ug/L	720	10	7439514	60	7439514	31	10	7439514
Dissolved Cadmium (Cd)	ug/L	<0.090	0.090	7439514	<0.090	7439514	<0.090	0.090	7439514

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
N/A = Not Applicable

Bureau Veritas Laboratories 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvlabs.com

Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

RCAP - COMPREHENSIVE (WATER)

BV Labs ID		PYF176			PYF177		PYF178		
Sampling Date		2021/06/25 13:30			2021/06/25 12:15		2021/06/25 13:15		
COC Number		831949-08-01			831949-08-01		831949-08-01		
	UNITS	MW20-15A	RDL	QC Batch	MW20-15B	QC Batch	MW20-15C	RDL	QC Batch
Dissolved Calcium (Ca)	ug/L	330000	200	7439514	81000	7439514	92000	200	7439514
Dissolved Chromium (Cr)	ug/L	<5.0	5.0	7439514	<5.0	7439514	<5.0	5.0	7439514
Dissolved Cobalt (Co)	ug/L	0.60	0.50	7439514	<0.50	7439514	1.4	0.50	7439514
Dissolved Copper (Cu)	ug/L	1.3	0.90	7439514	<0.90	7439514	4.7	0.90	7439514
Dissolved Iron (Fe)	ug/L	210	100	7439514	<100	7439514	1200	100	7439514
Dissolved Lead (Pb)	ug/L	1.1	0.50	7439514	<0.50	7439514	3.2	0.50	7439514
Dissolved Magnesium (Mg)	ug/L	51000	50	7439514	27000	7439514	42000	50	7439514
Dissolved Manganese (Mn)	ug/L	54	2.0	7439514	16	7439514	130	2.0	7439514
Dissolved Molybdenum (Mo)	ug/L	150	0.50	7439514	2.2	7439514	1.4	0.50	7439514
Dissolved Nickel (Ni)	ug/L	2.0	1.0	7439514	<1.0	7439514	2.1	1.0	7439514
Dissolved Phosphorus (P)	ug/L	<100	100	7439514	<100	7439514	130	100	7439514
Dissolved Potassium (K)	ug/L	12000	200	7439514	1600	7439514	1700	200	7439514
Dissolved Selenium (Se)	ug/L	2.8	2.0	7439514	<2.0	7439514	<2.0	2.0	7439514
Dissolved Silicon (Si)	ug/L	5500	50	7439514	6800	7439514	8500	50	7439514
Dissolved Silver (Ag)	ug/L	<0.090	0.090	7439514	<0.090	7439514	<0.090	0.090	7439514
Dissolved Sodium (Na)	ug/L	220000	100	7439514	6500	7439514	5100	100	7439514
Dissolved Strontium (Sr)	ug/L	4700	1.0	7439514	1700	7439514	430	1.0	7439514
Dissolved Thallium (Tl)	ug/L	0.052	0.050	7439514	<0.050	7439514	<0.050	0.050	7439514
Dissolved Titanium (Ti)	ug/L	7.7	5.0	7439514	<5.0	7439514	18	5.0	7439514
Dissolved Uranium (U)	ug/L	21	0.10	7439514	0.25	7439514	1.2	0.10	7439514
Dissolved Vanadium (V)	ug/L	0.78	0.50	7439514	<0.50	7439514	1.7	0.50	7439514
Dissolved Zinc (Zn)	ug/L	8.9	5.0	7439514	<5.0	7439514	13	5.0	7439514

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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RCAP - COMPREHENSIVE (WATER)

BV Labs ID		PYF179			PYF179			PYF180		
Sampling Date		2021/06/25 11:00			2021/06/25 11:00			2021/06/25 11:45		
COC Number		831949-08-01			831949-08-01			831949-08-01		
	UNITS	MW20-25A	RDL	QC Batch	MW20-25A Lab-Dup	RDL	QC Batch	MW20-25B	RDL	QC Batch
Calculated Parameters										
Anion Sum	me/L	29.8	N/A	7437804				15.5	N/A	7437804
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	180	1.0	7437805				180	1.0	7437805
Calculated TDS	mg/L	2000	1.0	7437809				1000	1.0	7437809
Carb. Alkalinity (calc. as CaCO3)	mg/L	<1.0	1.0	7437805				1.1	1.0	7437805
Cation Sum	me/L	31.6	N/A	7437804				16.8	N/A	7437804
Hardness (CaCO3)	mg/L	1500	1.0	7437803				810	1.0	7437803
Ion Balance (% Difference)	%	3.01	N/A	7437802				3.97	N/A	7437802
Langelier Index (@ 20C)	N/A	1.06		7437806				0.909		7437806
Langelier Index (@ 4C)	N/A	0.821		7437807				0.663		7437807
Saturation pH (@ 20C)	N/A	6.70		7437806				6.91		7437806
Saturation pH (@ 4C)	N/A	6.95		7437807				7.15		7437807
Inorganics										
Total Ammonia-N	mg/L	0.11	0.050	7441336	0.10	0.050	7441336	0.064	0.050	7441345
Conductivity	umho/cm	2400	1.0	7442510				1400	1.0	7442510
Dissolved Organic Carbon	mg/L	1.1	0.40	7441338				0.67	0.40	7441338
Orthophosphate (P)	mg/L	<0.010	0.010	7442183				<0.010	0.010	7442183
pH	pH	7.77		7442511				7.82		7442511
Dissolved Sulphate (SO4)	mg/L	1300	10	7442181				570	5.0	7442181
Alkalinity (Total as CaCO3)	mg/L	180	1.0	7442502				180	1.0	7442502
Dissolved Chloride (Cl-)	mg/L	3.9	1.0	7442173				2.0	1.0	7442173
Nitrite (N)	mg/L	<0.010	0.010	7442218				<0.010	0.010	7442218
Nitrate (N)	mg/L	<0.10	0.10	7442218				<0.10	0.10	7442218
Nitrate + Nitrite (N)	mg/L	<0.10	0.10	7442218				<0.10	0.10	7442218
Metals										
Dissolved Aluminum (Al)	ug/L	<4.9	4.9	7439514				<4.9	4.9	7439514
Dissolved Antimony (Sb)	ug/L	<0.50	0.50	7439514				<0.50	0.50	7439514
Dissolved Arsenic (As)	ug/L	9.6	1.0	7439514				<1.0	1.0	7439514
Dissolved Barium (Ba)	ug/L	10	2.0	7439514				6.6	2.0	7439514
Dissolved Beryllium (Be)	ug/L	<0.40	0.40	7439514				<0.40	0.40	7439514
Dissolved Boron (B)	ug/L	89	10	7439514				58	10	7439514

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate
N/A = Not Applicable

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

RCAP - COMPREHENSIVE (WATER)

BV Labs ID		PYF179			PYF179			PYF180		
Sampling Date		2021/06/25 11:00			2021/06/25 11:00			2021/06/25 11:45		
COC Number		831949-08-01			831949-08-01			831949-08-01		
	UNITS	MW20-25A	RDL	QC Batch	MW20-25A Lab-Dup	RDL	QC Batch	MW20-25B	RDL	QC Batch
Dissolved Cadmium (Cd)	ug/L	<0.090	0.090	7439514				<0.090	0.090	7439514
Dissolved Calcium (Ca)	ug/L	490000	400	7439514				240000	200	7439514
Dissolved Chromium (Cr)	ug/L	<5.0	5.0	7439514				<5.0	5.0	7439514
Dissolved Cobalt (Co)	ug/L	<0.50	0.50	7439514				<0.50	0.50	7439514
Dissolved Copper (Cu)	ug/L	<0.90	0.90	7439514				<0.90	0.90	7439514
Dissolved Iron (Fe)	ug/L	460	100	7439514				330	100	7439514
Dissolved Lead (Pb)	ug/L	<0.50	0.50	7439514				<0.50	0.50	7439514
Dissolved Magnesium (Mg)	ug/L	77000	50	7439514				53000	50	7439514
Dissolved Manganese (Mn)	ug/L	36	2.0	7439514				20	2.0	7439514
Dissolved Molybdenum (Mo)	ug/L	8.7	0.50	7439514				9.0	0.50	7439514
Dissolved Nickel (Ni)	ug/L	<1.0	1.0	7439514				<1.0	1.0	7439514
Dissolved Phosphorus (P)	ug/L	<100	100	7439514				<100	100	7439514
Dissolved Potassium (K)	ug/L	2700	200	7439514				1800	200	7439514
Dissolved Selenium (Se)	ug/L	<2.0	2.0	7439514				<2.0	2.0	7439514
Dissolved Silicon (Si)	ug/L	5400	50	7439514				5400	50	7439514
Dissolved Silver (Ag)	ug/L	<0.090	0.090	7439514				<0.090	0.090	7439514
Dissolved Sodium (Na)	ug/L	18000	100	7439514				11000	100	7439514
Dissolved Strontium (Sr)	ug/L	8100	1.0	7439514				4400	1.0	7439514
Dissolved Thallium (Tl)	ug/L	<0.050	0.050	7439514				<0.050	0.050	7439514
Dissolved Titanium (Ti)	ug/L	<5.0	5.0	7439514				<5.0	5.0	7439514
Dissolved Uranium (U)	ug/L	<0.10	0.10	7439514				<0.10	0.10	7439514
Dissolved Vanadium (V)	ug/L	<0.50	0.50	7439514				<0.50	0.50	7439514
Dissolved Zinc (Zn)	ug/L	<5.0	5.0	7439514				<5.0	5.0	7439514

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

BV Labs Job #: C1H7092
Report Date: 2021/07/08

Golder Associates Ltd
Client Project #: 19129150 (2300)
Sampler Initials: CS

RCAP - COMPREHENSIVE (WATER)

BV Labs ID		PYF180			PYF181		PYF182		
Sampling Date		2021/06/25 11:45			2021/06/25 13:45		2021/06/25 14:00		
COC Number		831949-08-01			831949-08-01		831949-08-01		
	UNITS	MW20-25B Lab-Dup	RDL	QC Batch	MW20-24A	RDL	MW20-24B	RDL	QC Batch
Calculated Parameters									
Anion Sum	me/L				7.93	N/A	11.5	N/A	7437804
Bicarb. Alkalinity (calc. as CaCO3)	mg/L				270	1.0	290	1.0	7437805
Calculated TDS	mg/L				430	1.0	620	1.0	7437809
Carb. Alkalinity (calc. as CaCO3)	mg/L				2.0	1.0	1.9	1.0	7437805
Cation Sum	me/L				8.48	N/A	11.9	N/A	7437804
Hardness (CaCO3)	mg/L				350	1.0	500	1.0	7437803
Ion Balance (% Difference)	%				3.36	N/A	1.67	N/A	7437802
Langelier Index (@ 20C)	N/A				0.780		0.916		7437806
Langelier Index (@ 4C)	N/A				0.532		0.669		7437807
Saturation pH (@ 20C)	N/A				7.12		6.93		7437806
Saturation pH (@ 4C)	N/A				7.37		7.17		7437807
Inorganics									
Total Ammonia-N	mg/L				0.094	0.050	<0.050	0.050	7441336
Conductivity	umho/cm				770	1.0	1200	1.0	7442510
Dissolved Organic Carbon	mg/L	0.71	0.40	7441338	2.4	0.40	0.63	0.40	7441338
Orthophosphate (P)	mg/L				<0.010	0.010	<0.010	0.010	7442183
pH	pH				7.90		7.84		7442511
Dissolved Sulphate (SO4)	mg/L				79	1.0	36	1.0	7442181
Alkalinity (Total as CaCO3)	mg/L				270	1.0	290	1.0	7442502
Dissolved Chloride (Cl-)	mg/L				31	1.0	170	2.0	7442173
Nitrite (N)	mg/L				<0.010	0.010	<0.010	0.010	7442218
Nitrate (N)	mg/L				<0.10	0.10	0.98	0.10	7442218
Nitrate + Nitrite (N)	mg/L				<0.10	0.10	0.98	0.10	7442218
Metals									
Dissolved Aluminum (Al)	ug/L				79	4.9	<4.9	4.9	7439514
Dissolved Antimony (Sb)	ug/L				<0.50	0.50	<0.50	0.50	7439514
Dissolved Arsenic (As)	ug/L				<1.0	1.0	<1.0	1.0	7439514
Dissolved Barium (Ba)	ug/L				56	2.0	120	2.0	7439514
Dissolved Beryllium (Be)	ug/L				<0.40	0.40	<0.40	0.40	7439514
Dissolved Boron (B)	ug/L				31	10	24	10	7439514

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate
N/A = Not Applicable

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

RCAP - COMPREHENSIVE (WATER)

BV Labs ID		PYF180			PYF181		PYF182		
Sampling Date		2021/06/25 11:45			2021/06/25 13:45		2021/06/25 14:00		
COC Number		831949-08-01			831949-08-01		831949-08-01		
	UNITS	MW20-25B Lab-Dup	RDL	QC Batch	MW20-24A	RDL	MW20-24B	RDL	QC Batch
Dissolved Cadmium (Cd)	ug/L				<0.090	0.090	0.29	0.090	7439514
Dissolved Calcium (Ca)	ug/L				79000	200	130000	200	7439514
Dissolved Chromium (Cr)	ug/L				<5.0	5.0	<5.0	5.0	7439514
Dissolved Cobalt (Co)	ug/L				<0.50	0.50	<0.50	0.50	7439514
Dissolved Copper (Cu)	ug/L				5.4	0.90	2.1	0.90	7439514
Dissolved Iron (Fe)	ug/L				640	100	460	100	7439514
Dissolved Lead (Pb)	ug/L				0.72	0.50	<0.50	0.50	7439514
Dissolved Magnesium (Mg)	ug/L				38000	50	45000	50	7439514
Dissolved Manganese (Mn)	ug/L				27	2.0	20	2.0	7439514
Dissolved Molybdenum (Mo)	ug/L				20	0.50	1.7	0.50	7439514
Dissolved Nickel (Ni)	ug/L				1.7	1.0	2.1	1.0	7439514
Dissolved Phosphorus (P)	ug/L				<100	100	<100	100	7439514
Dissolved Potassium (K)	ug/L				1700	200	1300	200	7439514
Dissolved Selenium (Se)	ug/L				<2.0	2.0	<2.0	2.0	7439514
Dissolved Silicon (Si)	ug/L				5200	50	6600	50	7439514
Dissolved Silver (Ag)	ug/L				<0.090	0.090	<0.090	0.090	7439514
Dissolved Sodium (Na)	ug/L				31000	100	41000	100	7439514
Dissolved Strontium (Sr)	ug/L				130	1.0	170	1.0	7439514
Dissolved Thallium (Tl)	ug/L				<0.050	0.050	<0.050	0.050	7439514
Dissolved Titanium (Ti)	ug/L				<5.0	5.0	<5.0	5.0	7439514
Dissolved Uranium (U)	ug/L				0.20	0.10	0.70	0.10	7439514
Dissolved Vanadium (V)	ug/L				<0.50	0.50	<0.50	0.50	7439514
Dissolved Zinc (Zn)	ug/L				7.6	5.0	180	5.0	7439514

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

RCAP - COMPREHENSIVE (WATER)

BV Labs ID		PYF183			PYF183		
Sampling Date		2021/06/25			2021/06/25		
COC Number		831949-08-01			831949-08-01		
	UNITS	DUP-6	RDL	QC Batch	DUP-6 Lab-Dup	RDL	QC Batch
Calculated Parameters							
Anion Sum	me/L	15.8	N/A	7437804			
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	180	1.0	7437805			
Calculated TDS	mg/L	1000	1.0	7437809			
Carb. Alkalinity (calc. as CaCO3)	mg/L	1.0	1.0	7437805			
Cation Sum	me/L	16.9	N/A	7437804			
Hardness (CaCO3)	mg/L	820	1.0	7437803			
Ion Balance (% Difference)	%	3.44	N/A	7437802			
Langelier Index (@ 20C)	N/A	0.871		7437806			
Langelier Index (@ 4C)	N/A	0.625		7437807			
Saturation pH (@ 20C)	N/A	6.91		7437806			
Saturation pH (@ 4C)	N/A	7.16		7437807			
Inorganics							
Total Ammonia-N	mg/L	0.078	0.050	7441345			
Conductivity	umho/cm	1400	1.0	7442510			
Dissolved Organic Carbon	mg/L	0.66	0.40	7441338			
Orthophosphate (P)	mg/L	<0.010	0.010	7442183	<0.010	0.010	7442183
pH	pH	7.78		7442511			
Dissolved Sulphate (SO4)	mg/L	580	5.0	7442181	590	5.0	7442181
Alkalinity (Total as CaCO3)	mg/L	180	1.0	7442502			
Dissolved Chloride (Cl-)	mg/L	1.5	1.0	7442173	2.1	1.0	7442173
Nitrite (N)	mg/L	<0.010	0.010	7442218			
Nitrate (N)	mg/L	<0.10	0.10	7442218			
Nitrate + Nitrite (N)	mg/L	<0.10	0.10	7442218			
Metals							
Dissolved Aluminum (Al)	ug/L	<4.9	4.9	7439514	<4.9	4.9	7439514
Dissolved Antimony (Sb)	ug/L	<0.50	0.50	7439514	<0.50	0.50	7439514
Dissolved Arsenic (As)	ug/L	<1.0	1.0	7439514	<1.0	1.0	7439514
Dissolved Barium (Ba)	ug/L	6.9	2.0	7439514	6.6	2.0	7439514
Dissolved Beryllium (Be)	ug/L	<0.40	0.40	7439514	<0.40	0.40	7439514
Dissolved Boron (B)	ug/L	47	10	7439514	48	10	7439514

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate
N/A = Not Applicable

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

RCAP - COMPREHENSIVE (WATER)

BV Labs ID		PYF183			PYF183		
Sampling Date		2021/06/25			2021/06/25		
COC Number		831949-08-01			831949-08-01		
	UNITS	DUP-6	RDL	QC Batch	DUP-6 Lab-Dup	RDL	QC Batch
Dissolved Cadmium (Cd)	ug/L	<0.090	0.090	7439514	<0.090	0.090	7439514
Dissolved Calcium (Ca)	ug/L	240000	200	7439514	240000	200	7439514
Dissolved Chromium (Cr)	ug/L	<5.0	5.0	7439514	<5.0	5.0	7439514
Dissolved Cobalt (Co)	ug/L	<0.50	0.50	7439514	<0.50	0.50	7439514
Dissolved Copper (Cu)	ug/L	<0.90	0.90	7439514	<0.90	0.90	7439514
Dissolved Iron (Fe)	ug/L	330	100	7439514	330	100	7439514
Dissolved Lead (Pb)	ug/L	<0.50	0.50	7439514	<0.50	0.50	7439514
Dissolved Magnesium (Mg)	ug/L	53000	50	7439514	52000	50	7439514
Dissolved Manganese (Mn)	ug/L	21	2.0	7439514	20	2.0	7439514
Dissolved Molybdenum (Mo)	ug/L	8.8	0.50	7439514	8.8	0.50	7439514
Dissolved Nickel (Ni)	ug/L	<1.0	1.0	7439514	<1.0	1.0	7439514
Dissolved Phosphorus (P)	ug/L	<100	100	7439514	<100	100	7439514
Dissolved Potassium (K)	ug/L	1800	200	7439514	1800	200	7439514
Dissolved Selenium (Se)	ug/L	<2.0	2.0	7439514	<2.0	2.0	7439514
Dissolved Silicon (Si)	ug/L	5400	50	7439514	5400	50	7439514
Dissolved Silver (Ag)	ug/L	<0.090	0.090	7439514	<0.090	0.090	7439514
Dissolved Sodium (Na)	ug/L	11000	100	7439514	11000	100	7439514
Dissolved Strontium (Sr)	ug/L	4600	1.0	7439514	4500	1.0	7439514
Dissolved Thallium (Tl)	ug/L	<0.050	0.050	7439514	<0.050	0.050	7439514
Dissolved Titanium (Ti)	ug/L	<5.0	5.0	7439514	<5.0	5.0	7439514
Dissolved Uranium (U)	ug/L	<0.10	0.10	7439514	<0.10	0.10	7439514
Dissolved Vanadium (V)	ug/L	<0.50	0.50	7439514	<0.50	0.50	7439514
Dissolved Zinc (Zn)	ug/L	<5.0	5.0	7439514	<5.0	5.0	7439514

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

O.REG 153 PHCS, BTEX/F1-F4 (WATER)

BV Labs ID		PYF177	PYF180	PYF182	PYF183			PYF183		
Sampling Date		2021/06/25 12:15	2021/06/25 11:45	2021/06/25 14:00	2021/06/25			2021/06/25		
COC Number		831949-08-01	831949-08-01	831949-08-01	831949-08-01			831949-08-01		
	UNITS	MW20-15B	MW20-25B	MW20-24B	DUP-6	RDL	QC Batch	DUP-6 Lab-Dup	RDL	QC Batch
BTEX & F1 Hydrocarbons										
Benzene	ug/L	<0.20	<0.20	<0.20	<0.20	0.20	7443249			
Toluene	ug/L	<0.20	<0.20	<0.20	<0.20	0.20	7443249			
Ethylbenzene	ug/L	<0.20	<0.20	<0.20	<0.20	0.20	7443249			
o-Xylene	ug/L	<0.20	<0.20	<0.20	<0.20	0.20	7443249			
p+m-Xylene	ug/L	<0.40	<0.40	<0.40	<0.40	0.40	7443249			
Total Xylenes	ug/L	<0.40	<0.40	<0.40	<0.40	0.40	7443249			
F1 (C6-C10)	ug/L	<25	<25	<25	<25	25	7443249			
F1 (C6-C10) - BTEX	ug/L	<25	<25	<25	<25	25	7443249			
F2-F4 Hydrocarbons										
F2 (C10-C16 Hydrocarbons)	ug/L	<100	<100	<100	<100	100	7441556	<100	100	7441556
F3 (C16-C34 Hydrocarbons)	ug/L	<200	<200	<200	<200	200	7441556	<200	200	7441556
F4 (C34-C50 Hydrocarbons)	ug/L	<200	<200	<200	<200	200	7441556	<200	200	7441556
Reached Baseline at C50	ug/L	Yes	Yes	Yes	Yes		7441556	Yes		7441556
Surrogate Recovery (%)										
1,4-Difluorobenzene	%	99	98	99	97		7443249			
4-Bromofluorobenzene	%	89	90	90	89		7443249			
D10-o-Xylene	%	100	99	99	97		7443249			
D4-1,2-Dichloroethane	%	97	93	95	97		7443249			
o-Terphenyl	%	95	94	94	93		7441556	94		7441556

RDL = Reportable Detection Limit
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Lab-Dup = Laboratory Initiated Duplicate

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

BV Labs Job #: C1H7092
Report Date: 2021/07/08

Golder Associates Ltd
Client Project #: 19129150 (2300)
Sampler Initials: CS

TEST SUMMARY

BV Labs ID: PYF176
Sample ID: MW20-15A
Matrix: Water

Collected: 2021/06/25
Shipped:
Received: 2021/06/26

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	7442502	N/A	2021/07/05	Surinder Rai
Carbonate, Bicarbonate and Hydroxide	CALC	7437805	N/A	2021/07/06	Automated Statchk
Chloride by Automated Colourimetry	KONE	7442173	N/A	2021/07/05	Alina Dobreanu
Conductivity	AT	7442510	N/A	2021/07/05	Surinder Rai
Dissolved Organic Carbon (DOC)	TOCV/NDIR	7441338	N/A	2021/07/02	Nimarta Singh
Hardness (calculated as CaCO3)		7437803	N/A	2021/07/02	Automated Statchk
Dissolved Metals by ICPMS	ICP/MS	7439514	N/A	2021/07/02	Daniel Teclu
Ion Balance (% Difference)	CALC	7437802	N/A	2021/07/06	Automated Statchk
Anion and Cation Sum	CALC	7437804	N/A	2021/07/06	Automated Statchk
Total Ammonia-N	LACH/NH4	7441345	N/A	2021/07/05	Amanpreet Sappal
Nitrate (NO3) and Nitrite (NO2) in Water	LACH	7442687	N/A	2021/07/05	Amanpreet Sappal
pH	AT	7442511	2021/07/02	2021/07/05	Surinder Rai
Orthophosphate	KONE	7442183	N/A	2021/07/05	Avneet Kour Sudan
Sat. pH and Langelier Index (@ 20C)	CALC	7437806	N/A	2021/07/06	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	7437807	N/A	2021/07/06	Automated Statchk
Sulphate by Automated Colourimetry	KONE	7442181	N/A	2021/07/05	Alina Dobreanu
Total Dissolved Solids (TDS calc)	CALC	7437809	N/A	2021/07/06	Automated Statchk

BV Labs ID: PYF177
Sample ID: MW20-15B
Matrix: Water

Collected: 2021/06/25
Shipped:
Received: 2021/06/26

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	7442502	N/A	2021/07/05	Surinder Rai
Carbonate, Bicarbonate and Hydroxide	CALC	7437805	N/A	2021/07/06	Automated Statchk
Chloride by Automated Colourimetry	KONE	7442173	N/A	2021/07/05	Alina Dobreanu
Conductivity	AT	7442510	N/A	2021/07/05	Surinder Rai
Dissolved Organic Carbon (DOC)	TOCV/NDIR	7441338	N/A	2021/07/02	Nimarta Singh
Petroleum Hydro. CCME F1 & BTEX in Water	HSGC/MSFD	7443249	N/A	2021/07/05	Domnica Andronescu
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	7441556	2021/07/02	2021/07/03	Ravinder Gaidhu
Hardness (calculated as CaCO3)		7437803	N/A	2021/07/02	Automated Statchk
Dissolved Metals by ICPMS	ICP/MS	7439514	N/A	2021/07/02	Daniel Teclu
Ion Balance (% Difference)	CALC	7437802	N/A	2021/07/06	Automated Statchk
Anion and Cation Sum	CALC	7437804	N/A	2021/07/06	Automated Statchk
Total Ammonia-N	LACH/NH4	7441336	N/A	2021/07/05	Amanpreet Sappal
Nitrate (NO3) and Nitrite (NO2) in Water	LACH	7442216	N/A	2021/07/02	Chandra Nandlal
pH	AT	7442511	2021/07/02	2021/07/05	Surinder Rai
Orthophosphate	KONE	7442183	N/A	2021/07/05	Avneet Kour Sudan
Sat. pH and Langelier Index (@ 20C)	CALC	7437806	N/A	2021/07/06	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	7437807	N/A	2021/07/06	Automated Statchk
Sulphate by Automated Colourimetry	KONE	7442181	N/A	2021/07/05	Alina Dobreanu
Total Dissolved Solids (TDS calc)	CALC	7437809	N/A	2021/07/06	Automated Statchk

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

BV Labs Job #: C1H7092
Report Date: 2021/07/08

Golder Associates Ltd
Client Project #: 19129150 (2300)
Sampler Initials: CS

TEST SUMMARY

BV Labs ID: PYF178
Sample ID: MW20-15C
Matrix: Water

Collected: 2021/06/25
Shipped:
Received: 2021/06/26

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	7442502	N/A	2021/07/05	Surinder Rai
Carbonate, Bicarbonate and Hydroxide	CALC	7437805	N/A	2021/07/06	Automated Statchk
Chloride by Automated Colourimetry	KONE	7442173	N/A	2021/07/05	Alina Dobreanu
Conductivity	AT	7442510	N/A	2021/07/05	Surinder Rai
Dissolved Organic Carbon (DOC)	TOCV/NDIR	7439424	N/A	2021/06/30	Nimarta Singh
Hardness (calculated as CaCO3)		7437803	N/A	2021/07/02	Automated Statchk
Dissolved Metals by ICPMS	ICP/MS	7439514	N/A	2021/07/02	Daniel Teclu
Ion Balance (% Difference)	CALC	7437802	N/A	2021/07/06	Automated Statchk
Anion and Cation Sum	CALC	7437804	N/A	2021/07/06	Automated Statchk
Total Ammonia-N	LACH/NH4	7441345	N/A	2021/07/05	Amanpreet Sappal
Nitrate (NO3) and Nitrite (NO2) in Water	LACH	7442218	N/A	2021/07/05	Amanpreet Sappal
pH	AT	7442511	2021/07/02	2021/07/05	Surinder Rai
Orthophosphate	KONE	7442183	N/A	2021/07/05	Avneet Kour Sudan
Sat. pH and Langelier Index (@ 20C)	CALC	7437806	N/A	2021/07/06	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	7437807	N/A	2021/07/06	Automated Statchk
Sulphate by Automated Colourimetry	KONE	7442181	N/A	2021/07/05	Alina Dobreanu
Total Dissolved Solids (TDS calc)	CALC	7437809	N/A	2021/07/06	Automated Statchk

BV Labs ID: PYF179
Sample ID: MW20-25A
Matrix: Water

Collected: 2021/06/25
Shipped:
Received: 2021/06/26

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	7442502	N/A	2021/07/05	Surinder Rai
Carbonate, Bicarbonate and Hydroxide	CALC	7437805	N/A	2021/07/06	Automated Statchk
Chloride by Automated Colourimetry	KONE	7442173	N/A	2021/07/05	Alina Dobreanu
Conductivity	AT	7442510	N/A	2021/07/05	Surinder Rai
Dissolved Organic Carbon (DOC)	TOCV/NDIR	7441338	N/A	2021/07/02	Nimarta Singh
Hardness (calculated as CaCO3)		7437803	N/A	2021/07/02	Automated Statchk
Dissolved Metals by ICPMS	ICP/MS	7439514	N/A	2021/07/02	Daniel Teclu
Ion Balance (% Difference)	CALC	7437802	N/A	2021/07/06	Automated Statchk
Anion and Cation Sum	CALC	7437804	N/A	2021/07/06	Automated Statchk
Total Ammonia-N	LACH/NH4	7441336	N/A	2021/07/05	Amanpreet Sappal
Nitrate (NO3) and Nitrite (NO2) in Water	LACH	7442218	N/A	2021/07/05	Amanpreet Sappal
pH	AT	7442511	2021/07/02	2021/07/05	Surinder Rai
Orthophosphate	KONE	7442183	N/A	2021/07/05	Avneet Kour Sudan
Sat. pH and Langelier Index (@ 20C)	CALC	7437806	N/A	2021/07/06	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	7437807	N/A	2021/07/06	Automated Statchk
Sulphate by Automated Colourimetry	KONE	7442181	N/A	2021/07/05	Alina Dobreanu
Total Dissolved Solids (TDS calc)	CALC	7437809	N/A	2021/07/06	Automated Statchk

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

TEST SUMMARY

BV Labs ID: PYF179 Dup
Sample ID: MW20-25A
Matrix: Water

Collected: 2021/06/25
Shipped:
Received: 2021/06/26

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Total Ammonia-N	LACH/NH4	7441336	N/A	2021/07/05	Amanpreet Sappal

BV Labs ID: PYF180
Sample ID: MW20-25B
Matrix: Water

Collected: 2021/06/25
Shipped:
Received: 2021/06/26

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	7442502	N/A	2021/07/05	Surinder Rai
Carbonate, Bicarbonate and Hydroxide	CALC	7437805	N/A	2021/07/06	Automated Statchk
Chloride by Automated Colourimetry	KONE	7442173	N/A	2021/07/05	Alina Dobreanu
Conductivity	AT	7442510	N/A	2021/07/05	Surinder Rai
Dissolved Organic Carbon (DOC)	TOCV/NDIR	7441338	N/A	2021/07/02	Nimarta Singh
Petroleum Hydro. CCME F1 & BTEX in Water	HSGC/MSFD	7443249	N/A	2021/07/05	Domnica Andronescu
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	7441556	2021/07/02	2021/07/03	Ravinder Gaidhu
Hardness (calculated as CaCO3)		7437803	N/A	2021/07/02	Automated Statchk
Dissolved Metals by ICPMS	ICP/MS	7439514	N/A	2021/07/02	Daniel Teclu
Ion Balance (% Difference)	CALC	7437802	N/A	2021/07/06	Automated Statchk
Anion and Cation Sum	CALC	7437804	N/A	2021/07/06	Automated Statchk
Total Ammonia-N	LACH/NH4	7441345	N/A	2021/07/05	Amanpreet Sappal
Nitrate (NO3) and Nitrite (NO2) in Water	LACH	7442218	N/A	2021/07/05	Amanpreet Sappal
pH	AT	7442511	2021/07/02	2021/07/05	Surinder Rai
Orthophosphate	KONE	7442183	N/A	2021/07/05	Avneet Kour Sudan
Sat. pH and Langelier Index (@ 20C)	CALC	7437806	N/A	2021/07/06	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	7437807	N/A	2021/07/06	Automated Statchk
Sulphate by Automated Colourimetry	KONE	7442181	N/A	2021/07/05	Alina Dobreanu
Total Dissolved Solids (TDS calc)	CALC	7437809	N/A	2021/07/06	Automated Statchk

BV Labs ID: PYF180 Dup
Sample ID: MW20-25B
Matrix: Water

Collected: 2021/06/25
Shipped:
Received: 2021/06/26

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Dissolved Organic Carbon (DOC)	TOCV/NDIR	7441338	N/A	2021/07/02	Nimarta Singh

BV Labs ID: PYF181
Sample ID: MW20-24A
Matrix: Water

Collected: 2021/06/25
Shipped:
Received: 2021/06/26

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	7442502	N/A	2021/07/05	Surinder Rai
Carbonate, Bicarbonate and Hydroxide	CALC	7437805	N/A	2021/07/06	Automated Statchk
Chloride by Automated Colourimetry	KONE	7442173	N/A	2021/07/05	Alina Dobreanu
Conductivity	AT	7442510	N/A	2021/07/05	Surinder Rai
Dissolved Organic Carbon (DOC)	TOCV/NDIR	7441338	N/A	2021/07/02	Nimarta Singh
Hardness (calculated as CaCO3)		7437803	N/A	2021/07/02	Automated Statchk

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

TEST SUMMARY

BV Labs ID: PYF181
Sample ID: MW20-24A
Matrix: Water

Collected: 2021/06/25
Shipped:
Received: 2021/06/26

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Dissolved Metals by ICPMS	ICP/MS	7439514	N/A	2021/07/02	Daniel Teclu
Ion Balance (% Difference)	CALC	7437802	N/A	2021/07/06	Automated Statchk
Anion and Cation Sum	CALC	7437804	N/A	2021/07/06	Automated Statchk
Total Ammonia-N	LACH/NH4	7441336	N/A	2021/07/05	Amanpreet Sappal
Nitrate (NO3) and Nitrite (NO2) in Water	LACH	7442218	N/A	2021/07/05	Amanpreet Sappal
pH	AT	7442511	2021/07/02	2021/07/05	Surinder Rai
Orthophosphate	KONE	7442183	N/A	2021/07/05	Avneet Kour Sudan
Sat. pH and Langelier Index (@ 20C)	CALC	7437806	N/A	2021/07/06	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	7437807	N/A	2021/07/06	Automated Statchk
Sulphate by Automated Colourimetry	KONE	7442181	N/A	2021/07/05	Alina Dobreanu
Total Dissolved Solids (TDS calc)	CALC	7437809	N/A	2021/07/06	Automated Statchk

BV Labs ID: PYF182
Sample ID: MW20-24B
Matrix: Water

Collected: 2021/06/25
Shipped:
Received: 2021/06/26

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	7442502	N/A	2021/07/05	Surinder Rai
Carbonate, Bicarbonate and Hydroxide	CALC	7437805	N/A	2021/07/06	Automated Statchk
Chloride by Automated Colourimetry	KONE	7442173	N/A	2021/07/05	Alina Dobreanu
Conductivity	AT	7442510	N/A	2021/07/05	Surinder Rai
Dissolved Organic Carbon (DOC)	TOCV/NDIR	7441338	N/A	2021/07/02	Nimarta Singh
Petroleum Hydro. CCME F1 & BTEX in Water	HSGC/MSFD	7443249	N/A	2021/07/05	Domnica Andronescu
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	7441556	2021/07/02	2021/07/03	Ravinder Gaidhu
Hardness (calculated as CaCO3)		7437803	N/A	2021/07/02	Automated Statchk
Dissolved Metals by ICPMS	ICP/MS	7439514	N/A	2021/07/02	Daniel Teclu
Ion Balance (% Difference)	CALC	7437802	N/A	2021/07/06	Automated Statchk
Anion and Cation Sum	CALC	7437804	N/A	2021/07/06	Automated Statchk
Total Ammonia-N	LACH/NH4	7441336	N/A	2021/07/05	Amanpreet Sappal
Nitrate (NO3) and Nitrite (NO2) in Water	LACH	7442218	N/A	2021/07/05	Amanpreet Sappal
pH	AT	7442511	2021/07/02	2021/07/05	Surinder Rai
Orthophosphate	KONE	7442183	N/A	2021/07/05	Avneet Kour Sudan
Sat. pH and Langelier Index (@ 20C)	CALC	7437806	N/A	2021/07/06	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	7437807	N/A	2021/07/06	Automated Statchk
Sulphate by Automated Colourimetry	KONE	7442181	N/A	2021/07/05	Alina Dobreanu
Total Dissolved Solids (TDS calc)	CALC	7437809	N/A	2021/07/06	Automated Statchk

BV Labs ID: PYF183
Sample ID: DUP-6
Matrix: Water

Collected: 2021/06/25
Shipped:
Received: 2021/06/26

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	7442502	N/A	2021/07/05	Surinder Rai
Carbonate, Bicarbonate and Hydroxide	CALC	7437805	N/A	2021/07/06	Automated Statchk
Chloride by Automated Colourimetry	KONE	7442173	N/A	2021/07/05	Alina Dobreanu

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

BV Labs Job #: C1H7092
Report Date: 2021/07/08

Golder Associates Ltd
Client Project #: 19129150 (2300)
Sampler Initials: CS

TEST SUMMARY

BV Labs ID: PYF183
Sample ID: DUP-6
Matrix: Water

Collected: 2021/06/25
Shipped:
Received: 2021/06/26

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Conductivity	AT	7442510	N/A	2021/07/05	Surinder Rai
Dissolved Organic Carbon (DOC)	TOCV/NDIR	7441338	N/A	2021/07/02	Nimarta Singh
Petroleum Hydro. CCME F1 & BTEX in Water	HSGC/MSFD	7443249	N/A	2021/07/05	Domnica Andronescu
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	7441556	2021/07/02	2021/07/03	Ravinder Gaidhu
Hardness (calculated as CaCO3)		7437803	N/A	2021/07/02	Automated Statchk
Dissolved Metals by ICPMS	ICP/MS	7439514	N/A	2021/07/02	Daniel Teclu
Ion Balance (% Difference)	CALC	7437802	N/A	2021/07/06	Automated Statchk
Anion and Cation Sum	CALC	7437804	N/A	2021/07/06	Automated Statchk
Total Ammonia-N	LACH/NH4	7441345	N/A	2021/07/05	Amanpreet Sappal
Nitrate (NO3) and Nitrite (NO2) in Water	LACH	7442218	N/A	2021/07/05	Amanpreet Sappal
pH	AT	7442511	2021/07/02	2021/07/05	Surinder Rai
Orthophosphate	KONE	7442183	N/A	2021/07/05	Avneet Kour Sudan
Sat. pH and Langelier Index (@ 20C)	CALC	7437806	N/A	2021/07/06	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	7437807	N/A	2021/07/06	Automated Statchk
Sulphate by Automated Colourimetry	KONE	7442181	N/A	2021/07/05	Alina Dobreanu
Total Dissolved Solids (TDS calc)	CALC	7437809	N/A	2021/07/06	Automated Statchk

BV Labs ID: PYF183 Dup
Sample ID: DUP-6
Matrix: Water

Collected: 2021/06/25
Shipped:
Received: 2021/06/26

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Chloride by Automated Colourimetry	KONE	7442173	N/A	2021/07/05	Alina Dobreanu
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	7441556	2021/07/02	2021/07/03	Ravinder Gaidhu
Dissolved Metals by ICPMS	ICP/MS	7439514	N/A	2021/07/02	Daniel Teclu
Orthophosphate	KONE	7442183	N/A	2021/07/05	Avneet Kour Sudan
Sulphate by Automated Colourimetry	KONE	7442181	N/A	2021/07/05	Alina Dobreanu

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	13.7°C

Results relate only to the items tested.

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

QUALITY ASSURANCE REPORT

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
7441556	o-Terphenyl	2021/07/03	95	60 - 130	96	60 - 130	94	%		
7443249	1,4-Difluorobenzene	2021/07/05	95	70 - 130	98	70 - 130	98	%		
7443249	4-Bromofluorobenzene	2021/07/05	91	70 - 130	93	70 - 130	89	%		
7443249	D10-o-Xylene	2021/07/05	88	70 - 130	95	70 - 130	100	%		
7443249	D4-1,2-Dichloroethane	2021/07/05	93	70 - 130	90	70 - 130	95	%		
7439424	Dissolved Organic Carbon	2021/06/30	95	80 - 120	98	80 - 120	<0.40	mg/L	0.99	20
7439514	Dissolved Aluminum (Al)	2021/07/02	101	80 - 120	101	80 - 120	<4.9	ug/L	NC	20
7439514	Dissolved Antimony (Sb)	2021/07/02	104	80 - 120	99	80 - 120	<0.50	ug/L	NC	20
7439514	Dissolved Arsenic (As)	2021/07/02	103	80 - 120	100	80 - 120	<1.0	ug/L	NC	20
7439514	Dissolved Barium (Ba)	2021/07/02	102	80 - 120	98	80 - 120	<2.0	ug/L	3.5	20
7439514	Dissolved Beryllium (Be)	2021/07/02	103	80 - 120	100	80 - 120	<0.40	ug/L	NC	20
7439514	Dissolved Boron (B)	2021/07/02	98	80 - 120	96	80 - 120	<10	ug/L	2.1	20
7439514	Dissolved Cadmium (Cd)	2021/07/02	101	80 - 120	98	80 - 120	<0.090	ug/L	NC	20
7439514	Dissolved Calcium (Ca)	2021/07/02	NC	80 - 120	100	80 - 120	<200	ug/L	0.63	20
7439514	Dissolved Chromium (Cr)	2021/07/02	98	80 - 120	97	80 - 120	<5.0	ug/L	NC	20
7439514	Dissolved Cobalt (Co)	2021/07/02	103	80 - 120	105	80 - 120	<0.50	ug/L	NC	20
7439514	Dissolved Copper (Cu)	2021/07/02	106	80 - 120	103	80 - 120	<0.90	ug/L	NC	20
7439514	Dissolved Iron (Fe)	2021/07/02	101	80 - 120	100	80 - 120	<100	ug/L	2.1	20
7439514	Dissolved Lead (Pb)	2021/07/02	102	80 - 120	99	80 - 120	<0.50	ug/L	NC	20
7439514	Dissolved Magnesium (Mg)	2021/07/02	NC	80 - 120	102	80 - 120	<50	ug/L	2.1	20
7439514	Dissolved Manganese (Mn)	2021/07/02	97	80 - 120	96	80 - 120	<2.0	ug/L	2.6	20
7439514	Dissolved Molybdenum (Mo)	2021/07/02	106	80 - 120	99	80 - 120	<0.50	ug/L	0.43	20
7439514	Dissolved Nickel (Ni)	2021/07/02	98	80 - 120	98	80 - 120	<1.0	ug/L	NC	20
7439514	Dissolved Phosphorus (P)	2021/07/02	102	80 - 120	101	80 - 120	<100	ug/L	NC	20
7439514	Dissolved Potassium (K)	2021/07/02	102	80 - 120	100	80 - 120	<200	ug/L	0.43	20
7439514	Dissolved Selenium (Se)	2021/07/02	103	80 - 120	102	80 - 120	<2.0	ug/L	NC	20
7439514	Dissolved Silicon (Si)	2021/07/02	100	80 - 120	97	80 - 120	<50	ug/L	0.98	20
7439514	Dissolved Silver (Ag)	2021/07/02	100	80 - 120	98	80 - 120	<0.090	ug/L	NC	20
7439514	Dissolved Sodium (Na)	2021/07/02	104	80 - 120	102	80 - 120	<100	ug/L	1.7	20
7439514	Dissolved Strontium (Sr)	2021/07/02	NC	80 - 120	90	80 - 120	<1.0	ug/L	2.2	20
7439514	Dissolved Thallium (Tl)	2021/07/02	107	80 - 120	102	80 - 120	<0.050	ug/L	NC	20

QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
7439514	Dissolved Titanium (Ti)	2021/07/02	96	80 - 120	94	80 - 120	<5.0	ug/L	NC	20
7439514	Dissolved Uranium (U)	2021/07/02	101	80 - 120	97	80 - 120	<0.10	ug/L	NC	20
7439514	Dissolved Vanadium (V)	2021/07/02	101	80 - 120	98	80 - 120	<0.50	ug/L	NC	20
7439514	Dissolved Zinc (Zn)	2021/07/02	98	80 - 120	97	80 - 120	<5.0	ug/L	NC	20
7441336	Total Ammonia-N	2021/07/05	96	75 - 125	101	80 - 120	<0.050	mg/L	6.3	20
7441338	Dissolved Organic Carbon	2021/07/02	94	80 - 120	92	80 - 120	<0.40	mg/L	5.9	20
7441345	Total Ammonia-N	2021/07/05	96	75 - 125	99	80 - 120	<0.050	mg/L	NC	20
7441556	F2 (C10-C16 Hydrocarbons)	2021/07/03	107	60 - 130	108	60 - 130	<100	ug/L	NC	30
7441556	F3 (C16-C34 Hydrocarbons)	2021/07/03	108	60 - 130	110	60 - 130	<200	ug/L	NC	30
7441556	F4 (C34-C50 Hydrocarbons)	2021/07/03	110	60 - 130	110	60 - 130	<200	ug/L	NC	30
7442173	Dissolved Chloride (Cl-)	2021/07/05	116	80 - 120	104	80 - 120	<1.0	mg/L	NC	20
7442181	Dissolved Sulphate (SO4)	2021/07/05	NC	75 - 125	102	80 - 120	<1.0	mg/L	1.2	20
7442183	Orthophosphate (P)	2021/07/05	105	75 - 125	99	80 - 120	<0.010	mg/L	NC	25
7442216	Nitrate (N)	2021/07/02	94	80 - 120	99	80 - 120	<0.10	mg/L	2.8	20
7442216	Nitrite (N)	2021/07/02	103	80 - 120	108	80 - 120	<0.010	mg/L	NC	20
7442218	Nitrate (N)	2021/07/05	87	80 - 120	99	80 - 120	<0.10	mg/L	0.50	20
7442218	Nitrite (N)	2021/07/05	100	80 - 120	103	80 - 120	<0.010	mg/L	11	20
7442502	Alkalinity (Total as CaCO3)	2021/07/06			97	85 - 115	<1.0	mg/L	0.34	20
7442510	Conductivity	2021/07/05			103	85 - 115	<1.0	umho/cm	0.14	25
7442511	pH	2021/07/05			102	98 - 103			0.21	N/A
7442687	Nitrate (N)	2021/07/05	96	80 - 120	98	80 - 120	<0.10	mg/L	0.38	20
7442687	Nitrite (N)	2021/07/05	103	80 - 120	104	80 - 120	<0.010	mg/L	5.3	20
7443249	Benzene	2021/07/05	94	50 - 140	99	50 - 140	<0.20	ug/L	NC	30
7443249	Ethylbenzene	2021/07/05	103	50 - 140	110	50 - 140	<0.20	ug/L	NC	30
7443249	F1 (C6-C10) - BTEX	2021/07/05					<25	ug/L	NC	30
7443249	F1 (C6-C10)	2021/07/05	84	60 - 140	89	60 - 140	<25	ug/L	NC	30
7443249	o-Xylene	2021/07/05	100	50 - 140	107	50 - 140	<0.20	ug/L	NC	30
7443249	p+m-Xylene	2021/07/05	111	50 - 140	122	50 - 140	<0.40	ug/L	NC	30
7443249	Toluene	2021/07/05	98	50 - 140	105	50 - 140	<0.20	ug/L	NC	30

QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
7443249	Total Xylenes	2021/07/05					<0.40	ug/L	NC	30

N/A = Not Applicable

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

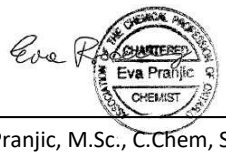
NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:



Ewa Pranjic, M.Sc., C.Chem, Scientific Specialist

BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

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Page of

26-Jun-21 10:13
Ema Gitej
C1H7092

INVOICE TO:		REPORT TO:		PROJECT INFORMATION:			
Company Name:	#21375 Golder Associates Ltd	Company Name:		Quotation #:	B80683	Bottle Order #:	831949
Attention:	Accounts Payable	Attention:	Gregory Padusenko	P.O. #:			
Address:	210 Sheldon Drive Cambridge ON N1T 1A8	Address:		Project:	19129150 (2300)	COC #:	C#831949-08-01
Tel:	(519) 620-8182 Fax:	Tel:	(519) 620-8182 Ext: 6509 Fax: (519) 620-9878	Project Name:		Project Manager:	Ema Gitej
Email:	CanadaAccountsPayableInvoices@golder.com	Email:	Gregory_Padusenko@golder.com	Site #:			
				Sampled By:	CS + VP		

MOE REGULATED DRINKING WATER OR WATER INTENDED FOR HUMAN CONSUMPTION MUST BE SUBMITTED ON THE BV LABS DRINKING WATER CHAIN OF CUSTODY

Regulation 153 (2011)	Other Regulations	Special Instructions
☐ Table 1 ☐ Res/Park ☐ Medium/Fine ☐ Table 2 ☐ Ind/Comm ☐ Coarse ☐ Table 3 ☐ Agri/Other ☐ For RSC ☐ Table ___	☐ CCME ☐ Sanitary Sewer Bylaw ☐ Reg 558 ☐ Storm Sewer Bylaw ☐ MISA Municipality ____ ☐ PWQO ☐ Reg 406 Table ____ ☐ Other ____	

Include Criteria on Certificate of Analysis (Y/N)? ____

Turnaround Time (TAT) Required:
Please provide advance notice for rush projects

Regular (Standard) TAT:
(will be applied if Rush TAT is not specified)
Standard TAT = 5-7 Working days for most tests.
Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.

Job Specific Rush TAT (if applies to entire submission)
Date Required: ____ Time Required: ____
Rush Confirmation Number: ____ *(call lab for #)*

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Field Filtered (please circle): Metals / Hg / Cr VI	RCAp - Comprehensive	O Reg 153 PHCs, BTEX/F1-F4							# of Bottles	Comments
1		MW20-15A	June 25 2021	13:30	GW	Y	✓	✓							4	
2		MW20-15B		12:15		Y	✓	✓							8	
3		MW20-15C		13:15		Y	✓								4	
4		MW20-25A		1100		Y	✓								4	
5		MW20-25B		1145		Y	✓	✓							8	
6		MW20-24A*		1345		Y	✓		*Field filtered, not preserved, lab to preserve						4	
7		MW20-24B		1400		Y	✓	✓							8	
8		DUP-6		—		Y	✓	✓							8	
9																
10																

* RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	# jars used and not submitted	Laboratory Use Only				
Claire Steckle / C Steckle	21/06/25	1630		21/06/25	1659		Time Sensitive	Temperature (°C) on Recei	Custody Seal	Yes	No
								4/1/7/16	Present		
									Intact		

* UNLESS OTHERWISE AGREED TO IN WRITING, WORK SUBMITTED ON THIS CHAIN OF CUSTODY IS SUBJECT TO BV LABS' STANDARD TERMS AND CONDITIONS. SIGNING OF THIS CHAIN OF CUSTODY DOCUMENT IS ACKNOWLEDGMENT AND ACCEPTANCE OF OUR TERMS WHICH ARE AVAILABLE FOR VIEWING AT WWW.BVLABS.COM/TERMS-AND-CONDITIONS.

* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

** SAMPLE CONTAINER, PRESERVATION, HOLD TIME AND PACKAGE INFORMATION CAN BE VIEWED AT WWW.BVLABS.COM/RESOURCES/CHAIN-OF-CUSTODY-FORMS.

SAMPLES MUST BE KEPT COOL (< 10° C) FROM TIME OF SAMPLING UNTIL DELIVERY TO BV LABS

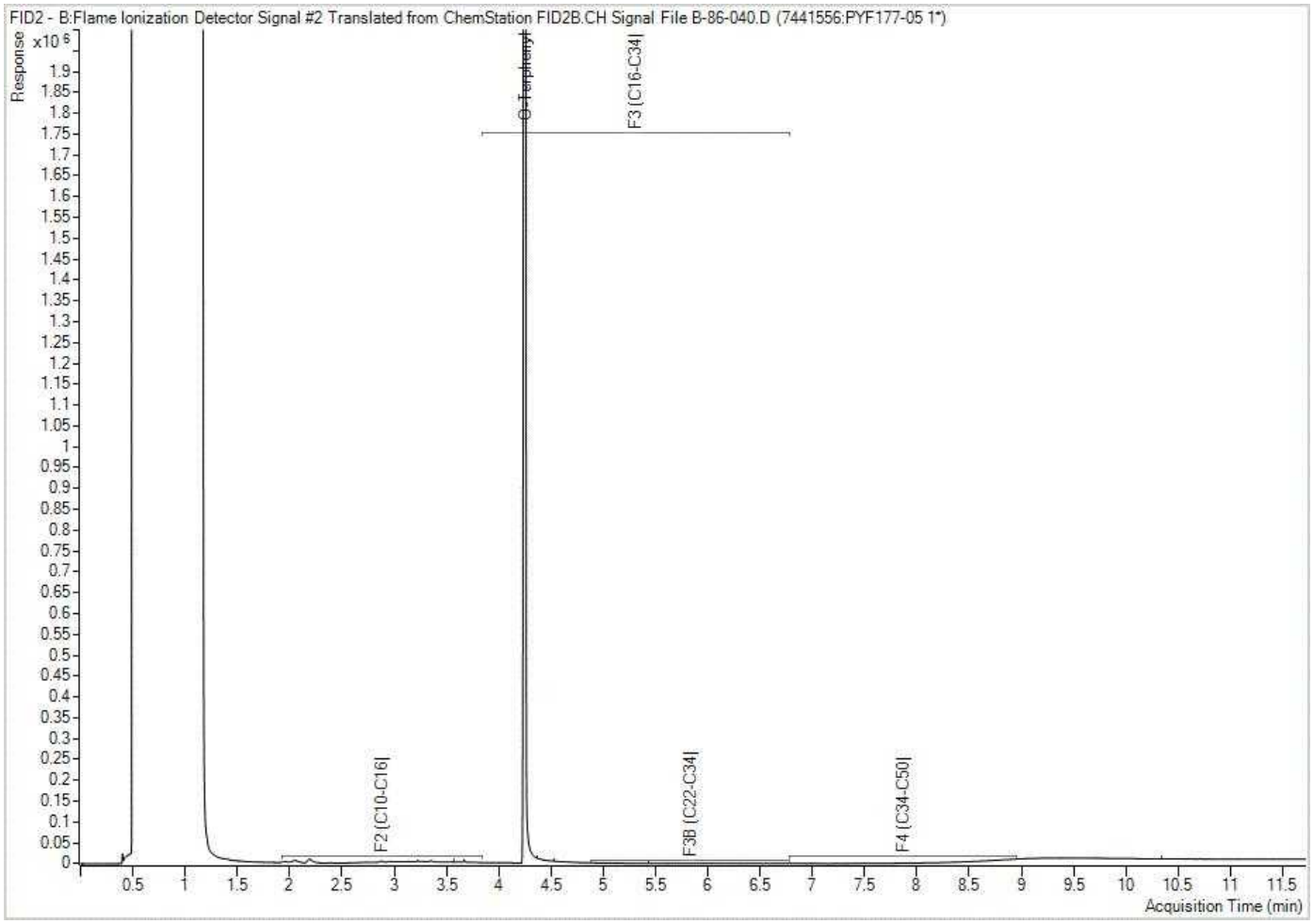
White: BV Labs Yellow: Client

Bureau Veritas Canada (2019) Inc.

BV Labs Job #: C1H7092
Report Date: 2021/07/08
BV Labs Sample: PYF177

Golder Associates Ltd
Client Project #: 19129150 (2300)
Client ID: MW20-15B

Petroleum Hydrocarbons F2-F4 in Water Chromatogram

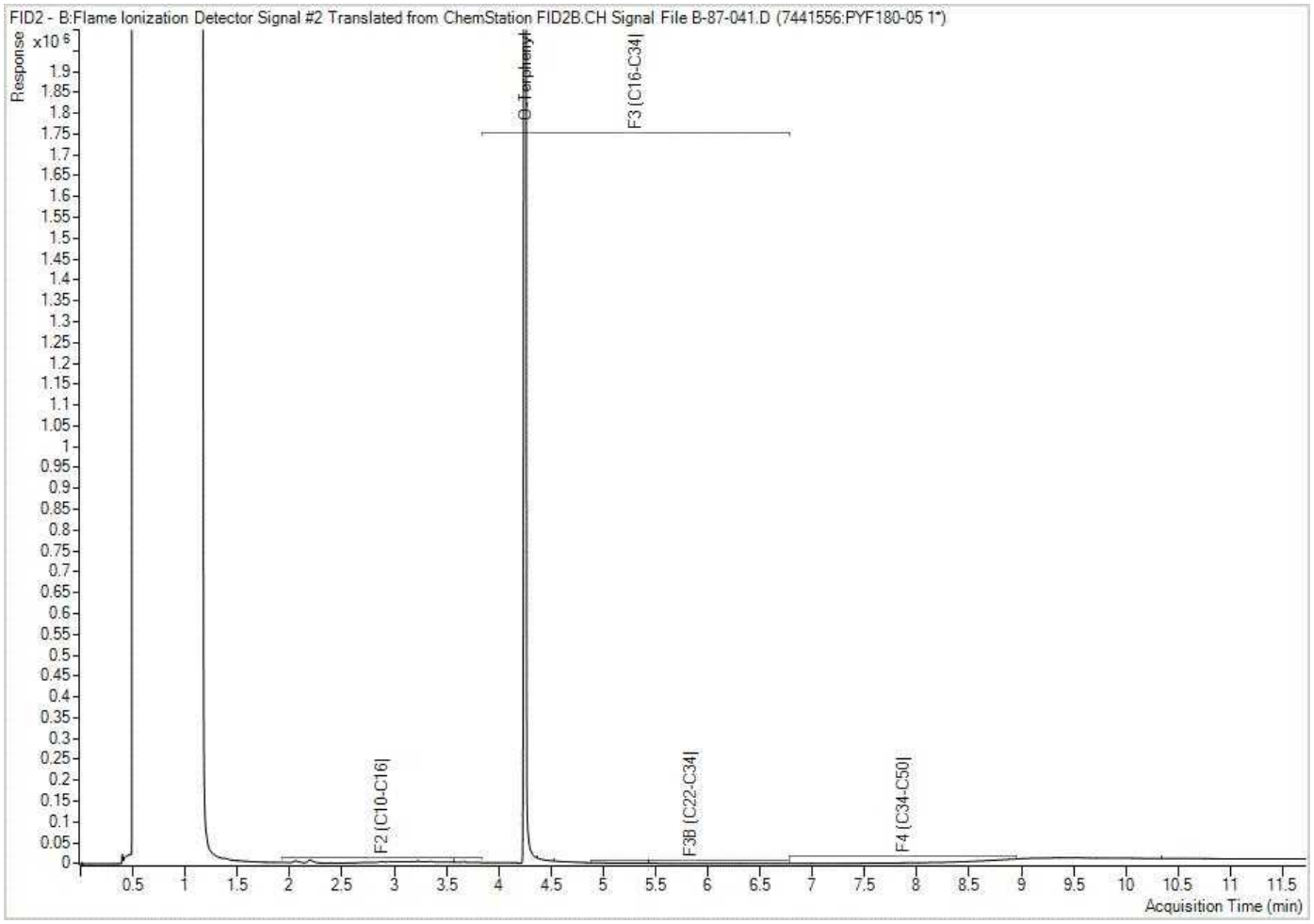


Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

BV Labs Job #: C1H7092
Report Date: 2021/07/08
BV Labs Sample: PYF180

Golder Associates Ltd
Client Project #: 19129150 (2300)
Client ID: MW20-25B

Petroleum Hydrocarbons F2-F4 in Water Chromatogram

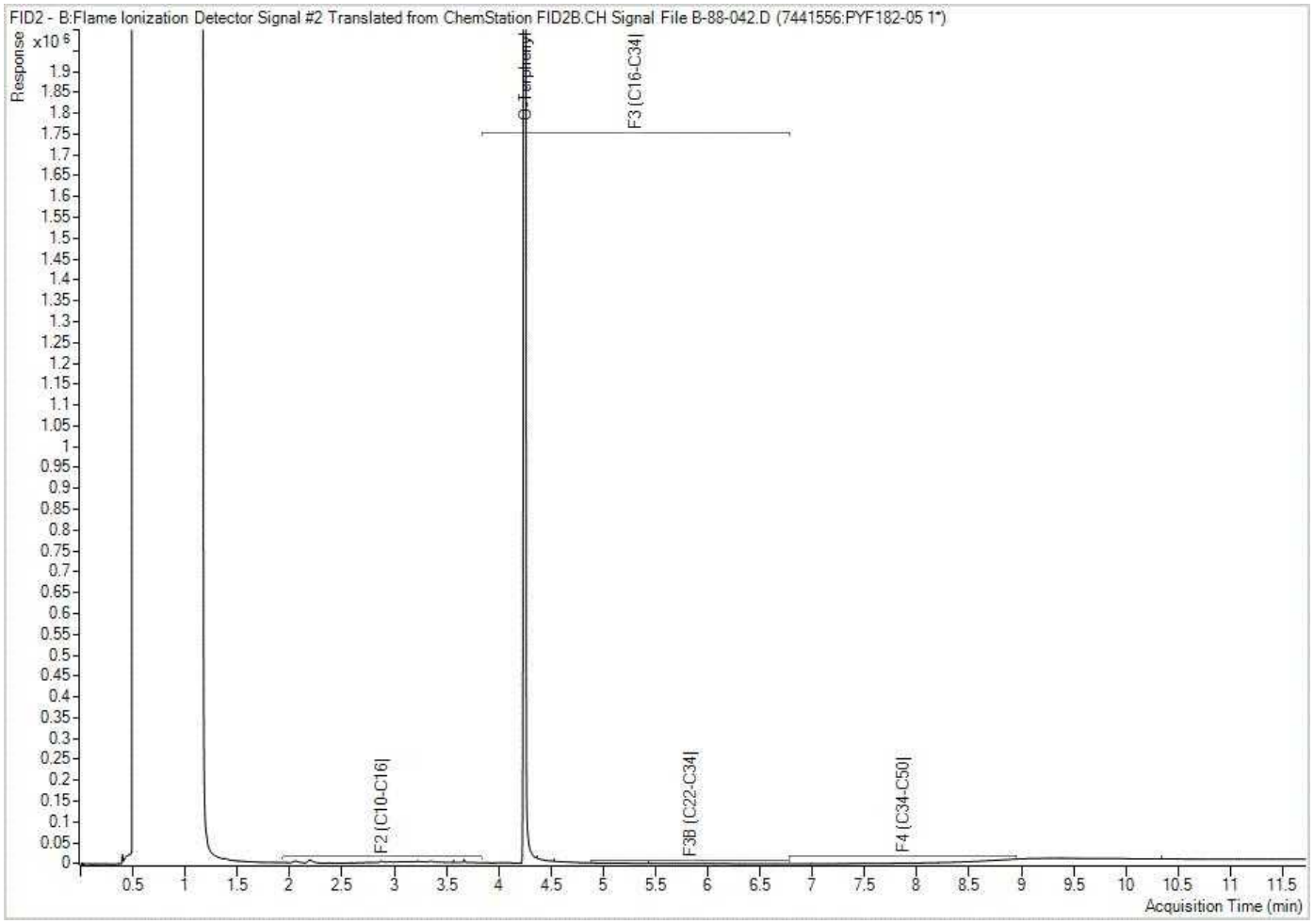


Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

BV Labs Job #: C1H7092
Report Date: 2021/07/08
BV Labs Sample: PYF182

Golder Associates Ltd
Client Project #: 19129150 (2300)
Client ID: MW20-24B

Petroleum Hydrocarbons F2-F4 in Water Chromatogram

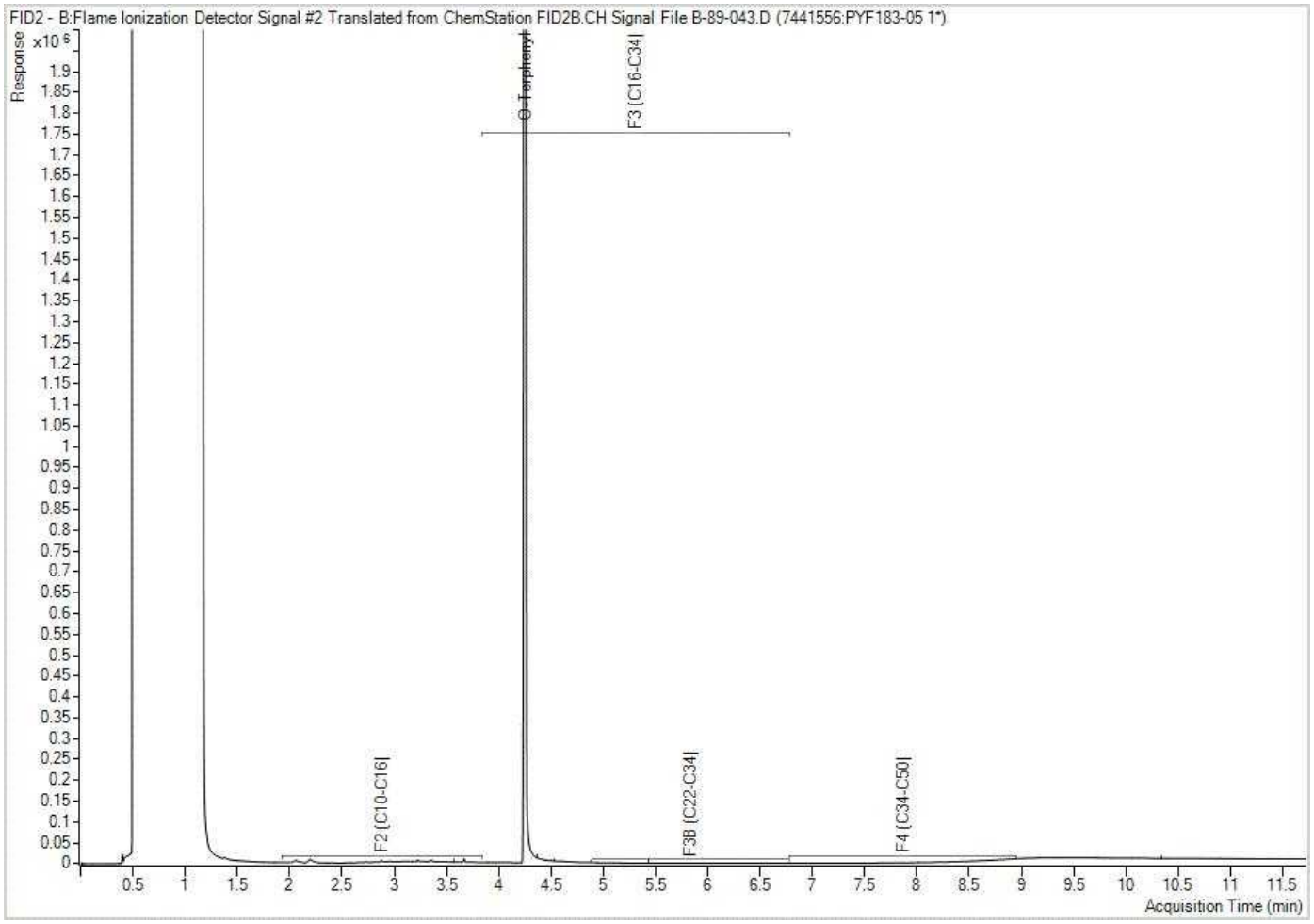


Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

BV Labs Job #: C1H7092
Report Date: 2021/07/08
BV Labs Sample: PYF183

Golder Associates Ltd
Client Project #: 19129150 (2300)
Client ID: DUP-6

Petroleum Hydrocarbons F2-F4 in Water Chromatogram

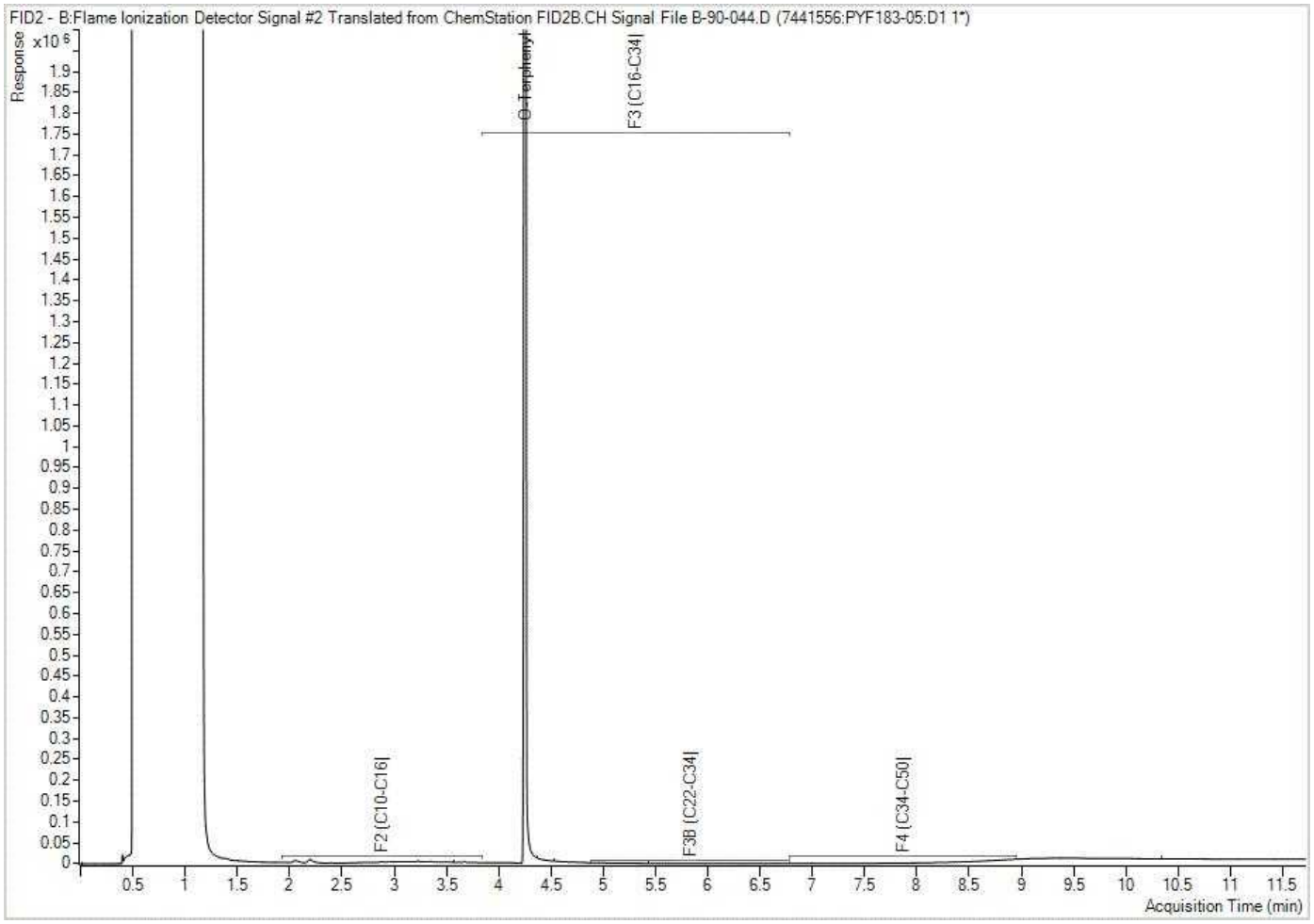


Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

BV Labs Job #: C1H7092
Report Date: 2021/07/08
BV Labs Sample: PYF183 Lab-Dup

Golder Associates Ltd
Client Project #: 19129150 (2300)
Client ID: DUP-6

Petroleum Hydrocarbons F2-F4 in Water Chromatogram



Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Your Project #: 19129150 (2300)
Your C.O.C. #: 831949-09-01

Attention: Gregory Padusenko

Golder Associates Ltd
210 Sheldon Drive
Cambridge, ON
CANADA N1T 1A8

Report Date: 2021/07/08
Report #: R6709541
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: C1I0177
Received: 2021/06/28, 16:35

Sample Matrix: Water
Samples Received: 4

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Alkalinity	4	N/A	2021/07/06	CAM SOP-00448	SM 23 2320 B m
Carbonate, Bicarbonate and Hydroxide	4	N/A	2021/07/06	CAM SOP-00102	APHA 4500-CO2 D
Chloride by Automated Colourimetry	4	N/A	2021/07/05	CAM SOP-00463	SM 23 4500-Cl E m
Conductivity	4	N/A	2021/07/06	CAM SOP-00414	SM 23 2510 m
Dissolved Organic Carbon (DOC) (1)	1	N/A	2021/06/30	CAM SOP-00446	SM 23 5310 B m
Dissolved Organic Carbon (DOC) (1)	3	N/A	2021/07/02	CAM SOP-00446	SM 23 5310 B m
Petroleum Hydro. CCME F1 & BTEX in Water	2	N/A	2021/07/05	CAM SOP-00315	CCME PHC-CWS m
Petroleum Hydrocarbons F2-F4 in Water (2)	2	2021/07/02	2021/07/03	CAM SOP-00316	CCME PHC-CWS m
Hardness (calculated as CaCO3)	3	N/A	2021/07/02	CAM SOP 00102/00408/00447	SM 2340 B
Hardness (calculated as CaCO3)	1	N/A	2021/07/05	CAM SOP 00102/00408/00447	SM 2340 B
Dissolved Metals by ICPMS	4	N/A	2021/07/02	CAM SOP-00447	EPA 6020B m
Ion Balance (% Difference)	4	N/A	2021/07/06		
Anion and Cation Sum	4	N/A	2021/07/06		
Total Ammonia-N	4	N/A	2021/07/05	CAM SOP-00441	USGS I-2522-90 m
Nitrate (NO3) and Nitrite (NO2) in Water (3)	4	N/A	2021/07/05	CAM SOP-00440	SM 23 4500-NO3I/NO2B
pH	4	2021/07/02	2021/07/06	CAM SOP-00413	SM 4500H+ B m
Orthophosphate	4	N/A	2021/07/05	CAM SOP-00461	EPA 365.1 m
Sat. pH and Langelier Index (@ 20C)	4	N/A	2021/07/06		Auto Calc
Sat. pH and Langelier Index (@ 4C)	4	N/A	2021/07/06		Auto Calc
Sulphate by Automated Colourimetry	4	N/A	2021/07/05	CAM SOP-00464	EPA 375.4 m
Total Dissolved Solids (TDS calc)	4	N/A	2021/07/06		Auto Calc

Remarks:

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement

Your Project #: 19129150 (2300)
Your C.O.C. #: 831949-09-01

Attention: Gregory Padusenko

Golder Associates Ltd
210 Sheldon Drive
Cambridge, ON
CANADA N1T 1A8

Report Date: 2021/07/08
Report #: R6709541
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: C1I0177
Received: 2021/06/28, 16:35

Uncertainty has not been accounted for when stating conformity to the referenced standard.

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.
This Certificate shall not be reproduced except in full, without the written approval of the laboratory.
Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.
(1) Dissolved Organic Carbon (DOC) present in the sample should be considered as non-purgeable DOC.
(2) All CCME PHC results met required criteria unless otherwise stated in the report. The CWS PHC methods employed by Bureau Veritas Laboratories conform to all prescribed elements of the reference method and performance based elements have been validated. All modifications have been validated and proven equivalent following "Alberta Environment's Interpretation of the Reference Method for the Canada-Wide Standard for Petroleum Hydrocarbons in Soil Validation of Performance-Based Alternative Methods September 2003". Documentation is available upon request. Modifications from Reference Method for the Canada-wide Standard for Petroleum Hydrocarbons in Soil-Tier 1 Method: F2/F3/F4 data reported using validated cold solvent extraction instead of Soxhlet extraction.
(3) Values for calculated parameters may not appear to add up due to rounding of raw data and significant figures.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Ema Gitej, Senior Project Manager
Email: emese.gitej@bureauveritas.com
Phone# (905)817-5829
==========
BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

BV Labs Job #: C1I0177
Report Date: 2021/07/08

Golder Associates Ltd
Client Project #: 19129150 (2300)
Sampler Initials: AK

RCAP - COMPREHENSIVE (WATER)

BV Labs ID		PYW902			PYW902			PYW903		
Sampling Date		2021/06/28			2021/06/28			2021/06/28		
COC Number		831949-09-01			831949-09-01			831949-09-01		
	UNITS	MW20-16A	RDL	QC Batch	MW20-16A Lab-Dup	RDL	QC Batch	MW20-16B	RDL	QC Batch
Calculated Parameters										
Anion Sum	me/L	5.57	N/A	7437804				6.43	N/A	7437804
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	200	1.0	7437805				240	1.0	7437805
Calculated TDS	mg/L	290	1.0	7437809				350	1.0	7437809
Carb. Alkalinity (calc. as CaCO3)	mg/L	3.2	1.0	7437805				5.2	1.0	7437805
Cation Sum	me/L	5.04	N/A	7437804				6.56	N/A	7437804
Hardness (CaCO3)	mg/L	230	1.0	7437803				180	1.0	7437803
Ion Balance (% Difference)	%	4.96	N/A	7437802				1.02	N/A	7437802
Langelier Index (@ 20C)	N/A	0.842		7437806				0.822		7437806
Langelier Index (@ 4C)	N/A	0.593		7437807				0.573		7437807
Saturation pH (@ 20C)	N/A	7.38		7437806				7.54		7437806
Saturation pH (@ 4C)	N/A	7.63		7437807				7.78		7437807
Inorganics										
Total Ammonia-N	mg/L	0.063	0.050	7441345				0.23	0.050	7441345
Conductivity	umho/cm	520	1.0	7441777				590	1.0	7441777
Dissolved Organic Carbon	mg/L	0.66	0.40	7441338				2.5	0.40	7439424
Orthophosphate (P)	mg/L	<0.010	0.010	7441833				<0.010	0.010	7441833
pH	pH	8.22		7441778				8.36		7441778
Dissolved Sulphate (SO4)	mg/L	58	1.0	7441832				29	1.0	7441832
Alkalinity (Total as CaCO3)	mg/L	210	1.0	7441747				250	1.0	7441747
Dissolved Chloride (Cl-)	mg/L	8.5	1.0	7441814				32	1.0	7441814
Nitrite (N)	mg/L	<0.010	0.010	7442218				<0.010	0.010	7442481
Nitrate (N)	mg/L	<0.10	0.10	7442218				<0.10	0.10	7442481
Nitrate + Nitrite (N)	mg/L	<0.10	0.10	7442218				<0.10	0.10	7442481
Metals										
Dissolved Aluminum (Al)	ug/L	5.8	4.9	7439414	5.6	4.9	7439414	6.6	4.9	7439514
Dissolved Antimony (Sb)	ug/L	<0.50	0.50	7439414	<0.50	0.50	7439414	<0.50	0.50	7439514
Dissolved Arsenic (As)	ug/L	8.2	1.0	7439414	8.1	1.0	7439414	5.8	1.0	7439514
Dissolved Barium (Ba)	ug/L	42	2.0	7439414	42	2.0	7439414	73	2.0	7439514
Dissolved Beryllium (Be)	ug/L	<0.40	0.40	7439414	<0.40	0.40	7439414	<0.40	0.40	7439514
Dissolved Boron (B)	ug/L	53	10	7439414	53	10	7439414	53	10	7439514
Dissolved Cadmium (Cd)	ug/L	<0.090	0.090	7439414	<0.090	0.090	7439414	<0.090	0.090	7439514

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate
N/A = Not Applicable

Bureau Veritas Laboratories 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvlabs.com

Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

RCAP - COMPREHENSIVE (WATER)

BV Labs ID		PYW902			PYW902			PYW903		
Sampling Date		2021/06/28			2021/06/28			2021/06/28		
COC Number		831949-09-01			831949-09-01			831949-09-01		
	UNITS	MW20-16A	RDL	QC Batch	MW20-16A Lab-Dup	RDL	QC Batch	MW20-16B	RDL	QC Batch
Dissolved Calcium (Ca)	ug/L	53000	200	7439414	53000	200	7439414	32000	200	7439514
Dissolved Chromium (Cr)	ug/L	<5.0	5.0	7439414	<5.0	5.0	7439414	<5.0	5.0	7439514
Dissolved Cobalt (Co)	ug/L	<0.50	0.50	7439414	<0.50	0.50	7439414	<0.50	0.50	7439514
Dissolved Copper (Cu)	ug/L	<0.90	0.90	7439414	<0.90	0.90	7439414	<0.90	0.90	7439514
Dissolved Iron (Fe)	ug/L	110	100	7439414	110	100	7439414	<100	100	7439514
Dissolved Lead (Pb)	ug/L	<0.50	0.50	7439414	<0.50	0.50	7439414	<0.50	0.50	7439514
Dissolved Magnesium (Mg)	ug/L	23000	50	7439414	23000	50	7439414	24000	50	7439514
Dissolved Manganese (Mn)	ug/L	11	2.0	7439414	10	2.0	7439414	21	2.0	7439514
Dissolved Molybdenum (Mo)	ug/L	4.6	0.50	7439414	4.5	0.50	7439414	35	0.50	7439514
Dissolved Nickel (Ni)	ug/L	<1.0	1.0	7439414	<1.0	1.0	7439414	4.1	1.0	7439514
Dissolved Phosphorus (P)	ug/L	<100	100	7439414	<100	100	7439414	<100	100	7439514
Dissolved Potassium (K)	ug/L	2100	200	7439414	2100	200	7439414	1600	200	7439514
Dissolved Selenium (Se)	ug/L	<2.0	2.0	7439414	<2.0	2.0	7439414	<2.0	2.0	7439514
Dissolved Silicon (Si)	ug/L	5800	50	7439414	5800	50	7439414	5200	50	7439514
Dissolved Silver (Ag)	ug/L	<0.090	0.090	7439414	<0.090	0.090	7439414	<0.090	0.090	7439514
Dissolved Sodium (Na)	ug/L	11000	100	7439414	11000	100	7439414	67000	100	7439514
Dissolved Strontium (Sr)	ug/L	1000	1.0	7439414	1000	1.0	7439414	210	1.0	7439514
Dissolved Thallium (Tl)	ug/L	<0.050	0.050	7439414	<0.050	0.050	7439414	<0.050	0.050	7439514
Dissolved Titanium (Ti)	ug/L	<5.0	5.0	7439414	<5.0	5.0	7439414	<5.0	5.0	7439514
Dissolved Uranium (U)	ug/L	0.67	0.10	7439414	0.66	0.10	7439414	2.8	0.10	7439514
Dissolved Vanadium (V)	ug/L	<0.50	0.50	7439414	<0.50	0.50	7439414	<0.50	0.50	7439514
Dissolved Zinc (Zn)	ug/L	<5.0	5.0	7439414	<5.0	5.0	7439414	<5.0	5.0	7439514

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate

Bureau Veritas Laboratories 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvlabs.com

Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

BV Labs Job #: C1I0177
Report Date: 2021/07/08

Golder Associates Ltd
Client Project #: 19129150 (2300)
Sampler Initials: AK

RCAP - COMPREHENSIVE (WATER)

BV Labs ID		PYW904		PYW905		
Sampling Date		2021/06/28		2021/06/28		
COC Number		831949-09-01		831949-09-01		
	UNITS	MW20-21A	RDL	MW20-21B	RDL	QC Batch
Calculated Parameters						
Anion Sum	me/L	27.5	N/A	7.21	N/A	7437804
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	200	1.0	290	1.0	7437805
Calculated TDS	mg/L	1800	1.0	410	1.0	7437809
Carb. Alkalinity (calc. as CaCO3)	mg/L	1.9	1.0	4.7	1.0	7437805
Cation Sum	me/L	28.6	N/A	8.22	N/A	7437804
Hardness (CaCO3)	mg/L	1400	1.0	350	1.0	7437803
Ion Balance (% Difference)	%	2.00	N/A	6.59	N/A	7437802
Langelier Index (@ 20C)	N/A	1.27		1.22		7437806
Langelier Index (@ 4C)	N/A	1.02		0.970		7437807
Saturation pH (@ 20C)	N/A	6.73		7.01		7437806
Saturation pH (@ 4C)	N/A	6.98		7.26		7437807
Inorganics						
Total Ammonia-N	mg/L	0.085	0.050	0.61	0.050	7441345
Conductivity	umho/cm	2100	1.0	640	1.0	7441777
Dissolved Organic Carbon	mg/L	0.92	0.40	5.5	0.40	7441338
Orthophosphate (P)	mg/L	<0.010	0.010	<0.010	0.010	7441833
pH	pH	8.00		8.23		7441778
Dissolved Sulphate (SO4)	mg/L	1100	10	56	1.0	7441832
Alkalinity (Total as CaCO3)	mg/L	200	1.0	300	1.0	7441747
Dissolved Chloride (Cl-)	mg/L	15	1.0	3.1	1.0	7441814
Nitrite (N)	mg/L	<0.010	0.010	<0.010	0.010	7442481
Nitrate (N)	mg/L	<0.10	0.10	<0.10	0.10	7442481
Nitrate + Nitrite (N)	mg/L	<0.10	0.10	<0.10	0.10	7442481
Metals						
Dissolved Aluminum (Al)	ug/L	7.4	4.9	500	4.9	7439514
Dissolved Antimony (Sb)	ug/L	<0.50	0.50	<0.50	0.50	7439514
Dissolved Arsenic (As)	ug/L	14	1.0	9.3	1.0	7439514
Dissolved Barium (Ba)	ug/L	17	2.0	130	2.0	7439514
Dissolved Beryllium (Be)	ug/L	<0.40	0.40	<0.40	0.40	7439514
Dissolved Boron (B)	ug/L	110	10	47	10	7439514
Dissolved Cadmium (Cd)	ug/L	<0.090	0.090	<0.090	0.090	7439514
Dissolved Calcium (Ca)	ug/L	390000	400	91000	200	7439514

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
N/A = Not Applicable

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

RCAP - COMPREHENSIVE (WATER)

BV Labs ID		PYW904		PYW905		
Sampling Date		2021/06/28		2021/06/28		
COC Number		831949-09-01		831949-09-01		
	UNITS	MW20-21A	RDL	MW20-21B	RDL	QC Batch
Dissolved Chromium (Cr)	ug/L	<5.0	5.0	<5.0	5.0	7439514
Dissolved Cobalt (Co)	ug/L	<0.50	0.50	<0.50	0.50	7439514
Dissolved Copper (Cu)	ug/L	<0.90	0.90	3.1	0.90	7439514
Dissolved Iron (Fe)	ug/L	810	100	1100	100	7439514
Dissolved Lead (Pb)	ug/L	<0.50	0.50	2.1	0.50	7439514
Dissolved Magnesium (Mg)	ug/L	94000	50	30000	50	7439514
Dissolved Manganese (Mn)	ug/L	21	2.0	41	2.0	7439514
Dissolved Molybdenum (Mo)	ug/L	4.0	0.50	5.1	0.50	7439514
Dissolved Nickel (Ni)	ug/L	<1.0	1.0	5.2	1.0	7439514
Dissolved Phosphorus (P)	ug/L	<100	100	<100	100	7439514
Dissolved Potassium (K)	ug/L	3200	200	1100	200	7439514
Dissolved Selenium (Se)	ug/L	<2.0	2.0	<2.0	2.0	7439514
Dissolved Silicon (Si)	ug/L	6600	50	10000	50	7439514
Dissolved Silver (Ag)	ug/L	<0.090	0.090	<0.090	0.090	7439514
Dissolved Sodium (Na)	ug/L	33000	100	25000	100	7439514
Dissolved Strontium (Sr)	ug/L	7100	1.0	1200	1.0	7439514
Dissolved Thallium (Tl)	ug/L	<0.050	0.050	<0.050	0.050	7439514
Dissolved Titanium (Ti)	ug/L	<5.0	5.0	23	5.0	7439514
Dissolved Uranium (U)	ug/L	0.20	0.10	1.8	0.10	7439514
Dissolved Vanadium (V)	ug/L	<0.50	0.50	1.2	0.50	7439514
Dissolved Zinc (Zn)	ug/L	<5.0	5.0	9.8	5.0	7439514

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

O.REG 153 PHCS, BTEX/F1-F4 (WATER)

BV Labs ID		PYW903	PYW905		
Sampling Date		2021/06/28	2021/06/28		
COC Number		831949-09-01	831949-09-01		
	UNITS	MW20-16B	MW20-21B	RDL	QC Batch
BTEX & F1 Hydrocarbons					
Benzene	ug/L	<0.20	<0.20	0.20	7443249
Toluene	ug/L	0.21	<0.20	0.20	7443249
Ethylbenzene	ug/L	<0.20	<0.20	0.20	7443249
o-Xylene	ug/L	<0.20	<0.20	0.20	7443249
p+m-Xylene	ug/L	<0.40	<0.40	0.40	7443249
Total Xylenes	ug/L	<0.40	<0.40	0.40	7443249
F1 (C6-C10)	ug/L	86	<25	25	7443249
F1 (C6-C10) - BTEX	ug/L	86	<25	25	7443249
F2-F4 Hydrocarbons					
F2 (C10-C16 Hydrocarbons)	ug/L	<100	<100	100	7441624
F3 (C16-C34 Hydrocarbons)	ug/L	<200	<200	200	7441624
F4 (C34-C50 Hydrocarbons)	ug/L	<200	<200	200	7441624
Reached Baseline at C50	ug/L	Yes	Yes		7441624
Surrogate Recovery (%)					
1,4-Difluorobenzene	%	97	98		7443249
4-Bromofluorobenzene	%	92	89		7443249
D10-o-Xylene	%	97	98		7443249
D4-1,2-Dichloroethane	%	98	97		7443249
o-Terphenyl	%	93	94		7441624

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

TEST SUMMARY

BV Labs ID: PYW902
Sample ID: MW20-16A
Matrix: Water

Collected: 2021/06/28
Shipped:
Received: 2021/06/28

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	7441747	N/A	2021/07/06	Surinder Rai
Carbonate, Bicarbonate and Hydroxide	CALC	7437805	N/A	2021/07/06	Automated Statchk
Chloride by Automated Colourimetry	KONE	7441814	N/A	2021/07/05	Alina Dobreanu
Conductivity	AT	7441777	N/A	2021/07/06	Surinder Rai
Dissolved Organic Carbon (DOC)	TOCV/NDIR	7441338	N/A	2021/07/02	Nimarta Singh
Hardness (calculated as CaCO3)		7437803	N/A	2021/07/05	Automated Statchk
Dissolved Metals by ICPMS	ICP/MS	7439414	N/A	2021/07/02	Nan Raykha
Ion Balance (% Difference)	CALC	7437802	N/A	2021/07/06	Automated Statchk
Anion and Cation Sum	CALC	7437804	N/A	2021/07/06	Automated Statchk
Total Ammonia-N	LACH/NH4	7441345	N/A	2021/07/05	Amanpreet Sappal
Nitrate (NO3) and Nitrite (NO2) in Water	LACH	7442218	N/A	2021/07/05	Amanpreet Sappal
pH	AT	7441778	2021/07/02	2021/07/06	Surinder Rai
Orthophosphate	KONE	7441833	N/A	2021/07/05	Avneet Kour Sudan
Sat. pH and Langelier Index (@ 20C)	CALC	7437806	N/A	2021/07/06	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	7437807	N/A	2021/07/06	Automated Statchk
Sulphate by Automated Colourimetry	KONE	7441832	N/A	2021/07/05	Alina Dobreanu
Total Dissolved Solids (TDS calc)	CALC	7437809	N/A	2021/07/06	Automated Statchk

BV Labs ID: PYW902 Dup
Sample ID: MW20-16A
Matrix: Water

Collected: 2021/06/28
Shipped:
Received: 2021/06/28

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Dissolved Metals by ICPMS	ICP/MS	7439414	N/A	2021/07/02	Nan Raykha

BV Labs ID: PYW903
Sample ID: MW20-16B
Matrix: Water

Collected: 2021/06/28
Shipped:
Received: 2021/06/28

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	7441747	N/A	2021/07/06	Surinder Rai
Carbonate, Bicarbonate and Hydroxide	CALC	7437805	N/A	2021/07/06	Automated Statchk
Chloride by Automated Colourimetry	KONE	7441814	N/A	2021/07/05	Alina Dobreanu
Conductivity	AT	7441777	N/A	2021/07/06	Surinder Rai
Dissolved Organic Carbon (DOC)	TOCV/NDIR	7439424	N/A	2021/06/30	Nimarta Singh
Petroleum Hydro. CCME F1 & BTEX in Water	HSGC/MSFD	7443249	N/A	2021/07/05	Domnica Andronescu
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	7441624	2021/07/02	2021/07/03	Ravinder Gaidhu
Hardness (calculated as CaCO3)		7437803	N/A	2021/07/02	Automated Statchk
Dissolved Metals by ICPMS	ICP/MS	7439514	N/A	2021/07/02	Daniel Teclu
Ion Balance (% Difference)	CALC	7437802	N/A	2021/07/06	Automated Statchk
Anion and Cation Sum	CALC	7437804	N/A	2021/07/06	Automated Statchk
Total Ammonia-N	LACH/NH4	7441345	N/A	2021/07/05	Amanpreet Sappal
Nitrate (NO3) and Nitrite (NO2) in Water	LACH	7442481	N/A	2021/07/05	Amanpreet Sappal
pH	AT	7441778	2021/07/02	2021/07/06	Surinder Rai
Orthophosphate	KONE	7441833	N/A	2021/07/05	Avneet Kour Sudan

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TEST SUMMARY

BV Labs ID: PYW903
Sample ID: MW20-16B
Matrix: Water

Collected: 2021/06/28
Shipped:
Received: 2021/06/28

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Sat. pH and Langelier Index (@ 20C)	CALC	7437806	N/A	2021/07/06	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	7437807	N/A	2021/07/06	Automated Statchk
Sulphate by Automated Colourimetry	KONE	7441832	N/A	2021/07/05	Alina Dobreanu
Total Dissolved Solids (TDS calc)	CALC	7437809	N/A	2021/07/06	Automated Statchk

BV Labs ID: PYW904
Sample ID: MW20-21A
Matrix: Water

Collected: 2021/06/28
Shipped:
Received: 2021/06/28

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	7441747	N/A	2021/07/06	Surinder Rai
Carbonate, Bicarbonate and Hydroxide	CALC	7437805	N/A	2021/07/06	Automated Statchk
Chloride by Automated Colourimetry	KONE	7441814	N/A	2021/07/05	Alina Dobreanu
Conductivity	AT	7441777	N/A	2021/07/06	Surinder Rai
Dissolved Organic Carbon (DOC)	TOCV/NDIR	7441338	N/A	2021/07/02	Nimarta Singh
Hardness (calculated as CaCO3)		7437803	N/A	2021/07/02	Automated Statchk
Dissolved Metals by ICPMS	ICP/MS	7439514	N/A	2021/07/02	Daniel Teclu
Ion Balance (% Difference)	CALC	7437802	N/A	2021/07/06	Automated Statchk
Anion and Cation Sum	CALC	7437804	N/A	2021/07/06	Automated Statchk
Total Ammonia-N	LACH/NH4	7441345	N/A	2021/07/05	Amanpreet Sappal
Nitrate (NO3) and Nitrite (NO2) in Water	LACH	7442481	N/A	2021/07/05	Amanpreet Sappal
pH	AT	7441778	2021/07/02	2021/07/06	Surinder Rai
Orthophosphate	KONE	7441833	N/A	2021/07/05	Avneet Kour Sudan
Sat. pH and Langelier Index (@ 20C)	CALC	7437806	N/A	2021/07/06	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	7437807	N/A	2021/07/06	Automated Statchk
Sulphate by Automated Colourimetry	KONE	7441832	N/A	2021/07/05	Alina Dobreanu
Total Dissolved Solids (TDS calc)	CALC	7437809	N/A	2021/07/06	Automated Statchk

BV Labs ID: PYW905
Sample ID: MW20-21B
Matrix: Water

Collected: 2021/06/28
Shipped:
Received: 2021/06/28

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	7441747	N/A	2021/07/06	Surinder Rai
Carbonate, Bicarbonate and Hydroxide	CALC	7437805	N/A	2021/07/06	Automated Statchk
Chloride by Automated Colourimetry	KONE	7441814	N/A	2021/07/05	Alina Dobreanu
Conductivity	AT	7441777	N/A	2021/07/06	Surinder Rai
Dissolved Organic Carbon (DOC)	TOCV/NDIR	7441338	N/A	2021/07/02	Nimarta Singh
Petroleum Hydro. CCME F1 & BTEX in Water	HSGC/MSFD	7443249	N/A	2021/07/05	Domnica Andronescu
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	7441624	2021/07/02	2021/07/03	Ravinder Gaidhu
Hardness (calculated as CaCO3)		7437803	N/A	2021/07/02	Automated Statchk
Dissolved Metals by ICPMS	ICP/MS	7439514	N/A	2021/07/02	Daniel Teclu
Ion Balance (% Difference)	CALC	7437802	N/A	2021/07/06	Automated Statchk
Anion and Cation Sum	CALC	7437804	N/A	2021/07/06	Automated Statchk
Total Ammonia-N	LACH/NH4	7441345	N/A	2021/07/05	Amanpreet Sappal

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

BV Labs Job #: C1I0177
Report Date: 2021/07/08

Golder Associates Ltd
Client Project #: 19129150 (2300)
Sampler Initials: AK

TEST SUMMARY

BV Labs ID: PYW905
Sample ID: MW20-21B
Matrix: Water

Collected: 2021/06/28
Shipped:
Received: 2021/06/28

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Nitrate (NO3) and Nitrite (NO2) in Water	LACH	7442481	N/A	2021/07/05	Amanpreet Sappal
pH	AT	7441778	2021/07/02	2021/07/06	Surinder Rai
Orthophosphate	KONE	7441833	N/A	2021/07/05	Avneet Kour Sudan
Sat. pH and Langelier Index (@ 20C)	CALC	7437806	N/A	2021/07/06	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	7437807	N/A	2021/07/06	Automated Statchk
Sulphate by Automated Colourimetry	KONE	7441832	N/A	2021/07/05	Alina Dobreanu
Total Dissolved Solids (TDS calc)	CALC	7437809	N/A	2021/07/06	Automated Statchk

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GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	15.0°C

Sample PYW903 [MW20-16B] : F1 BTEX analysis:The contamination in the F1 range is mainly due to a single peak , not a typical petroleum product.

Results relate only to the items tested.

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

QUALITY ASSURANCE REPORT

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
7441624	o-Terphenyl	2021/07/02	99	60 - 130	98	60 - 130	95	%		
7443249	1,4-Difluorobenzene	2021/07/05	95	70 - 130	98	70 - 130	98	%		
7443249	4-Bromofluorobenzene	2021/07/05	91	70 - 130	93	70 - 130	89	%		
7443249	D10-o-Xylene	2021/07/05	88	70 - 130	95	70 - 130	100	%		
7443249	D4-1,2-Dichloroethane	2021/07/05	93	70 - 130	90	70 - 130	95	%		
7439414	Dissolved Aluminum (Al)	2021/07/02	93	80 - 120	101	80 - 120	<4.9	ug/L	3.5	20
7439414	Dissolved Antimony (Sb)	2021/07/02	108	80 - 120	100	80 - 120	<0.50	ug/L	NC	20
7439414	Dissolved Arsenic (As)	2021/07/02	103	80 - 120	98	80 - 120	<1.0	ug/L	0.20	20
7439414	Dissolved Barium (Ba)	2021/07/02	102	80 - 120	101	80 - 120	<2.0	ug/L	0.49	20
7439414	Dissolved Beryllium (Be)	2021/07/02	110	80 - 120	102	80 - 120	<0.40	ug/L	NC	20
7439414	Dissolved Boron (B)	2021/07/02	108	80 - 120	100	80 - 120	<10	ug/L	0.65	20
7439414	Dissolved Cadmium (Cd)	2021/07/02	103	80 - 120	98	80 - 120	<0.090	ug/L	NC	20
7439414	Dissolved Calcium (Ca)	2021/07/02	NC	80 - 120	91	80 - 120	<200	ug/L	0.39	20
7439414	Dissolved Chromium (Cr)	2021/07/02	100	80 - 120	97	80 - 120	<5.0	ug/L	NC	20
7439414	Dissolved Cobalt (Co)	2021/07/02	98	80 - 120	96	80 - 120	<0.50	ug/L	NC	20
7439414	Dissolved Copper (Cu)	2021/07/02	102	80 - 120	97	80 - 120	<0.90	ug/L	NC	20
7439414	Dissolved Iron (Fe)	2021/07/02	98	80 - 120	95	80 - 120	<100	ug/L	0.35	20
7439414	Dissolved Lead (Pb)	2021/07/02	103	80 - 120	99	80 - 120	<0.50	ug/L	NC	20
7439414	Dissolved Magnesium (Mg)	2021/07/02	93	80 - 120	92	80 - 120	<50	ug/L	0.98	20
7439414	Dissolved Manganese (Mn)	2021/07/02	99	80 - 120	96	80 - 120	<2.0	ug/L	2.6	20
7439414	Dissolved Molybdenum (Mo)	2021/07/02	107	80 - 120	101	80 - 120	<0.50	ug/L	1.4	20
7439414	Dissolved Nickel (Ni)	2021/07/02	96	80 - 120	94	80 - 120	<1.0	ug/L	NC	20
7439414	Dissolved Phosphorus (P)	2021/07/02	102	80 - 120	110	80 - 120	<100	ug/L	NC	20
7439414	Dissolved Potassium (K)	2021/07/02	99	80 - 120	97	80 - 120	<200	ug/L	1.0	20
7439414	Dissolved Selenium (Se)	2021/07/02	98	80 - 120	94	80 - 120	<2.0	ug/L	NC	20
7439414	Dissolved Silicon (Si)	2021/07/02	91	80 - 120	91	80 - 120	<50	ug/L	0.20	20
7439414	Dissolved Silver (Ag)	2021/07/02	98	80 - 120	96	80 - 120	<0.090	ug/L	NC	20
7439414	Dissolved Sodium (Na)	2021/07/02	96	80 - 120	92	80 - 120	<100	ug/L	2.3	20
7439414	Dissolved Strontium (Sr)	2021/07/02	NC	80 - 120	98	80 - 120	<1.0	ug/L	0.37	20
7439414	Dissolved Thallium (Tl)	2021/07/02	104	80 - 120	98	80 - 120	<0.050	ug/L	NC	20
7439414	Dissolved Titanium (Ti)	2021/07/02	91	80 - 120	90	80 - 120	<5.0	ug/L	NC	20

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
7439414	Dissolved Uranium (U)	2021/07/02	104	80 - 120	96	80 - 120	<0.10	ug/L	0.30	20
7439414	Dissolved Vanadium (V)	2021/07/02	99	80 - 120	95	80 - 120	<0.50	ug/L	NC	20
7439414	Dissolved Zinc (Zn)	2021/07/02	99	80 - 120	95	80 - 120	<5.0	ug/L	NC	20
7439424	Dissolved Organic Carbon	2021/06/30	95	80 - 120	98	80 - 120	<0.40	mg/L	0.99	20
7439514	Dissolved Aluminum (Al)	2021/07/02	101	80 - 120	101	80 - 120	<4.9	ug/L	NC	20
7439514	Dissolved Antimony (Sb)	2021/07/02	104	80 - 120	99	80 - 120	<0.50	ug/L	NC	20
7439514	Dissolved Arsenic (As)	2021/07/02	103	80 - 120	100	80 - 120	<1.0	ug/L	NC	20
7439514	Dissolved Barium (Ba)	2021/07/02	102	80 - 120	98	80 - 120	<2.0	ug/L	3.5	20
7439514	Dissolved Beryllium (Be)	2021/07/02	103	80 - 120	100	80 - 120	<0.40	ug/L	NC	20
7439514	Dissolved Boron (B)	2021/07/02	98	80 - 120	96	80 - 120	<10	ug/L	2.1	20
7439514	Dissolved Cadmium (Cd)	2021/07/02	101	80 - 120	98	80 - 120	<0.090	ug/L	NC	20
7439514	Dissolved Calcium (Ca)	2021/07/02	NC	80 - 120	100	80 - 120	<200	ug/L	0.63	20
7439514	Dissolved Chromium (Cr)	2021/07/02	98	80 - 120	97	80 - 120	<5.0	ug/L	NC	20
7439514	Dissolved Cobalt (Co)	2021/07/02	103	80 - 120	105	80 - 120	<0.50	ug/L	NC	20
7439514	Dissolved Copper (Cu)	2021/07/02	106	80 - 120	103	80 - 120	<0.90	ug/L	NC	20
7439514	Dissolved Iron (Fe)	2021/07/02	101	80 - 120	100	80 - 120	<100	ug/L	2.1	20
7439514	Dissolved Lead (Pb)	2021/07/02	102	80 - 120	99	80 - 120	<0.50	ug/L	NC	20
7439514	Dissolved Magnesium (Mg)	2021/07/02	NC	80 - 120	102	80 - 120	<50	ug/L	2.1	20
7439514	Dissolved Manganese (Mn)	2021/07/02	97	80 - 120	96	80 - 120	<2.0	ug/L	2.6	20
7439514	Dissolved Molybdenum (Mo)	2021/07/02	106	80 - 120	99	80 - 120	<0.50	ug/L	0.43	20
7439514	Dissolved Nickel (Ni)	2021/07/02	98	80 - 120	98	80 - 120	<1.0	ug/L	NC	20
7439514	Dissolved Phosphorus (P)	2021/07/02	102	80 - 120	101	80 - 120	<100	ug/L	NC	20
7439514	Dissolved Potassium (K)	2021/07/02	102	80 - 120	100	80 - 120	<200	ug/L	0.43	20
7439514	Dissolved Selenium (Se)	2021/07/02	103	80 - 120	102	80 - 120	<2.0	ug/L	NC	20
7439514	Dissolved Silicon (Si)	2021/07/02	100	80 - 120	97	80 - 120	<50	ug/L	0.98	20
7439514	Dissolved Silver (Ag)	2021/07/02	100	80 - 120	98	80 - 120	<0.090	ug/L	NC	20
7439514	Dissolved Sodium (Na)	2021/07/02	104	80 - 120	102	80 - 120	<100	ug/L	1.7	20
7439514	Dissolved Strontium (Sr)	2021/07/02	NC	80 - 120	90	80 - 120	<1.0	ug/L	2.2	20
7439514	Dissolved Thallium (Tl)	2021/07/02	107	80 - 120	102	80 - 120	<0.050	ug/L	NC	20
7439514	Dissolved Titanium (Ti)	2021/07/02	96	80 - 120	94	80 - 120	<5.0	ug/L	NC	20
7439514	Dissolved Uranium (U)	2021/07/02	101	80 - 120	97	80 - 120	<0.10	ug/L	NC	20

QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
7439514	Dissolved Vanadium (V)	2021/07/02	101	80 - 120	98	80 - 120	<0.50	ug/L	NC	20
7439514	Dissolved Zinc (Zn)	2021/07/02	98	80 - 120	97	80 - 120	<5.0	ug/L	NC	20
7441338	Dissolved Organic Carbon	2021/07/02	94	80 - 120	92	80 - 120	<0.40	mg/L	5.9	20
7441345	Total Ammonia-N	2021/07/05	96	75 - 125	99	80 - 120	<0.050	mg/L	NC	20
7441624	F2 (C10-C16 Hydrocarbons)	2021/07/03	NC	60 - 130	111	60 - 130	<100	ug/L	12	30
7441624	F3 (C16-C34 Hydrocarbons)	2021/07/03	100	60 - 130	113	60 - 130	<200	ug/L	NC	30
7441624	F4 (C34-C50 Hydrocarbons)	2021/07/03	104	60 - 130	112	60 - 130	<200	ug/L	NC	30
7441747	Alkalinity (Total as CaCO3)	2021/07/06			95	85 - 115	<1.0	mg/L	1.2	20
7441777	Conductivity	2021/07/06			99	85 - 115	<1.0	umho/cm	0.38	25
7441778	pH	2021/07/06			101	98 - 103			0.42	N/A
7441814	Dissolved Chloride (Cl-)	2021/07/05	112	80 - 120	104	80 - 120	<1.0	mg/L	1.9	20
7441832	Dissolved Sulphate (SO4)	2021/07/05	NC	75 - 125	102	80 - 120	<1.0	mg/L	0.30	20
7441833	Orthophosphate (P)	2021/07/05	113	75 - 125	99	80 - 120	<0.010	mg/L	NC	25
7442218	Nitrate (N)	2021/07/05	87	80 - 120	99	80 - 120	<0.10	mg/L	0.50	20
7442218	Nitrite (N)	2021/07/05	100	80 - 120	103	80 - 120	<0.010	mg/L	11	20
7442481	Nitrate (N)	2021/07/05	97	80 - 120	100	80 - 120	<0.10	mg/L	NC	20
7442481	Nitrite (N)	2021/07/05	102	80 - 120	103	80 - 120	<0.010	mg/L	NC	20
7443249	Benzene	2021/07/05	94	50 - 140	99	50 - 140	<0.20	ug/L	NC	30
7443249	Ethylbenzene	2021/07/05	103	50 - 140	110	50 - 140	<0.20	ug/L	NC	30
7443249	F1 (C6-C10) - BTEX	2021/07/05					<25	ug/L	NC	30
7443249	F1 (C6-C10)	2021/07/05	84	60 - 140	89	60 - 140	<25	ug/L	NC	30
7443249	o-Xylene	2021/07/05	100	50 - 140	107	50 - 140	<0.20	ug/L	NC	30
7443249	p+m-Xylene	2021/07/05	111	50 - 140	122	50 - 140	<0.40	ug/L	NC	30
7443249	Toluene	2021/07/05	98	50 - 140	105	50 - 140	<0.20	ug/L	NC	30

Bureau Veritas Laboratories 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvlabs.com

Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
7443249	Total Xylenes	2021/07/05					<0.40	ug/L	NC	30

N/A = Not Applicable

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

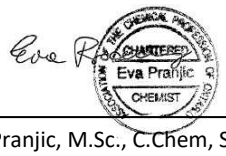
NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:



Ewa Pranjic, M.Sc., C.Chem, Scientific Specialist

BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

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Bureau Veritas Laboratories
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Page 1 of 1

28-Jun-21 16:35
Ema Gitej
C1I0177

INVOICE TO:		REPORT TO:		PROJECT INFORMATION:	
Company Name:	#21375 Golder Associates Ltd	Company Name:		Quotation #:	B80683
Attention:	Accounts Payable	Attention:	Gregory Padusenko	P.O. #:	
Address:	210 Sheldon Drive Cambridge ON N1T 1A8	Address:		Project:	19129150 (2300)
Tel:	(519) 620-8182 Fax:	Tel:	(519) 620-8182 Ext: 6509 Fax: (519) 620-9878	Project Name:	
Email:	CanadaAccountsPayableInvoices@golder.com	Email:	Gregory_Padusenko@golder.com	Site #:	
				Sampled By:	

Lab Use Only: Bottle Order #: 831949
C#831949-09-01
Project Manager: Ema Gitej

MOE REGULATED DRINKING WATER OR WATER INTENDED FOR HUMAN CONSUMPTION MUST BE SUBMITTED ON THE BV LABS DRINKING WATER CHAIN OF CUSTODY

Regulation 153 (2011): ☐ Table 1 ☐ Res/Park ☐ Medium/Fine ☐ Table 2 ☐ Ind/Comm ☐ Coarse ☐ Table 3 ☐ Agri/Other ☐ For RSC ☐ Table ___

Other Regulations: ☐ CCME ☐ Sanitary Sewer Bylaw ☐ Reg 558 ☐ Storm Sewer Bylaw ☐ MISA Municipality ☐ PWQO ☐ Reg 406 Table ☐ Other

Special Instructions

Include Criteria on Certificate of Analysis (Y/N)? ___

ANALYSIS REQUESTED (PLEASE BE SPECIFIC):

Turnaround Time (TAT) Required:
Please provide advance notice for rush projects

Regular (Standard) TAT: ☒
(will be applied if Rush TAT is not specified)
Standard TAT = 5-7 Working days for most tests.
Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.

Job Specific Rush TAT (if applies to entire submission)
Date Required: ___ Time Required: ___ ☐
Rush Confirmation Number: ___ *(call lab for #)*

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Field Filtered (please circle): Metals / Hg / Cr VI	RCAp - Comprehensive	O Reg 153 PHCs, BTEX/F1-F4								# of Bottles	Comments
1		MW20-16A	06/28/21	GW	12-	X	X									4	
2		MW20-16B	↓	↓	12:30	X	X	X								8	
3		MW20-21A			9-	X	X									4	
4		MW20-21B			9:30	X	X	X								8	
5																	
6																	
7																	
8																	REC'D IN WATERLOO
9																	
10																	

* RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time
Future Link Lab/A. Link/Golder	21/06/28		JASPREET TIWANA [signature]	2021/06/28	16:35
			KRISTEETHA SKANTHA	21/06/29	12:30

jars used and not submitted

Laboratory Use Only
Time Sensitive
Temperature (°C) on Receipt: 19° 12° 14°
Custody Seal Present Intact: Yes ☐ No ☐

* UNLESS OTHERWISE AGREED TO IN WRITING, WORK SUBMITTED ON THIS CHAIN OF CUSTODY IS SUBJECT TO BV LABS' STANDARD TERMS AND CONDITIONS. SIGNING OF THIS CHAIN OF CUSTODY DOCUMENT IS ACKNOWLEDGMENT AND ACCEPTANCE OF OUR TERMS WHICH ARE AVAILABLE FOR VIEWING AT WWW.BVLABS.COM/TERMS-AND-CONDITIONS.

* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

** SAMPLE CONTAINER, PRESERVATION, HOLD TIME AND PACKAGE INFORMATION CAN BE VIEWED AT WWW.BVLABS.COM/RESOURCES/CHAIN-OF-CUSTODY-FORMS.

SAMPLES MUST BE KEPT COOL (< 10° C) FROM TIME OF SAMPLING UNTIL DELIVERY TO BV LABS

White: BV Labs Yellow: Client

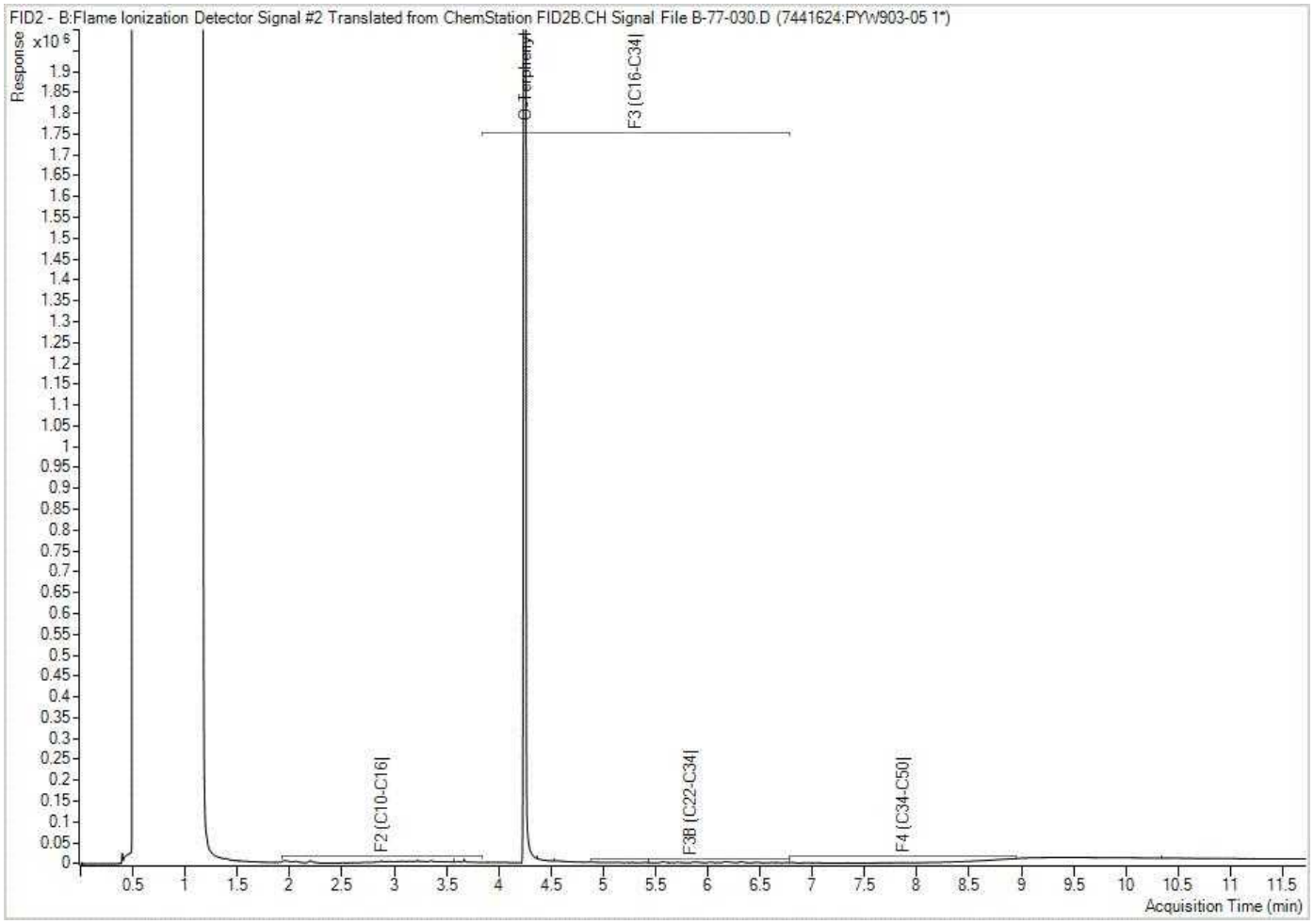
Bureau Veritas Canada (2019) Inc.

6/7/3 ON ICE

BV Labs Job #: C1I0177
Report Date: 2021/07/08
BV Labs Sample: PYW903

Golder Associates Ltd
Client Project #: 19129150 (2300)
Client ID: MW20-16B

Petroleum Hydrocarbons F2-F4 in Water Chromatogram

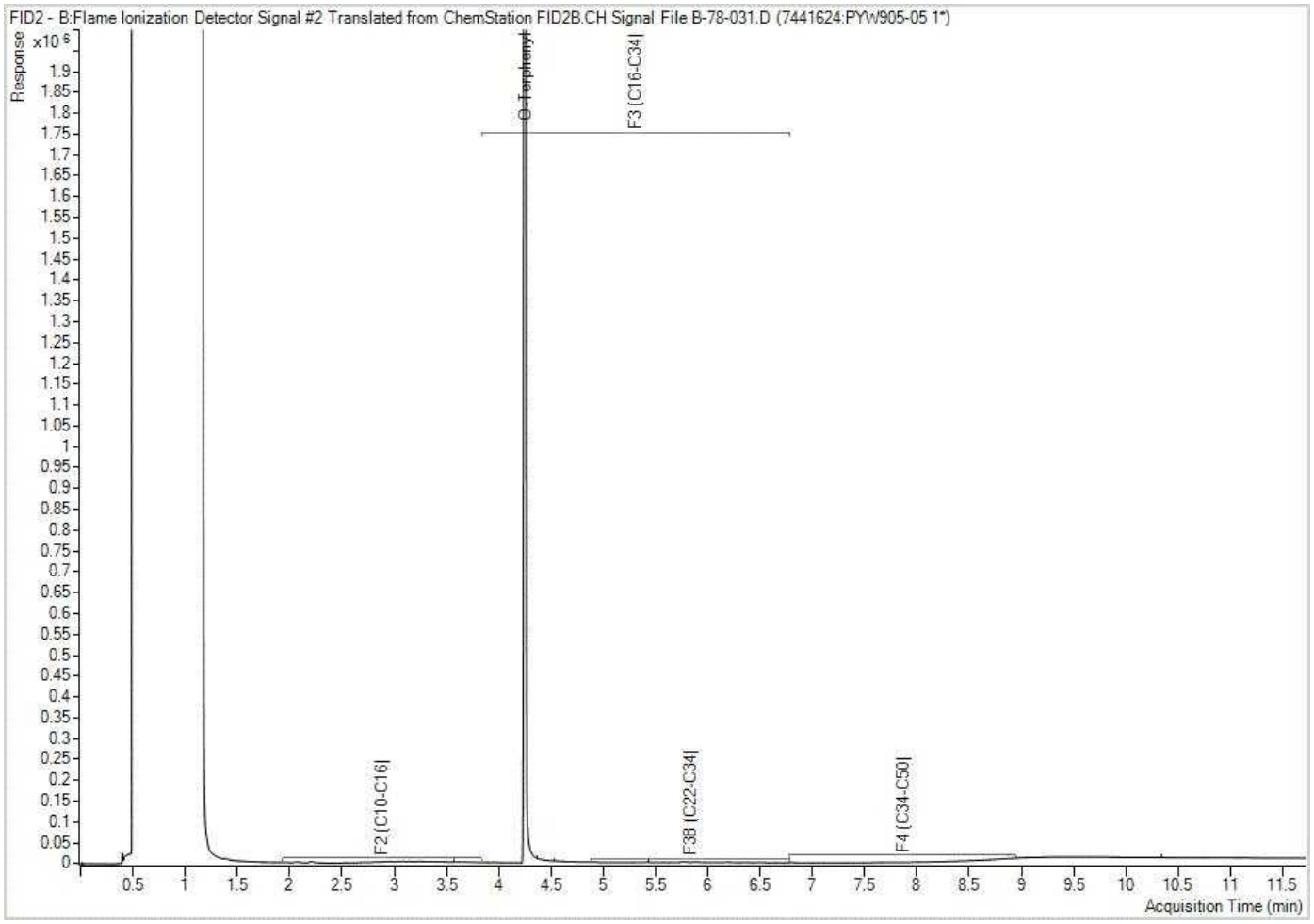


Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

BV Labs Job #: C1I0177
Report Date: 2021/07/08
BV Labs Sample: PYW905

Golder Associates Ltd
Client Project #: 19129150 (2300)
Client ID: MW20-21B

Petroleum Hydrocarbons F2-F4 in Water Chromatogram



Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

TECHNICAL MEMORANDUM

DATE October 15, 2024 **Project No.** 19129150

TO David Hanratty; Mike Le Breton
CBM Aggregates

CC Greg Padusenko; Heather Melcher; Paul Menkveld

FROM Craig DeVito **EMAIL craig.devito@wsp.com**

2024 SURFACE WATER QUALITY – PROPOSED CBM CALEDON PIT / QUARRY

1.0 INTRODUCTION

CBM Aggregates (CBM), a division of St. Marys Cement Inc. (Canada) recently applied to the Ministry of Natural Resources and Forestry (MNRF) for a Class A Licence (Pit and Quarry Below Water) and to the Town of Caledon for an Official Plan Amendment and Zoning By-law Amendment to permit a mineral aggregate operation. Technical comments related to the Level 1/2 Water Report have been received from nine agency / stakeholder groups. The Ministry of the Environment Conservation and Parks (MECP) and Shared Value Solutions on behalf of Six Nations of the Grand River (SNGR) provided comments relating to the baseline groundwater and surface water quality collected at the Site to date.

In response to the comments received, WSP Canada Inc. (WSP) conducted a follow-up surface water quality sampling event in the spring of 2024 to collect additional baseline data across the site and surrounding area. This technical memorandum presents the results of this one-time sampling event, which focused on water quality at five monitoring locations and the main stem of the Credit River. Previous water quality data can be found in the Level 1/2 Water Report, providing context for the findings of this additional surface water sampling.

2.0 SURFACE WATER SAMPLING

2.1 Methodology

The methodology for the surface water sampling program was as follows.

- The water samples were collected in pre-supplied laboratory bottles, placed in ice-packed coolers, and delivered to the Bureau Veritas (BV) Labs in Mississauga following standard Chain of Custody protocols.
- The samples were analysed at BV Labs for the RCAP Surface water suite (which includes general chemistry, nutrients, inorganics and metals).

- Analytical results were compared to:
  - Provincial Water Quality Objectives (PWQO) from Policies, Guidelines, Provincial Water Quality Objectives of the Ministry of Environment and Energy, reprinted February 1999.

The initial water quality sampling was carried out by WSP field personnel on June 8, 2021, September 8, 2021, December 14, 2021 and on March 24, 2022. Surface water quality was collected at five surface water monitoring locations within the various tributaries of the Main and Erin Branches of the Credit River surrounding the Site. Surface water sampling was conducted at monitoring stations SW8 to SW11, SW13.

An additional water quality sampling event was carried out by WSP field personnel May 10, 2024. Surface water sampling was conducted at six monitoring stations SW5, SW10, SW13, SW14,SW15, and the main stem of the Credit River with the locations shown on Figure 1. The sampling location in 2024 were focused on stations that were known to be wet or flowing most often in increase the changes of collecting a sample during each sampling event. Surface water sampling is planned for four quarterly events to monitor seasonal variation. Quality assurance/ quality control (QA/QC) samples, including field duplicates, were also collected.

2.2 Results

The sampling results for the analyzed parameters are shown in Table 1. Laboratory certificates of analysis are provided in Appendix A.

The water quality results are summarized as follows:

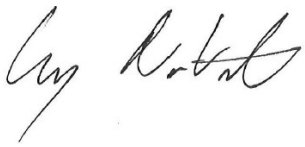
- pH was found to be consistently within the PWQO standard range of 6.5 – 8.5 at each station during the monitoring period, noting that the pH values were mostly near the upper range.
- Total phosphorus concentrations were found to be within the range of <0.02 to 0.036 mg/L. The concentration at SW14 was 0.036 mg/L, which slightly exceeded the PWQO of 0.03 mg/L during the monitoring event.
- Total iron concentrations were measured within the range of <100 to 680 µg/L. The concentration at SW14 was 680 µg/L, exceeding the PWQO of 300 µg/L during the monitoring event.
- During the monitoring event, conductivity was measured between 467.3 and 921.7 µS/cm, and Total Suspended Solids (TSS) levels ranged from 2 to 33 mg/L.
- All other parameter concentrations were below the PWQO and there was no exceedance.

3.0 CLOSURE

We trust that this memorandum meets your current needs. If you have any questions or require clarification, please contact the undersigned at your earliest convenience.

WSP Canada Inc.





Mohammadreza Mahdavi, MSc
Water Resources Specialist

Craig DeVito, PEng
Lead, Water Resources Engineer

MM/CDV/mp

Attachments: Table 1: Summary of Water Quality Results, CBM Caledon
Figure 1: Surface Water Monitoring Station Locations
Appendix A: Certificates of Analysis

https://wsponline.sharepoint.com/sites/gld-114392/project files/6 deliverables/ph 2300-hydrogeology/502 sw gw quality tm/19129150-tm-reva-cbm caledon 2024 sw quality addendum-25feb2025.docx

TABLE 1

Summary of Water Quality Results, CBM Caledon

CBM Caledon

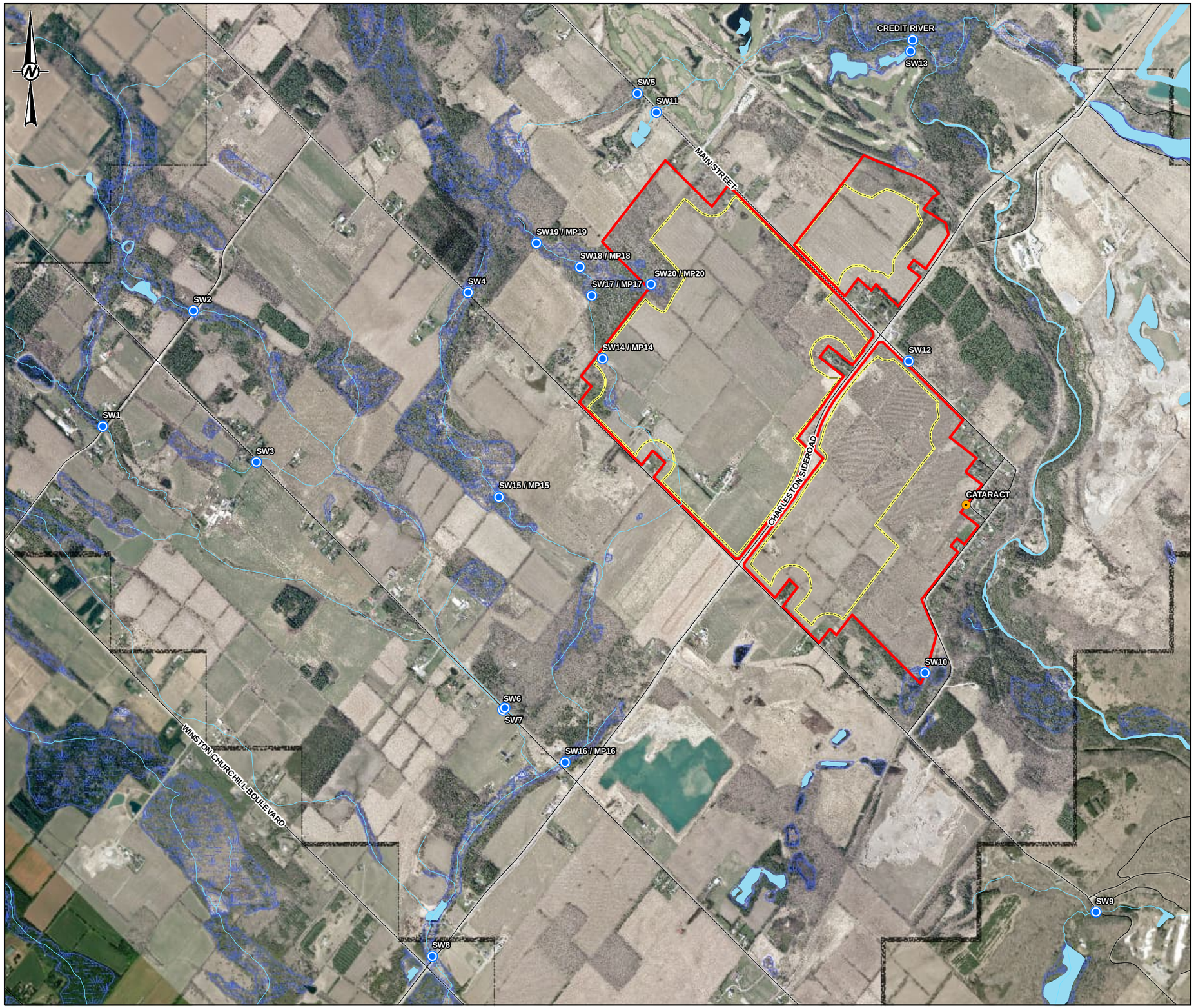
Sampling Date			May 10, 2024					
Calculated Parameters	**UNITS**	**PWQO**	**SW5**	**SW10**	**SW13**	**SW14**	**SW15**	**Credit River**
Hardness (CaCO3)	mg/L	-	270	270	240	290	300	300
Field Measurements								
Field Temperature	Celsius	-	11.02	8.49	16.42	17.06	14.39	11.29
Field Measured pH	-	6.5 - 8.5	8.34	7.39	8.25	8.31	7.95	8.37
Field Measured Conductivity	uS/cm	-	488.7	708.2	469.7	564.2	467.3	921.7
Field Measured Dissolved Oxygen	mg/L	-	9.78	5.31	10.17	9.59	7.44	9.83
Field Measured Turbidity	NTU	-	1.45	1.2	4.27	8.04	1.94	5.92
Inorganics								
Total Ammonia-N	mg/L	-	<0.050	<0.050	<0.050	<0.050	0.065	0.052
Total Kjeldahl Nitrogen (TKN)	mg/L	-	0.44	0.18	0.36	0.52	0.41	0.28
Total Phosphorus	mg/L	0.03	<0.020	<0.020	<0.020	**0.036**	<0.020	<0.020
Total Suspended Solids	mg/L	-	3	8	3	33	2	10
Alkalinity (Total as CaCO3)	mg/L	-	240	250	180	230	240	230
Dissolved Chloride (Cl-)	mg/L	-	13	51	41	31	38	120
Nitrite (N)	mg/L	-	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Nitrate (N)	mg/L	-	<0.10	2.01	<0.10	0.93	0.21	0.83
Nitrate + Nitrite (N)	mg/L	-	<0.10	2.01	<0.10	0.93	0.21	0.83
Petroleum Hydrocarbons								
Total Oil & Grease	mg/L	-	0.9	1.1	0.6	<0.50	<0.50	0.9
Total Metals								
Total Aluminum (Al)	ug/L	-	19	<4.9	6.7	270	15	78
Total Antimony (Sb)	ug/L	20	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Total Arsenic (As)	ug/L	100	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Barium (Ba)	ug/L	-	26	73	39	30	25	55
Total Beryllium (Be)	ug/L	11	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40
Total Bismuth (Bi)	ug/L	-	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Boron (B)	ug/L	200	<10	12	<10	<10	<10	23
Total Cadmium (Cd)	ug/L	0.2	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090
Total Calcium (Ca)	ug/L	-	72000	85000	56000	79000	77000	77000
Total Chromium (Cr)	ug/L	-	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Total Cobalt (Co)	ug/L	0.9	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Total Copper (Cu)	ug/L	5	<0.90	<0.90	<0.90	1.3	<0.90	<0.90
Total Iron (Fe)	ug/L	300	<100	<100	170	**680**	<100	210
Total Lead (Pb)	ug/L	5	<0.50	<0.50	<0.50	0.91	<0.50	<0.50
Total Lithium (Li)	ug/L	-	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Total Magnesium (Mg)	ug/L	-	18000	18000	17000	18000	20000	19000
Total Manganese (Mn)	ug/L	-	13	<2.0	18	110	20	52
Total Molybdenum (Mo)	ug/L	40	0.7	<0.50	<0.50	<0.50	<0.50	<0.50
Total Nickel (Ni)	ug/L	25	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Potassium (K)	ug/L	-	1000	1100	1300	900	1200	2200
Total Selenium (Se)	ug/L	100	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Total Silicon (Si)	ug/L	-	3400	3500	260	3200	2200	2700
Total Silver (Ag)	ug/L	0.1	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090
Total Sodium (Na)	ug/L	-	4600	27000	20000	14000	14000	72000
Total Strontium (Sr)	ug/L	-	100	160	130	140	120	170
Total Tellurium (Te)	ug/L	-	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Thallium (Tl)	ug/L	-	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Total Tin (Sn)	ug/L	-	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Titanium (Ti)	ug/L	-	<5.0	<5.0	<5.0	9.8	<5.0	<5.0
Total Tungsten (W)	ug/L	30	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total Uranium (U)	ug/L	5	0.67	0.2	0.27	0.55	0.27	0.45
Total Vanadium (V)	ug/L	6	<0.50	<0.50	<0.50	1.1	<0.50	<0.50
Total Zinc (Zn)	ug/L	30	6.5	<5.0	<5.0	7.9	<5.0	<5.0
Total Zirconium (Zr)	ug/L	4	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0

Note(s):

(1) Shaded (grey) bold results indicate an exceedance of Ontario Provincial Water Quality Objectives (PWQO).

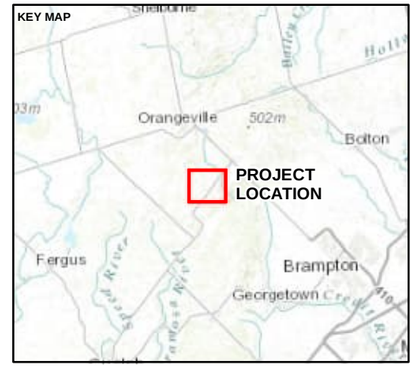
FIGURE 1

Surface Water Monitoring Station Locations



LEGEND

- TOWN/VILLAGE
- SURFACE WATER STATION
- WATERCOURSE
- ROAD
- WATERBODY
- WETLAND
- POTENTIAL QUARRY FOOTPRINT
- PRELIMINARY PROJECT LOCATION



0 500 1,000

1:20,000 METRES

NOTE(S)

REFERENCE(S)

1. BASE DATA MNRF LIO OBTAINED 2020
2. IMAGERY FIRSTBASE SOLUTIONS SPRING 2019 (15CM RESOLUTION) AND SOURCES: ESRI, HERE, GARMIN, INTERMAP, INCREMENT P CORP, GEBCO, USGS, FAO, NPS, NRCAN, GEOBASE, IGN, KADASTER NL, ORDNANCE SURVEY, ESRI JAPAN, METI, ESRI CHINA (HONG KONG), (C) OPENSTREETMAP CONTRIBUTORS, AND THE GIS USER COMMUNITY
   SOURCE: ESRI, MAXAR, EARTHSTAR GEOGRAPHICS, AND THE GIS USER COMMUNITY
3. PROJECTION: TRANSVERSE MERCATOR DATUM: NAD 83 COORDINATE SYSTEM: UTM ZONE 17N

CLIENT
CBM AGGREGATES (CBM), A DIVISION OF ST. MARYS CEMENT INC. (CANADA)

PROJECT
CALEDON QUARRY

TITLE
SURFACE WATER MONITORING STATION LOCATIONS

CONSULTANT

wsp

YYYY-MM-DD	2024-10-09
DESIGNED	CGE
PREPARED	CGE
REVIEWED	MM
APPROVED	CDV

PROJECT NO.	CONTROL	REV.	FIGURE
19129150	0003	0.0	1

PATH: S:\Clients\Votorantim_Cimentos\Long_Par_5_Caledon\99_PRO\19129150\40_PROD\0003_Surface_Water\19129150-0003-CS-0003.mxd PRINTED ON: 2024-10-09 AT: 10:08:39 AM

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

25mm

0

APPENDIX A

Certificates of Analysis

Your Project #: 19129150
Your C.O.C. #: 989719-01-01

Attention: Craig De Vito

WSP Canada Inc.
6925 Century Ave
Suite 100
Mississauga, ON
CANADA L5N 7K2

Report Date: 2024/05/17
Report #: R8153178
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C4E1663
Received: 2024/05/10, 13:52

Sample Matrix: Water
Samples Received: 8

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Alkalinity	8	N/A	2024/05/17	CAM SOP-00448	SM 24 2320 B m
Chloride by Automated Colourimetry	8	N/A	2024/05/13	CAM SOP-00463	SM 24 4500-Cl E m
Hardness (calculated as CaCO3)	7	N/A	2024/05/15	CAM SOP 00102/00408/00447	SM 2340 B
Hardness (calculated as CaCO3)	1	N/A	2024/05/16	CAM SOP 00102/00408/00447	SM 2340 B
Total Metals Analysis by ICPMS	8	2024/05/14	2024/05/15	CAM SOP-00447	EPA 6020B m
Total Ammonia-N	8	N/A	2024/05/15	CAM SOP-00441	USGS I-2522-90 m
Nitrate & Nitrite as Nitrogen in Water (1)	8	N/A	2024/05/13	CAM SOP-00440	SM 24 4500-NO3I/NO2B
Total Oil and Grease	8	2024/05/13	2024/05/13	CAM SOP-00326	EPA1664B m,SM5520B m
Total Kjeldahl Nitrogen in Water	8	2024/05/13	2024/05/14	CAM SOP-00938	OMOE E3516 m
Total Phosphorus (Colourimetric)	8	2024/05/13	2024/05/15	CAM SOP-00407	SM 24 4500-P I
Low Level Total Suspended Solids	8	2024/05/13	2024/05/14	CAM SOP-00428	SM 24 2540D m

Remarks:

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, EPA, APHA or the Quebec Ministry of Environment.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.

Your Project #: 19129150
Your C.O.C. #: 989719-01-01

Attention: Craig De Vito

WSP Canada Inc.
6925 Century Ave
Suite 100
Mississauga, ON
CANADA L5N 7K2

Report Date: 2024/05/17
Report #: R8153178
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C4E1663

Received: 2024/05/10, 13:52

Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.

This Certificate shall not be reproduced except in full, without the written approval of the laboratory.

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) Values for calculated parameters may not appear to add up due to rounding of raw data and significant figures.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to:
Ankita Bhalla, Project Manager
Email: Ankita.Bhalla@bureauveritas.com
Phone# (905) 817-5700

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This report has been generated and distributed using a secure automated process.
Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation, please refer to the Validation Signatures page if included, otherwise available by request. For Department specific Analyst/Supervisor validation names, please refer to the Test Summary section if included, otherwise available by request. This report is authorized by Rodney Major, General Manager responsible for Ontario Environmental laboratory operations.

Bureau Veritas Job #: C4E1663
Report Date: 2024/05/17

WSP Canada Inc.
Client Project #: 19129150
Sampler Initials: BL

RESULTS OF ANALYSES OF WATER

Bureau Veritas ID		ZDI800			ZDI800			ZDI801		
Sampling Date		2024/05/10 09:30			2024/05/10 09:30			2024/05/10 10:15		
COC Number		989719-01-01			989719-01-01			989719-01-01		
	UNITS	SW10	RDL	QC Batch	SW10 Lab-Dup	RDL	QC Batch	SW13	RDL	QC Batch
Calculated Parameters										
Hardness (CaCO3)	mg/L	270	1.0	9387854				240	1.0	9387854
Inorganics										
Total Ammonia-N	mg/L	<0.050	0.050	9389995	<0.050	0.050	9389995	<0.050	0.050	9389995
Total Kjeldahl Nitrogen (TKN)	mg/L	0.18	0.10	9390634				0.36	0.10	9390634
Total Phosphorus	mg/L	<0.020	0.020	9390638				<0.020	0.020	9390638
Total Suspended Solids	mg/L	8	1	9390627				3	1	9390627
Alkalinity (Total as CaCO3)	mg/L	250	1.0	9388279				180	1.0	9388279
Dissolved Chloride (Cl-)	mg/L	51	1.0	9388259				41	1.0	9388259
Nitrite (N)	mg/L	<0.010	0.010	9388258				<0.010	0.010	9388258
Nitrate (N)	mg/L	2.01	0.10	9388258				<0.10	0.10	9388258
Nitrate + Nitrite (N)	mg/L	2.01	0.10	9388258				<0.10	0.10	9388258
Petroleum Hydrocarbons										
Total Oil & Grease	mg/L	1.1	0.50	9388755				0.60	0.50	9388755

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

Bureau Veritas Job #: C4E1663
Report Date: 2024/05/17

WSP Canada Inc.
Client Project #: 19129150
Sampler Initials: BL

RESULTS OF ANALYSES OF WATER

Bureau Veritas ID		ZDI801			ZDI802		ZDI803		
Sampling Date		2024/05/10 10:15			2024/05/10 10:45		2024/05/10 11:40		
COC Number		989719-01-01			989719-01-01		989719-01-01		
	UNITS	SW13 Lab-Dup	RDL	QC Batch	CREDIT	QC Batch	SW5	RDL	QC Batch
Calculated Parameters									
Hardness (CaCO3)	mg/L				300	9387854	270	1.0	9387854
Inorganics									
Total Ammonia-N	mg/L				0.052	9389995	<0.050	0.050	9389995
Total Kjeldahl Nitrogen (TKN)	mg/L	0.36	0.10	9390634	0.28	9390634	0.44	0.10	9390634
Total Phosphorus	mg/L				<0.020	9390638	<0.020	0.020	9390638
Total Suspended Solids	mg/L	3	1	9390627	10	9390627	3	1	9390627
Alkalinity (Total as CaCO3)	mg/L				230	9388279	240	1.0	9388279
Dissolved Chloride (Cl-)	mg/L				120	9388259	13	1.0	9388259
Nitrite (N)	mg/L	<0.010	0.010	9388258	<0.010	9388258	<0.010	0.010	9388257
Nitrate (N)	mg/L	<0.10	0.10	9388258	0.83	9388258	<0.10	0.10	9388257
Nitrate + Nitrite (N)	mg/L	<0.10	0.10	9388258	0.83	9388258	<0.10	0.10	9388257
Petroleum Hydrocarbons									
Total Oil & Grease	mg/L				0.90	9388755	1.1	0.50	9388755

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

Bureau Veritas Job #: C4E1663
Report Date: 2024/05/17

WSP Canada Inc.
Client Project #: 19129150
Sampler Initials: BL

RESULTS OF ANALYSES OF WATER

Bureau Veritas ID		ZDI804	ZDI805	ZDI806	ZDI807		
Sampling Date		2024/05/10 12:00	2024/05/10	2024/05/10 12:15	2024/05/10 12:30		
COC Number		989719-01-01	989719-01-01	989719-01-01	989719-01-01		
	UNITS	SW14	DUP	BLANK	SW15	RDL	QC Batch
Calculated Parameters							
Hardness (CaCO3)	mg/L	290	280	<1.0	300	1.0	9387854
Inorganics							
Total Ammonia-N	mg/L	<0.050	<0.050	<0.050	0.065	0.050	9389995
Total Kjeldahl Nitrogen (TKN)	mg/L	0.52	0.45	<0.10	0.41	0.10	9390634
Total Phosphorus	mg/L	0.036	0.040	<0.020	<0.020	0.020	9390638
Total Suspended Solids	mg/L	33	44	<1	2	1	9390627
Alkalinity (Total as CaCO3)	mg/L	230	230	5.3	240	1.0	9388279
Dissolved Chloride (Cl-)	mg/L	31	31	<1.0	38	1.0	9388259
Nitrite (N)	mg/L	<0.010	<0.010	<0.010	<0.010	0.010	9388258
Nitrate (N)	mg/L	0.93	0.93	<0.10	0.21	0.10	9388258
Nitrate + Nitrite (N)	mg/L	0.93	0.93	<0.10	0.21	0.10	9388258
Petroleum Hydrocarbons							
Total Oil & Grease	mg/L	<0.50	0.90	<0.50	<0.50	0.50	9388755

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

Bureau Veritas Job #: C4E1663
Report Date: 2024/05/17

WSP Canada Inc.
Client Project #: 19129150
Sampler Initials: BL

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Bureau Veritas ID		ZDI800	ZDI801	ZDI802	ZDI803	ZDI804	ZDI805		
Sampling Date		2024/05/10 09:30	2024/05/10 10:15	2024/05/10 10:45	2024/05/10 11:40	2024/05/10 12:00	2024/05/10		
COC Number		989719-01-01	989719-01-01	989719-01-01	989719-01-01	989719-01-01	989719-01-01		
	UNITS	SW10	SW13	CREDIT	SW5	SW14	DUP	RDL	QC Batch
Metals									
Total Aluminum (Al)	ug/L	<4.9	6.7	78	19	270	320	4.9	9391111
Total Antimony (Sb)	ug/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.50	9391111
Total Arsenic (As)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0	9391111
Total Barium (Ba)	ug/L	73	39	55	26	30	30	2.0	9391111
Total Beryllium (Be)	ug/L	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	0.40	9391111
Total Bismuth (Bi)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0	9391111
Total Boron (B)	ug/L	12	<10	23	<10	<10	<10	10	9391111
Total Cadmium (Cd)	ug/L	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	0.090	9391111
Total Calcium (Ca)	ug/L	85000	56000	77000	72000	79000	75000	200	9391111
Total Chromium (Cr)	ug/L	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	5.0	9391111
Total Cobalt (Co)	ug/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.50	9391111
Total Copper (Cu)	ug/L	<0.90	<0.90	<0.90	<0.90	1.3	2.3	0.90	9391111
Total Iron (Fe)	ug/L	<100	170	210	<100	680	770	100	9391111
Total Lead (Pb)	ug/L	<0.50	<0.50	<0.50	<0.50	0.91	1.0	0.50	9391111
Total Lithium (Li)	ug/L	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	5.0	9391111
Total Magnesium (Mg)	ug/L	18000	17000	19000	18000	18000	17000	50	9391111
Total Manganese (Mn)	ug/L	<2.0	18	52	13	110	110	2.0	9391111
Total Molybdenum (Mo)	ug/L	<0.50	<0.50	<0.50	0.70	<0.50	<0.50	0.50	9391111
Total Nickel (Ni)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0	9391111
Total Potassium (K)	ug/L	1100	1300	2200	1000	900	820	200	9391111
Total Selenium (Se)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.0	9391111
Total Silicon (Si)	ug/L	3500	260	2700	3400	3200	3200	50	9391111
Total Silver (Ag)	ug/L	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	0.090	9391111
Total Sodium (Na)	ug/L	27000	20000	72000	4600	14000	13000	100	9391111
Total Strontium (Sr)	ug/L	160	130	170	100	140	130	1.0	9391111
Total Tellurium (Te)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0	9391111
Total Thallium (Tl)	ug/L	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.050	9391111
Total Tin (Sn)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0	9391111
Total Titanium (Ti)	ug/L	<5.0	<5.0	<5.0	<5.0	9.8	13	5.0	9391111
Total Tungsten (W)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0	9391111
Total Uranium (U)	ug/L	0.20	0.27	0.45	0.67	0.55	0.56	0.10	9391111

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

Bureau Veritas Job #: C4E1663
Report Date: 2024/05/17

WSP Canada Inc.
Client Project #: 19129150
Sampler Initials: BL

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Bureau Veritas ID		ZDI800	ZDI801	ZDI802	ZDI803	ZDI804	ZDI805		
Sampling Date		2024/05/10 09:30	2024/05/10 10:15	2024/05/10 10:45	2024/05/10 11:40	2024/05/10 12:00	2024/05/10		
COC Number		989719-01-01	989719-01-01	989719-01-01	989719-01-01	989719-01-01	989719-01-01		
	UNITS	SW10	SW13	CREDIT	SW5	SW14	DUP	RDL	QC Batch
Total Vanadium (V)	ug/L	<0.50	<0.50	<0.50	<0.50	1.1	1.3	0.50	9391111
Total Zinc (Zn)	ug/L	<5.0	<5.0	<5.0	6.5	7.9	9.5	5.0	9391111
Total Zirconium (Zr)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0	9391111

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Bureau Veritas ID		ZDI806	ZDI807		
Sampling Date		2024/05/10 12:15	2024/05/10 12:30		
COC Number		989719-01-01	989719-01-01		
	UNITS	BLANK	SW15	RDL	QC Batch
Metals					
Total Aluminum (Al)	ug/L	<4.9	15	4.9	9391111
Total Antimony (Sb)	ug/L	<0.50	<0.50	0.50	9391111
Total Arsenic (As)	ug/L	<1.0	<1.0	1.0	9391111
Total Barium (Ba)	ug/L	<2.0	25	2.0	9391111
Total Beryllium (Be)	ug/L	<0.40	<0.40	0.40	9391111
Total Bismuth (Bi)	ug/L	<1.0	<1.0	1.0	9391111
Total Boron (B)	ug/L	<10	<10	10	9391111
Total Cadmium (Cd)	ug/L	<0.090	<0.090	0.090	9391111
Total Calcium (Ca)	ug/L	<200	77000	200	9391111
Total Chromium (Cr)	ug/L	<5.0	<5.0	5.0	9391111
Total Cobalt (Co)	ug/L	<0.50	<0.50	0.50	9391111
Total Copper (Cu)	ug/L	<0.90	<0.90	0.90	9391111
Total Iron (Fe)	ug/L	<100	<100	100	9391111
Total Lead (Pb)	ug/L	<0.50	<0.50	0.50	9391111
Total Lithium (Li)	ug/L	<5.0	<5.0	5.0	9391111
Total Magnesium (Mg)	ug/L	<50	20000	50	9391111
Total Manganese (Mn)	ug/L	<2.0	20	2.0	9391111
Total Molybdenum (Mo)	ug/L	<0.50	<0.50	0.50	9391111
Total Nickel (Ni)	ug/L	<1.0	<1.0	1.0	9391111
Total Potassium (K)	ug/L	<200	1200	200	9391111
Total Selenium (Se)	ug/L	<2.0	<2.0	2.0	9391111
Total Silicon (Si)	ug/L	<50	2200	50	9391111
Total Silver (Ag)	ug/L	<0.090	<0.090	0.090	9391111
Total Sodium (Na)	ug/L	440	14000	100	9391111
Total Strontium (Sr)	ug/L	<1.0	120	1.0	9391111
Total Tellurium (Te)	ug/L	<1.0	<1.0	1.0	9391111
Total Thallium (Tl)	ug/L	<0.050	<0.050	0.050	9391111
Total Tin (Sn)	ug/L	<1.0	<1.0	1.0	9391111
Total Titanium (Ti)	ug/L	<5.0	<5.0	5.0	9391111
Total Tungsten (W)	ug/L	<1.0	<1.0	1.0	9391111
Total Uranium (U)	ug/L	<0.10	0.27	0.10	9391111

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Bureau Veritas ID		ZDI806	ZDI807		
Sampling Date		2024/05/10 12:15	2024/05/10 12:30		
COC Number		989719-01-01	989719-01-01		
	UNITS	BLANK	SW15	RDL	QC Batch
Total Vanadium (V)	ug/L	<0.50	<0.50	0.50	9391111
Total Zinc (Zn)	ug/L	<5.0	<5.0	5.0	9391111
Total Zirconium (Zr)	ug/L	<1.0	<1.0	1.0	9391111

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

TEST SUMMARY

Bureau Veritas ID: ZDI800 **Collected:** 2024/05/10
Sample ID: SW10 **Shipped:**
Matrix: Water **Received:** 2024/05/10

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	9388279	N/A	2024/05/17	Nachiketa Gohil
Chloride by Automated Colourimetry	SKAL	9388259	N/A	2024/05/13	Alina Dobreanu
Hardness (calculated as CaCO3)		9387854	N/A	2024/05/15	Automated Statchk
Total Metals Analysis by ICPMS	ICP/MS	9391111	2024/05/14	2024/05/15	Azita Fazaeli
Total Ammonia-N	LACH/NH4	9389995	N/A	2024/05/15	Massarat Jan
Nitrate & Nitrite as Nitrogen in Water	LACH	9388258	N/A	2024/05/13	Jinal Chavda
Total Oil and Grease	BAL	9388755	2024/05/13	2024/05/13	Navneet Singh
Total Kjeldahl Nitrogen in Water	SKAL	9390634	2024/05/13	2024/05/14	Kruti Jitesh Patel
Total Phosphorus (Colourimetric)	SKAL/P	9390638	2024/05/13	2024/05/15	Muskan
Low Level Total Suspended Solids	BAL	9390627	2024/05/13	2024/05/14	Darshan Patel

Bureau Veritas ID: ZDI800 Dup **Collected:** 2024/05/10
Sample ID: SW10 **Shipped:**
Matrix: Water **Received:** 2024/05/10

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Total Ammonia-N	LACH/NH4	9389995	N/A	2024/05/15	Massarat Jan

Bureau Veritas ID: ZDI801 **Collected:** 2024/05/10
Sample ID: SW13 **Shipped:**
Matrix: Water **Received:** 2024/05/10

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	9388279	N/A	2024/05/17	Nachiketa Gohil
Chloride by Automated Colourimetry	SKAL	9388259	N/A	2024/05/13	Alina Dobreanu
Hardness (calculated as CaCO3)		9387854	N/A	2024/05/15	Automated Statchk
Total Metals Analysis by ICPMS	ICP/MS	9391111	2024/05/14	2024/05/15	Azita Fazaeli
Total Ammonia-N	LACH/NH4	9389995	N/A	2024/05/15	Massarat Jan
Nitrate & Nitrite as Nitrogen in Water	LACH	9388258	N/A	2024/05/13	Jinal Chavda
Total Oil and Grease	BAL	9388755	2024/05/13	2024/05/13	Navneet Singh
Total Kjeldahl Nitrogen in Water	SKAL	9390634	2024/05/13	2024/05/14	Kruti Jitesh Patel
Total Phosphorus (Colourimetric)	SKAL/P	9390638	2024/05/13	2024/05/15	Muskan
Low Level Total Suspended Solids	BAL	9390627	2024/05/13	2024/05/14	Darshan Patel

Bureau Veritas ID: ZDI801 Dup **Collected:** 2024/05/10
Sample ID: SW13 **Shipped:**
Matrix: Water **Received:** 2024/05/10

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Nitrate & Nitrite as Nitrogen in Water	LACH	9388258	N/A	2024/05/13	Jinal Chavda
Total Kjeldahl Nitrogen in Water	SKAL	9390634	2024/05/13	2024/05/14	Kruti Jitesh Patel
Low Level Total Suspended Solids	BAL	9390627	2024/05/13	2024/05/14	Darshan Patel

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

Bureau Veritas Job #: C4E1663
Report Date: 2024/05/17

WSP Canada Inc.
Client Project #: 19129150
Sampler Initials: BL

TEST SUMMARY

Bureau Veritas ID: ZDI802
Sample ID: CREDIT
Matrix: Water

Collected: 2024/05/10
Shipped:
Received: 2024/05/10

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	9388279	N/A	2024/05/17	Nachiketa Gohil
Chloride by Automated Colourimetry	SKAL	9388259	N/A	2024/05/13	Alina Dobreanu
Hardness (calculated as CaCO3)		9387854	N/A	2024/05/15	Automated Statchk
Total Metals Analysis by ICPMS	ICP/MS	9391111	2024/05/14	2024/05/15	Azita Fazaeli
Total Ammonia-N	LACH/NH4	9389995	N/A	2024/05/15	Massarat Jan
Nitrate & Nitrite as Nitrogen in Water	LACH	9388258	N/A	2024/05/13	Jinal Chavda
Total Oil and Grease	BAL	9388755	2024/05/13	2024/05/13	Navneet Singh
Total Kjeldahl Nitrogen in Water	SKAL	9390634	2024/05/13	2024/05/14	Kruti Jitesh Patel
Total Phosphorus (Colourimetric)	SKAL/P	9390638	2024/05/13	2024/05/15	Muskan
Low Level Total Suspended Solids	BAL	9390627	2024/05/13	2024/05/14	Darshan Patel

Bureau Veritas ID: ZDI803
Sample ID: SW5
Matrix: Water

Collected: 2024/05/10
Shipped:
Received: 2024/05/10

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	9388279	N/A	2024/05/17	Nachiketa Gohil
Chloride by Automated Colourimetry	SKAL	9388259	N/A	2024/05/13	Alina Dobreanu
Hardness (calculated as CaCO3)		9387854	N/A	2024/05/16	Automated Statchk
Total Metals Analysis by ICPMS	ICP/MS	9391111	2024/05/14	2024/05/15	Azita Fazaeli
Total Ammonia-N	LACH/NH4	9389995	N/A	2024/05/15	Massarat Jan
Nitrate & Nitrite as Nitrogen in Water	LACH	9388257	N/A	2024/05/13	Jinal Chavda
Total Oil and Grease	BAL	9388755	2024/05/13	2024/05/13	Navneet Singh
Total Kjeldahl Nitrogen in Water	SKAL	9390634	2024/05/13	2024/05/14	Kruti Jitesh Patel
Total Phosphorus (Colourimetric)	SKAL/P	9390638	2024/05/13	2024/05/15	Muskan
Low Level Total Suspended Solids	BAL	9390627	2024/05/13	2024/05/14	Darshan Patel

Bureau Veritas ID: ZDI804
Sample ID: SW14
Matrix: Water

Collected: 2024/05/10
Shipped:
Received: 2024/05/10

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	9388279	N/A	2024/05/17	Nachiketa Gohil
Chloride by Automated Colourimetry	SKAL	9388259	N/A	2024/05/13	Alina Dobreanu
Hardness (calculated as CaCO3)		9387854	N/A	2024/05/15	Automated Statchk
Total Metals Analysis by ICPMS	ICP/MS	9391111	2024/05/14	2024/05/15	Azita Fazaeli
Total Ammonia-N	LACH/NH4	9389995	N/A	2024/05/15	Massarat Jan
Nitrate & Nitrite as Nitrogen in Water	LACH	9388258	N/A	2024/05/13	Jinal Chavda
Total Oil and Grease	BAL	9388755	2024/05/13	2024/05/13	Navneet Singh
Total Kjeldahl Nitrogen in Water	SKAL	9390634	2024/05/13	2024/05/14	Kruti Jitesh Patel
Total Phosphorus (Colourimetric)	SKAL/P	9390638	2024/05/13	2024/05/15	Muskan
Low Level Total Suspended Solids	BAL	9390627	2024/05/13	2024/05/14	Darshan Patel

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

TEST SUMMARY

Bureau Veritas ID: ZDI805
Sample ID: DUP
Matrix: Water

Collected: 2024/05/10
Shipped:
Received: 2024/05/10

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	9388279	N/A	2024/05/17	Nachiketa Gohil
Chloride by Automated Colourimetry	SKAL	9388259	N/A	2024/05/13	Alina Dobreanu
Hardness (calculated as CaCO3)		9387854	N/A	2024/05/15	Automated Statchk
Total Metals Analysis by ICPMS	ICP/MS	9391111	2024/05/14	2024/05/15	Azita Fazaeli
Total Ammonia-N	LACH/NH4	9389995	N/A	2024/05/15	Massarat Jan
Nitrate & Nitrite as Nitrogen in Water	LACH	9388258	N/A	2024/05/13	Jinal Chavda
Total Oil and Grease	BAL	9388755	2024/05/13	2024/05/13	Navneet Singh
Total Kjeldahl Nitrogen in Water	SKAL	9390634	2024/05/13	2024/05/14	Kruti Jitesh Patel
Total Phosphorus (Colourimetric)	SKAL/P	9390638	2024/05/13	2024/05/15	Muskan
Low Level Total Suspended Solids	BAL	9390627	2024/05/13	2024/05/14	Darshan Patel

Bureau Veritas ID: ZDI806
Sample ID: BLANK
Matrix: Water

Collected: 2024/05/10
Shipped:
Received: 2024/05/10

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	9388279	N/A	2024/05/17	Nachiketa Gohil
Chloride by Automated Colourimetry	SKAL	9388259	N/A	2024/05/13	Alina Dobreanu
Hardness (calculated as CaCO3)		9387854	N/A	2024/05/15	Automated Statchk
Total Metals Analysis by ICPMS	ICP/MS	9391111	2024/05/14	2024/05/15	Azita Fazaeli
Total Ammonia-N	LACH/NH4	9389995	N/A	2024/05/15	Massarat Jan
Nitrate & Nitrite as Nitrogen in Water	LACH	9388258	N/A	2024/05/13	Jinal Chavda
Total Oil and Grease	BAL	9388755	2024/05/13	2024/05/13	Navneet Singh
Total Kjeldahl Nitrogen in Water	SKAL	9390634	2024/05/13	2024/05/14	Kruti Jitesh Patel
Total Phosphorus (Colourimetric)	SKAL/P	9390638	2024/05/13	2024/05/15	Muskan
Low Level Total Suspended Solids	BAL	9390627	2024/05/13	2024/05/14	Darshan Patel

Bureau Veritas ID: ZDI807
Sample ID: SW15
Matrix: Water

Collected: 2024/05/10
Shipped:
Received: 2024/05/10

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	9388279	N/A	2024/05/17	Nachiketa Gohil
Chloride by Automated Colourimetry	SKAL	9388259	N/A	2024/05/13	Alina Dobreanu
Hardness (calculated as CaCO3)		9387854	N/A	2024/05/15	Automated Statchk
Total Metals Analysis by ICPMS	ICP/MS	9391111	2024/05/14	2024/05/15	Azita Fazaeli
Total Ammonia-N	LACH/NH4	9389995	N/A	2024/05/15	Massarat Jan
Nitrate & Nitrite as Nitrogen in Water	LACH	9388258	N/A	2024/05/13	Jinal Chavda
Total Oil and Grease	BAL	9388755	2024/05/13	2024/05/13	Navneet Singh
Total Kjeldahl Nitrogen in Water	SKAL	9390634	2024/05/13	2024/05/14	Kruti Jitesh Patel
Total Phosphorus (Colourimetric)	SKAL/P	9390638	2024/05/13	2024/05/15	Muskan
Low Level Total Suspended Solids	BAL	9390627	2024/05/13	2024/05/14	Darshan Patel

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	13.0°C
Package 2	13.7°C

Results relate only to the items tested.

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QUALITY ASSURANCE REPORT

			Matrix Spike		SPIKED BLANK		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
9388257	Nitrate (N)	2024/05/13	91	80 - 120	97	80 - 120	<0.10	mg/L	0.91	20		
9388257	Nitrite (N)	2024/05/13	100	80 - 120	100	80 - 120	<0.010	mg/L	NC	20		
9388258	Nitrate (N)	2024/05/13	91	80 - 120	98	80 - 120	<0.10	mg/L	NC	20		
9388258	Nitrite (N)	2024/05/13	97	80 - 120	100	80 - 120	<0.010	mg/L	NC	20		
9388259	Dissolved Chloride (Cl-)	2024/05/13	NC	80 - 120	102	80 - 120	<1.0	mg/L	1.1	20		
9388279	Alkalinity (Total as CaCO3)	2024/05/17			101	85 - 115	<1.0	mg/L	1.1	20		
9388755	Total Oil & Grease	2024/05/13			99	80 - 110	<0.50	mg/L	0.25	25		
9389995	Total Ammonia-N	2024/05/15	97	75 - 125	102	80 - 120	<0.050	mg/L	NC	20		
9390627	Total Suspended Solids	2024/05/14			97	80 - 120	<1	mg/L	0	20		
9390634	Total Kjeldahl Nitrogen (TKN)	2024/05/14	100	80 - 120	92	80 - 120	<0.10	mg/L	0.84	20	99	80 - 120
9390638	Total Phosphorus	2024/05/15	96	80 - 120	103	80 - 120	<0.020	mg/L	0.57	20	92	80 - 120
9391111	Total Aluminum (Al)	2024/05/15	118	80 - 120	100	80 - 120	<4.9	ug/L	5.1	20		
9391111	Total Antimony (Sb)	2024/05/15	107	80 - 120	107	80 - 120	<0.50	ug/L	NC	20		
9391111	Total Arsenic (As)	2024/05/15	104	80 - 120	103	80 - 120	<1.0	ug/L	NC	20		
9391111	Total Barium (Ba)	2024/05/15	98	80 - 120	98	80 - 120	<2.0	ug/L	3.1	20		
9391111	Total Beryllium (Be)	2024/05/15	105	80 - 120	104	80 - 120	<0.40	ug/L	NC	20		
9391111	Total Bismuth (Bi)	2024/05/15	95	80 - 120	96	80 - 120	<1.0	ug/L	NC	20		
9391111	Total Boron (B)	2024/05/15	104	80 - 120	105	80 - 120	<10	ug/L	0.57	20		
9391111	Total Cadmium (Cd)	2024/05/15	102	80 - 120	103	80 - 120	<0.090	ug/L	NC	20		
9391111	Total Calcium (Ca)	2024/05/15	NC	80 - 120	100	80 - 120	<200	ug/L	2.0	20		
9391111	Total Chromium (Cr)	2024/05/15	98	80 - 120	98	80 - 120	<5.0	ug/L	NC	20		
9391111	Total Cobalt (Co)	2024/05/15	98	80 - 120	99	80 - 120	<0.50	ug/L	NC	20		
9391111	Total Copper (Cu)	2024/05/15	100	80 - 120	101	80 - 120	<0.90	ug/L	12	20		
9391111	Total Iron (Fe)	2024/05/15	100	80 - 120	100	80 - 120	<100	ug/L	5.8	20		
9391111	Total Lead (Pb)	2024/05/15	98	80 - 120	98	80 - 120	<0.50	ug/L	1.8	20		
9391111	Total Lithium (Li)	2024/05/15	103	80 - 120	100	80 - 120	<5.0	ug/L	NC	20		
9391111	Total Magnesium (Mg)	2024/05/15	98	80 - 120	99	80 - 120	<50	ug/L	0.96	20		
9391111	Total Manganese (Mn)	2024/05/15	98	80 - 120	98	80 - 120	<2.0	ug/L	3.3	20		
9391111	Total Molybdenum (Mo)	2024/05/15	102	80 - 120	102	80 - 120	<0.50	ug/L	NC	20		
9391111	Total Nickel (Ni)	2024/05/15	98	80 - 120	99	80 - 120	<1.0	ug/L	NC	20		
9391111	Total Potassium (K)	2024/05/15	100	80 - 120	99	80 - 120	<200	ug/L	0.85	20		

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QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
9391111	Total Selenium (Se)	2024/05/15	106	80 - 120	108	80 - 120	<2.0	ug/L	NC	20		
9391111	Total Silicon (Si)	2024/05/15	100	80 - 120	101	80 - 120	<50	ug/L	3.3	20		
9391111	Total Silver (Ag)	2024/05/15	99	80 - 120	102	80 - 120	<0.090	ug/L	NC	20		
9391111	Total Sodium (Na)	2024/05/15	99	80 - 120	99	80 - 120	<100	ug/L	0.13	20		
9391111	Total Strontium (Sr)	2024/05/15	NC	80 - 120	98	80 - 120	<1.0	ug/L	0.52	20		
9391111	Total Tellurium (Te)	2024/05/15	105	80 - 120	107	80 - 120	<1.0	ug/L	NC	20		
9391111	Total Thallium (Tl)	2024/05/15	101	80 - 120	101	80 - 120	<0.050	ug/L	NC	20		
9391111	Total Tin (Sn)	2024/05/15	102	80 - 120	102	80 - 120	<1.0	ug/L	NC	20		
9391111	Total Titanium (Ti)	2024/05/15	100	80 - 120	101	80 - 120	<5.0	ug/L	NC	20		
9391111	Total Tungsten (W)	2024/05/15	102	80 - 120	102	80 - 120	<1.0	ug/L	NC	20		
9391111	Total Uranium (U)	2024/05/15	100	80 - 120	100	80 - 120	<0.10	ug/L	0	20		
9391111	Total Vanadium (V)	2024/05/15	99	80 - 120	99	80 - 120	<0.50	ug/L	7.7	20		
9391111	Total Zinc (Zn)	2024/05/15	NC	80 - 120	107	80 - 120	<5.0	ug/L	0.81	20		
9391111	Total Zirconium (Zr)	2024/05/15	102	80 - 120	102	80 - 120	<1.0	ug/L	NC	20		

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

QC Standard: A sample of known concentration prepared by an external agency under stringent conditions. Used as an independent check of method accuracy.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

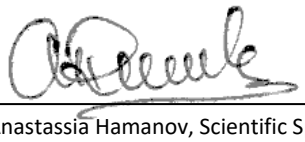
NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

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VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:



Anastassia Hamanov, Scientific Specialist

Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation, please refer to the Validation Signatures page if included, otherwise available by request. For Department specific Analyst/Supervisor validation names, please refer to the Test Summary section if included, otherwise available by request. This report is authorized by Rodney Major, General Manager responsible for Ontario Environmental laboratory operations.

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IMMEDIATE

C

NONT-2024-05-1267

INVOICE TO:		REPORT TO:		PROJECT INFORMATION:	
Company Name:	#1326 WSP Canada Inc.	Company Name:		Quotation #:	C41059
Attention:	Accounts Payable	Attention:	Craig De Vito	P.O. #:	
Address:	6925 Century Ave Suite 100 Mississauga ON L5N 7K2	Address:		Project:	19129150
Tel:	(905) 567-4444 Fax: (905) 567-6561	Tel:	(905) 567-6100 Ext: 1507 Fax:	Project Name:	
Email:	CAPayablesInvoice@wsp.com	Email:	craig.devito@wsp.com	Site #:	
				Sampled By:	BL, AK

Bottle Order #: 989719

COC #: C#989719-01-01

Project Manager: Ankita Bhalla

MOE REGULATED DRINKING WATER OR WATER INTENDED FOR HUMAN CONSUMPTION MUST BE SUBMITTED ON THE BUREAU VERITAS DRINKING WATER CHAIN OF CUSTODY

Regulation 153 (2011)
- ☐ Table 1 ☐ Res/Park ☐ Medium/Fine
- ☐ Table 2 ☐ Ind/Comm ☐ Coarse
- ☐ Table 3 ☐ Agri/Other ☐ For RSC
- ☐ Table ___

Other Regulations
- ☐ CCME ☐ Sanitary Sewer Bylaw
- ☐ Reg 558. ☐ Storm Sewer Bylaw
- ☐ MISA Municipality ___
- ☐ PWQO ☐ Reg 406 Table ___
- ☐ Other ___

Special Instructions

Include Criteria on Certificate of Analysis (Y/N)? ___

Field Filtered (please circle): Metals / Hg / Cr VI

ANALYSIS REQUESTED (PLEASE BE SPECIFIC)

Turnaround Time (TAT) Required:
Please provide advance notice for rush projects

Regular (Standard) TAT: X
(will be applied if Rush TAT is not specified):
Standard TAT = 5-7 Working days for most tests..
Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.

Job Specific Rush TAT (if applies to entire submission)
Date Required: ___ Time Required: ___ ☐
Rush Confirmation Number: ___ *(call lab for #)*

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Alkalinity/Hardness	Chloride/Nitrate/Nitrite	Total Metals Analysis by ICPMS	Total Ammonia-N/TKN/Total Phosphorus	Low Level Total Suspended Solids	Total Oil and Grease	# of Bottles	Comments
1		WC10	May 10, 2024	930	SW	X	X	X	X	X	X	6	
2		SW13		1015	SW								
3		Credit		1045	SW								
4		SW5		1140	SW								
5		SW14		1200	SW								
6		Dup		—	SW								
7		BLANK		1215	SW								
8		SW15		1230	SW								
9													
10													

*RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	# jars used and not submitted
Adam Kennedy	24/05/10	13:50		24/05/10	13:52	

Laboratory Use Only
Time Sensitive
Temperature (°C) on Recei 14/15/12 13/14/14
Custody Seal Present Yes ✓ No
Intact ✓

* UNLESS OTHERWISE AGREED TO IN WRITING, WORK SUBMITTED ON THIS CHAIN OF CUSTODY IS SUBJECT TO BUREAU VERITAS'S STANDARD TERMS AND CONDITIONS. SIGNING OF THIS CHAIN OF CUSTODY DOCUMENT IS ACKNOWLEDGMENT AND ACCEPTANCE OF OUR TERMS WHICH ARE AVAILABLE FOR VIEWING AT WWW.BVNA.COM/ENVIRONMENTAL-LABORATORIES/RESOURCES/COC-TERMS-AND-CONDITIONS.

* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

** SAMPLE CONTAINER, PRESERVATION, HOLD TIME AND PACKAGE INFORMATION CAN BE VIEWED AT WWW.BVNA.COM/ENVIRONMENTAL-LABORATORIES/RESOURCES/CHAIN-CUSTODY-FORMS-COCS.

SAMPLES MUST BE KEPT COOL (< 10° C) FROM TIME OF SAMPLING UNTIL DELIVERY TO BUREAU VERITAS

White: Bureau Veritas Yellow: Client

ON

Bureau Veritas Canada (2019) Inc.

APPENDIX F

Updated Water Quality Monitoring Program

TECHNICAL MEMORANDUM

DATE February 25, 2025 **Project No.** 19129150 (2300)

TO David Hanratty
CBM Aggregates (CBM), a Division of St. Marys Cement Inc. (Canada)

CC Mike LeBreton (CBM)

FROM George Schneider, Craig DeVito **EMAIL george.schneider@wsp.com**

REVISED SURFACE WATER AND GROUNDWATER MONITORING PROGRAM – CBM CALEDON PIT / QUARRY

This Technical Memorandum presents a revised groundwater and surface water monitoring program for the proposed CBM Caledon Pit / Quarry project. The program has been updated to include annual water quality sampling at representative on-site and off-site locations, and to reflect the as-built details of the new monitoring wells nests MW-IT-01 to MW-IT-07 installed in April 2024. With the addition of water quality sampling, the on-site and off-site monitoring program will demonstrate that the proposed mitigation program / infrastructure is effective in maintaining both groundwater levels and groundwater quality.

The revised monitoring program is summarized in Table 1 (on-site locations) and Table 2 (off-site locations). It is comprised of monitoring wells and well nests (MW), surface water stations (SW), and surface water / mini-piezometer stations (SW/MP). While the majority of the wells and stations are already part of the current monitoring program and were part of the site investigations, additional locations have been added in areas where enhanced monitoring will further inform the understanding of hydrogeological and hydrologic conditions on the site and study area.

The proposed monitoring locations are presented on Figure 1. The water quality monitoring will be periodically reviewed with MECP based on monitoring results and modified as suitable.

ON-SITE MONITORING

The proposed on-site groundwater monitoring program is mainly comprised of the on-site monitoring wells installed during the 2020 hydrogeologic investigation and part of the current monitoring program. These wells are within the proposed setback area, so they would remain in place for the duration of the pit / quarry operations, if needed.

Additionally, a monitoring well from each of the four pumping test areas (two in the Main Area, one in the North Area and one in the South Area, will be added to the monitoring program, with the understanding that these wells would be decommissioned and removed during the operational period, as aggregate extraction proceeds, as they are within the planned extraction area. These wells are already in place and the additional water level data collected there will enhance the monitoring of hydrogeologic conditions as aggregate extraction advances.

Also added to the on-site monitoring program will be the wells installed during the 2022 supplemental investigation in the Northwest Wetland area; these wells are located within the planned setback area, so they would remain in place for the duration of the pit / quarry operations, if needed.

Seven new monitoring well nests, MW-IT-01 to MW-IT-07, were installed in April of 2024 in the setback area adjacent to the proposed infiltration trench system in the Main and South areas. While originally proposed to be comprised of a bedrock and overburden well at each well nest location, these well nest installations were modified to include a third well in the contact aquifer zone at the overburden-bedrock interface. Each well nest location, as installed in 2024, consists of:

- A well in the Gasport Formation (A);
- A well in the contact aquifer (B); and
- A well in the overburden (C), noting that at two locations IT-MW-04 and IT-MW-06 there was insufficient saturated thickness to install a well in the overburden.

Water levels will be monitored in these wells initially to establishing baseline groundwater levels, and later to inform the operation of the infiltration trench system. Initially, groundwater levels will be monitored by loggers set to record on 15-min intervals, with quarterly logger downloads and quarterly manual measurements, for the purposes of establishing baseline groundwater levels.

Later, specific monitoring requirements will be developed to inform the operation of the infiltration trench system, the details of which will be approved by the MECP based on the Permit to Take Water and Environmental Compliance Approval to be obtained by the Applicant prior to the implementation of groundwater mitigation measures.

The proposed on-site surface water monitoring locations include existing station SW14/MP14, located in the proposed setback on the west side of the Main Area, as well as two new stations in that area SW22/MP22 and SW23/MP23 at the pond and wetted feature associated with Tributary #1.

A new surface water station, SW26 will be installed at a future point in time at the planned outlet of the proposed Settling Pond, where water will be conveyed via a pipe to the Osprey Valley Golf Course once the pond and pipe have been permitted, constructed and is operational. Specific monitoring requirements of the water discharged from the Settling Pond will be as approved by the MECP based on the PTTW and ECA to be obtained by the Applicant prior to the initiation of any off-site discharge, and is expected to include water quality, temperature, and flow.

Annual water quality sampling has been added to on-site well nest locations MW-IT-01 to MW-IT-07, MW20-08, MW20-09, MW20-10, MW20-12 and MW20-15. Groundwater will be sampled in the shallowest piezometer of the well nest annually (spring) and analysed for general chemistry, nutrients, inorganics and metals, as well as petroleum hydrocarbons (PHC F1 to F4).

Additional information regarding scope and frequency for each type of monitor is provided in the table notes below.

Table 1: On-Site Groundwater and Surface Water Monitoring Program

Name	Type	Easting	Northing	Monitoring Scope
MW20-01A/B	Mon Well	577459	4852268	Water level[1]
MW20-07A/B	Mon Well	578360	4853250	Water level[1]
MW20-08A/B	Mon Well	578010	4853575	Water level, water quality[1,6]
MW20-09	Mon Well	578344	4854157	Water level, water quality[1,6]
MW20-10A/B	Mon Well	577838	4854407	Water level, water quality[1,6]
MW20-11A/B	Mon Well	577672	4853921	Water level[1]
MW20-12A/B	Mon Well	577272	4854321	Water level, water quality[1,6]
MW20-14A/B	Mon Well	577576	4853100	Water level[1]
MW20-15A/B	Mon Well	576577	4853544	Water level, water quality[1,6]
MW20-15C	Mon Well	576577	4853544	Water level[1]
MW20-16A/B	Mon Well	576785	4853807	Water level[1]
MW20-17A/B	Mon Well	576752	4852966	Water level[1]
MW20-18	Mon Well	577058	4852659	Water level[1]
MW21-1-1	Mon Well	576882	4853485	Water level[1,4]
MW21-2-1	Mon Well	577279	4854021	Water level[1,4]
MW21-3-1	Mon Well	577872	4852814	Water level[1,4]
MW21-4-1	Mon Well	577793	4854211	Water level[1,4]
MW22-01	Mon Well	576782	4853808	Water level[1]
MW22-02A/B	Mon Well	576481	4853795	Water level[1]
MW22-02C	Mon Well	576478	4853794	Water level[1]
MW22-03A/B	Mon Well	576201	4854078	Water level[1]
PW22-01	Mon Well	576574	4853535	Water level[1]
MW-IT-01A/B/C	Mon Well	577201	4852516	Water level, water quality[5,6]
MW-IT-02A/B/C	Mon Well	577009	4852710	Water level, water quality[5,6]
MW-IT-03A/B/C	Mon Well	577352	4852364	Water level, water quality[5,6]
MW-IT-04A/B	Mon Well	577521	4852364	Water level, water quality[5,6]
MW-IT-05A/B/C	Mon Well	577614	4852195	Water level, water quality[5,6]
MW-IT-06 A/B	Mon Well	578068	4852428	Water level, water quality[5,6]
MW-IT-07A/B/C	Mon Well	577897	4852208	Water level, water quality[5,6]
SW14/MP14	SW/MP	578165	4855098	Water level and temperature[2]
SW22/MP22	SW/MP	576800	4853125	Water level and temperature[2]
SW23/MP23	SW/MP	576840	4853050	Water level and temperature[2]
SW26	SW	578155	4854320	To be determined by MECP PTTW and ECA Approvals[5]
SW27	SW	578340	4854105	Water Level and Temperature[2,3]

Notes:
1. Groundwater level to be monitored by logger set to record on 15-min intervals, with quarterly logger downloads and quarterly manual measurements.
2. Surface water level and temperature to be monitored by logger set to record on 15-min intervals, with quarterly logger downloads and quarterly manual measurements.
3. Water discharge from the Settling Pond to be monitored as per requirements to be approved by the MECP based on the Permit to Take Water and Environmental Compliance Approval to be obtained by the Applicant prior to the initiation of any off-site discharge.
4. These wells only need to be monitored until they are required to be decommissioned in accordance with MECP requirements to allow for on-site operations.
5. Groundwater level to be monitored as per requirements to be approved by the MECP based on the Permit to Take Water and Environmental Compliance Approval to be obtained by the Applicant prior to the implementation of groundwater mitigation measures.
6. Groundwater will be sampled in the shallowest piezometer of the well nest annually (spring) and analysed for general chemistry, nutrients, inorganics and metals, as well as PHC (F1 to F4).

OFF-SITE MONITORING

The proposed off-site groundwater monitoring program is comprised of 15 of the 19 off-site monitoring well nests that were installed during the 2020 hydrogeologic investigation and are currently part of the existing groundwater monitoring program. These off-site locations encompass all existing well nests that are within approximately 1,500 m of the site. The current groundwater monitoring program and predictive modelling for the operational and post-rehabilitation period indicates that these wells will provide very good spatial coverage within the study area, and will allow to the licensee to monitor baseline conditions and assess the potential for any impacts to groundwater as a result of the proposed Caledon Pit / Quarry development. These well nests are all located on lands owned or under the control of the licensee.

The proposed off-site surface water monitoring locations include nine existing surface water stations installed in 2020 as part of the surface water investigations (SW4, SW5, SW8, SW10, SW11, SW12, SW13, SW15/MP15 and SW16/MP16), as well as four new surface water stations that were installed in the summer of 2022 as part of the supplemental investigation in the Northwest Wetland area (SW17/MP17, SW18/MP18, SW19/MP19 and SW20/MP20), which are to be added to the long-term monitoring network to enhance the monitoring of this wetland area.

To further enhance monitoring in the vicinity of the PSW area to the northwest of SW10, station SW21/MP21 (a surface water station / mini piezometer pair) is proposed to be installed in a deep portion of the wetland feature and at the wetland's edge, respectively, to enhance long term monitoring in that area.

Two additional stations, SW22/MP22 and SW23/MP23 (surface water station / mini piezometer pair) are also proposed to be installed in the pond and wetted feature along Tributary #1 immediately west of the Main Area downstream of SW14/MP14, to further enhance monitoring of these features.

New surface water monitoring is also proposed to be installed at the two culverts under the rail line east of the North Area (SW24 and SW25), both of which discharge to CVC-controlled lands, and the culvert from the southeast corner of the South Area beneath Charleston Sideroad (SW27). Together, these monitoring enhancements will allow for improved understanding of the flow regime, surface water and groundwater interactions in the receiving water bodies.

Annual water quality sampling has been added to off-site well nest locations MW20-03, MW20-04, MW20-05, MW20-06. Groundwater will be sampled in the shallowest piezometer of the well nest annually (spring) and analysed for general chemistry, nutrients, inorganics and metals, as well as PHC F1 to F4.

Additional information regarding scope and frequency for each type of monitor is provided in the table notes below.

Table 2: Off-Site Groundwater and Surface Water Monitoring Program

Name	Type	Easting	Northing	Monitoring Scope
MW20-02	Mon Well	577900	4852138	Water level[1,3]
MW20-03	Mon Well	578244	4851907	Water level, water quality[1,3,5]
MW20-04	Mon Well	578265	4852313	Water level, water quality[1,3,5]
MW20-05A/B	Mon Well	578423	4852713	Water level, water quality[1,3,5]
MW20-06A/B	Mon Well	578474	4852973	Water level, water quality[1,3,5]
MW20-13A/B	Mon Well	576873	4854473	Water level[1,3]
MW20-13C	Mon Well	576873	4854473	Water level[1,3]
MW20-19A/B	Mon Well	576907	4852000	Water level[1,3]
MW20-20A/B	Mon Well	576476	4852468	Water level[1,3]
MW20-20C	Mon Well	576476	4852468	Water level[1,3]
MW20-21A/B	Mon Well	576014	4852840	Water level[1,3]
MW20-22A/B	Mon Well	575785	4851966	Water level[1,3]
MW20-23A/B	Mon Well	576206	4851556	Water level[1,3]
MW20-23C	Mon Well	576206	4851556	Water level[1,3]
MW20-27A/B	Mon Well	575954	4853770	Water level[1,3]
SW4	SW	574760	4852963	Water level and temperature[2,4]
SW5	SW	575863	4853846	Water level and temperature[2,4]
SW8	SW	576054	4851688	Water level and temperature[2,3]
SW10	SW	579128	4850628	Water level and temperature[2,3]
SW11	SW	578238	4851869	Water level and temperature[2,4]
SW12	SW	576842	4854781	Water level and temperature[2,4]
SW13	SW	578153	4853488	Water level and temperature[2,3]
SW15/MP15	SW/MP	576562	4853501	Water level and temperature[2,3]
SW16/MP16	SW/MP	576024	4852785	Water level and temperature[2,3]
SW17/MP17	SW/MP	576488	4853803	Water level and temperature[2,3]
SW18/MP18	SW/MP	576396	4853993	Water level and temperature[2,3]
SW19/MP19	SW/MP	576226	4854106	Water level and temperature[2,3]
SW20/MP20	SW/MP	576819	4853890	Water level and temperature[2,3]
SW21/MP21	SW/MP	578215	4851865	Water level and temperature[2,3]
SW24	SW	578193	4854455	Water level and temperature[2,4]
SW25	SW	578089	4854497	Water level and temperature[2,4]

Notes:
1. Groundwater level to be monitored by logger set to record on 15-min intervals, with quarterly logger downloads and quarterly manual measurements.
2. Surface water level and temperature to be monitored by logger set to record on 15-min intervals, with quarterly logger downloads and quarterly manual measurements.
3. Located on lands / owned controlled by the licensee.
4. Located on railroad right-of-way. Monitoring to be completed subject to permission by the applicable public authority.
5. Groundwater will be sampled in the shallowest piezometer of the well nest annually (spring) and analysed for general chemistry, nutrients, inorganics and metals, as well as PHC F1 to F4.

CLOSURE

We trust that this memorandum meets your current needs. If you have any questions or require clarification, please contact the undersigned.

WSP Canada Inc.



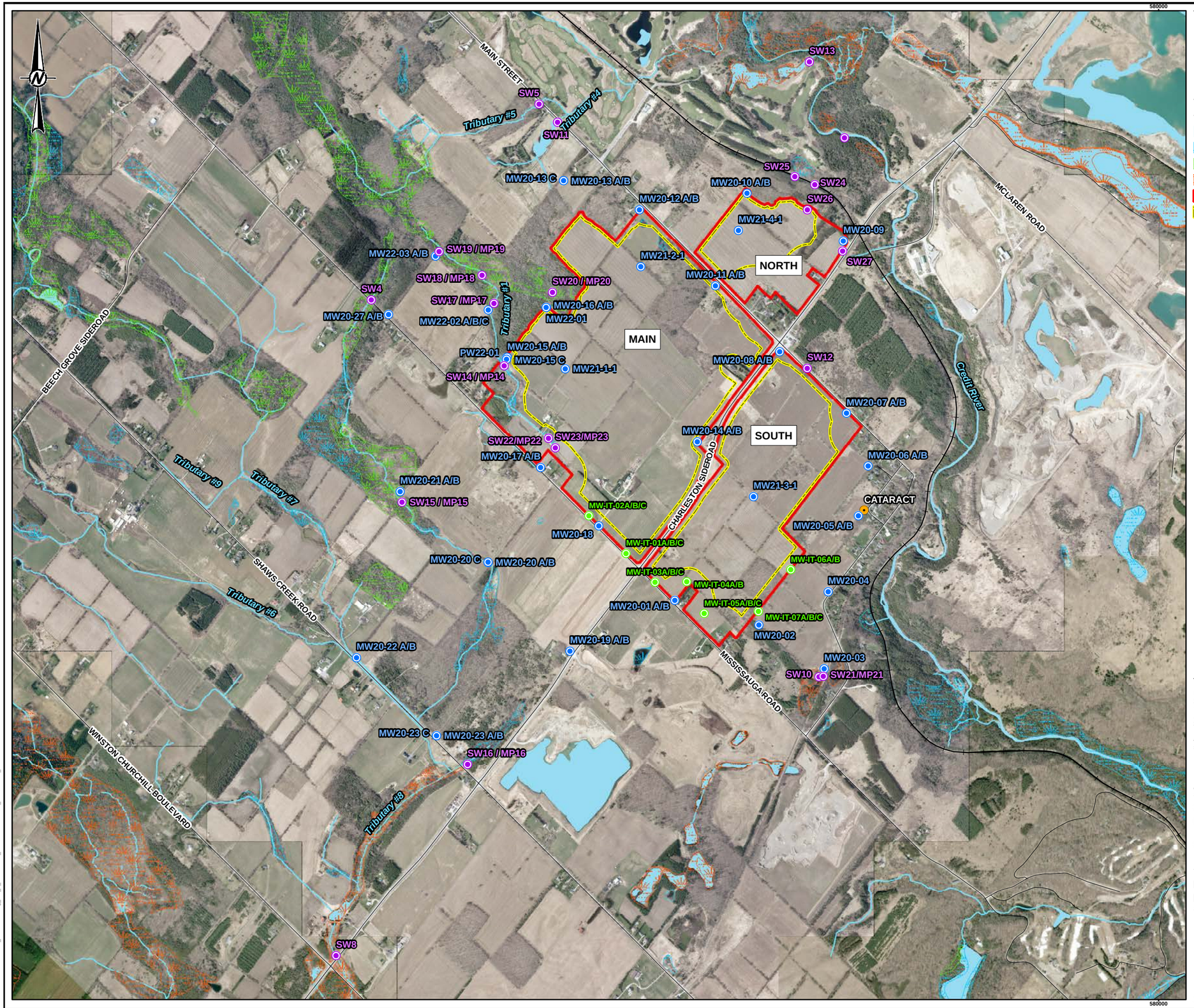
Craig DeVito, PEng
Senior Water Resources Engineer



George Schneider, PGeo
Senior Geoscientist

VP/CDV/GWS/

https://wsponline.sharepoint.com/sites/gld-114392/project files/6 deliverables/ph 2300-hydrogeology/505 water report addendum rev feb 2025/s2-06 response to mecp gw-14 2024 wq event updated wq mon prog/19129150 revised mon plan feb 2025 r1a.docx



LEGEND

- TOWN
- MONITORING WELL
- SURFACE WATER STATION
- INFILTRATION TRENCH MONITORING WELL
- ROAD
- RAILWAY
- WATERBODY
- UNEVALUATED WETLAND
- OTHER EVALUATED WETLAND
- PROVINCIALLY SIGNIFICANT WETLAND
- LICENCE BOUNDARY
- LIMIT OF EXTRACTION

0 500 1,000

1:20,000 METRES

REFERENCE(S)

1. BASE DATA MNRF LIO OBTAINED 2020
2. WATERCOURSES OBTAINED FROM CREDIT VALLEY CONSERVATION AUTHORITY OPEN DATA PORTAL, NOVEMBER 2022 IN COMBINATION WITH SITE WATERCOURSE SURVEY PROVIDED BY FIRST BASE SOLUTIONS NOVEMBER 2021.
3. IMAGERY FIRSTBASE SOLUTIONS SPRING 2019 (15CM RESOLUTION) AND SOURCE: ESRI, MAXAR, EARTHSTAR GEOGRAPHICS, AND THE GIS USER COMMUNITY
4. LICENSE AND EXTRACTION LIMIT PROVIDED BY MHBC IN JUNE 2023.
5. PROJECTION: TRANSVERSE MERCATOR DATUM: NAD 83 COORDINATE SYSTEM: UTM ZONE 17N

CLIENT

CBM AGGREGATES, A DIVISION OF ST. MARYS CEMENT INC. (CANADA).

PROJECT

CALEDON PIT / QUARRY

TITLE

PROPOSED SURFACE WATER AND GROUNDWATER MONITORING PROGRAM

CONSULTANT

wsp

YYYY-MM-DD	2025-02-06
DESIGNED	CGE
PREPARED	SO
REVIEWED	GWS
APPROVED	HM

PROJECT NO.	CONTROL	REV.	FIGURE
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IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

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APPENDIX G

CBM Aggregates' Spill Response Plan

	Location: **All Ready Mix and Aggregate Divisions**	**CBM, PRAIRIE and UNITED** **WORK INSTRUCTION**		**Page 1 of 6**
	Department: **Environment**	**Title:** **EOP 5.1 Spill Prevention and Response**		**Revision:** **3**
	System: **Internal**	**WHO**	**WHEN** **Ongoing**	**Type:** PO
	APPROVED AND PUBLISHED ELECTRONICALLY ORIGINAL AVAILABLE ON THE INTRANET	**WHERE** All plants		

1.0 PURPOSE

To prevent the release of substances that could adversely impact the environment
To ensure that all spills are handled quickly, effectively, safely, and in an environmentally responsible manner according to all applicable rules and regulations

2.0 SCOPE

The following spill situations have been identified:

- General Spill Response
- Spill on the Road (truck fluid or concrete)

- The General Spill Response is a generic response. A site specific response containing local contact information shall be developed for each Division and site
- Every site should post the site specific spill response in appropriate places throughout the plant
- Appropriate locations will include lunchrooms, garages, and by fuel and oil storage areas
- The spill response should be reviewed on a yearly basis

3.0 RESPONSIBILITY

1. All employees shall have a thorough knowledge of the Spill Prevention and Response Procedure and follow this at all times when dealing with substances that have the potential to spill or have already spilled
2. All sites will have a site specific spill response posted
3. Periodic drills for the Spill Response should be conducted to ensure it is functioning and will be followed correctly
4. The Spill Prevention and Response Procedure shall be kept available and current in case of emergency
5. Be aware of delivery companies' Spill Prevention and Response Procedures and ensure that the delivery person is aware of and follows CBM Aggregate delivery instructions
6. Ensure all spills are contained, cleaned up, and reported
7. Visual Tank Inspections are to be carried out for above ground storage tanks at least weekly and that the inspection log filled out and given to the Environmental Department monthly

4.0 DEFINITIONS

None

5.0 PROCEDURE

SPILL PREVENTION

1. All transfer operations shall be manned
2. All equipment fueling shall be carried out on a concrete pad where possible
3. All sites should have at least one spill kit containing spill pads and booms.
4. All ready Mix trucks will have a small spill kit containing spill pads.
5. All new tanks shall be above ground
6. Secondary containment is required for all above ground storage tanks and the drain plugs must be in place. Water in secondary containments need to be drained and treated if required. Inspections must be conducted as required by the fuel procedure.

7. A visual inspection shall be the minimum monitoring for above ground storage tanks.
8. The dips procedure will serve to monitor below ground tanks. In the event of a leak, the leak shall be contained, the tank contents removed, and the necessary repairs shall be made immediately
9. The site shall have a supply of stray dry available near storage areas
10. On an as needed basis apply stay dry to minor drips and leaks. This should be placed in a leak proof container and disposed of in the regular waste
11. Large volumes of stay dry should be disposed of with a licensed absorbent recycling company
12. Maintenance operations shall be conducted away from potential pathways for discharge, especially areas containing water. For example, open drains, swales, ponds or other areas that will allow for the movement of the spilled substance away from the source of the spill
13. Never drain shop wastes into a stormwater drain, septic tank, onto the ground or into surface water.
14. Place drip pans underneath vehicles and equipment when performing maintenance such as parts removal, unscrewing filters and unclipping hoses. Use separate drip pans for each fluid to avoid mixing. Do not leave drip pans or other open containers lying around.
15. Place dirty parts in drip pans instead of on the floor.
16. Never hose down spills with water and plug floor drains when cleaning.
17. Do not wash surfactants, which greatly reduce the surface tension of water, and surface cleaning agents into the interceptors.
18. Have service bays drain into an oil interceptor as required by the *Ontario Building Code*, to prevent oily washes from being discharged into the sanitary sewer – refer to Section 10.0 'Treatment Systems' for standards and maintenance of interceptors.
19. Use solvents properly and not use them on the floor

Equipment Spill Prevention

1. Equipment should be kept clean as possible. Clean equipment allows for easier inspections and repairs.
2. Pre-trip inspection-
    a. Prior to commencing operation all equipment shall be inspected.
    b. This inspection, although required for other purposes, should take into account spill prevention.
    c. Review the condition of the equipment to try and prevent spills and leaks before they occur.
    d. Activate the hydraulics to prove operation before you head out.
3. Post trip inspection-
    a. When equipment is returned to the yard and/or parked for the night, inspect the equipment and to ensure everything is still intact.
    b. Look for leaking, pinching, wear or damage that may have occurred throughout the shift.
    c. Report any issues and have them repaired.
4. Be Aware of the surroundings during daily operation
    a. Review the source pathway receptor model in regards to where the equipment is being parked. For example if the equipment was to spontaneously leak determine where the leak would go and ensure it is contained to a small an area as possible. Ensure that it's especially kept from water, drains, sewers, wells etc.
    b. During the work day review where the equipment is being operated using the source pathway receptor model. If the line was to blow or equipment to leak where would that spill go and determine if it be contained away from water, drains, sewers, wells etc.
5. Pay attention while the equipment is running so that steps can be taken to respond immediately to a spill, shut down and isolate. The equipment, should be continually checked to ensure there are no leaks or other issues.

Source, Pathway, Receptor Model of Spill Prevention

1. Sites should utilize the Source, Pathway Receptor Model of Spill Prevention
2. Working through this model at each site will raise awareness of what can be spilled at the site, where it can go to affect the environment and how it will get there.
3. Examine the site and identify:
    a) **Source- name the source- Fuel, Admix, used oil etc.**
    b) **Pathway- If spilled how the source material would be transported.**

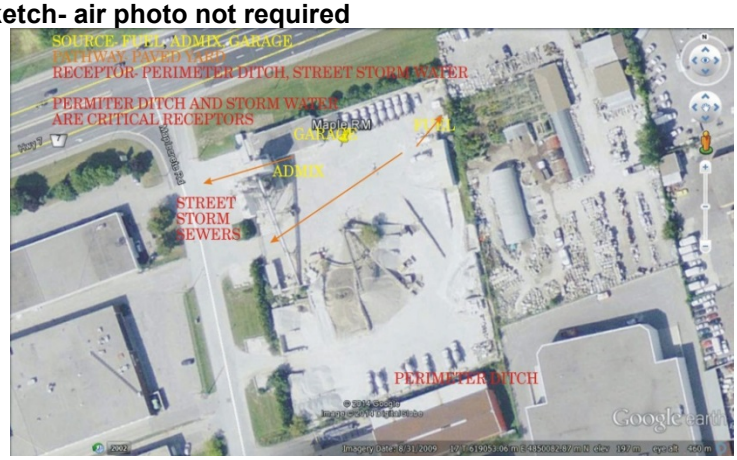
c) **Receptor- If the source material was to follow a pathway where would it go. It is most important to identify drains, ditches, catch basins etc**.

4. Create a simple sketch of the site with the SPR identified.
5. Review the assessment with all employees.
6. Any other details about containment etc. should be noted.. E.g. Fuel (metal containment), Ad Mix (shipping container)
7. From this exercise the plant should determine how to **remove the source, cut off the pathway and/or protect the receptor**.

Example 1-written

Source	admix, fuel
pathway	concrete yard
receptor	storm drain
Notes	AdMix trailer spill would be caught by small concrete sloped tank but if that overflows it goes to the storm drain

Example 2- simple sketch- air photo not required



GENERAL SPILL RESPONSE

All employees shall be familiar with their site specific Spill Response Plan

1. Eliminate all ignition and/or power sources
2. In the event of fire or medical emergency, call 911 or local phone number for fire, police and ambulance
3. Immediately prevent any further spilling ONLY if there is no risk to health and safety
4. Check to see if the spill has the potential to impact surface or ground water in the area. Is there a lake, pond, river, creek or ditch running off the property, catch basin or storm sewer that may be impacted?
5. Contain spill to prevent further spreading or entry into waterways, sewers, basement or confined areas
6. Absorb/cover spilled material using absorbent material or dry earth, sand or other material that won't burn
7. Determine if the spill can be cleaned up with your equipment or if the services of a subcontractor are required
8. If the spill has entered any type of watercourse, notify a supervisor to assist in the decision of requiring a subcontractor
9. See Plant list of licensed subcontractors that can be used
10. If the spill DOES have the potential to impact surface water, or groundwater, or is of significant quantity, Supervisors should notify the appropriate agency (e.g. Ontario- Ministry of the Environment Spills Action Centre at **1(800)268-6060**.) Have the following information ready:
    a. Your name, company name, location

   b. What was spilled, how much and how it was spilled
   c. Is there any potential impact to water in the area
   d. What you are doing to contain and clean-up the spill
11. Also inform Plant Manager, Area and/or Regional Manager, and Environmental Manager
12. Document the spill on the Spill Notification Report or Management Notification form on the shared database and or provide the environmental department with the following information:
    - *NAME OF PIT OR QUARRY:*
    - *REPORTED BY:*
    - *PERSONS INTERVIEWED:*
    - *LOCATION OF SPILL:*
    - *DATE AND TIME SPILL OCCURRED:*
    - *MATERIAL, DURATION AND AMOUNT SPILLED:*
    - *SOURCE OF RELEASE:*
    - *DID CONTAMINATION OCCUR YES NO*
    - *IF YES, WHAT NATURE:*
    - *CAUSE AND DESCRIPTION OF SPILL:*
    - *ACTIONS TAKEN: (date time of cleanup, assessment of the success of containment and clean up, method of disposal and location)*
    - *RECOMMENDATIONS TO PREVENT RECURRENCE:*
    - *REPORT COMPLETED BY:*
    - *DATE COMPLETED*:

Fluid Spills on the Road

Truck Operators

1. Identify the spill (type of liquid)
2. Shut the truck down immediately
3. Eliminate all ignition and/or power sources
4. Shut off the source of the spill (ONLY if there is no risk to health and safety)
5. Contain the spill if necessary
6. Notify fleet maintenance immediately

Fleet Maintenance

1. Once notification is received that a spill has occurred, make sure that the Truck Operator has completed the tasks above
2. In case of a fire or medical emergency, call 911 or the local number for fire, ambulance, and police
3. Load the Service Vehicle witch the appropriate clean-up equipment. This will include the following:
   a. Shovels
   b. Brooms
   c. Absorbent
   d. Containers for used absorbent and spill residue
4. Ensure that the vehicle is equipped with safety equipment (e.g. triangle flares, traffic vests)
5. Once you arrive at the site of the spill, assess the situation and follow the preceding General Spill Response
6. If it has been determined that the spill can be cleaned up with our equipment and resources, the following are the instructions for various types of terrain:
   a. **Fluids on Concrete/Asphalt** – spread absorbent material and work into spill. Allow time for it to soak up spill. Shovel and sweep material into container. If spill has not been entirely soaked up, repeat process until clean. Take material back to yard (if applicable) and dispose
   b. **Fluids on Soil/Gravel** – spread absorbent material onto the spill. Allow time for it to soak up excess spill. Shovel soil/gravel into container. Take materials back to yard (if applicable) to dispose

c. **Fluids on Grass –** spread absorbent material onto the spill. Allow time for it to soak up excess spill. Shovel sod and soil into container until all traces of spill are removed from surrounding grassed area. Take materials back to yard (if applicable) for disposal. Notify Yard or Area Manager to arrange for replacement of grass and soil

Concrete Spills on the Road (Ready Mix Concrete Trucks)

1. When notified of a spill, load service vehicle with the appropriate equipment. This will include brooms and shovels, as well as safety equipment
2. Upon arrival at the spill site, assess the situation. Determine the approximate amount and the area that has been affected
3. If the spill is greater than 0.5 of a meter, or is spread over the distance of half of a kilometer, it may be necessary to contact a subcontractor with a machine and dump truck, or a sweeper to assist in the clean-up. It may be possible to utilize our own loader if it is close enough to the yard
4. Survey the spill site for traffic control. It may be necessary to block off a lane of traffic. Notify the local police department to assist in traffic control if necessary
5. Scrape up the spill with shovel and place into the back of the service vehicle
6. Sweep any remaining loose material and pick up with shovel
7. Take material back to yard for disposal

Powder Spills and Blow overs

In the event of a release of cement powder to the site or offsite the following actions should be undertaken.

1. Investigate the distribution of the release to determine the extent of the release and clean up required.
2. Close off all catch basins to prevent spreading of powder via water. Utilize tarps, plastic, or sand berms, bury them in sand
3. If the material has left the site MSDS sheets shall be provided to the affected parties.
4. Hire a contract sweeper/vacuum to remove powder from onsite and offsite
5. All catch basins shall be inspected and vacuumed as required.
6. Utilize water ONLY if the material can safely be contained from offsite discharge (catch basins, gutters, ditches etc)
7. All collected powder shall be removed from the site by a properly licensed clean up and disposal company.
8. Contained water can either be removed from the site by a properly licensed clean up and disposal company or used back into Concrete production.
9. In the event that offsite buildings are affected
    a. Hire a mobile wash contractor and vacuum truck contractor.
    b. Buildings shall be washed and water immediately vacuumed and contained.
10. In the event that vehicles are affected.
    a. Vehicles not already on plant property shall be brought into the plant property for cleaning
    b. A designated area shall be established to contain the wash water. Ideally this area will be in and around the washout drying bay or sloped tank.
    c. The use of sand berms shall be employed to further contain the water.
    d. In the event of a light dusting cars can be provided wash vouchers.
    e. RM Truck concrete cleaner can be used to clean the vehicles. This cleaner will be applied and then hosed off with clean water
    f. Another option is to use white vinegar or lemon juice diluted to about 10%, ensure to rinse with a lot of water so it doesn't eat at the paint.
    g. Wash off water will be contained and either removed via vacuum truck OR used in plant production.
    h. If off site cleaning is only available then catch basins shall be protected by any measure available e.g. filters, berms, dikes, vacuum truck etc.
    i. Further detailing of the vehicles can be undertaken by a professional detailer.
    j. A Clay Bar Wax may be employed. In this method a plasticine is rolled over the paint picking up the tiny particles of cement instead of rubbing them into the paint which can cause the paint to scratch (this can happen if you use a regular method of rubbing with a washcloth).

6.0 EXPECTED RESULTS

Spills are handled quickly, effectively, safely, and in an environmentally responsible manner according to all applicable rules and regulations

7.0 ACTIONS IN CASE OF ABNORMALITY

8.0 REFERENCE DOCUMENTS

ER-5.1 CBM RM Spill Report
ER-5.2 CBM Agg Spill Report
Cement Procedure: PD-002060 - 00 - 01 Spill Response Unknown Contaminant Discharge to Water

9.0 SAFETY INFORMATION

None

Votorantim Cimentos / CBM	CBM Data Document	Code	TBD
		Revision	0
	CBM Spill Response-Plant posting	Area	CBM RM
		Pages	1 / 1
Location:			

In the event of a spill, immediately take the following actions:

- **Stop and contain the spill.**
  1. **Eliminate** all ignition and/or power sources.
  2. In the event of fire or medical emergency, **call 911** for fire, police and ambulance.
  3. Immediately **prevent any further spilling** ONLY if there is no risk to health and safety.
  4. **Contain spill** to prevent further spreading or entry into waterways, sewers, basement or confined areas. Limit the area the spill will cover to reduce increased contamination.
  5. **Absorb or cover spilled** material using absorbent material or dry earth, sand or other material that won't burn. Utilize on site spill kits and stockpiles of aggregates.
  6. Any spilled material that is in liquid form and/or has come into contact with other liquids will be removed from the site by using a vacuum truck.
  7. Any spilled material that is in solid form will be contained on a tarp, covered with a tarp where it will wait for environmental sampling prior to removal from the site.
  8. If Governmental authorities attend the site, please be advised:
     a. Every conversation with inspectors should be done with the participation of at least two Votorantim employees.
     b. Every beginning of inspection should be immediately reported to the Legal department, which will provide guidance on how to proceed
  9. Document the spill on the Notification form

- **Notify the following people:**
  - **Plant Contact, Area Contact, Legal Contact and Environmental Contact**
  - **Insurance Company**
- **External Notification- Ministry of the Environment:**

Spill must be reported to the MOE, by site personnel, immediately when the person knows or ought to know that the pollutant is spilled and is causing or is likely to cause an adverse effect.
Adverse Effect**:**

a. Impairment to the quality of the natural environment
b. Injury or damage to property or animal life
c. Adverse health affects
d. Safety risk
e. Making property, plant, or animal life unfit for use
f. Loss of enjoyment of normal use of property
g. Interference with the normal conduct of business

Ministry of the Environment Spills Action Centre
1 (800) 268-6060 immediately after the spill is in control.
1866 694-5454 Quebec

Environmental officers who receive the calls at the Spills Action Centre can provide advice and information related to spills or drinking water events through a series of operating procedures. They can also activate a field response when needed or initiate service continuity arrangements.

Make a record of and have the following information ready:

- Your name, company name, location
- What was spilled, how much and how it was spilled?
- Is there any potential impact to water in the area?
- What you are doing to contain and clean up the spill?

- **Record the Time and Date of the call to the MOE along with any instructions they may give you.**
- **Ensure that you record the name of the MOE representative on the phone and the reference number.**

Local Municipalities

(May be required depending on the severity of the spill and/or MOE instructions)
Municipal authorities must be notified about any discharge that threatens the environment via the sanitary or storm sewer systems.

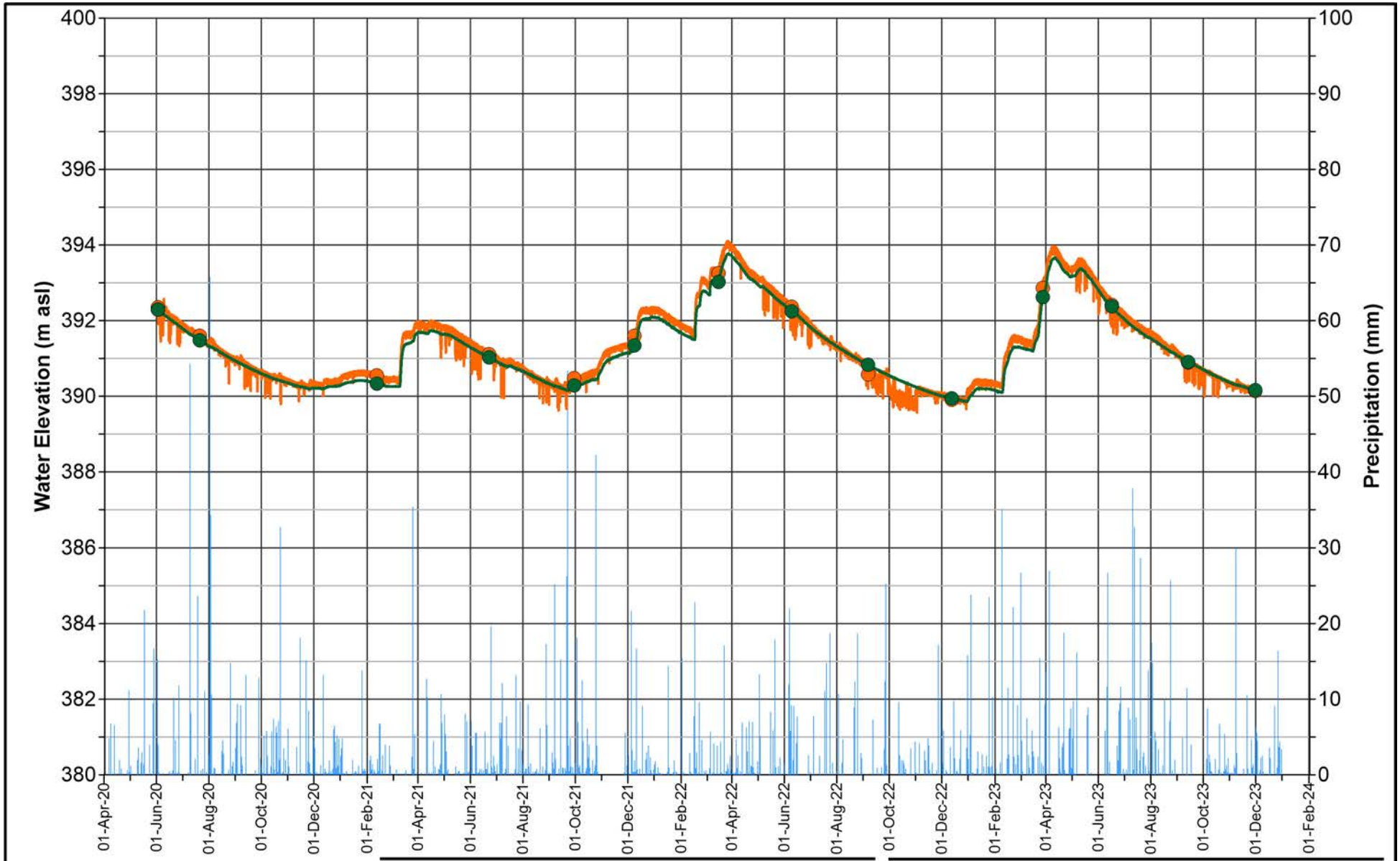
External Resources

- **Consultants**
- **Cleanup and Haulage Contractor**

SEE CONTACTS TABLE FOR ALL SITE SPECIFIC CONTACTS

APPENDIX H

Replotted Groundwater Hydrographs



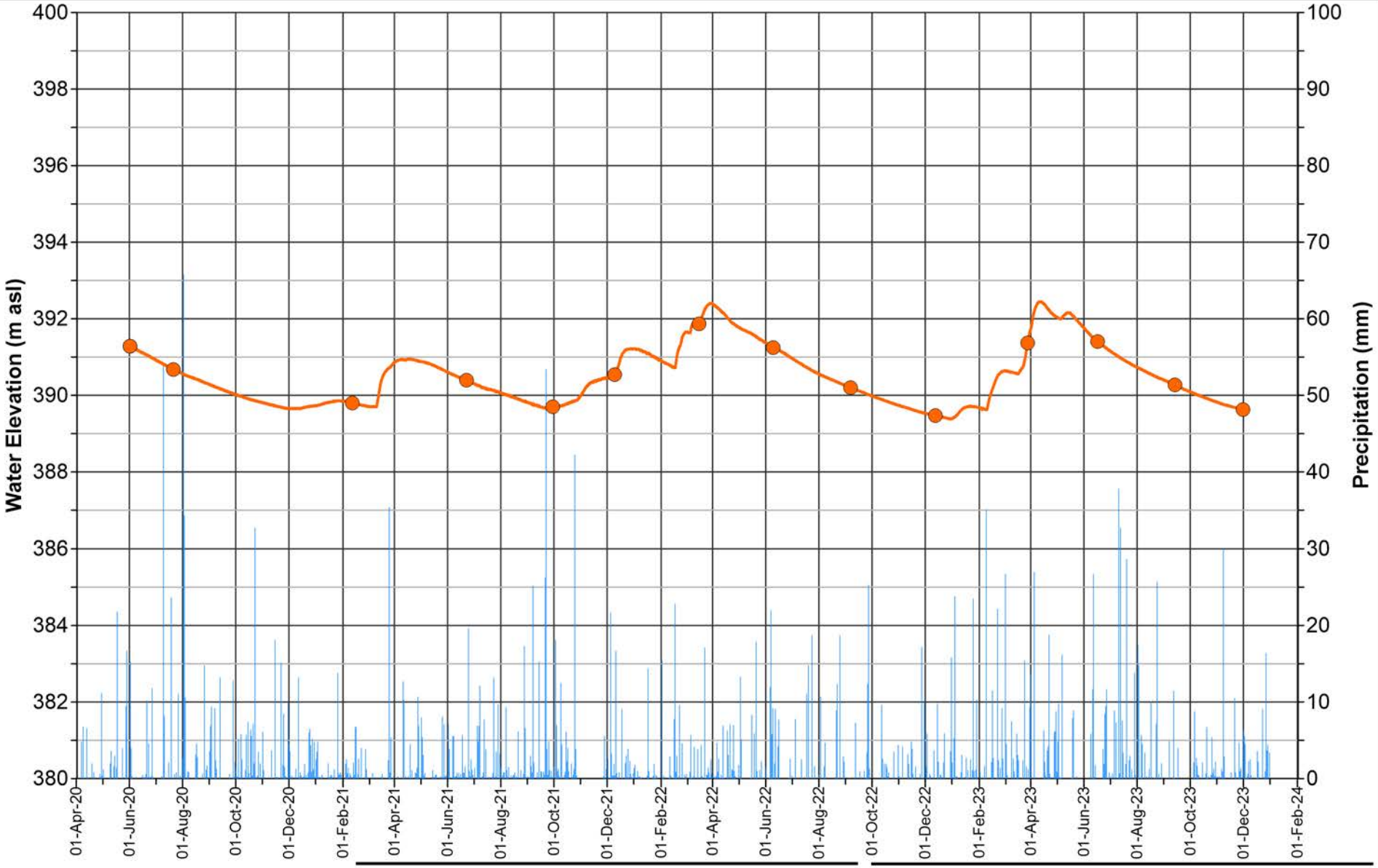
Note: 1) Figures issued in draft
2) Precipitation observed at Mono Centre (ID:6157000) and Caledon Waste Management Facility (ID:8180003) meteorological stations

PROJECT
CBM CALEDON PIT / QUARRY

TITLE
GROUNDWATER MONITORING HYDROGRAPHS MW20-01

DATE	July 2024
DESIGN	VRP
REVIEW	GRP
APPROVED	GWS

PROJECT NO.	REV	FIGURE
CA-GLD-19129150	A	1



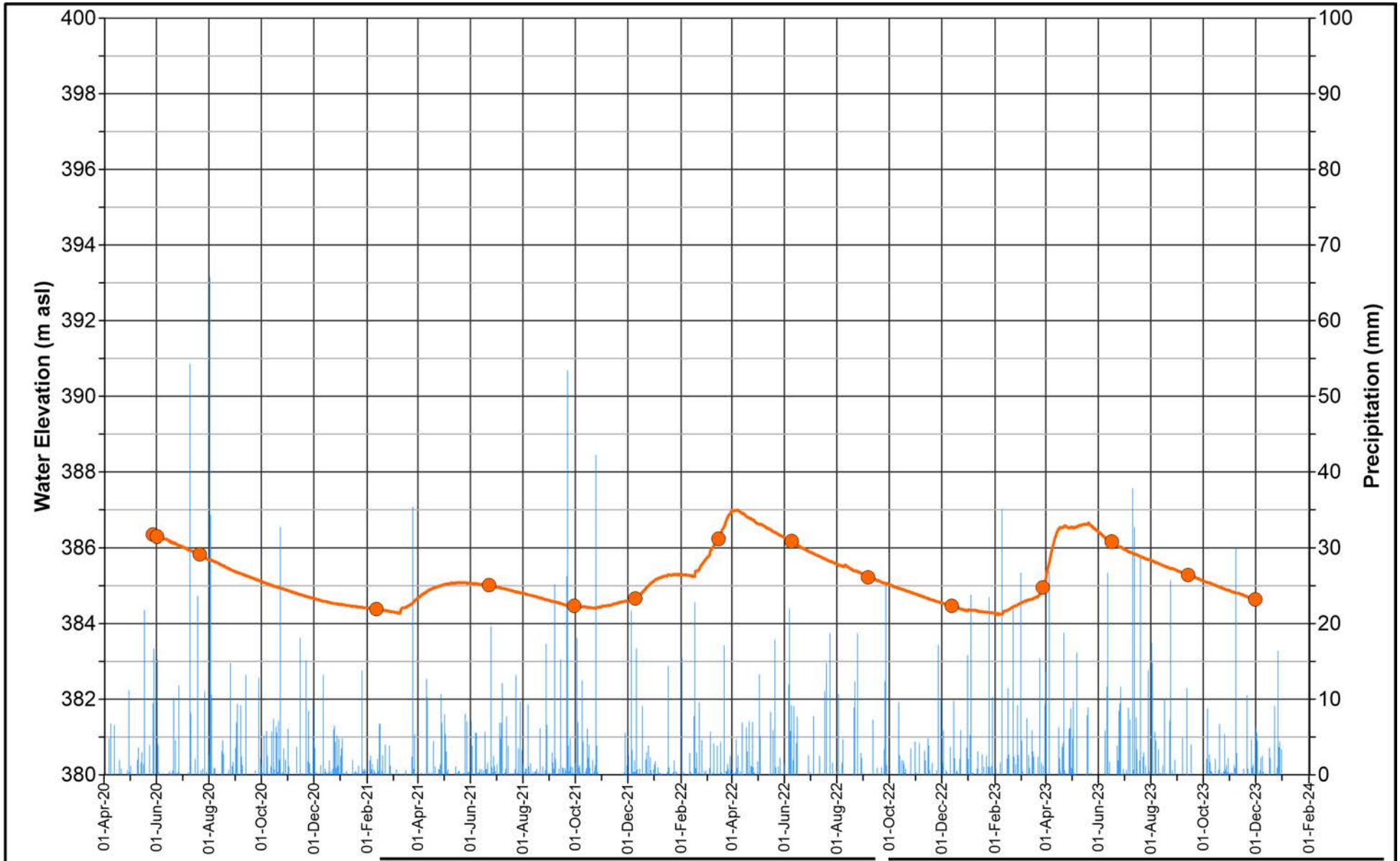
Note: 1) Figures issued in draft
2) Precipitation observed at Mono Centre (ID:6157000) and Caledon Waste Management Facility (ID:8180003) meteorological stations

PROJECT
CBM CALEDON PIT / QUARRY

TITLE
GROUNDWATER MONITORING HYDROGRAPHS
MW20-02

DATE	July 2024
DESIGN	VRP
REVIEW	GRP
APPROVED	GWS

PROJECT NO.	REV	FIGURE
CA-GLD-19129150	A	2



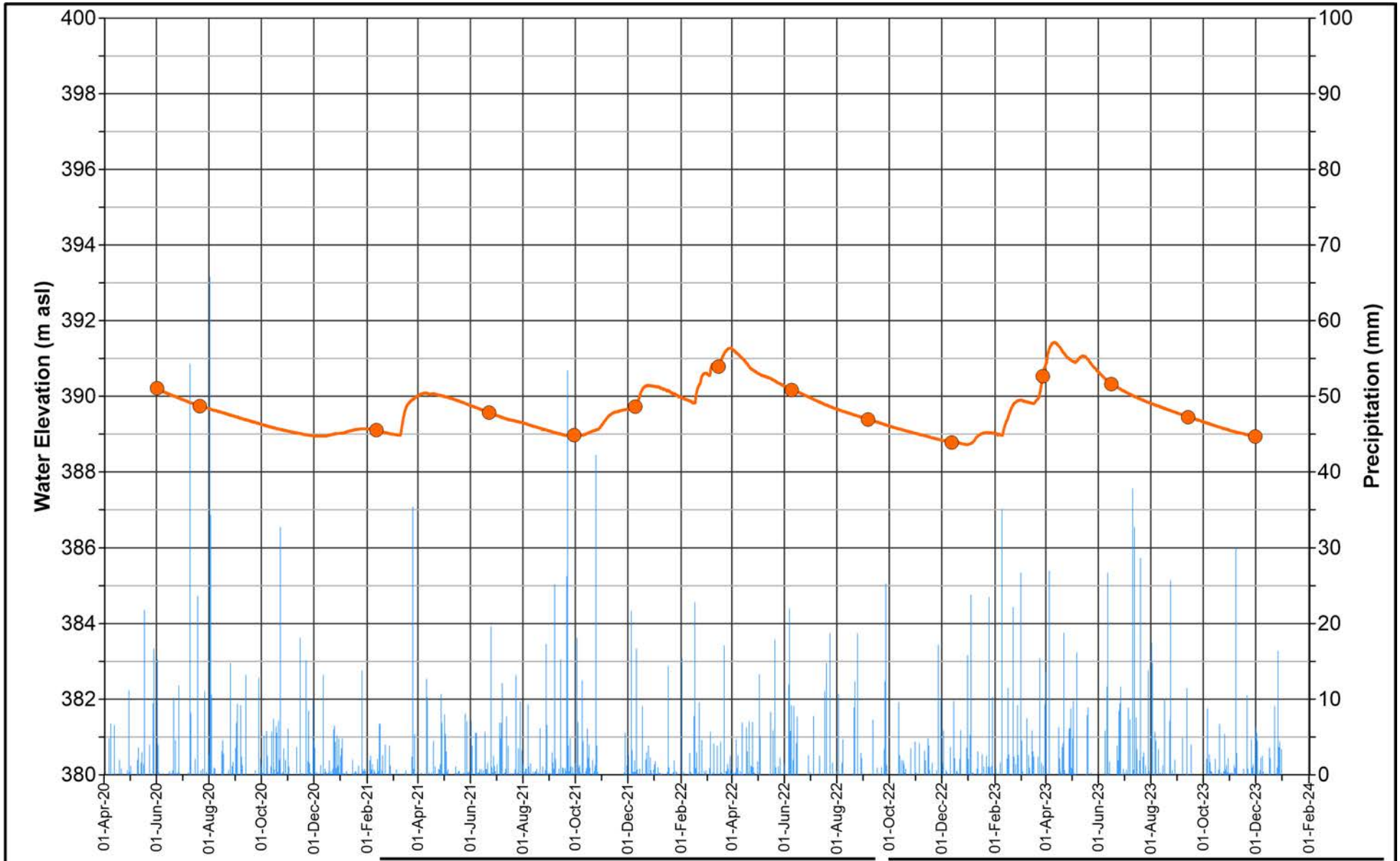
Note: 1) Figures issued in draft
2) Precipitation observed at Mono Centre (ID:6157000) and Caledon Waste Management Facility (ID:8180003) meteorological stations

PROJECT
CBM CALEDON PIT / QUARRY

TITLE
GROUNDWATER MONITORING HYDROGRAPHS
MW20-03

DATE	July 2024
DESIGN	VRP
REVIEW	GRP
APPROVED	GWS

PROJECT NO.	REV	FIGURE
CA-GLD-19129150	A	3



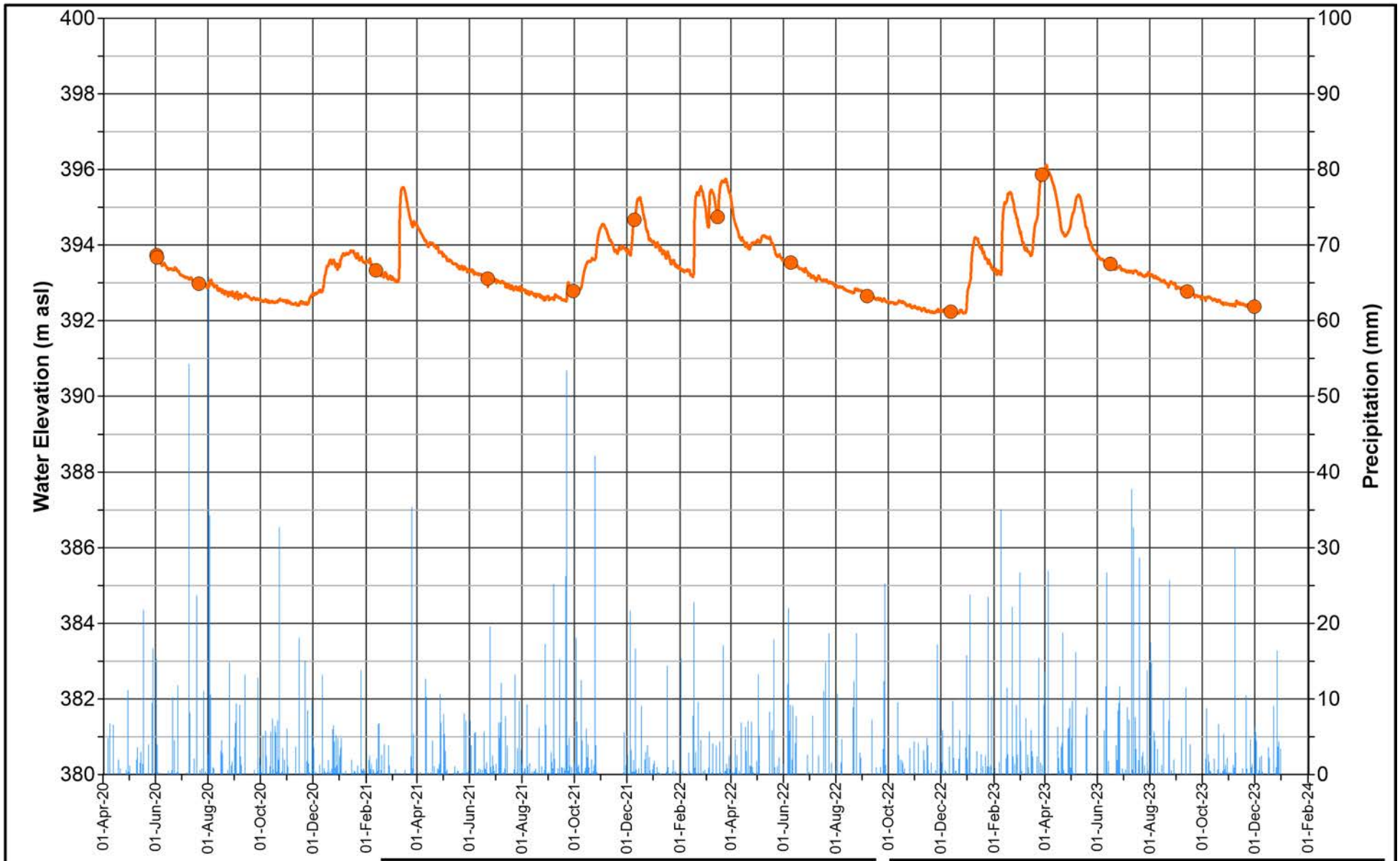
Note: 1) Figures issued in draft
2) Precipitation observed at Mono Centre (ID:6157000) and Caledon Waste Management Facility (ID:8180003) meteorological stations

PROJECT
CBM CALEDON PIT / QUARRY

TITLE
GROUNDWATER MONITORING HYDROGRAPHS
MW20-04

DATE	July 2024
DESIGN	VRP
REVIEW	GRP
APPROVED	GWS

PROJECT NO.	REV	FIGURE
CA-GLD-19129150	A	4



Note: 1) Figures issued in draft
2) Precipitation observed at Mono Centre (ID:6157000) and Caledon Waste Management Facility (ID:8180003) meteorological stations

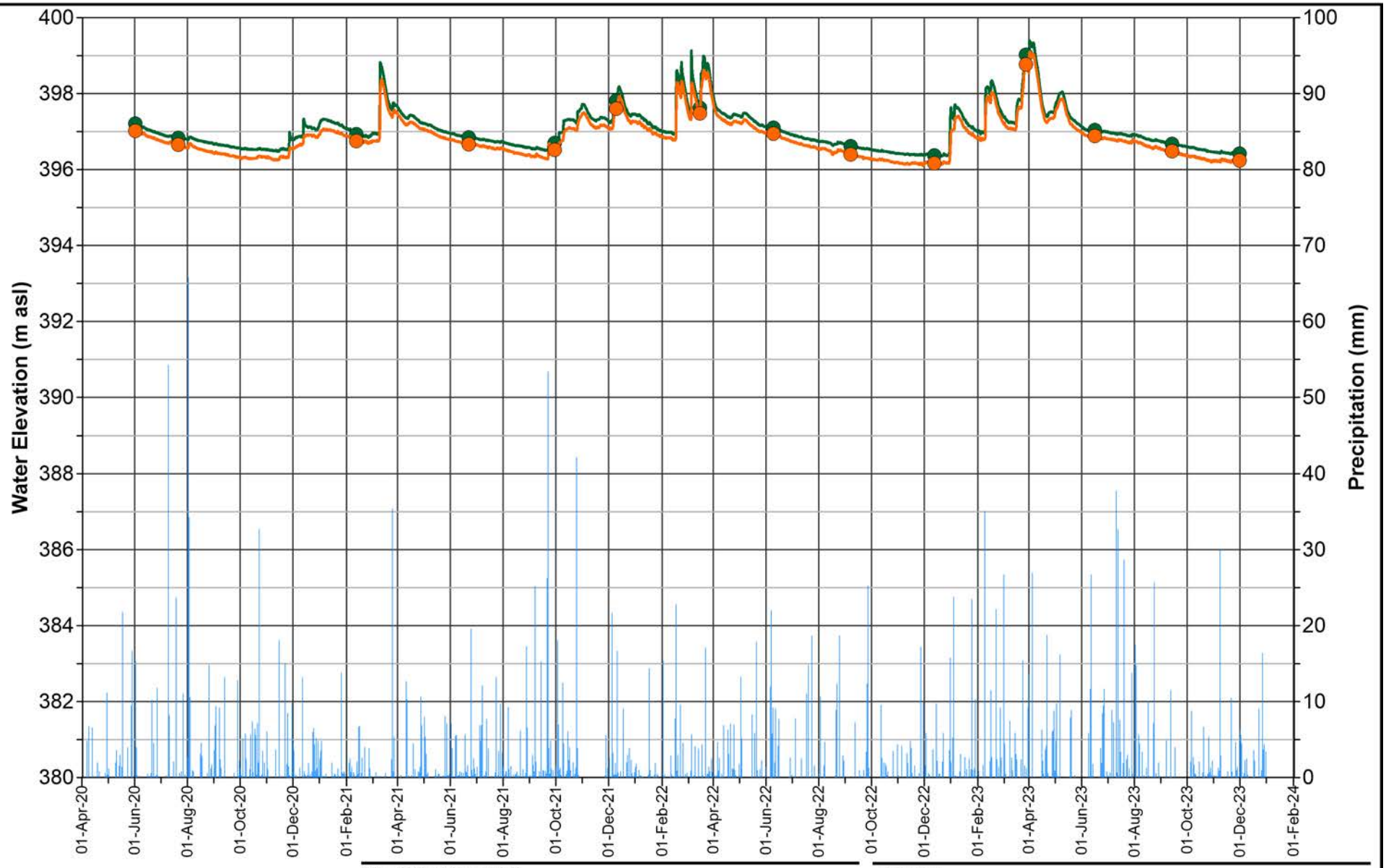
MW20-05A

PROJECT
CBM CALEDON PIT / QUARRY

TITLE
GROUNDWATER MONITORING HYDROGRAPHS MW20-05

DATE	July 2024
DESIGN	VRP
REVIEW	GRP
APPROVED	GWS

PROJECT NO.	REV	FIGURE
CA-GLD-19129150	A	5



Note: 1) Figures issued in draft
2) Precipitation observed at Mono Centre (ID:6157000) and Caledon Waste Management Facility (ID:8180003) meteorological stations

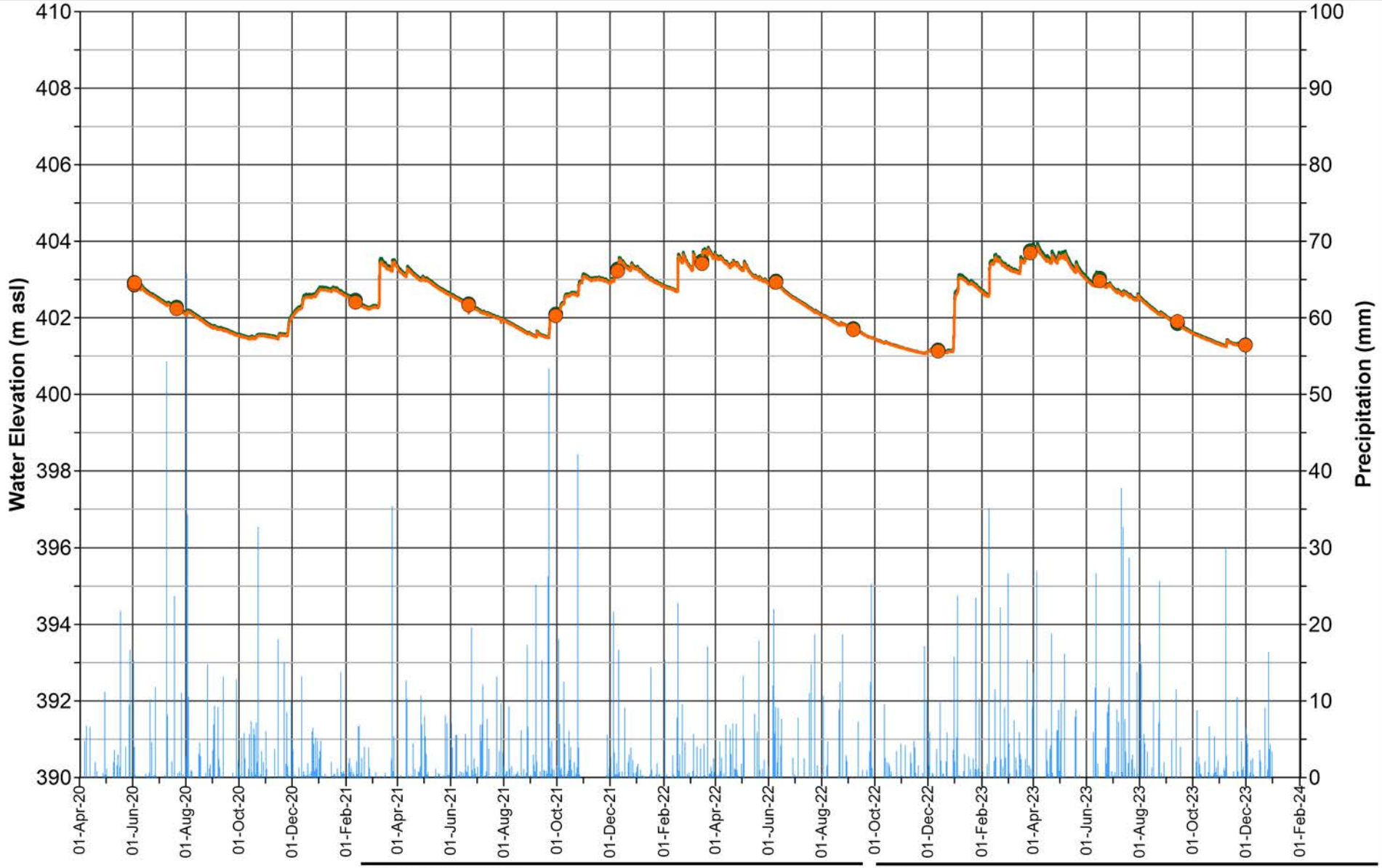
MW20-06A
MW20-06B

PROJECT
CBM CALEDON PIT / QUARRY

TITLE
GROUNDWATER MONITORING HYDROGRAPHS
MW20-06

DATE	July 2024
DESIGN	VRP
REVIEW	GRP
APPROVED	GWS

PROJECT NO.	REV	FIGURE
CA-GLD-19129150	A	6



Note: 1) Figures issued in draft
2) Precipitation observed at Mono Centre (ID:6157000) and Caledon Waste Management Facility (ID:8180003) meteorological stations

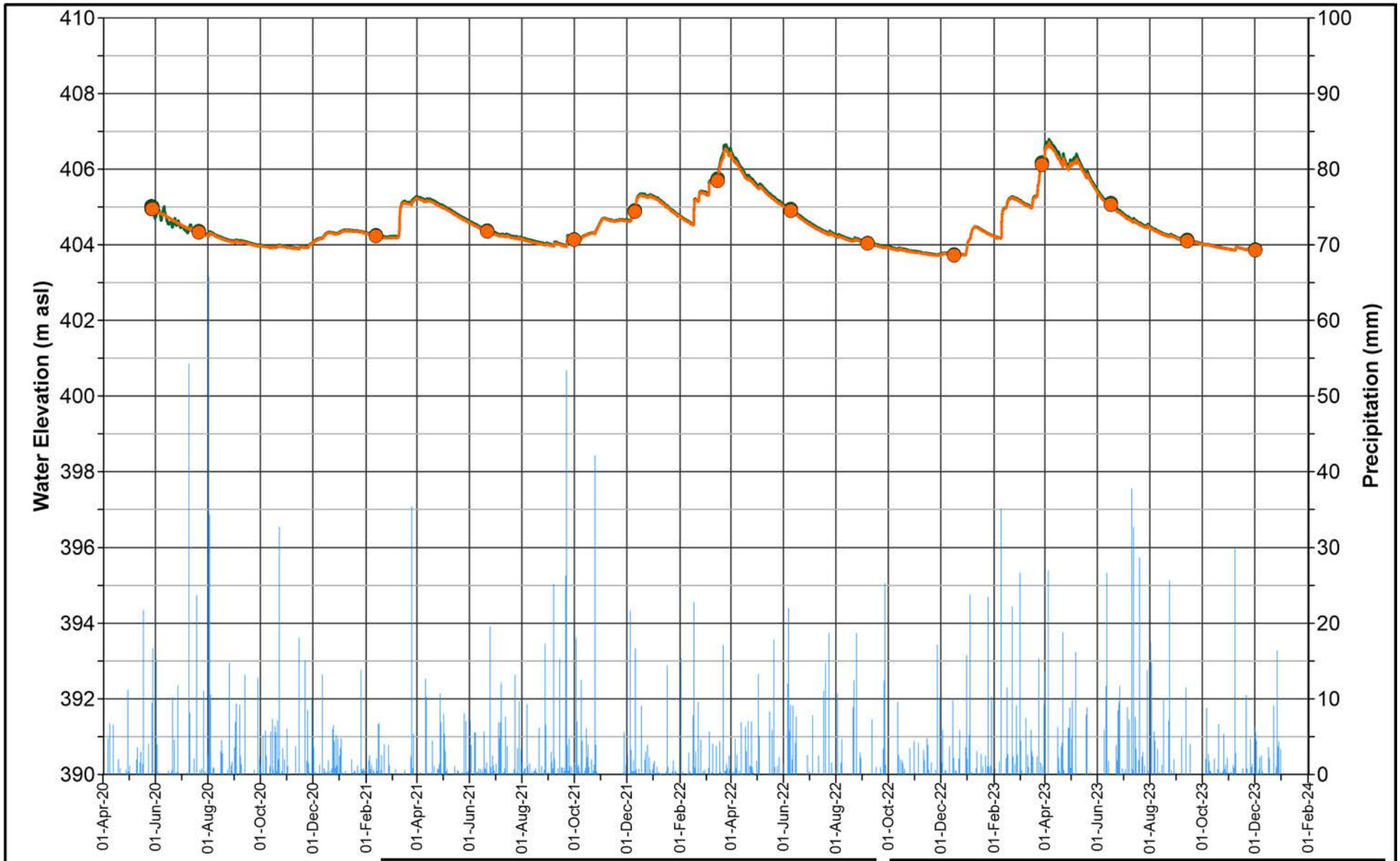
MW20-07A
MW20-07B

PROJECT
CBM CALEDON PIT / QUARRY

TITLE
GROUNDWATER MONITORING HYDROGRAPHS MW20-07

DATE	July 2024
DESIGN	VRP
REVIEW	GRP
APPROVED	GWS

PROJECT NO.	REV	FIGURE
CA-GLD-19129150	A	7



Note: 1) Figures issued in draft
2) Precipitation observed at Mono Centre (ID:6157000) and Caledon Waste Management Facility (ID:8180003) meteorological stations

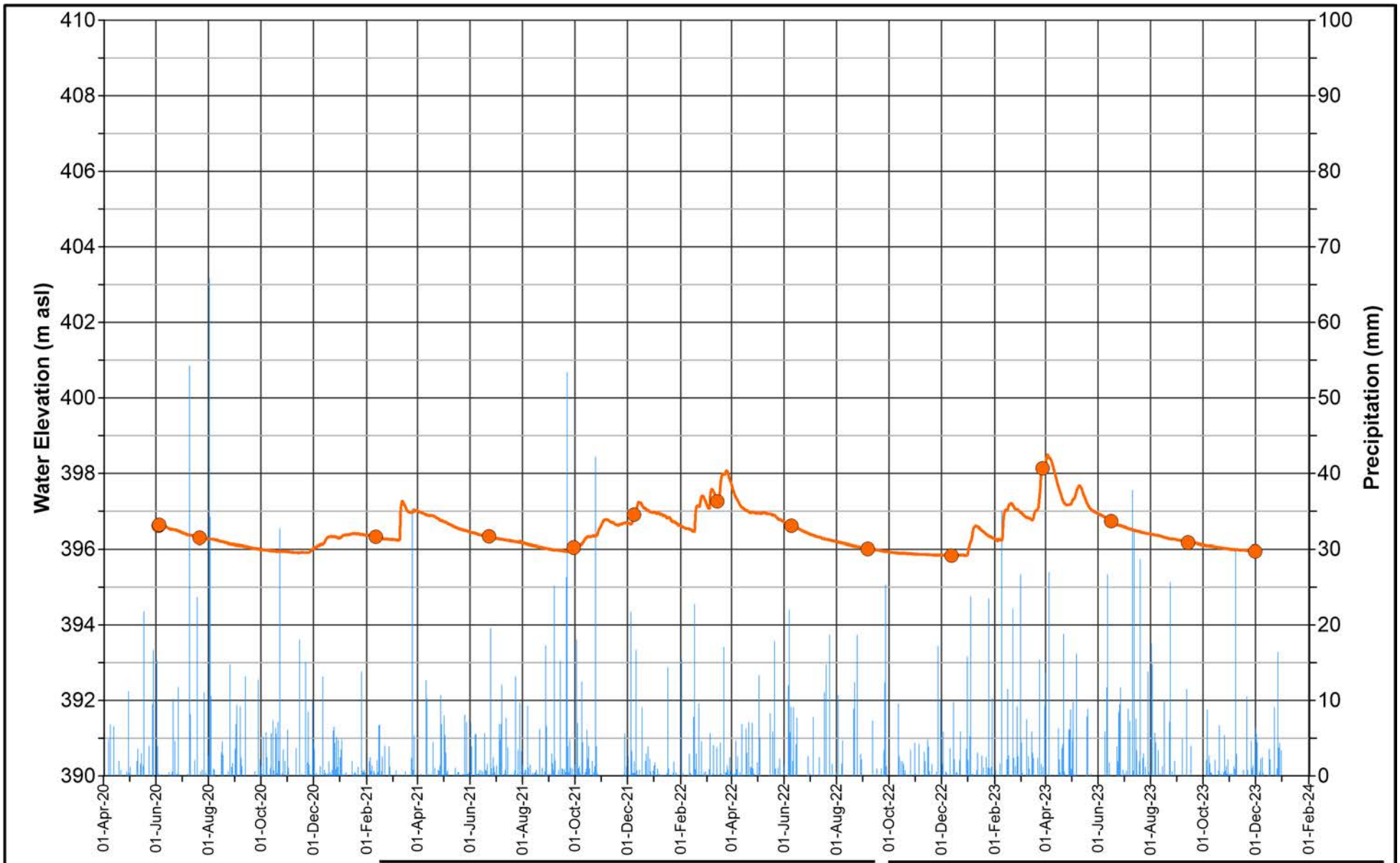
MW20-08A
MW20-08B

PROJECT
CBM CALEDON PIT / QUARRY

TITLE
GROUNDWATER MONITORING HYDROGRAPHS MW20-08

DATE	July 2024
DESIGN	VRP
REVIEW	GRP
APPROVED	GWS

PROJECT NO.	REV	FIGURE
CA-GLD-19129150	A	8



Note: 1) Figures issued in draft
2) Precipitation observed at Mono Centre (ID:6157000) and Caledon Waste Management Facility (ID:8180003) meteorological stations

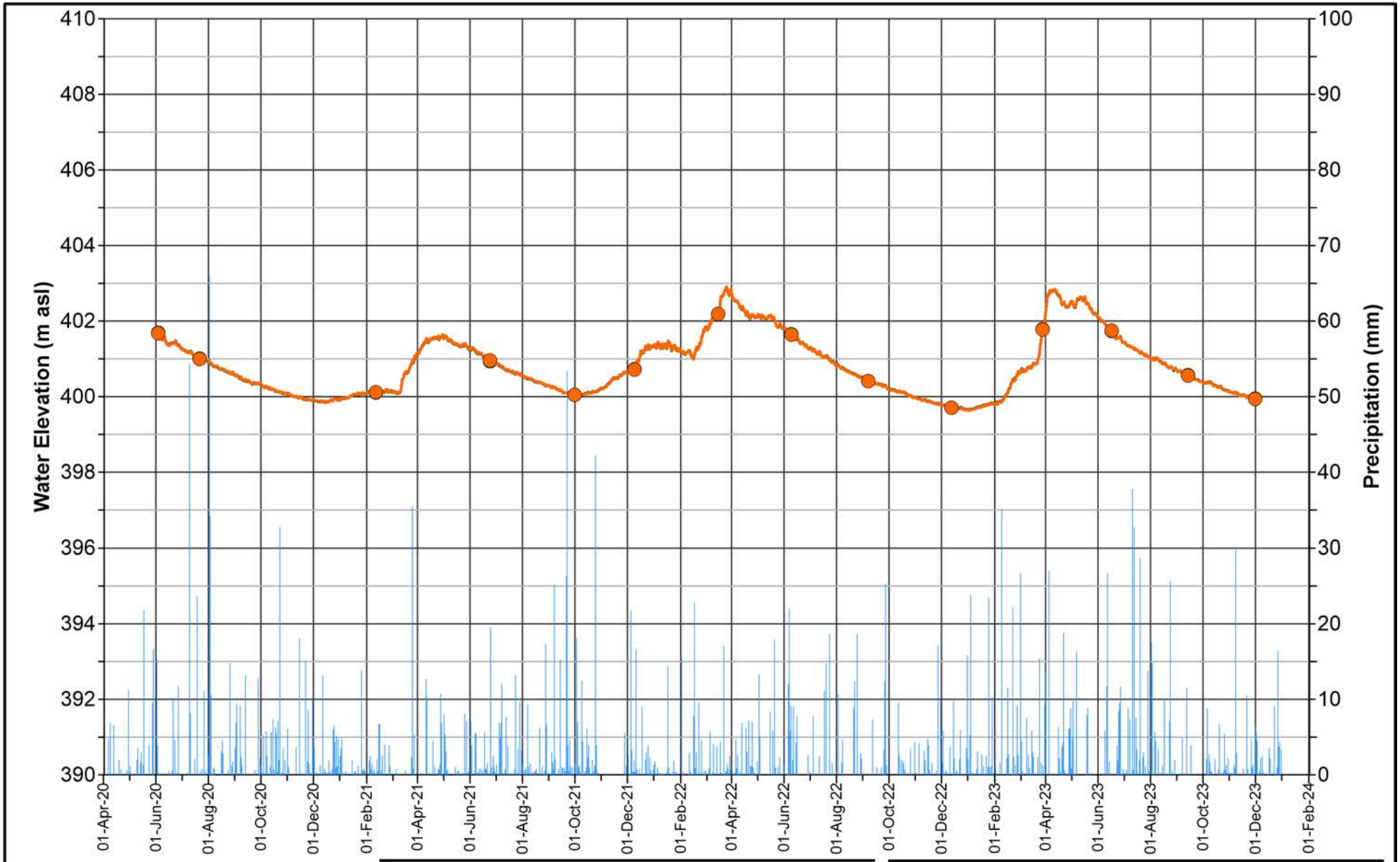
MW20-09

PROJECT
CBM CALEDON PIT / QUARRY

TITLE
GROUNDWATER MONITORING HYDROGRAPHS
MW20-09

DATE	July 2024
DESIGN	VRP
REVIEW	GRP
APPROVED	GWS

PROJECT NO.	REV	FIGURE
CA-GLD-19129150	A	9



Note: 1) Figures issued in draft
2) Precipitation observed at Mono Centre (ID:6157000) and Caledon Waste Management Facility (ID:8180003) meteorological stations

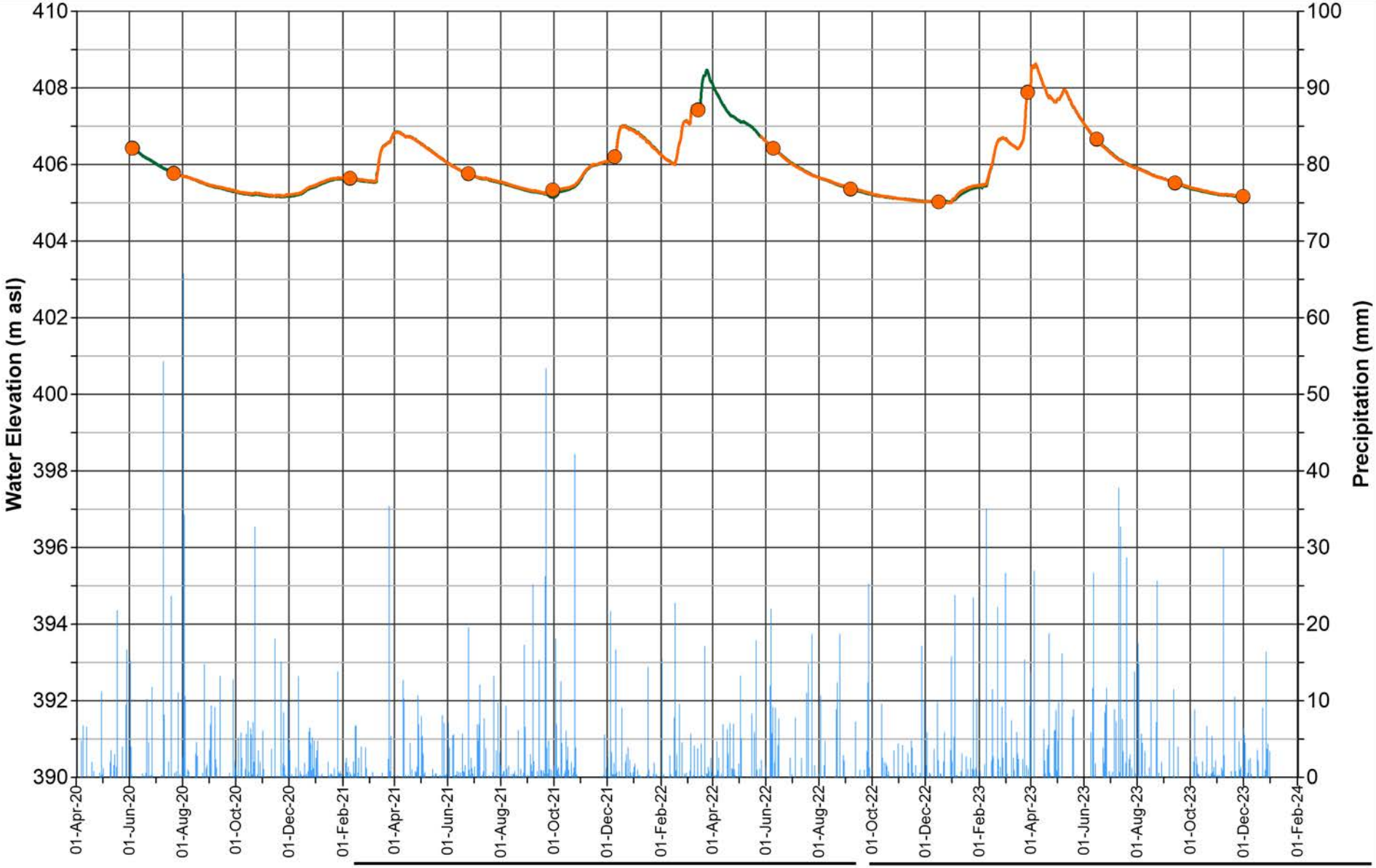
MW20-10A
MW20-10B

PROJECT
CBM CALEDON PIT / QUARRY

TITLE
GROUNDWATER MONITORING HYDROGRAPHS MW20-10

DATE	July 2024
DESIGN	VRP
REVIEW	GRP
APPROVED	GWS

PROJECT NO.	REV	FIGURE
CA-GLD-19129150	A	10



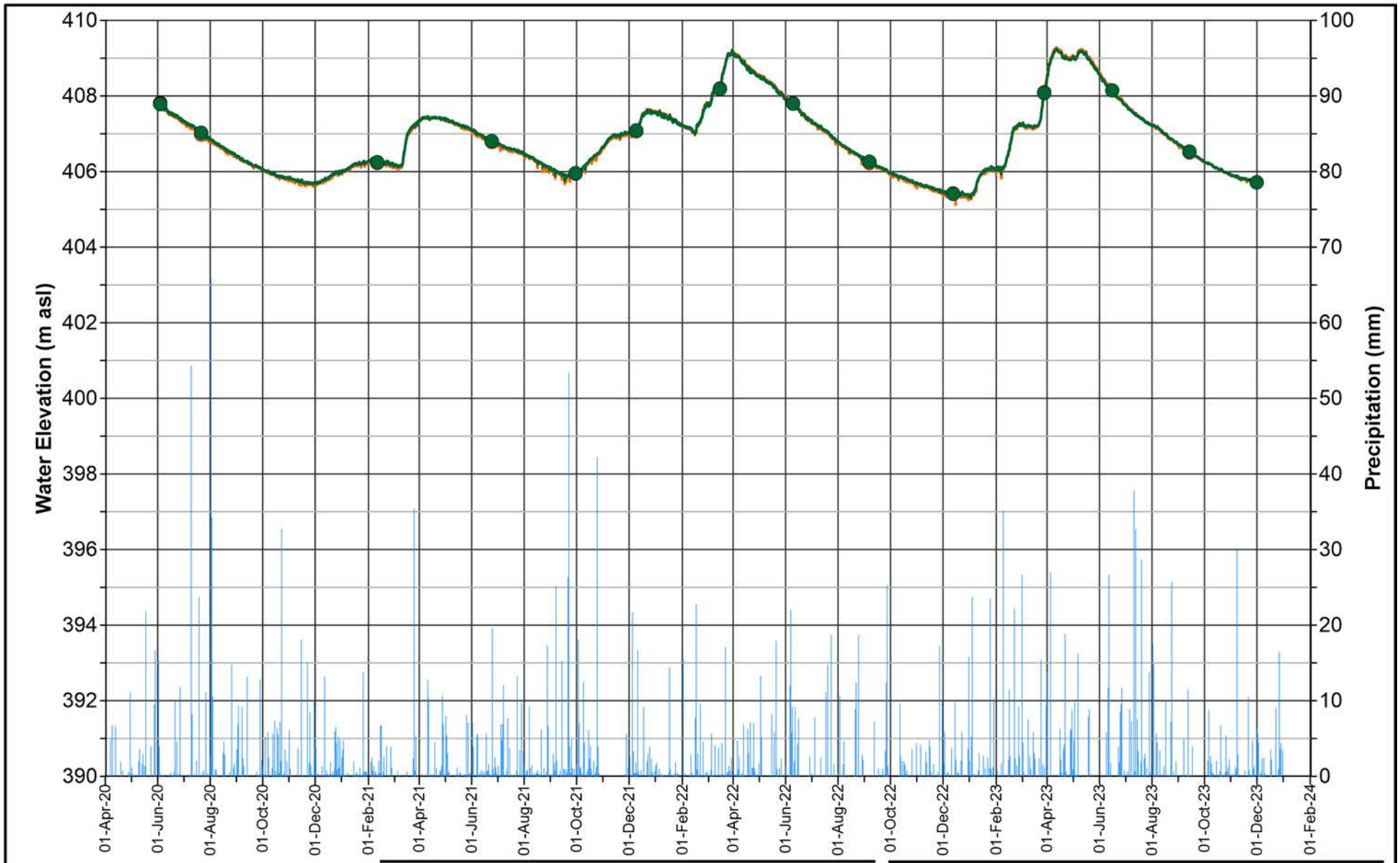
Note: 1) Figures issued in draft
2) Precipitation observed at Mono Centre (ID:6157000) and Caledon Waste Management Facility (ID:8180003) meteorological stations
3) Data from MW20-11A not available between June 2020 to July 2020, and between March 2022 to May 2022

PROJECT
CBM CALEDON PIT / QUARRY

TITLE
GROUNDWATER MONITORING HYDROGRAPHS MW20-11

DATE	July 2024
DESIGN	VRP
REVIEW	GRP
APPROVED	GWS

PROJECT NO.	REV	FIGURE
CA-GLD-19129150	A	11



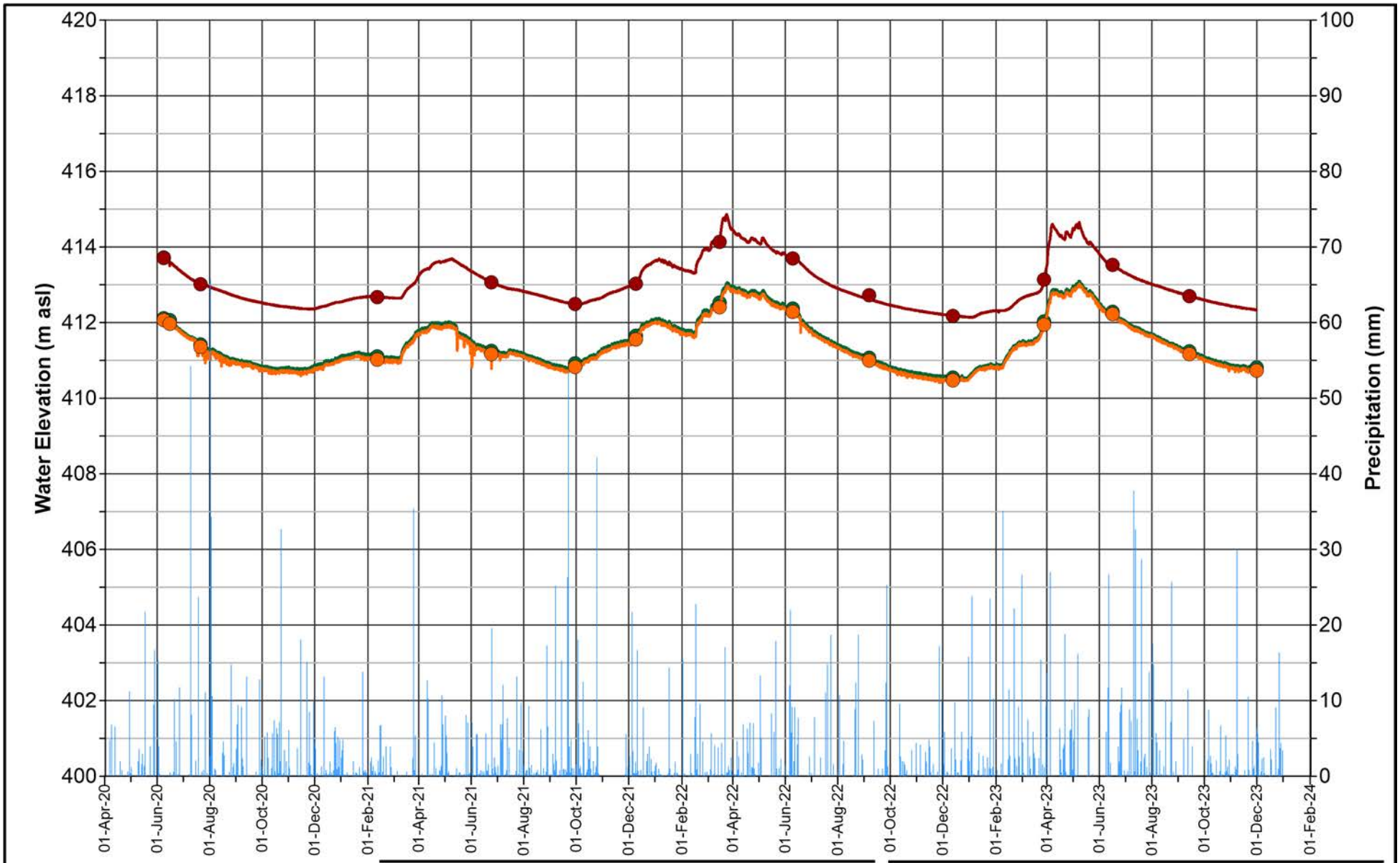
Note: 1) Figures issued in draft
2) Precipitation observed at Mono Centre (ID:6157000) and Caledon Waste Management Facility (ID:8180003) meteorological stations

PROJECT
CBM CALEDON PIT / QUARRY

TITLE
GROUNDWATER MONITORING HYDROGRAPHS MW20-12

DATE	July 2024
DESIGN	VRP
REVIEW	GRP
APPROVED	GWS

PROJECT NO.	REV	FIGURE
CA-GLD-19129150	A	12



Note: 1) Figures issued in draft
2) Precipitation observed at Mono Centre (ID:6157000) and Caledon Waste Management Facility (ID:8180003) meteorological stations

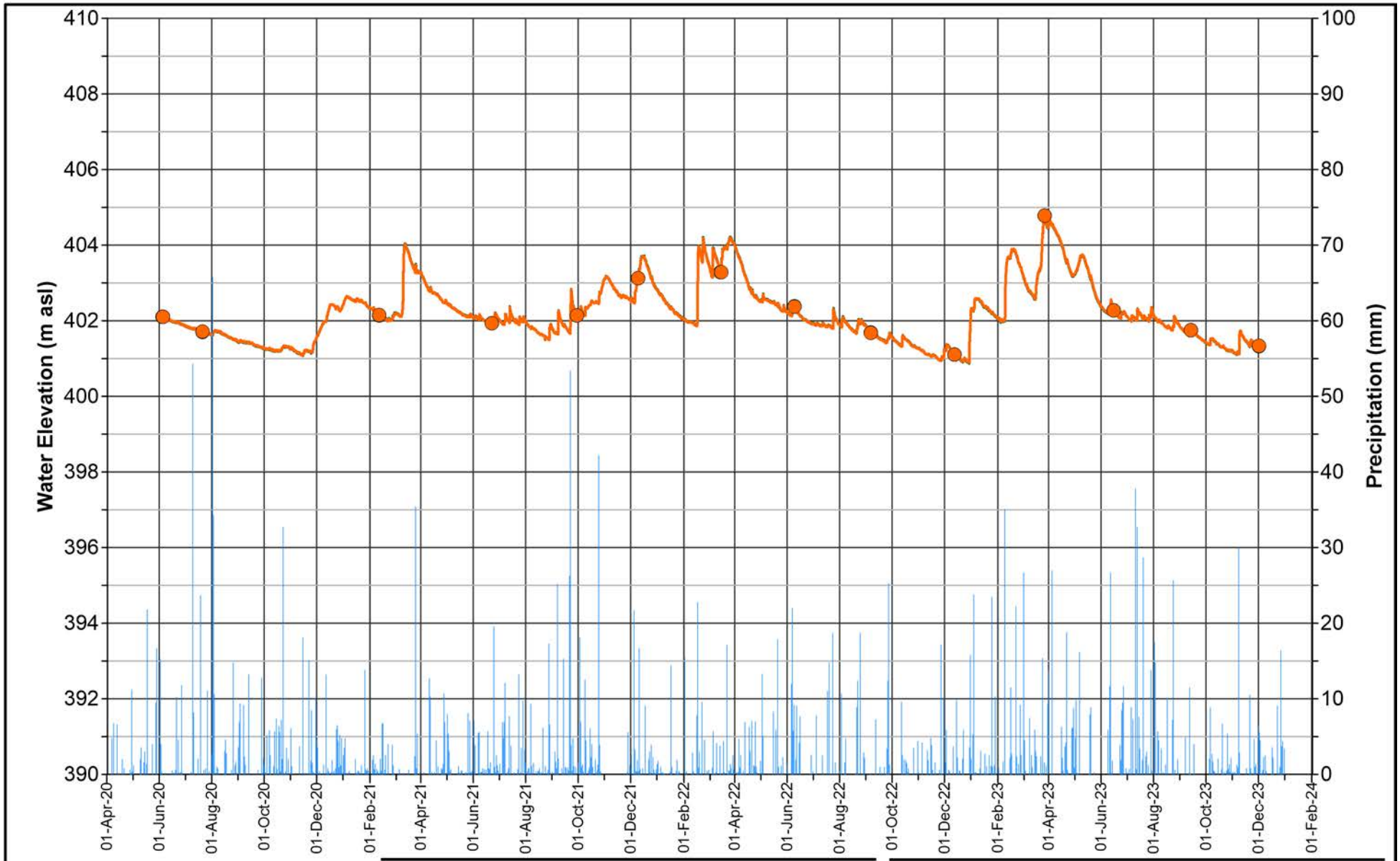
MW20-13C
MW20-13B
MW20-13A

PROJECT
CBM CALEDON PIT / QUARRY

TITLE
GROUNDWATER MONITORING HYDROGRAPHS
MW20-13

DATE	July 2024
DESIGN	VRP
REVIEW	GRP
APPROVED	GWS

PROJECT NO.	REV	FIGURE
CA-GLD-19129150	A	13



Note: 1) Figures issued in draft
2) Precipitation observed at Mono Centre (ID:6157000) and Caledon Waste Management Facility (ID:8180003) meteorological stations

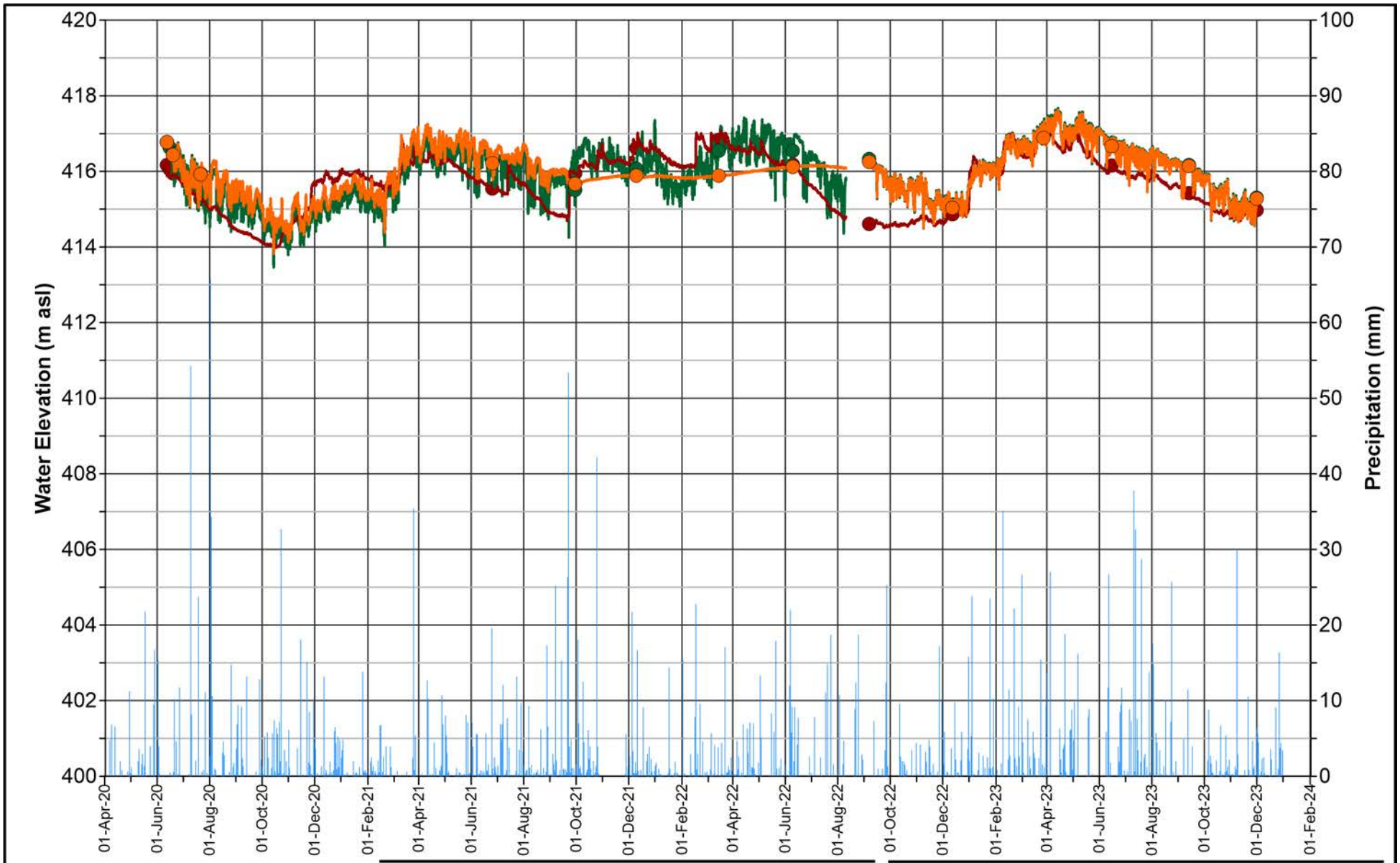
MW20-14A
MW20-14B

PROJECT
CBM CALEDON PIT / QUARRY

TITLE
GROUNDWATER MONITORING HYDROGRAPHS
MW20-14

DATE	July 2024
DESIGN	VRP
REVIEW	GRP
APPROVED	GWS

PROJECT NO.	REV	FIGURE
CA-GLD-19129150	A	14



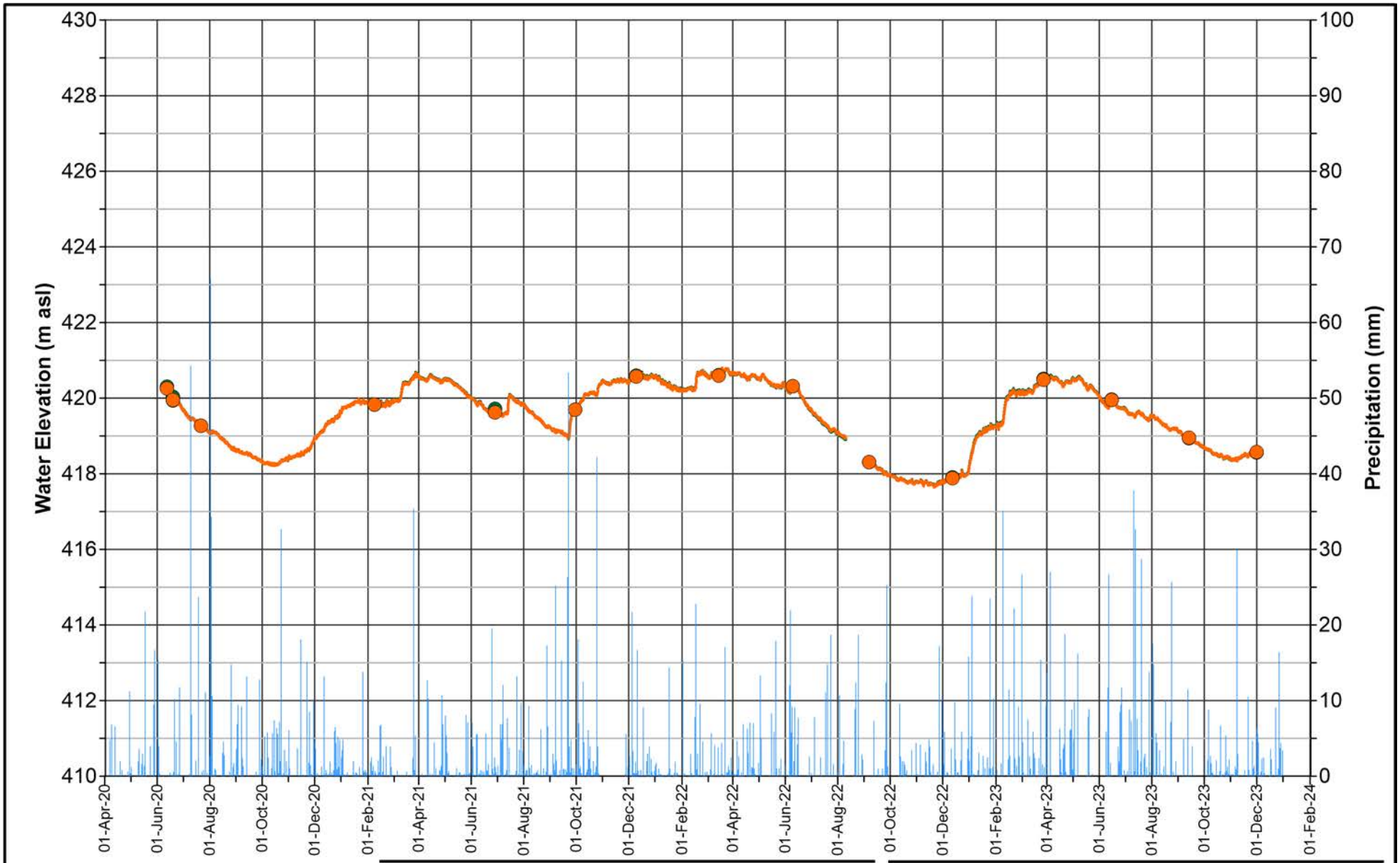
Note: 1) Figures issued in draft
2) Precipitation observed at Mono Centre (ID:6157000) and Caledon Waste Management Facility (ID:8180003) meteorological stations
3) Data from MW20-15 not presented during hydraulic test

PROJECT
CBM CALEDON PIT / QUARRY

TITLE
GROUNDWATER MONITORING HYDROGRAPHS MW20-15

DATE	July 2024
DESIGN	VRP
REVIEW	GRP
APPROVED	GWS

PROJECT NO.	REV	FIGURE
CA-GLD-19129150	A	15



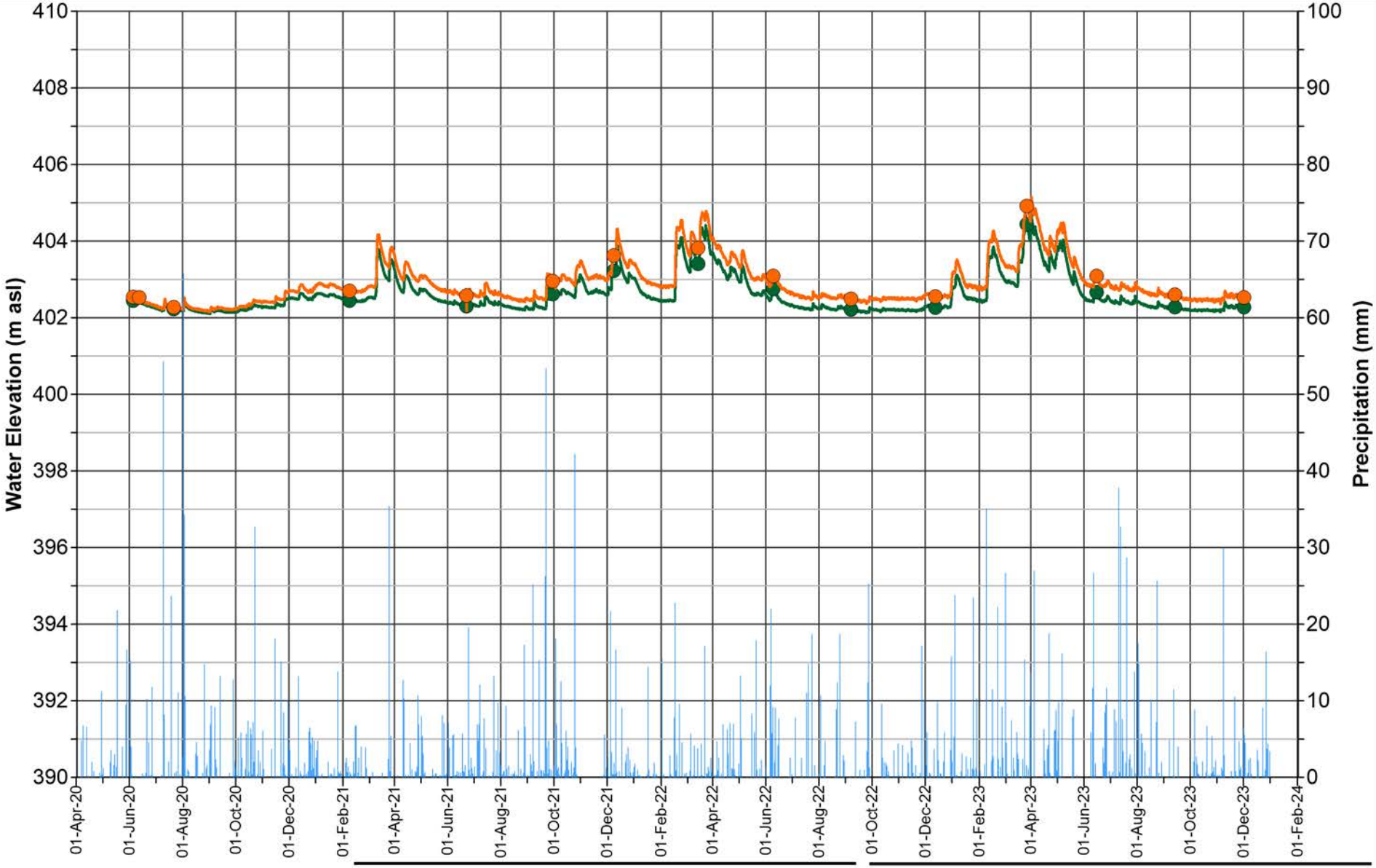
Note: 1) Figures issued in draft
2) Precipitation observed at Mono Centre (ID:6157000) and Caledon Waste Management Facility (ID:8180003) meteorological stations
3) Data from MW20-16 not presented during hydraulic test

PROJECT
CBM CALEDON PIT / QUARRY

TITLE
GROUNDWATER MONITORING HYDROGRAPHS MW20-16

DATE	July 2024
DESIGN	VRP
REVIEW	GRP
APPROVED	GWS

PROJECT NO.	REV	FIGURE
CA-GLD-19129150	A	16



Note: 1) Figures issued in draft
2) Precipitation observed at Mono Centre (ID:6157000) and Caledon Waste Management Facility (ID:8180003) meteorological stations

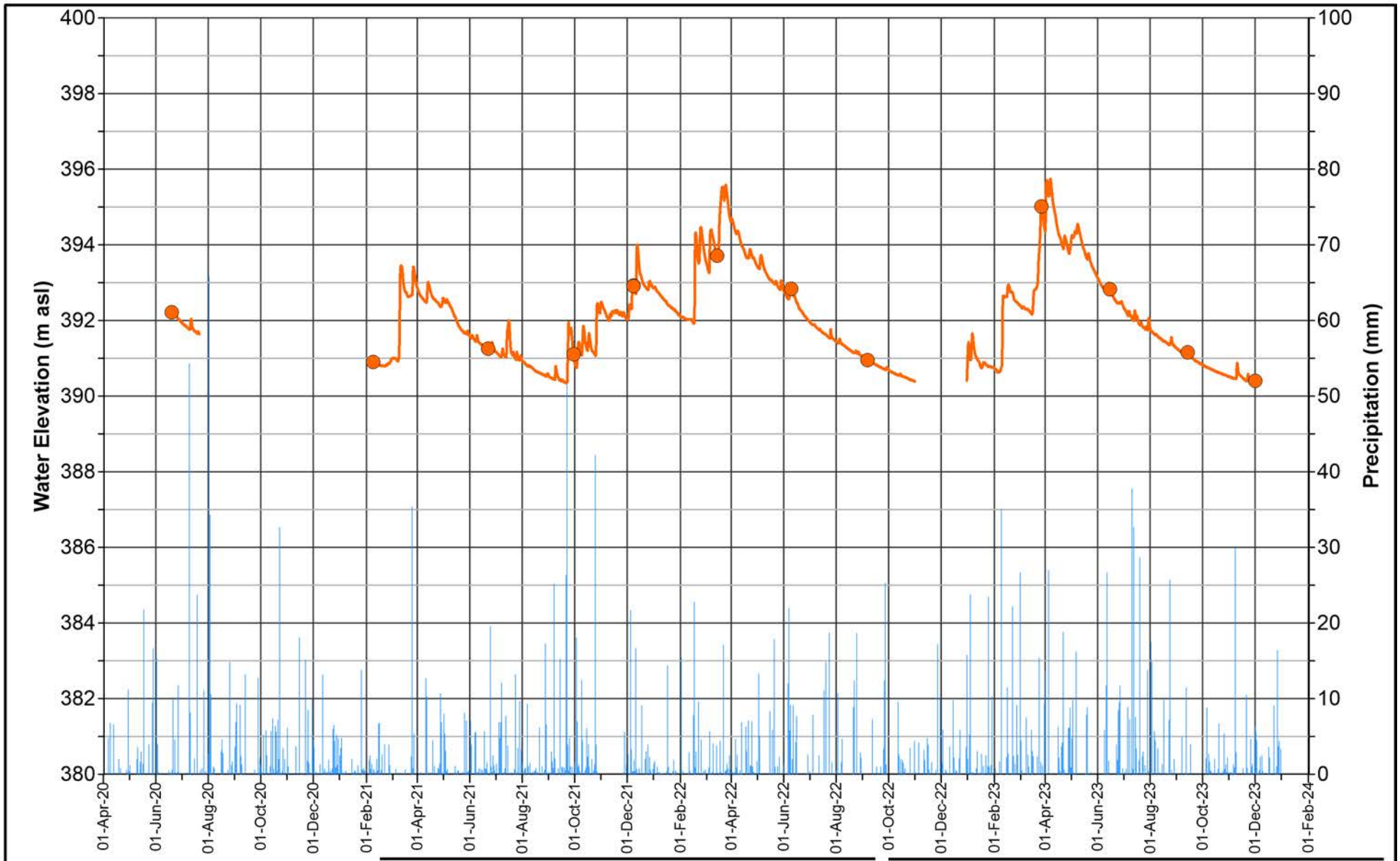
MW20-17A
MW20-17B

PROJECT
CBM CALEDON PIT / QUARRY

TITLE
GROUNDWATER MONITORING HYDROGRAPHS MW20-17

DATE	July 2024
DESIGN	VRP
REVIEW	GRP
APPROVED	GWS

PROJECT NO.	REV	FIGURE
CA-GLD-19129150	A	17



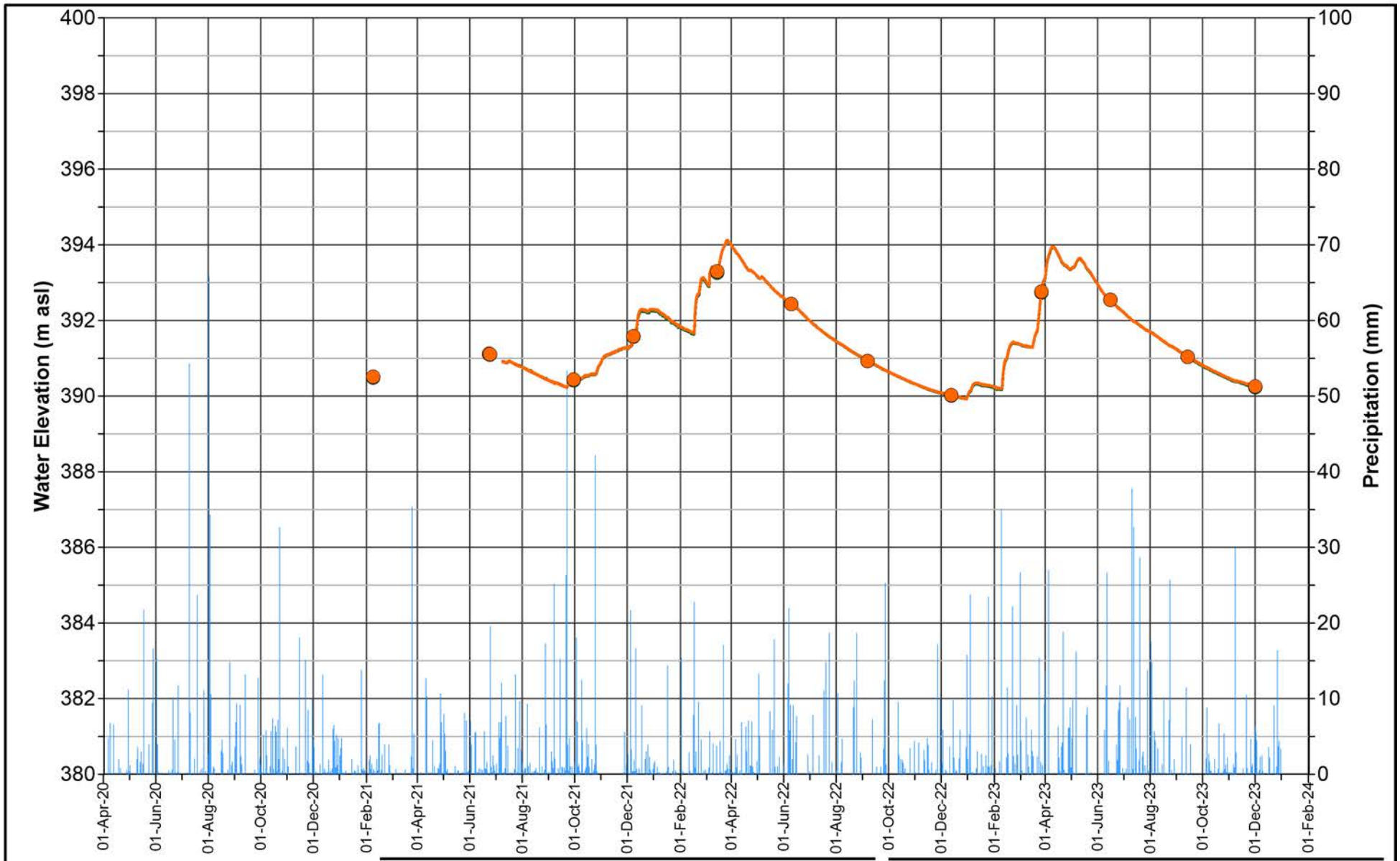
Note: 1) Figures issued in draft
2) Precipitation observed at Mono Centre (ID:6157000) and Caledon Waste Management Facility (ID:8180003) meteorological stations
3) Data from MW20-18 not available between July 2020 to February 2021, otherwise dry when not plotted

PROJECT
CBM CALEDON PIT / QUARRY

TITLE
GROUNDWATER MONITORING HYDROGRAPHS MW20-18

DATE	July 2024
DESIGN	VRP
REVIEW	GRP
APPROVED	GWS

PROJECT NO.	REV	FIGURE
CA-GLD-19129150	A	18



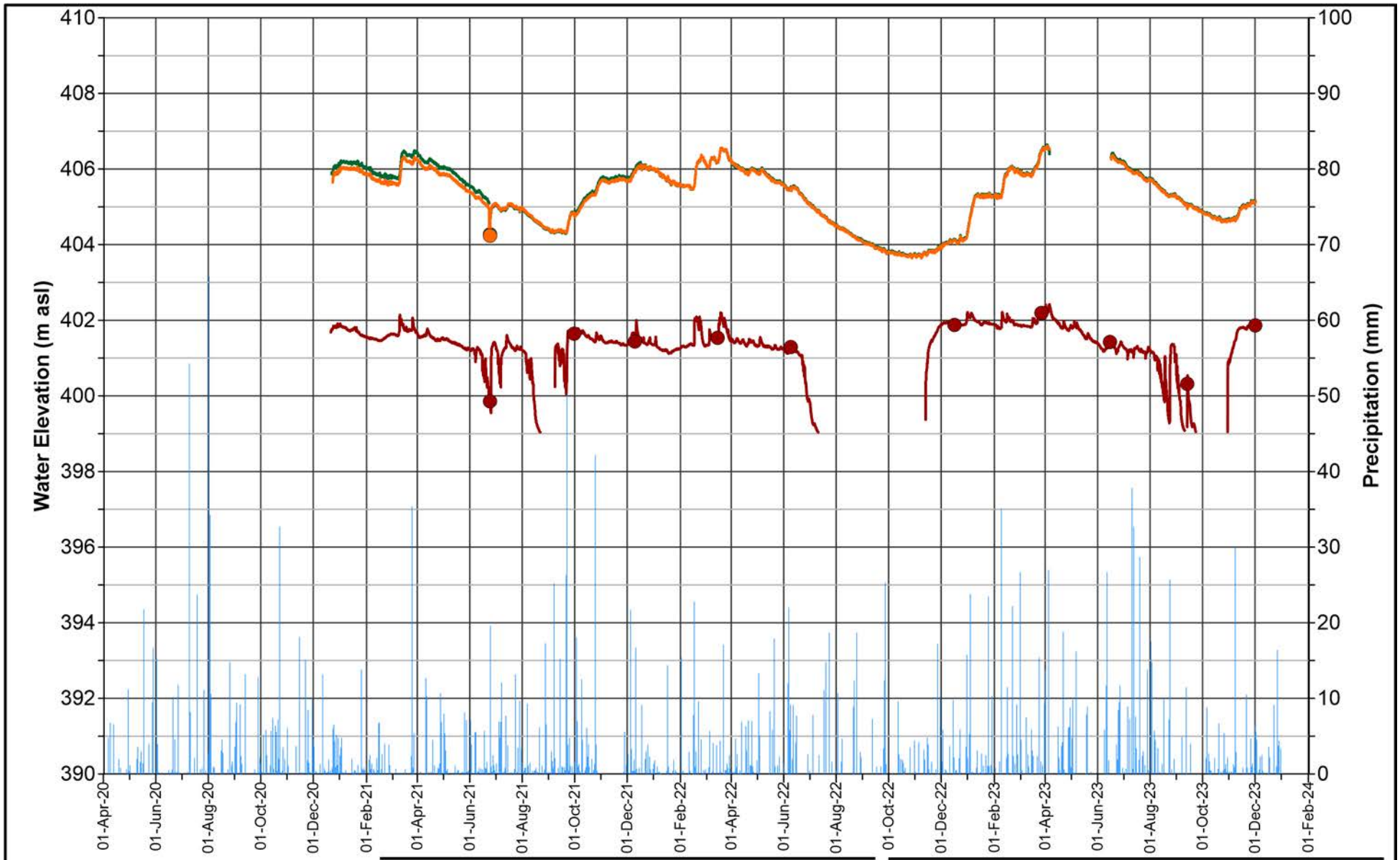
Note: 1) Figures issued in draft
2) Precipitation observed at Mono Centre (ID:6157000) and Caledon Waste Management Facility (ID:8180003) meteorological stations

PROJECT
CBM CALEDON PIT / QUARRY

TITLE
GROUNDWATER MONITORING HYDROGRAPHS
MW20-19

DATE	July 2024
DESIGN	VRP
REVIEW	GRP
APPROVED	GWS

PROJECT NO.	REV	FIGURE
CA-GLD-19129150	A	19



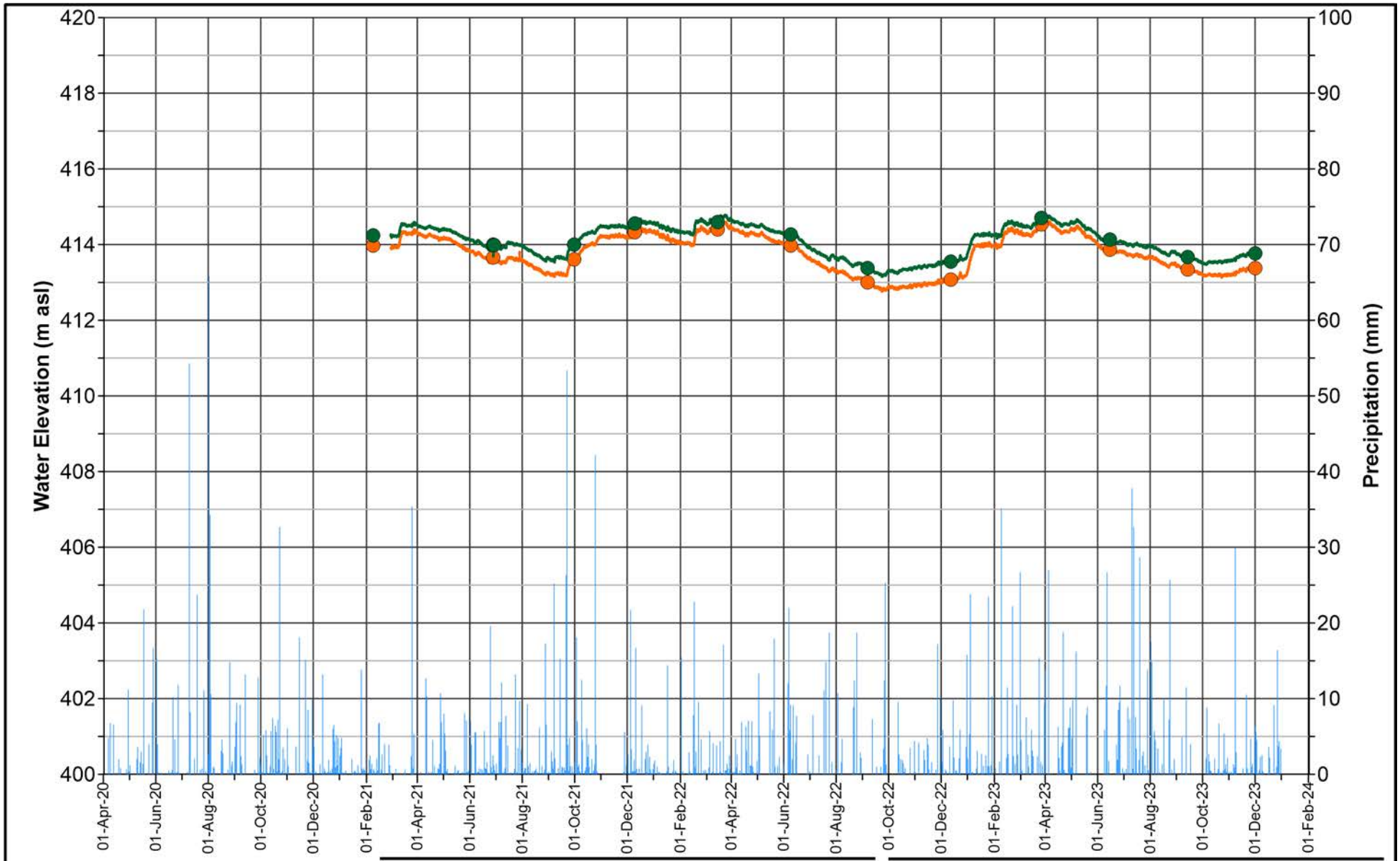
Note: 1) Figures issued in draft
2) Precipitation observed at Mono Centre (ID:6157000) and Caledon Waste Management Facility (ID:8180003) meteorological stations
3) MW20-20C dry when not plotted
4) Data from MW20-20A and MW20-20B not available between April 2023 to June 2023

DATE	July 2024
DESIGN	VRP
REVIEW	GRP
APPROVED	GWS

PROJECT
CBM CALEDON PIT / QUARRY

TITLE
GROUNDWATER MONITORING HYDROGRAPHS MW20-20

PROJECT NO.	REV	FIGURE
CA-GLD-19129150	A	20



Note: 1) Figures issued in draft
2) Precipitation observed at Mono Centre (ID:6157000) and Caledon Waste Management Facility (ID:8180003) meteorological stations

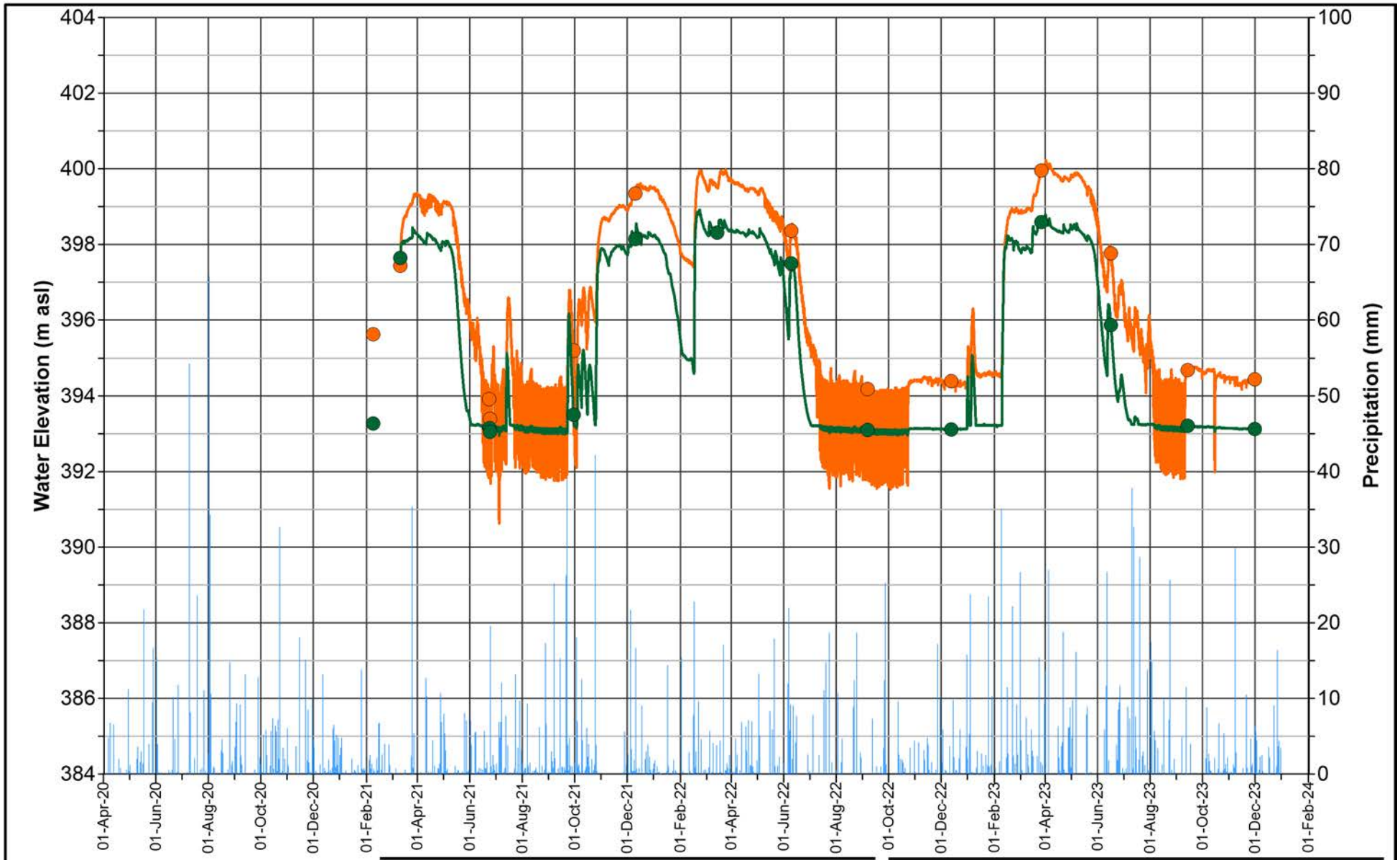
PROJECT

CBM CALEDON PIT / QUARRY

TITLE **GROUNDWATER MONITORING HYDROGRAPHS MW20-21**

DATE	July 2024
DESIGN	VRP
REVIEW	GRP
APPROVED	GWS

PROJECT NO.	REV	FIGURE
CA-GLD-19129150	A	21



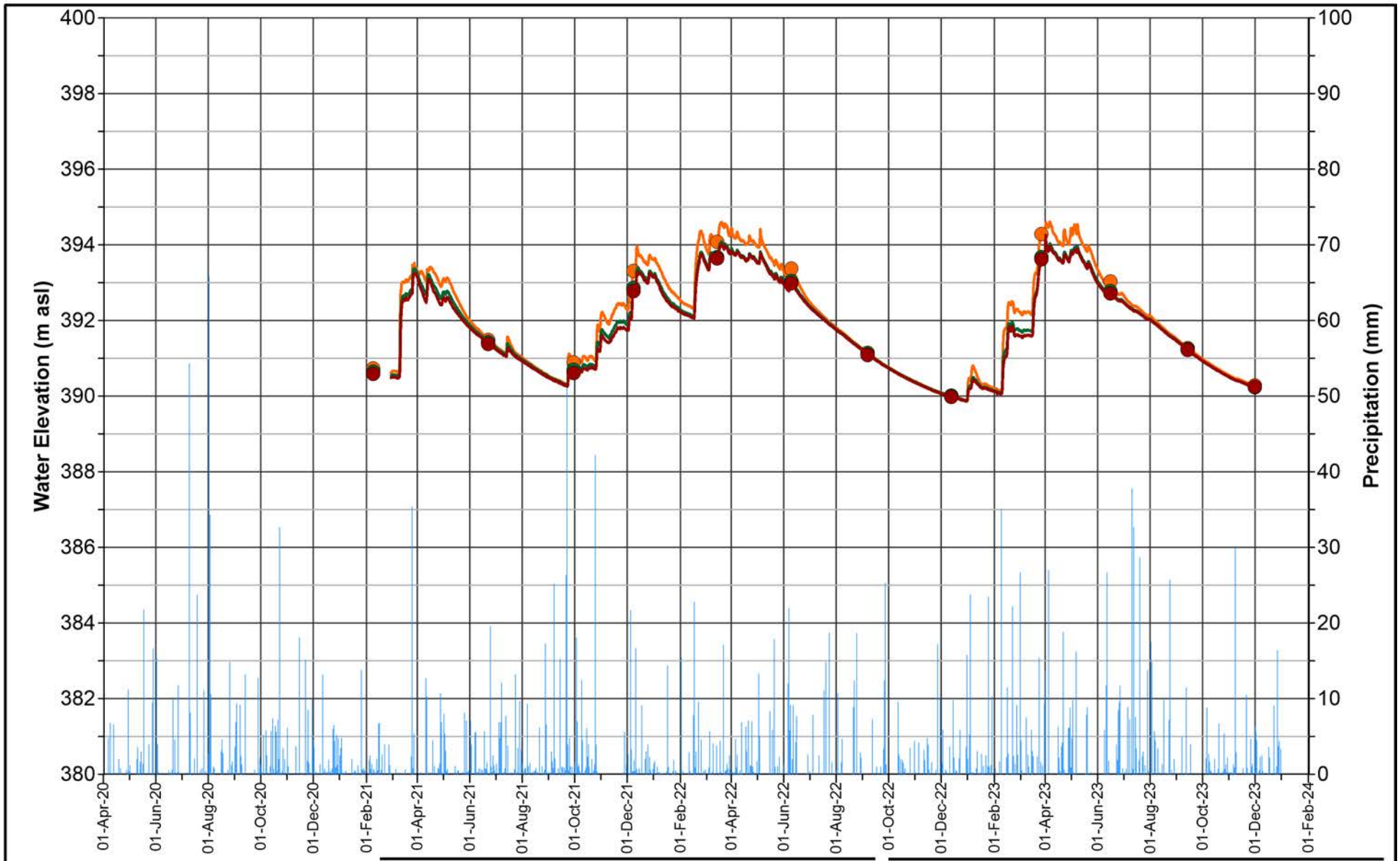
Note: 1) Figures issued in draft
2) Precipitation observed at Mono Centre (ID:6157000) and Caledon Waste Management Facility (ID:8180003) meteorological stations

PROJECT
CBM CALEDON PIT / QUARRY

TITLE
GROUNDWATER MONITORING HYDROGRAPHS MW20-22

DATE	July 2024
DESIGN	VRP
REVIEW	GRP
APPROVED	GWS

PROJECT NO.	REV	FIGURE
CA-GLD-19129150	A	22



Note: 1) Figures issued in draft
2) Precipitation observed at Mono Centre (ID:6157000) and Caledon Waste Management Facility (ID:8180003) meteorological stations

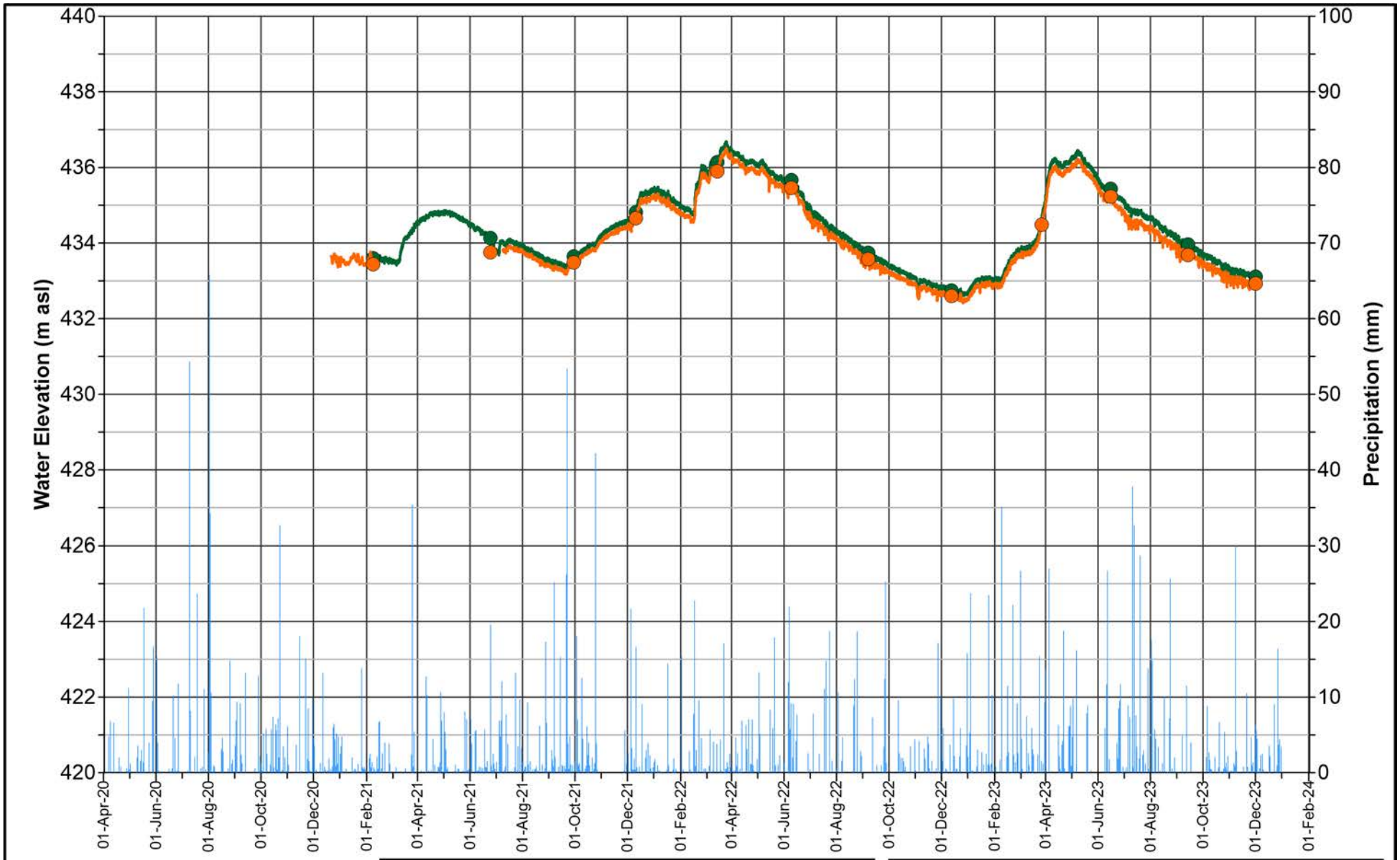
PROJECT

CBM CALEDON PIT / QUARRY

TITLE **GROUNDWATER MONITORING HYDROGRAPHS MW20-23**

DATE	July 2024
DESIGN	VRP
REVIEW	GRP
APPROVED	GWS

PROJECT NO.	REV	FIGURE
CA-GLD-19129150	A	23



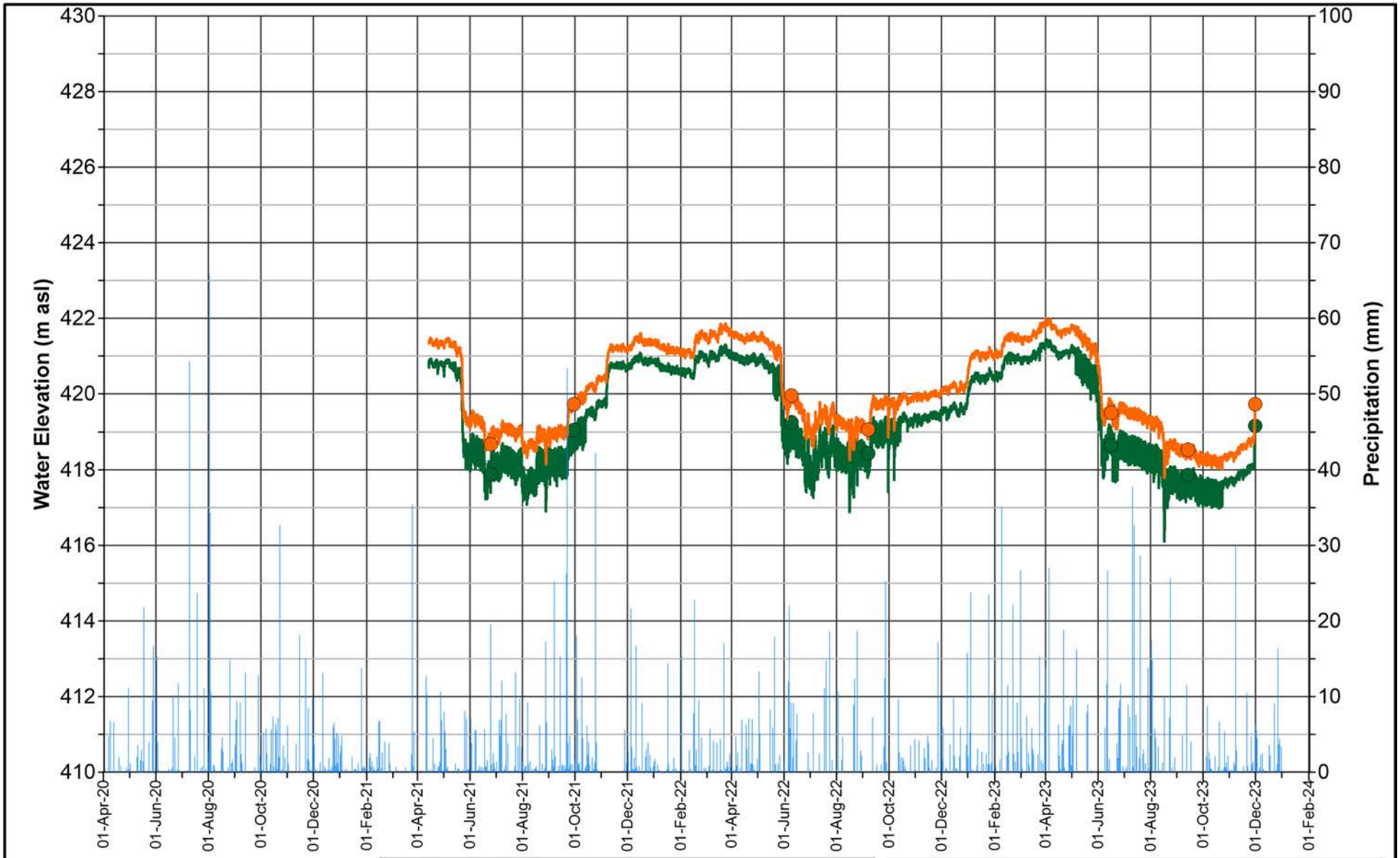
Note: 1) Figures issued in draft
2) Precipitation observed at Mono Centre (ID:6157000) and Caledon Waste Management Facility (ID:8180003) meteorological stations
3) Data from MW20-24A not available between February 2021 to July 2021

PROJECT
CBM CALEDON PIT / QUARRY

TITLE
GROUNDWATER MONITORING HYDROGRAPHS
MW20-24

DATE	July 2024
DESIGN	VRP
REVIEW	GRP
APPROVED	GWS

PROJECT NO.	REV	FIGURE
CA-GLD-19129150	A	24



Note: 1) Figures issued in draft
2) Precipitation observed at Mono Centre (ID:6157000) and Caledon Waste Management Facility (ID:8180003) meteorological stations

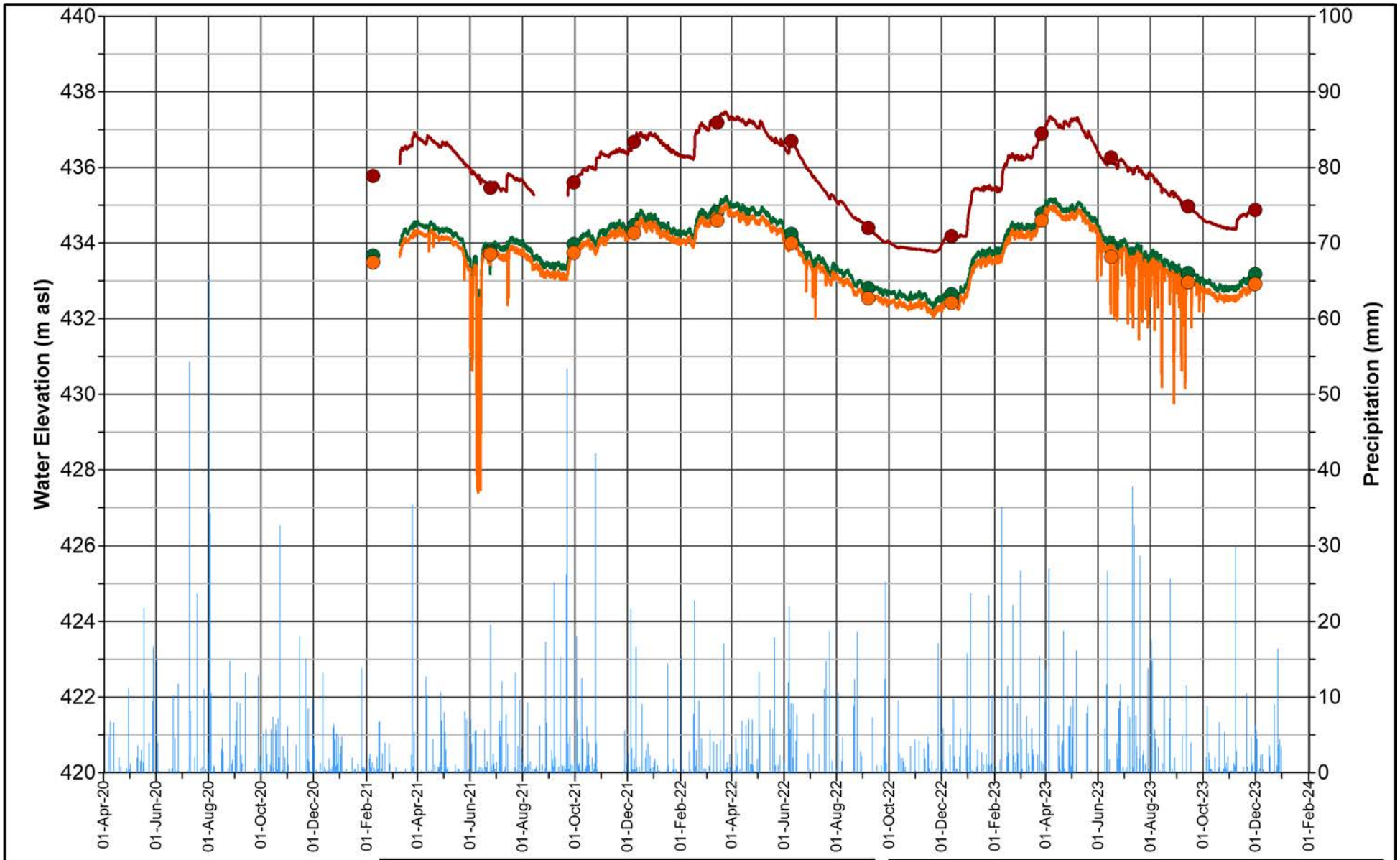
MW20-25A
MW20-25B

PROJECT
CBM CALEDON PIT / QUARRY

TITLE
GROUNDWATER MONITORING HYDROGRAPHS MW20-25

DATE	July 2024
DESIGN	VRP
REVIEW	GRP
APPROVED	GWS

PROJECT NO.	REV	FIGURE
CA-GLD-19129150	A	25



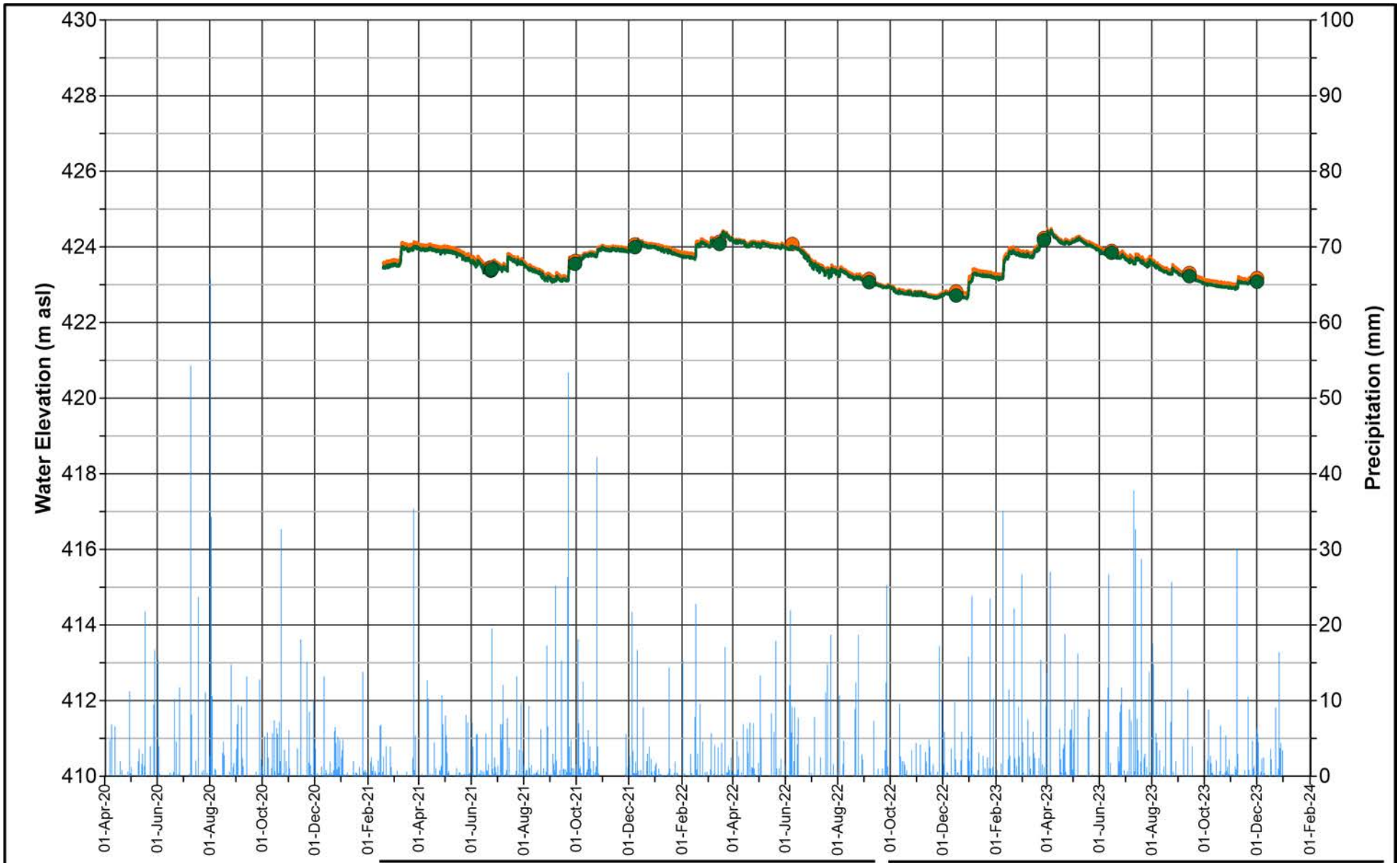
Note: 1) Figures issued in draft
2) Precipitation observed at Mono Centre (ID:6157000) and Caledon Waste Management Facility (ID:8180003) meteorological stations
3) Data from MW20-26C not available between August 2021 to September 2021

PROJECT
CBM CALEDON PIT / QUARRY

TITLE
GROUNDWATER MONITORING HYDROGRAPHS
MW20-26

DATE	July 2024
DESIGN	VRP
REVIEW	GRP
APPROVED	GWS

PROJECT NO.	REV	FIGURE
CA-GLD-19129150	A	26



Note: 1) Figures issued in draft
2) Precipitation observed at Mono Centre (ID:6157000) and Caledon Waste Management Facility (ID:8180003) meteorological stations

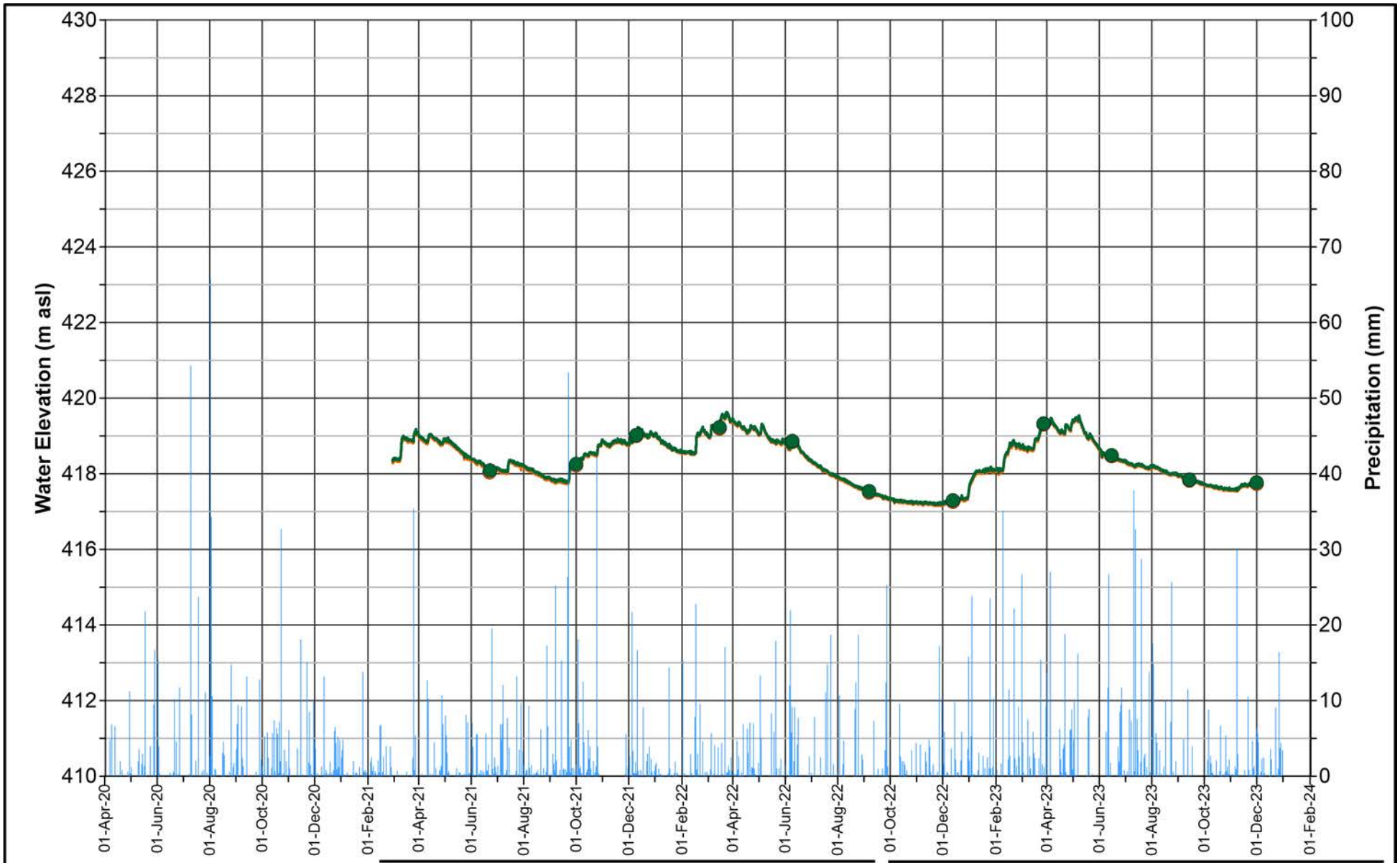
MW20-27A
MW20-27B

PROJECT
CBM CALEDON PIT / QUARRY

TITLE
GROUNDWATER MONITORING HYDROGRAPHS MW20-27

DATE	July 2024
DESIGN	VRP
REVIEW	GRP
APPROVED	GWS

PROJECT NO.	REV	FIGURE
CA-GLD-19129150	A	27



Note: 1) Figures issued in draft
2) Precipitation observed at Mono Centre (ID:6157000) and Caledon Waste Management Facility (ID:8180003) meteorological stations

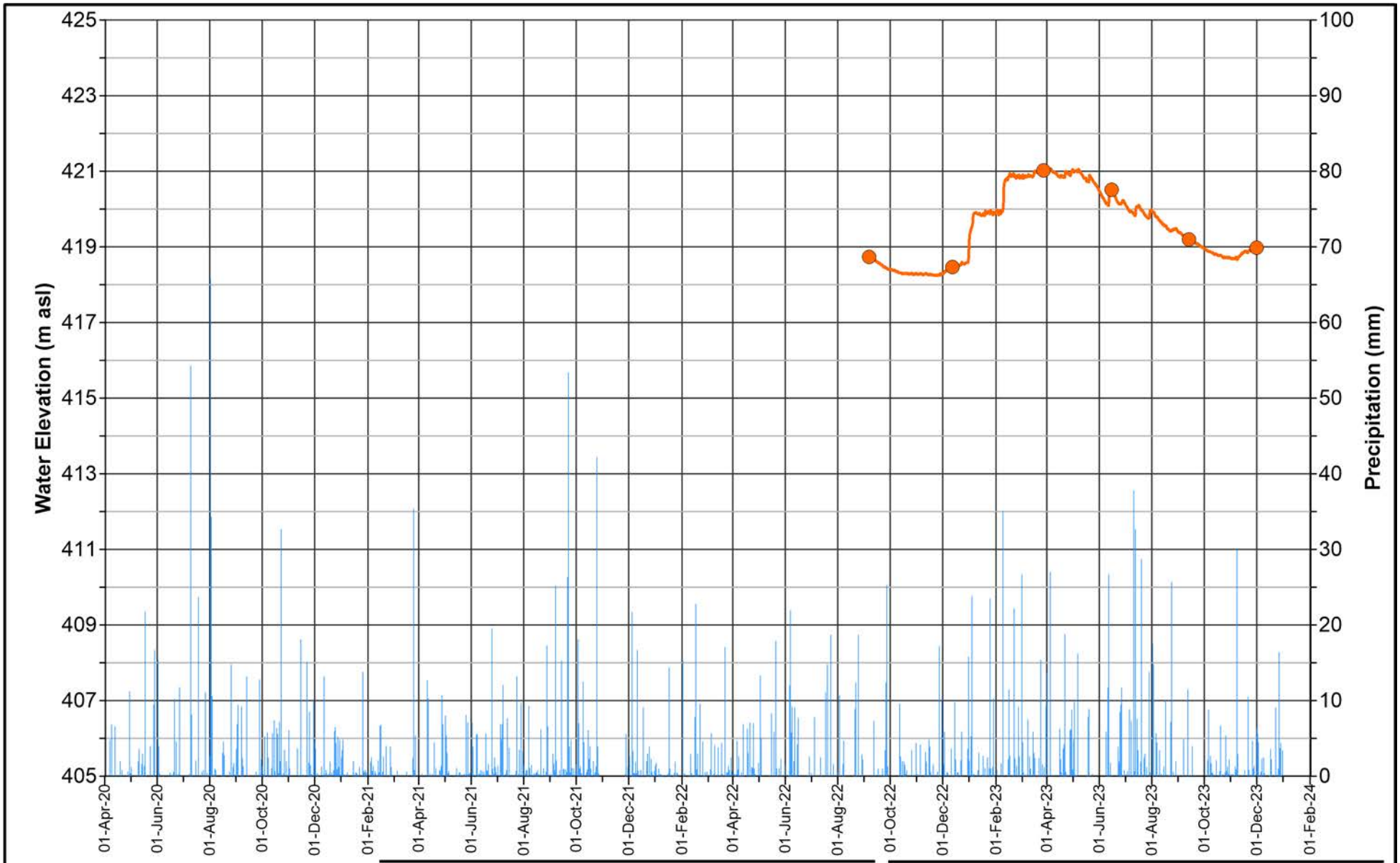
MW20-28A
MW20-28B

PROJECT
CBM CALEDON PIT / QUARRY

TITLE
GROUNDWATER MONITORING HYDROGRAPHS MW20-28

DATE	July 2024
DESIGN	VRP
REVIEW	GRP
APPROVED	GWS

PROJECT NO.	REV	FIGURE
CA-GLD-19129150	A	28



Note: 1) Figures issued in draft
2) Precipitation observed at Mono Centre (ID:6157000) and Caledon Waste Management Facility (ID:8180003) meteorological stations

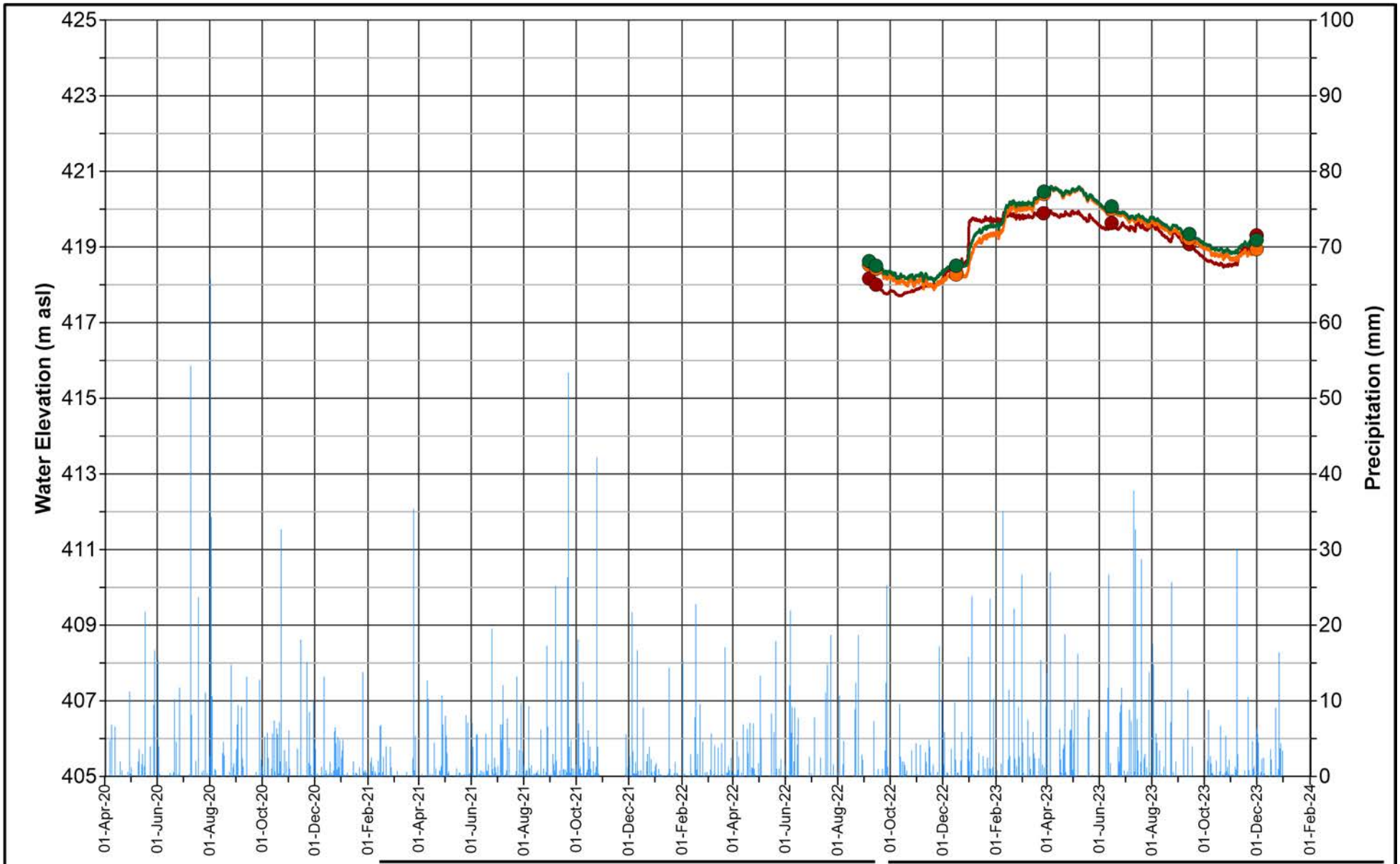
MW22-01

PROJECT
CBM CALEDON PIT / QUARRY

TITLE
GROUNDWATER MONITORING HYDROGRAPHS
MW22-01

DATE	July 2024
DESIGN	VRP
REVIEW	GRP
APPROVED	GWS

PROJECT NO.	REV	FIGURE
CA-GLD-19129150	A	29



Note: 1) Figures issued in draft
2) Precipitation observed at Mono Centre (ID:6157000) and Caledon Waste Management Facility (ID:8180003) meteorological stations

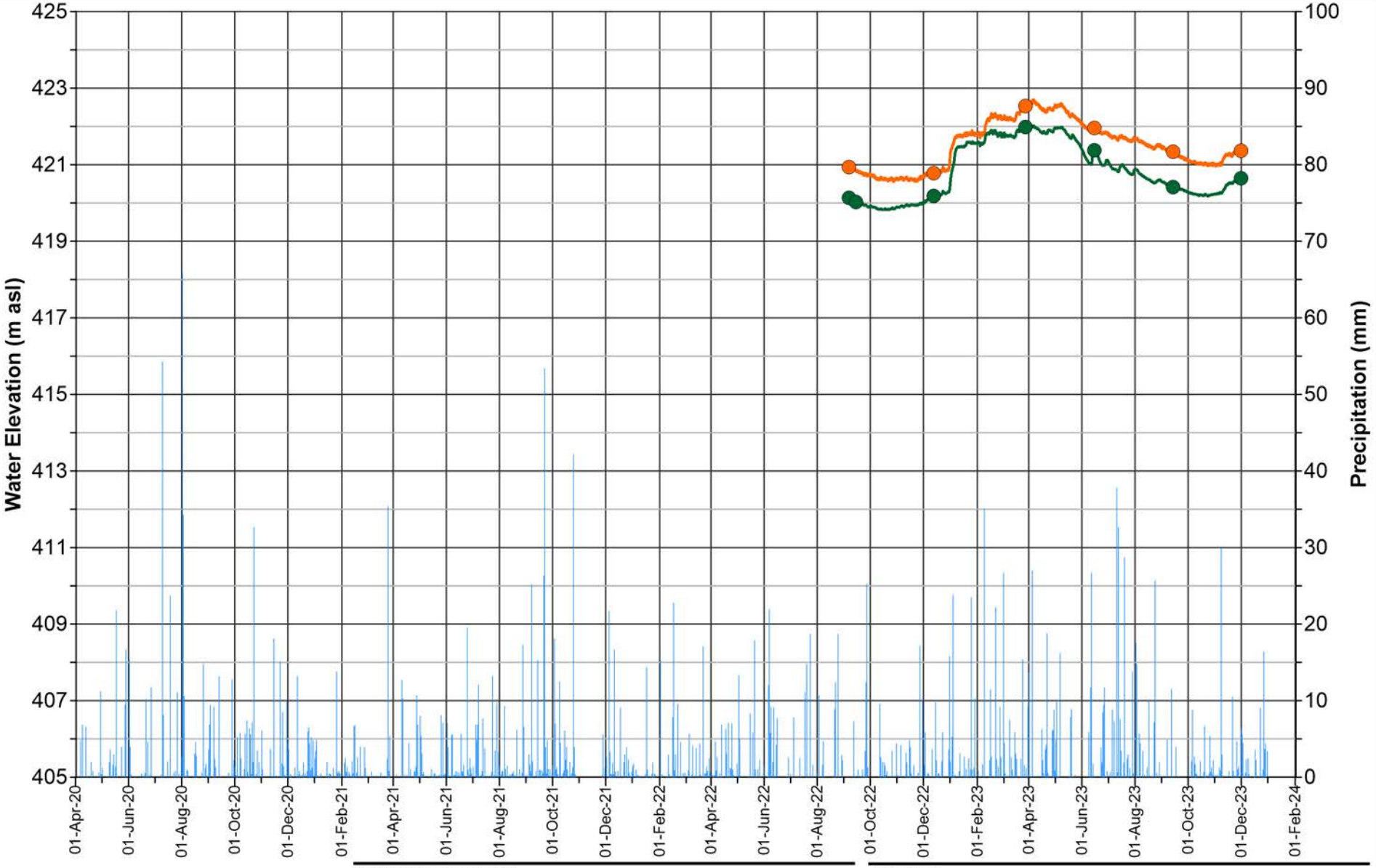
MW22-02A
MW22-02B
MW22-02C

DATE	July 2024
DESIGN	VRP
REVIEW	GRP
APPROVED	GWS

PROJECT
CBM CALEDON PIT / QUARRY

TITLE
GROUNDWATER MONITORING HYDROGRAPHS MW22-02

PROJECT NO.	REV	FIGURE
CA-GLD-19129150	A	30



Note: 1) Figures issued in draft
2) Precipitation observed at Mono Centre (ID:6157000) and Caledon Waste Management Facility (ID:8180003) meteorological stations

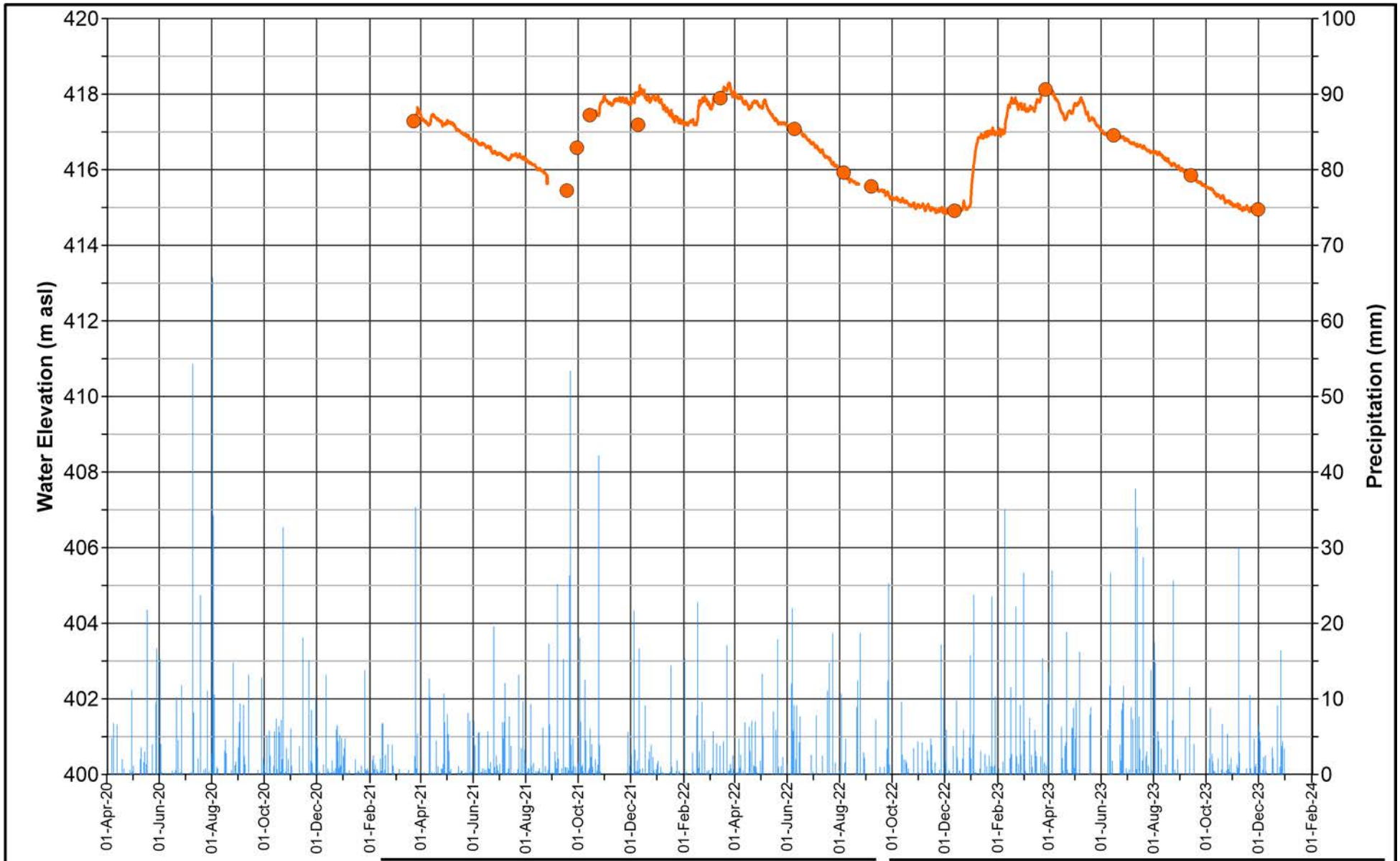
MW22-03A
MW22-03B

PROJECT
CBM CALEDON PIT / QUARRY

TITLE
GROUNDWATER MONITORING HYDROGRAPHS MW22-03

DATE	July 2024
DESIGN	VRP
REVIEW	GRP
APPROVED	GWS

PROJECT NO.	REV	FIGURE
CA-GLD-19129150	A	31



Note: 1) Figures issued in draft
2) Precipitation observed at Mono Centre (ID:6157000) and Caledon Waste Management Facility (ID:8180003) meteorological stations
3) Data from PW21-1 not presented during hydraulic test

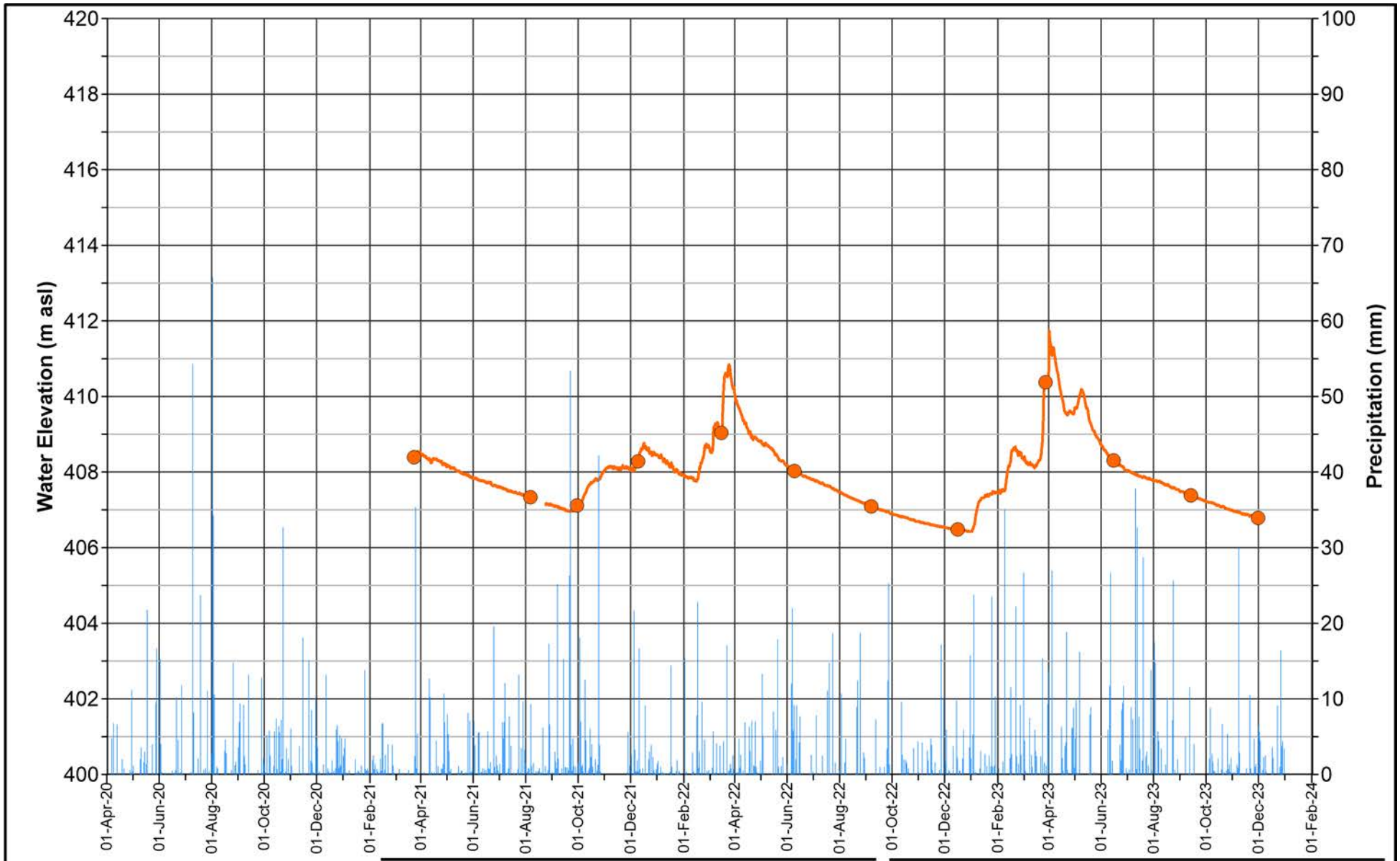
PW21-1

PROJECT
CBM CALEDON PIT / QUARRY

TITLE
GROUNDWATER MONITORING HYDROGRAPHS PW21-1

DATE	July 2024
DESIGN	VRP
REVIEW	GRP
APPROVED	GWS

PROJECT NO.	REV	FIGURE
CA-GLD-19129150	A	32



Note: 1) Figures issued in draft
2) Precipitation observed at Mono Centre (ID:6157000) and Caledon Waste Management Facility (ID:8180003) meteorological stations
3) Data from PW21-2 not presented during hydraulic test

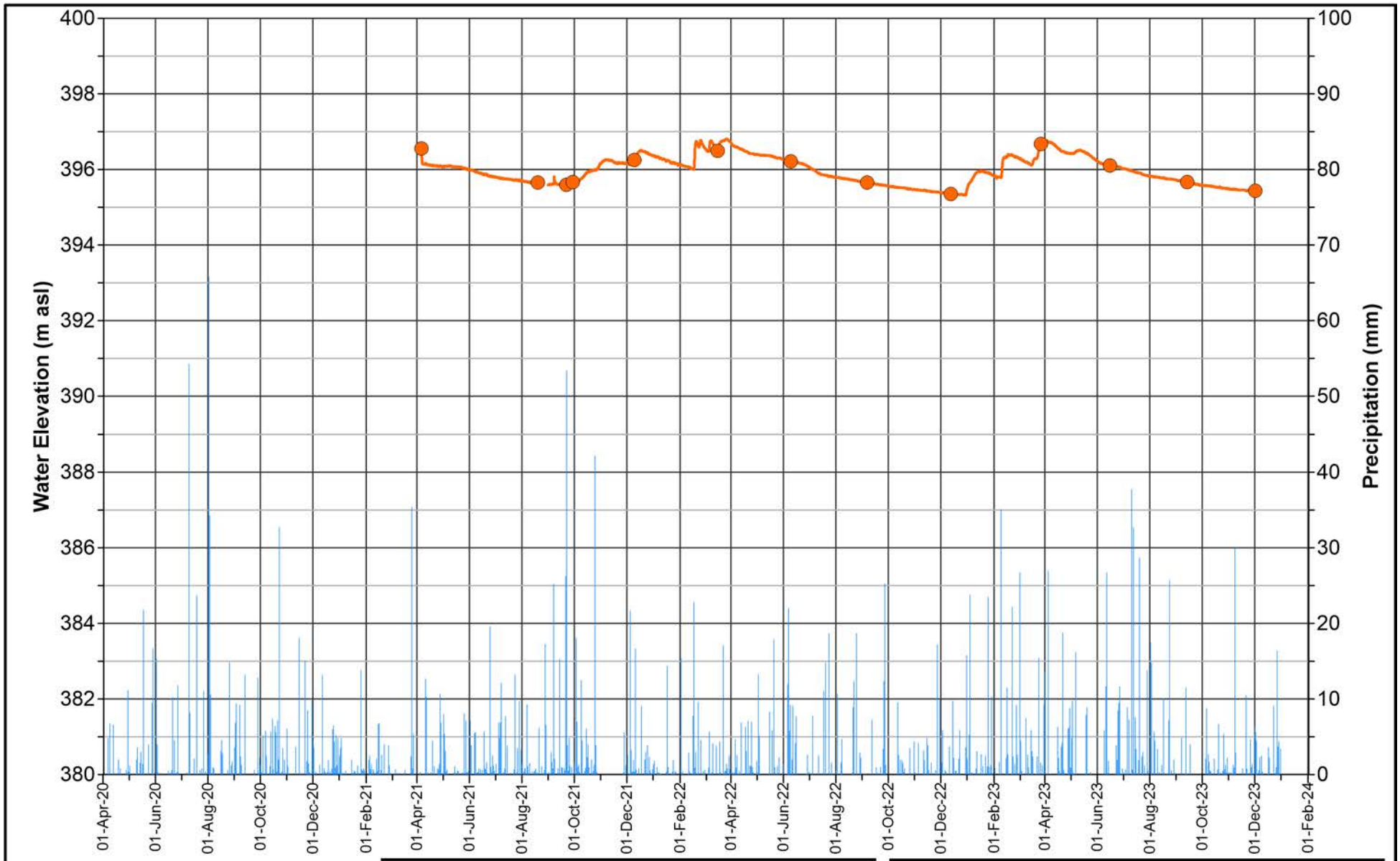
PW21-2

PROJECT
CBM CALEDON PIT / QUARRY

TITLE
GROUNDWATER MONITORING HYDROGRAPHS PW21-2

DATE	July 2024
DESIGN	VRP
REVIEW	GRP
APPROVED	GWS

PROJECT NO.	REV	FIGURE
CA-GLD-19129150	A	33



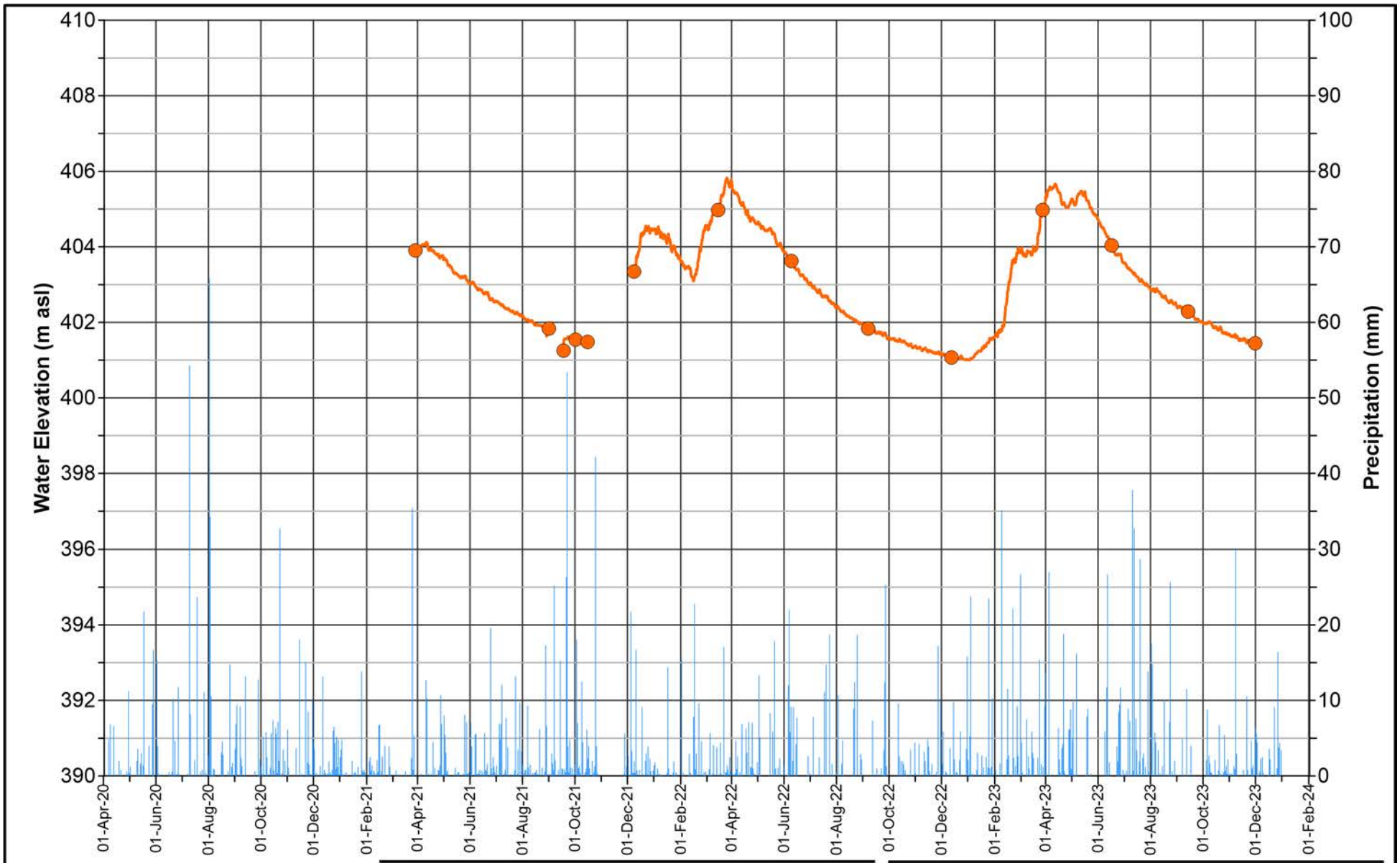
Note: 1) Figures issued in draft
2) Precipitation observed at Mono Centre (ID:6157000) and Caledon Waste Management Facility (ID:8180003) meteorological stations
3) Data from PW21-3 not presented during hydraulic test

PROJECT
CBM CALEDON PIT / QUARRY

TITLE
GROUNDWATER MONITORING HYDROGRAPHS PW21-3

DATE	July 2024
DESIGN	VRP
REVIEW	GRP
APPROVED	GWS

PROJECT NO.	REV	FIGURE
CA-GLD-19129150	A	34



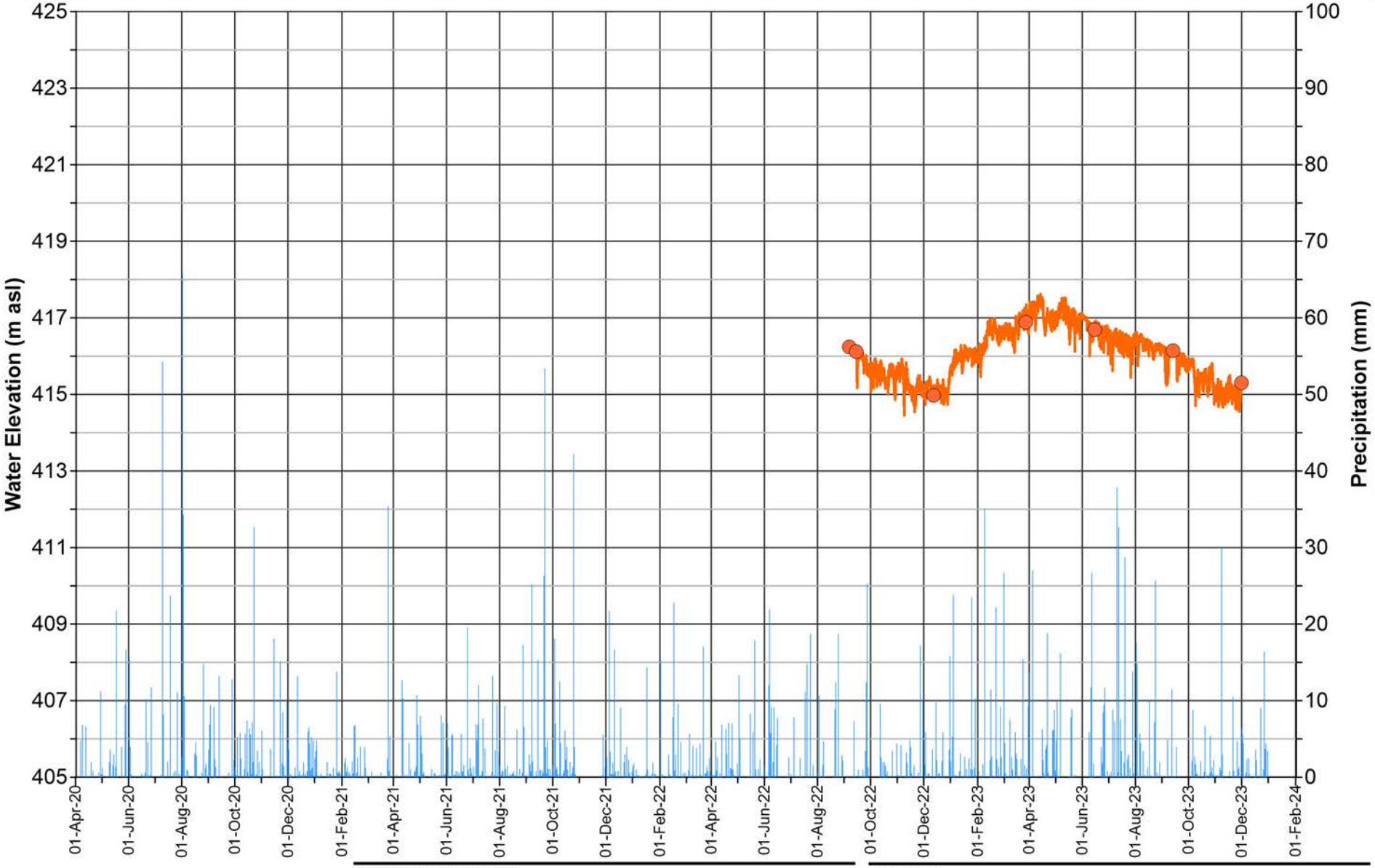
Note: 1) Figures issued in draft
2) Precipitation observed at Mono Centre (ID:6157000) and Caledon Waste Management Facility (ID:8180003) meteorological stations
3) Data from PW21-4 not presented during hydraulic test; data not available between October 2021 to December 2021

PROJECT
CBM CALEDON PIT / QUARRY

TITLE
GROUNDWATER MONITORING HYDROGRAPHS PW21-4

DATE	July 2024
DESIGN	VRP
REVIEW	GRP
APPROVED	GWS

PROJECT NO.	REV	FIGURE
CA-GLD-19129150	A	35



Note: 1) Figures issued in draft
2) Precipitation observed at Mono Centre (ID:6157000) and Caledon Waste Management Facility (ID:8180003) meteorological stations

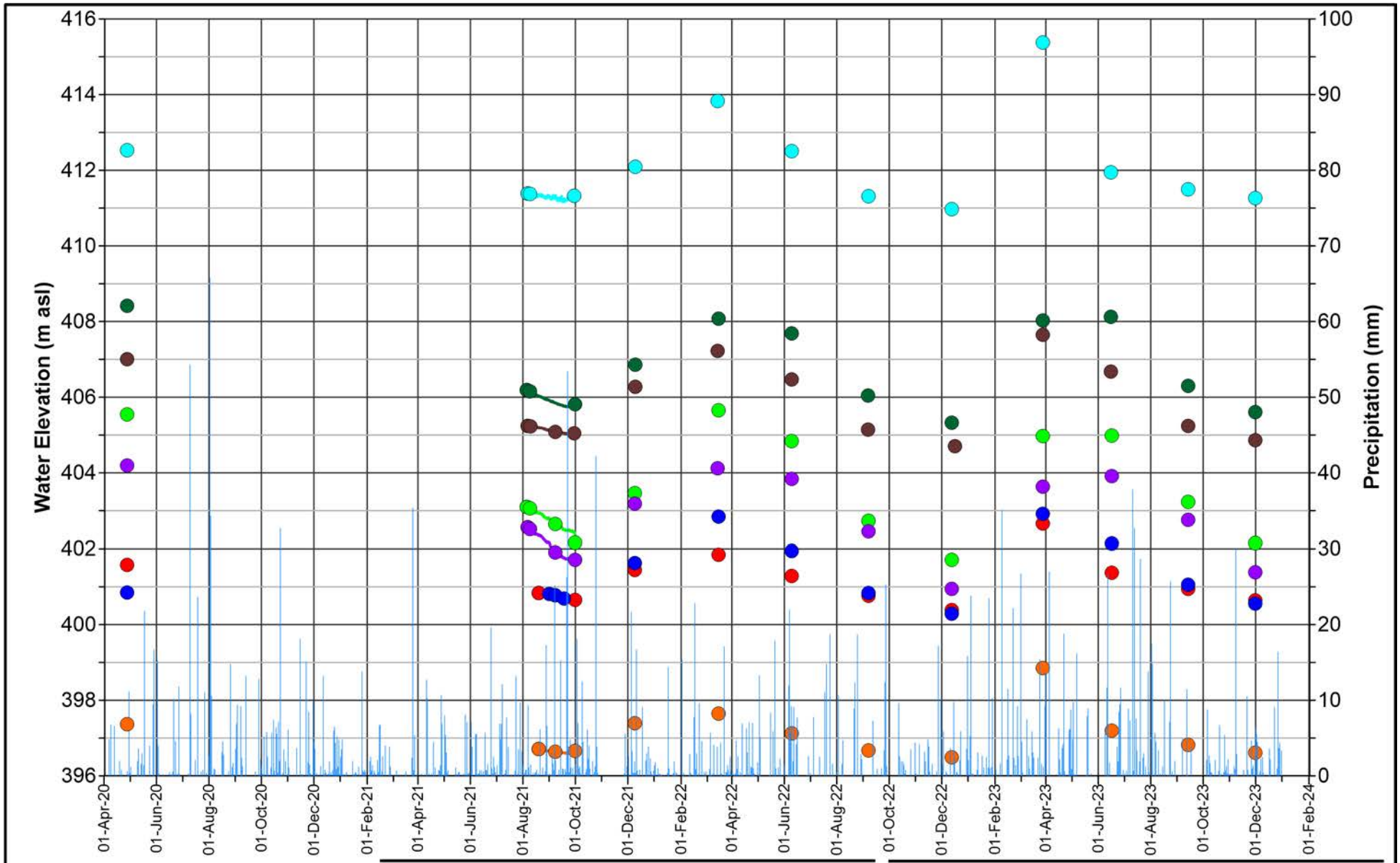
PW22-1

PROJECT
CBM CALEDON PIT / QUARRY

TITLE
GROUNDWATER MONITORING HYDROGRAPHS
PW22-1

DATE	July 2024
DESIGN	VRP
REVIEW	GRP
APPROVED	GWS

PROJECT NO.	REV	FIGURE
CA-GLD-19129150	A	36



Note: 1) Figures issued in draft
2) Precipitation observed at Mono Centre (ID:6157000) and Caledon Waste Management Facility (ID:8180003) meteorological stations

JHL-BH1
JHL-BH2
JHL-BH3
JHL-BH7
JHL-BH16
JHL-BH17
JHL-BH18
JHL-BH19

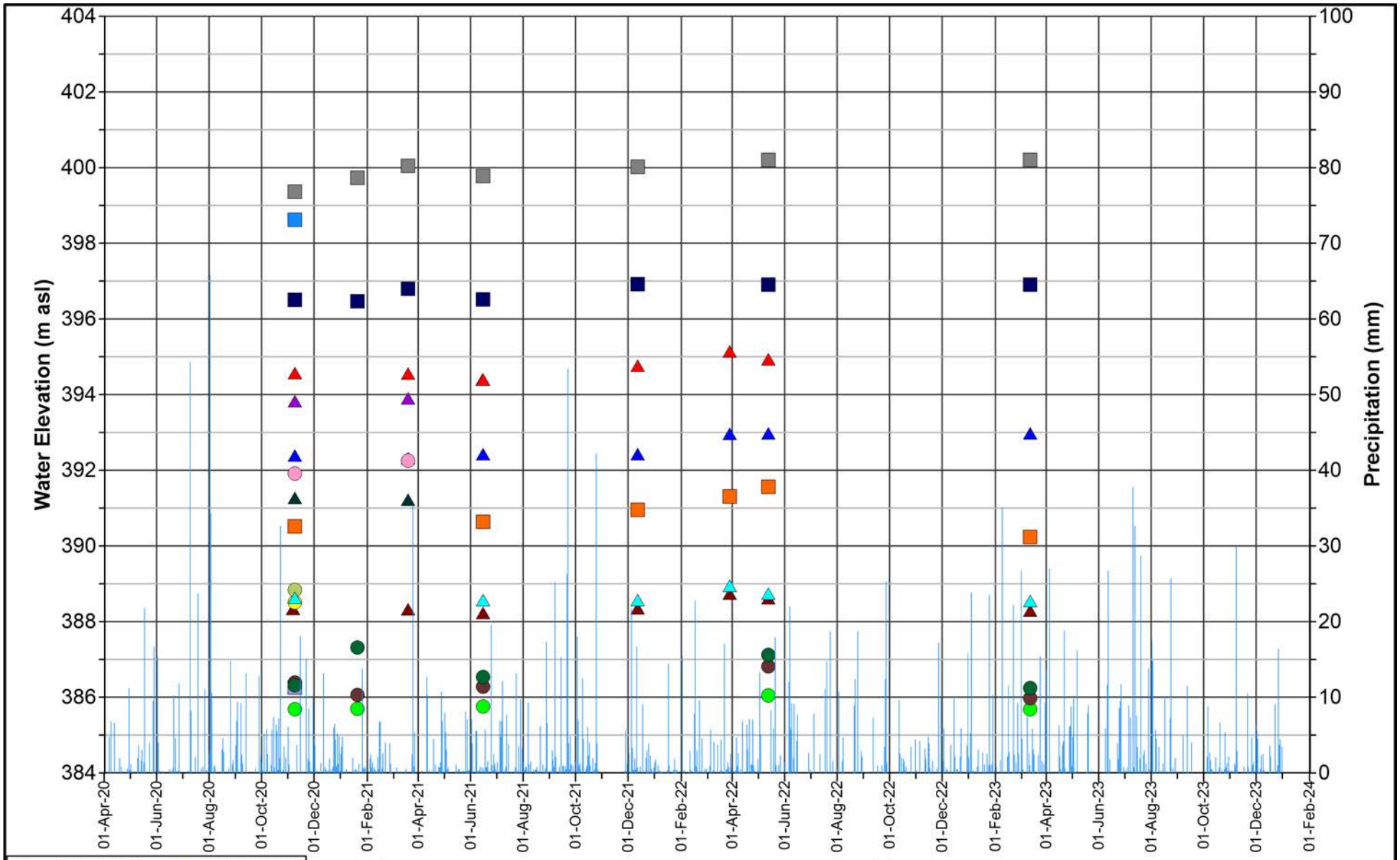
wsp

DATE	July 2024
DESIGN	VRP
REVIEW	GRP
APPROVED	GWS

PROJECT
CBM CALEDON PIT / QUARRY

TITLE
GROUNDWATER MONITORING HYDROGRAPHS
JAGGER HIMS INVESTIGATION WELLS

PROJECT NO.	REV	FIGURE
CA-GLD-19129150	A	37



Note: 1) Figures issued in draft
2) Precipitation observed at Mono Centre (ID:6157000) and Caledon Waste Management Facility (ID:8180003) meteorological stations

DATE	July 2024
DESIGN	VRP
REVIEW	GRP
APPROVED	GWS

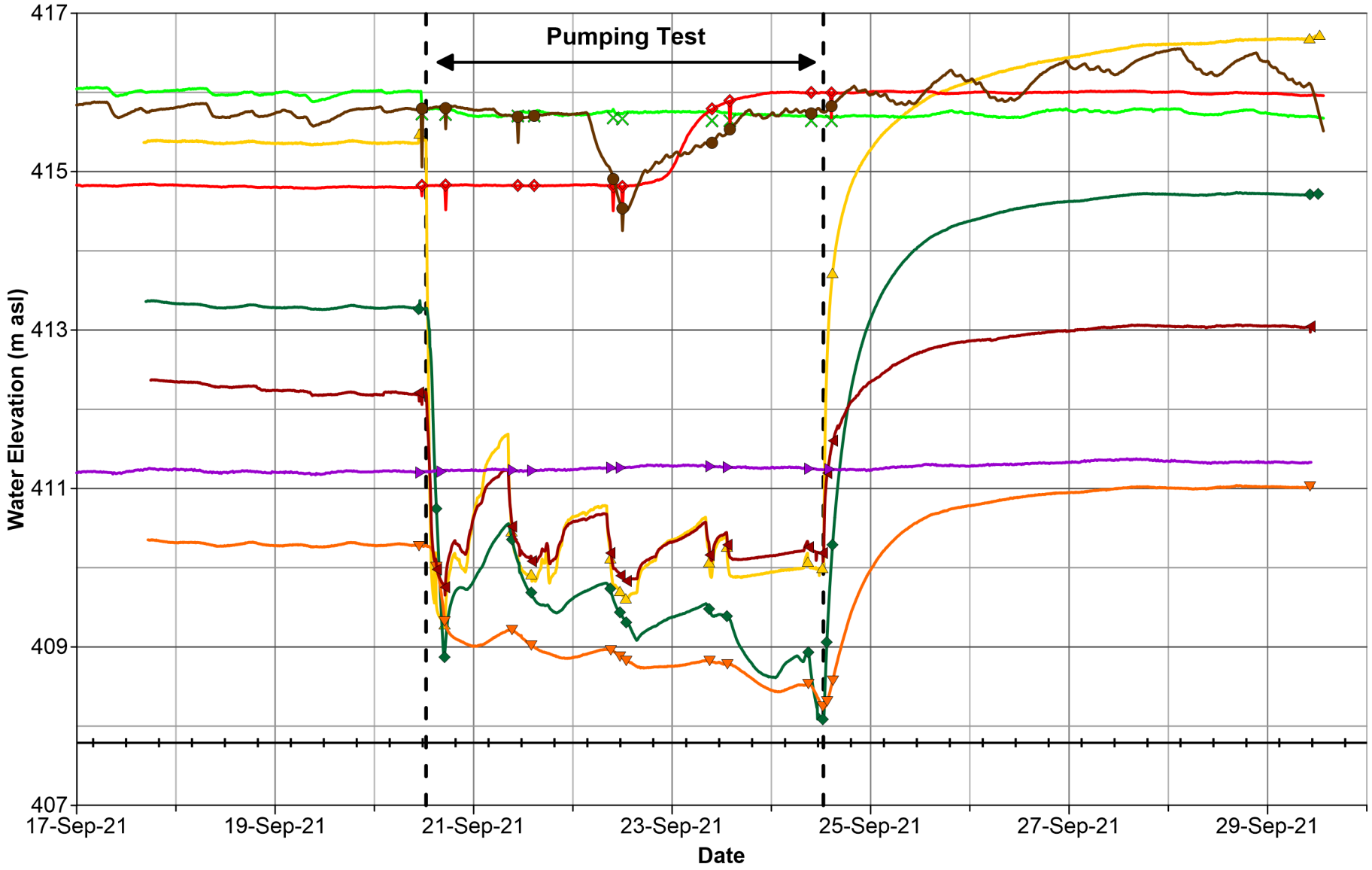
PROJECT

CBM CALEDON PIT / QUARRY

TITLE

GROUNDWATER MONITORING HYDROGRAPHS
OSPREY VALLEY GOLF MONITORING WELLS

PROJECT NO.	REV	FIGURE
CA-GLD-19129150	A	38



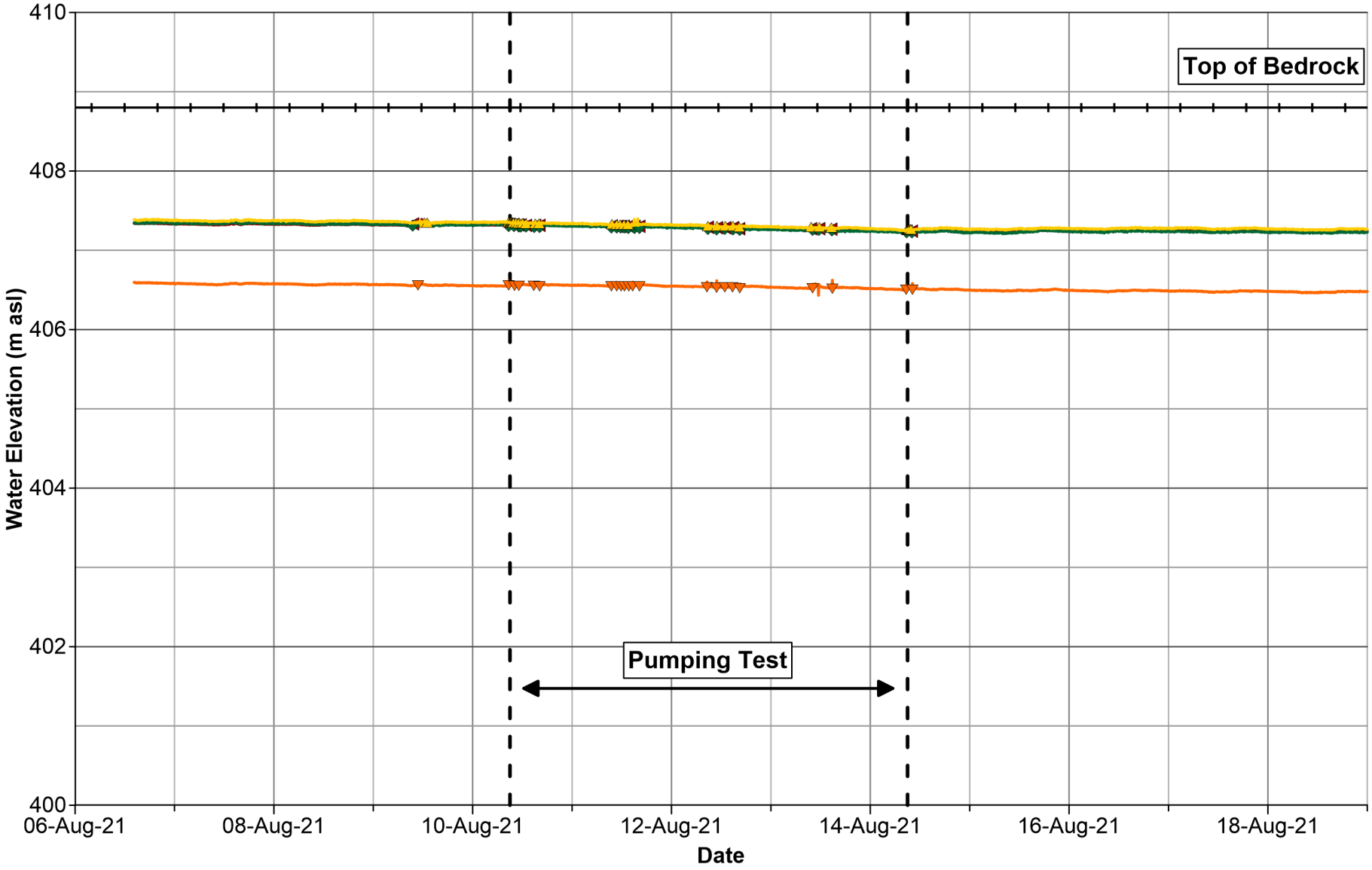
NOTE Average pumping rate = 21.7 L/min
Top of rock as observed at PW21-1

DATE	July 2024
DESIGN	VRP
REVIEW	GWS
APPROVED	GWS

PROJECT CALEDON QUARRY

TITLE PW21-1 CONSTANT RATE TEST
MONITORING WELL RESPONSE

PROJECT NO.	REV	FIGURE
19129150	A	H-1A



MW21-2-1
MW21-2-2
MW21-2-3
MW21-2-4
Bedrock Annotation

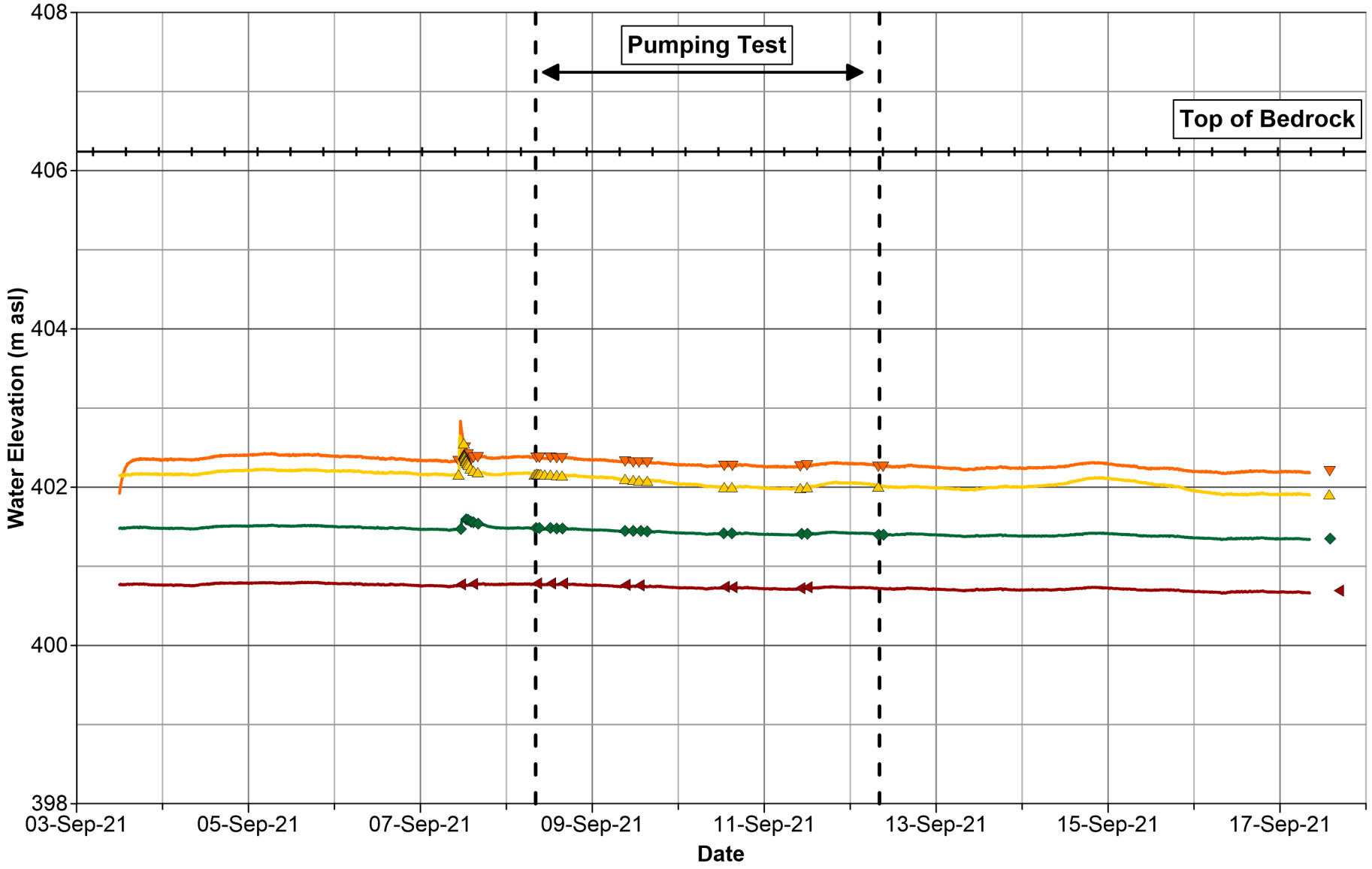
NOTE Average pumping rate = 2.2 L/min
Top of rock as observed at PW21-2

DATE	July 2024
DESIGN	VRP
REVIEW	GWS
APPROVED	GWS

PROJECT CALEDON QUARRY

TITLE PW21-2 CONSTANT RATE TEST
MONITORING WELL RESPONSE

PROJECT NO.	REV	FIGURE
19129150	A	H-4A



NOTE

Average pumping rate = 0.12 L/min
Top of rock as observed at PW21-4

DATE	July 2024
DESIGN	VRP
REVIEW	GWS
APPROVED	GWS

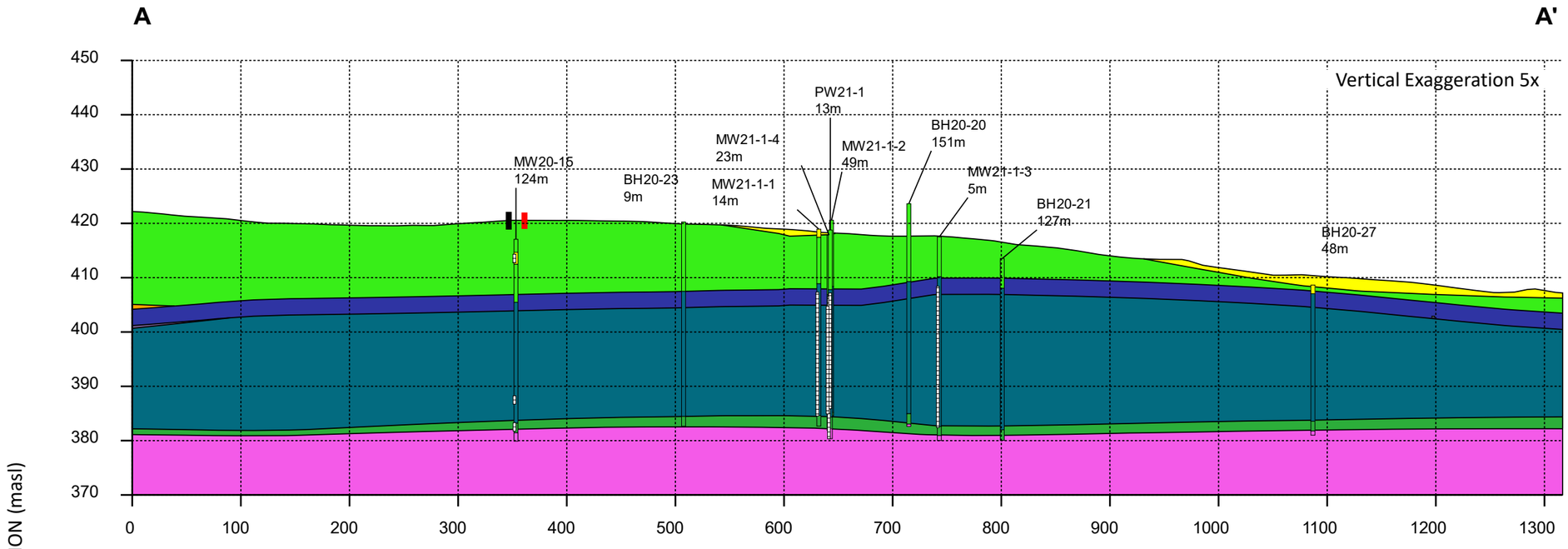
PROJECT CALEDON QUARRY

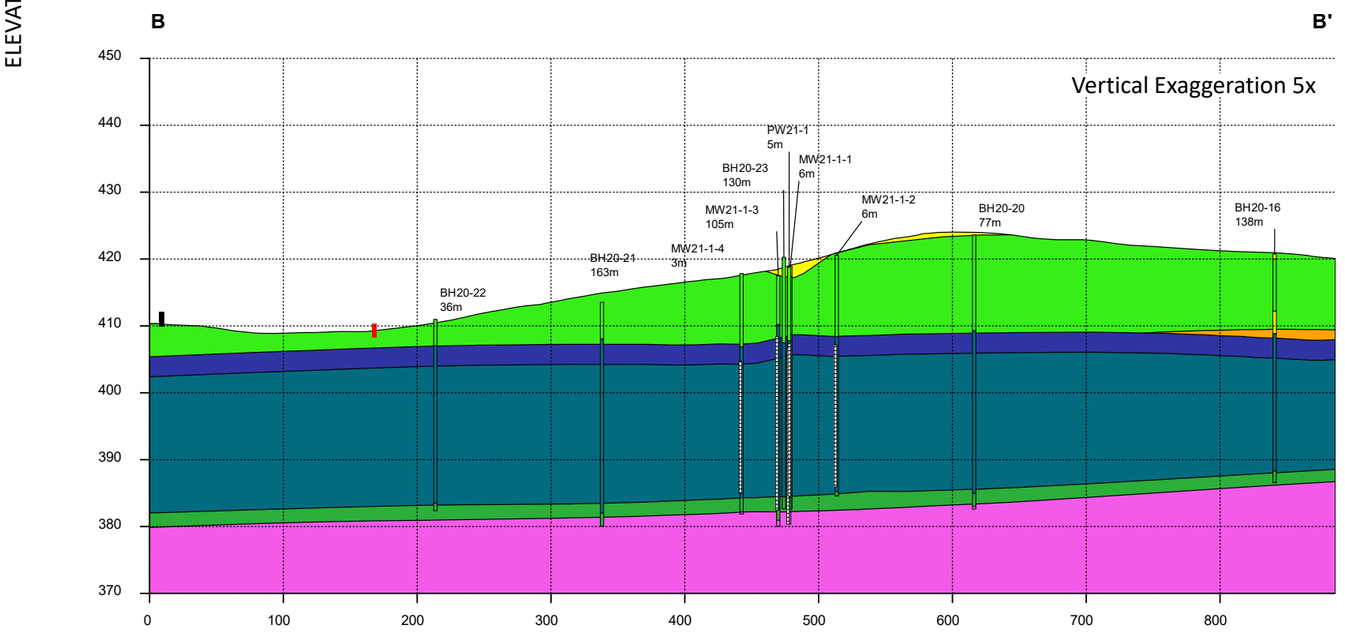
TITLE PW21-4 CONSTANT RATE TEST MONITORING WELL RESPONSE

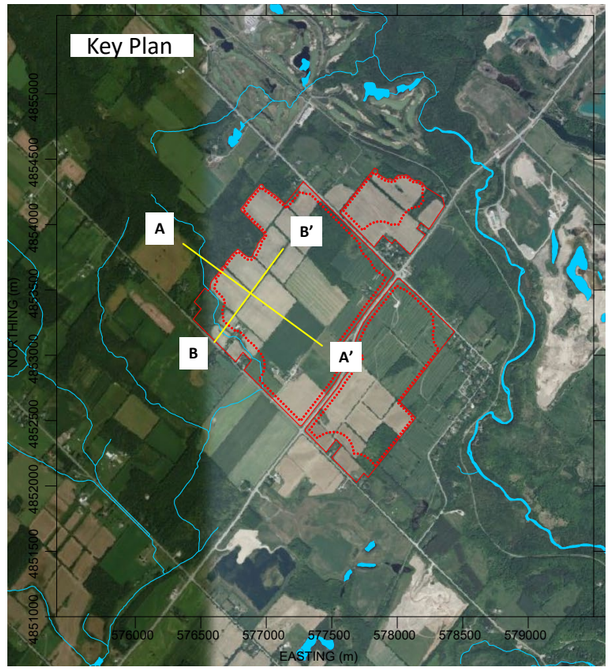
PROJECT NO.	REV	FIGURE
19129150	A	H-9A

APPENDIX I

Pumping Tests Maps and Cross Sections







LEGEND

- Property Boundary
- Extraction Extent
- Well Screen Location
- Borehole Location (MW20-11, 24m) — Borehole/ Monitoring Well ID; Offset Distance from Section
- Eramosa Formation (Dolostone)
- Goat Island Formation (Dolostone)
- Gasport Formation (Dolostone)
- Shaley Dolostone
- Cabot Head Formation (Shale)
- Manitoulin Formation (Shaley Dolostone)
- Lower Sand/ Channel Sediment
- Till
- Upper Sand
- Weathered Bedrock

NOTES

1. '

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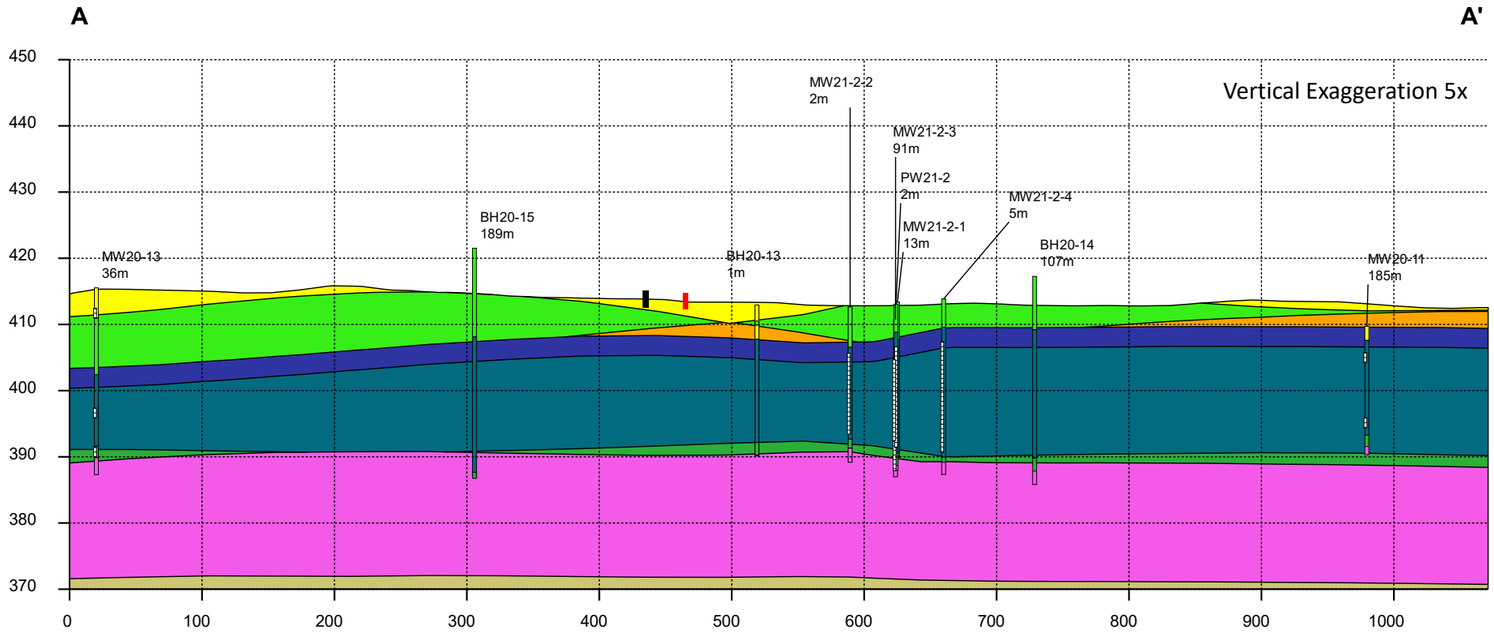
CONSULTANT
wsp

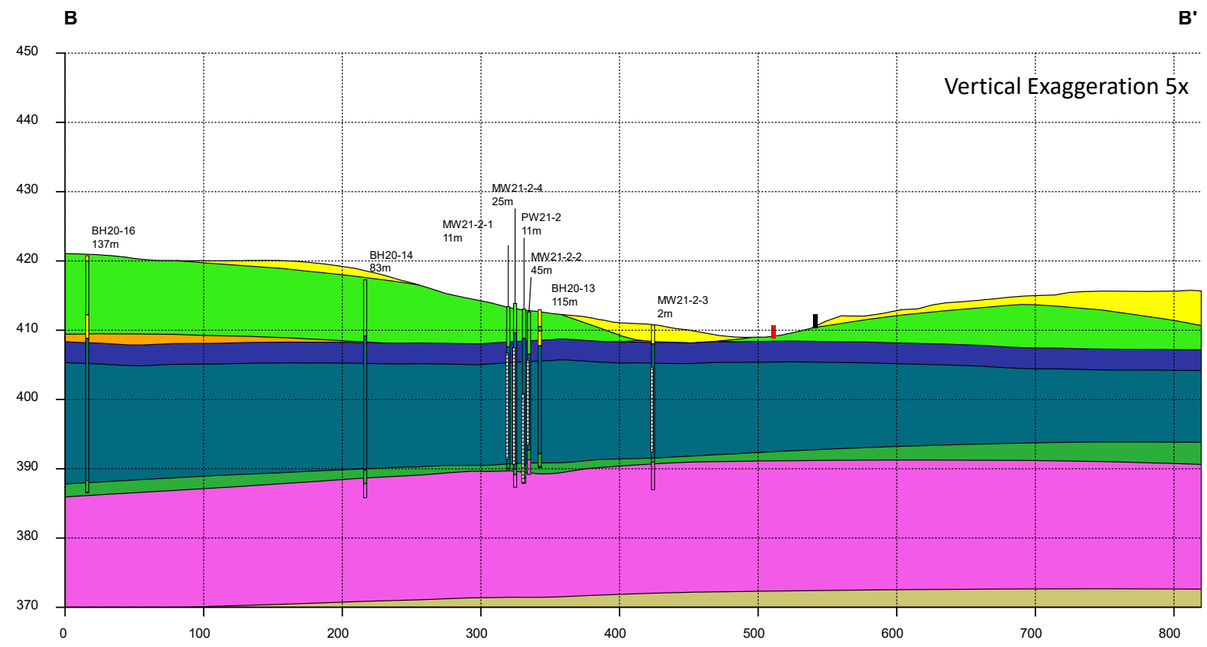
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PREPARED	HW
DESIGN	GWS
REVIEW	GRP
APPROVED	GWS

PROJECT
CALEDON PIT/ QUARRY
WATER RESOURCES REPORT ADDENDUM

TITLE
PW21-1 CROSS SECTIONS
CALEDON PIT/ QUARRY GEOLOGIC MODEL

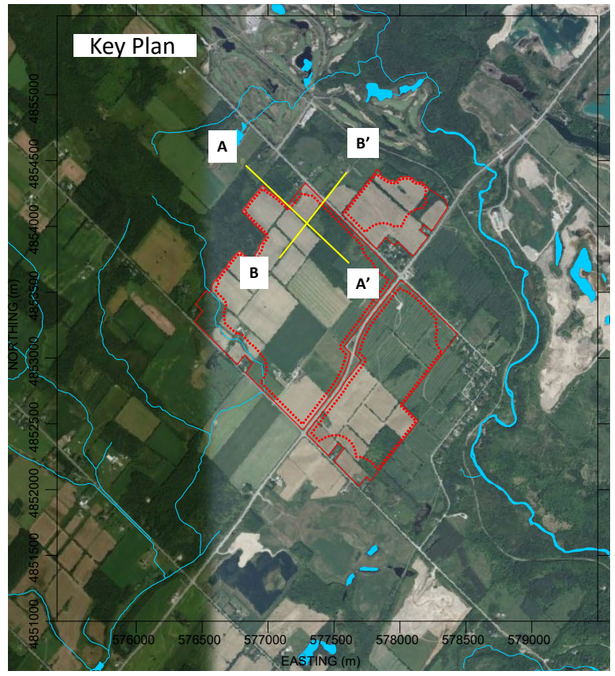
PROJECT No. CA003798.7018 | Rev. A | FIG. I-1





ELEVATION (masl)

DISTANCE ALONG SECTION (m)



LEGEND

- Property Boundary
- Extraction Extent
- Well Screen Location
- Borehole Location (MW20-11, 24m)
  - Borehole/ Monitoring Well ID
  - Offset Distance from Section
- Eramosa Formation (Dolostone)
- Goat Island Formation (Dolostone)
- Gasport Formation (Dolostone)
- Shaley Dolostone
- Cabot Head Formation (Shale)
- Manitoulin Formation (Shaley Dolostone)
- Lower Sand/ Channel Sediment
- Till
- Upper Sand
- Weathered Bedrock

NOTES

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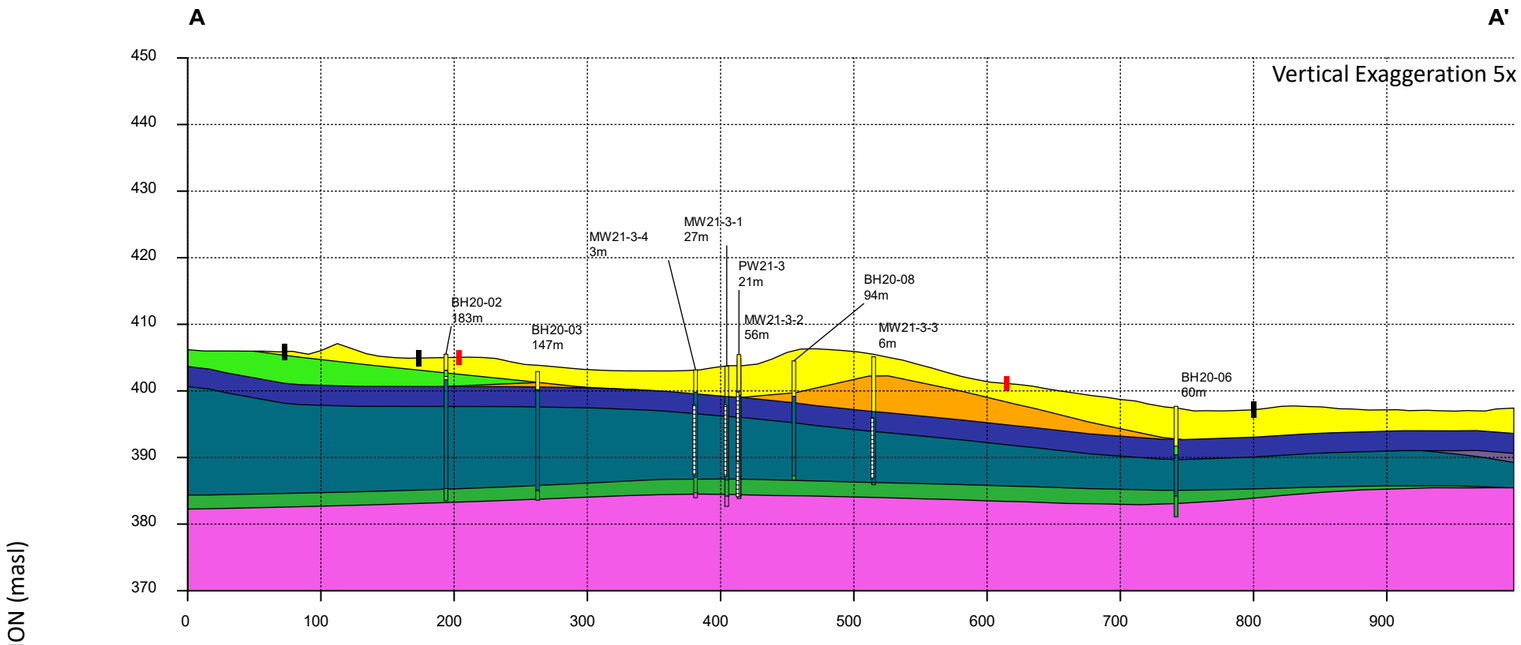
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wsp

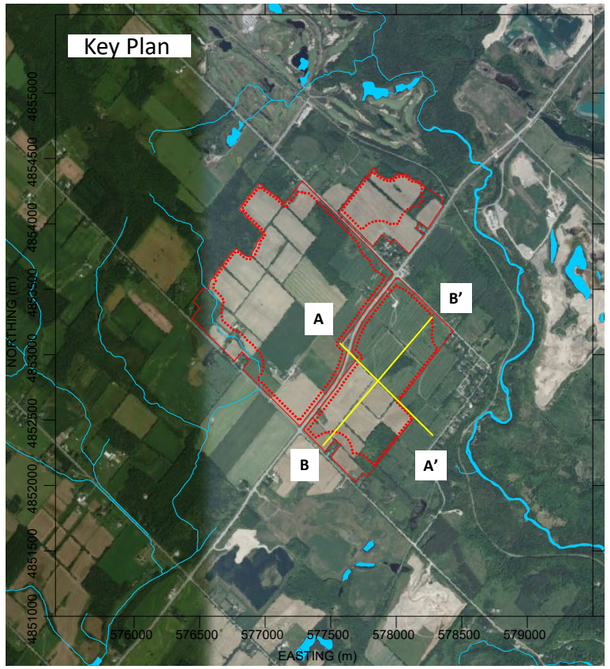
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PREPARED	HW
DESIGN	GWS
REVIEW	GRP
APPROVED	GWS

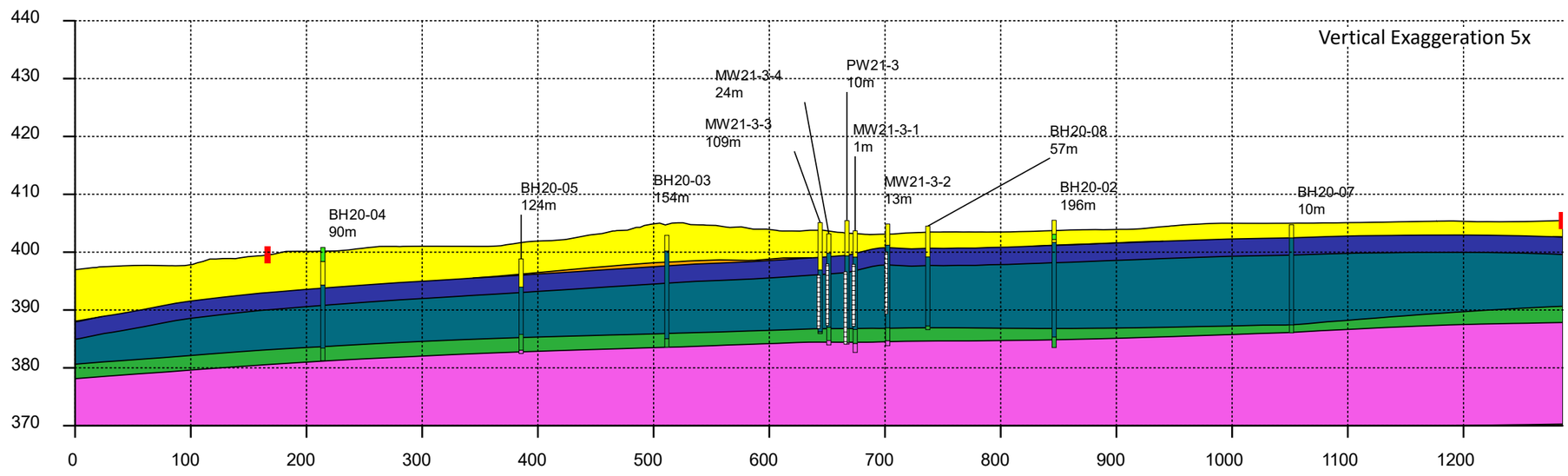
PROJECT
CALEDON PIT/ QUARRY
WATER RESOURCES REPORT ADDENDUM

TITLE
PW21-2 CROSS SECTIONS
CALEDON PIT/ QUARRY GEOLOGIC MODEL

PROJECT No. CA003798.7018 | Rev. A | FIG. I-2







DISTANCE ALONG SECTION (m)

LEGEND

- Property Boundary
- Extraction Extent
- Well Screen Location
- Borehole Location (MW20-11, 24m)
  - Borehole/ Monitoring Well ID
  - Offset Distance from Section
- Eramosa Formation (Dolostone)
- Goat Island Formation (Dolostone)
- Gasport Formation (Dolostone)
- Shaley Dolostone
- Cabot Head Formation (Shale)
- Manitoulin Formation (Shaley Dolostone)
- Lower Sand/ Channel Sediment
- Till
- Upper Sand
- Weathered Bedrock

NOTES

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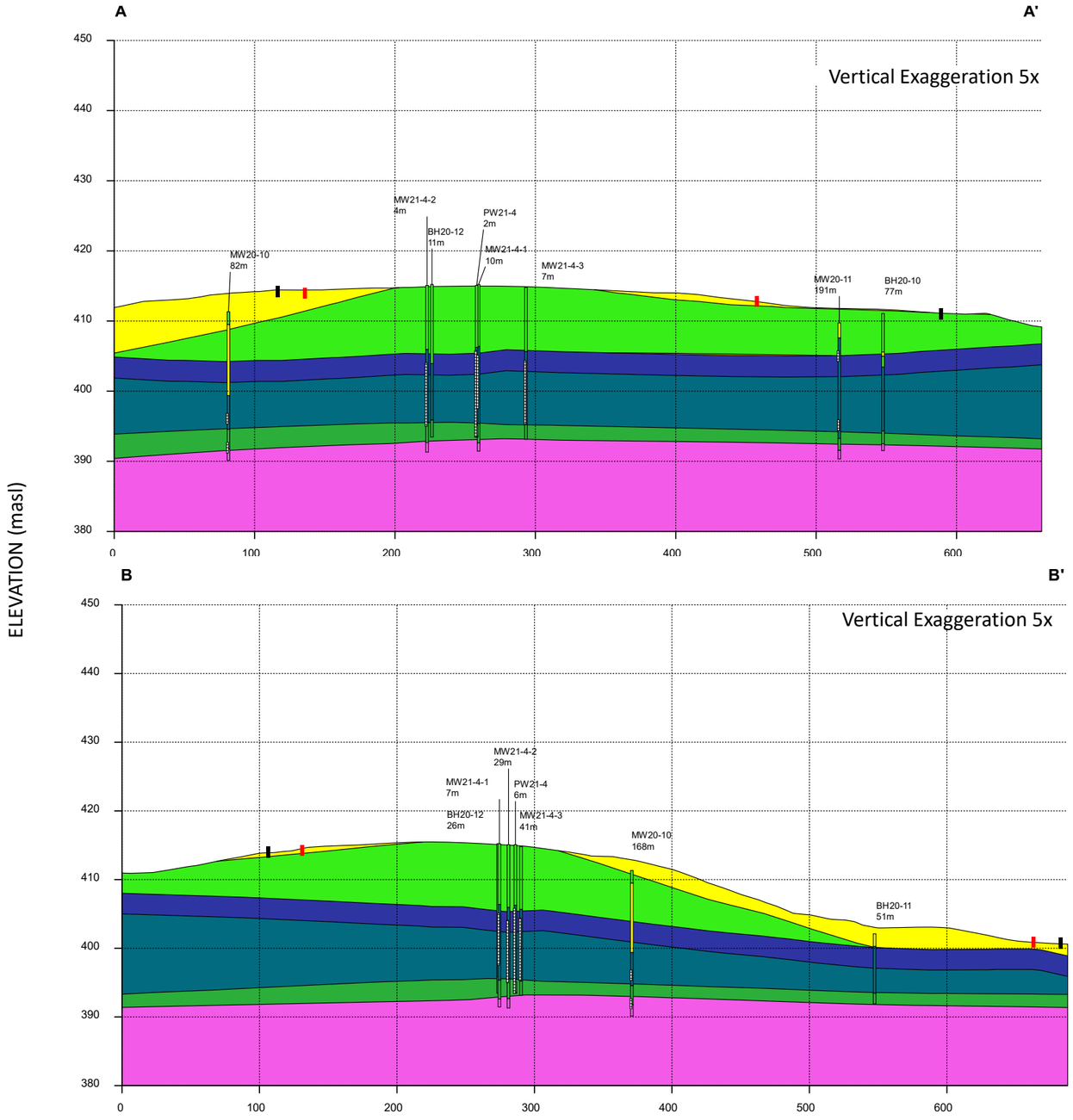
CONSULTANT
wsp

YYYY-MM-DD	2024-07-15
PREPARED	HW
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REVIEW	GRP
APPROVED	GWS

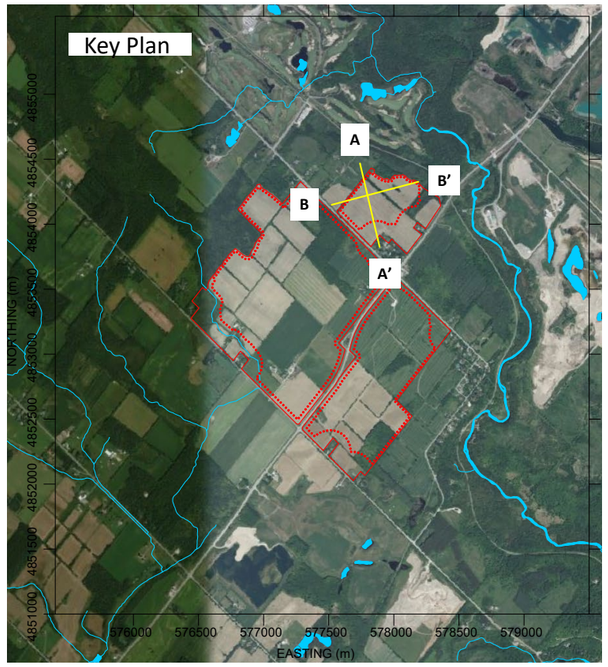
PROJECT
CALEDON PIT/ QUARRY
WATER RESOURCES REPORT ADDENDUM

TITLE
PW21-3 CROSS SECTIONS
CALEDON PIT/ QUARRY GEOLOGIC MODEL

PROJECT No. CA003798.7018 | Rev. A | FIG. I-3



DISTANCE ALONG SECTION (m)



LEGEND

- Property Boundary
- Extraction Extent
- Well Screen Location
- Borehole Location (MW20-11, 24m)
  - Borehole/ Monitoring Well ID
  - Offset Distance from Section
- Eramosa Formation (Dolostone)
- Goat Island Formation (Dolostone)
- Gasport Formation (Dolostone)
- Shaley Dolostone
- Cabot Head Formation (Shale)
- Manitoulin Formation (Shaley Dolostone)
- Lower Sand/ Channel Sediment
- Till
- Upper Sand
- Weathered Bedrock

NOTES

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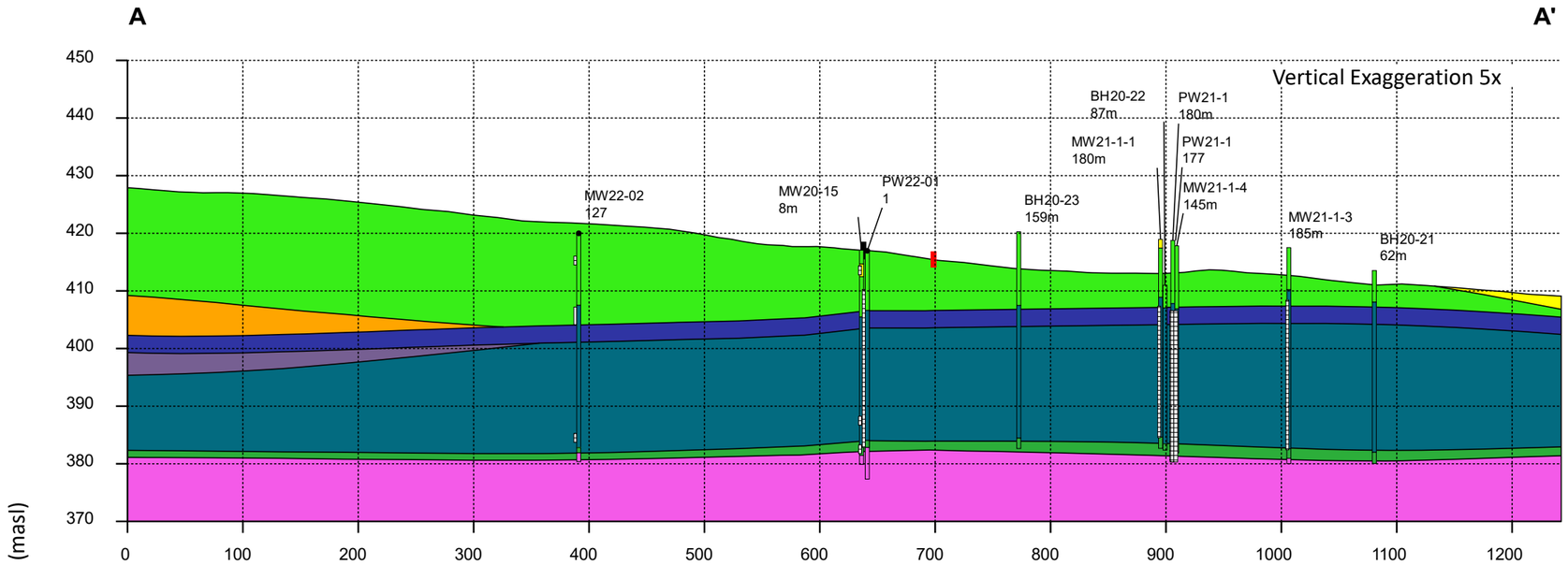
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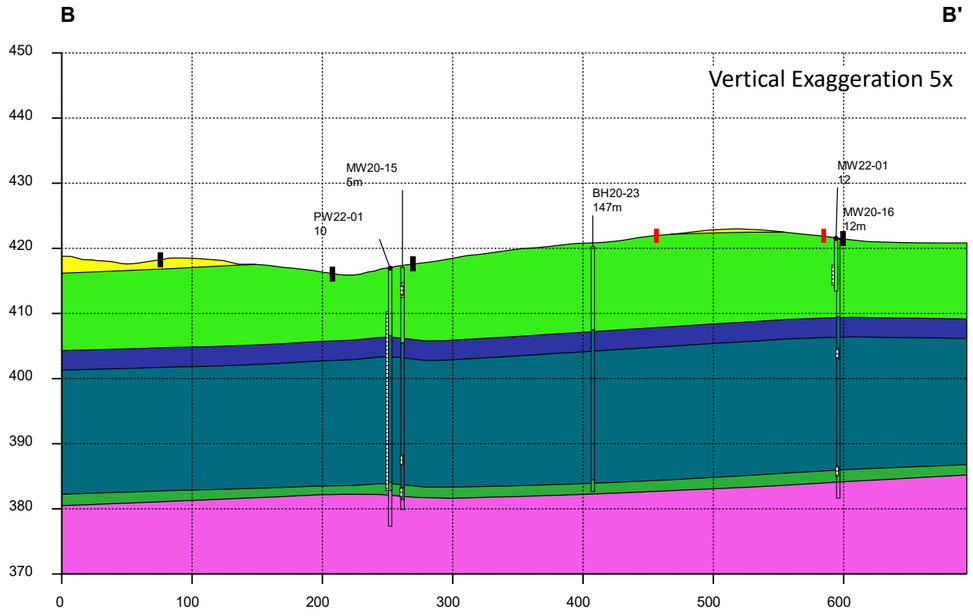
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DESIGN	GWS
REVIEW	GRP
APPROVED	GWS

PROJECT
CALEDON PIT/ QUARRY
WATER RESOURCES REPORT ADDENDUM

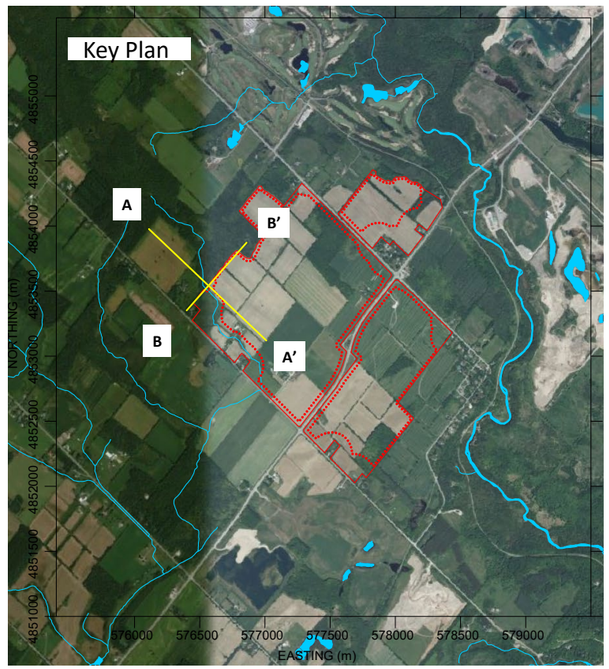
TITLE
PW21-4 CROSS SECTIONS
CALEDON PIT/ QUARRY GEOLOGIC MODEL

PROJECT No. CA003798.7018 | Rev. A | FIG. I-4





DISTANCE ALONG SECTION (m)



LEGEND

- Property Boundary
- Extraction Extent
- Well Screen Location
- Borehole Location (MW20-11, 24m) — Borehole/ Monitoring Well ID, Offset Distance from Section
- Eramosa Formation (Dolostone)
- Goat Island Formation (Dolostone)
- Gasport Formation (Dolostone)
- Shaley Dolostone
- Cabot Head Formation (Shale)
- Manitoulin Formation (Shaley Dolostone)
- Lower Sand/ Channel Sediment
- Till
- Upper Sand
- Weathered Bedrock

NOTES

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CBM AGGREGATES, A DIVISION OF ST. MARYS CEMENT INC. (CANADA)

CONSULTANT
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YYYY-MM-DD	2024-07-15
PREPARED	HW
DESIGN	GWS
REVIEW	GRP
APPROVED	GWS

PROJECT
CALEDON PIT/ QUARRY
WATER RESOURCES REPORT ADDENDUM

TITLE
PW22-1 CROSS SECTIONS
CALEDON PIT/ QUARRY GEOLOGIC MODEL

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